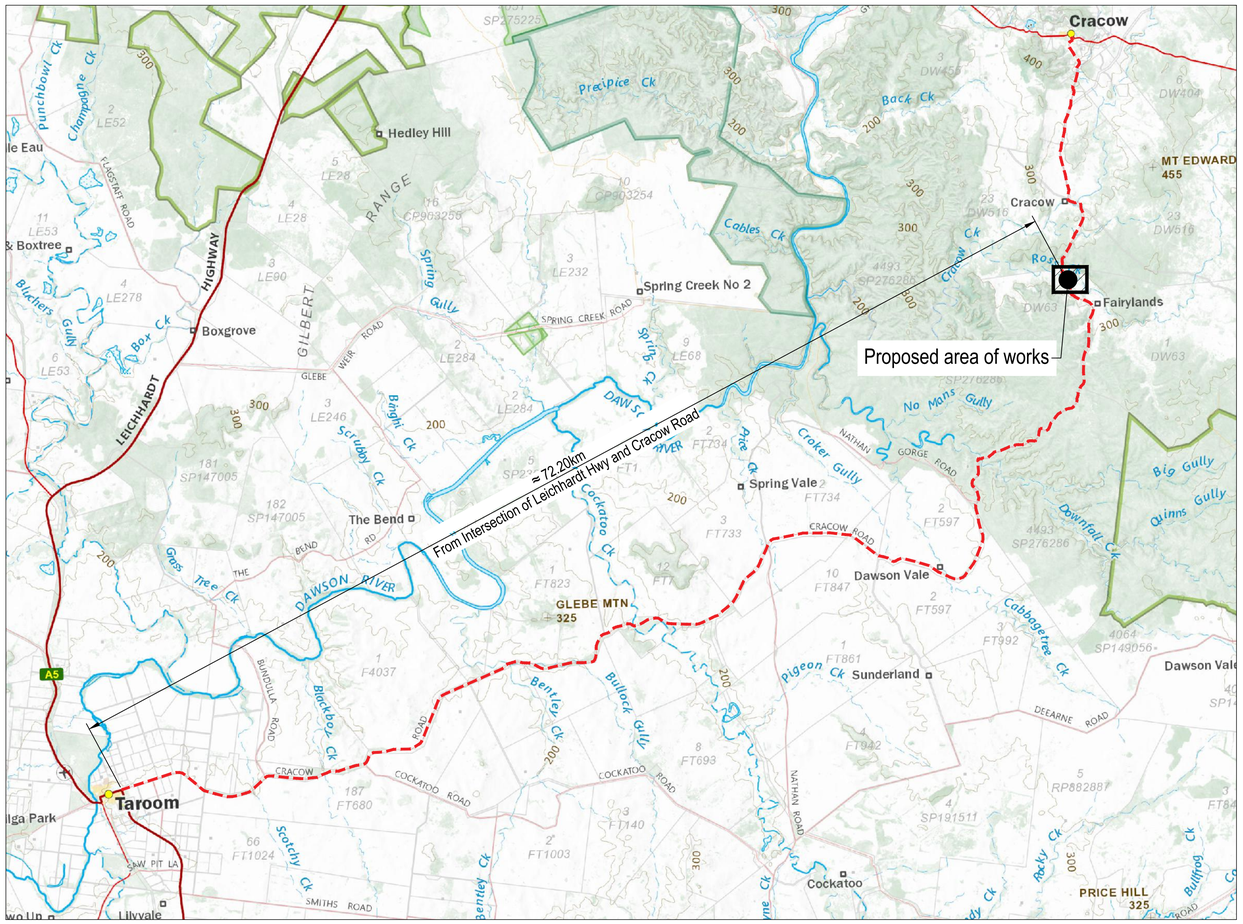
CRACOW ROAD, SITE 6, ROSS CREEK FLOODWAY

ROAD AND FLOODWAY UPGRADE



LOCALITY PLAN
(Not to scale)

DRAWING INDEX

Drawing Number	Date	Drawing Description
001	Nov-23	Project Cover Sheet
002	Nov-23	General Notes
300	Nov-23	Survey Control and Services Plan
400	Nov-23	Roadworks and Setout Plan Sheet 1
500	Nov-23	Pavement Plan
600	Nov-23	Longitudinal Section Sheet 1
601	Nov-23	Longitudinal Section Sheet 2

DRAWING INDEX

Drawing Number	Date	Drawing Description
700	Nov-23	Typical Cross Sections
800	Nov-23	Annotated Cross Sections Sheet 1
801	Nov-23	Annotated Cross Sections Sheet 2
802	Nov-23	Annotated Cross Sections Sheet 3
803	Nov-23	Annotated Cross Sections Sheet 4
804	Nov-23	Annotated Cross Sections Sheet 5
805	Nov-23	Annotated Cross Sections Sheet 6

DRAWING INDEX

Drawing Number	Date	Drawing Description
806	Nov-23	Annotated Cross Sections Sheet 7
807	Nov-23	Annotated Cross Sections Sheet 8
1000	Nov-23	Supplementary Signs and Linemarking Details
1200	Nov-23	Floodway Details
1600	Nov-23	Limit of Clearing Plan
1700	Nov-23	Temporary Erosion and Sediment Control Sheet 1
1701	Nov-23	Temporary Erosion and Sediment Control Sheet 2

STANDARD DRAWINGS:
ROADWORKS

Dwg.	Rev.	Description
CMDG-R-081	E	SIGN LOCATION AND INSTALLATION DETAILS
CMDG-R-094	B	FLOODWAY - BED LEVEL CROSSING

DEPARTMENT OF TRANSPORT AND MAIN ROADS - STANDARD DRAWINGS:
ROAD FURNITURE

1170	D	Flood Depth Indicators - Installation

GENERAL EARTHWORKS AND PROPERTY ACCESS

1178	E	Diversion of Water from Roadway and Table Drains

XREFS :- X_CRC_BSC_TITLE.dwg

Last Modified :- Nov 06, 2023 - 3:31pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
PROJECT COVER SHEET

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	001
Revision	A
Series No.	1 of 20

SAFETY IN DESIGN NOTES:

1. Potential safety hazards identified by the Designer have been assessed for this project in accordance with Safe Design of Structures - Code of Practices by Safe Work Australia, 2012. Refer to the ***Safety In Design Report*** for the potential safety hazards.
2. Disclaimer: It must be acknowledged that new and/or different risks may become apparent during each project phase.The designer has ensured, so far as reasonably practicable, that the structure/municipal work is designed to minimise risk to the health and safety of persons involved in construction or use related activities. Further, in Appendix A - Safety in Design Risk Register of the ***Safety In Design Report***, assumptions may have been made within the different project phases as to how the project and/or project elements will be constructed and maintained. This may differ from the end methods adopted.
3. Any person who undertakes alterations, variations or modifications to these design drawings, without consultation and approval from the original or subsequent designer, will assume the duties of a designer and will be held responsible for the safety in design for this project.
4. All works must comply with W.H. & S. Act, 2011.

GENERAL NOTES:

1. Works shall be undertaken generally in accordance with the relevant CMDG construction specifications except where specific DTMR specification requirements are detailed within these Project specific Drawings. The most current version shall be adopted, unless noted otherwise.
2. Works to be measured in accordance with project specific *Supplementary Specification for Measurement and Work Operations for Work Items.*
3. If any archaeological or cultural material is exposed on the work site all works shall cease. The D.E.H.P., Aboriginal Land Council and I.C.C. are to be notified.
4. All works are to comply with the requirements of the Environmental Protection Act, 1994.
5. Disposal/movement of material in areas of Red Imported Fire Ants are to comply with the D.A.F.F. regulations. Refer the Department's website: ***www.daff.qld.gov.au/fireants*** for the current information.
6. Prior to commencement of work a Risk Management Plan to minimise the chance of spreading Fire Ants is to be completed.
7. The positions shown on drawings for public utilities services are based on the B.Y.D.A. information supplied at time of design and are indicative only. Prior to construction the current Service Authority information is to be obtained from B.Y.D.A. (website: www.byda.com.au). The position and depth of each service is to be verified by the relevant Service Authority on site before the start of any construction.
8. Where these drawings make reference to the Administrator or Contract Administrator it shall mean the Superintendent managing the works.
9. Prior to commencement of work contact the Superintendent if any PSM's are in the vicinity of the work site.
10. Order of Precedence of Documents, Ambiguities or Discrepancies - The following order of precedence shall apply where there is any ambiguity, discrepancy or inconsistency between the design documents comprising the Contract, with the higher in the list having a higher priority:
    a. These Project Specific Drawings
    b. Technical Specifications
    c. Standard Drawings

    The several documents forming the Contract are to be taken as mutually explanatory of one another. If either party discovers any ambiguity or discrepancy in any document prepared for the purpose of executing the Work Under the Contract, that party shall notify the Superintendent in writing of the ambiguity or discrepancy as soon as possible,
11. The Scheme Drawings listed on the Project Cover Sheet are to be read as a whole and not in isolation. Any isolated drawing separated from the control set will be considered voided and is not to be used.
12. All drawings are to be read in conjunction with the project's specification and all relevant Standard Drawings.
13. All drawings are to be read in conjunction with the Abbreviation Table shown.
14. Materials and workmanship - Where materials, material components, workmanship and procedures are not specifically described by the Contract, they shall be in accordance with the relevant Australian Standard. Where no Australian Standard is available, other specifications shall be used in the following order of priority:
    a. manufacturer's recommendations, and
    b. accepted industry standards.

    At a minimum materials and workmanship shall be the best of their respective kinds and fit for the purpose for which they are intended.

    Any product trade names have been used to establish a quality requirement. Written approval to be obtained prior to using any substitutions.
15. Dimensions / Levels - All levels and setout points shall be confirmed on site by a registered surveyor prior to construction. The Contractor shall seek clarification from the Superintendent for any discrepancy prior to proceeding with works. Dimensions shall not be scaled from drawings.
16. Set Out of Individual Installations - The Contractor shall set out an installation as shown on the Drawings in sufficient detail to identify the location, length and levels of the proposed installation. Once the initial set out is complete the Superintendent will determine the design appropriateness of the set out with regard to the actual site conditions. The Superintendent may direct amendments to the set-out details. Payment for such amendments will be made at appropriate rates in the Schedule of Rates or, where such rates are not deemed by the Superintendent to be appropriate, as determined by the Superintendent. Installations to be set out in accordance with the above requirements include:
    a. drainage pipes, culverts, slabs and structures
    b. landscaping
    c. traffic control
17. Existing Services - Locate service prior to commencing works. Services are shown on these drawings for information only. No responsibility is taken for the accuracy or completeness of the information supplied. Take care to protect services from damage, and report any hits or damage to the service authority immediately.

EROSION AND SEDIMENT CONTROL NOTES:

1. During construction all necessary precautions shall be taken to control erosion and downstream sedimentation. Monitor the prevailing weather conditions and protect any downstream construction and gully inlets.
2. All sediment control devices, sediment fences, check dams, straw bales, stone traps and entry/exit sediment traps are to be in accordance with the E&SC plans within these project drawings or amended as required by the Contractor's suitably qualified professional.

EARTHWORK NOTES:

1. All unsuitable material is to be stripped prior to placement of structural fill.
2. All unsuitable material is to be removed in accordance with the specification or as directed by the Superintendent.
3. All contaminated soil to be removed in accordance with the specification or as directed by the Superintendent.
4. Earthwork quantities include existing road pavement excavated where applicable.
5. Earthwork quantities include unsuitable and or contaminated material except where noted otherwise.
6. Earthwork quantities in cut are bank (nett) volumes and in fill are compacted volumes.
7. Class A1 or B material to comply with the requirements of TMR MRTS04, and specific requirements within these project drawings.

LINEMARKING NOTES:

1. All linemarking, signs and traffic devices shall comply with the M.U.T.C.D. - current edition.
2. Ensure that signage has clear sight distance, otherwise adjust location accordingly.
3. Superseded linemarking and signage to be removed.

SERVICE ADJUSTMENT NOTES:

1. Service Authority infrastructure adjustments are to be performed by contractors approved by the relevant service authority.

BEFORE YOU DIG www.byda.com.au

XREFS :- X_CRC_BSC_TITLE.dwg

Last Modified :- Nov 06, 2023 - 3:31pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
GENERAL NOTES

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	002
Revision	A
Series No.	2 of 20

BEFORE YOU DIG www.byda.com.au

PLAN

Scale: 1:500

LEGEND

403 ◎ - Survey Mark and Label

ENGINEERING SURVEY CONTROL

STATION	EASTING	NORTHING	LEVEL	REMARKS
601	228369.581	7186531.256	270.150	PBMK
602	228339.181	7186705.817	261.650	PBMK
603	228255.212	7186747.014	257.479	PBMK
604	228270.588	7186844.633	267.032	PBMK
605	228200.459	7186898.964	271.228	PBMK

PERMANENT SURVEY MARKS

PSM	EASTING	NORTHING	LEVEL	LOCATION
PM153060	229326.704	7183818.420	311.390	PPMK - Approx. 3.78 km South

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
SURVEY CONTROL AND SERVICES PLAN

Drawn: B Doherty
Designed: B Doherty

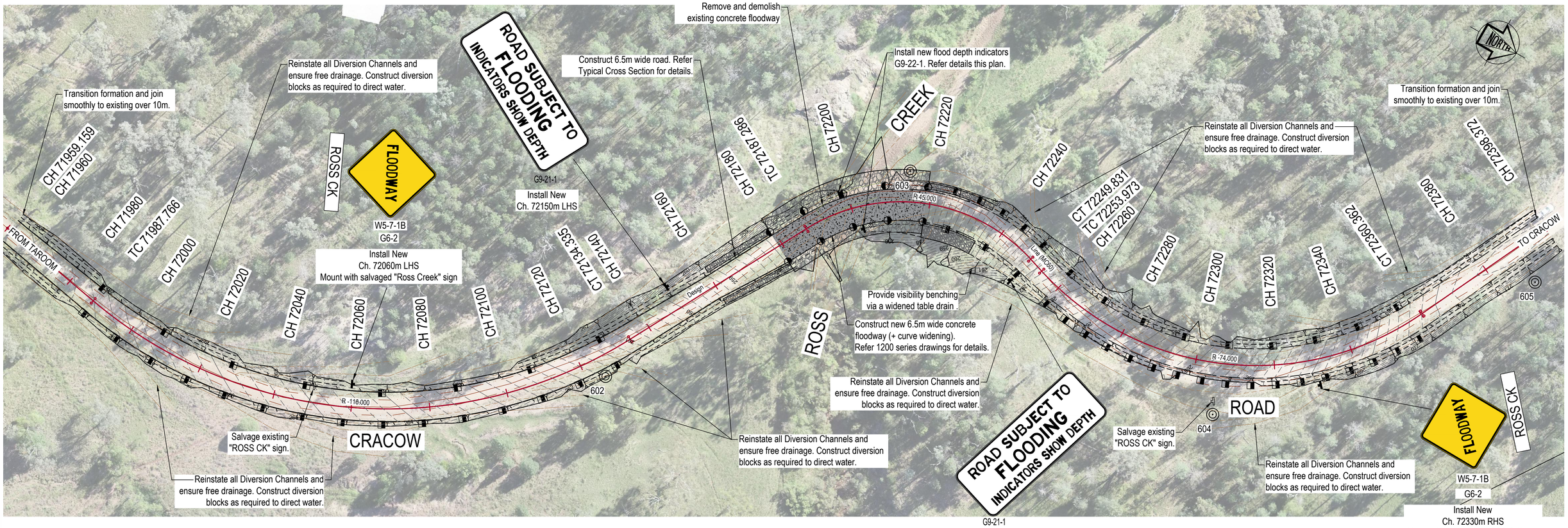
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	300
Revision	A
Series No.	3 of 20

Last Modified :- Nov 06, 2023 - 3:31pm

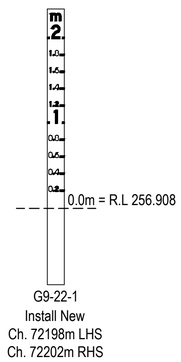
XREFS :- X_CRC_BSC_TITLE.dwg ; X_HATCH.dwg ; X_IMAGE.dwg ; X_SURVEY.dwg ; X_CONTROL.dwg ; X_DESIGN.dwg



PLAN
Scale: 1:500

DESIGN LINE SETOUT (MC60)

POINT	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	RAD/SPIRAL	A.LENGTH	D.ANGLE
IP 1	71959.159	228382.358	7186555.050	268.289	10°23'40.93"			
TC	71987.766	228387.520	7186583.188	267.409	10°23'40.93"			
IP 2	72061.051	228402.836	7186666.686	264.491		R = -116.000	146.569	72°23'40.93"
CT	72134.335	228327.882	7186706.540	260.869	298°00'00.00"			
TC	72187.286	228281.129	7186731.399	257.118	298°00'00.00"			
IP 3	72218.559	228248.005	7186749.011	257.630		R = 45.000	62.545	79°38'03.10"
CT	72249.831	228259.370	7186784.764	261.680	17°38'03.10"			
TC	72253.973	228260.624	7186788.711	262.146	17°38'03.10"			
IP 4	72307.167	228280.240	7186850.420	266.414		R = -74.000	106.389	82°22'25.68"
CT	72360.362	228221.680	7186878.052	269.812	295°15'37.42"			
IP 5	72398.372	228187.305	7186894.272	270.463	295°15'37.42"			



G9-22-1
Install New
Ch. 72198m LHS
Ch. 72202m RHS

LEGEND

- Red - Flexible Guidepost / White
- Red - Flexible Tubular Guidepost / White
- New Sign Location
- Existing Sign Location
- 403 — Survey Mark and Label

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

A	Issued for Construction				
20.01	Revisions/Descriptions	Drawn	Approved	Date	

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ROADWORKS AND SETOUT PLAN SHEET 1

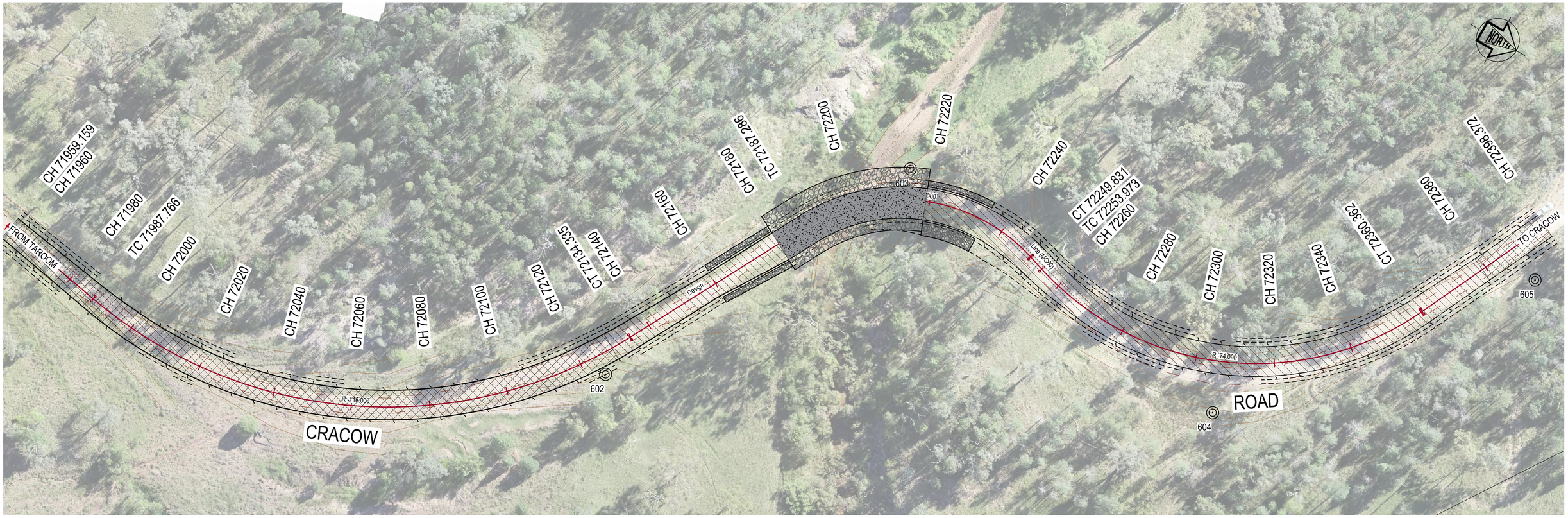
Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	400
Revision	A
Series No.	4 of 20

XREFS :- X_CRC_BSC_TITLE.dwg ; X_SURVEY.dwg ; X_CONTROL.dwg ; X_DESIGN.dwg ; X_HATCH.dwg ; X_IMAGE.dwg ; X_GUIDEPOSTS.dwg ; X_DESIGN_CONTOURS.dwg
Last Modified :- Nov 06, 2023 - 3:32pm



PLAN

Scale: 1:500

LEGEND

New pavement to be constructed. Refer Pavement Type 1 Details.

New pavement to be constructed. Refer Pavement Type 2 Details.

New concrete floodway to be constructed. Refer Standard Drawing CMDG-R-094

PAVEMENT TYPE 1 DETAILS

New pavement to be constructed

150mm Overlay, Full width,

Imported Unsealed Pavement Material **

Design Subgrade CBR 7 (soaked)

150mm Total thickness

PAVEMENT TYPE 2 DETAILS

New pavement to be constructed
(Ch. 72129.000 - 72179.000m & Ch. 72219.000 - 72379.000m)

150mm Stabilised Base, Full Width,

Imported Unsealed Pavement Material **

Insitu stabilised, GB binder (Cement/Fly Ash)
Target UCS value 1 - 2 MPa at 7 Days. Contractor to undertake additive testing to confirm percentage of stablising agent by mass. A nominal 3% by mass used for estimating purposes only.

Design Subgrade CBR 7 (soaked)

150mm Total thickness

All works to be carried out in accordance with the relevant CMDG Construction Specifications.

PAVEMENT DESIGN
(Lower Order Roads Design Guide)

Design Period:	20 Years
Design Traffic:	5.1 x 10^4 DESA
Design Subgrade CBR:	7 (Soaked)

**
UNSEALED PAVEMENT SPECIFICATION
(Lower Order Roads Design Guide)

Imported Unsealed Pavement Material to satisfy the following specifications

Grading Coefficient (Gc):	16 - 34
Shrinkage Product (Sp):	100 - 240
WPI:	< 1200
PI:	> 7%
Passing 0.075mm Sieve:	> 15%

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
PAVEMENT PLAN

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	500
Revision	A
Series No.	5 of 20

Last Modified :- Nov 06, 2023 - 3:32pm

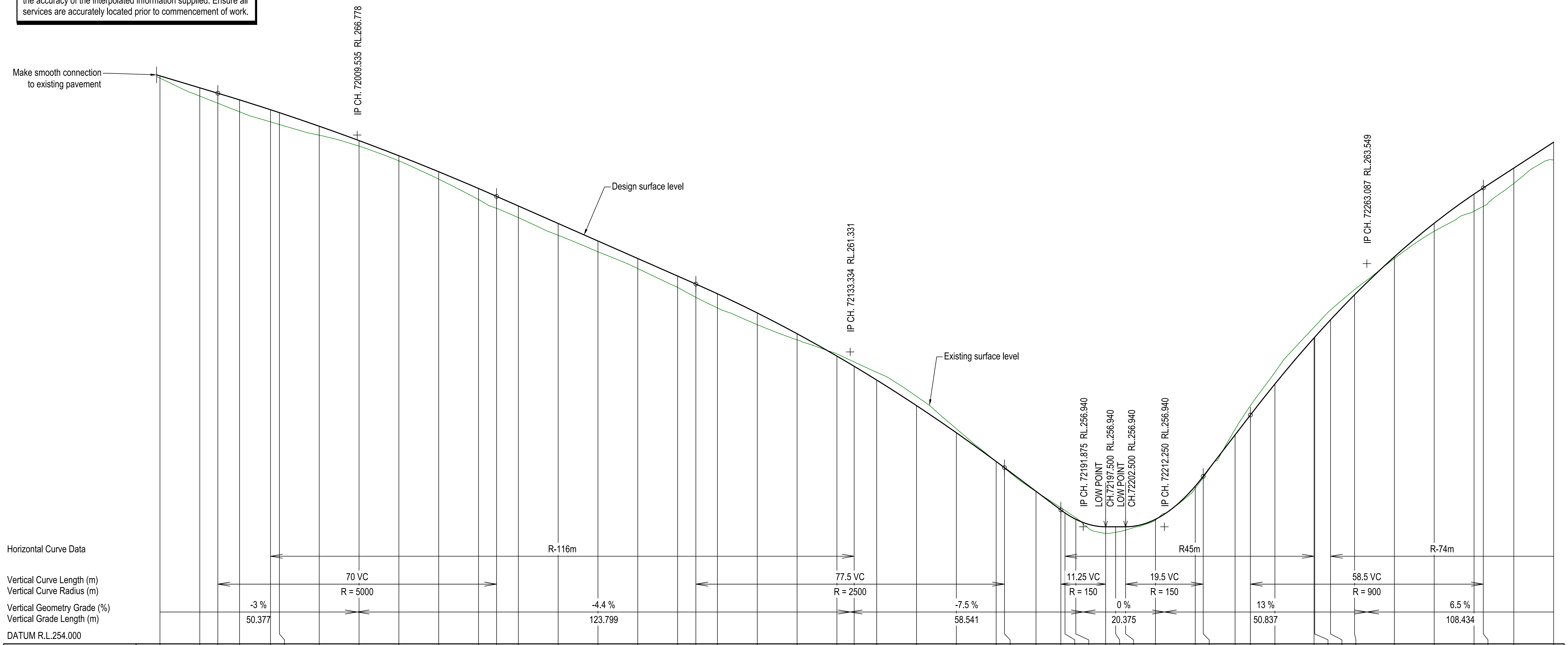
XREFS :- X_CRC_BSC_TITLE.dwg : X_HATCH.dwg : X_SURVEY.dwg : X_CONTROL.dwg : X_DESIGN.dwg : X_IMAGE.dwg

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

BEFORE YOU DIG
www.byda.com.au

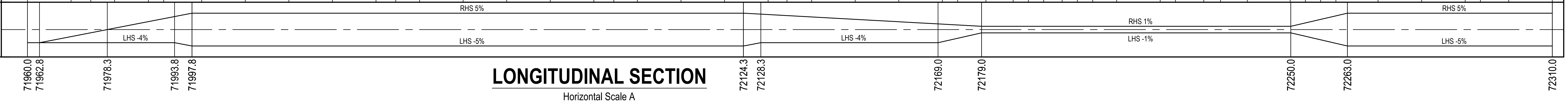


CUT / FILL DEPTHS	0.057	0.209	0.251	0.3	0.305	0.298	0.225	0.139	0.126	0.186	0.276	0.301	0.293	0.296	0.273	0.253	0.285
DESIGN LINE LEVELS	268.264	267.964	267.828	267.661	267.413	267.340	266.999	266.638	266.257	265.856	265.435	265.238	264.997	264.557	264.117	263.677	263.237
EXISTING SURFACE LEVELS	268.207	267.755	267.577	267.361	267.108	267.042	266.774	266.499	266.131	265.671	265.159	264.937	264.704	264.261	263.845	263.425	262.952
DESIGN CHAINAGE	71960.000	71970.000	71974.535	71980.000	71987.766	71990.000	72000.000	72010.000	72020.000	72030.000	72040.000	72044.535	72050.000	72060.000	72070.000	72080.000	72090.000

CUT / FILL DEPTHS	0.332	0.356	0.295	0.152	-0.057	-0.109	-0.195	-0.232	-0.101	-0	0.014	0.006	-0.057	-0.063	-0.038	0.163	0.139
DESIGN LINE LEVELS	263.036	262.792	262.310	261.788	261.227	260.971	260.625	259.983	259.302	258.580	258.424	257.831	257.362	257.288	257.128	256.940	256.940
EXISTING SURFACE LEVELS	262.704	262.436	262.015	261.636	261.284	261.079	260.819	260.215	259.402	258.580	258.411	257.824	257.419	257.351	257.165	256.777	256.801
DESIGN CHAINAGE	72094.584	72100.000	72110.000	72120.000	72130.000	72134.335	72140.000	72150.000	72160.000	72170.000	72172.084	72180.000	72186.250	72187.286	72190.000	72197.500	72200.000

CUT / FILL DEPTHS	0.085	0.022	0.056	0.033	-0.141	-0.238	-0.295	-0.268	-0.268	-0.245	-0.129	0.044	0.203	0.428	0.461	0.387	0.44
DESIGN LINE LEVELS	256.940	257.128	257.961	258.208	259.248	259.746	260.527	261.684	261.702	262.139	262.767	263.721	264.564	265.295	265.450	265.948	266.598
EXISTING SURFACE LEVELS	256.855	257.106	257.905	258.175	259.389	259.985	260.822	261.952	261.970	262.384	262.896	263.677	264.361	264.867	264.989	265.562	266.158
DESIGN CHAINAGE	72202.500	72210.000	72220.000	72222.000	72230.000	72233.837	72240.000	72249.831	72250.000	72253.973	72260.000	72270.000	72280.000	72290.000	72292.337	72300.000	72310.000

SUPER ELEVATION



LONGITUDINAL SECTION

Horizontal Scale A
Vertical Scale B

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_LSECT_01.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Scale B 0 0.5 1.0 1.5 2.0 2.5 1:50

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client

Banana SHIRE
SHIRE OF OPPORTUNITY

Title

CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
LONGITUDINAL SECTION SHEET 1

Drawn
B Doherty
Designed
B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

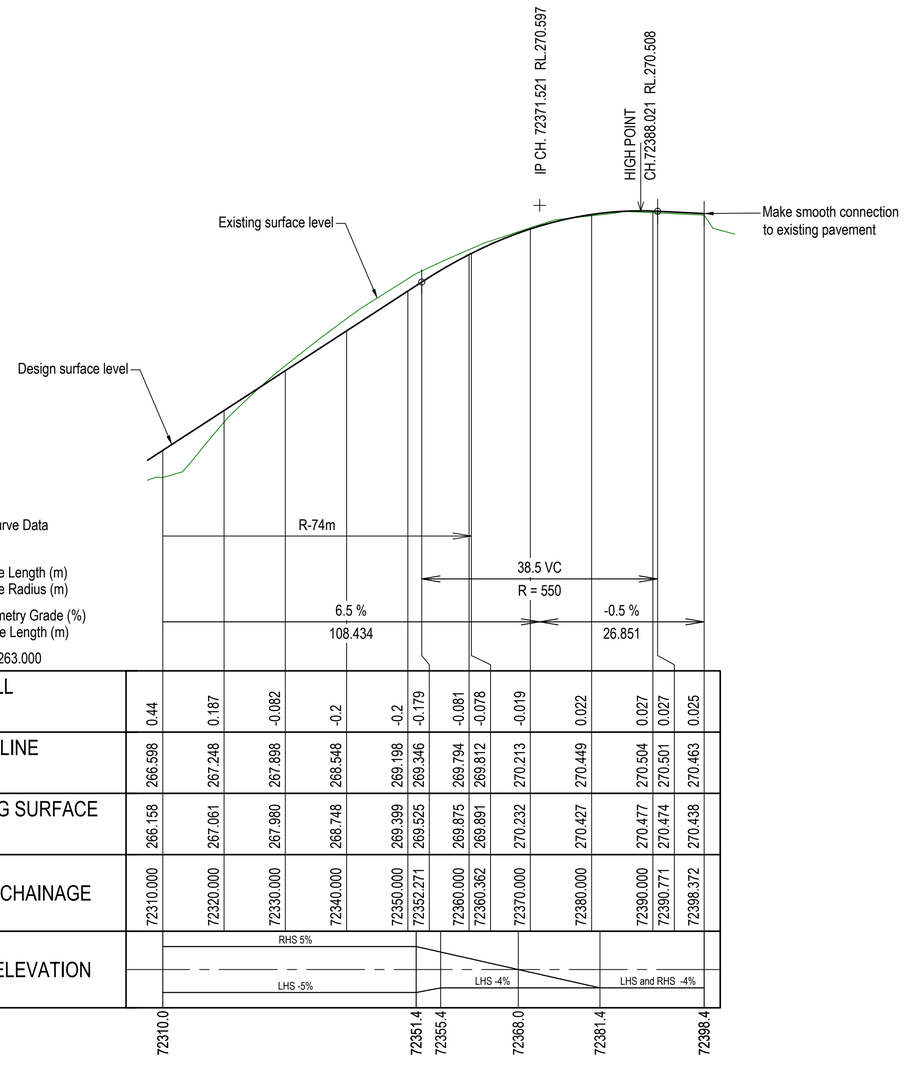
Job No.	CRC00290
Drawing No.	600
Revision	A
Series No.	6 of 20

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

BEFORE YOU DIG www.byda.com.au



CUT / FILL DEPTHS	0.44	0.187	-0.082	-0.2	-0.2	-0.179	-0.081	-0.078	-0.019	0.022	0.027	0.027	0.025
DESIGN LINE LEVELS	266.598	267.248	267.898	268.548	269.198	269.346	269.794	269.812	270.213	270.449	270.504	270.501	270.463
EXISTING SURFACE LEVELS	266.158	267.061	267.980	268.748	269.399	269.525	269.875	269.891	270.232	270.427	270.477	270.474	270.438
DESIGN CHAINAGE	72310.000	72320.000	72330.000	72340.000	72350.000	72352.271	72360.000	72360.362	72370.000	72380.000	72390.000	72390.771	72398.372

LONGITUDINAL SECTION

Horizontal Scale A
Vertical Scale B

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Scale B 0 0.5 1.0 1.5 2.0 2.5 1:50

Dimensions shown in metres except where shown otherwise

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
LONGITUDINAL SECTION SHEET 2

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	601
Revision	A
Series No.	7 of 20

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_LSECT_02.dwg

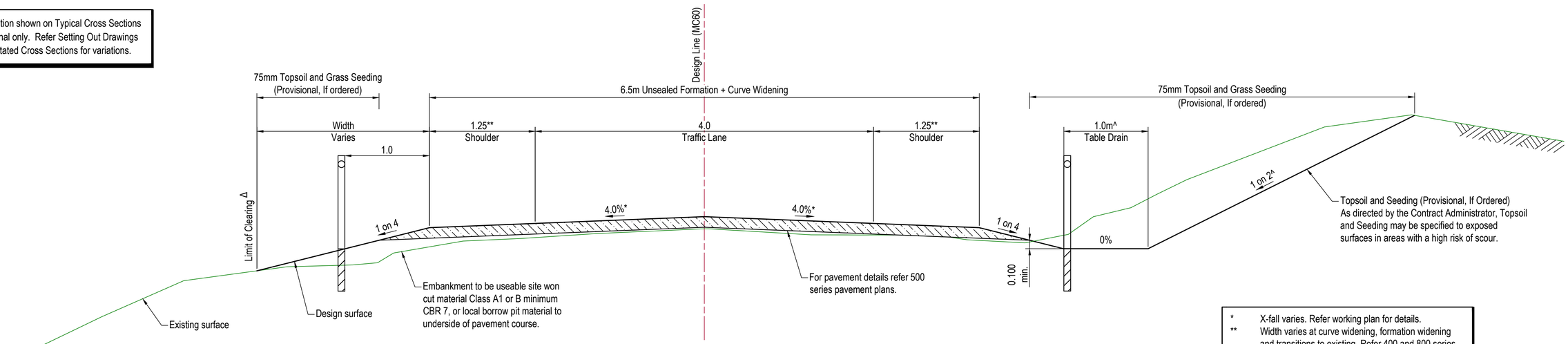
Last Modified :- Nov 06, 2023 - 3:32pm

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

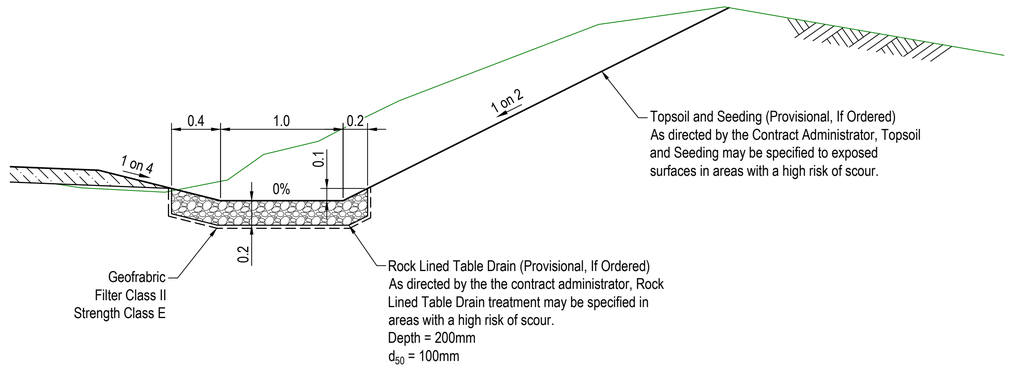
Information shown on Typical Cross Sections is nominal only. Refer Setting Out Drawings & Annotated Cross Sections for variations.



TYPICAL CROSS SECTION A

Ch. START - END (MC60)
(Excluding Floodway)
Not to Scale

* X-fall varies. Refer working plan for details.
** Width varies at curve widening, formation widening and transitions to existing. Refer 400 and 800 series drawings for details.
Δ Refer 1600 series plans for Limit of Clearing details.
^ Interfacing cut slope and table drain width vary at locations which require visibility benching. Refer 400 and 800 series drawings for details.



ROCK LINED TABLE DRAIN

Not to Scale

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
TYPICAL CROSS SECTIONS

Drawn: B Doherty
Designed: B Doherty

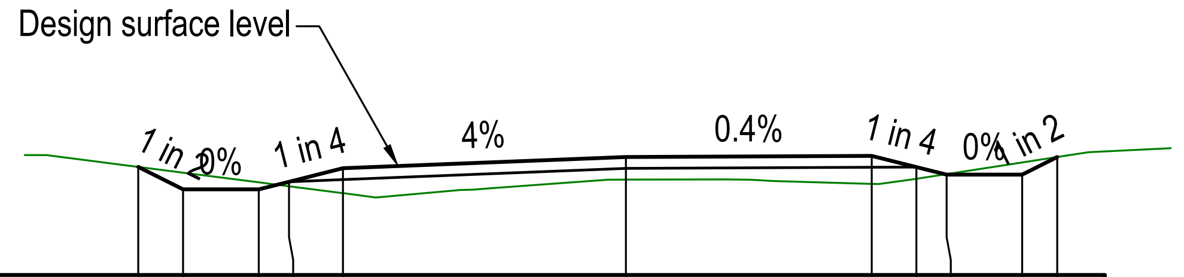
ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	700
Revision	A
Series No.	8 of 20

XREFS :- X_CRC_BSC_TITLE.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

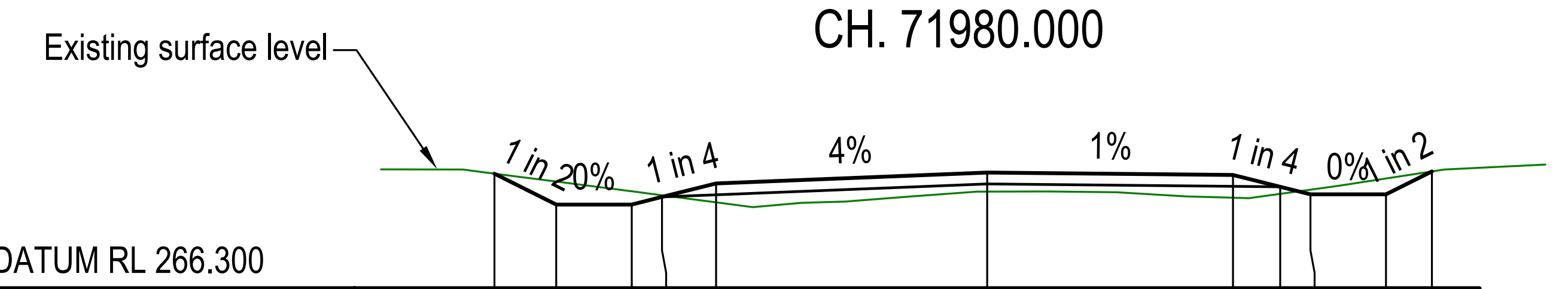
BEFORE YOU DIG
www.byda.com.au



DATUM RL 266.100

DESIGN LEVEL	267.530	267.233	267.233	267.333	267.511	267.661	267.675	267.527	267.427	267.427	267.659
EXISTING LEVEL	267.530	267.453	267.325	267.274	267.182	267.361	267.305	267.373	267.434	267.588	267.659
OFFSET	-6.451	-5.857	-4.857	-4.457	-3.742	0.000	3.250	3.840	4.240	5.240	5.704

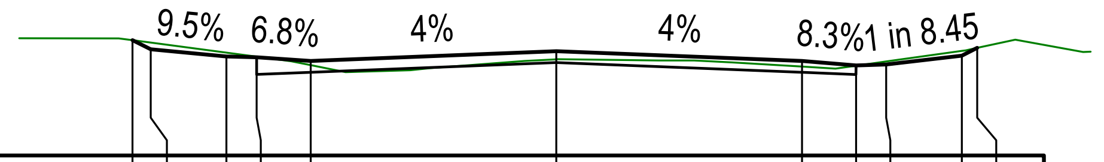
CH. 71980.000



DATUM RL 266.300

DESIGN LEVEL	267.814	267.406	267.406	267.506	267.684	267.828	267.796	267.640	267.540	267.540	267.844
EXISTING LEVEL	267.814	267.710	267.581	267.529	267.435	267.577	267.495	267.547	267.602	267.750	267.844
OFFSET	-6.518	-5.701	-4.701	-4.301	-3.586	0.000	3.250	3.874	4.274	5.274	5.882

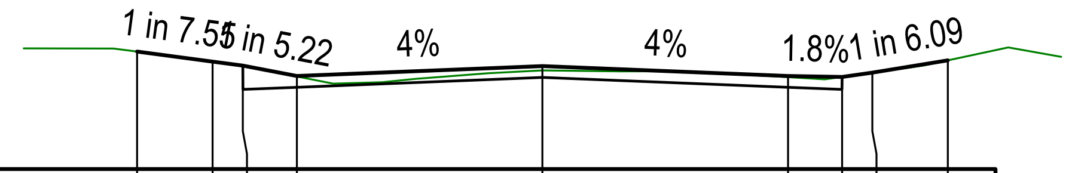
CH. 71974.535



DATUM RL 266.800

DESIGN LEVEL	268.325	268.204	268.109	268.098	268.050	268.180	268.050	267.991	268.003	268.121	268.223
EXISTING LEVEL	268.325	268.293	268.160	268.108	267.995	268.073	267.976	267.988	268.044	268.183	268.223
OFFSET	-5.607	-5.366	-4.366	-3.966	-3.251	0.000	3.250	3.965	4.365	5.365	5.568

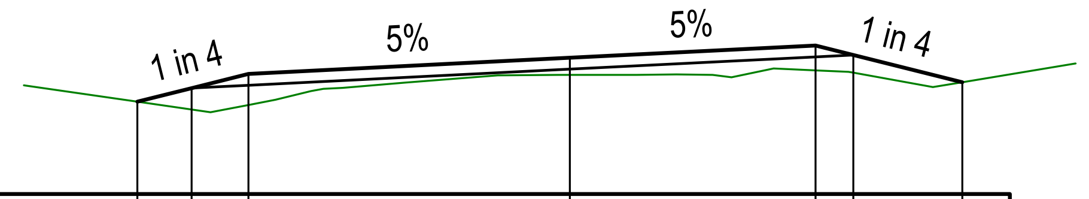
CH. 71962.800



DATUM RL 266.900

DESIGN LEVEL	268.457	268.324	268.271	268.134	268.264	268.134	268.121	268.177	268.341
EXISTING LEVEL	268.457	268.324	268.271	268.127	268.207	268.118	268.121	268.177	268.341
OFFSET	-5.365	-4.365	-3.965	-3.250	0.000	3.250	3.965	4.365	5.365

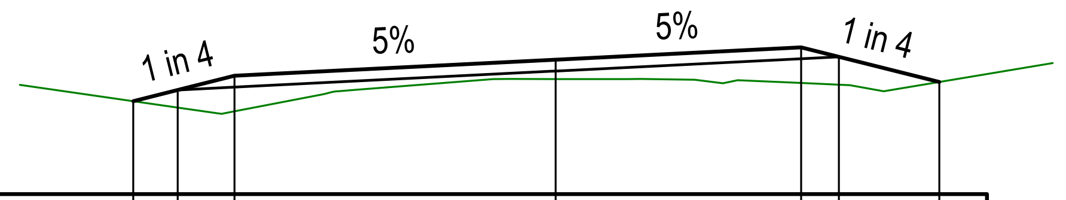
CH. 71960.000



DATUM RL 265.200

DESIGN LEVEL	266.419	266.599	266.787	266.999	267.162	267.036	266.677
EXISTING LEVEL	266.419	266.316	266.376	266.774	266.834	266.803	266.677
OFFSET	-5.719	-5.001	-4.250	0.000	3.250	3.751	5.190

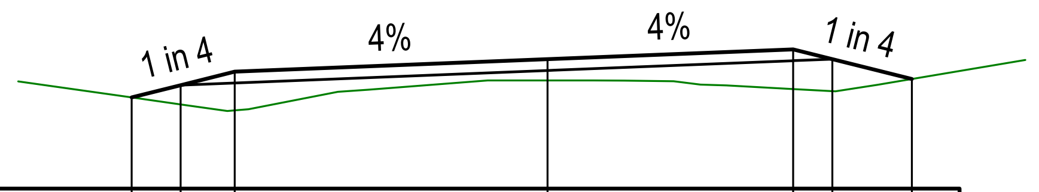
CH. 72000.000



DATUM RL 265.300

DESIGN LEVEL	266.528	266.676	266.863	267.076	267.238	267.113	266.781
EXISTING LEVEL	266.528	266.444	266.394	266.821	266.769	266.746	266.781
OFFSET	-5.590	-5.001	-4.250	0.000	3.250	3.751	5.079

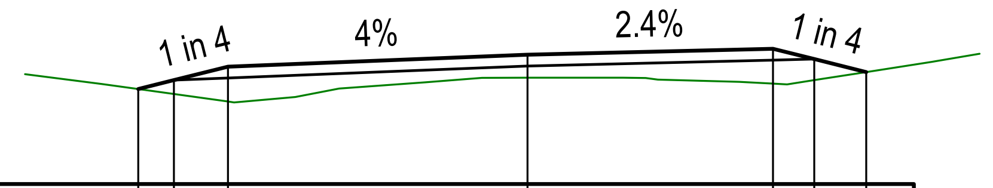
CH. 71997.800



DATUM RL 265.500

DESIGN LEVEL	266.706	266.868	267.047	267.213	267.342	267.213	266.949
EXISTING LEVEL	266.706	266.614	266.534	266.930	266.817	266.790	266.949
OFFSET	-5.501	-4.852	-4.137	0.000	3.250	3.768	4.821

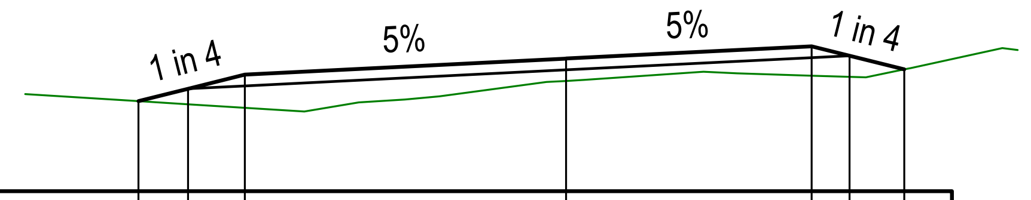
CH. 71993.800



DATUM RL 265.700

DESIGN LEVEL	266.958	267.076	267.255	267.413	267.492	267.356	267.184
EXISTING LEVEL	266.958	266.893	266.793	267.108	267.030	267.077	267.184
OFFSET	-5.150	-4.679	-3.964	0.000	3.250	3.797	4.485

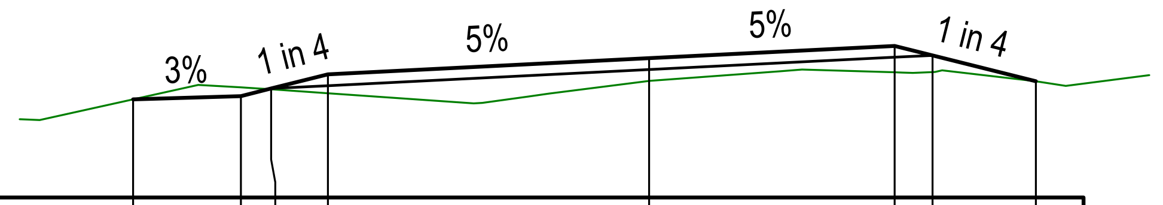
CH. 71987.766



DATUM RL 262.800

DESIGN LEVEL	263.993	264.157	264.345	264.557	264.720	264.595	264.414
EXISTING LEVEL	263.993	263.952	263.905	264.261	264.330	264.314	264.414
OFFSET	-5.658	-5.001	-4.250	0.000	3.250	3.751	4.475

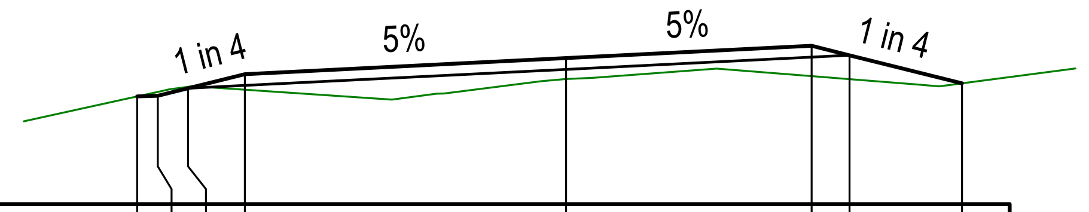
CH. 72060.000



DATUM RL 263.400

DESIGN LEVEL	264.695	264.738	264.838	265.025	265.238	265.400	265.275	264.933
EXISTING LEVEL	264.695	264.852	264.827	264.775	264.937	265.051	265.055	264.933
OFFSET	-6.828	-5.401	-5.001	-4.250	0.000	3.250	3.751	5.118

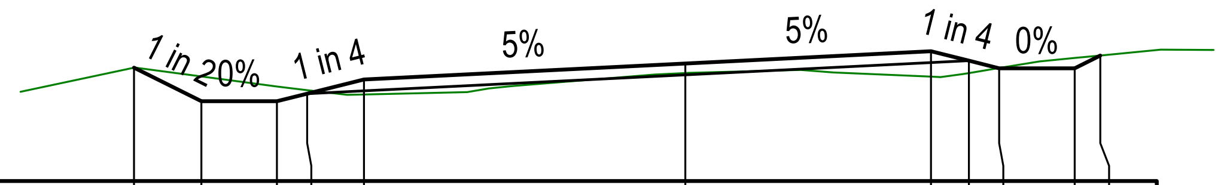
CH. 72044.535



DATUM RL 263.500

DESIGN LEVEL	264.927	264.935	265.035	265.223	265.435	265.598	265.473	265.101
EXISTING LEVEL	264.927	264.987	265.055	265.016	265.159	265.197	265.157	265.101
OFFSET	-5.675	-5.401	-5.001	-4.250	0.000	3.250	3.751	5.239

CH. 72040.000



DATUM RL 264.700

DESIGN LEVEL	266.203	265.757	265.757	265.857	266.045	266.257	266.420	266.295	266.195	266.195	266.363
EXISTING LEVEL	266.203	266.086	265.953	265.904	265.847	266.131	266.083	266.131	266.197	266.331	266.363
OFFSET	-7.292	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.488

CH. 72020.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_XSECT_01.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

20.01	Revisions/Descriptions	Drawn	Approved	Date
A	Issued for Construction			

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres
except where shown otherwise

quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client

Banana SHIRE
SHIRE OF OPPORTUNITY

Title

CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 1

Drawn
B Doherty

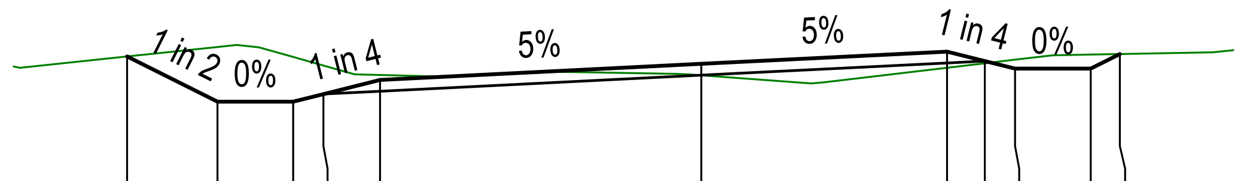
Designed
B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	800
Revision	A
Series No.	9 of 20

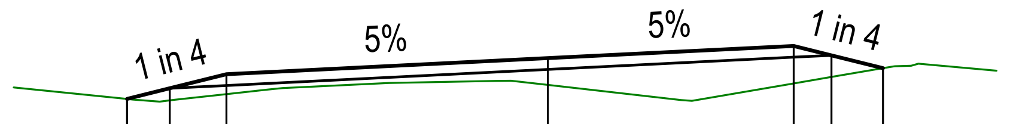
BEFORE YOU DIG
www.byda.com.au



DATUM RL 260.200

DESIGN LEVEL	261.886	261.288	261.288	261.388	261.576	261.788	261.951	261.826	261.726	261.726	261.919
EXISTING LEVEL	261.886	262.012	261.880	261.767	261.641	261.636	261.737	261.796	261.844	261.911	261.919
OFFSET	-7.598	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.537

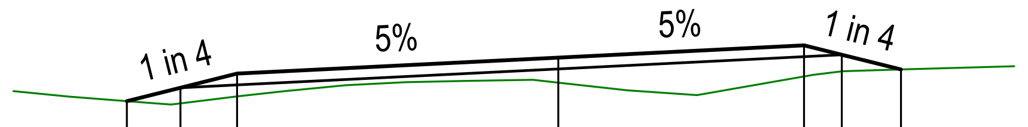
CH. 72120.000



DATUM RL 261.200

DESIGN LEVEL	262.250	262.391	262.579	262.792	262.954	262.829	262.659
EXISTING LEVEL	262.250	262.231	262.315	262.436	262.456	262.542	262.659
OFFSET	-5.565	-5.001	-4.250	0.000	3.250	3.751	4.432

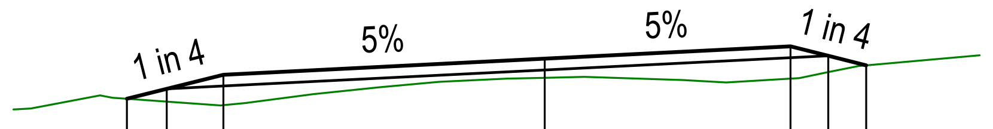
CH. 72100.000



DATUM RL 261.400

DESIGN LEVEL	262.458	262.635	262.823	263.036	263.198	263.073	262.878
EXISTING LEVEL	262.458	262.428	262.520	262.704	262.785	262.852	262.878
OFFSET	-5.710	-5.001	-4.250	0.000	3.250	3.751	4.532

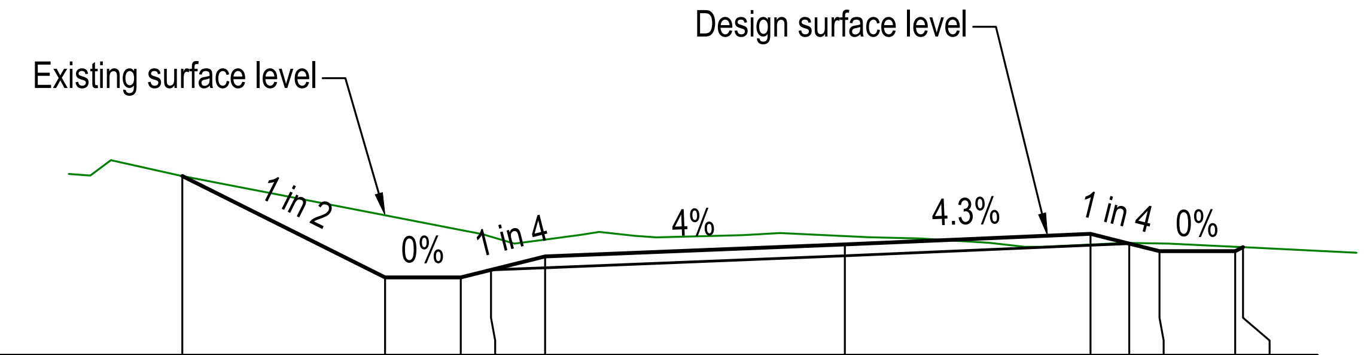
CH. 72094.584



DATUM RL 262.000

DESIGN LEVEL	263.145	263.277	263.465	263.677	263.840	263.715	263.590
EXISTING LEVEL	263.145	263.108	263.061	263.425	263.413	263.499	263.590
OFFSET	-5.528	-5.001	-4.250	0.000	3.250	3.751	4.251

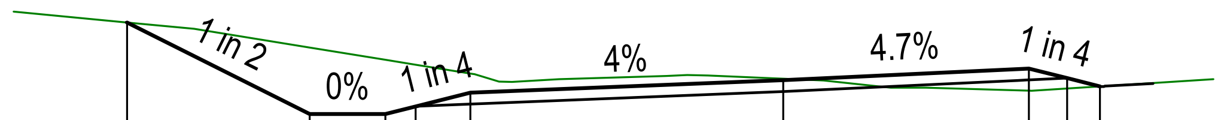
CH. 72080.000



DATUM RL 259.500

DESIGN LEVEL	261.875	260.533	260.533	260.633	260.812	260.971	261.109	260.981	260.881	260.881	260.933
EXISTING LEVEL	261.875	261.355	261.161	261.072	261.034	261.079	260.968	260.990	260.983	260.938	260.933
OFFSET	-8.762	-6.079	-5.079	-4.679	-3.964	0.000	3.250	3.763	4.163	5.163	5.267

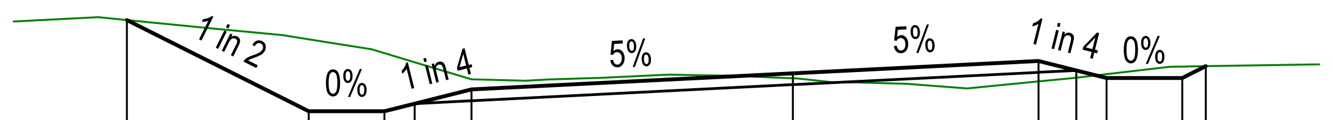
CH. 72134.335



DATUM RL 259.800

DESIGN LEVEL	262.085	260.878	260.878	260.978	261.159	261.325	261.478	261.352	261.243
EXISTING LEVEL	262.085	261.754	261.593	261.528	261.411	261.344	261.187	261.215	261.243
OFFSET	-8.677	-6.262	-5.262	-4.862	-4.137	0.000	3.250	3.756	4.191

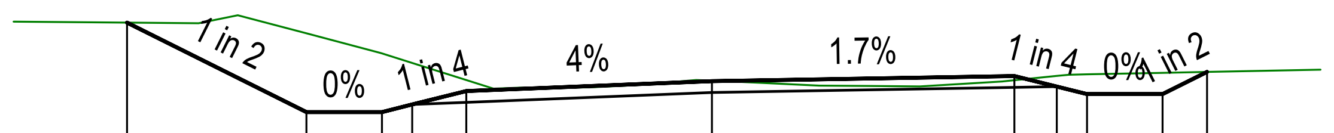
CH. 72128.300



DATUM RL 260.000

DESIGN LEVEL	262.254	261.051	261.051	261.151	261.339	261.552	261.714	261.589	261.489	261.489	261.645
EXISTING LEVEL	262.254	262.000	261.817	261.697	261.473	261.485	261.444	261.494	261.540	261.640	261.645
OFFSET	-8.805	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.463

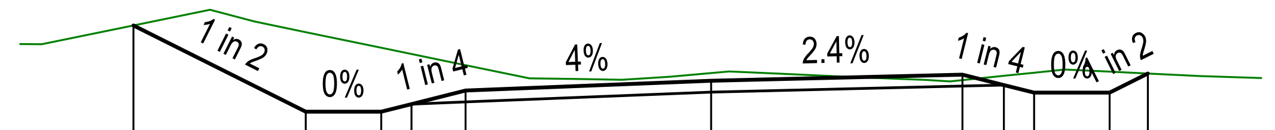
CH. 72124.300



DATUM RL 257.200

DESIGN LEVEL	259.431	258.245	258.245	258.345	258.524	258.654	258.723	258.583	258.483	258.483	258.777
EXISTING LEVEL	259.431	259.289	259.023	258.896	258.669	258.661	258.668	258.724	258.745	258.765	258.777
OFFSET	-7.737	-5.365	-4.365	-3.965	-3.250	0.000	4.000	4.561	4.961	5.961	6.550

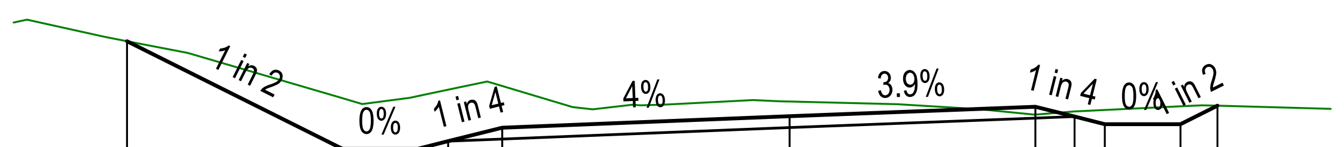
CH. 72169.000



DATUM RL 257.800

DESIGN LEVEL	260.032	258.893	258.893	258.993	259.172	259.302	259.381	259.244	259.144	259.144	259.397
EXISTING LEVEL	260.032	259.944	259.738	259.655	259.508	259.402	259.310	259.367	259.408	259.422	259.397
OFFSET	-7.643	-5.365	-4.365	-3.965	-3.250	0.000	3.325	3.873	4.273	5.273	5.779

CH. 72160.000



DATUM RL 259.100

DESIGN LEVEL	261.618	260.194	260.194	260.294	260.473	260.625	260.750	260.620	260.520	260.520	260.764
EXISTING LEVEL	261.618	260.864	260.892	260.976	261.026	260.819	260.647	260.688	260.709	260.757	260.764
OFFSET	-8.766	-5.917	-4.917	-4.517	-3.803	0.000	3.250	3.770	4.170	5.170	5.659

CH. 72140.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_XSECT_02.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres
except where shown otherwise

quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client

Banana SHIRE
SHIRE OF OPPORTUNITY

Title

CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 2

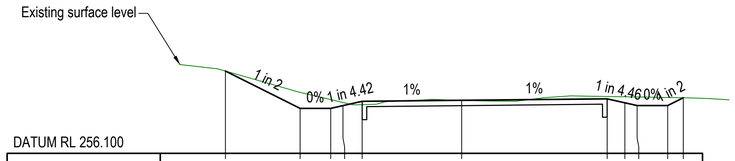
Drawn
B Doherty

Designed
B Doherty

ENGINEERING CERTIFICATION (RPEQ)

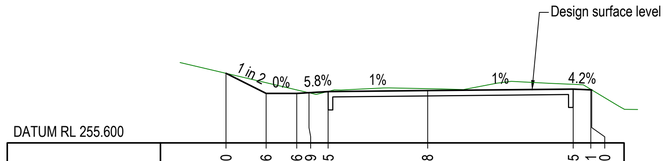
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	801
Revision	A
Series No.	10 of 20



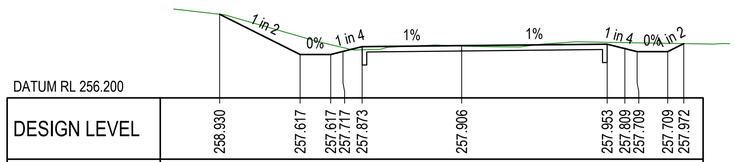
DATUM RL 256.100										
DESIGN LEVEL	258.786	257.567	257.567	257.657	257.798	257.831	257.878	257.749	257.659	257.913
EXISTING LEVEL	258.786	258.090	257.854	257.760	257.689	257.824	257.955	257.945	257.938	257.922	257.913
OFFSET	-7.713	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	6.727	7.234

CH. 72180.000



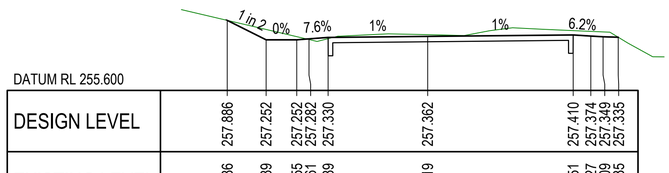
DATUM RL 255.600									
DESIGN LEVEL	257.870	257.216	257.216	257.239	257.275	257.308	257.355	257.331	257.330
EXISTING LEVEL	257.870	257.564	257.329	257.236	257.279	257.370	257.512	257.347	257.330
OFFSET	-6.585	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.357

CH. 72187.000



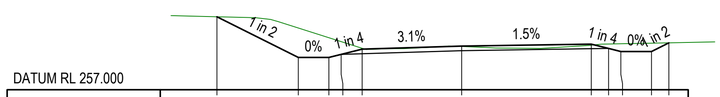
DATUM RL 256.200										
DESIGN LEVEL	258.930	257.617	257.617	257.717	257.873	257.906	257.953	257.809	257.709	257.972
EXISTING LEVEL	258.930	258.205	257.938	257.844	257.770	257.892	258.013	258.004	257.997	257.980	257.972
OFFSET	-7.902	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	6.727	7.252

CH. 72179.000



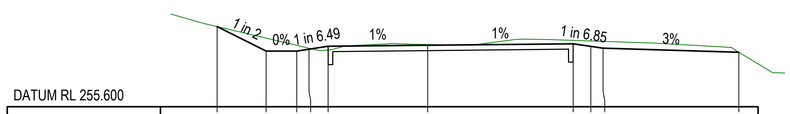
DATUM RL 255.600									
DESIGN LEVEL	257.886	257.252	257.252	257.282	257.330	257.362	257.410	257.374	257.349	257.335
EXISTING LEVEL	257.886	257.589	257.355	257.261	257.289	257.419	257.551	257.527	257.509	257.335
OFFSET	-6.544	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	6.222

CH. 72186.250



DATUM RL 257.000										
DESIGN LEVEL	259.382	258.053	258.053	258.153	258.325	258.424	258.488	258.347	258.247	258.247	258.530
EXISTING LEVEL	259.382	259.014	258.697	258.570	258.353	258.411	258.452	258.491	258.499	258.519	258.530
OFFSET	-7.991	-5.335	-4.335	-3.935	-3.250	0.000	4.231	4.797	5.197	6.197	6.765

CH. 72172.084



DATUM RL 255.600										
DESIGN LEVEL	258.216	257.415	257.415	257.477	257.573	257.606	257.653	257.569	257.511	257.378
EXISTING LEVEL	258.216	257.838	257.603	257.509	257.445	257.630	257.766	257.746	257.732	257.378
OFFSET	-6.875	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	10.158

CH. 72183.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570

ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 3

Drawn: B Doherty

Designed: B Doherty

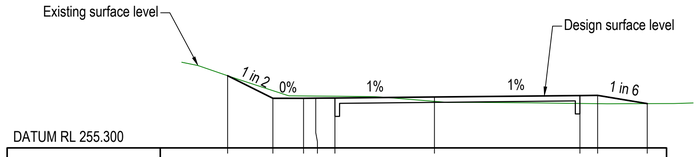
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	802
Revision	A
Series No.	11 of 20

XREFS :- X_CRC_BSC_TITLE.dwg :X_MC60_XSECT_03.dwg

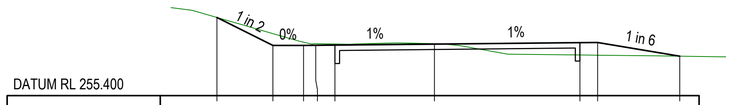
Last Modified :- Nov 06, 2023 - 3:32pm



DATUM RL 255.300

DESIGN LEVEL	257.657	256.918	256.918 256.922	256.928	256.961	257.008	257.014	256.744
EXISTING LEVEL	257.657	257.170	256.996 256.992	256.986	256.820	256.750	256.743	256.744
OFFSET	-6.752	-5.275	-4.275 -3.875	-3.250	0.000	4.750	5.327	6.946

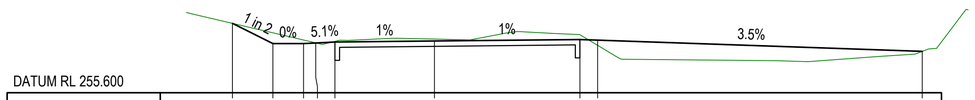
CH. 72195.000



DATUM RL 255.400

DESIGN LEVEL	257.952	257.038	257.038 257.042	257.048	257.081	257.128	257.134	256.687
EXISTING LEVEL	257.952	257.424	257.144 257.095	257.084	257.096	256.726	256.720	256.687
OFFSET	-7.102	-5.275	-4.275 -3.875	-3.250	0.000	4.750	5.327	8.009

CH. 72191.000



DATUM RL 255.600

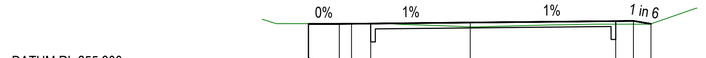
DESIGN LEVEL	257.864	257.203	257.203 257.223	257.255	257.288	257.335	257.315	256.949
EXISTING LEVEL	257.864	257.554	257.320 257.226	257.276	257.351	257.494	257.147	256.949
OFFSET	-6.596	-5.275	-4.275 -3.875	-3.250	0.000	4.750	5.327	15.924

CH. 72187.286

DATUM RL 255.300

DESIGN LEVEL	256.858	256.902	256.908	256.941	256.988	256.994	256.998	258.044
EXISTING LEVEL	256.858	256.874	256.891	256.871	257.269	257.494	257.650	258.042	258.044
OFFSET	-8.317	-3.875	-3.250	0.000	4.750	5.327	5.727	6.838	9.243

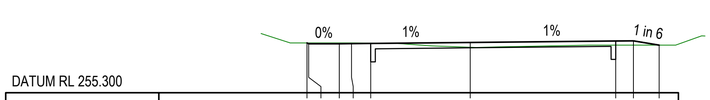
CH. 72203.000



DATUM RL 255.300

DESIGN LEVEL	256.905	256.897	256.897 256.901	256.908	256.940	256.988	256.993	256.898
EXISTING LEVEL	256.905 256.905	256.905 256.905	256.905 256.905	256.905	256.801	256.887	256.887	256.898
OFFSET	-5.290	-5.275	-4.275 -3.875	-3.250	0.000	4.750	5.327	5.902

CH. 72200.000



DATUM RL 255.300

DESIGN LEVEL	256.925	256.897	256.897 256.901	256.908	256.940	256.988	256.993	256.853
EXISTING LEVEL	256.925 256.925	256.925 256.925	256.925 256.925	256.920	256.783	256.853	256.853	256.853
OFFSET	-5.331	-5.275	-4.275 -3.875	-3.250	0.000	4.750	5.327	6.167

CH. 72199.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 4

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

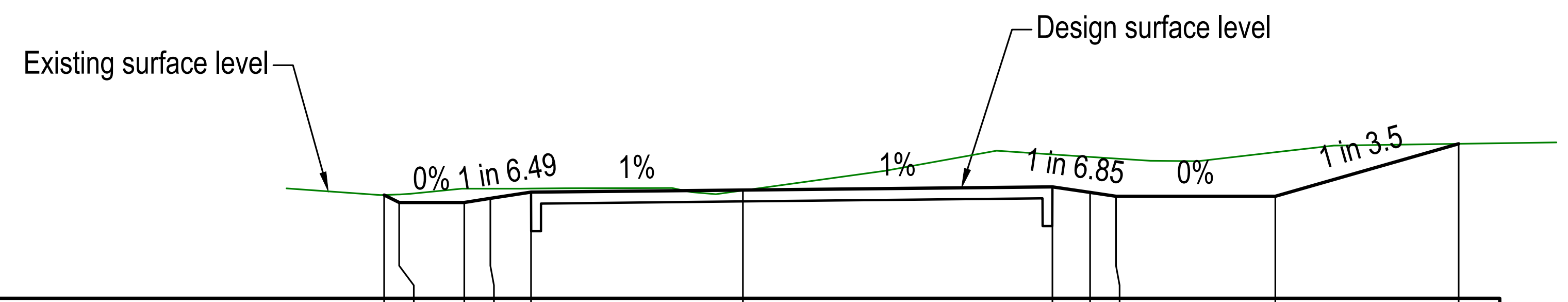
Job No.	CRC00290
Drawing No.	803
Revision	A
Series No.	12 of 20

XREFS - X_CRC_BSC_TITLE.dwg ; X_MC60_XSECT_04.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

BEFORE YOU DIG
www.byda.com.au

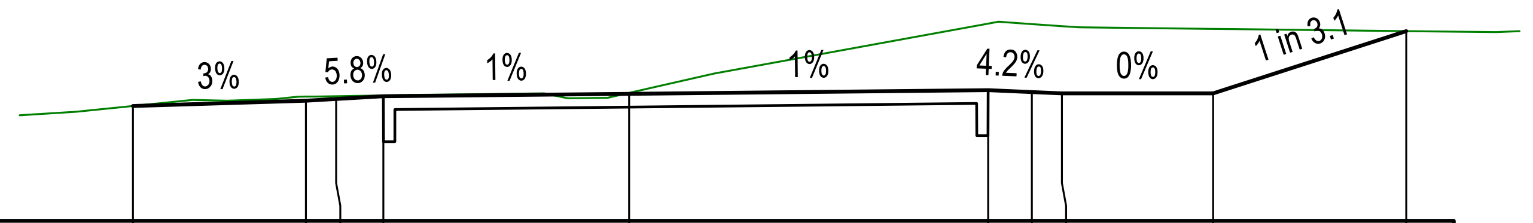
DATUM RL 255.800



DESIGN LEVEL	257.385	257.271	257.271	257.332	257.428	257.461	257.508	257.424	257.366	257.366	258.170
EXISTING LEVEL	257.385	257.393	257.480	257.481	257.483	257.453	258.007	257.969	257.943	258.039	258.170
OFFSET	-5.504	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	8.171	10.985

CH. 72215.000

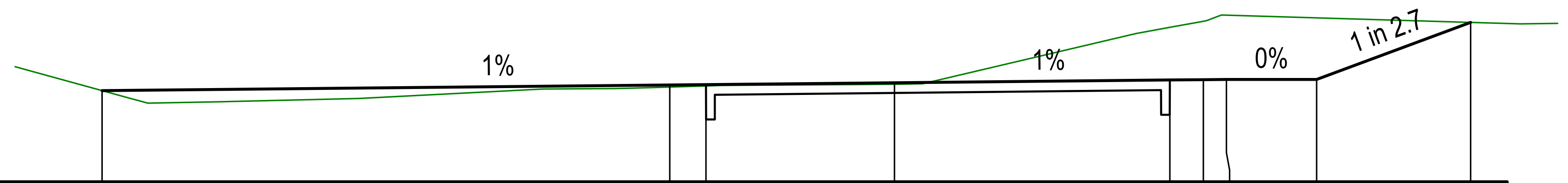
DATUM RL 255.500



DESIGN LEVEL	257.020	257.089	257.112	257.148	257.181	257.228	257.204	257.187	257.187	258.011
EXISTING LEVEL	257.020	257.145	257.150	257.160	257.193	258.111	258.105	258.077	258.041	258.011
OFFSET	-6.563	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	7.727	10.280

CH. 72211.000

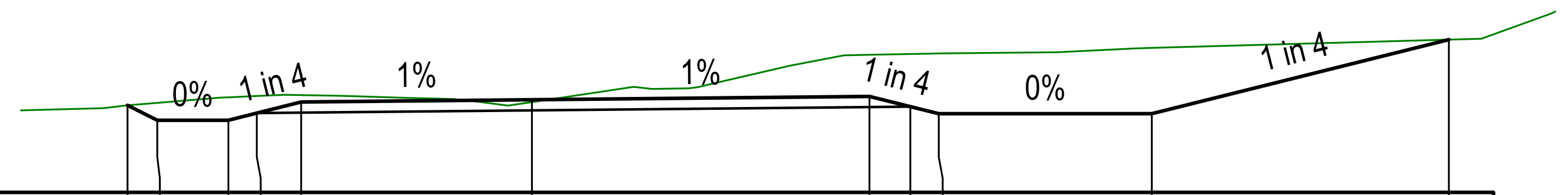
DATUM RL 255.300



DESIGN LEVEL	256.871	256.969	256.975	257.008	257.055	257.061	257.065	257.065	258.048
EXISTING LEVEL	256.871	256.933	256.952	256.983	257.963	258.069	258.173	258.127	258.048
OFFSET	-13.667	-3.875	-3.250	0.000	4.750	5.327	5.727	7.283	9.938

CH. 72207.000

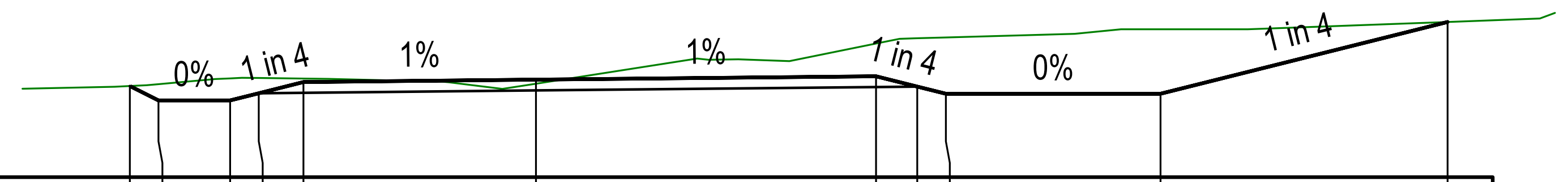
DATUM RL 256.900



DESIGN LEVEL	258.129	257.919	257.919	258.019	258.175	258.208	258.255	258.111	258.011	258.011	259.056
EXISTING LEVEL	258.129	258.164	258.243	258.260	258.273	258.175	258.842	258.854	258.861	258.940	259.056
OFFSET	-5.695	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	8.727	12.908

CH. 72222.000

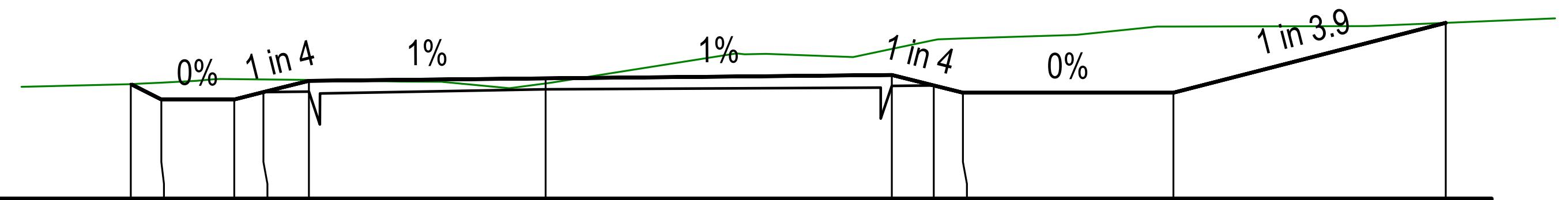
DATUM RL 256.600



DESIGN LEVEL	257.873	257.672	257.672	257.772	257.928	257.961	258.008	257.864	257.764	257.764	258.767
EXISTING LEVEL	257.873	257.899	257.980	257.985	257.977	257.905	258.465	258.539	258.550	258.665	258.767
OFFSET	-5.677	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	8.727	12.737

CH. 72220.000

DATUM RL 256.200



DESIGN LEVEL	257.769	257.559	257.559	257.659	257.815	257.848	257.895	257.751	257.651	257.651	258.610
EXISTING LEVEL	257.769	257.790	257.838	257.834	257.828	257.778	258.252	258.372	258.396	258.559	258.610
OFFSET	-5.695	-5.275	-4.275	-3.875	-3.250	0.000	4.750	5.327	5.727	8.616	12.355

CH. 72219.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_XSECT_05.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres
except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client

Banana SHIRE
SHIRE OF OPPORTUNITY

Title
CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 5

Drawn
B Doherty

Designed
B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

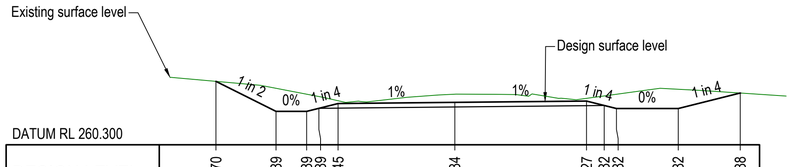
Job No.	CRC00290
Drawing No.	804
Revision	A
Series No.	13 of 20

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

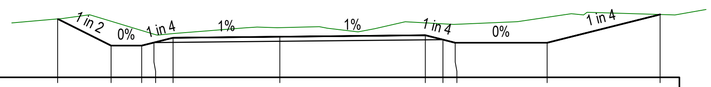
BEFORE YOU DIG www.byda.com.au



DATUM RL 260.300

DESIGN LEVEL	262.370	261.389	261.389 261.489	261.645	261.684	261.727	261.582 261.482	261.482	261.988
EXISTING LEVEL	262.370	262.143	261.951 261.874	261.738	261.952	261.816	261.894 261.949	262.112	261.988
OFFSET	-7.799	-5.837	-4.837 -4.437	-3.812	0.000	4.300	4.877 5.277	7.294	9.319

CH. 72249.831



DATUM RL 259.200

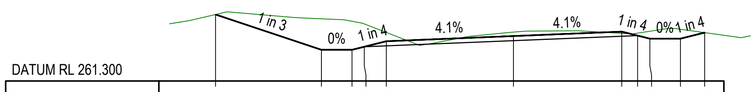
DESIGN LEVEL	261.107	260.235	260.235 260.335	260.492	260.527	260.574 260.430	260.330	261.252
EXISTING LEVEL	261.107	261.031	260.730 260.609	260.629	260.822	260.978 260.946	261.160	261.252
OFFSET	-7.252	-5.509	-4.509 -4.109	-3.484	0.000	4.750 5.327	8.727	12.415

CH. 72240.000

DATUM RL 258.400

DESIGN LEVEL	259.897	259.457	259.457 259.557	259.714	259.746	259.794 259.650	259.550	260.897
EXISTING LEVEL	259.897	259.771	259.778 259.834	259.906	259.985	260.269 260.302	260.497	260.897
OFFSET	-6.182	-5.304	-4.304 -3.904	-3.279	0.000	4.750 5.327	8.727	14.117

CH. 72233.837



DATUM RL 261.300

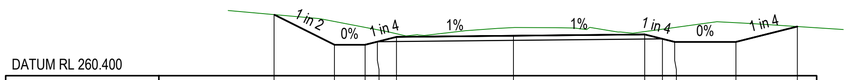
DESIGN LEVEL	263.471	262.318	262.318 262.418	262.598	262.767	262.912 262.783	262.683	262.683	262.880
EXISTING LEVEL	263.471	263.331	263.250 263.164	262.886	262.896	262.856 262.862	262.924	262.989	262.880
OFFSET	-9.726	-6.269	-5.269 -4.869	-4.151	0.000	3.537 4.054	4.454	5.454	6.242

CH. 72260.000

DATUM RL 260.700

DESIGN LEVEL	262.944	261.786	261.786 261.886	262.051	262.139	262.228 262.090	261.990	261.990	262.354
EXISTING LEVEL	262.944	262.701	262.505 262.427	262.298	262.384	262.243 262.323	262.380	262.455	262.354
OFFSET	-8.785	-6.009	-5.009 -4.609	-3.950	0.000	3.989 4.540	4.940	6.543	7.999

CH. 72253.973



DATUM RL 260.400

DESIGN LEVEL	262.394	261.408	261.408 261.508	261.664	261.702	261.746 261.602	261.502	261.502	262.003
EXISTING LEVEL	262.394	262.168	261.976 261.899	261.768	261.970	261.839 261.918	261.972	262.127	262.003
OFFSET	-7.815	-5.843	-4.843 -4.443	-3.818	0.000	4.287 4.864	5.264	7.264	9.270

CH. 72250.000

CROSS SECTIONS

Scale A

XREFS :- X_CRC_BSC_TITLE.dwg ; X_MC60_XSECT_06.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570

ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 6

Drawn: B Doherty

Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	805
Revision	A
Series No.	14 of 20

DATUM RL 263.700

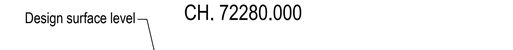
DESIGN LEVEL	265.059	264.795	264.795	264.895	265.083	265.295	265.458	265.333	265.233	265.233	265.290		
EXISTING LEVEL	265.059	265.064	265.068	265.070	265.073	264.867	265.266	265.288	265.290	265.291	265.290		
OFFSET	-7.458	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.267		

CH. 72290.000

DATUM RL 263.000

DESIGN LEVEL	264.407	264.063	264.063	264.163	264.351	264.564	264.726	264.601	264.501	264.501	264.603		
EXISTING LEVEL	264.407	264.495	264.349	264.271	264.136	264.361	264.666	264.659	264.653	264.614	264.603		
OFFSET	-7.774	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.355		

CH. 72280.000



DATUM RL 262.200

DESIGN LEVEL	263.484	263.221	263.221	263.321	263.509	263.721	263.884	263.758	263.658	263.606			
EXISTING LEVEL	263.484	263.700	263.885	263.958	263.944	263.677	263.850	263.824	263.824	263.606			
OFFSET	-7.454	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.914			

CH. 72270.000

DATUM RL 261.500

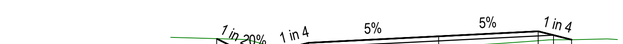
DESIGN LEVEL	263.398	262.565	262.565	262.665	262.853	263.065	263.231	263.106	263.006	263.006	263.086		
EXISTING LEVEL	263.398	263.639	263.579	263.509	263.220	263.126	263.170	263.141	263.117	263.128	263.086		
OFFSET	-9.151	-6.401	-5.401	-5.001	-4.250	0.000	3.312	3.813	4.213	5.213	5.510		

CH. 72263.000

DATUM RL 265.700

DESIGN LEVEL	267.160	266.748	266.748	266.848	267.036	267.248	267.411	267.286	267.186	267.186	267.225		
EXISTING LEVEL	267.160	267.159	267.157	267.160	267.197	267.061	267.236	267.242	267.249	267.233	267.225		
OFFSET	-7.226	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.230		

CH. 72320.000



DATUM RL 264.900

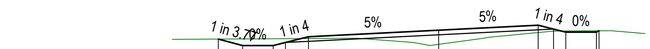
DESIGN LEVEL	266.522	266.098	266.098	266.198	266.386	266.598	266.761	266.636	266.489				
EXISTING LEVEL	266.522	266.497	266.255	266.144	266.152	266.158	266.455	266.485	266.489				
OFFSET	-7.248	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.339				

CH. 72310.000

DATUM RL 264.300

DESIGN LEVEL	265.383	265.548	265.736	265.948	266.111	265.986	265.861						
EXISTING LEVEL	265.383	265.391	265.400	265.562	265.838	265.861	265.861						
OFFSET	-5.662	-5.001	-4.250	0.000	3.250	3.751	4.249						

CH. 72300.000



DATUM RL 263.900

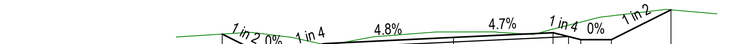
DESIGN LEVEL	265.160	264.950	264.950	265.050	265.238	265.450	265.613	265.487	265.387	265.387	265.431		
EXISTING LEVEL	265.160	265.165	265.171	265.173	265.178	264.989	265.373	265.422	265.424	265.431	265.431		
OFFSET	-7.194	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	5.238		

CH. 72292.337

DATUM RL 268.300

DESIGN LEVEL	269.910	269.357	269.357	269.457	269.635	269.794	269.872	269.735	269.635	269.635	270.694		
EXISTING LEVEL	269.910	269.976	269.755	269.667	269.509	269.875	269.865	270.022	270.136	270.419	270.694		
OFFSET	-7.184	-6.077	-5.077	-4.677	-3.962	0.000	3.250	3.798	4.198	5.198	7.315		

CH. 72360.000



DATUM RL 267.800

DESIGN LEVEL	269.454	268.859	268.859	268.959	269.144	269.346	269.500	269.373	269.273	269.273	270.246		
EXISTING LEVEL	269.454	269.480	269.358	269.276	269.110	269.525	269.618	269.746	269.847	270.050	270.246		
OFFSET	-7.552	-6.362	-5.362	-4.962	-4.220	0.000	3.250	3.755	4.155	5.155	7.100		

CH. 72352.271

DATUM RL 267.000

DESIGN LEVEL	268.653	268.048	268.048	268.148	268.336	268.548	268.711	268.586	268.486	268.486	269.491		
EXISTING LEVEL	268.653	268.465	268.417	268.439	268.510	268.748	268.646	268.710	268.811	269.085	269.491		
OFFSET	-7.611	-6.401	-5.401	-5.001	-4.250	0.000	3.250	3.751	4.151	5.151	7.162		

CH. 72340.000

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 7

Drawn: B Doherty
Designed: B Doherty

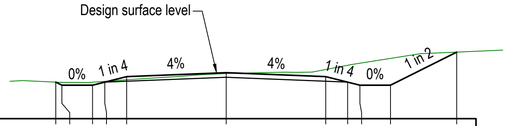
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	806
Revision	A
Series No.	15 of 20

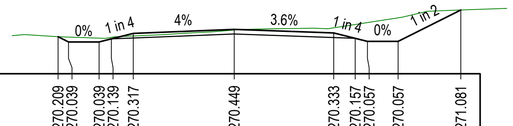
XREFS :- X_CRC_BSC_TITLE.dwg ; X_MC60_XSECT_07.dwg

Last Modified :- Nov 06, 2023 - 3:32pm



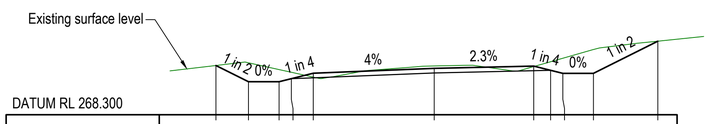
DATUM RL 269.000									
DESIGN LEVEL	270.192	270.092	270.092	270.192	270.371	270.501	270.371	270.192	270.092	270.092	271.172
EXISTING LEVEL	270.192	270.186	270.190	270.218	270.269	270.474	270.605	270.743	270.809	270.967	271.172
OFFSET	-5.564	-5.365	-4.365	-3.965	-3.250	0.000	3.250	3.965	4.365	5.365	7.525

CH. 72390.771



DATUM RL 269.000									
DESIGN LEVEL	270.209	270.039	270.039	270.139	270.317	270.449	270.333	270.157	270.057	270.057	271.081
EXISTING LEVEL	270.209	270.197	270.163	270.189	270.233	270.427	270.499	270.608	270.670	270.825	271.081
OFFSET	-5.751	-5.410	-4.410	-4.010	-3.295	0.000	3.250	3.951	4.351	5.351	7.398

CH. 72380.000



DATUM RL 268.300									
DESIGN LEVEL	269.906	269.376	269.376	269.476	269.654	269.812	269.887	269.750	269.650	269.650	270.700
EXISTING LEVEL	269.906	269.994	269.773	269.685	269.527	269.891	269.871	270.028	270.142	270.428	270.700
OFFSET	-7.127	-6.065	-5.065	-4.665	-3.950	0.000	3.250	3.800	4.200	5.200	7.300

CH. 72360.362

WARNING!

BEWARE OF UNDERGROUND SERVICES

The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

CROSS SECTIONS

Scale A

XREFS :- X_CRC_BSC_TITLE.dwg : X_MC60_XSECT_08.dwg

Last Modified :- Nov 06, 2023 - 3:32pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570

ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
ANNOTATED CROSS SECTIONS SHEET 8

Drawn: B Doherty

Designed: B Doherty

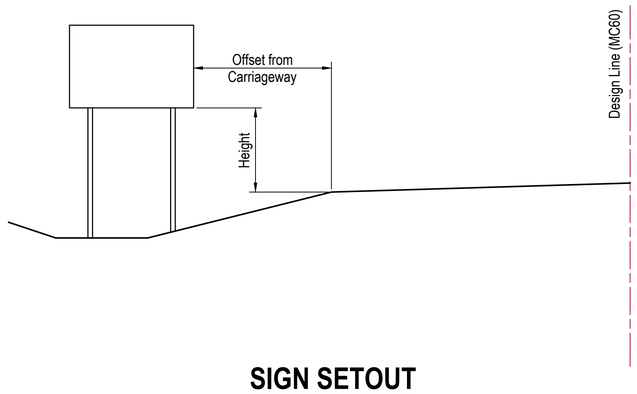
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	807
Revision	A
Series No.	16 of 20

SIGN SCHEDULE

CHAINAGE (M)	POSITION	SIGN DESCRIPTION	SIGN TYPE	WORK DESCRIPTION	SIGN DETAILS					STIFFENER DETAILS				SUPPORT DETAILS							NEW FOOTING DETAILS			
					WIDTH (mm)	HEIGHT (mm)	AREA (m^2)	OFFSET FROM CARRIAGEWAY (mm)	HEIGHT ABOVE CARRIAGEWAY (mm)	TYPE	No.	SPACING (mm)	No. OF BRACKETS	TYPE	No.	SPACING (mm)	DIMENSION (mm) NB	MATERIAL	POST LENGTH 1 (mm)	POST LENGTH 2 (mm)	SLEEVE LENGTH (mm)	SLEEVE SIZE (mm)	DIA. (mm)	DEPTH (mm)
72060	LHS	Warning, floodway & "ROSS CK"	W5-7-1B & G6-2	Install New with salvaged	750	750	0.56	2000	1500	1	0	0	0	CHS Steel	1	-	50	C350	3500 C.T.S	-	-	-	300	750
72150	LHS	Guide, "Road Subject to Flooding"	G9-21-1	Install New	2150	800	1.7200	2000	1500	1	3	350	6	CHS Steel	2	1500	60.3	C350	3500 C.T.S	3500 C.T.S	-	-	300	750
72198	LHS	Guide, Flood depth marker	G9-22-1	Install New																				
72202	RHS	Guide, Flood depth marker	G9-22-1	Install New																				
72250	RHS	Guide, "Road Subject to Flooding"	G9-21-1	Install New	2150	800	1.7200	2000	1500	1	3	350	6	CHS Steel	2	1500	60.3	C350	3500 C.T.S	3500 C.T.S	-	-	300	750
72330	RHS	Warning, floodway & "ROSS CK"	W5-7-1B & G6-2	Install New with salvaged	750	750	0.56	2000	1500	1	0	0	0	CHS Steel	1	-	50	C350	3500 C.T.S	-	-	-	300	750



SIGN SETOUT

PAVEMENT MARKING TYPES

No.	TYPE	EXAMPLE	WIDTH	DESCRIPTION
LONGITUDINAL LINES				
C	Barrier Line (Single)		100mm	Continuous (on floodway)

XREFS :- X_CRC_BSC_TITLE.dwg

Last Modified :- Nov 06, 2023 - 3:33pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Dimensions shown in metres except where shown otherwise

quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE – SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
SUPPLEMENTARY SIGNS AND LINEMARKING DETAILS

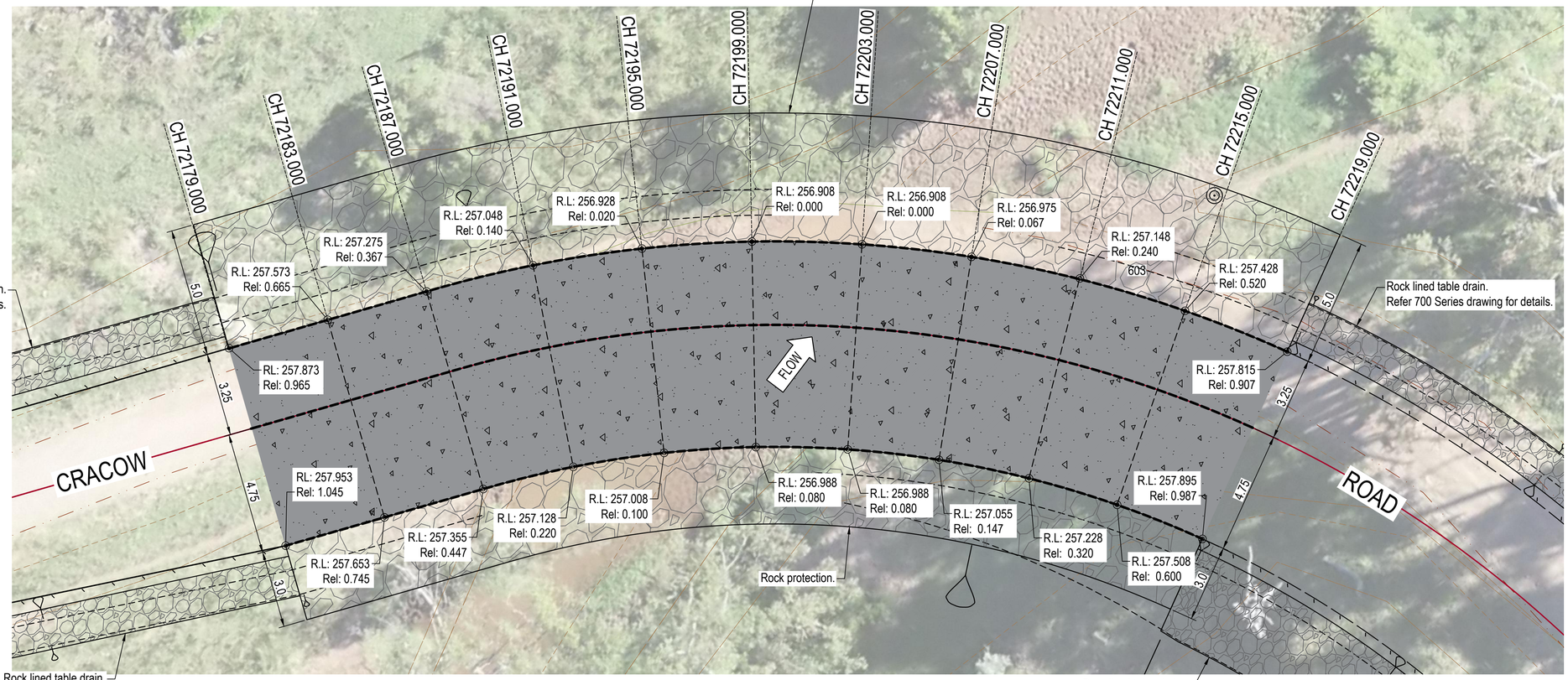
Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

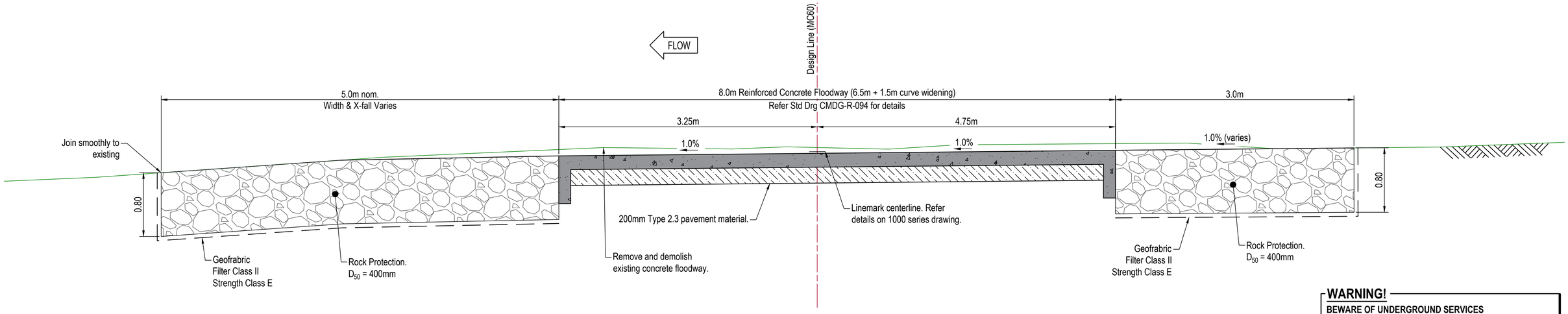
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	1000
Revision	A
Series No.	17 of 20

Refer 400 series drawings for sign details.



PLAN
Scale: 1:500



TYPICAL CROSS SECTION B
Chge 72179.000 - 72219.000 (MC60 - Floodway)
Not to Scale

LEGEND
R.L: Reduced Level AHD
Rel: Height relative to lowest point on floodway

WARNING!
BEWARE OF UNDERGROUND SERVICES
The location of underground services has been compiled from engineering survey and interpolated from Dial Before You Dig as provided by the Service Authorities. No responsibility is taken for the accuracy of the interpolated information supplied. Ensure all services are accurately located prior to commencement of work.

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)
Scale A 0 1.0 2.0 3.0 4.0 5.0 1:100
Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
FLOODWAY DETAILS

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)				
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	1200
Revision	A
Series No.	18 of 20

Last Modified :- Nov 06, 2023 - 3:33pm
XREFS :- X_CRC_BSC_TITLE.dwg ; X_IMAGE.dwg ; X_SURVEY.dwg ; X_CONTROL.dwg ; X_DESIGN.dwg ; X_HATCH.dwg

PLAN

Scale: 1:500

DESIGN LINE MC60

CHAINAGE	OFFSET LHS	OFFSET RHS
71960	5.365	5.365
71970	6.517	6.030
71980	6.451	5.704
71990	5.296	4.602
72000	5.719	5.190
72010	6.572	5.433
72020	7.292	5.488
72030	5.497	4.618
72040	5.675	5.239
72050	6.718	4.277
72060	5.658	4.475

DESIGN LINE MC60

CHAINAGE	OFFSET LHS	OFFSET RHS
72070	6.177	4.415
72080	5.528	4.251
72090	5.770	4.686
72100	5.565	4.432
72110	7.247	5.024
72120	7.598	5.537
72130	8.696	4.239
72140	8.766	5.918
72150	7.361	5.976
72160	7.643	6.395
72170	7.775	7.045

DESIGN LINE MC60

CHAINAGE	OFFSET LHS	OFFSET RHS
72180	7.713	7.234
72190	6.906	8.347
72200	5.290	5.902
72210	4.514	10.270
72220	5.677	12.737
72230	5.733	14.176
72240	7.252	12.415
72250	7.815	9.270
72260	9.726	6.242
72270	7.454	5.914
72280	7.774	5.355

DESIGN LINE MC60

CHAINAGE	OFFSET LHS	OFFSET RHS
72290	7.458	5.267
72300	5.662	4.249
72310	7.248	4.339
72320	7.226	5.230
72330	7.905	5.659
72340	7.611	7.162
72350	7.609	6.600
72360	7.184	7.315
72370	5.856	7.272
72380	5.751	7.398
72390	5.587	7.534

LEGEND

- Tree to be removed
- Limit of clearing
- 403 - Survey Mark and Label

XREFS :- X_CRC_BSC_TITLE.dwg : X_SURVEY.dwg : X_CONTROL.dwg : X_DESIGN.dwg : X_IMAGE.dwg : X_HATCH.dwg

Last Modified :- Nov 06, 2023 - 3:33pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 5 10 15 20 25 1:500

Dimensions shown in metres except where shown otherwise

crc
quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

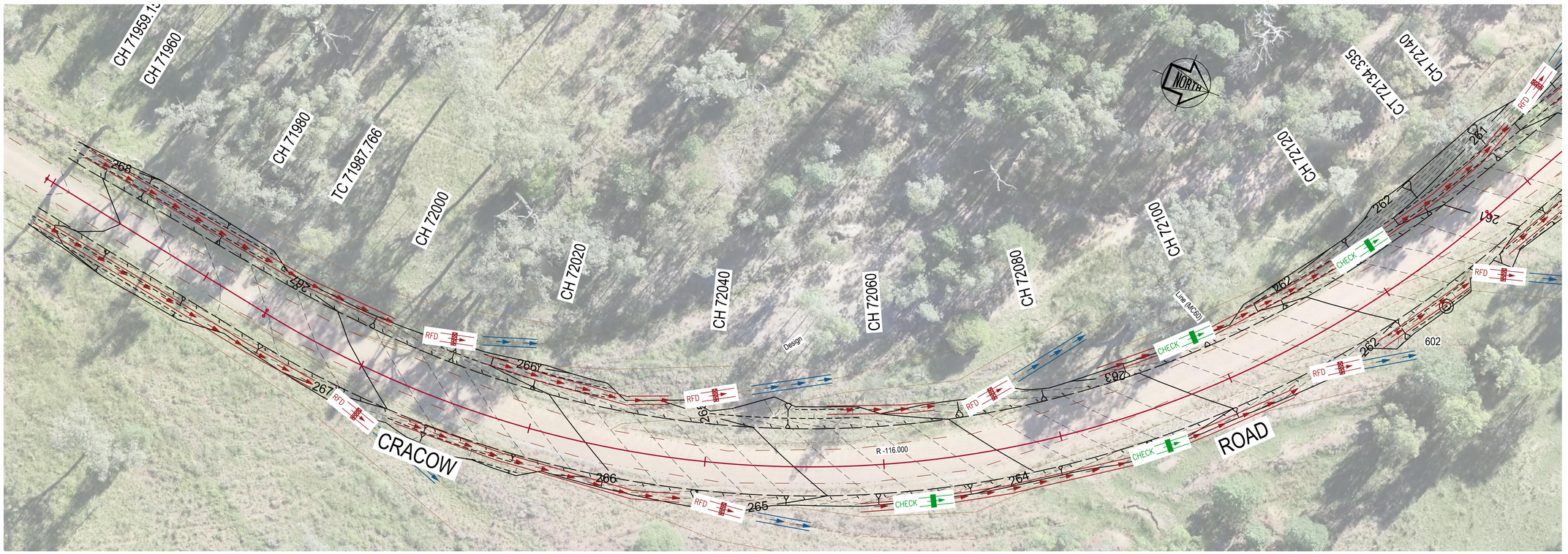
Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
LIMIT OF CLEARING PLAN

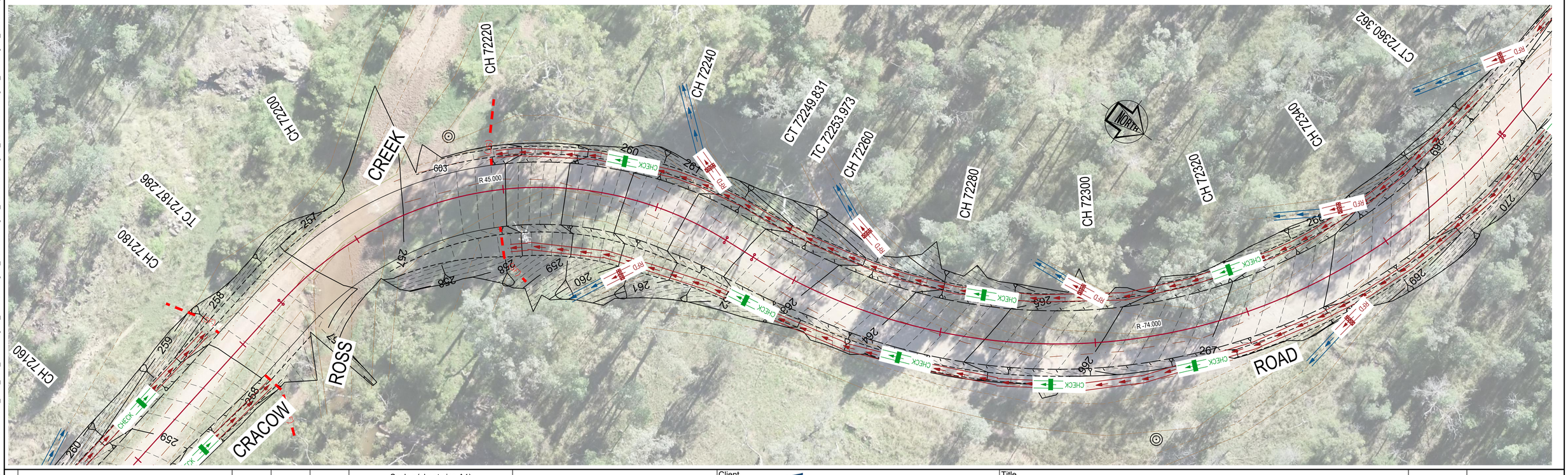
Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	T Penrose		24087	06/11/23

Job No.	CRC00290
Drawing No.	1600
Revision	A
Series No.	19 of 20





LEGEND

- Diversion Bank
- (SF) Silt Fence
- Geo Log
- Dirty Water Flow
- Clean Water Flow
- CHECK Rock Check Dam
- RFD End of line rock check dam (to act as rock filter dam)
- Existing Trees
- 403 Survey Mark and Label

PLAN

Scale: 1:250

BEFORE YOU DIG www.byda.com.au

XREFS :- X_CRC_BSC_TITLE.dwg ; X_DESIGN.dwg ; X_SURVEY.dwg ; X_CONTROL.dwg ; X_CONTOURS.dwg ; X_ENS.dwg ; X_IMAGE.dwg ; X_HATCH.dwg

Last Modified :- Nov 06, 2023 - 3:33pm

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 2 4 6 8 10 12 1:250

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven

245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

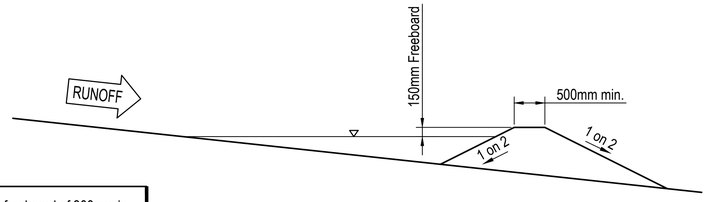
Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
TEMPORARY EROSION AND SEDIMENT CONTROL SHEET 1

Drawn: B Doherty
Designed: B Doherty

ENGINEERING CERTIFICATION (RPEQ)

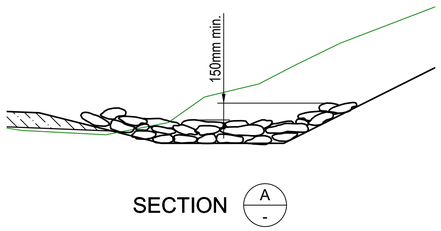
ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	P Meredith		15268	

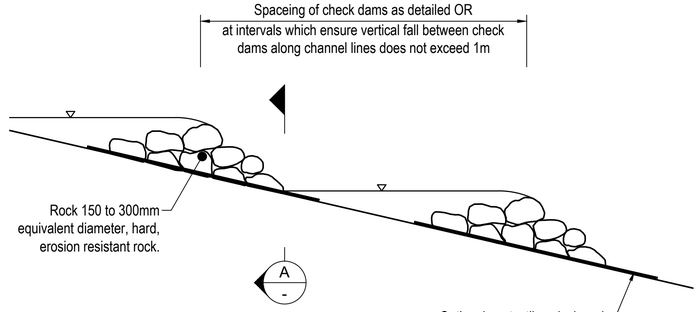
Job No.	CRC00290
Drawing No.	1700
Revision	A
Series No.	20 of 20



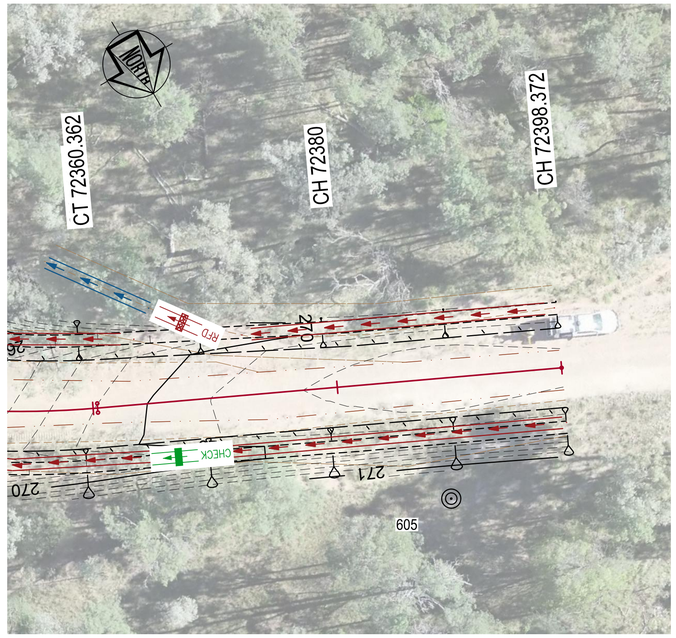
A minimum freeboard of 300mm is recommended for non-vegetated earth embankments.

DIVERSION BANK
N.T.S





ROCK CHECK DAM
N.T.S



PLAN
Scale: 1:250

LEGEND

- Diversion Bank
- (SF) Silt Fence
- Geo Log
- Dirty Water Flow
- Clean Water Flow
- CHECK Rock Check Dam
- RFD End of line rock check dam (to act as rock filter dam)
- Existing Trees
- 403 Survey Mark and Label

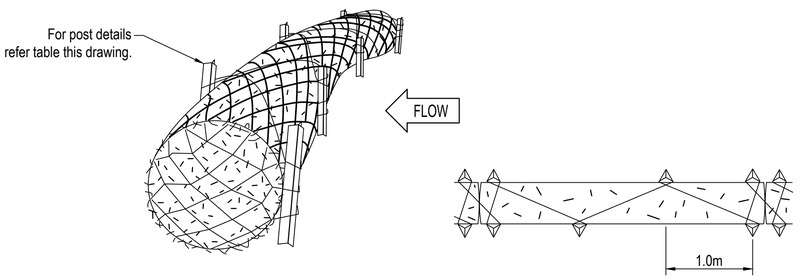
Notes

1. Design and construction of all sediment management devices is the contractors responsibility and shall be completed and effective prior to:
   (i) Stripping of topsoil and grass.
   (ii) Bulk earthworks to the site.
   (iii) Service installations.
2. All sediment management devices are to remain in place until notice from the Contract Administrator
3. Both temporary and permanent sediment management devices shall be maintained at a suitable level/condition throughout construction. Sediment fences are to be cleaned out when capacity is reduced by 30%.
4. If erosion and sediment control devices have been found to be deficient or failed in service, due to unforeseen circumstances, corrective action is to be undertaken immediately which may include amendments/additions to the original approved erosion control plans. such additions or amendments are to be approved by the Contract Administrator.
5. All erosion and sediment control devices are to be inspected at least weekly, before and after rainfall events. Any damage or excess erosion/sediment is to be repaired/managed as required to maintain control devices.
6. Devices shown on the drawings shall not necessarily be limited to the locations shown. Additional devices may be required as directed by Contract Administrator.
7. Rock check dams to be installed per detail this drawing in drainage channels with slopes greater than 2%. Spacing of check dams to be at every 1.0m vertical drop in drainage channel.
8. Contract Administrator to order installation of topsoil and grass seeding to disturbed areas.
9. The contractor shall ensure all turfed and/or seeded areas are regularly watered to ensure vegetation is maintained until there is 80% coverage.
10. Stockpiles shall be protected from erosion and sediment loss by:
    - The installation of diversion works on the upstream side.
    - The use of silt fences or other approved controls on the downstream side.
    - Compaction.
    - Re-vegetation if left exposed for longer than 30 days

MATERIALS

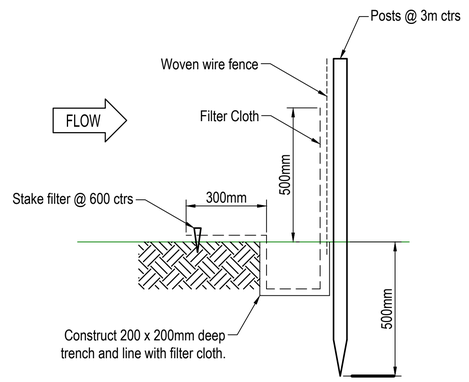
MATERIAL	TYPE
Posts (either)	1.5kg/m (min) Steel Star Picket or 1500mm^2 (min) Hardwood or 2500mm^2 (min) Softwood
Fence	Woven wire 14 guarge 150mm max aperture
Filter Cloth	Filter as specified (terram 100, polyfelt ts500, Bidim u24 or equivalent)
Prefabricated Unit	Geofab, envirofence or approved equivalent

Erection Notes
Woven fence to be fastened securely to fence posts with wire ties or staples. Filter cloth to be fastened securely to woven wire fence with teis speaced every 600mm at top of mid section. When two sections of filter cloth adjoin each other they shall be overlapped by 150mm and folded and material removeed when bulging of fence occurs.



TYPICAL ANCHORAGE OF GEO LOG

GEO-LOG STAKING METHOD
N.T.S



SILT FENCE
N.T.S

A	Issued for Construction			
20.01	Revisions/Descriptions	Drawn	Approved	Date

Scales (sheet size A1)

Scale A 0 2 4 6 8 10 12 1:250

Dimensions shown in metres except where shown otherwise

crc quality people client focused solution driven
245 Mary Street, GYMPIE, QLD, 4570
ABN 73 617 924 437 Ph: 0477 322 555

Client: Banana SHIRE — SHIRE OF OPPORTUNITY

Title: CRACOW ROAD UPGRADE (Ch. 71960m - 72400m)
SITE 6 - ROSS CREEK FLOODWAY
TEMPORARY EROSION AND SEDIMENT CONTROL SHEET 2

Drawn: B Doherty
Designed: B Doherty

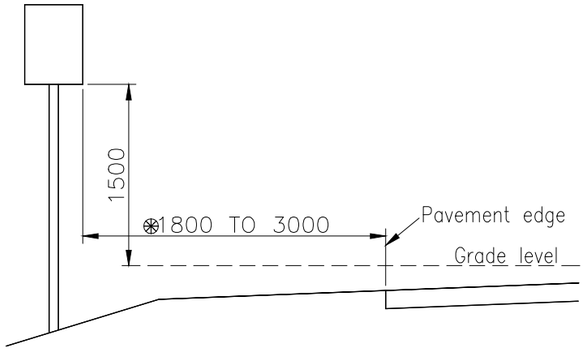
ENGINEERING CERTIFICATION (RPEQ)

ENG. AREA	NAME	SIGNATURE	NO.	DATE
Civil	P Meredith		15268	

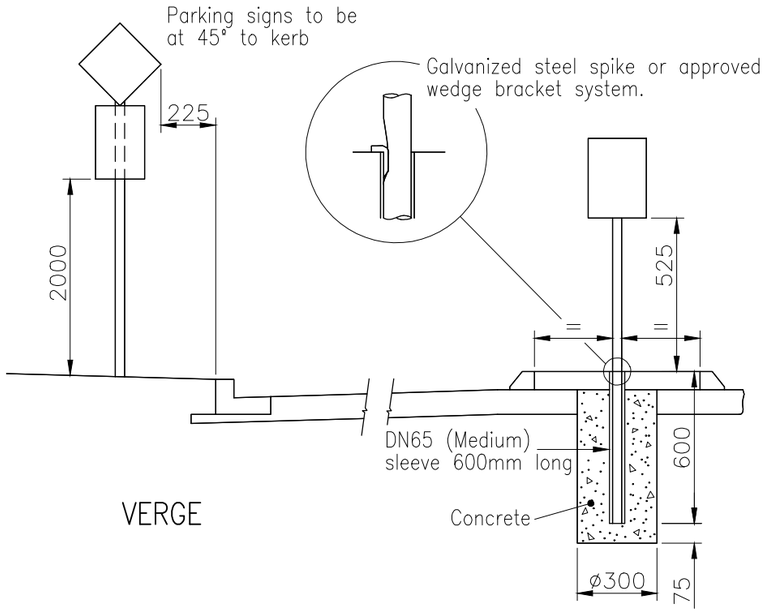
Job No.	CRC00290
Drawing No.	1701
Revision	A
Series No.	21 of 20

XREFS :- X_CRC_BSC_TITLE.dwg ; X_DESIGN.dwg ; X_SURVEY.dwg ; X_CONTROL.dwg ; X_CONTOURS.dwg ; X_ENS.dwg ; X_IMAGE.dwg ; X_IMAGE.dwg ; X_HATCH.dwg

Last Modified :- Nov 06, 2023 - 3:33pm



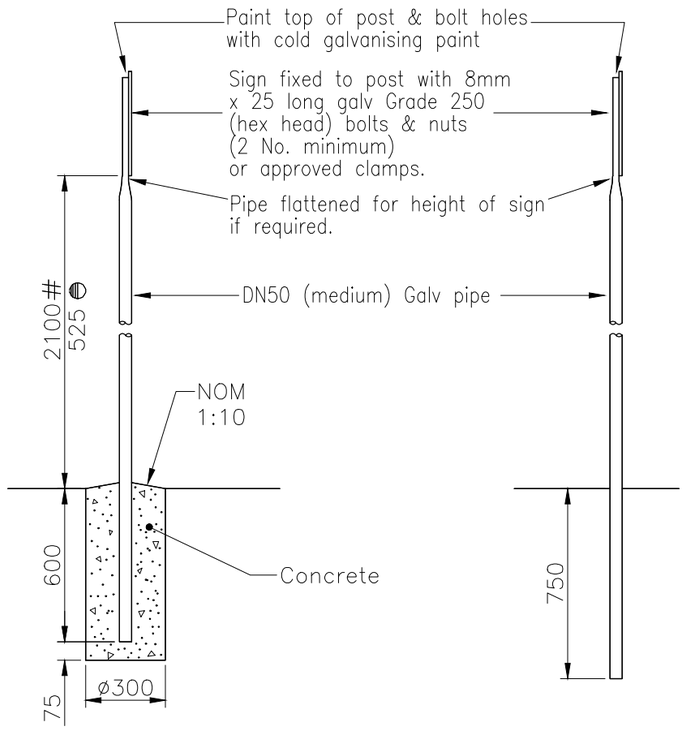
LOCATION OF SIGNS – RURAL ROADS



VERGE

MEDIAN

LOCATION OF SIGNS – STREETS



STREETS

RURAL ROADS

NOTES:

1. All signs to be reflectorised Class 1 to AS1743 unless noted otherwise.
2. Size & sign type has been included in the schedule and/or in the project drawings. Special standards are to be provided at large signs when indicated in the project drawings.
3. All signs are to be approved by the Superintendent prior to erection.
4. Where signs are to be erected in streets where footpaths are not constructed to permanent levels the Rural Roads type base shall be adopted.
5. Signs shall be out of aluminium or aluminium alloy not less than 2mm thick to AS 2848.
6. The DN65 sleeve and spike shall only be used on medians.
7. All pipes to be galvanised. Steel pipe to AS 1074. Galvanising to AS/NZS 4680.
8. Concrete N25 in accordance with AS 1379 and AS 3600.
9. Hexagonal head bolts to AS 1111.
   Nuts to AS 1112.
   Washers to AS 1237.
   Galvanizing to AS 1214.
10. All dimensions in millimetres.
11. Sleeve to be provided as directed by Council

LEGEND

\# on footpaths

⊛ As directed by the Superintendent

⊖ on medians

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS		DATE
E	IRC ADDED	12/2016
D	GRC AND LSC ADDED	09/2014
C	MRC ADDED	04/2011
B	NOTE 11 ADDED	07/2010
A	POST AMALGAMATION REVIEW	01/2010

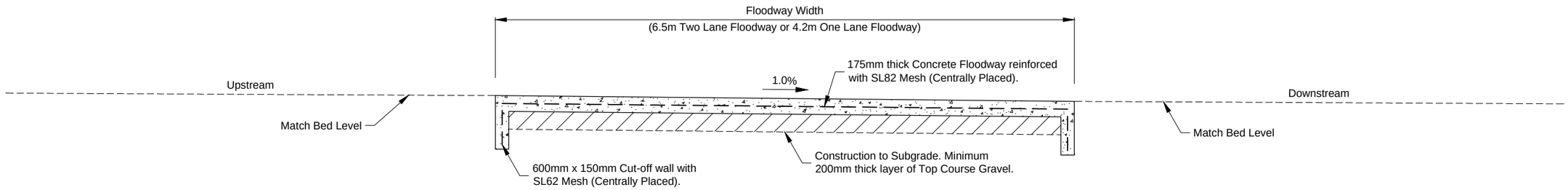
Capricorn Municipal Development Guidelines

Incorporating:

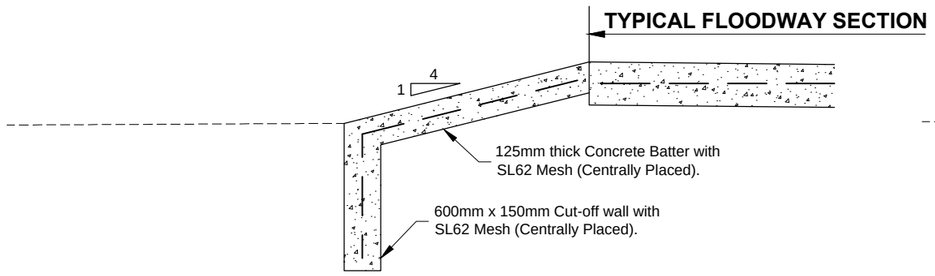
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

SIGN LOCATION AND INSTALLATION DETAILS

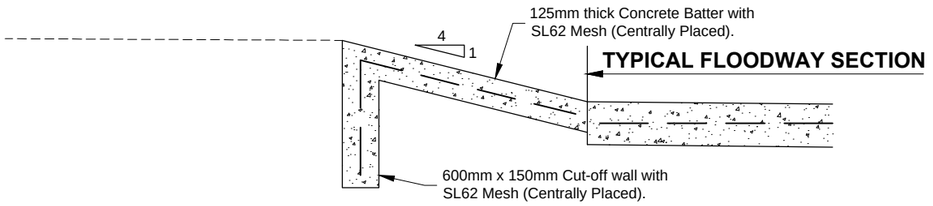
ROADS
STANDARD DRAWING
CMDG-R-081
REV. A B C D E



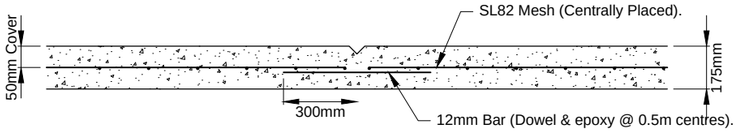
TYPICAL SECTION
Scale 1: 50



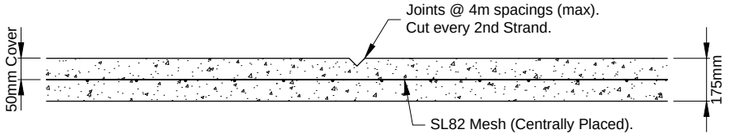
EDGE PROTECTION - FILL SITUATION
Scale 1: 25



EDGE PROTECTION - CUT SITUATION
Scale 1: 25



LONGITUDINAL CONSTRUCTION JOINT
Scale 1: 25



TRANSVERSE JOINT
Scale 1: 25

NOTES:

1. **Provide Transverse joints at 4.0m spacings.**
2. **Provide longitudinal joints at centreline for two-lane floodway.**
3. **Provide longitudinal joints at shoulder where edge-protection is required.**
4. **Concrete strength to be 32 MPa.**
5. **Lap Reinforcement fabric 250mm.**
6. **Floodway signage to be installed in accordance with MUTCD (Part 2, Figure 4.27).**
7. **Delineation to be installed on floodway shoulder at maximum 5m centres and spaced evenly to suit floodway length. Delineation to be installed at centreline of two-lane floodway.**
8. **Floodway depth markers to be installed at lowest point on floodway aligned to downstream side.**

WATERWAY BARRIER WORKS - COMPLIANCE NOTES:

1. **Floodway site to be checked on Queensland Government Spatial Data Layer "*Queensland Waterways for Waterway Barrier Works*" to determine if assessable or self-assessable codes apply.**
2. **The lowest level of the floodway must be installed at the level of lowest point of the natural stream bed (Within the footprint of the crossing.)**
3. **There must be a height difference of at least 100mm from the lowest point of the crossing to the edges of the low flow section of the crossing.**
4. **The level of the remainder of the crossing must be no higher than the lowest point of the natural stream bed outside of the low flow channel.**
5. **Refer to *Code for self-assessable development, Minor waterway barrier works, Part 4: Bed level crossings* for more information and alternative treatments.**

APPLICABILITY TABLE

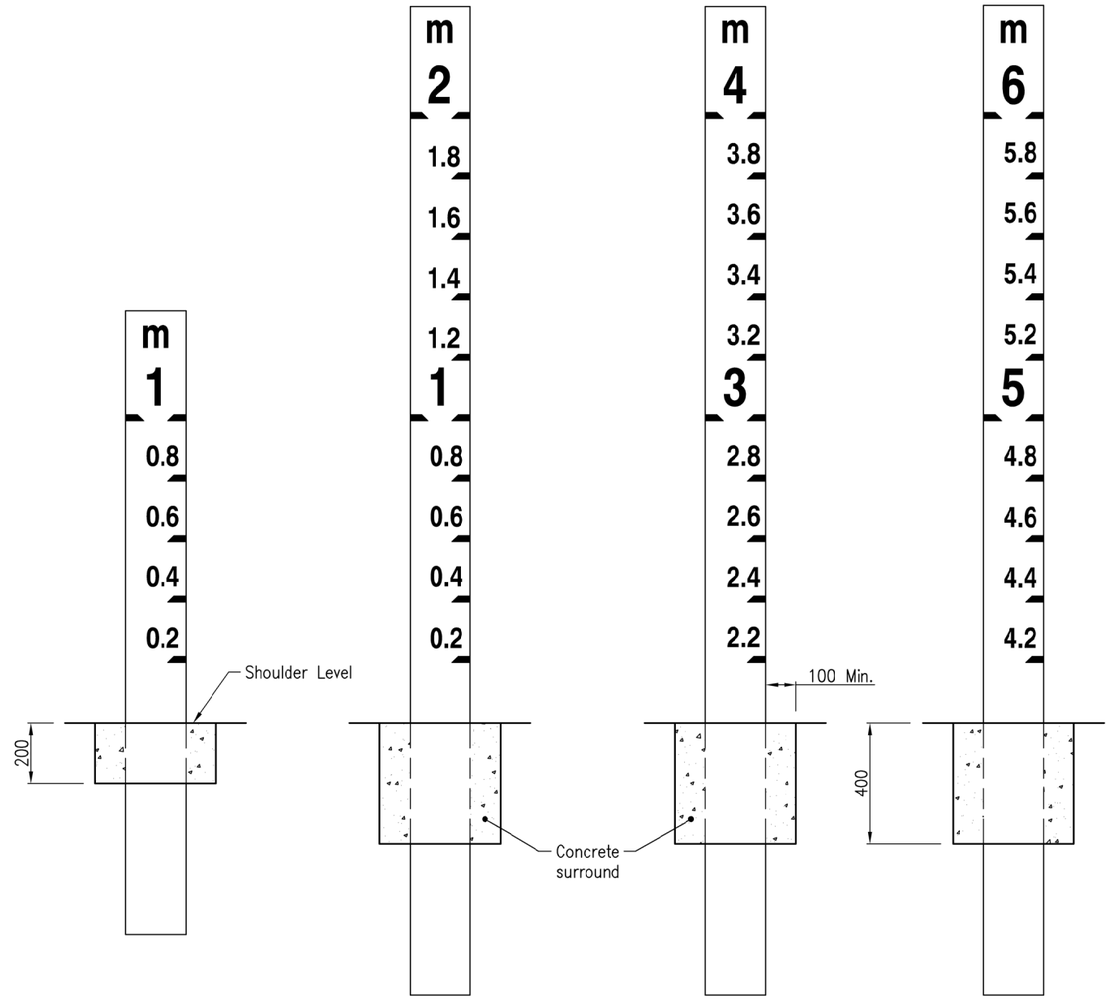
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	No	Yes	Yes	Yes
Applicable DWG	CMDG-R-094A						

REVISIONS		DATE
B	IRC ADDED	12/2016
A	ORIGINAL ISSUE	04/2016

Capricorn Municipal Development Guidelines
Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

FLOODWAY – BED LEVEL CROSSING

ROADS
STANDARD DRAWING
CMDG-R-094
REV. A B



G9-22-1A G9-22-1B G9-22-2 G9-22-3

NOTES:

FLOOD DEPTH INDICATORS:

1. To be located at the chainages specified or as directed by the Superintendent.
2. Zero mark to be set at the lowest pavement level on the section of road subject to flooding.
3. G9-22-2 and G9-22-3 indicators to be erected on progressively higher ground where flood depths are in excess of 1.5m or 3.5m respectively.
4. To conform with the details as shown in the MUTCD.

CONCRETE SURROUND:

5. To be class N20/20 and provide 100mm minimum cover all round.
6. Dimensions are in millimetres unless shown otherwise.

ASSOCIATED DEPARTMENTAL DOCUMENTS:

Standard Drawings
Specifications
Manual of Uniform Traffic Control Devices Part 2 (MUTCD)

REFERENCED DOCUMENTS:

Departmental Specifcctions:

MRTS14 Road Furniture
MRTS70 Concrete

Australian Standards:

AS1743 Road Signs – Specifications

Department of Transport and Main Roads

FLOOD DEPTH INDICATORS

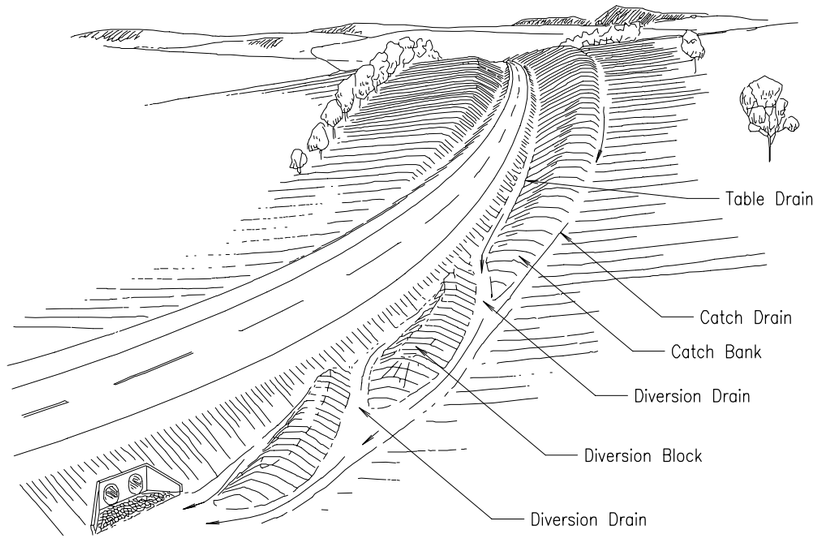
INSTALLATION

Queensland Government

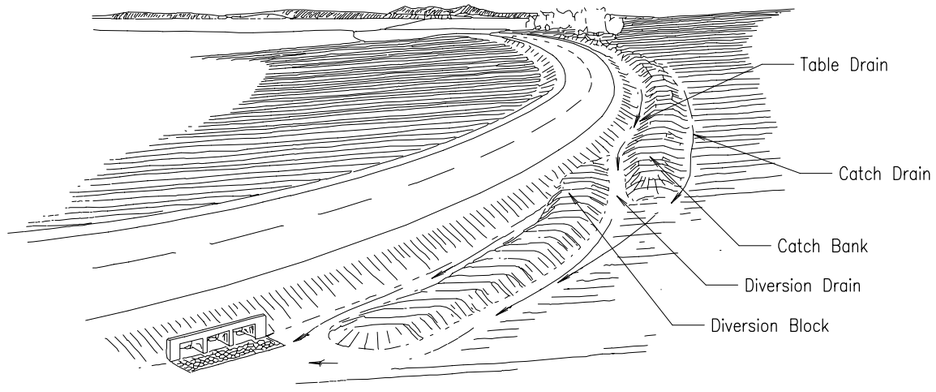
A3
Not to Scale

Standard Drawing No
1170
Date 11/2022

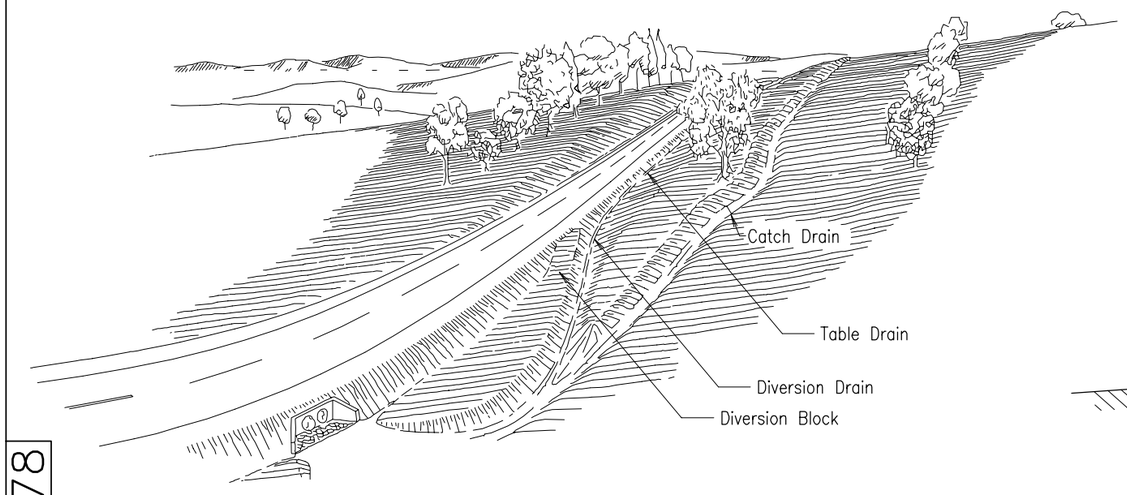
A B C D



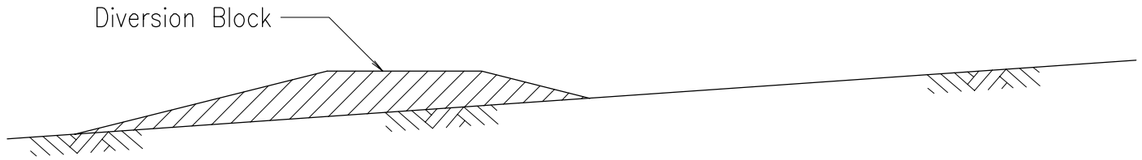
CATCH BANK ON
EARTHWORKS SECTIONS



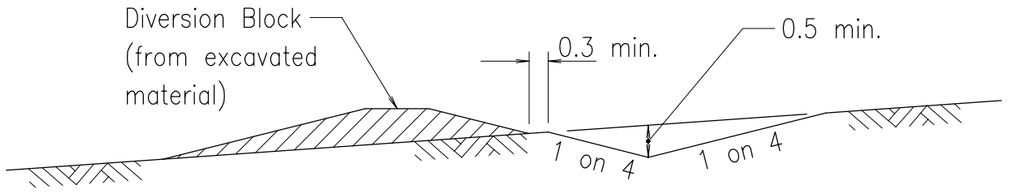
CATCH BANK ON
LOW FORMATION SECTIONS



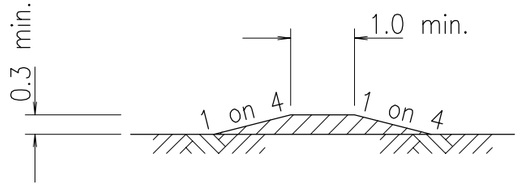
CATCH DRAINS ON
EARTHWORKS SECTIONS



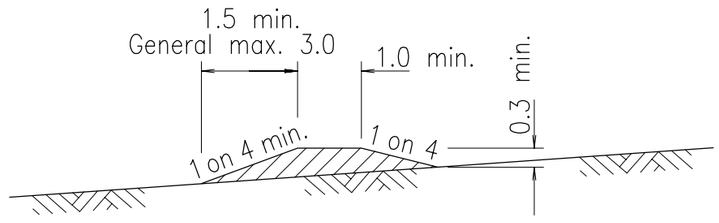
DIVERSION DRAIN IN ERODIBLE SOILS



DIVERSION DRAIN IN NON-ERODIBLE SOILS



DIVERSION BLOCK



CATCH BANK

NOTES:

1. DIVERSION DRAINS, unless shown otherwise in the scheme documents, shall be constructed at culverts and at intervals not exceeding 120m on grades up to 2%, 60m on grades 2% to 4%, 30m on grades 4% to 8% and 15m on grades over 8% (except in cuttings). They shall **have a cross sectional area at least equal to the cross sectional area of the table drains carrying water to them.**
2. ERODIBLE SOILS have sodic and/or dispersive characteristics. Soil testing is required prior to design.
3. DRAINAGE INTO PRIVATE PROPERTIES, with the cooperation of property owners, is to be discharged into contour banks and behind diversion banks to dams where possible.
4. DIMENSIONS are in metres unless shown otherwise.

ASSOCIATED DOCUMENTS:

Department of Main Roads Manual of Standard Drawings Roads
Department of Main Roads Manual of Standard Specifications Roads
Department of Main Roads Road Drainage Design Manual

REFERENCED DOCUMENTS:

Standard Drawings:

1045 Revegetation Treatment of Cut Batters

Standard Specifications:

General Earthworks

1178

DIVERSION OF WATER	Queensland Government Department of Main Roads	
DIVERSION OF WATER FROM ROADWAY AND TABLE DRAINS	Size A3	Drawing No 1178
	Scales as shown	Date 10/03
		A B C D E

quality people client focused solution driven

Cracow Road – Site 6

Ross Creek Floodway

Safety in Design

Client: Banana Shire Council

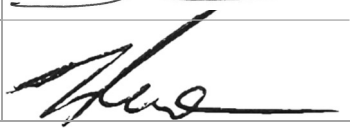
14/09/2023

Document Control

Document History

Date	Version	Name	Position	Action (Review/endorse/approve)
06/06/2023	0.1	Bryan Doherty	Senior Designer (Civil)	Draft for internal review
14/09/2023	1.0	Bryan Doherty	Senior Designer (Civil)	Final

Certification

Date	Name	Position	Signature
14/09/2023	B. Doherty	Senior Designer	
14/09/2023	T. Penrose	RPEQ	

Contents

1. Purpose of this Document

The purpose of this document is to identify and control project specific risks, where possible, in the civil design phase to ensure the safety of constructors, maintenance providers and end users. All risks identified as part of the design are documented in this report and provided for appropriate risk management in future phases. Risks unable to be closed out in the design phase are be documented in the report and communicated to the Client, for action in the construction and or later phases. This document has been produced to provide support to the design undertaken for Cracow Road, Ross Creek Floodway.

2. Project Scope and Objectives

Scope of works for this project include,

- Pavement widening, overlay and stabilized floodway approaches.
- Geometric improvements.
- Floodway reconstruction.
- Signage and road edge guideposts.
- Removal of large trees.

3. Safe Design

Safe design begins from the outset or planning phase of a project and is further refined in the concept and development phases. Safe design covers the:

- Design of a project or a component of a project and its intended purpose or future use
- Materials being used
- Possible methods of construction, maintenance, and operation of the product, and
- Legislation, codes of practice and standards that need to be complied with.

Safe design is a collaborative effort between all parties involved throughout the lifecycle of the project and where possible should eliminate or minimize the risk of project lifecycle occupational health and safety hazards as early as practical. It also encompasses the management and documentation of remaining risks so all parties involved can understand and be aware of all risks identified in the design phase of the project lifecycle.

Safe design consists of a balance between cost, functionality, and aesthetics; without compromise to the health and safety of those who will construct, use, and maintain the product and community expectations. While not all risks can be eliminated or it be cost effective to remove all risks, Safe Design principles in the planning phase should aim to:

- Prevent injury and disease
- Improve useability of products, systems, and facilities
- Improve productivity in all phases
- Reduce operation costs
- Better predict and manage production and operational costs over the lifecycle of a product
- Comply with legislation, and
- Incorporate innovative design which fosters safer design practices and demands new thinking.

4. Duty of Care/Disclaimer

This document is not intended to be a standalone document, it should be read in conjunction with the *Work Health and Safety Act 2011* and the *Work Health and Safety Regulation 2011*. The Act and Regulation applies to all phases of a project lifecycle from concept, through design, construction, maintenance, and decommissioning and provides that all risks to health and safety be eliminated, so far as is practical or minimised so far as is reasonably practical where they cannot be eliminated. To properly manage exposure to a risk, a person must:

- Identify hazards
- Assess risks that may result because of the hazards
- Identify appropriate control measures to eliminate of minimise the level of risk
- Implement control measures, and
- Monitor and review the effectiveness of control measures.

To comply with the above, assumptions are made during the assessment as to what construction and maintenance practices may be adopted which may differ from actual methods adopted by those undertaking the works. Use of this document does not remove any obligation of any party involved, either during or after this document is published. A duty of care applies to all parties during subsequent phases and it is incumbent on those involved to further assess risks and hazards include:

- the client
- project managers
- constructor
- maintenance personnel
- users
- visitors
- demolishers, and
- disposers.

Further Safety advice, hazard identification, risk assessment or control measures may indicate other risks associated with the project that have not been identified in the document. Reference is made to the principle of what is considered 'reasonably practical' regarding the extent of Safe Design achievable by the designers.

Use of this document does not remove the obligation of the client, constructor end user or other parties during the lifecycle of the project.

Any party who has read this document and disagrees with the assessment or requires clarification of an item should contact the Project Designer at their earliest opportunity.

5. Risk Management

Table 1 – Methods of controlling risk in order of preference

Method	
Elimination	Remove the risk by modifying the design
Substitution	Remove or reduce the risk by modifying the design
Isolation	Physically separate the hazard
Engineered Control	Using *Design Safety* measure to reduce risks
Administration	Using formal process to reduce the risk
PPE	Ensure appropriate Personal Protective Equipment is used or worn.

The Risk Assessment Matrix is intended to assist our designers in:

- Fulfilling their obligations under the Work Health and Safety Act 2011.
- Achieving safe, economical and efficient constructions for our clients.
- Consulting and communicating with all parties involved in a project (designers, client, end-users, constructors etc.) to establish the hazards and risks identified during the design phase associated with the construction, operation, maintenance and decommissioning of a project.
- Consulting and communicating with all parties involved in a project on the controls that have or are required to mitigate these risks. This is not an exhaustive list and all parties should therefore undertake a thorough review of this document to satisfy themselves that it accurately reflects the intended purpose.
- Consulting and communicating to all parties the controls adopted to mitigate these risks and any residual risks that are considered present during construction, operation, maintenance and decommission that may need continual monitoring to achieve a safe working environment.

6. Appendix A – Safe Design Risk Register

Safety in Design Register

Cracow Road, Site 6, Ross Creek Floodway Upgrade

Hazards							Controls				Action		
				Raw Risk (no controls)				Residual Risk					
				Likelihood	Consequence			Likelihood	Consequence				
No.	Project Phase	Risk Description	Consequence Description	1. Very Unlikely 2. Unlikely 3. Possible 4. Likely 5. Almost Certain	A. Minor B. Major C. Severe D. Critical E. Catastrophic	Risk Rating	Mitigation Strategy / Control Measures	1. Very Unlikely 2. Unlikely 3. Possible 4. Likely 5. Almost Certain	A. Minor B. Major C. Severe D. Critical E. Catastrophic	Risk Rating	Responsibility	By When	Comments / Notes
1	Pre-Design	Insufficient/inaccurate data collection. (e.g. GIS, Traffic Data, LIDAR, Aerial photography)	Risk results in inadequate or substandard design that could lead to potential safety risk to travelling public, Constructors and maintenance workers.	4	D	Significant	Project is adequately scoped, discussed and documented during pre-detailed design phases to ensure data collection is appropriate. Detailed survey has been supplied for this project	1	C	Low	Designer/ Principal	Detailed Design	Residual risk with Principal
2	Pre-Design	Poor Scoping/Client brief on project requirements.	Risk results in inadequate design that could lead to potential safety risk. EDD, design exceptions, funding constraints.	4	D	Significant	Risks identified and accepted by Client. Mitigating treatments incorporated into design to the available funding.	2	B	Negligible	Designer/ Principal	Detailed Design	Residual risk with Principal Client decisions recorded within Design Decision Register.
1	Design	Errors and omissions in design.	Errors/omissions in design resulting in inadequate or substandard design that could lead to potential safety risk to travelling public. Constructor, maintenance – workers	3	E	Extreme	Design has been carried out in accordance with quality management procedures to avoid potential for errors in design. Design has been carried out in accordance with Australian Standards and quality management procedures in line with scope and deliverables to avoid potential for errors in design.	1	D	Moderate	Designer/ Principal	Detailed Design	Residual risk with Principal
2	Design	Design methodology poorly considers construction practices leading to potential safety risks for both construction workplace and the travelling public.	E.g. Traffic management, working near overhead power lines, lifting, trenching, site access, materials storage and handling (Asbetos identified within site), working close to travelling public due to corridor restrictions.	4	E	Extreme	Design incorporates learnings from previous projects and include recommendations from industry experts on appropriate site treatments in the design.	2	C	Low	Designer/ Principal	Detailed Design	Residual Risk transferred to Contractor.
3	Design	Project exceeds budget	Identified saftety issues will not be addressed leading to an unsafe environment for the travelling public.	3	D	Significant	BSC to prepare contingency plans to reduce project cost to within budget constraints.	2	D	Moderate	BSC	Detailed Design	Residual risk with Principal
4	Design	Hazards in designated clear zones and road corridor.	Poor Scoping of project requirements resulting in inadequate design that could lead to potential safety risk to travelling public, constructor, maintenance. Impact of errant vehicle resulting in injury or death.	3	E	Extreme	Risks identified and accepted by BSC. Mitigating treatments have been incorporated into the design. Hazard Treatment Evaluation undertaken in accordance with Austroads and the information available at the time of detailed design.	2	D	Moderate	Designer/ Principal	Detailed Design	Residual risk with Principal
5	Design	Inadequate treatment of private entrance or turnout design.	This could lead to potential safety risk to travelling public. SISD, ASD, angles, vertical clearance, appropriate layout, design vehicle.	3	D	Significant	Private entrances and turnouts to be designed in accordance with BSC standard drawing and incorporating validated road function, traffic volumes and usage. Key stakeholder consultation, EDD/Design Exceptions.	1	D	Moderate	Designer/ Principal	Detailed Design	Residual Risk with Principal
6	Design	Services not identified during design.	This could lead to the potential safety risk of constructors and/or closure of key services to the general public.	4	D	Significant	• Contact DBYD and other relevant authorities to identify existing services (DBYD received 17/02/23). • Designers have noted known services on drawings. • Carry out field inspection to confirm and identify any potential service related issues e.g. potholing and locating activities. Locating activities carried out as part of the detailed design did not locate any PUP infrastructure on site. • Contractor to complete service locations to verify existing infrastructure.	2	D	Moderate	Designer/ Principal	Detailed Design	Residual Risk with Principal and Contractor
1	Construction	Drainage during construction	Poor drainage during construction affecting pavements/traffic/etc	3	B	Low	Maintain flow paths during construction where practical. Make pumping equipment available if required.	2	A	Negligible	Contractor	Construction	Residual risk with Principal and contractor
2	Construction	Exposure to asbestos	Existing abandoned conduits/pits/culverts may be present which could be exposed during construction.	2	D	Moderate	Details of existing services/culverts where known have been provided. Contractor to undertake appropriate intestigations as required.	1	D	Moderate	Contractor	Construction	Residual risk with Principal and Contractor It is unknown if any asbestos infrastructure is located within the project limit.
3	Construction	Deep excavation of trenches	Trench collapse injuries	2	E	Significant	Depth of culverts to be minimised where possible. Contractor to employ appropriate temporary work measures.	1	E	Moderate	Contractor	Construction	Residual risk with Principal and contractor
4	Construction	Design changes made by Contractor or Administrator following design completion	Design changes do not meet safety requirements.	3	C	Moderate	Contractor / Administrator to advise the Designer or any proposed design changes. Follow RFI process.	1	C	Low	BSC	Construction	Residual risk with Principal and contractor
5	Construction	Working in vicinity of High Voltage Ergon power lines, both overhead and underground.	Death or serious injury	2	E	Significant	Contractor to identify all services and have construction procedures for working near HV services.	1	E	Moderate	Contractor	Construction	Constructors shall conduct their own DBYD and verify all utilities on site prior to commencing any roadworks.
6	Construction	The risk of traffic not being managed adequately.	Traffic chaos, delays and accidents caused by lack of controls.	2	E	Significant	Designer has nominated traffic volumes in design documentation. It is noted that the traffic volumes are low. Contractor to engage a suitably qualified traffic manager to implement traffic management controls considering road function; traffic volumes; constructability and road users.	1	E	Moderate	Contractor	Construction	Residual Risk with Principal and Contractor
7	Construction	Working on top of high and steep embankments	Injury due to personnel fall or overturning construction plant	3	E	Extreme	Consider construction methodology prior to implemenation.	2	D	Moderate	Contractor	Construction	Residual risk with Principal and contractor
8	Construction	Lighting levels during construction.	Inadequate lighting of conflict points during construction resulting in confusion/collisions	2	B	Negligible	Temporary standalone LED lighting, if required.	1	B	Negligible	BSC	Construction	Residual risk with Principal and contractor
9	Construction	Disruption / damage to existing services	Constructors may damage existing services during construction. Service may/may not have been shown on design plans.	3	D	Significant	Constructors to conduct dial before you dig and no work shall be carried out over utility or within 3m of services without prior notification to the appropriate service authorities. Contractor to complete service locations to verify existing infrastructure. Appropriate demarcations and planning by contractor to highlight any locations where work activities are undertaking in the vicinity of existing services.	2	D	Moderate	Contractor	Construction	Constructors shall conduct their own DBYD and verify all utilities on site prior to commencing any roadworks or excavations.
10	Construction	Unexpected weather events resulting in potential injury to construction personnel and/or travelling public	Sudden weather events resulting in the need to evacuate the site.	4	D	Significant	Constructor to consider location, likely duration and characteristics of project to determine likelihood of event and consider project specific mitigation strategies via risk management.	3	D	Significant	Contractor	Construction	Residual Risk with Principal and Contractor
11	Construction	Unearthing unexpected soil types e.g. acid sulphate soil, sodic soils or contaminated soil from rail reserves. resulting in potential safety risk to construction personnel and general public.	This results in potential safety risk to construction personnel and general public.	3	D	Significant	• Design to consider location and likelihood of encountering specific soil type. • Site inspection and/or geotechnical investigation to confirm presence of soils requiring specific treatment. • Include comments in "notes to contract administrators" advising of potential for presence of hazardous materials. • Experienced construction staff that can recognise potential hazards	3	C	Moderate	Contractor	Construction	Residual Risk with Principal and Contractor
12	Construction	Incorrect or unsuitable surface treatment either temporary or permanent resulting in potential safety risk to the travelling public. e.g. line marking removal, appropriate seal design	This results in potential safety risk to construction personnel and general public.	3	D	Significant	Constructor to consider road function, traffic volumes, location and seasonal conditions to propose suitable surface treatment.	2	E	Significant	Contractor	Construction	Residual Risk with Principal and Contractor
1	Maintenance	Final product leads to potential safety issues with maintenance activities.	Personel cannot undertake maintainance activities safely due to the proposed design.	3	C	Moderate	Design to consider maintenance requirements including provision of safe environment to facilitate maintenance activities including safe ingress and egress and clear work area. E.g. batter slopes, under bridge inspections, gardens in medium strips, allowance for access tracks etc.	1	E	Moderate	BSC	Ongoing	Residual risk with Principal
2	Maintenance	Inadequate as constructed information.	Existing conditions not accurately reflected.	4	E	Extreme	Adequate handover to maintenance provider.	1	D	Moderate	BSC	Ongoing	Residual risk with Principal
1	Finalisation	Not applying all the appropriate standards.	This could result in an unsafe design.	3	D	Significant	Carry out appropriate design reviews and RPEQ approvals	1	D	Moderate	Designer	Ongoing	Residual risk with Principal