

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

Approval no: DEV-2026-CAS-4857

Date: 22 April 2026



ENGINEERING SERVICES REPORT

Proposed Child Care Development
Banya ELC Property One Pty Ltd ATF Banya ELC Property One Unit Trust
Lot 8100 Musgrave Crescent, Banya

Prepared by:
Mr Jon Lindsay
Civil Engineer

Approved by:
Mr John Williams
Director
Cozens Regan Group Pty Ltd
RPEQ 4536

Date:
February 2026

Revised:
March 2026

AMENDED IN RED

By: **Brandon Bouda**

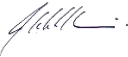
Date: **20/04/2026**



DOCUMENT CONTROL RECORD

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Site Address: Lot 8100 Musgrave Crescent, Banya
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Preliminary	A		18/02/2026	Banya ELC Property One Pty Ltd	1
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1.0 INTRODUCTION

Cozens Regan Group Pty Ltd has been commissioned by Banya ELC Property One Pty Ltd ATF Banya ELC Property One Unit Trust to prepare an Engineering Services Report for the Proposed Child Care Development at Lot 8100 Musgrave Crescent, Banya.

This Engineering Services Report is required to support a proposed a Material Change of Use Application to Economic Development Queensland (EDQ).

This report summarises our various preliminary investigations and designs into the existing services available to site. The Report addresses the existing engineering constraints and proposes solutions which are tailored to enable practical and cost effective development of the project.

2.0 THE SITE

2.1 SITE LOCATION

The subject site comprises of one lot described as Lot 8100 Musgrave Crescent, Banya part of the Precinct 15 of the Aura West Master planned Subdivision. The site is bound by Western Drive to the east, Walsh Street and to the south and Gowler Street and Musgrave Crescent to the West. A small area of public reserve exists to the north with residential lots beyond. The subject site is shown in Figure 1 below.



Figure 1 – Aerial Photograph (Metromap)

2.2 SITE DESCRIPTION

The site is currently vacant due to its recent creation under the Aura West Subdivision .

The site falls from north to south with grade of approximately 1.1% towards the corner of Gowler Street and Walsh Street. The levels of the site range from RL 13.9m in the north west corner down to RL 13.6 m in the southern corner of the site.

The total site area is equal to 3,495m².

An existing stormwater connection is provided on site with an existing field inlet in the southern corner connecting to the council drainage network in Gowler Street.

2.3 DESCRIPTION OF DEVELOPMENT

The proposed development involves the construction of a proposed childcare development over the site including, a childcare building, carparking, outdoor play areas and landscaping.

This development will require minor earthworks and civil works to achieve this construction, services including stormwater, sewer, water supply are presently available at the site.

Refer Architectural Plans contained within Appendix A for more information in regard to the proposed development.

3.0 EARTHWORKS

The bulk earthworks proposed for the development will be undertaken to provide suitable building platforms, vehicular access and construction of services.

The proposed finished floor levels and preliminary finished surface grading indicates that the site will be a cut to fill balance with some material likely to be removed from site to allow the construction of building footings and pavements. Excess cut will be removed to an approved source location as determined by council. The preliminary earthworks volumes have resulted in an excess cut of 59m³ to be exported from site. The earthworks volumes are preliminary only and subject to detailed design.

The proposed site levels and earthworks cut and fill areas are detailed on preliminary drawings 250744/C03 & 250744/C05 contained in Appendix C. The extent of low landscape retaining proposed over the site is also shown.

No geotechnical assessment has been provided at the time of production of this document no Geotechnical issues are expected at this time.

All earthworks will be done to Level 1 Geotechnical Supervision and in accordance with the geotechnical report.

Adherence to Local Authority approved working hours (approx. 7.00am - 7.00pm, Mon-Sat) and contractually required careful attention to muffler condition/repair for all plant and machinery will minimise noise impact during bulk earthworks and general civil works construction on the site.

4.0 EROSION AND SEDIMENT CONTROL

The site is subject to compliance with the Erosion and Sediment Control requirements of the Sunshine Coast Council Planning Scheme Policy for development works (SCC PSPDW).

Erosion and Sediment Control requirements are outlined within the Site Based Stormwater Management Plan prepared by Cozens Regan Group Pty Ltd, including all the requirements for maintenance during the construction phase and required methods of reporting.

The Local Authority By-Law and Statutory Authority provisions related to Workplace Health & Safety, Dust and Smoke Nuisance, Environment and Occupational Noise Suppression will be rigidly enforced as part of the general site works contractual arrangements.

5.0 FLOODING AND OVERLAND FLOW

The development site is not determined to be within a flood zone as identified by the Aura Flood Risk Management Report 2020 during the 1% AEP developed scenario flood event. Greater flood events may impact access to the site however as the site is in a master planned subdivision and the site does not provide habitable areas it is assumed that flood immunity up to the 1% AEP is sufficient. Flooding is discussed further in Site Based Stormwater Management Plan prepared by Cozens Regan Group Pty Ltd

6.0 SEWERAGE RETICULATION

A DN160 PE100 Unity Water sewer main exists to the south of the site in Walsh Street which provides a DN160 Stub in the site in the southern corner.

Connection to this sewer main is proposed to be provided to service the proposed development. It is expected due to the size of the existing service provided and understanding the overarching subdivision has made allowance for the lot to be developed as a childcare that the service is adequate for the proposed development use and subsequent demand.

Design and construction of the sewer connection shall be in accordance with the requirements of SEQ Water Supply and Sewer and Code and subject to approval by Unity Water. Internal sanitary drainage is subject to A.S.3500 plumbing and drainage code to hydraulics consultants specifications.

Sewer Loading

As per the SEQ Water Supply and Sewerage Design and Construction Code the proposed development will result in an estimated equivalent person (EP's) of 35.

Calculated in accordance with SEQ Water and Sewer Design and Construction Code the predicted peak flows are tabulated below. Refer Appendix C for more detailed calculations.

ADWF	6,228	Litres per Day	0.07	Litres per Second
PDWF	20,176	Litres per Day	0.23	Litres per Second
PWWF	31,140	Litres per Day	0.36	Litres per Second

7.0 WATER RETICULATION

The site is currently serviced from a connection to a 100mm diameter Unity Water Watermain located in the properties verge of Musgrave Crescent. It is understood the existing site is connected to this main is a 100mm connection with a temporary end of line hydrant.

The final size and location of the water meter is to be confirmed during detailed design.

Connection to this water main is proposed to be provided to service the proposed development. It is expected due to the size of the existing service provided and understanding the overarching subdivision has made allowance for the lot to be developed as a childcare that the service is adequate for the proposed development use and subsequent demand.

Design and construction of the water meter shall be in accordance with the requirements of SEQ Water Supply and Sewer and Code and subject to approval by Unity Water. Internal potable water and fire service (if required) is subject to A.S.3500 plumbing and drainage code to hydraulics consultants specifications.

The water demand requirements for the development have been assessed in accordance with SEQ Water Supply and Sewerage Design & Construction Code and are tabulated below. Refer Appendix C for more detailed calculations.

Water Demand

As per the SEQ Water Supply and Sewerage Design and Construction Code the proposed development will result in an equivalent person (EP's) of 35.

Calculated in accordance with SEQ Water and Sewer Design and Construction Code the predicted peak demands are tabulated below. Refer Appendix C for more detailed calculations.

On Demand Services

AD	8,996	Litres per Day	0.104	Litres per Second
MDMM/AD	12,975	Litres per Day	0.150	Litres per Second
PD/AD	16.954	Litres per Day	0.196	Litres per Second
PH/PD	16.954	Litres per Day	0.196	Litres per Second
PH/AD	32,870	Litres per Day	0.380	Litres per Second

8.0 OTHER SERVICES

Electrical and Telecommunications services are understood to be located within the surrounding road reserves. It is recommended the capacity and availability of these services be confirmed during detailed design by the relevant service providers.

An existing pillar box is located within the footprint of the proposed driveway crossover it is proposed to relocate this pillar box clear of the driveway to the service providers requirements. The relocation of the pillar box will be subject to assessment by electrical engineers and the service provider to be resolved at the detailed design stage of the project prior to construction.

9.0 CONCLUSION

This civil engineering report has shown that the proposed development for this site can be serviced and constructed using suitable engineering solutions to council's requirements. All preliminary comments and assumptions are subject to confirmation by detail design

APPENDIX A

Architectural Plans



ISSUE FOR DA
NOT FOR CONSTRUCTION



LEGEND

- B

FH

FI

MH
- Bollard

Fire Hydrant

Field Inlet

Refer to engineer's detail

Manhole
- SEW

W

SW
- Proposed Sewer Reticulation

Refer to engineer's detail

Proposed Water Reticulation

Refer to engineer's detail

Proposed Stormwater Reticulation

Refer to engineer's detail

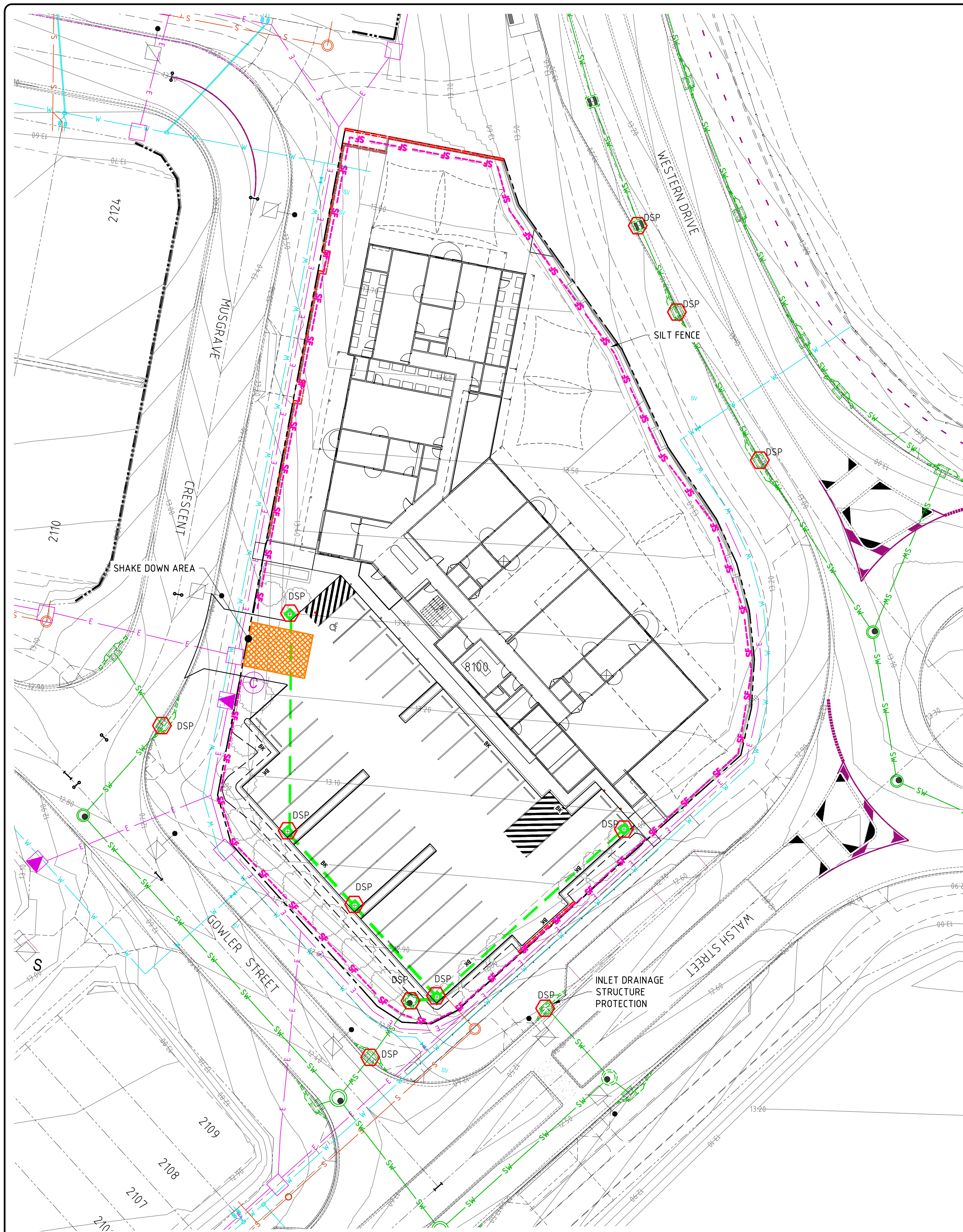
Notes

1.
- Shade sail shown on plans are indicative only, location and extents are subjected to future playscape design and confirmation with childcare operator.



APPENDIX B

Conceptual Engineering Plans



ALL UNDERGROUND SERVICES SHOULD BE LOCATED ONSITE BY RELEVANT AUTHORITIES BEFORE ANY WORK IS COMMENCED.

UNDER QUEENSLAND LEGISLATION, THE GENERAL BIOSECURITY OBLIGATION REQUIRES ALL REASONABLE STEPS TO BE TAKEN TO PREVENT THE SPREAD OF FIRE ANTS.

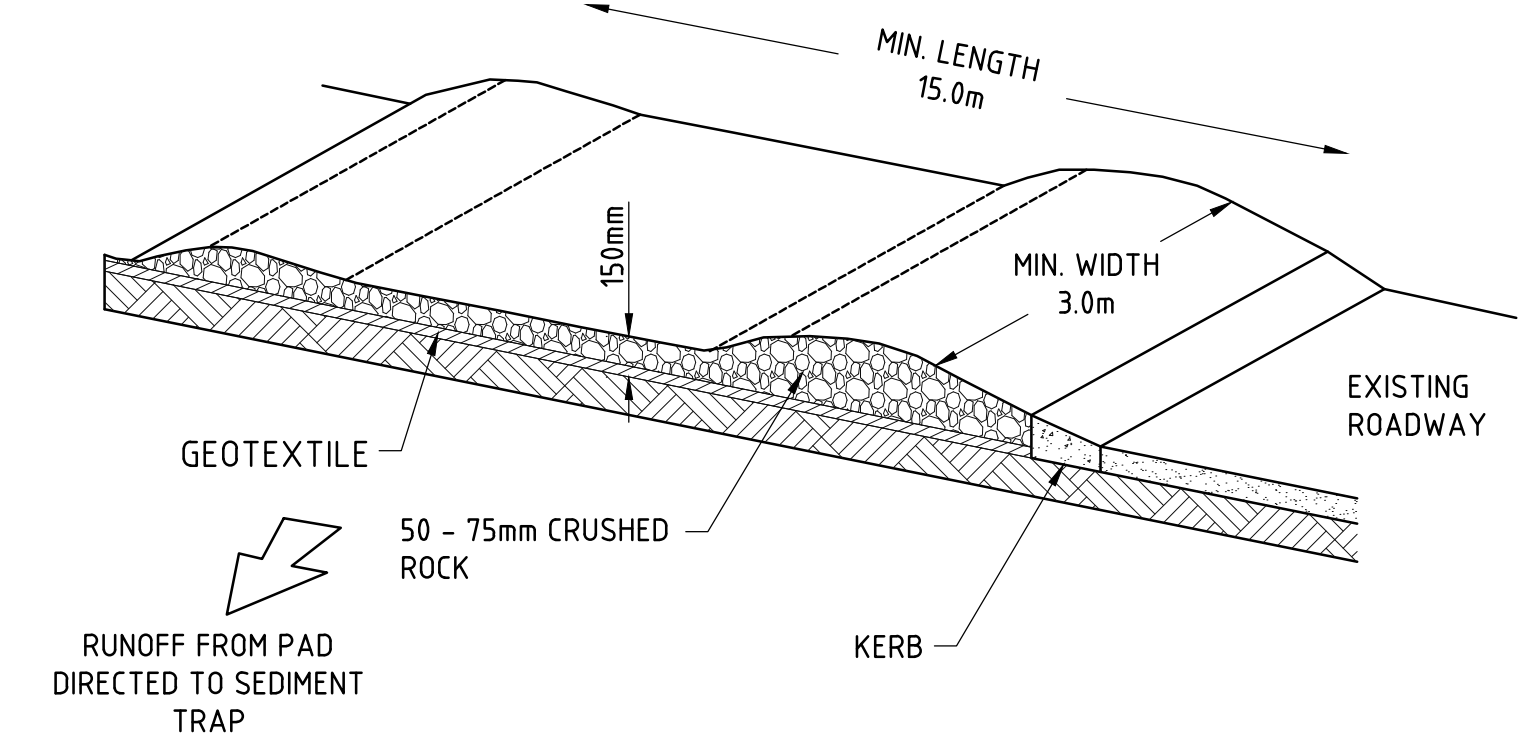
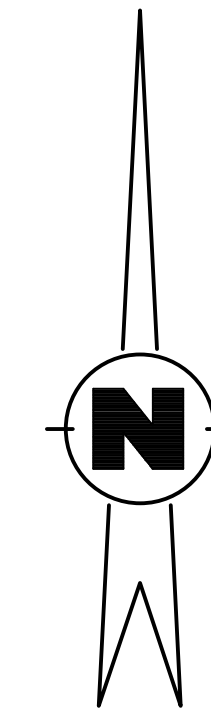
ALL SUSPECTED SIGHTINGS OF FIRE ANTS MUST BE REPORTED WITHIN 24 HOURS OF THEIR DISCOVERY (PH: 13 25 23). THE MOVEMENT OF FIRE ANTS IS PROHIBITED. FAILING TO COMPLY MAY INCUR PENALTIES.

THE CONTRACTOR SHALL ACQUIRE THE NECESSARY PERMITS AND EDUCATION TO MOVE ORGANIC MATERIALS THAT MAY CONTAIN FIRE ANTS.

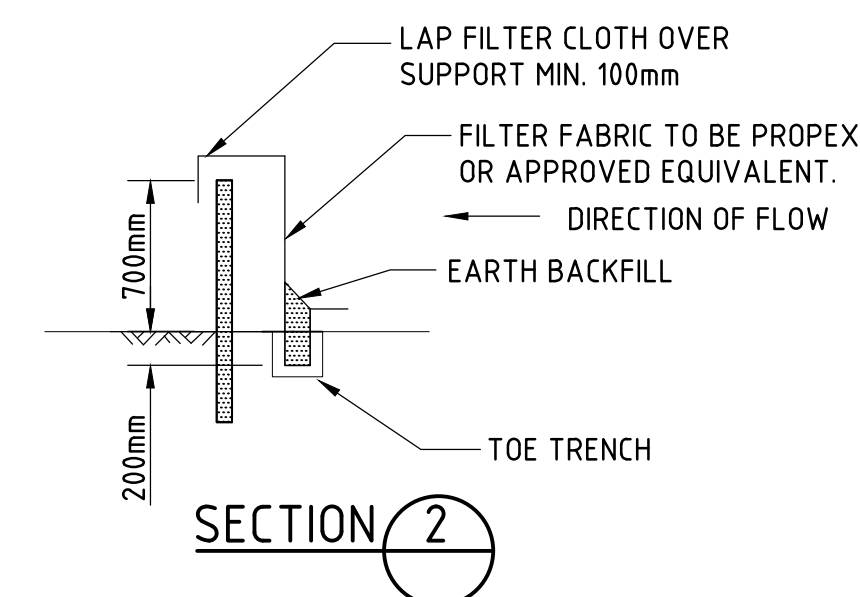
LEGEND

- SF SF DENOTES SILTATION FENCE REFER TO IPWEA STD DRG DS-040
- SHAKE DOWN AREA REFER TO IPWEA STD DRG DS-040
- DSP DENOTES DRAINAGE STRUCTURE PROTECTION REFER TO IPWEA STD DRG DS-041

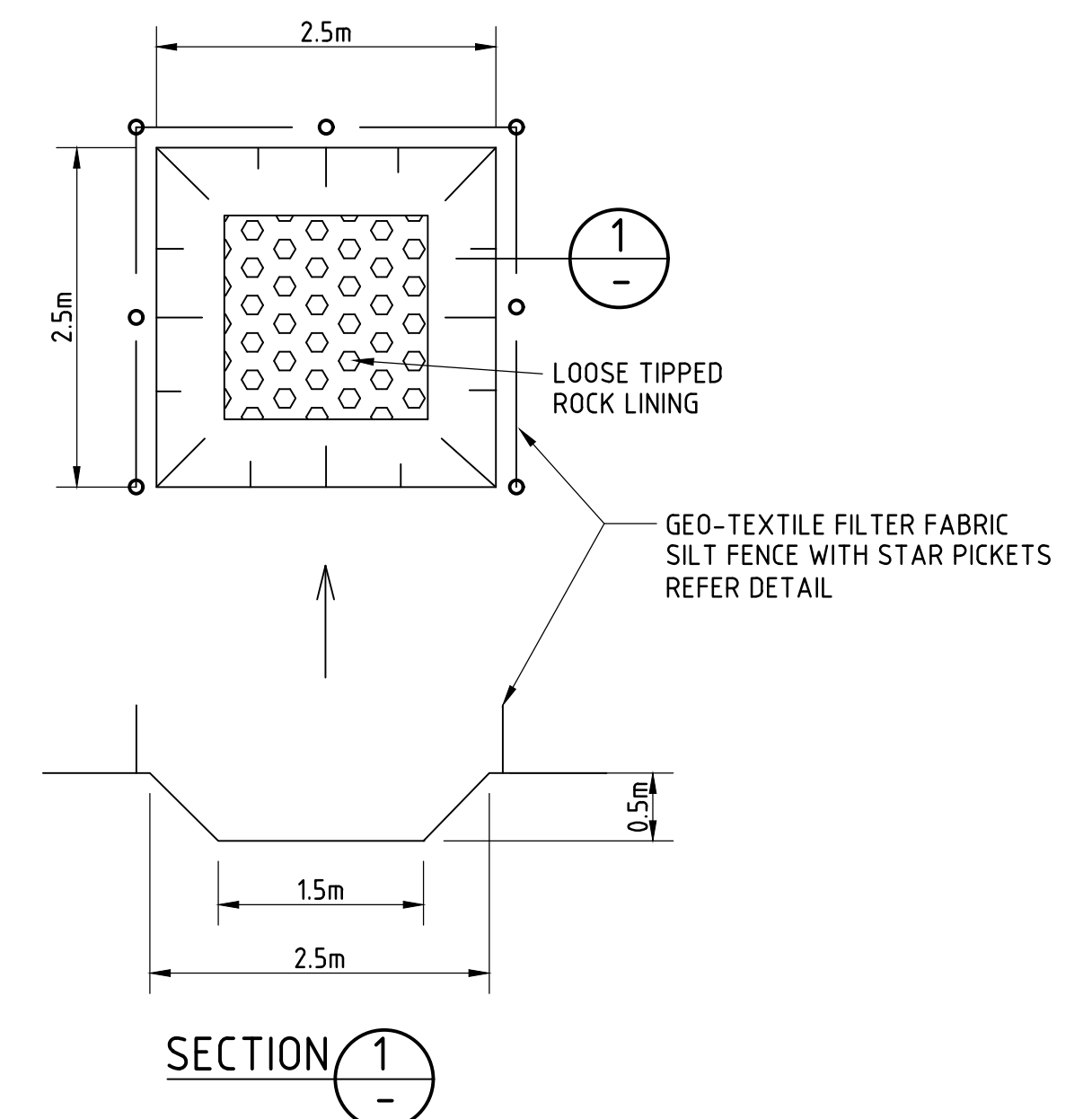
FOR SEDIMENT NOTES REFER DRG. C01



ROCK SHAKE DOWN AREA DETAIL
SCALE N.T.S.



SEDIMENT FENCE DETAILS
SCALE 1:50



SILTATION TRAP DETAILS
SCALE 1:50

No.	DATE	ISSUE	REVISED	CHECKED
P3	03/26	UPDATE ISSUE	JL	J.A.W
P2	02/26	UPDATE ISSUE	JL	J.A.W
P1	02/26	ORIGINAL ISSUE	JL	J.A.W

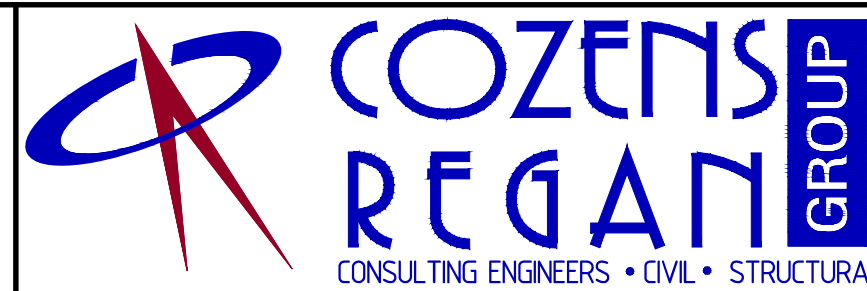
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SCALE A
SCALE B



DATUM AHD (U.N.O.) SCALES SHOWN ARE AT A1 SIZE



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DRAWN J.L.
CHECKED J.A.W.
APPROVED FOR AND ON BEHALF OF
COZENS REGAN GROUP PTY LTD
(NER No 540920)
(RPEQ No 4536)

CLIENT BANYA ELC PROPERTY ONE PTY LTD ATF BANYA ELC PROPERTY ONE UNIT TRUST
PROJECT PROPOSED EARLY LEARNING CENTRE
LOT 8100 MUSGRAVE CRESCENT, BANYA QLD 4551
EROSION & SEDIMENT CONTROL PLAN

JOB NO. 250744
DRAWING NO. C02
ISSUE P1P2P3

LEGEND

- EXISTING CONTOUR
- EXISTING SURFACE LEVEL
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING TELSTRA
- EXISTING ELECTRICAL
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED FINISHED SURFACE GRADIENT
- AREA OF CUT
- AREA OF FILL
- TOP OF WALL LEVEL
- BOTTOM OF WALL LEVEL
- PROPOSED RETAINING WALL TO FUTURE DETAILED DESIGN

BULK EARTHWORKS VOLUMES

	VOLUME (m³)
CUT	258
FILL	198
BALANCE	60 (CUT)

NOTE: VOLUMES ARE BASED ON NATURAL SURFACE TO FINISHED SURFACE. BUILDER IS TO ALLOW APPROPRIATE BOXOUT FOR BULK EARTHWORKS SURFACES

IMPORTANT NOTE:

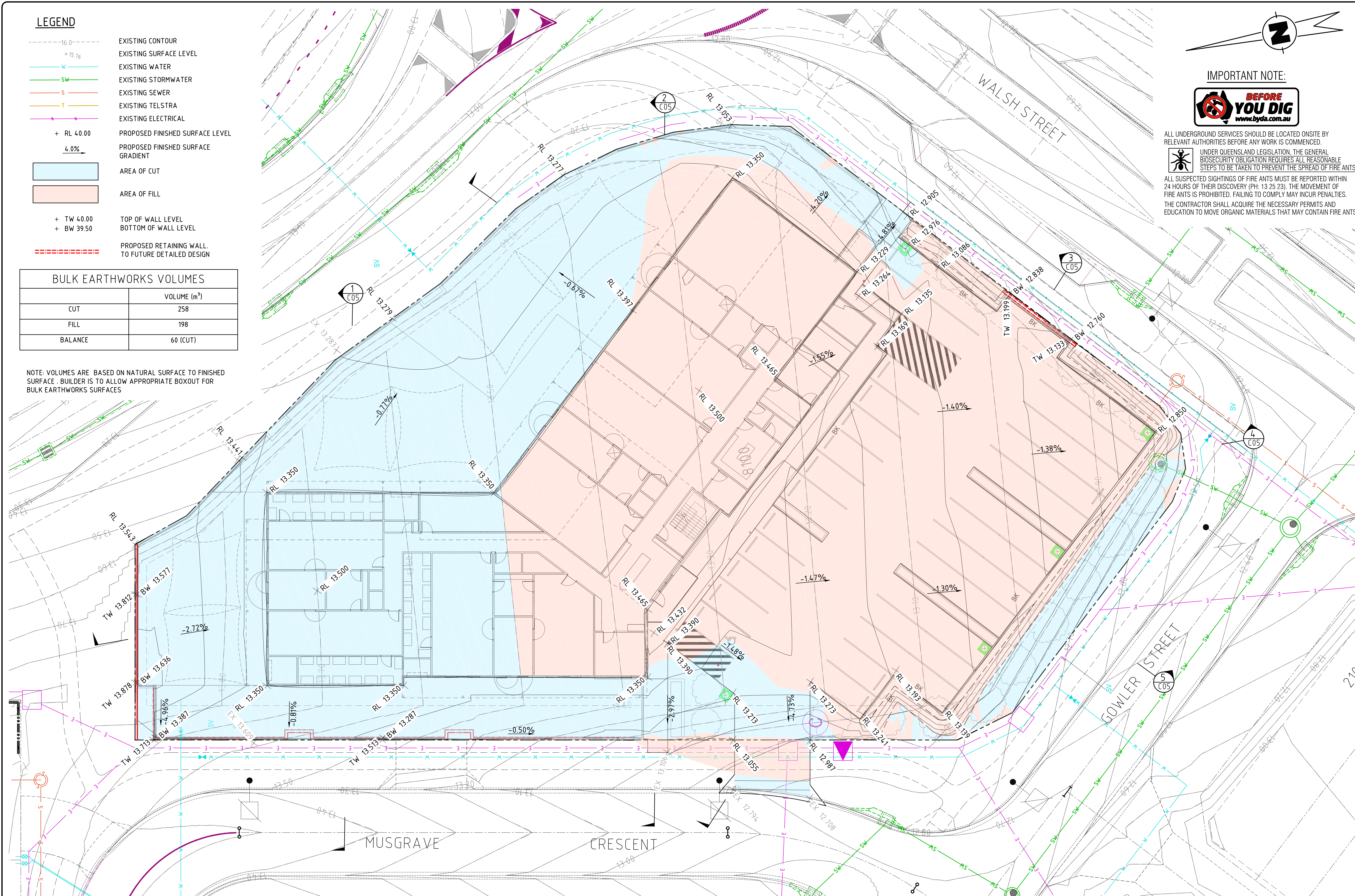


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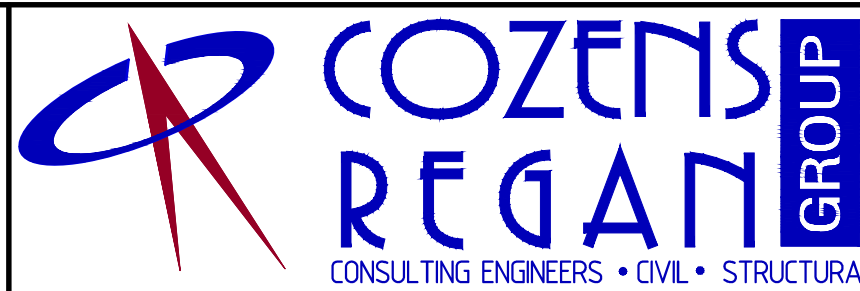
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SCALE A
SCALE B

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(NER No 540920)
(RPEQ No 4536)

CLIENT BANYA ELC PROPERTY ONE PTY LTD ATF BANYA ELC PROPERTY ONE UNIT TRUST
PROJECT PROPOSED EARLY LEARNING CENTRE
LOT 8100 MUSGRAVE CRESCENT, BANYA QLD 4551
BULK EARTHWORKS PLAN

JOB NO. 250744
DRAWING NO. C03
ISSUE P1P2P3

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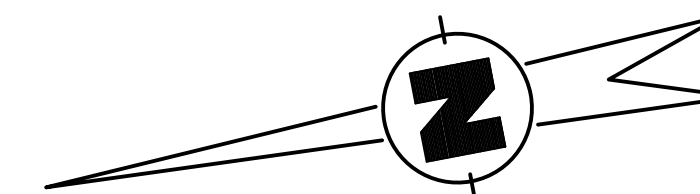
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- EXISTING SURFACE LEVEL
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING TELSTRA
- EXISTING ELECTRICAL
- PROPOSED WATER CONNECTION
- PROPOSED SEWERAGE
- PROPOSED PRIVATE STORMWATER
- PROPOSED SURFACE FALL ARROW
- PROPOSED FINISHED SURFACE LEVEL
- BARRIER KERB
- ALL KERBS TO BE INSTALLED TO IPWEA STD DRG. RSD-200
- PROPOSED CARPARKING
- PROPOSED FOOTPATHS
- PROPOSED CROSSOVER
- PROPOSED LANDSCAPING

AMENDED IN RED

By: Brandon Bouda
Date: 20/04/2026



All field inlet pits within trafficable areas are to be Class D per AS3996



IMPORTANT NOTE:

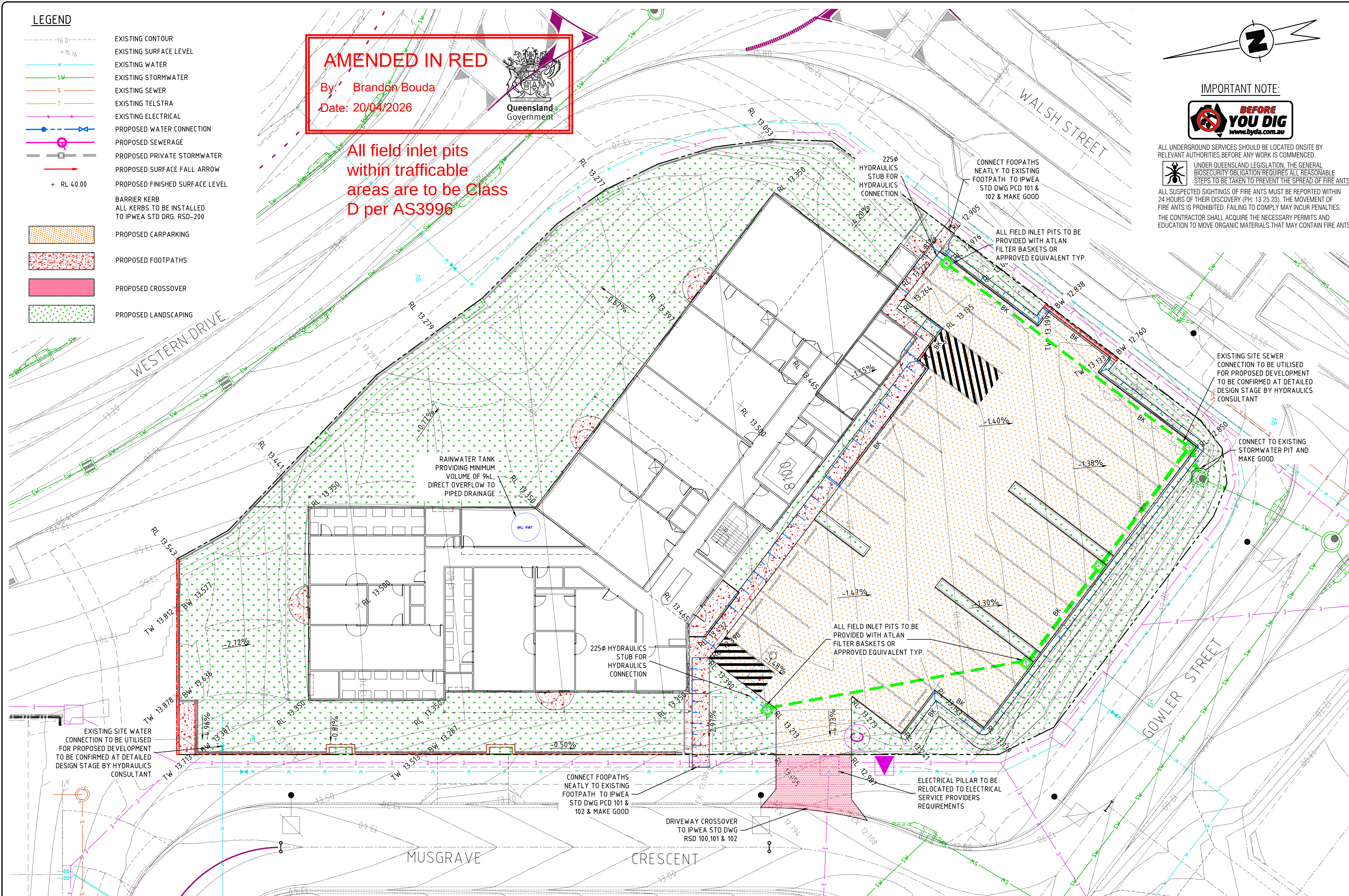


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P1	02/26	ORIGINAL ISSUE	JL	JAW

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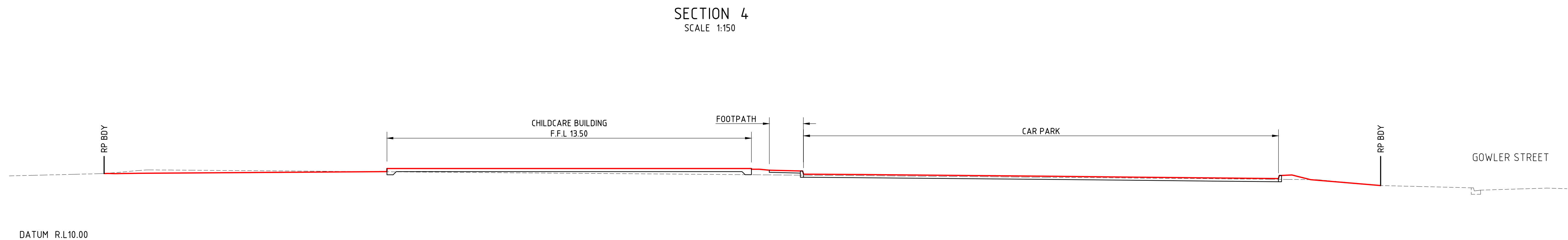
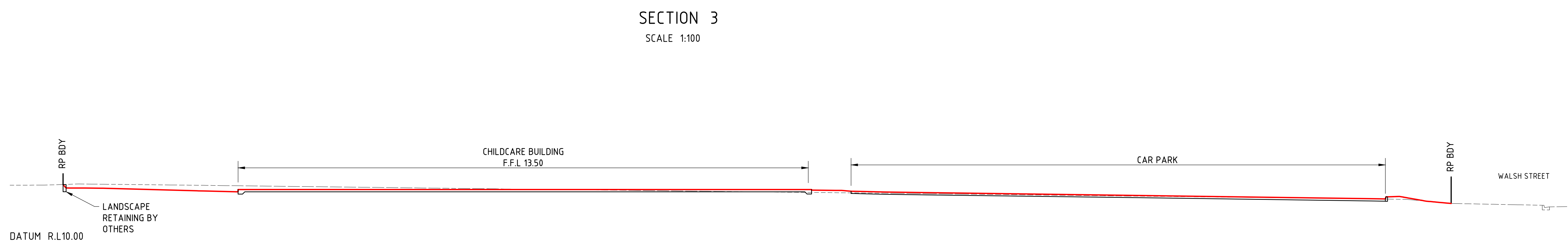
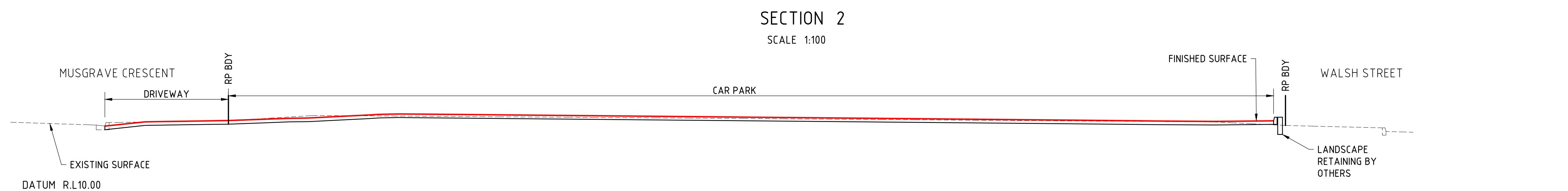
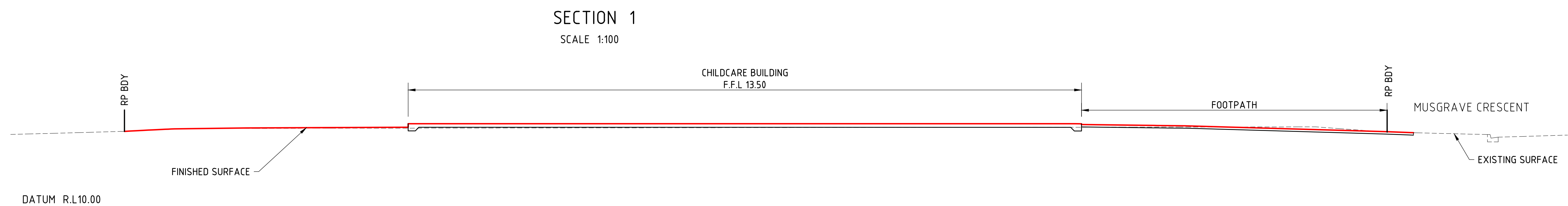


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CIVIL WORKS PLAN

JOB NO. 250744
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ISSUE P1P2P3P4

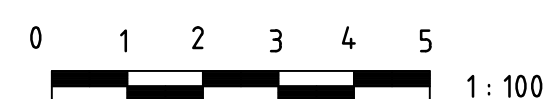


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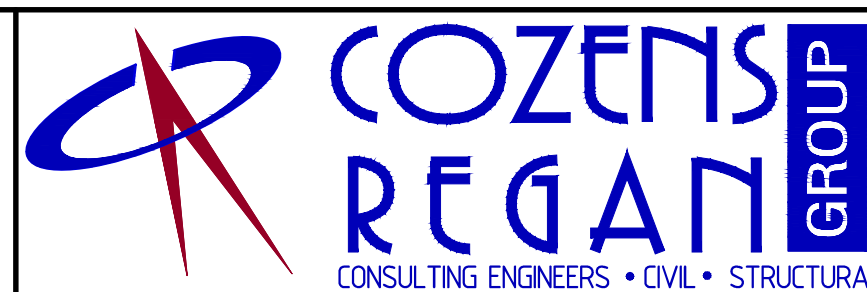
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CLIENT	BANYA ELC PROPERTY ONE PTY LTD ATF BANYA ELC PROPERTY ONE UNIT TRUST	JOB NO	2
PROJECT	PROPOSED EARLY LEARNING CENTRE LOT 8100 MUSGRAVE CRESCENT, BANYA QLD 4551 SITE SECTIONS	DR	
		ISS	
		P	

250744

C05

1P2P3

APPENDIX C

Sewer flow and Water demand projection Calculations

Sewer Flow Calculations -SEQ WS&S Code Calculation Sheet

Job Name:	Banya Childcare	Job No.:	250744
Calculations By:	J Lindsay	Date:	18/02/2026
Checked By:	J Williams	Page No.:	1

Estimation of Equivalent Population (EP)

From SEQ W&S CODE	From Table A2 SEW W&S CODE		
	No of Units	EPU/ET	Total
Child care	173	0.2	35
EP			35

Sewer Flow Calculations -SEQ WS&S Code Calculation Sheet

Job Name:	Banya Childcare	Job No.:	250744
Calculations By:	J Lindsay	Date:	18/02/2026
Checked By:	J Williams	Page No.:	2

Flow Estimation

Average Dry Weather Flow

ADWF = 180 L/EP/d From SEQ W&S CODE Table 10
ADWF = 6228 L/d
0.0720833 L/s

Peak Dry Weather (Sanitary Flow) PDWF

PDWF= C2 x ADWF From SEQ W&S CODE Table 10
C2= 3.24 L/d
PDWF 20176.39 L/d
0.23 L/s

Peak Wet Weather Flow

PWWF= 5 x ADWF From SEQ W&S CODE Table 10
PWWF= 31140.00 L/d
0.36 L/s

Water Peak Flow Calculations - (SEQ CODE) Calculation Sheet

Banya Childcare

Estimation of Equivalent Population (EP)

From SEQ W & S CODE

Category	No of Units	EP/Unit	EP's
Child care	173	0.2	35
Total			35

AD from Table 4.1	230 L/ep/day	7,958 L/day
Non Revenue Water (NRW) Table 4.1	30 L/ep/day	1,038 L/day

AD	AD + NRW	=	8,996 L/day	0.1041204
MDMM/AD	1.5 x AD + NRW	=	12,975 L/day	0.1501736
PD/AD	2 x AD + NRW	=	16,954 L/day	0.1962269
PH/PD	2 x AD + NRW	=	16,954 L/day	0.1962269
PH/AD	4 x AD + NRW	=	32,870 L/day	0.3804398