Civil Engineering Design Report
Proposed Residential Development

On behalf of McGrath Devco Pty Ltd

Lot 21 & 22 on SP320486

30 McGrath Road, Mareeba QLD

Lekker Urban.

22 May 2025 (Revision A)

Lekker Urban
3A Scott Street
Parramatta Park QLD 4870

www.lekkerurban.com.au
contact@lekkerurban.com.au

This report has been prepared by the office of Lekker Urban.

Cairns Office: 3A Scott Street, Parramatta Park QLD 4870

Postal: PO Box 8, Stratford QLD 4870

Email: contact@lekkerurban.com.au

Telephone: (07) 4253 7023

Revision

Report Title:	Civil Engineering Design Report
Street Address	30 McGrath Road, Mareeba QLD
RP Description	Lot 21 & 22 on SP320486
Prepared For:	McGrath Devco Pty Ltd
Date:	22 May 2026
Revision No.	A
Report Status:	Issued for Approval
Prepared By:	
Name	Joshua Affleck
Qualifications	Master of Engineering Practice/Bachelor of Engineering
Company	Lekker Urban
Phone No.	(07) 4253 7023
Certified By:	
Name	Joshua Affleck
Qualifications	Master of Engineering Practice/Bachelor of Engineering
Company	Lekker Urban
Phone No.	(07) 4253 7023
Industry Accreditation	RPEQ No. 24039
Signature	

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Table of Contents

1 Introduction

1.1 Background

Lekker Urban has been commissioned by McGrath Devco Pty Ltd to prepare this Civil Engineering Design Report in support of a proposed residential subdivision at Lots 21 and 22 on SP320486, 30 McGrath Road, Mareeba, Queensland. The site has an existing development approval in place with Mareeba Shire Council, referenced as Application No. RAL/25/0017.

This DR has been prepared to satisfy the requirements of Mareeba Shire Council (MSC) and to demonstrate compliance with applicable engineering standards and State planning policies.

1.2 Property Details

The details of the subject property for the proposed development are shown in Table 1:

Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880
Local Government Area:	Mareeba Shire Council
Site Area:	4.704 ha (47,040 m²)
Planning Zone:	Emerging Communities
Existing Use:	Rural residential (two existing dwellings)
Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880

Table 1 –Property Details

1.3 Scope of Report

The proposed Reconfiguration of a Lot seeks to amend Two (2) Lots into Twelve (12) Lots comprising of Two (2) Lots (6 and 12) that contain existing Dwelling houses and the balance Ten (10) vacant lots ranging in size from 2,516m2 to 4,149m2. This development will be serviced via new infrastructure and utilities including a new road access connecting onto McGrath Road.

The scope of this report is to detail the following:

Traffic – Parking & Vehicular Access

- Undertake a swept path analysis for the design vehicle to confirm that the appropriate vehicle movements are available entering and existing the proposed development; and
- Provide commentary on refuse collection vehicular movements.

Stormwater & Flooding

- Provide commentary on potential flood related matters; and
- Provide a concept drainage management plan for the proposed development including consideration of the stormwater quantity and quality.

Earthworks

- Provide commentary on the proposed conceptual earthworks and general site arrangement.

Water Reticulation

- Calculate the potable water demand for the proposed development and nominate an appropriate connection point to Councils trunk water network.

Sewerage

- Calculate the sewer loading from the proposed development and nominate an appropriate connection point to Council's trunk sewer network. This includes an assessment of the existing sewer main location in conjunction with the subject site.

2 Existing Conditions:

2.1 Property Detail

As can be seen in the aerial photo below, the Site (total site area is 4.704 Ha) is bounded by the following:

- North boundary – Existing rural residential development;
- East boundary – Existing rural land and an existing watercourse running parallel to the eastern boundary;
- South boundary – Existing rural residential development; and
- West boundary – McGrath Road (Local Government controlled road)

The surrounding land uses are predominantly rural residential in character, consistent with the site's Emerging Communities zoning under the Mareeba Shire Council Planning Scheme.

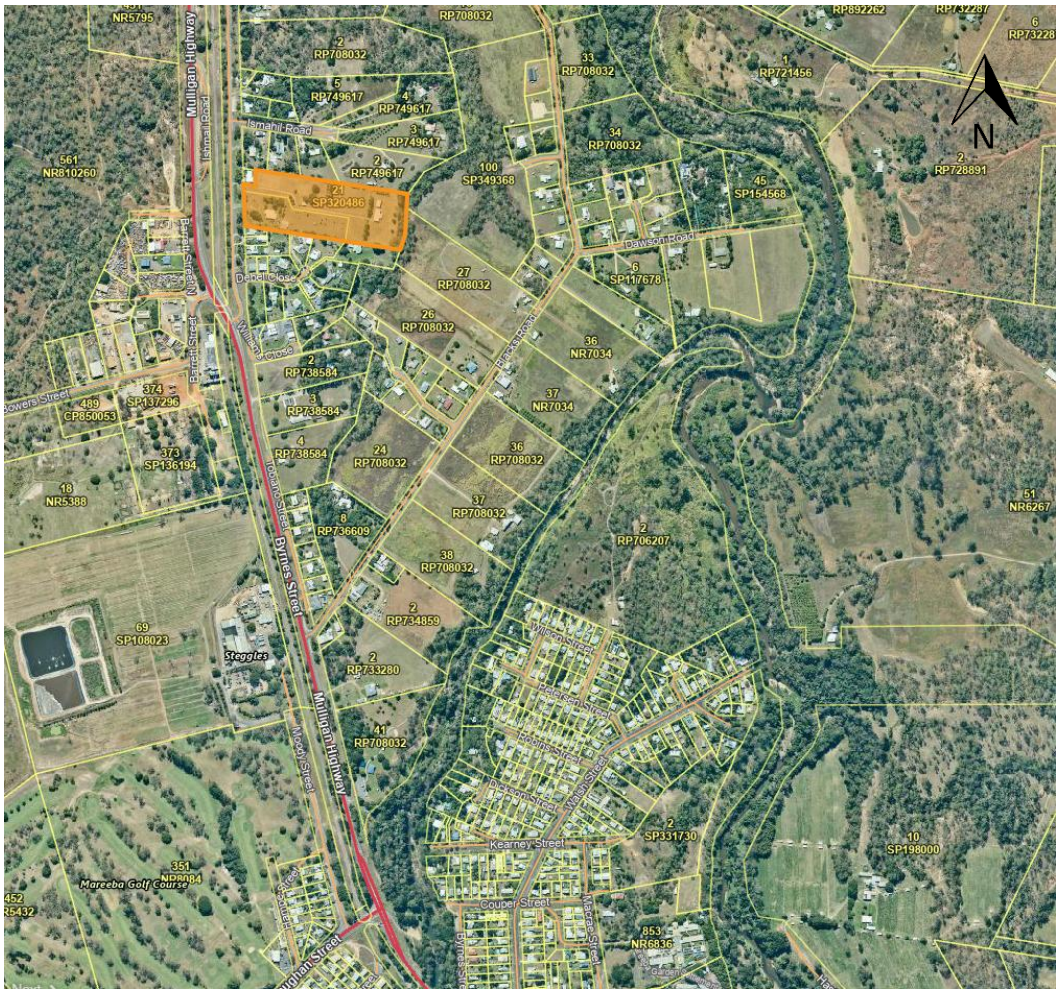


Figure 1 – Location of Site (Source: Queensland Globe)

2.2 Topography

A detail and contour survey was undertaken by Twine Surveys on 30 July 2025. Broader topographical information from ELVIS and Queensland Globe has also been reviewed to identify site constraints.

The site generally drains in a west-direction at an average grade of approximately 1%, which is relatively flat for the most part, with a steeper batter located along both the northern and eastern boundary. Elevation changes from the high point at the east of the site at RL 395.8m down to the lowest point of the site along the northern boundary at 391.8m. The invert of the channel with McGrath Road to the west of the site is down to approximately RL 391.6m, representing a total fall of approximately 4.2 m across the site.

The site adjoins McGrath Road to the west, with a grass-lined open channel located between the road pavement and the site boundary. There are no notable external topographical features influencing the subject site beyond the local stormwater catchment.

2.3 Existing Site Conditions & Improvements

The site is partially developed, with two existing dwelling houses located within the development footprint. The remainder of the site consists of vegetated open land with scattered rural improvements. There is no formal underground stormwater infrastructure across the site.

2.4 Existing Services

Existing known services are shown on the civil works plans. The contractor shall be responsible for location and protection of all services, and relocation/decommissioning where documented.

2.5 Existing Road Network

McGrath Road (Local government-controlled road), currently provides access from the west and is the primary access for the site. McGrath Road is a Minor Rural formation under the Mareeba Shire Council Planning Scheme 2016 and is sign posted 60km/h speed zone, to the site frontage.

McGrath Road comprises of a single carriageway with dual lanes, operating in a north-south direction, continuing to an unsealed road formation from Studt Road, approx. 1800m north of the site. The site can gain access via the road reserve via a north and southbound access.

No kerb and channel are present to the road along the frontage of the subject site. There is a grassed open channel running parallel to McGrath Road on both shoulders, and generally slope to the north.

2.6 Existing Vehicular Access

The site is currently serviced via McGrath Road with sealed access to both lots.

2.7 Existing Cyclist and Pedestrian Connectivity

McGrath Road has no formed pathway within the verge. Furthermore, the surrounding streets do not contain formed pathways for any pedestrian connectivity. As such it is assumed that there is no requirement for the formalisation of a pedestrian pathway as part of this application.

3 Basis of Design

The information presented in this section forms the basis for the civil design of the proposed development and serves as supporting documentation for the associated Operational Works Approval.

3.1 Proposed Civil Works

3.1.1 Operational Works Drawings

A set of For Approval Civil Engineering drawings for the proposed Civil Subdivision Works is provided in Appendix A of this report for Council comment and approval.

3.1.2 The Scope of the Civil Subdivision Works

The scope of the Civil Subdivision Works is as follows:

- Stripping of topsoil from areas to be excavated or filled. Stockpiling topsoil for reuse.
- Establishment and maintain erosion and sediment control works for the duration of the construction period.
- Filling and compaction of earthworks to the required levels.
- Trimming of final earthworks.
- Construction of fencing.
- Construction of on-site sewer works (by property owner within Building Approval stage).
- Construction of stormwater drainage pipes, pits, manholes and drains.
- Construction of water reticulation.
- Installation of NBN and Ergon HV Energy conduits and associated works
- Installation of Street Lighting and associated LV Infrastructure
- Modification of existing services including Water, Stormwater and Telstra/NBN as required.
- Construction of road pavements, bituminous surfacing and concrete kerb and channel.
- General landscaping/grassing.

3.1.3 Specifications

The project specific specifications used during construction activities will be based on the standard FNQROC specifications.

Additional specifications of the works are provided in the form of notes on the project Drawings.

3.2 Earthworks

3.2.1 Site Regrading and Allotment Earthworks

Site regrading is to remove as is, with at least 1% fall being achieved across the site. The remainder of the site grading has been designed to achieve a cut/import to fill as per the following quantities based on a 100mm stripped surface and excluding bulking factors, Specific earthworks quantities are:

- Cut: - 2,843 m^3
- Fill: 255 m^3
- Balance: - 2,588 m^3 exported from site (excluding trench material)

3.2.1.1 Imported Fill

Site regrading has been undertaken in an attempt to achieve a balanced cut-fill over the site. It is anticipated that approximately 2,588 m^3 of material is required to be exported to the site for bulk earthworks. Pending the results of the Flood Study being undertaken, Lekker Urban may request to fill sections of the lots and will be undertake as Generally in Accordance with the proposed design.

3.2.2 Topsoil and Grassing

Clean topsoil as defined in the FNQROC development manual will be spread to a depth of 50mm minimum within the verge areas.

Turf strips will be provided to the rear of kerbing, on either side of pathways and the new link pathway. Verges, batters flatter than 1V:4H, and allotments will be drill seeded as per FNQROC requirements.

3.3 Road Geometry

3.3.1 Traffic Assessment

No Traffic Impact Assessment has been undertaken for the subject site due to the local nature of the road. The development approval for the Reconfiguration of a Lot with Mareeba Shire Council has identified that this is not required.

3.3.2 Road Types

The internal road network has been designed in accordance with the FNQROC Regional Development Manual Standards, Table D1.1 for a Type 2 Access Street.

Road Classification							
Road Name	Classification	Catchment Size (No. of dwellings)	Road Reserve Width (m)	Carriageway Width (m)	Footpath	Max. Gradient	Design Speed
	Access Street	12	15.5	6.5	No*	16%	30km/h

Table 1 –Road Classification.

Note:

*The subject site is not located within the Centre Zone or the Recreation and Open Space Zone.

3.3.3 Design Criteria

3.3.3.1 Design Speed

Design speeds for the new proposed access street have been adopted based on FNQROC and is a 30km/h design speeds, in accordance with Table D1.1.

3.3.3.2 Longitudinal Gradients

Longitudinal gradients of the New Access Street are in accordance with FNQROC requirements. Refer to Lekker Urban Civil Engineering Drawing LU23111-CD-300.

3.3.3.3 Horizontal Alignment

The horizontal alignment has been selected with consideration to the requirements of IPWEA Street Design Manual. Refer to Lekker Urban Civil Engineering Drawings.

3.3.3.4 Vertical Curves

Vertical curves have been provided on all change in grades greater than 1%, and a minimum length of vertical curve adopted as 20m as per the road longitudinal sections provided.

The minimum vertical curve has been checked for compliance against Austroads Guide to Roads Design Part 3 Geometric Design Section 8.6.2 with all vertical curves exceeding minimum requirements. Refer to Lekker Urban Civil Engineering Drawing LU23111-CD-300.

3.3.3.5 Crossfalls

Road crossfalls of 3% have been adopted as per FNQROC requirements for asphaltic surfaces which can be referenced as per the provided road cross sections from Lekker Urban Civil Engineering Drawing LU23111-CD-400 series.

3.3.3.6 Carriageway Width

An AUSTROADS 2013 Service Vehicle, Commercial Truck (12.5m long Single Unit (SU) Truck) has been adopted to confirm the carriageway widths and suitability of intersections for all internal roads. The design vehicle aligns with Mareeba Shire Council standard garbage truck as detailed in J.J. Richards Engineering PTY LTD "35m3 Hybrid Side Loader Overall Dimensions Volvo FE 6X2 Euro 6 Comfort Cab Rev D". It is understood that in the low-speed residential environment the garbage truck will generally be travelling at speeds less than the design speed due to its frequent stop-start movements. As such, no curve widening to the standard carriageway widths are deemed appropriate.

3.3.3.7 Verges

The grassed verge areas has been designed with crossfalls of 3% as per FNQROC requirements which can be referenced as per the provided road cross sections from Lekker Urban Civil Engineering Drawing LU23111-CD-400 series. Verge widths have been designed in accordance with FNQROC requirements.

3.3.3.8 Cul-De-Sac

A single cul-de-sac has been provided, located at the terminus of the new access street. The cul-de-sac has been designed with a minimum approach/departure curve radius of 15m and a turning circle radius of 10m measured per FNQROC Requirements.

3.3.3.9 Local Area Traffic Management

The internal road network has been designed with consideration for the management of movement and speed for traffic within local area as per FNQROC D1.15.

3.3.3.10 Bus Stops

No bus stops have been provided internally. The proposed site is not part of the school or public transport bus route.

3.3.3.11 Access to Allotments

Driveways are to be constructed in accordance with FNQROC Standard Drawings S1110 (where required). The provision of layback/ roll-over kerb along the frontage of each allotment is noted to satisfy the conditions of access in accordance with the current approval.

A sealed access handle is provided to Lot 7 with a minimum formation of three (3) metres wide, for the full length of the access handle and cater for one-way crossfall to convey stormwater to the rear of the site as per the Stormwater Management Plan.

3.3.3.12 Parking Provision

No on street or off-street parking provisions have been allocated as part of development due to the rural residential nature.

3.3.3.13 Pathways and Bikeways

No pathways are provided as part of this development, noting that the site is outside of the Centre Zone and the Recreation and Open Space Zone.

3.3.3.14 Kerb and Channel

Layback kerb and channel, and layback kerb and tray have been adopted for the internal road network dependant on the road cross section with minimum grades adopted as 0.5%.

3.3.3.15 Signs and Road Marking

No street signs, with the exception of a new sign at the entry intersection, or line marking is required as part of the Operational Works (Subdivision Works).

3.4 Road Pavements

3.4.1 Geotechnical Investigation

Ground Technics have been engaged by the client to conduct a geotechnical investigation of the site and advise on general earthworks. Pavement design has been provided by D&N Geotechnical. A copy of the geotechnical report is provided in Appendix A. Pavement design criteria has been identified within this report in conjunction with the geotechnical investigations.

3.4.2 Adopted Driveway Pavement Design

As per Section 3.4 of the D&N Pavement Design Report, a subgrade design CBR of 4.5% should be adopted for the alluvial clayey sand / sandy clay subgrade experienced onsite. As such, the pavement has been provided, based on a Access Street.

Pavement Layer	Type	Thickness (mm)	Details
Base Course	2.2	150	Placed and compacted in accordance with FNQROC guidelines.
Subbase	2.3	170	Placed and compacted in accordance with FNQROC guidelines.
Primerseal	AMC7	-	-
Surfacing	AC10	30 (min.) 50 within Turning Head	

Table 2 – New Access Street Pavement Design profile.

3.5 Stormwater

A separate Stormwater Management Plan has been prepared by Lekker Urban. Refer to this for all Stormwater and Flood related information.

3.6 Sewer Reticulation

There is no sewer reticulation proposed to service the site. All sewerage works are to be provided by the individual lot owners and implemented at the time of Building Approval phase. Iin accordance to the approved conditions, Lots 1, 5 and 7-11 on-site effluent

disposal system must be constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547). Lots 2-4 must be an advanced secondary treatment system constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547). Refer to Lekker Urban drawing LU23111-SD-200 for further information.

3.7 Water Reticulation

The existing water supply infrastructure has been reviewed which has been provided by Mareeba Shire Council as part of a Before You Dig Australia (BYDA) search. An existing water main is located within the verge of McGrath Road, at the frontage of the site.

A series of valves and hydrants are located within the vicinity of the site. The closest hydrant is located at the frontage of the site, within McGrath Road.

The proposed development will require connection to the existing council main. Point of connection for the site is proposed via the existing water main located within verge at the property frontage within McGrath Road.

All proposed water infrastructure works have been designed in accordance with the FNQROC Regional Development Manual and shall be installed in accordance with the relevant FNQROC specifications.

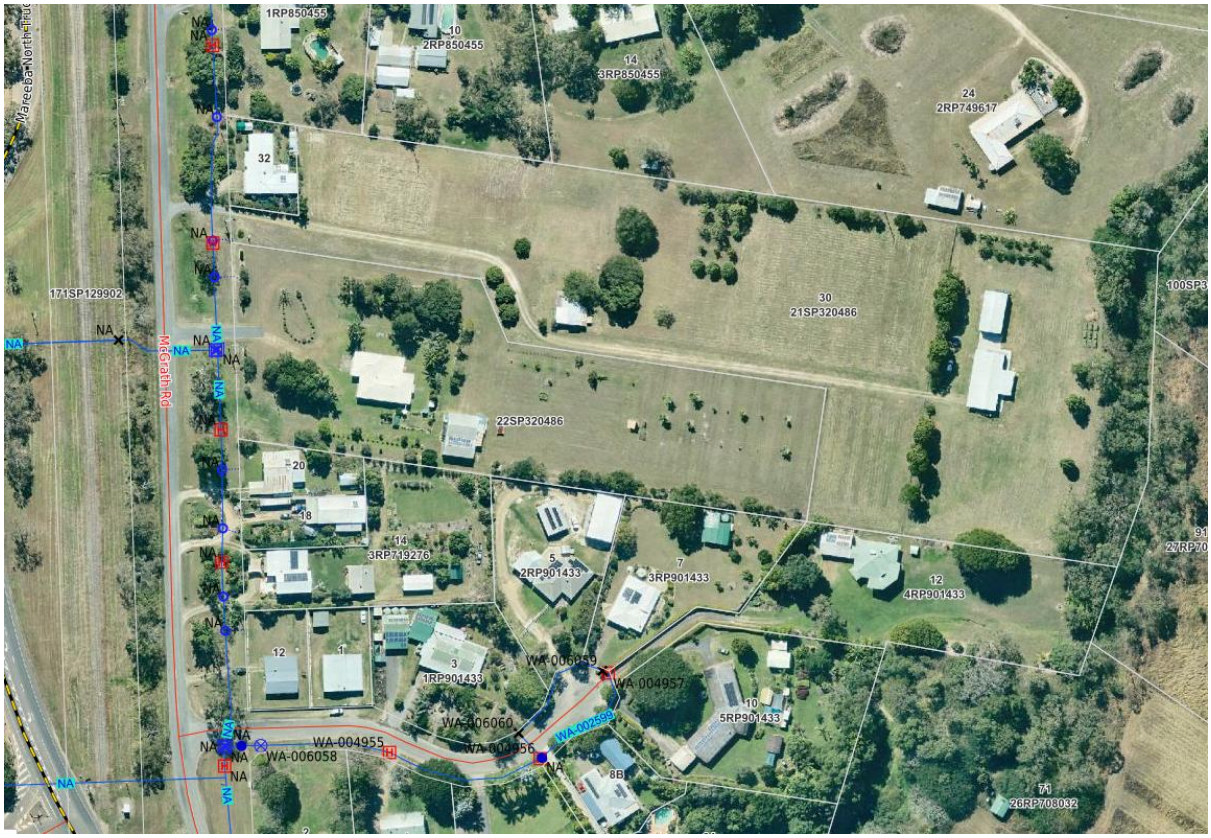


Figure 2 – Existing Water Reticulation (Source: Mareeba Shire Council)

3.7.1 Design Criteria

The water supply design criteria for the proposed development are based on FNQROC Design Manual D6 – Water Reticulation V05/23.

The water supply demand was calculated in accordance with Table 6.1 "Equivalent Demands" in FNQROC Design Manual D6. In accordance with the Table, the equivalent persons (EP) per lot is 3.7 EP/Connection, with all lots noted as being > 1500m².

The Equivalent Demand for the proposed development is summarised below.

Development Description (Table 6.1 FNQROC D6)	Qty	Equivalent Persons (EP) / Connections	Total EP
Lots > 1500m² 3.7 EP	12	12 x 3.7 EP = 44.4	44.4
Deduction of existing Lots > 1500m² 3.7 EP	2	2 x 3.7 EP = 44.4	7.4
		Total Additional EP	37

Table 5 –Water Supply Equivalent Demand Calculations.

The following Average Daily Consumption and peaking factors were adopted to obtain flow parameters from Section D6.07 of FNQROC:

- Average Daily Consumption (AD) = 400 L/EP/Day
- Mean Day max. Month (MDMM) = 1.50 x AD
- Peak Day (PD) – Low and Medium Density = 2.25 x AD
- Peak Hour (PH) – Low and Medium Density = 1/12 x PD

The flow demand for the proposed development is summarised below in conjunction with FNQROC peaking factors.

Demand Parameter	Demand Calculation	Total Demand
Average Daily Consumption (AD)	400 L/EP/Day x 37 (EP)	14,800 L/day
Mean Day max. Month (MDMM)	1.50 x (AD) = 1.50 x 14,800	22,200 L/day
Peak Day (PD)	2.25 x (AD) = 2.25 x 14,800	33,300 L/day
Peak Hour (PH)	1/12 x (PD) = 1/12 x 33,300	2,775 L or 0.77 L/s

Table 6 –Flow Demand for the Proposed Development.

Therefore, the estimated additional demand due to the proposed development of 0.77 L/s during the Peak Hour (PH).

3.8 Environmental and Landscaping

3.8.1 Planting

Planting of street trees and other vegetation will be in accordance with FNQROC and will be one (1) tree per lot at the corner junction of each lot.

3.8.2 Grassing

Lot frontage areas will be topsoiled and grassed as per the Civil plans. A combination of turf and drill seeding will be utilised as appropriate.

3.9 Other Preliminaries

3.9.1 Portable Long Service Leave Levy

McGrath Devco Pty Ltd acknowledges that Portable Long Service Leave Levy must be paid for the proposed works. It is proposed that the levy be paid and the receipt provided to Council prior to the Pre-Start meeting.

3.9.2 Electrical and Telecommunications

Negotiations with electrical and telecommunications providers is being undertaken by VMI Engineers for the internal development supply. Ergon approval has been obtained for the proposed layout with electrical plans supplied by VMI for internal coordination of services.

4 Conclusion

Based on the reporting above, Lekker Urban considered it reasonable to conclude the following:

- The site well supported by an established road network.
- The existing traffic network currently operates at a satisfactory level of service during both the AM and PM peak periods.
- An appropriate connection to Council's existing water reticulation network is available with an estimated demand due to the proposed development of 0.77 L/s during Peak Hour (PH).
- A stormwater drainage management strategy has been developed that allows for the discharge of stormwater to a lawful point of discharge without significantly increasing pre-development runoff.
- Stormwater quality measures are not required for the proposed development in accordance with the Queensland State Planning Policy 2017 and FNQROC Development Manual – Design Manual D5.
- An appropriate connection to Council's existing water reticulation network is available.

Attachement A

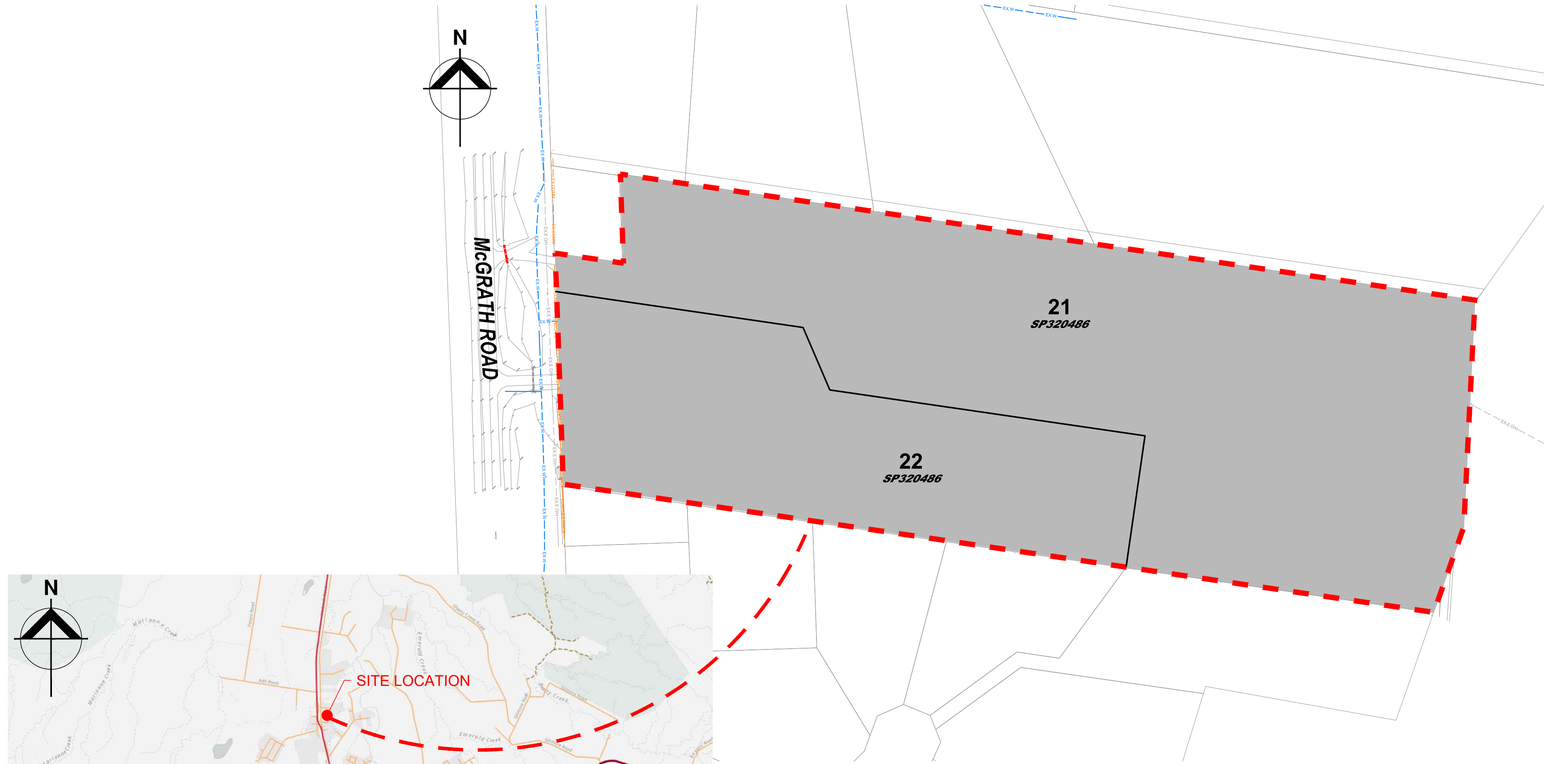
Civil Engineering Drawings

Lekker Urban.

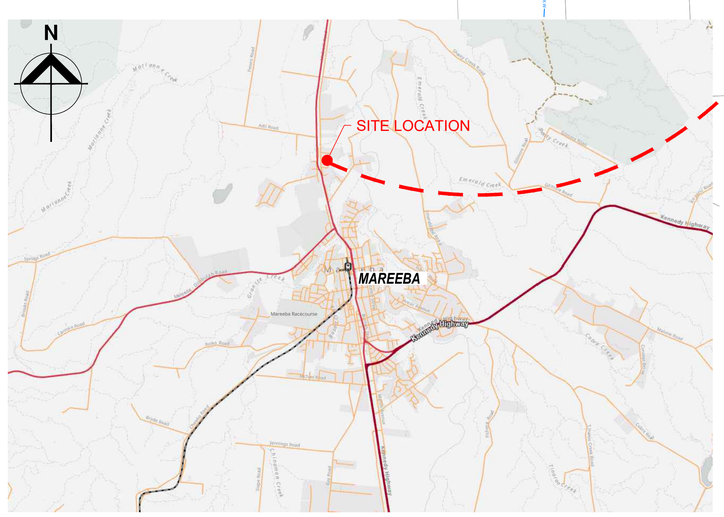
ON BEHALF OF MCGRATH DEVCO PTY LTD
30 McGRATH ROAD, MAREEBA QLD
LOT 21 & 22 ON SP320486
PROPOED RESIDENTIAL SUBDIVISION - CIVIL WORKS

DRAWING SCHEDULE - CIVIL

DRAWING NUMBER	SHEET TITLE	REVISION
LU23111-CD-100	COVER SHEET, LOCALITY & DRAWING SCHEDULES	A
LU23111-CD-101	CONSTRUCTION NOTES	A
LU23111-CD-102	EROSION & SEDIMENT CONTROL NOTES & DETAILS	A
LU23111-CD-200	CLEARING & DEMOLITION LAYOUT PLAN	A
LU23111-CD-201	CUT/FILL HEAT MAP LAYOUT PLAN	A
LU23111-CD-202	CIVIL WORKS LAYOUT PLAN	A
LU23111-CD-300	ROAD LONGITUDINAL SECTIONS - NEW ACCESS STREET	A
LU23111-CD-301	ROAD LONGITUDINAL SECTIONS - MCGRATH ROAD	A
LU23111-CD-400	ROAD CROSS SECTIONS - TYPICAL SECTION	A
LU23111-CD-401	ROAD CROSS SECTIONS - SHEET 1 OF 5	A
LU23111-CD-402	ROAD CROSS SECTIONS - SHEET 2 OF 5	A
LU23111-CD-403	ROAD CROSS SECTIONS - SHEET 3 OF 5	A
LU23111-CD-404	ROAD CROSS SECTIONS - SHEET 4 OF 5	A
LU23111-CD-405	ROAD CROSS SECTIONS - SHEET 5 OF 5	A
LU23111-CD-405	ROAD CROSS SECTIONS - SHEET 5 OF 5	A
LU23111-CD-500	INTERSECTION DETAIL PLAN - MCGRATH ROAD & NEW ACCESS STREET	A
LU23111-CD-501	INTERSECTION DETAIL PLAN - CUL-DE-SAC	A
LU23111-CD-502	IDETAIL PLAN - LOT 6 & 7 ACCESS DRIVEWAY	A
LU23111-CD-600	STORMWATER CATCHMENT PLAN - PRE DEVELOPMENT	A
LU23111-CD-601	STORMWATER CATCHMENT PLAN - POST DEVELOPMENT	A
LU23111-CD-602	DRAINAGE LONGITUDINAL SECTIONS	A
LU23111-CD-603	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE	A
LU23111-CD-700	CONSTRUCTION DETAILS - SHEET 1 OF 2	A
LU23111-CD-701	CONSTRUCTION DETAILS - SHEET 2 OF 2	A
LU23111-SD-200	SEWER RETICULATION LAYOUT PLAN	A
LU23111-WD-200	WATER RETICULATION LAYOUT PLAN	A



OVERALL SITE PLAN
NOT TO SCALE



LOCALITY PLAN
NOT TO SCALE

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

DRAWING NOT TO SCALE

Designed:	Checked:
A.P.B.	J.L.A.
Authorised:	**Date:**
J.L.A.	22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
COVER SHEET, LOCALITY & DRAWING SCHEDULES

LOT 21 & 22 ON SP320486
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-100
REV: A

1. GENERAL NOTES:

1.1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED CONDITIONS OF CONSENT — MAREEBA SHIRE COUNCIL DECISION NOTICE, APPLICATION NO. RAL/25/0017, DATED 17 DECEMBER 2025.

1.2. ALL DRAWINGS LISTED IN THE DRAWING SCHEDULE ARE TO BE READ AS A WHOLE AND NOT IN ISOLATION.

1.3. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION AND ALL RELEVANT STANDARD DRAWINGS.

1.4. PRIOR TO COMMENCEMENT OF WORK, FENCE OFF AND CLEARLY DELINEATE ALL AREAS WHERE WORK CANNOT BE CARRIED OUT.1

1.5. SHOULD SITE WORKS EXPOSE ANY ARCHAEOLOGICAL OR CULTURAL MATERIAL, ALL WORKS SHALL CEASE AND OFFICIALS OF THE NATIONAL PARKS AND WILDLIFE SERVICE, ABORIGINAL AND TORRES STRAIT ISLANDER CULTURAL HERITAGE BODY AND LOCAL AUTHORITY ARE TO BE NOTIFIED IMMEDIATELY.

1.6. PRIOR TO ANY VEGETATION CLEARING, AN INSPECTION TO DETERMINE THE POSSIBLE PRESENCE OF NATIVE WILDLIFE AND PARTICULAR ANIMAL BREEDING PLACES MUST BE UNDERTAKEN BY A SUITABLY QUALIFIED AND EXPERIENCED SPOTTER/CATCHER. THE ASSESSMENT MUST INCLUDE THE IDENTIFICATION OF ANY BREEDING PLACES FOR ANY ENDANGERED, VULNERABLE OR NEAR THREATENED ANIMAL SPECIES, SPECIAL LEAST CONCERN OR COLONIAL BREEDING SPECIES PRIOR TO REMOVAL OF ANY TREE AND/OR VEGETATION AS PER THE REQUIREMENTS OF THE NATURE CONSERVATION (WILDLIFE MANAGEMENT) REGULATION 2006. THE DEPARTMENT OF ENVIRONMENT, SCIENCE AND INNOVATION MUST BE CONTACTED WHERE ANY ENDANGERED, VULNERABLE OR NEAR THREATENED NATIVE WILDLIFE IS FOUND TO BE PRESENT IN ANY AREA SUBJECT TO WORK.

1.7. ALL WORKS ARE TO COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION ACT 1994.

1.8. DISPOSAL AND MOVEMENT OF MATERIALS IN AREAS OF YELLOW CRAZY ANTS ARE TO COMPLY WITH THE WET TROPICS MANAGEMENT AUTHORITY (WTMA) AND BIOSECURITY QUEENSLAND REGULATIONS. REFER TO WWW.WETTROPICS.GOV.AU AND WWW.DAF.QLD.GOV.AU FOR CURRENT INFORMATION.

1.9. THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENT, SCIENCE AND INNOVATION.

1.10. WHERE IN THIS SET OF DRAWINGS REFERENCE IS MADE TO THE ENGINEER, CONSULTING ENGINEER AND/OR COUNCIL ENGINEER, IT SHALL MEAN THE SUPERINTENDENT UNDER THE CONTRACT FOR THE WORKS.

1.11. WHERE IN THIS SET OF DRAWINGS REFERENCE IS MADE TO THE LOCAL AUTHORITY IT SHALL MEAN MAREEBA SHIRE COUNCIL.

1.12. THE CONTRACTOR IS TO VERIFY THE LOCATION AND LEVELS OF ALL SERVICES AND TO LIAISE WITH THE LOCAL AND SERVICE AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.

1.13. THE CONTRACTOR IS TO INFORM THE LOCAL AUTHORITY AND THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.

1.14. PRIOR TO COMMENCEMENT OF WORK, A SIGN DETAILING THE PROJECT AND CONTAINING THE NAMES AND CONTACT DETAILS OF THE DEVELOPER, CONTRACTOR AND PRINCIPAL CONSULTANT SHALL BE ERECTED AND MAINTAINED IN A PROMINENT POSITION AT THE SITE TO THE SATISFACTION OF THE LOCAL AUTHORITY. THE SIGN SHALL REMAIN IN PLACE UNTIL COMPLETION OF THE CONTRACT.

1.15. INFORMATION ON THESE DRAWINGS SHALL TAKE PRECEDENCE IF THERE IS ANY DISCREPANCY AND/OR CONFLICT BETWEEN THESE DRAWINGS AND STANDARD DRAWINGS. ADVISE THE SUPERINTENDENT IMMEDIATELY OF ANY AND ALL DISCREPANCIES.

1.16. LEVELS SHOWN AT ALL INTERFACES ARE TO BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

1.17. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT FNQROC, IPWEAQ, WSAA, NATSPEC/AUS-SPEC, THE NATIONAL CONSTRUCTION CODE AND WITH THE POLICIES, BY-LAWS, CODES AND SPECIFICATIONS OF THE RELEVANT LOCAL AUTHORITIES.

1.18. WHERE PROVIDED, THE ACCOMPANYING BILLS OF QUANTITIES SHALL ONLY SERVE AS A SUPPLEMENT FOR PRICING PURPOSES. THE CONTRACTOR SHALL ALLOW FOR ALL WORKS REQUIRED TO COMPLY WITH THE DRAWINGS. THIS INCLUDES ANY TEMPORARY, INTERMEDIATE OR PROTECTIVE WORKS REQUIRED TO FACILITATE FINAL CONSTRUCTION.

1.19. ELECTRONIC SETOUT DATA SUPPLIED TO ASSIST WITH CONSTRUCTION SHALL BE UTILISED IN CONJUNCTION WITH THE ENGINEERING DRAWINGS. ANY INCONSISTENCIES BETWEEN THE ELECTRONIC DATA AND ENGINEERING DRAWINGS SHALL BE REFERRED TO THE SUPERINTENDENT IMMEDIATELY FOR RESOLUTION.

2. EXISTING FEATURES

2.1. UNLESS OTHERWISE SPECIFIED, ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT AND WHERE RELOCATION IS REQUIRED REFER TO SPECIFICATION.

2.2. ALL WORK JOINING TO EXISTING CONSTRUCTION TO BE DONE NEATLY AND TO THE SATISFACTION OF THE SUPERINTENDENT.

2.3. ALL BENCHMARKS TO BE LEVEL CHECKED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2.4. THE LOCATION OF EXISTING SERVICES AS SHOWN ON THE PLAN IS INDICATIVE ONLY AND THE CONTRACTOR MUST ASCERTAIN THE POSITION OF ALL SERVICES (I.E. WATER, ELECTRICITY, TELECOMMUNICATIONS, GAS, ETC.) BEFORE COMMENCING CONSTRUCTION.

2.5. LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE SATISFACTORY CONNECTIONS, WITH COSTS DEEMED INCLUDED IN THE RELEVANT SCHEDULE ITEM.

2.6. IF THE LOCATION, LINE AND/OR LEVEL OF ANY EXISTING SERVICE IS NOT AS DESCRIBED ON THE DRAWINGS, THE SUPERINTENDENT IS TO BE NOTIFIED IMMEDIATELY AND PRIOR TO PROCEEDING WITH FURTHER WORK.

2.7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE EXISTING SERVICES DAMAGED DURING THE WORKS TO THE SATISFACTION OF THE SUPERINTENDENT.

2.8. EXISTING DRIVEWAYS AFFECTED BY WORKS SHALL BE RECONSTRUCTED IN THE SAME MATERIAL AS EXISTING OR AS DIRECTED BY THE LOCAL AUTHORITY.

2.9. CLEARING AND GRUBBING, INCLUDING REMOVAL AND DISPOSAL OF CLEARED VEGETATION, SHALL BE CARRIED OUT USING APPROVED METHODS.

2.10. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY, FROM AS-CONSTRUCTED RECORDS AND FROM 'DIAL BEFORE YOU DIG' SEARCHES. THERE MAY BE ADDITIONAL SERVICES NOT SHOWN ON THESE DRAWINGS.

2.11. IF EXISTING OR PROPOSED HYDRANTS OR VALVES ARE FOUND TO BE WITHIN AN AREA OF CONCRETE, THE SURROUND IS TO BE SET IN THE CONCRETE WITH A COMPRESSIBLE LAYER BETWEEN IT AND THE NEW CONCRETE TO ALLOW REMOVAL FOR MAINTENANCE. ALL COVER BOXES AND SURROUNDS ARE TO BE REPLACED AT NEW LEVELS IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL AND STD DWGS S2000 & S2005.

2.12. A FIRE HYDRANT LOCATION MARKER (PAINTED TEARDROP) AND BLUE RETRO-REFLECTIVE ROAD MARKER SHALL BE INSTALLED IN ACCORDANCE WITH FNQROC STD DWG S2005 AT EACH HYDRANT INSTALLATION LOCATION.

2.13. 80mm CONDUITS ARE TO BE SUPPLIED AND INSTALLED UNDER CONCRETE FOOTPATHS FOR THE PURPOSE OF FUTURE WATER SERVICE CONNECTIONS. THE CONDUIT SHALL BE LOCATED ON THE OPPOSITE BOUNDARY TO THE ELECTRICAL PILLAR BOX.

3. SAFETY IN DESIGN NOTES:

3.1. POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE THAT IDENTIFIED WITH APPROPRIATE NOTES ON THESE DRAWINGS. IT SHOULD BE NOTED THAT DESIGNERS HAVE A LOWER LEVEL OF UNDERSTANDING OF THE RISKS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT CONTRACTOR. IT IS THEREFORE ESSENTIAL THAT AN ADEQUATE SAFETY PLAN IS PREPARED BY THE CONTRACTOR FOR THE WORKS. THE DESIGNERS MAY NOT BE AWARE OF ALL SAFETY RISKS AND HAZARDS INVOLVED IN THIS PROJECT AND THE ABSENCE OF COMMENT DOES NOT IMPLY THAT THERE ARE NO RISKS OR HAZARDS INVOLVED IN THIS PROJECT.

3.2. THE CONTRACTOR SHALL COMPLETE AND WILL SOLELY BE RESPONSIBLE FOR THE IMPLEMENTATION OF ANY NECESSARY SAFETY PLANS TO COMPLETE THE WORKS.

3.3. THE CONTRACTOR MUST COMPLY WITH ANY GUIDELINE ACTS OR CODE OF PRACTICE AND OTHER RELEVANT DOCUMENTS REGARDING SAFE WORK PRACTICES.

3.4. THE CONTRACTOR WILL HAVE A NOMINATED WH&S OFFICER FOR THE DURATION OF THE CONTRACT. THE WH&S OFFICER WILL BE RESPONSIBLE FOR ALL THE WH&S ISSUES ON THE SITE.

3.5. ALL PERSONS ENTERING THE SITE SHALL COMPLETE A SAFETY INDUCTION WITH THE NOMINATED WH&S OFFICER. THIS IS TO INCLUDE REFERENCE TO SAFETY IN DESIGN ISSUES RELEVANT TO THE PROJECT.

3.6. ALL CONSTRUCTION UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE WORKPLACE HEALTH AND SAFETY ACT.

3.7. ALL BUILDING SITE MANAGERS MUST TAKE ALL ACTION NECESSARY TO ENSURE BUILDING MATERIAL AND/OR MACHINERY ON CONSTRUCTION SITES ARE SECURED IMMEDIATELY FOLLOWING THE FIRST CYCLONE WATCH AND THAT RELEVANT EMERGENCY TELEPHONE CONTACTS ARE PROVIDED TO COUNCIL OFFICERS, PRIOR TO COMMENCEMENT OF WORKS.

3.8. EXCAVATIONS WORKS CARRIED OUT BY CONTRACTORS AT DEPTH OF 1.5m OR GREATER MUST PROVIDE A "SAFE WORK PLAN" AS PER WORKPLACE HEALTH AND SAFETY LEGISLATION PRIOR TO COMMENCING ANY WORK.

3.9. FLOOD IMMUNITY — AHD HEIGHT PINS
THE APPLICANT/DEVELOPER IS TO INSTALL FOUR (4) EVENLY SPACED, EASILY IDENTIFIABLE AND CLEARLY LABELLED PERMANENT AHD HEIGHT PINS IN THE NEW ROAD KERBING IN ACCORDANCE WITH CONDITION 3.8 OF THE DECISION NOTICE (RAL/25/0017). HEIGHT PINS ARE REQUIRED TO AID IN DETERMINING COMPLIANT FINISHED FLOOR HEIGHTS FOR FUTURE DWELLING CONSTRUCTION.
FLOOD IMMUNITY REQUIREMENTS ARE AS FOLLOWS:

LOTS 1–5 AND 8–12: MINIMUM HABITABLE FINISHED FLOOR LEVEL = RL 395.35m AHD
LOTS 6 AND 7: MINIMUM HABITABLE FINISHED FLOOR LEVEL = RL 395.38m AHD

NON-HABITABLE STRUCTURES MAY BE CONSTRUCTED AT GROUND LEVEL.
NOTE: THE ABOVE FLOOD IMMUNITY LEVELS SHALL BE NOTED ON THE ENGINEERING DRAWINGS FOR THE INFORMATION OF FUTURE BUILDING CERTIFIERS.

4. GENERAL SERVICES:

4.1. ELECTRICAL AND COMMUNICATIONS CONDUIT LOCATIONS ARE SHOWN FOR INFORMATION ONLY. FOR EXACT LOCATIONS REFER TO ELECTRICAL CONSULTANTS LAYOUT PLANS. FOR WATER CONDUIT LOCATIONS REFER WATER RETICULATION DRAWINGS.

4.2. ALL CONDUITS ARE TO HAVE BRASS CONDUIT MARKERS INSTALLED IN THE KERB AND CHANNEL FOR THE APPROPRIATE SERVICE.

4.3. SERVICE AUTHORITY INFRASTRUCTURE ADJUSTMENTS ARE TO BE PERFORMED BY AUTHORIZED CONTRACTORS APPROVED BY THE RELEVANT SERVICE AUTHORITY.

5. EARTHWORKS NOTES

5.1. GENERAL

5.1.1. BULK EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE FNQROC SPECIFICATION 'S1 EARTHWORKS' AND THE REQUIREMENTS OF AS3798-2007.

5.1.2. REFER TO PAVEMENT INVESTIGATION & DESIGN, 25018AA-D-R01, DATED 27 MARCH 2025, PROVIDED BY GEO DESIGN FOR ALL LABORATORY TEST RESULTS AND FURTHER INFORMATION.

5.1.3. NOT WITHSTANDING THE LIMITS OF EARTHWORKS SHOWN ON THE DRAWINGS, THE ACTUAL LIMIT SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT DURING CONSTRUCTION.

5.1.4. FINISHED SURFACE LEVELS FOR ALLOTMENTS MAY BE ADJUSTED BY A WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION WITH PRIOR APPROVAL FROM THE LOCAL AUTHORITY;

5.1.5. ALL EARTHWORKS QUANTITIES ARE NETT VOLUMES. CONTRACTOR TO MAKE ALLOWANCE FOR BULKING AND COMPACTION'

5.1.6. ADDITIONAL DETAILED TRIMMING WILL BE REQUIRED TO ACHIEVE FINISHED SURFACE LEVELS AND TO ACCOMMODATE LANDSCAPING WORKS.

5.1.7. GEOTECHNICAL SUPERVISION OF EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION BY A N.A.T.A. REGISTERED GEOTECHNICAL TESTING AUTHORITY AT THE CONTRACTORS COST.

5.1.8. THE CONTRACTOR SHALL PROVIDE DETAILS OF ALL TESTING TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS AND NOTIFY THE ENGINEER OF ANY NON-CONFORMANCES.

5.1.9. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.

5.1.10. CONTRACTOR SHALL (IF IN DOUBT) DURING EARTHWORK OPERATION DIRECT CONCERN TO THE SUPERINTENDENT WHO SHALL SEEK ADVICE FROM THE GEOTECHNICAL CONSULTANT.

5.1.11. EARTHWORKS SHALL BE CARRIED OUT TO THE FINISHED SURFACE LEVELS SHOWN. CUT AND FILL BATTERS ARE NOT TO EXCEED 1 IN 4 SLOPE UNLESS INDICATED OTHERWISE. TRANSFORMER SITE CROSSFALL MAXIMUM OF 300mm. WHERE REQUIRED, BATTERS OF 1 IN 4 TO BE USED TO TIE BACK TO FSL.

5.1.12. THE CONTRACTOR SHALL INFORM THE LOCAL AUTHORITY, AND ALL RELEVANT SERVICE PROVIDERS AND THE SUPERINTENDENT OF THE START DATE PRIOR TO COMMENCEMENT OF WORKS;

5.1.13. ALL EARTHWORKS TESTING TO BE SUPERVISED TO LEVEL 1. FREQUENCY OF FIELD DENSITY TESTING TO BE TYPE 1 IN ACCORDANCE WITH TABLE 8.1 OF AS 3798-2017;

5.2. FILLING AND COMPACTION

5.2.1. FILLING IS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND AS3798-2017, APPENDIX B, LEVEL 1 & AS DIRECTED BY COFFEY TESTING GEOTECHNICAL INVESTIGATION REPORT.

5.2.2. ALL FILL UNDER ROADS SHALL BE COMPACTED TO 100% STANDARD COMPACTION;

5.2.3. FILLING ON ROAD EMBANKMENT TO BE COMPACTED TO 95% STANDARD DRY DENSITY AS1289 5.1.1 - 2017 AND TRIMMED TO BE FREE DRAINING. ALL ROAD EMBANKMENT FILL SHALL BE SUPERVISED BY A QUALIFIED GEOTECHNICAL ENGINEER TO LEVEL 1 REQUIREMENTS IN ACCORDANCE WITH THE AS.3798-2007.

5.2.4. PLACE FILL IN LAYERS OF LOOSE AGGREGATES OR GRANULAR MATERIAL THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 200mm. COMPACT EACH FILLING LAYER TO THE MINIMUM DRY DENSITY SPECIFIED. THE MOISTURE CONTENT OF FILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF -1% TO +2% OF THE OPTIMUM MOISTURE CONTENT.

5.2.5. FILLING MATERIAL AS REQUIRED TO COMPLETE THE WORKS SHALL BE SOURCED FROM MATERIAL EXCAVATED FROM SITE OR IMPORTED FROM A SUITABLY APPROVED SUPPLIER. ALL FILLING MATERIAL MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO ITS INCORPORATION INTO THE WORKS.

5.2.6. FILL SHALL BE PLACED AND COMPACTED TO THE FOLLOWING STANDARDS:

a. COHESIVE MATERIALS: ALLOTMENT FILL SHALL ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R.) OF 98% STANDARD. COMMERCIAL ALLOTMENT FILL SHALL ACHIEVE A 98% STANDARD.ROAD EMBANKMENTS SHALL ACHIEVE THE FOLLOWING MINIMUM STANDARDS.

-- GREATER THAN OR EQUAL TO 0.3m BELOW PAVEMENT SUBGRADE: 95% STD. M.D.D.R.

-- LESS THAN 0.3m BELOW PAVEMENT SUBGRADE: 100% STD. M.D.D.R.

-- NON COHESIVE MATERIALS:- FILL SHALL ACHIEVE A MINIMUM DENSITY INDEX RATIO OF 75%.

5.1. STRIPPING, STOCKPILE AND TOPSOIL

5.1.1. PRIOR TO THE COMMENCEMENT OF FILLING THE SITE IS TO BE STRIPPED - DEPTH TO BE NOTED & CONFIRMED BY CONTRACTOR. PLACEMENT OF FILL ON PREPARED AREAS SHALL NOT COMMENCE UNTIL AUTHORISED BY A LEVEL 1 GEOTECHNICAL ENGINEER. EARTHWORKS SPOIL IS TO BE STOCKPILED AS DIRECTED BY THE SUPERINTENDENT;

5.1.2. ALL VERGES AND PUBLIC OPEN SPACES AREAS CLEARED OF VEGETATION MUST BE COVERED FOR THE FULL WIDTH WITH TOPSOIL IN ACCORDANCE WITH AS 4419:2018 SOIL FOR LANDSCAPING AND GARDEN USE, TO A DEPTH OF NOT LESS THAN 40mm, LIGHTLY COMPACTED AND GRASSED IN ACCORDANCE WITH THE FNQROC DEVELOPMENT MANUAL AT THE WORK ACCEPTANCE AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL WORK ACCEPTANCE.

5.1.3. SILT FENCING IS TO BE PLACED ON THE DOWNSTREAM SIDE OF ALL STOCKPILE SITES AND AN ADEQUATE CUTOFF DRAINS ARE TO BE PLACED ON THE UPSTREAM SIDE OF ALL STOCKPILE SITES;

5.2. PROTECTION DURING WORKS

5.2.1. ALL EXPOSED SURFACES APART FROM SWALE DRAINS ARE TO BE GRASS SEEDED AS A SEDIMENT AND EROSION CONTROL MEASURE.

5.2.2. ALL OPEN DRAINS ARE TO BE TURFED AS SOON AS PRACTICAL, AFTER THE OPEN DRAIN IS COMPLETED.

5.2.3. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THE SITE AND SURROUNDING AREAS FROM DAMAGE RESULTING FROM STORMWATER RUNOFF. TEMPORARY DIVERSION DRAINS AND OR OTHER DRAINAGE CONTROL DEVICES ARE TO BE IMPLEMENTED BY THE CONTRACTOR DURING CONSTRUCTION TO MINIMISE THE EFFECTS OF WEATHER. NO EXTENSIONS OF TIME WILL BE GRANTED SHOULD DAMAGE TO THE WORKS AND SURROUNDING AREAS RESULT FROM THE CONTRACTOR'S NEGLIGENCE IN NOT PROVIDING ADEQUATE PROTECTION.

5.2.4. ALL AREAS ARE TO BE FREE DRAINING.

5.2.5. BATTER SLOPES TO BE 1 IN 4 MAX UNLESS SPECIFIED OTHERWISE;

5.2.6. SETOUT OF EARTHWORKS IS TO THE CORNER OF LOTS, DRIVEWAY AND BATTERS AS SHOWN;

5.2.7. ALL ALLOTMENTS DISTURBED DURING EARTHWORKS ARE TO BE HYDROMULCHED

5.3. GRASSING

5.3.1. TURF STRIPS TO BE PROVIDED TO BACK OF KERB ON EACH SIDE OF FOOTPATHS.

6. ROADWORKS

6.1. GENERAL:

6.1.1. FOR DETAILS OF CONCRETE PATHWAYS, REFER LOCAL AUTHORITY STANDARD DRAWING.

6.1.2. WARNING AND DIRECTIONAL TACTILE GROUND SURFACE INDICATORS (TGSI'S) SHALL CONFORM WITH AS/NZS 1428.4

6.2. KERB \ KERB AND CHANNEL NOTES AND SET-OUT

6.2.1. ALL KERB RADII SHOWN ARE TO LIP LINE.

6.2.2. ALL LEVELS SHOWN REFER TO: LIP OF KERB AND CHANNEL - EDGE OF BITUMEN

6.2.3. SUBSOIL DRAINS TO BE PROVIDED UNDER ALL KERB AND CHANNEL AND KERB ONLY.

6.2.4. WHERE DIFFERENT KERB TYPES MEET, TRANSITION TO BE TAKEN OUT OVER 1.0m (MIN).

6.2.5. FOR RESIDENTIAL AND COMMERCIAL DRIVEWAY CROSSOVERS, REFER TO FNQROC STANDARD DRAWINGS S1015.

6.2.6. FOR DETAILS OF KERBS AND CHANNELS REFER TO FNQROC STANDARD DRAWING S1000.

6.2.7. ALL ALLOTMENTS TO BE PROVIDED TWO POWDER COATED ALUMINIUM KERB ADAPTORS, ONE ON EACH COMMON BOUNDARY OFFSET 0.5m AND IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING. RS-081.

6.2.8. ALL KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS.

6.2.9. THE CONTRACTOR SHALL ENSURE THAT ALL KERB AND CHANNEL GRADES SHALL NOT FALL BELOW 0.5% AT ANY POINT IRRESPECTIVE OF ROAD CENTRE LINE GRADING SHOWN ON LONGITUDINAL SECTIONS.

6.2.10. WHERE NEW KERB AND CHANNEL AND/OR AC MEET EXISTING SURFACES THE CONTRACTOR SHALL VERIFY THE LEVELS WITH THE SUPERINTENDENT.

6.2.11. SUBSOIL DRAINAGE SHALL BE CONTINUOUS WITH ADJOINING KERB AND CHANNEL WHERE CONCRETE INVERT IS CONSTRUCTED. REFER FNQROC STANDARD DRAWING S1095. FOR KERB / KERB AND CHANNEL SETOUT REFER BELOW.

6.3. THE NEW INTERNAL ROAD SHALL BE DESIGNED AND CONSTRUCTED TO ACCESS STREET STANDARD IN ACCORDANCE WITH TABLE D1.1 OF THE FNQROC DEVELOPMENT MANUAL (AS AMENDED) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER.

6.4. THE INTERSECTION OF THE NEW INTERNAL ROAD WITH MCGRATH ROAD SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FNQROC DEVELOPMENT MANUAL (AS AMENDED) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER.

6.5. ANY TEMPORARY TURN-AROUND AREAS AT THE ENDS OF SEMI-CONSTRUCTED ROADS SHALL INCLUDE A SEALED CUL-DE-SAC HEAD (KERBING NOT REQUIRED) OF SUFFICIENT SIZE TO ALLOW A STANDARD GARBAGE TRUCK TO COMPLETE A TURN-AROUND MANOEUVRE.

6.6. LOT 7 ACCESS HANDLE — A SEALED (ASPHALT OR CONCRETE) DRIVEWAY SHALL BE CONSTRUCTED WITHIN THE ACCESS HANDLE OF LOT 7 FOR ITS FULL LENGTH WITH A MINIMUM FORMATION WIDTH OF 3.0m. THE DRIVEWAY SHALL BE FORMED WITH ONE-WAY CROSSFALL TO CONTAIN STORMWATER RUNOFF WITHIN THE ACCESS HANDLE. SERVICE AND UTILITY CONDUITS SHALL BE PROVIDED FOR THE FULL LENGTH OF THE SEALED DRIVEWAY WITHIN THE ACCESS HANDLE IN ACCORDANCE WITH CONDITION 4.1(B) OF THE DECISION NOTICE (RAL/25/0017).

7. PAVEMENT

7.1. THE CONTRACTOR SHALL INITIALLY EXCAVATE THE PAVEMENT BOX TO THE FOLLOWING DEPTHS:

- IN CUT AREAS - FNQROC MINIMUM BOX PAVEMENT BOX DEPTH
- IN FILL AREAS - PROPOSED PAVEMENT DESIGN BOX DEPTH

7.1. FOLLOWING THE COMPLETION OF EXCAVATION THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT WHO SHALL CONFIRM THE PAVEMENT THICKNESS TO BE CONSTRUCTED FOLLOWING JOINT INSPECTION AND APPROVAL FROM LOCAL AUTHORITY INSPECTOR.

7.2. REFER PAVEMENT DRAWING FOR TYPES. FINAL MAKE UP TO BE DETERMINED BY THE SUPERINTENDENT

7.3. FINAL PAVEMENT DEPTHS AND MATERIAL TYPES SHALL BE DETERMINED BY THE SUPERINTENDENT AFTER EXISTING SUB-GRADE TESTING IS COMPLETED BY THE CONTRACTOR.

7.4. PAVEMENT MATERIALS SHALL BE PER FNQROC SPECIFICATION 'S2 ROAD PAVEMENTS'.

7.5. ALL NEW LINE MARKING WORK MUST BE A TWO-COAT APPLICATION OF WATERBORNE PAINT/REFLECTIVE LINE MARKING,

8. STORMWATER NOTES

8.1. GENERAL

8.1.1. STORMWATER STRUCTURES AND CONNECTIONS ARE TO BE LOCATED AS INDICATED ON THE PLAN. ADJUSTMENTS TO THE DESIGN LAYOUT WHERE REQUIRED TO SUIT ACTUAL AS-CONSTRUCTED GEOMETRY SHALL REQUIRE THE ENGINEERS APPROVAL.

8.2. STRUCTURES

8.2.1. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL STANDARDS.

8.2.2. ALL GULLIES ARE TO BE LIP IN LINE GRATED GULLY UNLESS SHOWN OTHERWISE. REFER FNQROC STANDARD DRAWINGS FOR DETAILS.

8.2.3. ALL DRAINAGE STRUCTURES WITHIN ROAD RESERVE AND FRONT OF LOTS TO HAVE AS3996-2019, CLASS D (TRAFFICABLE) COVERS / GRATES & FRAMES UNLESS NOTED OTHERWISE.

8.2.4. FOR STORMWATER PIT SETOUT LOCATIONS REFER BELOW.

8.2.5. FINAL PIT LOCATION AND ORIENTATION TO BE CONFIRMED ON SITE BY THE SUPERINTENDENT.

8.3. PIPES

8.3.1. ALL REINFORCED CONCRETE PIPES TO COMPLY WITH AS 4058-2007 AND AS 4139-2003.

8.3.2. ALL REINFORCED CONCRETE BOX CULVERTS AND LINK SLABS TO COMPLY WITH AS 1597.1-2010 AND AS 1597.2.2-2013.

8.3.3. ALL REINFORCED CONCRETE PIPES UP TO 600mm NOMINAL DIAMETER ARE TO BE RCP CLASS 3 - OVER 600mm NOMINAL DIAMETER ARE TO BE RCP CLASS 2 UNLESS NOTED OTHERWISE.

8.3.4. PIPES SHALL BE BEDDED IN ACCORDANCE WITH AS3725 - 2007, THE MINIMUM PIPE SUPPORT TYPE SHALL BE HS2 WITHIN ROAD RESERVES AND H1 ELSEWHERE.

8.3.5. uPVC PIPES SHALL BE CLASS SN8 UNLESS NOTED OTHERWISE.

8.3.6. WHERE ROOFWATER DRAINS AND SEWER MAINS ARE TO BE CONSTRUCTED PARALLEL TO EACH OTHER, THE ROOFWATER DRAINAGE CONNECTION SHALL EXTEND 1.00 BEYOND THE SEWER MAIN.

8.3.7. MINIMUM COVER TO ROOFWATER PIPES TO BE 450mm EXCEPT WHERE LESS COVER IS NECESSARY TO DISCHARGE TO STREET KERB AND CHANNEL.

8.3.8. ROOFWATER DRAINAGE SYSTEMS SHALL DISCHARGED INTO A GULLY OR STORMWATER MANHOLE WHEREVER POSSIBLE.

8.4. TRENCHES

8.4.1. THE WIDTH OF TRENCHING EXCAVATION SHALL BE IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1045 AND S1046 AT THE TRENCH BASE AND COMPLY WITH ALL REGULATIONS OF WORKPLACE HEALTH AND SAFETY ACT.

8.4.2. ALL TRENCHES SHALL BE BACKFILLED IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 150mm.

8.5. SCOUR PROTECTION

8.5.1. ROCK PROTECTION TO BE PROVIDED AROUND THE HEADWALL, WINGWALLS AND APRON AND WHERE APPLICABLE ABOVE THE HEADWALL WHERE THE HEADWALL IS LOCATED WITHIN AN OVERLAND FLOW PATH.

8.5.2. GEOTEXTILE TO BE CONSTRUCTED OUT OF WATER PERMEABLE MATERIAL USUALLY SYNTHETIC MATERIAL SUCH AS POLYPROPYLENE. TO BE USED AS PART OF EROSION AND SEDIMENT CONTROL METHOD IN CONSTRUCTION AND STORMWATER MANAGEMENT SITUATIONS TO TRAP OR PREVENT CLOGGING OF AGGREGATES BY SOIL/CLAY/SILT PARTICLES.

8.5.3. GEOTEXTILE MUST BE OF SUFFICIENT STRENGTH/DURABILITY TO WITHSTAND BREAKAGE FROM WATER FLOW, SEDIMENT BUILDUP, AND EXPOSURE TO SUNLIGHT.

8.5.4. CONSULT WITH MANUFACTURER OF GEOTEXTILE TO VERIFY THAT IT CAN PERFORM THE FUNCTION THAT IS REQUIRED OF IT.

8.5.5. IF SLOPE OF CHANNEL / TABLE DRAIN IS BETWEEN 1:1 AND 1:10 , EXCAVATE OUT TO A DEPTH OF 300mm WHERE THE ROCK CHECK DAMS ARE GOING TO BE EMBEDDED.

8.5.6. LAY DOWN GEOTEXTILE OVER THE WHOLE AREA THE ROCK CHECK DAMS IS TO BE CONSTRUCTED UPON.

8.6. POLYPROPYLENE STORMWATER PIPING IS NOT PERMITTED ON SITE IN ACCORDANCE WITH CONDITION 4.2(H) OF THE DECISION NOTICE (RAL/25/0017).

8.7. PRIOR TO THE DEVELOPMENT BEING TAKEN OFF MAINTENANCE, ALL STORMWATER LINES AND SUBMIT THE RECORDING TO COUNCIL'S DELEGATED OFFICER FOR INSPECTION TO CONFIRM NO DEFECTS HAVE OCCURRED DURING THE 12-MONTH MAINTENANCE PERIOD. REFER CONDITION 4.2(I) OF THE DECISION NOTICE (RAL/25/0017).

8.8. ALL STORMWATER CHANNELS TRAVERSING PRIVATE PROPERTY SHALL BE REGISTERED WITH AN EASEMENT FOR DRAINAGE PURPOSES IN FAVOUR OF COUNCIL. ALL EASEMENT DOCUMENTATION SHALL BE COMPLETED AT NO COST TO COUNCIL. ALL DRAINAGE EASEMENTS SHALL BE CONSTRUCTED TO PREVENT EROSION, WITH CONSTRUCTION IN THE FORM OF A CONCRETE INVERT WITH OUTLET PROTECTION WHERE REQUIRED. REFER CONDITION 4.2(G) AND 4.2(J) OF THE DECISION NOTICE (RAL/25/0017).

8.9. TEMPORARY DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PHASE, DISCHARGED TO A LAWFUL POINT AND NOT ONTO THE CONSTRUCTION SITE. REFER CONDITION 4.2(F) OF THE DECISION NOTICE (RAL/25/0017).

9. OPEN DRAINS

9.1. SWALE DRAINS ARE TO BE GRADED EVENLY BETWEEN INVERT LEVELS PROVIDED

9.2. UNLESS NOTED OTHERWISE, DRAINS SHALL BE TURFED.

10. COMPACTION

10.1. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TECHNIQUES OVER ALL STORMWATER PIPES TO BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS;

10.2. FOR COMPACTION FILL DEPTHS OVER PIPES REFER TO TABLE B1 AS/NZS 3275:2007

10.3. BACKFILL MATERIAL TYPE AND COMPACTION SHALL BE IN ACCORDANCE WITH FNQROC STD DRAWINGS S1045B AND S1046B.

10.4. MINIMUM FILL OVER PIPE INCLUDES MATERIAL BEING COMPACTED, AS MEASURED AFTER COMPACTION.

10.5. THE BEDDING SUPPORT TYPE CHOSEN HAS LITTLE OR NO EFFECT ON THE CLASS OF THE PIPE FOR LOW FILLS AND HIGH TRAFFIC LOADS.

10.6. ANY AREAS WHERE WATER MAINS OR SEWER MAINS ARE CONSTRUCTED IN FILL MATERIAL THE COMPACTION OF THE FILLED AREA IS TO HAVE MINIMUM LEVEL 2 SUPERVISION IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND VERIFICATION OF THE COMPACTION INCLUDED IN THE ITP.

11. CONCRETE NOTES:

11.1. NON-VEHICULAR PATHS ONLY, MAY USE DANLEY 'EXPANDA' JOINT SYSTEMS.

11.2. GRANULAR SUB-BASE UNDER CONCRETE TO BE CRUSHED ROCK, ROADBASE OR APPROVED ALTERNATIVE (CBR15 MIN.) FOR VEHICLE PAVEMENTS. 'CRUSHER DUST' TO BE USED UNDER PATHS AND NON TRAFFICABLE CONCRETE.

11.3. GRANULAR SUB-BASE SHALL BE COMPACTED AS SPECIFIED, TO A UNIFORMLY SMOOTH, FLAT SURFACE TO THE SATISFACTION OF THE SUPERINTENDENT PRIOR TO CONCRETE PLACEMENT.

11.4. ALL SERVICE COVERS WITHIN SHARED / BICYCLE PAVEMENTS TO BE INFILL TYPE, WHERE POSSIBLE, TO MINIMISE SLIP HAZARD

11.5. FIXED INTERNAL PENETRATIONS AND EDGES ABUTTING STRUCTURES TO BE ISOLATED WITH A 10mm FLEXIBLE (ABLEFLEX) JOINT. VALVE COVERS AND OTHER 'FLOATING' SERVICES MAY BE CAST DIRECTLY INTO THE SLAB.

11.6. ALL INTERNAL CORNERS AND PENETRATIONS REQUIRE 2X PARALLEL N12 TRIMMERS (900mm LONG) ACROSS EACH CORNER TO CONTROL CRACKING, UNLESS ALIGNED WITH AN APPROPRIATE FORMED OR INDUCED JOINT.

11.7. FOR SLABS ≤100mm THICK, SUFFICIENT COMPACTION IS ACHIEVED THOUGH SCREENING PROCESS. FOR >100mm THICK AN IMMERSION VIBRATOR MUST BE USED TO ADEQUATELY DISPEL ENTRAINED AIR

11.8. SURFACE SHALL BE TREATED WITH A MOISTURE EVAPORATION RETARDANT (ALIPHATIC ALCOHOL) AFTER SCREEDING AND PRIOR TO FLOATING.

11.9. AN ADDITIONAL CURING COMPOUND MUST BE APPLIED OVER FINISHED WORKS. THE PRODUCT MUST BE APPROPRIATE FOR THE NOMINATED ARCHITECTURAL FINISH AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

11.10. LMC SUB-BASE TO BE CURED BY THE APPLICATION OF A WAX EMULSION HYDROCARBON RESIN.

11.11. CONCRETE CUTTING SHALL BE UNDERTAKEN WITHIN 8 HOURS OF PLACEMENT. A SOFF-CUT SAW IS RECOMMENDED TO ENSURE CORRECT DEPTH OF CUTS, MINIMISE SPALLING THAT ARISES AND PERMIT CUTTING WITHIN THE APPROPRIATE TIME.

11.12. FINISHED SURFACE SHALL NOT BE TRAFFICKED EARLIER THAN 10 DAYS AFTER PLACEMENT.

11.13. BEFORE STARTING THE CONSTRUCTION OF THE CONCRETE PATHWAYS, ENSURE THE BEDDING COMPLIES WITH A MINIMUM STANDARD OF DENSITY, AND THE COMPACTED MATERIALS MEET THE SPECIFIED REQUIREMENTS IN TERMS OF SHEAR STRENGTH, STIFFNESS, PERMEABILITY, AND DEFORMATION RESISTANCE, REFER TO TECHNICAL SPECIFICATION.

11.14. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 3 DAYS OR BY PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF SEVEN DAYS FOLLOWED BY A GRADUAL DRYING OUT.

12. SITE ACCESS

12.1. CONSTRUCTION VEHICLES SHALL ACCESS THE SITE FROM McGRATH ROAD CONTRACTOR TO CONSTRUCT AND MAINTAIN ACCESS AS REQUIRED DURING CONSTRUCTION AND REINSTATE THE VERGE FOLLOWING COMPLETION OF WORKS.

13. WATER SUPPLY

13.1. A RETICULATED WATER SERVICE CONNECTION SHALL BE PROVIDED TO EACH PROPOSED LOT IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL STANDARDS TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER. REFER CONDITION 4.5(A) OF THE DECISION NOTICE (RAL/25/0017).

13.2. WHERE THE EXISTING RETICULATED WATER SUPPLY DOES NOT CURRENTLY SERVICE THE SITE OR IS NOT OF ADEQUATE CAPACITY, THE DEVELOPER SHALL EXTEND OR UPGRADE THE RETICULATED WATER SUPPLY INFRASTRUCTURE TO CONNECT THE SITE TO COUNCIL'S EXISTING NETWORK AT A POINT OF SUFFICIENT CAPACITY, IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL STANDARDS. REFER CONDITION 4.5(B) OF THE DECISION NOTICE (RAL/25/0017).

14. SEWER (ON-SITE SYSTEM)

14.1. NO RETICULATED SEWERAGE INFRASTRUCTURE IS TO BE CONSTRUCTED AS PART OF THESE OPERATIONAL WORKS. ALL SEWERAGE DISPOSAL FOR ALL LOTS IS TO BE VIA ON-SITE SYSTEMS, WHICH ARE TO BE DESIGNED AND INSTALLED BY THE RESPECTIVE LOT PURCHASER AT THE TIME OF DWELLING CONSTRUCTION DURING THE BUILDING APPROVAL PHASE, IN ACCORDANCE WITH AS/NZS 1547 AND TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER.

14.2. AT THE TIME OF CONSTRUCTION OF A FUTURE DWELLING OR OUTBUILDING ON PROPOSED LOTS 1, 5 AND 7–11, ANY ASSOCIATED ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION OF THE ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZS 1547) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER. REFER CONDITION 4.6(A) OF THE DECISION NOTICE (RAL/25/0017).

14.3. AT THE TIME OF CONSTRUCTION OF A FUTURE DWELLING OR OUTBUILDING ON PROPOSED LOTS 2–4, ANY ASSOCIATED ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION OF THE ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZS 1547) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BE CONSTRUCTED AT THE FRONT OF EACH LOT. NOTE: A NOTATION WILL BE PLACED ON THE RATES RECORD FOR LOTS 2–4 ADVISING PROSPECTIVE LANDOWNERS OF THIS REQUIREMENT. REFER CONDITION 4.6(B) OF THE DECISION NOTICE (RAL/25/0017).

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

DRAWING NOT TO SCALE

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONSTRUCTION NOTES

LOT 21 & 22 ON SP320487
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: **LU23111-CD-101**
REV: **A**

EROSION AND SEDIMENT CONTROL PLANS

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (ERSED) PLANS SHALL BE DEVELOPED AND IMPLEMENTED AS REQUIRED BY THE SITE SUPERVISOR BASED ON THIS PLAN AND FOLLOWING PRINCIPLES AND STANDARD SITE CONTROL MEASURES.

1. MINIMISE EXTENT AND DURATION OF DISTURBANCE

1.1. CONSTRUCTION WORKS TO BE MANAGED SUCH THAT AREAS OUTSIDE SCOPE OF WORKS REMAIN UNDISTURBED WHERE POSSIBLE.
1.2. MINIMISE EXTENT OF DISTURBANCE WITHIN CONSTRUCTION SITE AT ANY ONE TIME BY STAGING THE WORKS (EG. RIP EXISTING BITUMEN IN SECTIONS, MOVING ON TO NEW SECTIONS FOLLOWING COMPLETION OF PREVIOUS STAGE).
1.3. MINIMISE DISTURBANCE OF VEGETATION ALONG THE ROAD VERGE WITH SPECIAL EMPHASIS ON MANAGEMENT OF CONSTRUCTION ACTIVITIES ADJACENT TO TO WATERCOURSES (E.G. MAINTAIN GRASSY BUFFER WHERE POSSIBLE).

2. CONTROL STORMWATER FLOWS ONTO, THROUGH AND FROM THE SITE

2.1. SEPARATE 'CLEAN' RUN-ON WATER FROM 'DIRTY' (E.G. TURBID) CONSTRUCTION AREA RUNOFF (MAINTAIN CLEAN WATER PASSAGE THROUGH CULVERT CROSSING THROUGHOUT CONSTRUCTION WORKS).
2.2. CONSTRUCT PERMANENT DRAINAGE STRUCTURES EARLY IN THE PROJECT INCLUDING:
2.2.1. KERB ON DOWN SLOPE SIDE OF ROAD
2.2.2. CULVERTS, HEADWALLS AND ASSOCIATED INLET AND OUTLET PROTECTION (E.G. DISSIPATERS)
2.3. MAXIMISE THE SHEET FLOW OF TURBID CONSTRUCTION RUNOFF INTO EXISTING SPOON DRAIN (ON UP SLOPE SIDE OF ROAD) BY MAINTAINING IN-FALL DRAINAGE WHERE POSSIBLE AND INTO NEW GUTTERS AS CONSTRUCTED.

3. USE EROSION CONTROL MEASURES TO PREVENT ON-SITE DAMAGE

3.1. THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
3.2. SITE STOCKPILES OF SOIL MATERIAL IN LOW-HAZARD AREAS CLEAR OF WATERCOURSES. ADDITIONAL PROTECTION TO BE AFFORDED WITH TEMPORARY VEGETATION, DIVERSION BANKS AND SEDIMENT CONTROL MEASURES, IF REQUIRED. SEED STOCKPILES WITH ANNUAL GRASS IF THEY ARE TO BE STORED LONGER THAN 10 DAYS.
3.3. CONSTRUCT A RANGE OF EROSION CONTROLS WITHIN THE VARIOUS ROAD SUB-CATCHMENTS TO COMPLEMENT AND INCREASE THE EFFECTIVENESS AND EFFICIENCY OF SEDIMENT CONTROLS IN THE LOWER AREAS.

4. USE SEDIMENT CONTROL MEASURES TO PREVENT OFF-SITE DAMAGE

4.1. THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
4.2. CONSTRUCT CONTROL MEASURES AS CLOSE TO THE POTENTIAL SOURCE OF SEDIMENT AS POSSIBLE.
4.3. CONTROL THE DEPOSITION OF MUD AND SOIL MATERIAL ONTO LOCAL ROADS.

5. STABILISE DISTURBED AREAS QUICKLY

5.1. ALL BATTER STABILISATION AND REINSTATEMENT WORKS ADJACENT TO NEW CONSTRUCTION SHALL BE CARRIED OUT AS SOON AS POSSIBLE AFTER COMPLETION OF CONSTRUCTION WORKS.
5.2. ALL DISTURBED VERGES AND FILL BATTERS TO BE STABILISED BY REVEGETATING WITH APPROPRIATE SPECIES (E.G. ANNUAL GRASS SEED SUCH AS ANNUAL RYEGRASSS OR JAPANESE MILLET, OR TURF) AS SOON AS PRACTICAL AFTER REINSTATEMENT.
5.3. THE USE OF IMPORTED QUALITY TOPSOIL TO A.S.4419 TO BE OF A SANDY LOAM, FREE FROM NUT GRASS
5.4. ENSURE THE SUCCESS OF THE LATER REVEGETATION PROGRAM BY UTILISING A GOOD TOPSOIL MANAGEMENT PROGRAM.
5.5. CONTROL DUST THROUGH PROGRESSIVE REVEGETATION TECHNIQUES, WATER TANKERS ETC.

6. INSPECT AND MAINTAIN CONTROL MEASURES

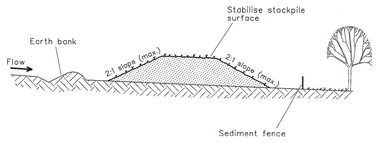
6.1. ENSURE THE PROGRESSIVE AND CONTINUAL IMPLEMENTATION AND MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROLS (E.G. SEDIMENT FENCES, DIVERSION BANKS, DIVERSION DRAINS, SEDIMENT TRAPS).
6.2. INITIATE A PROGRAM TO ENSURE REGULAR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. SEDIMENT CLEANED FROM STRUCTURES (E.G. SCRAPE AWAY ACCUMULATED SEDIMENT UPSTREAM OF CHECK DAMS AND REPLACE/REPAIR AS NECESSARY) TO MAINTAIN FUNCTIONALITY.
6.3. ARRANGE REGULAR INSPECTIONS BY AN ENVIRONMENTAL SCIENTIST TO REVIEW AND UPDATE CONTROL MEASURES. ADDITIONAL INSPECTIONS WILL BE CONDUCTED DURING AND/OR IMMEDIATELY FOLLOWING SIGNIFICANT RAINFALL EVENTS TO MONITOR THE FUNCTIONING OF CONTROLS.
6.4. ALL EROSION AND SEDIMENT CONTROLS TO BE MAINTAINED IN PLACE UNTIL ALL WORKS ARE COMPLETED AND DISTURBED AREAS HAVE STABILISED.

EXTRACT FROM LANDCOM (2004). MANAGING URBAN STORMWATER: SOIL AND CONSTRUCTION. VOLUME 2D MAIN ROADS CONSTRUCTION 2008

THIS SEDIMENT AND EROSION CONTROL PLAN CONTAINS COUNCIL'S MINIMUM REQUIREMENTS FOR ENVIRONMENTAL PROTECTION; HOWEVER, IT IS STILL THE PRINCIPAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WORKS AND MITIGATION STRATEGIES ARE PERFORMED IN A MANNER THAT COMPLIES WITH ALL RELEVANT ENVIRONMENTAL LEGISLATION, INCLUDING ANY DEVELOPMENT APPROVAL REQUIREMENTS.

7. EROSION AND SEDIMENT CONTROL COMMENTARY

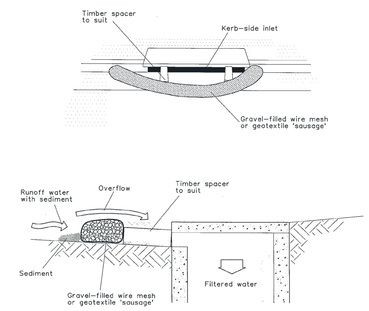
7.1. MONITOR THE 7 DAYS RAIN FORECAST TO DETERMINE TIMING OF WORKS, AND 24 HOUR FORECAST FOR PREPARATION OF EROSION & SEDIMENT CONTROL (ESC) MEASURES.
7.2. LIMIT AREAS OF DISTURBANCE AT ANY ONE TIME WHERE POSSIBLE, AND IDENTIFY VEGETATION NO GO AREAS. ENSURE THAT GUTTERS, PATHWAYS, ROADS ARE SWEPT CLEAN PRIOR TO RAIN OR BEFORE THE END OF THE DAYS SHIFT. HARD SURFACES CLEAN OF SOIL WILL REDUCE THE NEED FOR CONTROLS AND ELIMINATE POTENTIAL TRIP HAZARDS TO PEDESTRIANS AND ROAD HAZARDS FOR DRIVERS.
7.3. DIVERT CLEAN WATER AROUND EXCAVATIONS (WHERE POSSIBLE) TO LIMIT MANAGEMENT OF CONSTRUCTION WATER EG DEWATERING OF OPEN TRENCH OR EXCAVATIONS.
7.4. INSTALL SANDBAGS, COIR LOGS OR SEDIMENT FENCES AS REQUIRED
7.5. STOCKPILES, IF ANY, WILL BE MANAGED AS PER SD4-1.
7.6. AS WORKS ARE COMPLETED ADJACENT TO KERBS, INSTALL TURF TO STABILISE AREAS AS PER SD6-13.
7.7. PROGRESSIVELY INSTALL AND REMOVE CONTROLS AS WORK PROGRESSES ALONG THE ALIGNMENT.



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES **SD 4-1**

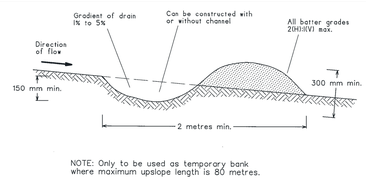


NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER **SD 6-11**

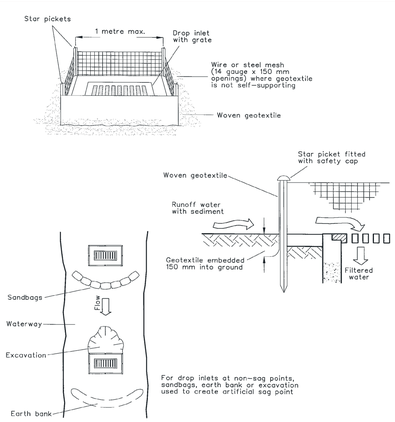


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

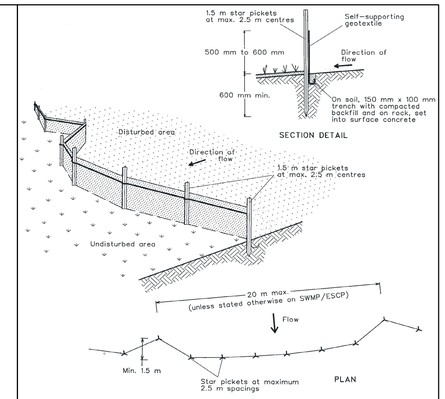
EARTH BANK (LOW FLOW) **SD 5-5**



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

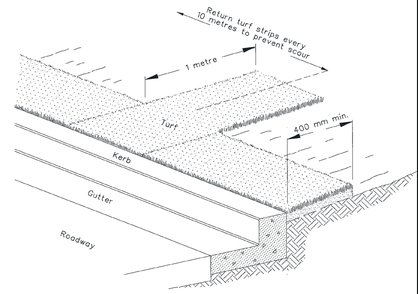
GEOTEXTILE INLET FILTER **SD 6-12**



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

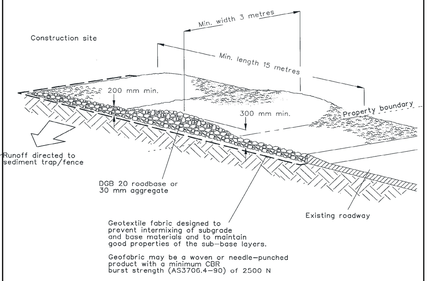
SEDIMENT FENCE **SD 6-8**



Construction Notes

1. Install a 400-mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
2. Lay 1.4 metre long turf strips normal to the kerb every 10 metres.
3. Rehabilitate disturbed soil behind the

KERBSIDE TURF STRIP **SD 6-13**



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS **SD 6-14**

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

DRAWING NOT TO SCALE

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
EROSION & SEDIMENT CONTROL NOTES & DETAILS

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-102
REV: A

N

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30TH JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. REFER TO LU23111-CD-102 FOR EROSION & SEDIMENT CONTROL NOTES.
3. THE LAYOUT PROVIDED IN THIS CONCEPTUAL EROSION AND SEDIMENT CONTROL PLAN IS INDICATIVE AND SERVES AS A PRELIMINARY GUIDE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE AND SUBMIT THEIR OWN DETAILED EROSION AND SEDIMENT CONTROL PLAN, TAILORED TO THE SPECIFIC SITE CONDITIONS AND PROJECT REQUIREMENTS. THE CONTRACTOR'S PLAN MUST COMPLY WITH ALL RELEVANT REGULATIONS AND STANDARDS, AND SHOULD BE APPROVED BY THE SUPERINTENDENT BEFORE IMPLEMENTATION.

LEGEND:

- NEW SEDIMENT FENCING AS PER SD 6-8
- NEW TEMPORARY SITE SECURITY FENCE
- NEW MESH AND GRAVEL INLET FILTER AS PER SD 6-11 AND 6-12
- NEW LOW FLOW CHANNEL
- NEW COIR LOG

MCGRATH ROAD (44m WIDE ROAD RESERVE)

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052 & PROPOSED LOT 1 TO REMAIN FROM MCGRATH ROAD

PROVIDE TEMPORARY SITE SECURITY FENCE (WITH GATE ACCESS) TO THE EXTERNAL SITE PERIMETER

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

PROVIDE NEW MESH AND GRAVEL INLET FILTERS TO NEW KERB PITS PER PER SD 6-11 & 6-12 ON SHEET CD-102

PROVIDE SEDIMENT FENCING AS PER SD6-8 ON SHEET CD-102

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONCEPT EROSION & SEDIMENT CONTROL LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-200
REV: A

N

MCGRATH ROAD
(44m WIDE ROAD RESERVE)

EX. EDGE OF PAVEMENT
EX. TABLE DRAIN

1
RP850455

2
RP850455

3
RP850455

2
RP749617

1
RP727052

EXISTING 600Ø SW PIPE TO BE REMOVED & REINSTATED WITH NEW RCBC REINSTATE DRIVEWAY

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052

EXISTING ELECTRICAL CONNECTION TO LOT TO BE REMOVED BACK TO POLE

EXISTING FENCE TO BE REMOVED

EXISTING WATER PROPERTY CONNECTION TO BE REMOVED & REINSTATED

EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

FILL EXISTING TABLE DRAIN

DEMOLISH EXISTING STRUCTURE & DISPOSE OF OFFSITE

EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING FENCE TO BE REMOVED

REMOVE EXISTING MOUND EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING ACCESS DRIVEWAY TO BE REMOVED

DEMOLISH EXISTING STRUCTURE & DISPOSE OF OFFSITE

EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING FENCE TO BE REMOVED

EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

1
RP719276

2
RP719276

3
RP719276

2
RP901433

3
RP901433

4
RP901433

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES EXTENT OF EXISTING STRUCTURE/PAVEMENT TO BE REMOVE & DISPOSED OF AT AN APPROVED SITE
- DENOTES PROPOSED EXTENT OF VEGETATION TO BE CLEARED FOR CIVIL WORKS

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CLEARING & DEMOLITION LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-201
REV: A

NOTES

1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO GEOTECHNICAL ASSESSMENT (REPORT NO. 26017101R), DATED 17 MARCH 2026, PROVIDED BY GROUND TECHNICS FOR ALL LABORATORY TEST RESULTS AND FURTHER INFORMATION.

EARTHWORKS ASSUMPTIONS:

1. CUT/FILL DEPTHS SHOWN WITHIN THIS LAYOUT PLAN ARE BASED ON FINISHED SURFACE TO EXISTING (NATURAL) SURFACE OBTAINED FROM THE SURVEY.
2. NO SURFACE STRIPPING REQUIRED TO THE STOCKPILED MATERIAL.
3. NO BULKING FACTOR APPLIED TO FILL MATERIAL.
4. EXCLUDES ALL DRAINAGE AND SERVICE TRENCH EXCAVATION.
5. EXCLUDES ALL SOFT SPOT REMOVAL.
6. EARTHWORKS VOLUMES HAS ADOPTED THE PRESCRIBED PAVEMENT DESIGN THICKNESS.

PRELIMINARY BULK EARTHWORKS VOLUMES:

CUT = - 2,843 m³ (EXCLUDES TRENCH MATERIAL)
FILL = 255 m³
BALANCE = 2,588 m³ EXCESS MATERIAL (EXCLUDES TRENCH MATERIAL)
SITE COVERAGE OF EXCAVATION & FILL = 6,798 m²

GENERAL EARTHWORKS RECOMMENDATION

THE FOLLOWING SITE PREPARATION AND EARTHWORKS PROCEDURES ARE RECOMMENDED FOR THE DEVELOPMENT OF THE PROPOSED SUBDIVISION:

- STRIP AND REMOVE VEGETATION AND DELETERIOUS SURFACE MATERIALS.
- STRIP AND REMOVE DEBRIS ASSOCIATED WITH THE DEMOLISHMENT OF EXISTING STRUCTURES AND ASSOCIATED SERVICES.
- STRIP AND REMOVE ALL COBBLE AND BOULDERS >150 mm IN DIAMETER FROM THE EXPOSED SUBGRADE SURFACE.
- COMPACT THE SUBGRADE WITH A HEAVY ROLLER TO REVEAL SOFT OR LOOSE MATERIALS. SOFT OR LOOSE MATERIAL THAT CANNOT BE IMPROVED BY COMPACTION SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
- PLACE FILL WHERE REQUIRED IN UNIFORM HORIZONTAL LAYERS NOT EXCEEDING 200 mm LOOSE THICKNESS AND COMPACT TO ACHIEVE A RELATIVE DRY DENSITY RATIO OF AT LEAST 95% USING STANDARD COMPACTION.

EACH LAYER OF FILLING SHOULD BE KEYED INTO NATURAL GROUND. FILLING SHOULD BE PLACED AT LEAST 1 m BEYOND THE DESIGN PROFILE AND THEN TRIMMED TO THE DESIGN PROFILE.

IF REQUIRED, IMPORTED FILL MATERIALS SHOULD HAVE A PLASTICITY INDEX LESS THAN 20 AND A SOAKED CBR VALUE OF >15%.

IT IS RECOMMENDED THAT ALL EARTHWORKS PROCEDURES BE CARRIED OUT IN ACCORDANCE WITH AS 3798-2007 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND LOCAL AUTHORITY REQUIREMENTS. IT IS RECOMMENDED THAT THE EARTHWORKS CONTRACTOR BE FAMILIAR WITH SITE CONDITIONS.

LEGEND:

65.15 DENOTES PROPOSED FINISHED SURFACE LEVEL

CUT	FILL
LESS THAN 0.2m	
0.2m TO 0.4m	
0.4m TO 0.6m	
0.6m TO 0.8m	
0.8m TO 1.0m	
1.0m TO 1.2m	
1.2m TO 1.4m	
1.4m TO 1.6m	
1.6m TO 1.8m	
1.8m TO 2.0m	
2.0m & OVER	

N

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CUT/FILL HEAT MAP LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-202
REV: A

N

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

MCGRATH ROAD (44m WIDE ROAD RESERVE)

REINSTATE EXISTING EXISTING DRIVEWAY WHERE REQUIRED FOR THE NEW CULVERT

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052 & PROPOSED LOT 1 TO REMAIN FROM MCGRATH ROAD

POINT OF CONNECTION FOR PROPOSED WORKS REFER TO ELECTRICAL & TELECOMMUNICATIONS DOCUMENTATION

POINT OF CONNECTION FOR NEW WATER RETICULATION REFER TO WATER DOCUMENTATION FOR FURTHER INFORMATION

CONTROL LINE NEW ACCESS STREET

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

REFER TO LU23111-CD-500 FOR INTERSECTION DETAILS

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS RESHAPE OUTLET LOCALLY TO NEW STORMWATER PIT 5.B

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 8 REFER TO LU23111-CD-502

NOTE: LOT 6 DRIVEWAY IS TO BE TO STANDARD FNQROC REQUIREMENTS & DOES NOT FORM PART OF THE DECISION NOTICE CONDITIONS DRIVEWAY TO LOT 6 IS TO BE CONSTRUCTED AS PART OF THESE WORKS ALTHOUGH IS ONLY SHOWN AS INDICATIVE ONLY AND IS NOT SUBJECT TO THIS APPROVAL

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

REFER TO LU23111-CD-501 FOR CUL-DE-SAC DETAILS

NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 7 REFER TO LU23111-CD-502

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

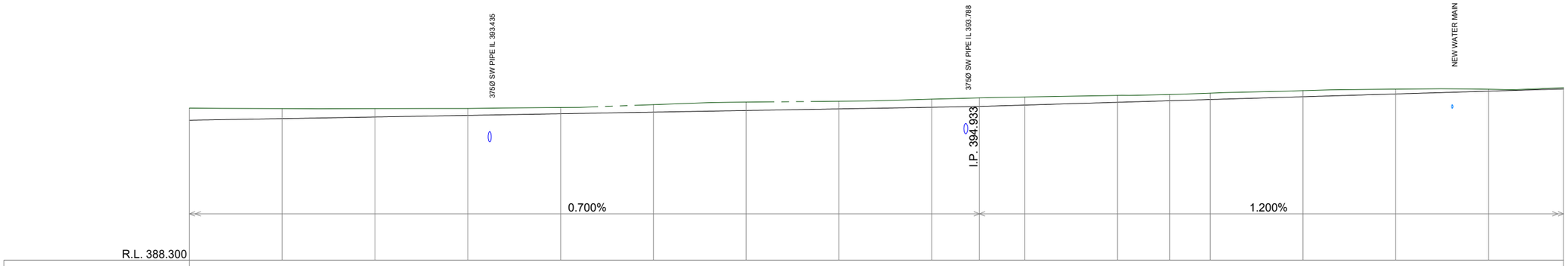
SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CIVIL WORKS LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-203
REV: A



HORIZONTAL GEOMETRY AT ROAD CENTRELINE	L=177 B=98°22'24"																	
HEIGHT DIFFERENCE (m)	-0.52	-0.43	-0.36	-0.29	-0.27	-0.32	-0.36	-0.33	-0.34	-0.37	-0.35	-0.30	-0.27	-0.28	-0.26	-0.21	-0.08	-0.05
DESIGN LEVELS AT ROAD CENTRELINE	394.337	394.407	394.477	394.547	394.617	394.687	394.757	394.827	394.897	394.933	394.991	395.111	395.179	395.231	395.351	395.471	395.591	395.688
EXISTING LEVELS AT ROAD CENTRELINE	394.86	394.84	394.84	394.84	394.89	395.01	395.12	395.16	395.24	395.30	395.34	395.41	395.45	395.51	395.61	395.68	395.67	395.74
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	265.132	270.000	280.000	285.631	290.000	300.000	310.000	320.000	328.089

LONGITUDINAL SECTION: NEW ACCESS STREET - CONTINUED

SCALE H 1:250, V 1:100

HORIZONTAL GEOMETRY AT ROAD CENTRELINE	L=26 B=90°00'00"									L=13 R=70			L=30 B=100°31'08"				
HEIGHT DIFFERENCE (m)	-0.02	+0.00	+1.09	+1.17	+1.06	-0.14	-0.28	-0.30	-0.34	-0.40	-0.39	-0.42	-0.43	-0.45	-0.48	-0.51	-0.52
DESIGN LEVELS AT ROAD CENTRELINE	393.553	393.457	393.314	393.286	393.282	393.312	393.366	393.372	393.415	393.488	393.538	393.593	393.604	393.627	393.659	393.672	393.709
EXISTING LEVELS AT ROAD CENTRELINE	393.57	393.46	392.22	392.12	392.22	393.45	393.65	393.67	393.76	393.89	393.93	394.01	394.03	394.08	394.14	394.18	394.23
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	0.000	3.236	10.000	13.237	15.056	20.000	23.237	23.540	25.761	30.000	33.540	38.612	40.000	43.540	50.000	52.577	60.000

HORIZONTAL GEOMETRY AT ROAD CENTRELINE		L=8 R=70		L=64 B=107°04'33"							L=11 R=70			L=177 B=98°22'24"			
HEIGHT DIFFERENCE (m)	-0.53	-0.52	-0.53	-0.51	-0.49	-0.49	-0.48	-0.41	-0.51	-0.53	-0.53	-0.53	-0.54	-0.53	-0.53	-0.53	-0.52
DESIGN LEVELS AT ROAD CENTRELINE	393.752	393.759	393.793	393.809	393.859	393.909	393.959	394.009	394.059	394.109	394.111	394.159	394.164	394.209	394.239	394.267	394.337
EXISTING LEVELS AT ROAD CENTRELINE	394.28	394.28	394.32	394.32	394.35	394.40	394.44	394.42	394.57	394.64	394.64	394.69	394.70	394.74	394.77	394.80	394.86
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	68.672	70.000	76.683	80.000	90.000	100.000	110.000	120.000	130.000	140.000	140.405	150.000	151.037	160.000	166.032	170.000	180.000

LONGITUDINAL SECTION: NEW ACCESS STREET

SCALE H 1:250, V 1:100

A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026
Revision	Amendments	Approved	Date

CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

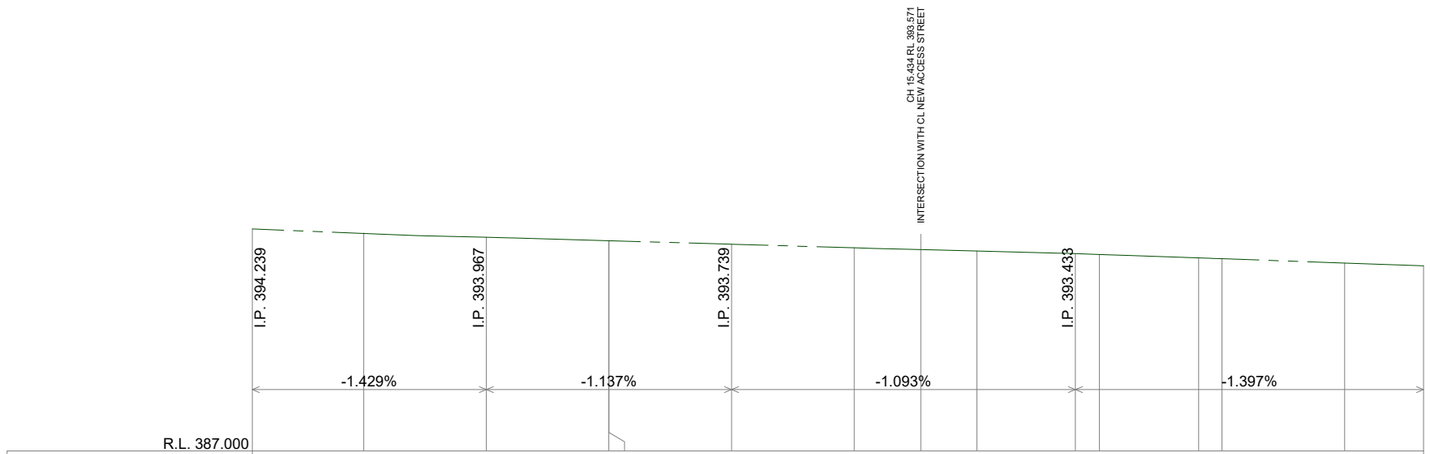
SCALE 1:250@A1
0 5 10 15 20 25 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD LONGITUDINAL SECTIONS
NEW ACCESS STREET
LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: **LU23111-CD-300**
REV: **A**

Document Set ID: 4651880
Version: 1, Version Date: 29/05/2026



HORIZONTAL GEOMETRY AT ROAD CENTRELINE	L=96 B=358°18'32"																
HEIGHT DIFFERENCE (m)																	
DESIGN LEVELS AT ROAD CENTRELINE																	
EXISTING LEVELS AT ROAD CENTRELINE	394.24	394.09	393.97	393.85	393.85	393.74	393.62	393.57	393.52	393.43	393.41	393.29	393.27	393.13	393.04
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	-39.089	-30.000	-20.000	-10.007	-10.000	0.000	10.000	15.434	20.000	28.041	30.000	38.090	40.000	50.000	56.437

LONGITUDINAL SECTION: MCGRATH ROAD

SCALE H 1:250, V 1:100

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

SCALE 1:250@A1
0 5 10 15 20 25 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD LONGITUDINAL SECTIONS
McGRATH ROAD
LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: **LU23111-CD-301**
REV: **A**

NOTE:
1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO DRAWINGS LU23111-CD-700 FOR ADDITIONAL CONSTRUCTION DETAILS.
3. SAMPLING AND TESTING OF EXISTING SUBGRADE AS REQUIRED BY APPENDIX B OF TECHNICAL SPECIFICATION MRTS04 GENERAL EARTHWORKS, THE CONTRACTOR SHALL COMPLETE A MINIMUM OF TWO (2) TESTS.

SUBGRADE PREPARATION

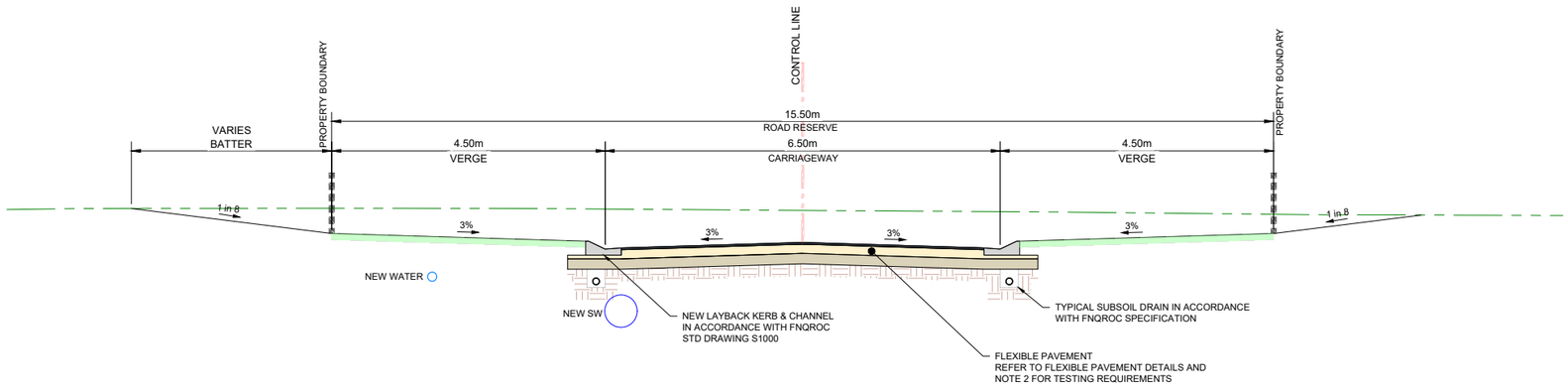
WHERE REQUIRED, SITE PREPARATION AND EARTHWORKS PROCEDURES SHOULD INVOLVE THE FOLLOWING:

- STRIP AND REMOVE VEGETATION, TOPSOIL AND SOILS CONTAINING SIGNIFICANT ORGANIC MATTER.
- COMPACT THE SUBGRADE WITH A HEAVY ROLLER TO REVEAL SOFT OR LOOSE MATERIALS. SOFT OR LOOSE MATERIAL THAT CANNOT BE IMPROVED BY COMPACTION SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
- PLACE FILL WHERE REQUIRED IN UNIFORM HORIZONTAL LAYERS NOT EXCEEDING 200 mm LOOSE THICKNESS AND COMPACT TO ACHIEVE A RELATIVE DRY DENSITY RATIO OF AT LEAST 95% USING STANDARD COMPACTION.

IT IS CONSIDERED THAT THE EXISTING SILT SOILS AT THE SITE COULD BE RE-USED AS GENERAL FILL AT THE SITE. ENGINEERED FILL FOR PAVEMENTS AND OTHER STRUCTURES SHOULD COMPRISE IMPORTED MATERIALS. IMPORTED FILL MATERIALS FOR GENERAL FILL AND ENGINEERED FILL SHOULD HAVE A PLASTICITY INDEX LESS THAN 20 AND A SOAKED CBR VALUE OF >15%. PAVEMENT FILL SHOULD COMPRISE A CRUSHED QUARRY PRODUCT IN ACCORDANCE WITH THE PROPOSED PAVEMENT DESIGN AND IN ACCORDANCE WITH FNQROC GUIDELINES.

IT IS RECOMMENDED THAT ALL EARTHWORKS PROCEDURES BE CARRIED OUT IN ACCORDANCE WITH AS 3798-2007 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND LOCAL AUTHORITY REQUIREMENTS. IT IS RECOMMENDED THAT THE EARTHWORKS CONTRACTOR BE FAMILIAR WITH SITE CONDITIONS.

IT IS ENVISAGED THAT LIMITED CUT AND FILL EARTHWORKS WILL BE REQUIRED AS PART OF THE DEVELOPMENT. IF REQUIRED, NEW CUT BATTERS SHOULD BE LIMITED TO A MAXIMUM 2m IN HEIGHT AND FORMED AT 1V:1H. NEW FILL BATTERS SHOULD BE LIMITED TO 1.5m IN HEIGHT AND FORMED AT 1 V:2 H. HIGHER OR STEEPER BATTERS SHOULD BE SUPPORTED BY ENGINEERED RETAINING WALLS.



TYPICAL SECTION - NEW ACCESS STREET
FNQROC TYPE 2 - ACCESS STREET
SCALE 1:50

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:50@A1
0 1 2 3 4 5 m

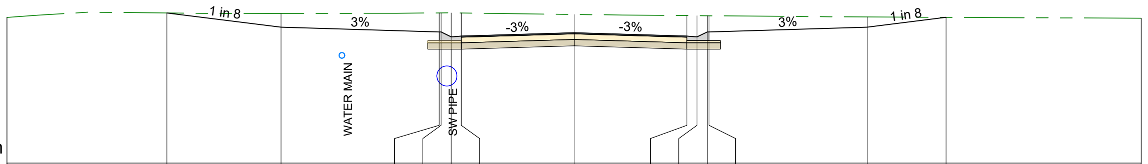
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
TYPICAL SECTIONS & DETAILS

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-400
REV: A

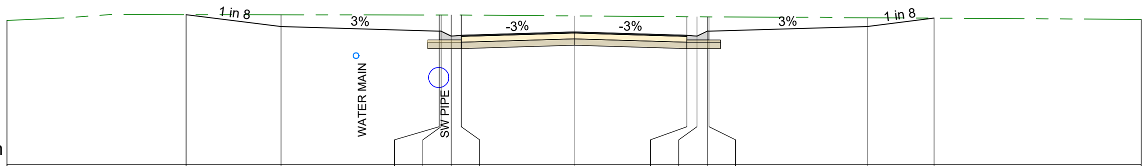
RL390.2m



OFFSET	-15.00	-10.77	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.84	15.00
HEIGHT DIFFERENCE		-0.000	-0.361	-0.504	-0.504	-0.635	-0.611	-0.485	-0.544	-0.562	-0.429	-0.429	-0.271	-0.000	
DESIGN SURFACE		394.183	393.805	393.680	393.680	393.550	393.570	393.659	393.570	393.550	393.680	393.680	393.805	394.066	
EXISTING SURFACE	394.06	394.18	394.17	394.18	394.18	394.18	394.18	394.14	394.11	394.11	394.11	394.11	394.08	394.07	394.04

Ch 50.00 m
CL NEW ACCESS STREET

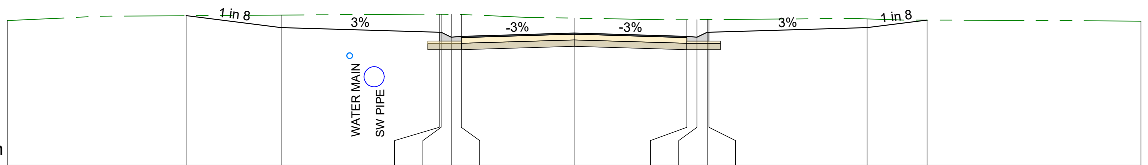
RL390.1m



OFFSET	-15.00	-10.26	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.52	15.00
HEIGHT DIFFERENCE		-0.000	-0.311	-0.429	-0.429	-0.558	-0.537	-0.426	-0.494	-0.512	-0.380	-0.380	-0.231	-0.000	
DESIGN SURFACE		394.065	393.750	393.625	393.625	393.495	393.515	393.605	393.515	393.495	393.625	393.625	393.750	393.972	
EXISTING SURFACE	393.91	394.06	394.06	394.05	394.05	394.05	394.05	394.03	394.01	394.01	394.01	394.00	393.98	393.97	393.94

Ch 40.00 m
CL NEW ACCESS STREET

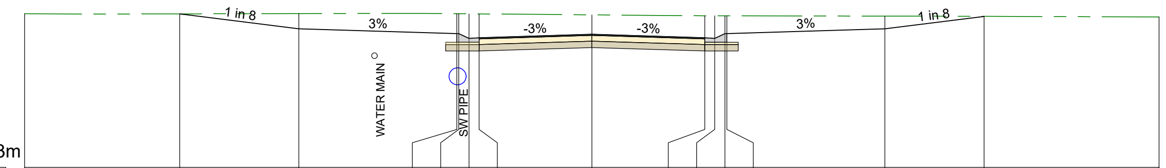
RL390m



OFFSET	-15.00	-10.27	-7.75	-3.57	-3.52	-3.25	-2.99	-0.00	2.98	3.25	3.52	3.57	7.75	9.34	15.00
HEIGHT DIFFERENCE		-0.000	-0.331	-0.478	-0.478	-0.608	-0.582	-0.395	-0.443	-0.465	-0.337	-0.337	-0.229	-0.000	
DESIGN SURFACE		393.953	393.638	393.512	393.512	393.382	393.402	393.492	393.402	393.382	393.512	393.512	393.638	393.836	
EXISTING SURFACE	393.82	393.95	393.97	393.99	393.99	393.99	393.98	393.89	393.84	393.85	393.85	393.85	393.87	393.84	393.81

Ch 30.00 m
CL NEW ACCESS STREET

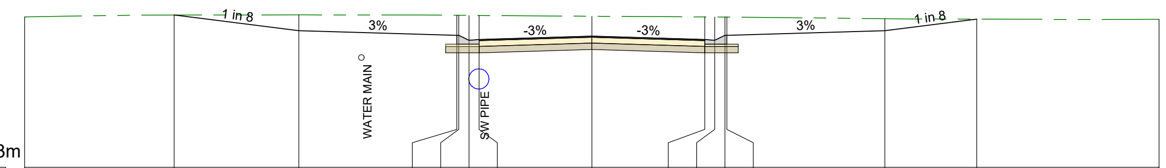
RL390.3m



OFFSET	-15.00	-10.90	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.37	15.00
HEIGHT DIFFERENCE		-0.000	-0.401	-0.523	-0.523	-0.651	-0.628	-0.514	-0.578	-0.598	-0.467	-0.467	-0.335	0.000	
DESIGN SURFACE		394.349	393.955	393.830	393.830	393.700	393.720	393.809	393.720	393.700	393.830	393.830	393.955	394.283	
EXISTING SURFACE	394.35	394.35	394.36	394.35	394.35	394.35	394.35	394.32	394.30	394.30	394.30	394.30	394.29	394.28	394.27

Ch 80.00 m
CL NEW ACCESS STREET

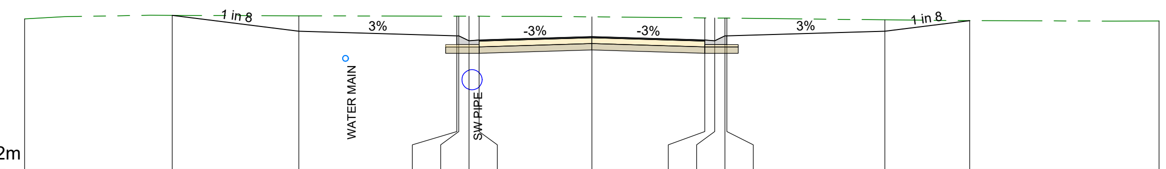
RL390.3m



OFFSET	-15.00	-11.05	-7.75	-3.57	-3.52	-3.25	-2.98	0.00	2.98	3.25	3.52	3.57	7.75	10.18	15.00
HEIGHT DIFFERENCE		0.000	-0.416	-0.531	-0.530	-0.658	-0.636	-0.525	-0.598	-0.616	-0.485	-0.484	-0.316	-0.000	
DESIGN SURFACE		394.317	393.905	393.780	393.780	393.650	393.670	393.759	393.670	393.650	393.780	393.780	393.905	394.209	
EXISTING SURFACE	394.27	394.32	394.32	394.31	394.31	394.31	394.31	394.28	394.27	394.27	394.26	394.26	394.22	394.21	394.20

Ch 70.00 m
CL NEW ACCESS STREET

RL390.2m



OFFSET	-15.00	-11.10	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.99	15.00
HEIGHT DIFFERENCE		-0.000	-0.407	-0.522	-0.522	-0.651	-0.631	-0.525	-0.587	-0.604	-0.471	-0.470	-0.300	-0.000	
DESIGN SURFACE		394.273	393.855	393.730	393.730	393.600	393.620	393.709	393.620	393.600	393.730	393.730	393.855	394.135	
EXISTING SURFACE	394.18	394.27	394.26	394.25	394.25	394.25	394.25	394.23	394.21	394.20	394.20	394.20	394.16	394.14	394.12

Ch 60.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

SCALE 1:100@A1
0 2 4 6 8 10 m

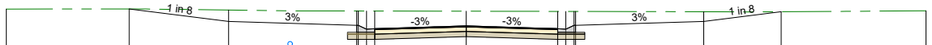
Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 1 OF 5

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

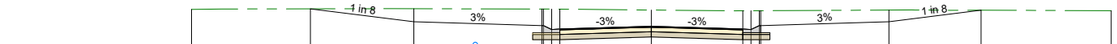
FOR APPROVAL

DRAWING NUMBER: LU23111-CD-401
REV: A



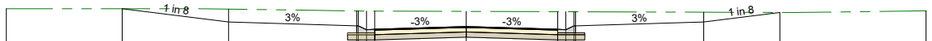
RL390.5m														
HEIGHT DIFFERENCE		0.000	-0.372	-0.467	-0.466	-0.596	-0.575	-0.479	-0.563	-0.582	-0.452	-0.452	-0.316	-0.000	
DESIGN SURFACE		394.510	394.105	393.980	393.980	393.850	393.870	393.959	393.870	393.850	393.980	393.980	394.105	394.421	
EXISTING SURFACE	394.51	394.51	394.48	394.45	394.45	394.45	394.44	394.44	394.43	394.43	394.43	394.43	394.42	394.42	394.45
OFFSET	-15.00	-10.99	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.28	15.00

Ch 110.00 m
CL NEW ACCESS STREET



RL390.6m														
HEIGHT DIFFERENCE		0.000	-0.425	-0.539	-0.539	-0.668	-0.647	-0.527	-0.594	-0.615	-0.486	-0.487	-0.381	0.000	
DESIGN SURFACE		394.676	394.255	394.130	394.130	394.000	394.020	394.109	394.020	394.000	394.130	394.130	394.255	394.631	
EXISTING SURFACE	394.66	394.68	394.68	394.67	394.67	394.67	394.67	394.64	394.61	394.61	394.62	394.62	394.64	394.63	394.62
OFFSET	-15.00	-11.12	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.76	15.00

Ch 140.00 m
CL NEW ACCESS STREET

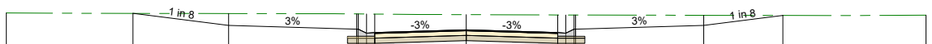


RL390.4m														
HEIGHT DIFFERENCE		0.000	-0.418	-0.486	-0.485	-0.611	-0.590	-0.491	-0.571	-0.590	-0.459	-0.459	-0.319	-0.000	
DESIGN SURFACE		394.489	394.055	393.930	393.930	393.800	393.820	393.909	393.820	393.800	393.930	393.930	394.055	394.365	
EXISTING SURFACE	394.49	394.49	394.47	394.42	394.41	394.41	394.41	394.40	394.39	394.39	394.39	394.39	394.37	394.37	394.42
OFFSET	-15.00	-11.22	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.23	15.00

Ch 100.00 m
CL NEW ACCESS STREET

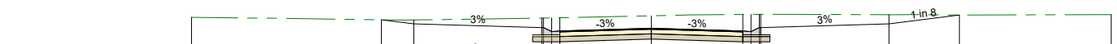
RL390.6m														
HEIGHT DIFFERENCE		0.000	-0.400	-0.514	-0.514	-0.642	-0.621	-0.513	-0.584	-0.603	-0.471	-0.471	-0.350	0.000	
DESIGN SURFACE		394.624	394.205	394.080	394.080	393.950	393.970	394.059	393.970	393.950	394.080	394.080	394.205	394.589	
EXISTING SURFACE	394.63	394.62	394.61	394.59	394.59	394.59	394.59	394.57	394.55	394.55	394.55	394.55	394.56	394.59	394.56
OFFSET	-15.00	-11.10	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.82	15.00

Ch 130.00 m
CL NEW ACCESS STREET



RL390.4m														
HEIGHT DIFFERENCE		0.000	-0.385	-0.498	-0.498	-0.625	-0.603	-0.496	-0.574	-0.594	-0.463	-0.463	-0.328	0.000	
DESIGN SURFACE		394.395	394.005	393.880	393.880	393.750	393.770	393.859	393.770	393.750	393.880	393.880	394.005	394.328	
EXISTING SURFACE	394.41	394.40	394.39	394.38	394.38	394.37	394.37	394.35	394.34	394.34	394.34	394.34	394.33	394.33	394.34
OFFSET	-15.00	-10.87	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.33	15.00

Ch 90.00 m
CL NEW ACCESS STREET



RL390.5m														
HEIGHT DIFFERENCE		0.000	-0.126	-0.313	-0.314	-0.448	-0.433	-0.408	-0.542	-0.562	-0.433	-0.433	-0.295	-0.000	
DESIGN SURFACE		394.287	394.155	394.030	394.030	393.900	393.920	394.009	393.920	393.900	394.030	394.030	394.155	394.443	
EXISTING SURFACE	394.37	394.29	394.28	394.34	394.34	394.35	394.35	394.42	394.46	394.46	394.46	394.46	394.45	394.44	394.45
OFFSET	-15.00	-8.81	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.05	15.00

Ch 120.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

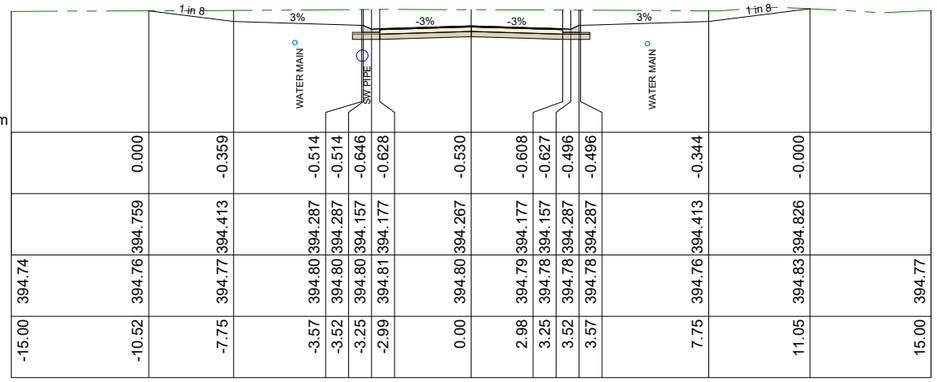
SCALE 1:100@A1
0 2 4 6 8 10 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 2 OF 5

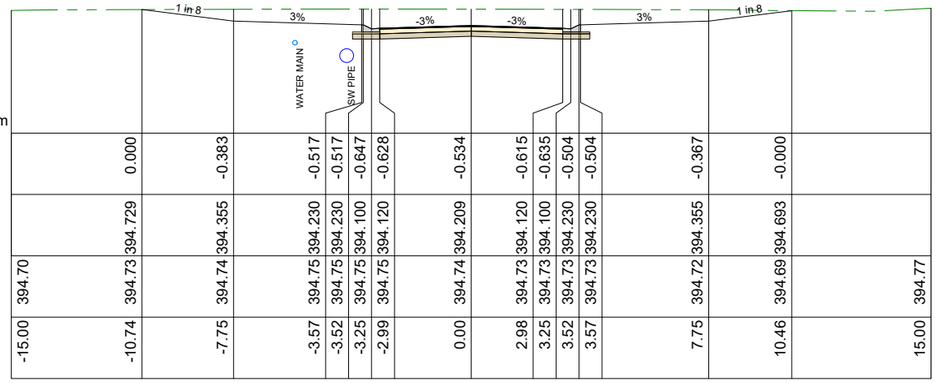
LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-402
REV: A



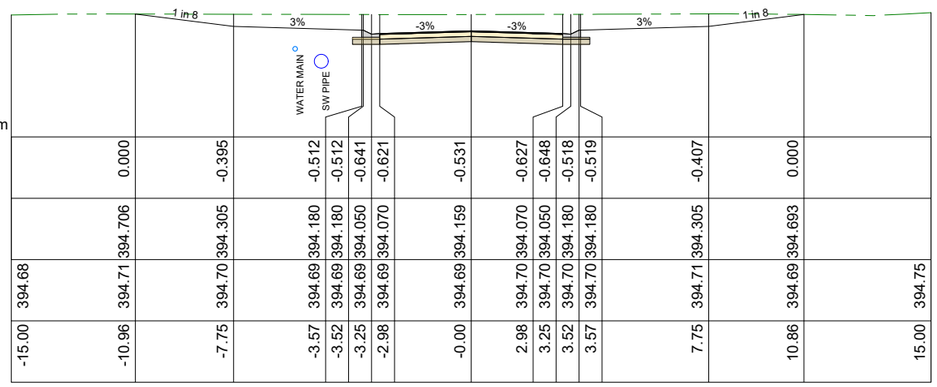
RL390.8m														
HEIGHT DIFFERENCE		0.000	-0.359	-0.514	-0.514	-0.646	-0.628	-0.530	-0.608	-0.627	-0.496	-0.496	-0.344	-0.000	
DESIGN SURFACE		394.759	394.413	394.287	394.287	394.157	394.177	394.267	394.177	394.157	394.287	394.287	394.413	394.826	
EXISTING SURFACE	394.74	394.76	394.77	394.80	394.80	394.80	394.81	394.80	394.79	394.78	394.78	394.78	394.76	394.83	394.77
OFFSET	-15.00	-10.52	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	11.05	15.00

Ch 170.00 m
CL NEW ACCESS STREET



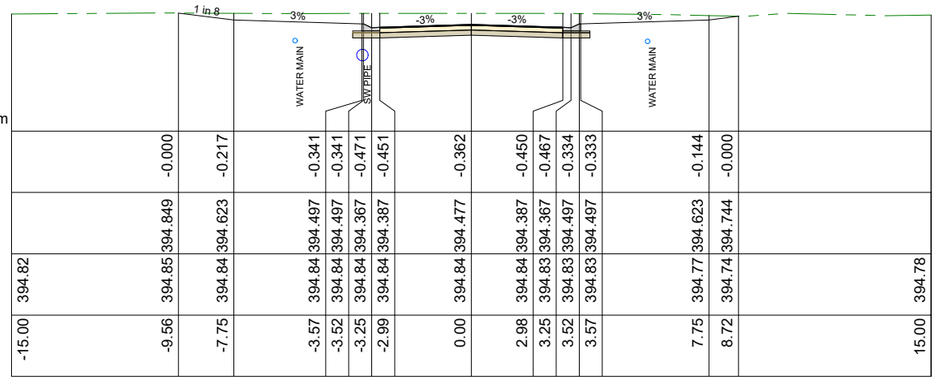
RL390.7m														
HEIGHT DIFFERENCE		0.000	-0.383	-0.517	-0.517	-0.647	-0.628	-0.534	-0.615	-0.635	-0.504	-0.504	-0.367	-0.000	
DESIGN SURFACE		394.729	394.355	394.230	394.230	394.100	394.120	394.209	394.120	394.100	394.230	394.230	394.355	394.693	
EXISTING SURFACE	394.70	394.73	394.74	394.75	394.75	394.75	394.75	394.74	394.73	394.73	394.73	394.73	394.72	394.69	394.77
OFFSET	-15.00	-10.74	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.46	15.00

Ch 160.00 m
CL NEW ACCESS STREET



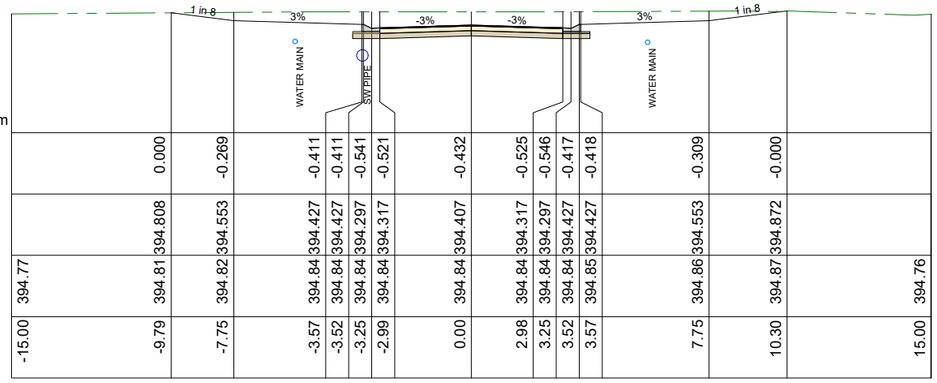
RL390.7m														
HEIGHT DIFFERENCE		0.000	-0.395	-0.512	-0.512	-0.641	-0.621	-0.531	-0.627	-0.648	-0.518	-0.519	-0.407	0.000	
DESIGN SURFACE		394.706	394.305	394.180	394.180	394.050	394.070	394.159	394.070	394.050	394.180	394.180	394.305	394.693	
EXISTING SURFACE	394.68	394.71	394.70	394.69	394.69	394.69	394.69	394.69	394.70	394.70	394.70	394.70	394.71	394.69	394.75
OFFSET	-15.00	-10.96	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.98	3.25	3.52	3.57	7.75	10.86	15.00

Ch 150.00 m
CL NEW ACCESS STREET



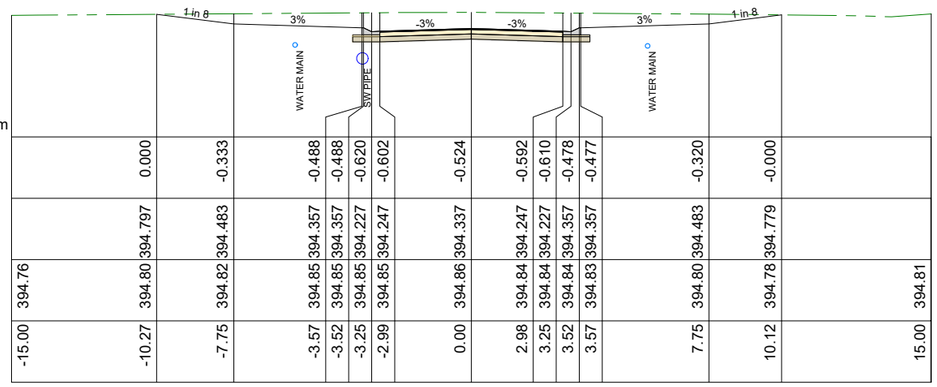
RL391m														
HEIGHT DIFFERENCE		-0.000	-0.217	-0.341	-0.341	-0.471	-0.451	-0.362	-0.450	-0.467	-0.334	-0.333	-0.144	-0.000	
DESIGN SURFACE		394.849	394.623	394.497	394.497	394.367	394.387	394.477	394.387	394.367	394.497	394.497	394.623	394.744	
EXISTING SURFACE	394.82	394.85	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.83	394.83	394.83	394.77	394.74	394.78
OFFSET	-15.00	-9.56	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	8.72	15.00

Ch 200.00 m
CL NEW ACCESS STREET



RL390.9m														
HEIGHT DIFFERENCE		0.000	-0.269	-0.411	-0.411	-0.541	-0.521	-0.432	-0.525	-0.546	-0.417	-0.418	-0.309	-0.000	
DESIGN SURFACE		394.808	394.553	394.427	394.427	394.297	394.317	394.407	394.317	394.297	394.427	394.427	394.553	394.872	
EXISTING SURFACE	394.77	394.81	394.82	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.85	394.86	394.87	394.76
OFFSET	-15.00	-9.79	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.30	15.00

Ch 190.00 m
CL NEW ACCESS STREET



RL390.8m														
HEIGHT DIFFERENCE		0.000	-0.333	-0.488	-0.488	-0.620	-0.602	-0.524	-0.592	-0.610	-0.478	-0.477	-0.320	-0.000	
DESIGN SURFACE		394.797	394.483	394.357	394.357	394.227	394.247	394.337	394.247	394.227	394.357	394.357	394.483	394.779	
EXISTING SURFACE	394.76	394.80	394.82	394.85	394.85	394.85	394.85	394.86	394.84	394.84	394.84	394.83	394.80	394.78	394.81
OFFSET	-15.00	-10.27	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.12	15.00

Ch 180.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

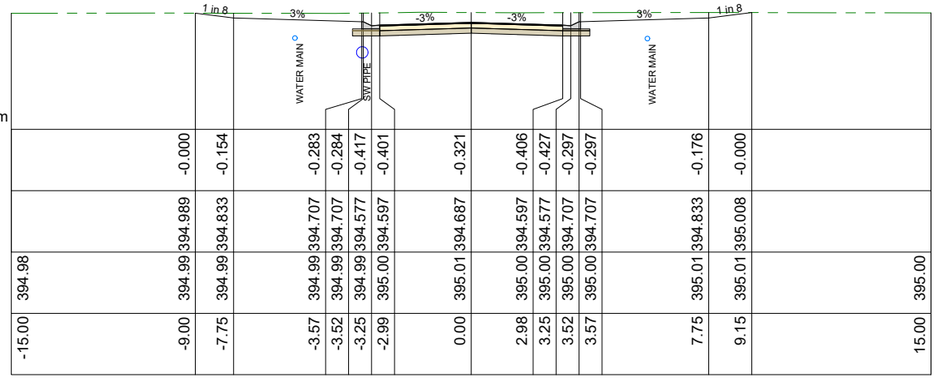
SCALE 1:100@A1
0 2 4 6 8 10 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 3 OF 5

LOT 21 & 22 ON SP320489
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-403
REV: A



HEIGHT DIFFERENCE		-0.000	-0.154	-0.283	-0.284	-0.417	-0.401	-0.321	-0.406	-0.427	-0.297	-0.297	-0.176	-0.000	
DESIGN SURFACE		394.989	394.833	394.707	394.707	394.577	394.597	394.687	394.597	394.577	394.707	394.707	394.833	395.008	
EXISTING SURFACE	394.98	394.99	394.99	394.99	394.99	394.99	395.00	395.01	395.00	395.00	395.00	395.00	395.01	395.01	395.00
OFFSET	-15.00	-9.00	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.15	15.00

Ch 230.00 m
CL NEW ACCESS STREET

HEIGHT DIFFERENCE		-0.000	-0.141	-0.257	-0.257	-0.388	-0.367	-0.269	-0.350	-0.370	-0.239	-0.239	-0.111	-0.000	
DESIGN SURFACE		394.906	394.763	394.637	394.637	394.507	394.527	394.617	394.527	394.507	394.637	394.637	394.763	394.874	
EXISTING SURFACE	394.92	394.91	394.90	394.89	394.89	394.90	394.89	394.89	394.88	394.88	394.88	394.88	394.87	394.87	394.87
OFFSET	-15.00	-8.90	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	8.64	15.00

Ch 220.00 m
CL NEW ACCESS STREET

HEIGHT DIFFERENCE		-0.000	-0.154	-0.263	-0.263	-0.394	-0.375	-0.296	-0.388	-0.406	-0.274	-0.274	-0.116	-0.000	
DESIGN SURFACE		394.853	394.693	394.567	394.567	394.437	394.457	394.547	394.457	394.437	394.567	394.567	394.693	394.801	
EXISTING SURFACE	394.88	394.85	394.85	394.83	394.83	394.83	394.83	394.84	394.85	394.84	394.84	394.84	394.81	394.80	394.79
OFFSET	-15.00	-9.03	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	8.62	15.00

Ch 210.00 m
CL NEW ACCESS STREET

HEIGHT DIFFERENCE		0.000	-0.201	-0.331	-0.331	-0.461	-0.442	-0.348	-0.428	-0.449	-0.319	-0.319	-0.206	-0.000	
DESIGN SURFACE		395.243	395.043	394.917	394.917	394.787	394.807	394.897	394.807	394.787	394.917	394.917	395.043	395.248	
EXISTING SURFACE	395.24	395.24	395.24	395.25	395.25	395.25	395.25	395.24	395.24	395.24	395.24	395.24	395.25	395.25	395.24
OFFSET	-15.00	-9.35	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.39	15.00

Ch 260.00 m
CL NEW ACCESS STREET

HEIGHT DIFFERENCE		0.000	-0.184	-0.313	-0.314	-0.447	-0.431	-0.330	-0.405	-0.425	-0.295	-0.295	-0.176	0.000	
DESIGN SURFACE		395.156	394.973	394.847	394.847	394.717	394.737	394.827	394.737	394.717	394.847	394.847	394.973	395.155	
EXISTING SURFACE	395.15	395.16	395.16	395.16	395.16	395.16	395.17	395.16	395.14	395.14	395.14	395.14	395.15	395.16	395.16
OFFSET	-15.00	-9.22	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.21	15.00

Ch 250.00 m
CL NEW ACCESS STREET

HEIGHT DIFFERENCE		0.000	-0.165	-0.304	-0.305	-0.438	-0.422	-0.363	-0.448	-0.468	-0.338	-0.338	-0.209	-0.000	
DESIGN SURFACE		395.066	394.903	394.777	394.777	394.647	394.667	394.757	394.667	394.647	394.777	394.777	394.903	395.109	
EXISTING SURFACE	395.06	395.07	395.07	395.08	395.08	395.09	395.09	395.12	395.12	395.12	395.12	395.12	395.11	395.11	395.09
OFFSET	-15.00	-9.05	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.40	15.00

Ch 240.00 m
CL NEW ACCESS STREET

A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026
Revision	Amendments	Approved	Date

Lekker Urban.

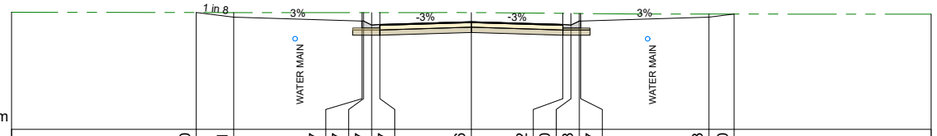
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

SCALE 1:100@A1
0 2 4 6 8 10 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 4 OF 5
LOT 21 & 22 ON SP320490
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: **LU23111-CD-404**
REV: **A**



RL391.6m

HEIGHT DIFFERENCE		-0.000	-0.151	-0.277	-0.277	-0.407	-0.387	-0.296	-0.362	-0.380	-0.248	-0.247	-0.103	-0.000	
DESIGN SURFACE		395.410	395.257	395.132	395.132	395.002	395.022	395.111	395.022	395.002	395.132	395.132	395.257	395.360	
EXISTING SURFACE	395.42	395.41	395.41	395.41	395.41	395.41	395.41	395.41	395.38	395.38	395.38	395.38	395.36	395.36	395.36
OFFSET	-15.00	-8.98	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	8.57	15.00

Ch 280.00 m
CL NEW ACCESS STREET

RL391.5m

HEIGHT DIFFERENCE		-0.000	-0.191	-0.321	-0.321	-0.452	-0.432	-0.349	-0.433	-0.452	-0.321	-0.321	-0.182	0.000	
DESIGN SURFACE		395.330	395.137	395.012	395.012	394.882	394.902	394.991	394.902	394.882	395.012	395.012	395.137	395.315	
EXISTING SURFACE	395.34	395.33	395.33	395.33	395.33	395.33	395.33	395.34	395.33	395.33	395.33	395.33	395.32	395.32	395.31
OFFSET	-15.00	-9.29	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	9.17	15.00

Ch 270.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

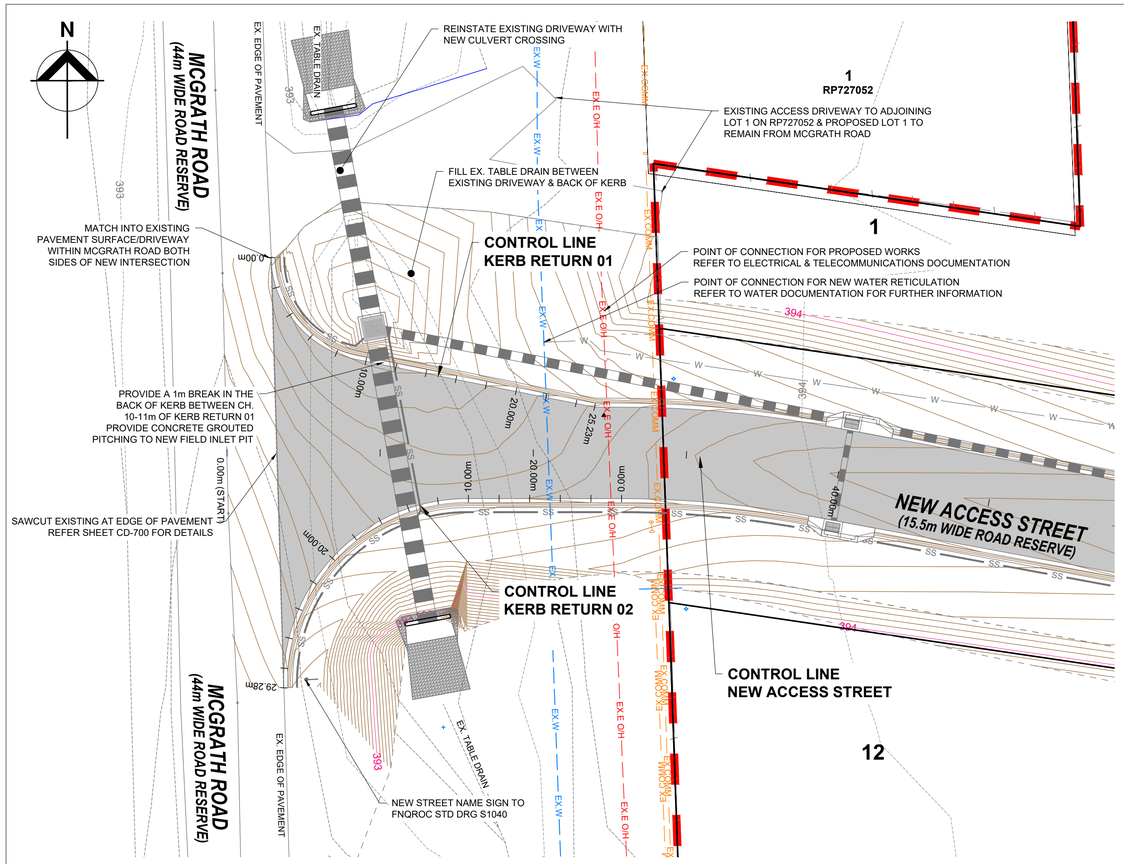
Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

SCALE 1:100@A1
0 2 4 6 8 10 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

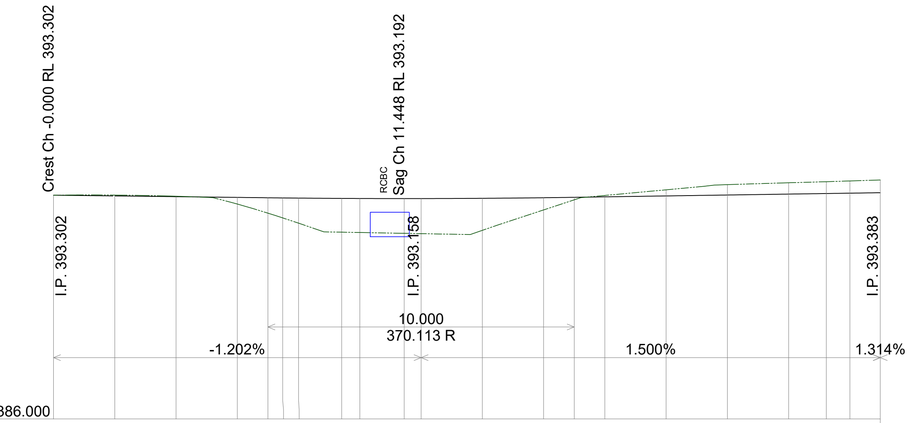
RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 5 OF 5
LOT 21 & 22 ON SP320491
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-405
REV: A



INTERSECTION DETAIL - MCGRATH ROAD & NEW ACCESS STREET

SCALE 1:200

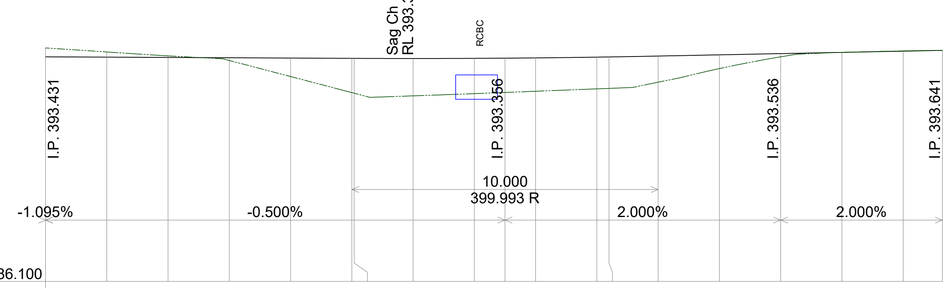


HORIZONTAL GEOMETRY AT LIP OF KERB	L=9 R=7												L=16 B=101°18'36"													L=2 B=90°00'00"
HEIGHT DIFFERENCE (m)	+0.00	-0.03	-0.02	+0.22	+0.50	+0.65	+0.82	+1.10	+1.11	+1.13	+1.14	+1.05	+0.40	+0.08	-0.04	-0.20	-0.34	-0.37	-0.38	-0.40	-0.42
DESIGN LEVELS AT LIP OF KERB	393.302	393.278	393.254	393.230	393.218	393.213	393.208	393.197	393.194	393.192	393.192	393.200	393.220	393.233	393.248	393.278	393.308	393.338	393.357	393.368	393.383
EXISTING LEVELS AT LIP OF KERB	393.30	393.31	393.27	393.01	392.72	392.56	392.39	**392.10**	392.08	392.06	392.05	392.15	392.82	393.15	393.29	393.48	393.65	393.71	**393.74**	393.77	**393.80**
CONTROL LINE CHAINAGE AT LIP OF KERB	0.000	2.000	4.000	6.000	7.000	7.481	8.000	9.407	10.000	11.448	12.000	14.000	16.000	17.000	18.000	20.000	22.000	24.000	25.230	26.000	26.991

Ch -10.000 to Ch 26.991

LONGITUDINAL SECTION - KERB RETURN 01 (LIP OF KERB)

SCALE H 1:100, V 1:100



HORIZONTAL GEOMETRY AT LIP OF KERB	L=10 B=270°00'00"														L=19 R=12											
HEIGHT DIFFERENCE (m)	-0.29	-0.17	-0.05	+0.09	+0.60	+1.12	+1.14	+1.22	+1.15	+1.12	+1.09	+1.03	+1.03	+0.86	+0.45	+0.11	+0.01	+0.00	+0.00							
DESIGN LEVELS AT LIP OF KERB	393.431	393.421	393.411	393.401	393.391	393.381	393.380	393.376	393.381	393.387	393.396	393.421	393.427	393.456	393.496	393.536	393.576	393.616	393.641							
EXISTING LEVELS AT LIP OF KERB	393.72	393.59	393.46	393.31	392.79	392.26	**392.24**	392.16	392.23	392.27	392.31	392.39	392.40	392.60	393.05	393.43	393.57	393.62	**393.64**							
CONTROL LINE CHAINAGE AT LIP OF KERB	0.000	2.000	4.000	6.000	8.000	10.000	10.077	12.000	14.000	15.000	16.000	18.000	18.395	20.000	22.000	24.000	26.000	28.000	29.281							

Ch 0.000 to Ch 39.281

LONGITUDINAL SECTION - KERB RETURN 02 (LIP OF KERB)

SCALE H 1:100, V 1:100

LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:200@A1
0 4 8 12 16 20 m

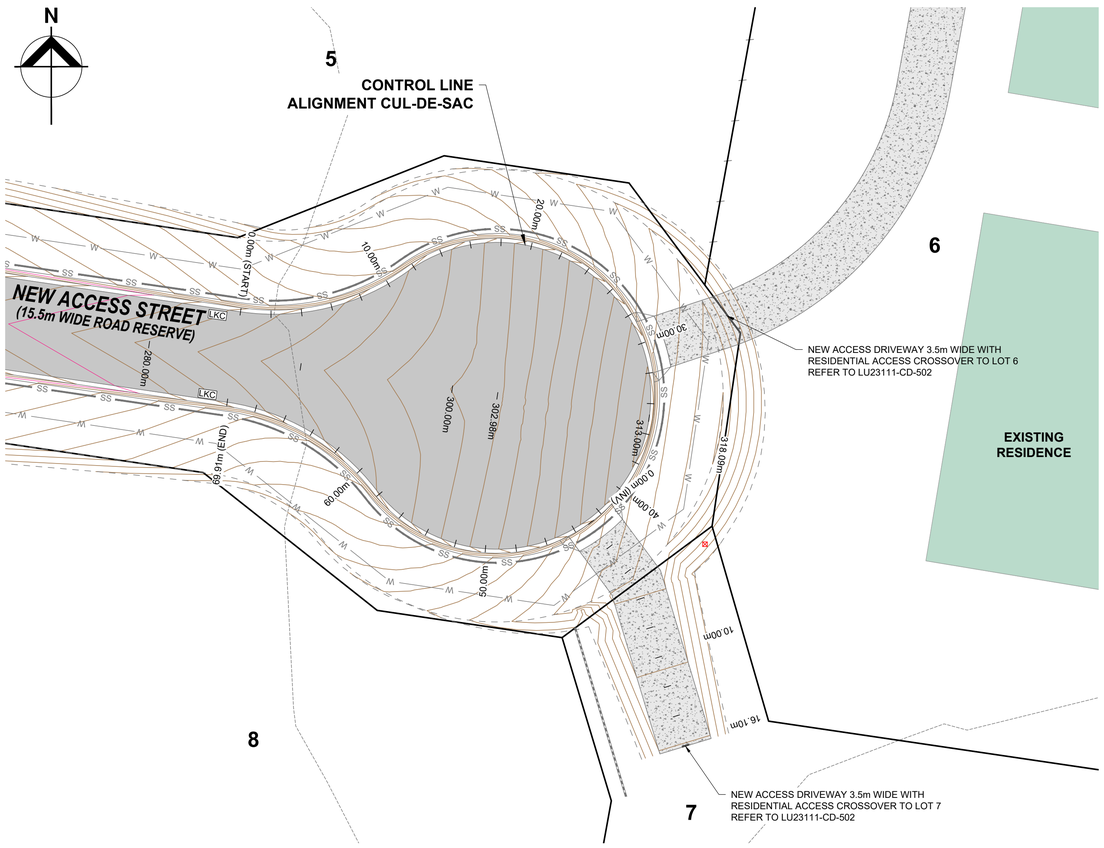
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
INTERSECTION DETAIL PLAN
MCGRATH ROAD & NEW ACCESS STREET

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-CD-500 REV: A



NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 6 REFER TO LU23111-CD-502

NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 7 REFER TO LU23111-CD-502

INTERSECTION DETAIL - NEW ACCESS STREET CUL-DE-SAC

SCALE 1:200

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:

- - - 444.50 - - -	EXISTING CONTOURS (0.5m INTERVAL)
—— 444.50 ——	DESIGN CONTOURS (0.2m INTERVAL)
× LEVEL	EXISTING LEVEL
▬	NEW DRAINAGE PIPE & PIT
▬	EXISTING DRAINAGE
— — EX.W —	EXISTING WATER
— — EX.E O/H —	EXISTING ELECTRICAL OVERHEAD
— — EX.E U/G —	EXISTING ELECTRICAL UNDERGROUND
— — EX.COMM —	EXISTING COMMUNICATIONS
— — EX.S —	EXISTING SEWER (GRAVITY/RISING MAIN)
——	TITLE BOUNDARY
■ ■ ■ ■ ■	PROPOSED SITE BOUNDARY
▨	DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
▨	DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
🟩	DENOTES EXISTING STRUCTURES TO REMAIN
🟥	DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
LKC	DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

HORIZONTAL GEOMETRY AT LIP OF KERB	L=12 R=15												L=23 R=10										
HEIGHT DIFFERENCE (m)	-0.36	-0.36	-0.36	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.35	-0.34	-0.34	-0.33	-0.33	-0.33	-0.31	-0.31	-0.30	-0.28	-0.27	-0.25	-0.23	-0.22
DESIGN LEVELS AT LIP OF KERB	395.112	395.128	395.142	395.155	395.167	395.179	395.190	395.201	395.212	395.222	395.233	395.241	395.249	395.259	395.272	395.287	395.304	395.322	395.342	395.363	395.385	395.407	395.430
EXISTING LEVELS AT LIP OF KERB	395.47	395.49	395.50	395.51	395.52	395.53	395.54	395.55	395.56	395.57	395.57	395.58	395.58	395.59	395.60	395.60	395.61	395.62	395.62	395.63	395.64	395.64	395.65
CONTROL LINE CHAINAGE AT LIP OF KERB	-0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	10.759	11.518	12.366	13.214	14.062	14.911	15.759	16.607	17.455	18.304	19.152	20.000

HORIZONTAL GEOMETRY AT LIP OF KERB					L=23 R=10		
HEIGHT DIFFERENCE (m)	-0.07	-0.01	+0.03	+0.03	+0.03	+0.00	-0.05
DESIGN LEVELS AT LIP OF KERB	395.613	395.679	395.719	395.719	395.719	395.676	395.613
EXISTING LEVELS AT LIP OF KERB	395.68	395.69	395.69	395.69	395.69	395.68	395.66
CONTROL LINE CHAINAGE AT LIP OF KERB	26.936	30.000	34.904	34.916	34.926	40.000	42.916

HORIZONTAL GEOMETRY AT LIP OF KERB												L=12 R=15												
HEIGHT DIFFERENCE (m)	-0.20	-0.21	-0.23	-0.24	-0.26	-0.27	-0.29	-0.30	-0.31	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.32	-0.31	-0.31	-0.32	-0.32	-0.31	-0.32
DESIGN LEVELS AT LIP OF KERB	395.425	395.403	395.381	395.360	395.339	395.320	395.302	395.286	395.271	395.259	395.249	395.243	395.237	395.231	395.221	395.210	395.200	395.189	395.178	395.167	395.154	395.142	395.128	395.112
EXISTING LEVELS AT LIP OF KERB	395.62	395.61	395.61	395.60	395.60	395.59	395.59	395.59	395.58	395.58	395.57	395.56	395.56	395.55	395.54	395.53	395.52	395.51	395.49	395.48	395.47	395.46	395.44	395.43
CONTROL LINE CHAINAGE AT LIP OF KERB	50.000	50.829	51.658	52.487	53.316	54.145	54.975	55.804	56.633	57.462	58.291	58.861	59.430	60.000	60.981	61.962	62.943	63.923	64.904	65.885	66.866	67.847	68.828	69.809

Ch -0.000 to Ch 69.809

LONGITUDINAL SECTION - CUL-DE-SAC (LIP OF KERB)

SCALE H 1:100, V 1:100

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

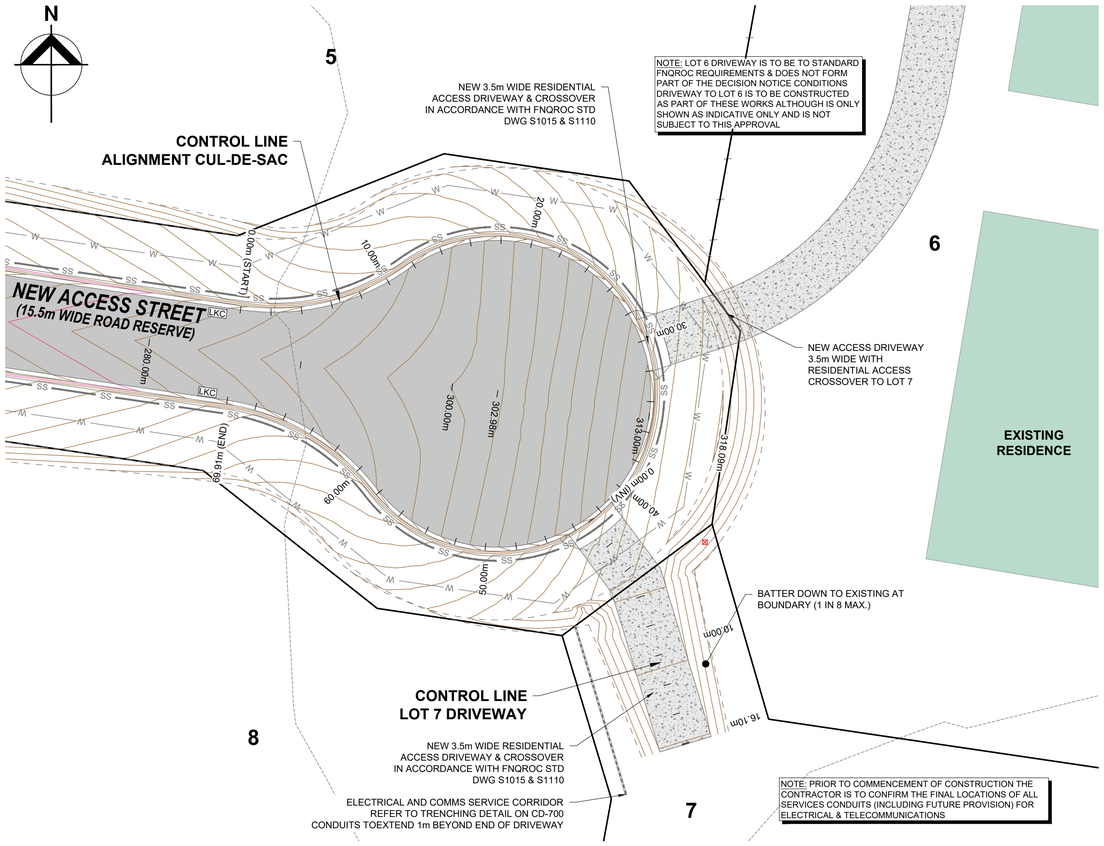
Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

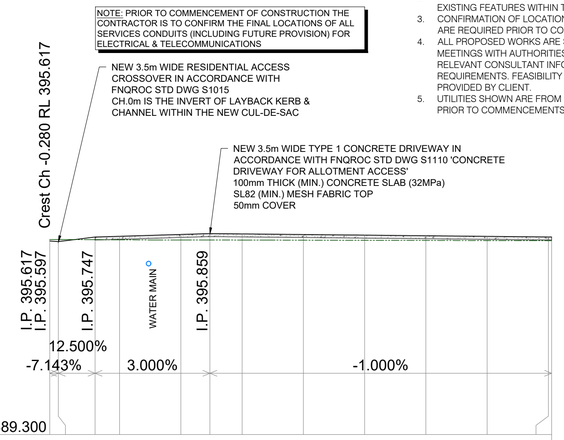
SCALE 1:200@A1
0 4 8 12 16 20 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
INTERSECTION DETAIL PLAN
NEW ACCESS STREET CUL-DE-SAC
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: **LU23111-CD-501**
REV: **A**





ACCESS DRIVEWAY DETAILS - LOTS 6 & 7

SCALE 1:200

HORIZONTAL GEOMETRY AT LIP OF KERB	L=11 B=163°12'23"												
HEIGHT DIFFERENCE (m)	-0.05	-0.06	+0.09	+0.11	+0.18	+0.21	+0.20	+0.19	+0.17	+0.15	+0.14	+0.12	+0.12
DESIGN LEVELS AT ROAD CENTRELINE	395.617	395.597	395.747	395.771	395.831	395.859	395.849	395.829	395.809	395.789	395.769	395.749	395.748
EXISTING LEVELS AT ROAD CENTRELINE	395.67	395.66	395.66	395.66	395.65	395.65	395.65	395.64	395.64	395.64	395.63	395.63	395.63
CONTROL LINE CHAINAGE AT LIP OF KERB	-0.280	0.000	1.200	2.000	4.000	4.948	6.000	8.000	10.000	12.000	14.000	16.000	16.105

Ch 0.000 to Ch 16.105

LONGITUDINAL SECTION - LOT 7 ACCESS DRIVEWAY (CENTRELINE)

SCALE H: 1:100 V: 1:100

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:

444.50	EXISTING CONTOURS (0.5m INTERVAL)
444.50	DESIGN CONTOURS (0.2m INTERVAL)
× LEVEL	EXISTING LEVEL
	NEW DRAINAGE PIPE & PIT
	EXISTING DRAINAGE
EX.W	EXISTING WATER
EX.E O/H	EXISTING ELECTRICAL OVERHEAD
EX.E U/G	EXISTING ELECTRICAL UNDERGROUND
EX.COMM	EXISTING COMMUNICATIONS
EX.S	EXISTING SEWER (GRAVITY/RISING MAIN)
	TITLE BOUNDARY
	PROPOSED SITE BOUNDARY
▨	DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
▨	DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
🟩	DENOTES EXISTING STRUCTURES TO REMAIN
🟥	DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
LKC	DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

HEIGHT DIFFERENCE			0.210	
DESIGN SURFACE		395.644	395.859	395.752
EXISTING SURFACE	395.64	395.64	395.65	395.63
OFFSET	-5.00	-4.65	0.00	5.00

Ch 5.00 m
CL LOT 7 DRIVEWAY

HEIGHT DIFFERENCE		0.000	0.167	0.169	0.170	0.000	
DESIGN SURFACE		395.643	395.809	395.809	395.809	395.633	
EXISTING SURFACE	395.64	395.64	395.64	395.64	395.64	395.63	395.63
OFFSET	-5.00	-3.41	-1.75	0.00	1.75	3.50	5.00

Ch 10.00 m
CL LOT 7 DRIVEWAY

HEIGHT DIFFERENCE		0.000	0.129	0.130	0.131	0.000	
DESIGN SURFACE		395.631	395.759	395.759	395.759	395.627	
EXISTING SURFACE	395.63	395.63	395.63	395.63	395.63	395.63	395.62
OFFSET	-5.00	-3.03	-1.75	0.00	1.75	3.07	5.00

Ch 15.00 m
CL LOT 7 DRIVEWAY

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU
ABN 32 669 311 479

SCALE 1:200@A1
0 4 8 12 16 20 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DETAIL PLAN
NEW ACCESS DRIVEWAY LOT 6 & 7
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: **LU23111-CD-502**
REV: **A**

Pre-development catchment breakdown (m²)				
	Catchment A Overland flow to McGrath Road to the west of the subject site	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	19175	10725	14680	**44580**
Impervious area (m²)	1625	475	390	**2490**
Total area (m²)	**20800**	**11200**	**15070**	**47070**
% of Site area	**44%**	**24%**	**32%**	**100%**
% Pervious	92%	96%	97%	**95%**
% Impervious	8%	4%	3%	**5%**

NOTE:
1. REFER TO LEKKER URBAN DRAWING LU23111-CD-101 FOR ALL RELEVANT CONSTRUCTION NOTES.

LEGEND

- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO MCGRATH ROAD TO THE WEST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE
- DRAINAGE CATCHMENT EXTENT
- OVERLAND FLOW PATH

N

MCGRATH ROAD (44m WIDE ROAD RESERVE)

EX. EDGE OF PAVEMENT

EX. TABLE DRAIN

EX. 600Ø SW

EX. 525Ø SW

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052

FORMAL POINT OF DISCHARGE TO EXISTING GRASS LINED OPEN CHANNEL

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

1 RP850455

2 RP850455

3 RP850455

1 RP727052

2 RP749617

1 RP719276

2 RP719276

3 RP719276

2 RP901433

3 RP901433

4 RP901433

EXISTING SHED

EXISTING RESIDENCE

EXISTING SHED

EXISTING RESIDENCE

CATCHMENT C: 1.51 Ha CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE

CATCHMENT A: 2.08 Ha CATCHMENT AREA AS OVERLAND FLOW TO McGRATH ROAD TO THE WEST OF THE SUBJECT SITE

NOTE: EXISTING ACCESS ROAD NOT SHOWN ON SURVEY

CATCHMENT B: 1.12 Ha CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
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GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE CATCHMENT LAYOUT PLAN
PRE-DEVELOPMENT CONDITIONS (MINOR)

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-CD-600 REV: A

Post-development catchment breakdown (m²)				
	Catchment A Discharge to McGrath Road to the west of the subject site via new underground piped network	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	17218	10275	11750	39243
Impervious area (m²)	4652	925	2250	7827
Total area (m²)	**21870**	**11200**	**14000**	**47070**
% of Site area	**46%**	**24%**	**30%**	
% Pervious	79%	92%	84%	83%
% Impervious	21%	8%	16%	17%

NOTE:
1. REFER TO LEKKER URBAN DRAWING LU23111-CD-101 FOR ALL RELEVANT CONSTRUCTION NOTES.

LEGEND

- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO MCGRATH ROAD TO THE WEST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE
- DRAINAGE CATCHMENT EXTENT
- OVERLAND FLOW PATH

N

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

1 RP850455 | 2 RP850455 | 3 RP850455 | 2 RP749617

1 RP727052

1 2777m² | 2 2968m² | 3 3111m² | 4 3111m² | 5 3009m² | 6 7377m² | 7 4149m² | 8 2455m² | 9 2696m² | 10 2696m² | 11 2519m² | 12 5262m²

NOTE: AN ALLOWANCE FOR LOTS 1 TO 5 TO CONTINUE TO DISCHARGE TO THE ADJOINING PROPERTIES TO THE NORTH, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA PER LOT

CATCHMENT C: 1.40 Ha CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE

CATCHMENT A: 2.19 Ha CATCHMENT AREA AS OVERLAND FLOW & NEW PIPED NETWORK TO McGRATH ROAD TO THE WEST OF THE SUBJECT SITE

NOTE: AN ALLOWANCE FOR LOTS 8 TO 12 TO CONTINUE TO DISCHARGE TO MCGRATH ROAD TO THE WEST, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA PER LOT FOR LOTS 8 TO 11, WITH LOT 12 EXISTING DWELLING REMAINING

NOTE: EXISTING ACCESS ROAD NOT SHOWN ON SURVEY

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

CATCHMENT B: 1.12 Ha CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE

NOTE: AN ALLOWANCE FOR LOTS 1 TO 5 TO CONTINUE TO DISCHARGE TO THE EXISTING WATERCOURSE TO THE EAST, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA FOR LOT 7

1 RP719276 | 2 RP719276 | 3 RP719276 | 2 RP901433 | 3 RP901433 | 4 RP901433

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

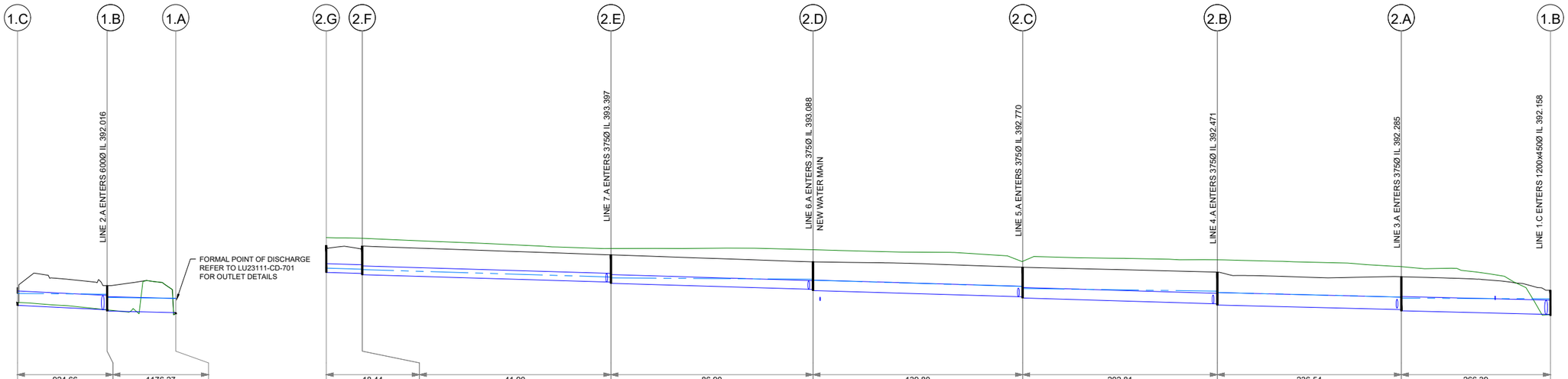
SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE CATCHMENT LAYOUT PLAN
POST-DEVELOPMENT CONDITIONS (MINOR)

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL | DRAWING NUMBER: LU23111-CD-601 | REV: A



FLOW (l/sec)		924.66			1176.27	
CAPACITY (l/sec)		1948			1377	
VELOCITY (m/s)		2.61			2.19	
PIPE DETAILS		1200x600Ø Default			1200x600Ø Default	
SLOPE/GRADE		1:100.0 1.0%			1:200.0 0.5%	
DATUM RL 385.8						
HGL (10% AEP)	392.969		392.684	392.544		392.506
DEPTH TO INVERT	0.121		1.034	1.084		-0.042
INVERT LEVEL	392.207		392.016	391.966		391.893
DESIGN SURFACE	392.328		393.050			391.850
EXISTING SURFACE	392.328		392.015			391.850
CHAINAGE	0.000	19.124	19.124		14.635	33.759

LINE 1

SCALES: H 1:500 V 1:100

RL 386

FLOW (l/sec)		18.44			41.90			86.90			139.80			202.81			236.54			266.39	
CAPACITY (l/sec)		136			136			136			221			221			318			454	
VELOCITY (m/s)		0.86			1.08			1.30			1.47			1.57			1.56			1.61	
PIPE DETAILS		375Ø Class 3 RCP			375Ø Class 2 RCP			375Ø Class 2 RCP			450Ø Class 2 RCP			450Ø Class 2 RCP			525Ø Class 2 RCP			600Ø Class 2 RCP	
SLOPE/GRADE		1:166.7 0.6%			1:166.7 0.6%			1:166.7 0.6%			1:166.9 0.6%			1:166.8 0.6%			1:200.0 0.5%			1:200.0 0.5%	
HGL (10% AEP)	394.019		393.948	393.933		393.615	393.580		393.520	393.480		393.212	393.128		393.012	392.955		392.759	392.716		392.684
DEPTH TO INVERT	1.155		1.173	1.223		1.165	1.215		1.176	1.227		1.263	1.313		1.354	1.404		1.402	1.451		1.034
INVERT LEVEL	393.811		393.765	393.715		393.397	393.347		393.088	393.038		392.770	392.720		392.471	392.421		392.225	392.175		392.016
DESIGN SURFACE	394.966		394.938			394.561			394.265			394.033			393.825			393.626			393.050
EXISTING SURFACE	395.299		395.268			394.832			394.781			394.286			394.351			394.059			392.015
CHAINAGE	0.000	7.686	7.686		53.066	60.752		43.106	103.858		44.727	148.585		41.538	190.123		39.242	229.364		31.818	261.183

LINE 2

SCALES: H 1:500 V 1:100

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A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE LONGITUDINAL SECTIONS

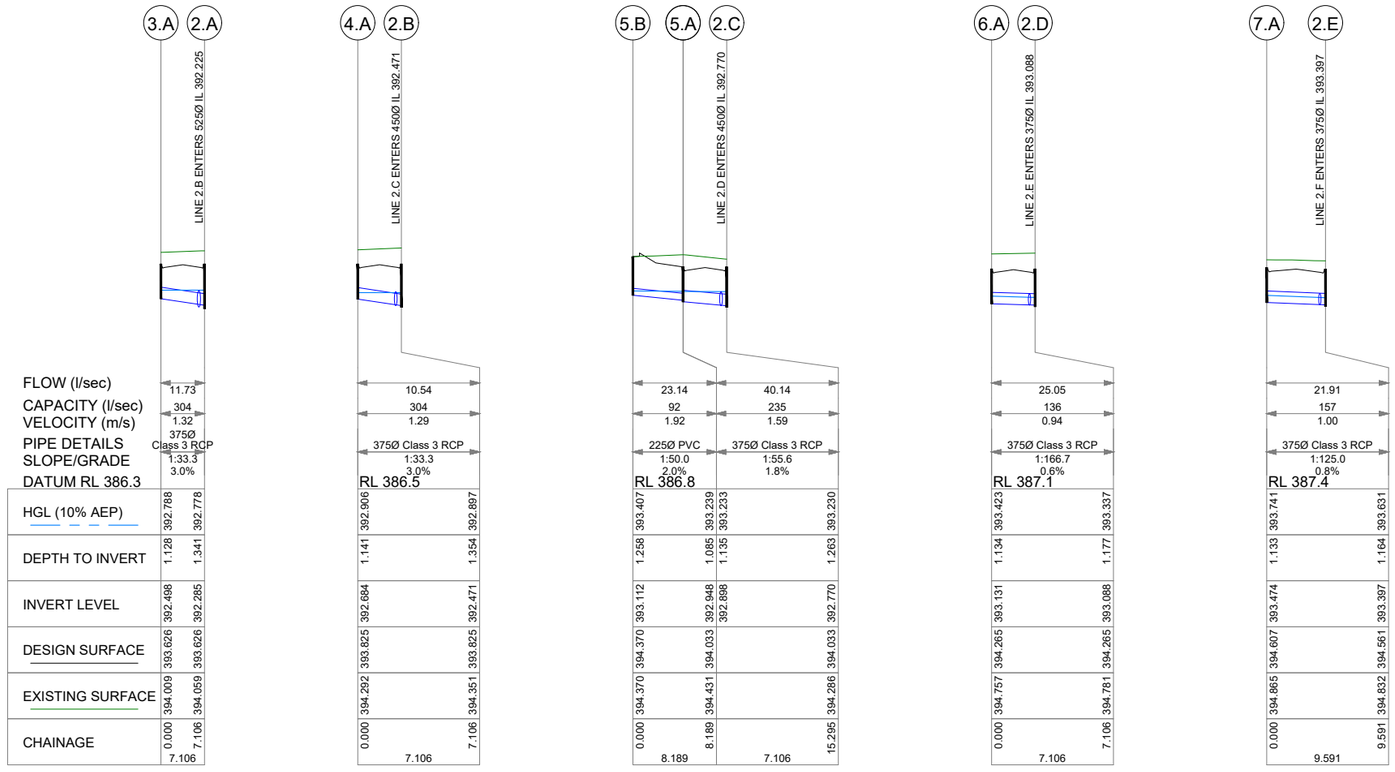
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-CD-602
REV: A

DRAINAGE PIT SCHEDULE

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Easting	Northing	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)	(m)	(m)	
1.A	HEADWALL (OUTLET)	1200	-			1200x600	391.893	0.750	391.850	331264.11	8123113.195	REFER TO LU23111-CD-701 FOR HEADWALL OUTLET DETAILS & ASSOCIATED ROCK SCOUR PROTECTION
1.B	FIELD INLET PIT (GRATED)	1500	1500	1200x600	391.966	600	392.016	1.084	393.050	331266.76	8123098.803	REFER TO FNQROC STANDARD DRAWING "FIELD INLET PIT" S1070 FOR FURTHER DETAILS - TYPE B - STEP IRONS REQUIRED
						1200x600	392.016					
1.C	HEADWALL (INLET)	1200	-	1200x600	392.207			0.750	392.328	331270.23	8123079.996	REFER TO LU23111-CD-701 FOR HEADWALL OUTLET DETAILS & ASSOCIATED ROCK SCOUR PROTECTION
2.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	600	392.175	525	392.225	1.451	393.626	331297.98	8123092.663	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.285					
2.B	GRATED KERB INLET PIT (ON-GRADE)	835	930	525	392.421	450	392.471	1.404	393.825	331336.42	8123084.754	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.471					
2.C	GRATED KERB INLET PIT (ON-GRADE)	835	930	450	392.720	450	392.770	1.313	394.033	331376.13	8123072.557	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.770					
2.D	GRATED KERB INLET PIT (ON-GRADE)	835	930	450	393.038	375	393.088	1.227	394.265	331419.67	8123062.354	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	393.088					
2.E	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.347	375	393.397	1.215	394.561	331462.32	8123056.076	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	393.397					
2.F	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.715	375	393.765	1.223	394.938	331514.82	8123048.349	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
2.G	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.811			1.155	394.966	331516.68	8123040.892	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
3.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.498			1.128	393.626	331296.69	8123085.677	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
4.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.684			1.141	393.825	331334.33	8123077.961	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
5.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.898	225	392.948	1.135	394.033	331374.04	8123065.764	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
5.B	FIELD INLET PIT (GRATED)	600	600	225	393.112			1.258	394.370	331374.28	8123057.578	NEW EVERHARD (OR APPROVED EQUIVALENT) PRECAST STORMWATER PIT PROVIDE CLASS D (TRAFFICABLE) GRATE - WITH NO STEP IRONS
6.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.131			1.134	394.265	331418.64	8123055.323	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
7.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.474			1.133	394.607	331467.66	8123048.108	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED



LINE 3
SCALES: H 1:500 V 1:100

LINE 4
SCALES: H 1:500 V 1:100

LINE 5
SCALES: H 1:500 V 1:100

LINE 6
SCALES: H 1:500 V 1:100

LINE 7
SCALES: H 1:500 V 1:100

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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ABN 32 669 311 479

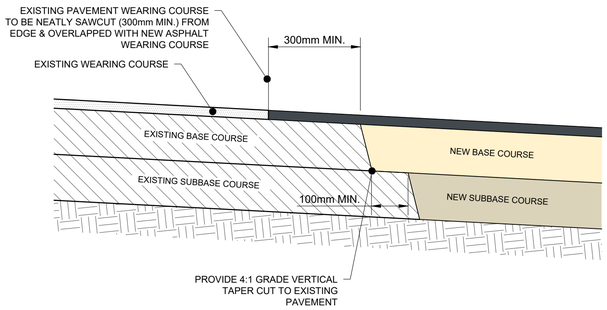
SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B.
Checked: J.L.A.
Authorised: J.L.A.
Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE

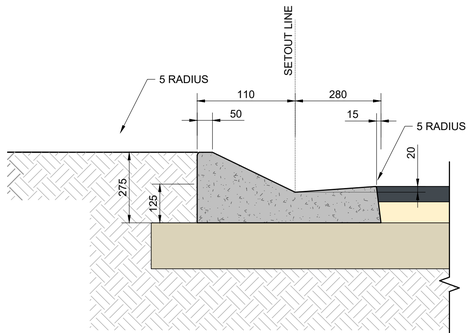
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-603
REV: A



TYPICAL PAVEMENT JOINT DETAIL

NOT TO SCALE

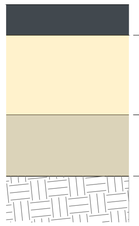


TYPICAL LAYBACK KERB & CHANNEL DETAIL

SCALE 1:10

PARAMETER	DESIGN VALUES
AADT	< 250
STREET TYPE (FNQROC)	ACCESS PLACE ADOPTED (ACCESS STREET FORMATION IS TO BE USED)
MINIMUM ESA's	5.0 x 10^4
DESIGN SUBGRADE CBR	4.5%

PAVEMENT PROFILE - NEW PAVEMENT (TYPICAL)



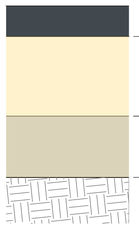
WEARING COURSE:
30mm ASPHALT (AC10)
WITH AMC 7 PRIMER SEAL

BASE COURSE:
TYPE 2.2 PER MRTS05/FNQROC (MIN. CBR 60%)
(100% STANDARD COMPACTION)
150mm THICK THROUGHOUT

SUB-BASE COURSE:
TYPE 2.3 PER MRTS05/FNQROC (MIN. CBR 45%)
(100% STANDARD COMPACTION)
170mm THICK THROUGHOUT

DESIGN SUBGRADE: CBR 4.5%
GROUND TREATMENT REQUIRED IF CBR <4.5%

PAVEMENT PROFILE - NEW PAVEMENT (INTERSECTION & CUL-DE-SAC)



WEARING COURSE:
50mm ASPHALT (AC10)
WITH AMC 7 PRIMER SEAL

BASE COURSE:
TYPE 2.2 PER MRTS05/FNQROC (MIN. CBR 60%)
(100% STANDARD COMPACTION)
150mm THICK THROUGHOUT

SUB-BASE COURSE:
TYPE 2.3 PER MRTS05/FNQROC (MIN. CBR 45%)
(100% STANDARD COMPACTION)
170mm THICK THROUGHOUT

DESIGN SUBGRADE: CBR 4.5%
GROUND TREATMENT REQUIRED IF CBR <4.5%

GENERAL EARTHWORKS RECOMMENDATION

WHERE REQUIRED, SITE PREPARATION AND EARTHWORKS PROCEDURES SHOULD INVOLVE THE FOLLOWING;

- STRIP & REMOVE TOPSOIL, SOIL CONTAINING SIGNIFICANT AMOUNTS OF ORGANIC MATERIALS, 'UNCONTROLLED' FILLING AND ALSO ANY DELETERIOUS SOFT, WET OF HIGHLY COMPRESSIBLE MATERIALS IF ENCOUNTERED AT FOOTING OR PAVEMENT FORMATION LEVELS;
- UNDERTAKE 'PROOF' ROLLING OF THE EXPOSED SURFACE LEVELS ACROSS THE SITE WITH A MINIMUM 12 TONNE STATIC WEIGHT SMOOTH DRUM OR SIMILAR. ANY SOFT OR LOOSE MATERIAL THAT CANNOT BE IMPROVED BY COMPACTION SHOULD BE REMOVED AND REPLACED WITH APPROVED SELECT FILL (LOADING AROUND THE CREST SHOULD BE NOT TAKE PLACE);
- ANY EXPOSED NATURAL FOUNDATION SOILS SHOULD BE COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 98% USING STANDARD COMPACTION AND MOISTURE TREATED TO A MOISTURE RANGE OF -2% (DRY) TO +2% (WET) OF OPTIMUM MOISTURE CONTENT (OMC);
- WHERE THE FOUNDATION LEVELS ARE TO BE RAISED OR SUBGRADE MATERIALS ARE TO BE EXCAVATED (I.E. REMOVE & REPLACE), THE FOUNDATION SOILS SHOULD BE PREPARED AS DETAILED BELOW:
  - APPROVED FILLING SHOULD BE UNDERTAKEN BY PLACING FILL IN UNIFORM HORIZONTAL LAYERS NOT EXCEEDING 200mm LOOSE THICKNESS AND COMPACTED TO ACHIEVE A DRY DENSITY RATIO OF AT LEAST 98% USING STANDARD COMPACTION FOR COHESIVE SOIL OR TO AT LEAST 75% DENSITY INDEX FOR SAND. THE MOISTURE CONTENT OF ANY COHESIVE SOIL FILL MATERIALS SHOULD BE MAINTAINED AT -2% AND +2% OF OMC, DURING & AFTER COMPACTION;
  - WHERE UNSUITABLE MATERIALS ARE TO BE EXCAVATED IT IS RECOMMENDED THAT ALL EXCAVATED IN-SITU SOILS ARE REMOVED FROM THE SITE AND APPROVED SELECT FILL IS PLACED AND COMPACTED IN THE EXCAVATION. THE EXCAVATION SHOULD BE BENCH TO 'KEY IN' THE SELECT FILL MATERIAL AND OPTIMISE COMPACTION. THE BENCHES SHOULD SLOPE BACK AT 1V:5H AND BE AT LEAST 0.5m WIDE (REFER TO FIGURE 1 FROM ETS GEOTECHNICAL REPORT FOR DETAIL);
  - APPROVED FILLING (GENERAL FILL) SHOULD BE A WELL GRADED MATERIAL FREE FROM ORGANIC MATERIAL, HAVE A PLASTICITY INDEX OF LESS THAN OR EQUAL TO 15%, SHOULD NOT CONTAIN ANY INDIVIDUAL PARTICLES GREATER THAN 75mm IN SIZE;
  - IN ORDER FOR FILLING TO BE CONSIDERED 'CONTROLLED' ANY EARTHWORKS THAT ARE UNDERTAKEN BENEATH ANY OF THE PROPOSED STRUCTURES OR PAVEMENTS ARE TO BE PERFORMED UNDER FULLTIME 'LEVEL 1' INSPECTION AND TESTING AS DESCRIBED AND IN ACCORDANCE WITH AS3798.

IT SHOULD BE NOTED THAT THERE MAY BE TRAFFICABILITY ISSUES FOR RUBBER WHEELED EARTHMOVING EQUIPMENT IF CONSTRUCTION ACTIVITES ARE UNDERTAKEN DURING, OR SOON AFTER WET WEATHER, DUE TO THE MOISTENING AND SOFTENING OF THE CLAY SOILS. IN ORDER TO MINIMISE THESE ISSUES, THE USE OF TRACKED EQUIPMENT IS SUGGESTED. IN ADDITION TO THIS, ACHIEVING A SATISFACTORY 'PROOF' ROLL UNDER WET WEATHER CONDITIONS MAY ALSO BE DIFFICULT. SHOULD THIS SITUATION ARISE, ADDITIONAL GEOTECHNICAL ADVICE SHOULD BE SOUGHT.

PAVEMENT NOTES

1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO GEOTECHNICAL ASSESSMENT (REPORT NO. 2601701R), DATED 17 MARCH 2026, PROVIDED BY GROUND TECHNICS FOR ALL LABORATORY TEST RESULTS AND FURTHER INFORMATION.
3. REFER TO PAVEMENT DESIGN PROJECT MEMORANDUM (B-0749.00 M1), DATED 25 MARCH 2026, PROVIDED BY D&N GEOTECHNICAL FOR FULL PAVEMENT DESIGN.
4. SAMPLING AND TESTING OF EXISTING SUBGRADE AS REQUIRED FNQROC SPECIFICATIONS.
5. REFER TO FNQROC - STANDARD DRAWING - S1000 - CONCRETE KERB & CHANNEL PROFILES, FOR KERB DIMENSIONS, ADDITIONAL NOTES & DETAILS.
6. REFER TO FNQROC - STANDARD DRAWING - S1095 - SUBSURFACE DRAINAGE FLUSHING POINT OUTLET, FOR SUB SOIL DIMENSIONS, ADDITIONAL NOTES & DETAIL

ASPHALT WEARING COURSE

THE PROPOSED WEARING SURFACE FOR THE NEW ACCESS STREET PAVEMENT SHALL COMPRISE 30mm ASPHALTIC CONCRETE (AC), CONSISTENT WITH THE FNQROC DEVELOPMENT MANUAL REQUIREMENTS FOR URBAN RESIDENTIAL STREETS. BASED ON FNQROC GUIDANCE, THE 30mm AC IS CONSIDERED TO FUNCTION AS A WEARING SURFACE ONLY AND IS NOT RELIED UPON FOR STRUCTURAL CONTRIBUTION TO THE PAVEMENT.

THE ASPHALT SHALL BE A NOMINAL SIZE 10mm DENSE GRADED ASPHALT IN GENERAL ACCORDANCE WITH THE DTMR MRTS30 – ASPHALT PAVEMENTS, SUITABLE FOR LOW TRAFFIC RESIDENTIAL APPLICATIONS.

A LIGHT PRIME COAT (E.G. EMULSION PRIME SUCH AS A CATIONIC RAPID SET (CRS) EMULSION) SHALL BE APPLIED TO THE PREPARED GRANULAR BASE PRIOR TO PLACEMENT OF THE ASPHALT LAYER TO PROMOTE ADHESION AND REDUCE PERMEABILITY AT THE INTERFACE.

IT IS NOT ANTICIPATED THAT THE PAVEMENT WILL BE IMMEDIATELY TRAFFICKED FOLLOWING CONSTRUCTION OF THE GRANULAR HOWEVER, IF THERE IS A NEED TO TRAFFIC THE PAVEMENT PRIOR TO AC PLACEMENT, THE FOLLOWING CONSTRUCTION APPROACH IS RECOMMENDED:

- THE GRANULAR PAVEMENT SHOULD BE PROVIDED WITH A LOW CUTTER OR EMULSION PRIMER SEAL TO PROVIDE TEMPORARY WATERPROOFING AND TRAFFICKING CAPABILITY DURING THE CONSTRUCTION PHASE.
- THE FINAL ASPHALT WEARING COURSE SHOULD BE PLACED FOLLOWING COMPLETION OF SUBDIVISION WORKS AND CURING OF THE PRIMER SEAL TO ENSURE ALL VOLATILES HAVE ESCAPED; AND PRIOR TO PRACTICAL COMPLETION, TO MINIMISE DAMAGE FROM CONSTRUCTION TRAFFIC AND TO ENSURE SURFACE INTEGRITY.
- WHERE THE PAVEMENT IS REQUIRED TO CARRY CONSTRUCTION TRAFFIC PRIOR TO PLACEMENT OF THE ASPHALT LAYER, THE CONTRACTOR SHALL ENSURE THAT THE TEMPORARY SURFACE TREATMENT IS ADEQUATE TO PREVENT DEGRADATION OF THE BASE COURSE AND INGRESS OF MOISTURE.

SUBGRADE CONSIDERATIONS

1. A SUBGRADE DESIGN CBR VALUE OF 4.5% HAS BEEN ADOPTED TO DEVELOP PAVEMENT DESIGN CONSIDERING THE LABORATORY SOAKED CBR AND DCP VALUES FROM THE GROUND TECHNICS REPORT USING EMPIRICAL RELATIONSHIPS IN ACCORDANCE WITH AUSTROADS AGPT02-2024.
2. THE ADOPTED DESIGN CBR WAS BASED ON THE FOLLOWING:
   - 2.1. SUBGRADE CONDITIONS AND IN-SITU CBR BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER AT THE TIME OF EXPOSURE.
   - 2.2. PROVISION BE MADE FOR BRIDGING OF SUBGRADE WHERE THE SUBGRADE IS FOUND TO BE LESS THAN THE ADOPTED CBRs (FOR EXAMPLE, WHERE INCREASED SOIL MOISTURE OCCURS, OR PROOF ROLLS FAIL).
   - 2.3. SUBSOIL DRAINS BE PROVIDED ALONG THE LENGTH OF THE ALIGNMENT TO CONTROL SUBGRADE MOISTURE.
   - 2.4. CROSSFALL ON THE TRAFFICABLE LANES SHALL BE MINIMUM 3% TO ENCOURAGE WATER SHEDDING.
   - 2.5. VEGETATION SHALL NOT BE ALLOWED TO ESTABLISH AT THE EDGE OF THE SEAL, AS SUCH GROWTH CAN IMPEDE DRAINAGE FROM THE PAVEMENT AND LEAD TO WATER INGRESS AND SOFTENING OF ALL PAVEMENT AND SUBGRADE LAYERS.

SUBGRADE PREPARATION

1. THE SUBGRADE LEVEL SHOULD BE EXPOSED OR BOXED OUT TO THE DESIGN LEVEL.
2. THE SUBGRADE SHALL BE MADE TO CROSSFALL TO SITE DRAINAGE AT MINIMUM 3%.
3. THE TOP 300 mm OF THE NATURAL MATERIALS WITHIN THE SUBGRADE SHALL BE RIPPED AND RECOMPACTED TO 100% SMDD AND TO WITHIN 2% OF OPTIMUM MOISTURE (OMC).
4. THE EXPOSED SUBGRADE SHALL BE PROOF-ROLLED IN THE PRESENCE OF AN EXPERIENCED PROFESSIONAL ENGINEER, USING A MINIMUM 12 TONNE SMOOTH DRUM ROLLER OR SIMILAR.
5. ANY DEFLECTING OR POORLY PERFORMING AREAS SHALL BE INVESTIGATED FURTHER, AND DELETERIOUS MATERIALS SUCH AS ORGANICS, HIGH PLASTICITY CLAYS, MOISTURE-AFFECTED ZONES, OR WEAK ZONES SHALL BE REPLACED WITH A BRIDGING LAYER IN ACCORDANCE WITH DTMR MRTS04 GENERAL EARTHWORKS.
   - 5.1. BRIDGING LAYERS SHALL COMPRISE CLEAN GRANULAR MATERIAL (<5% FINES, MAXIMUM PARTICLE SIZE 75 mm), ENCAPSULATED IN A NON-WOVEN GEOTEXTILE COMPLYING WITH DTMR MRTS27 GEOTEXTILES (SEPARATION AND FILTRATION), STRENGTH CLASS C AND FILTRATION CLASS 4.
   - 5.2. THE THICKNESS OF THE BRIDGING LAYER WILL DEPEND ON SITE CONDITIONS. A MINIMUM THICKNESS OF 300 mm IS REQUIRED, WITH GREATER THICKNESSES POTENTIALLY NECESSARY IN WEAKER AREAS.
   - 5.3. BRIDGING LAYERS MUST REMAIN WELL-DRAINED AND BE CONNECTED TO SUBSOIL DRAINS IN ACCORDANCE WITH DTMR MRTS03 DRAINAGE, RETAINING STRUCTURES AND PROTECTIVE TREATMENTS.
   - 5.4. ADDITIONAL SUBGRADE DRAINS MAY BE REQUIRED TO CONTROL MOISTURE INGRESS AND MITIGATE CONDITIONS THAT COULD LEAD TO FUTURE DEFLECTION OVER THE LIFE OF THE PAVEMENT.
   - 5.5. BRIDGED ZONES SHALL BE PROOF ROLLED FOLLOWING PLACEMENT TO CONFIRM ADEQUATE SUBGRADE PERFORMANCE.

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

DRAWING NOT TO SCALE

Designed:	Checked:
A.P.B.	J.L.A.
Authorised:	**Date:**
J.L.A.	22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONSTRUCTION DETAILS
SHEET 1 OF 2

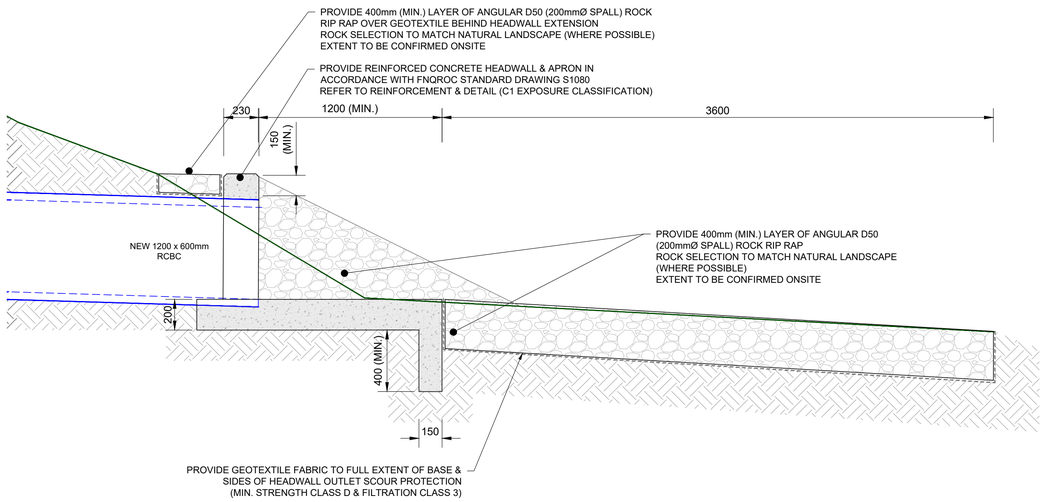
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: **LU23111-CD-700**

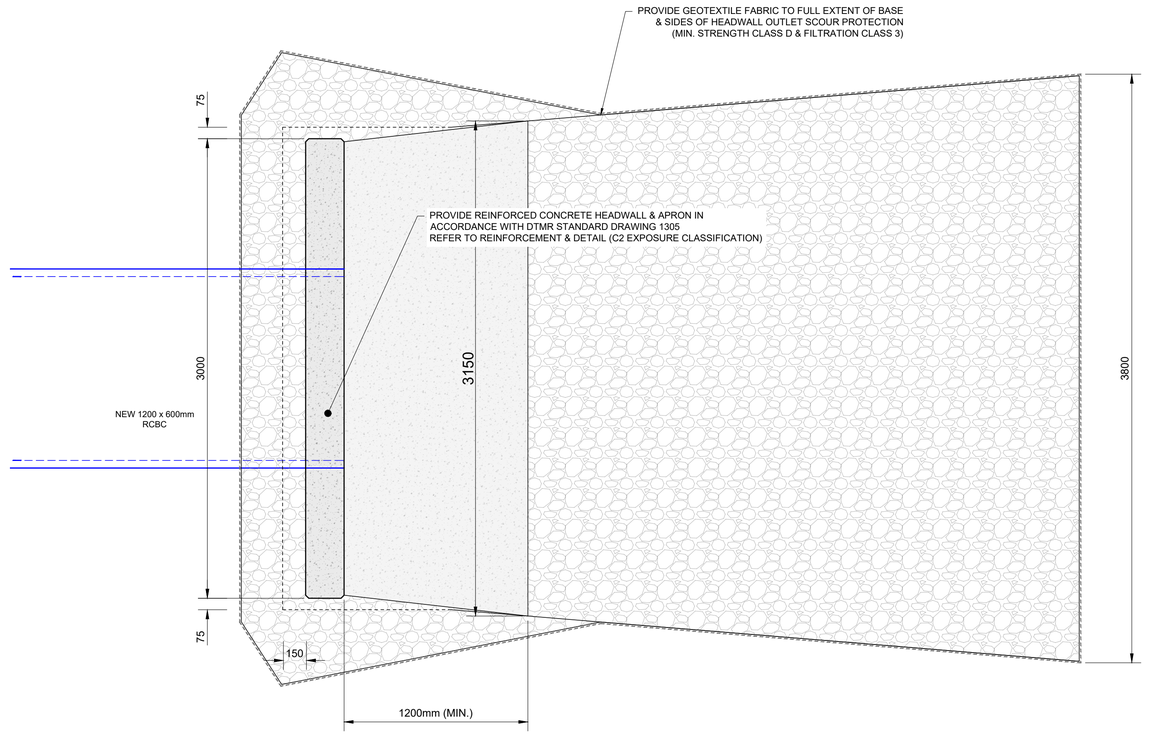
REV: **A**

NOTES
1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO FNQROC STANDARD DRAWING S1080
3. FOR REINFORCEMENT, CONCRETE & DETAILS FOR THE HEADWALL.
4. ALL DIMENSIONS SHOWN ON THIS DRAWING SHEET ARE IN MILLIMETRES.



TYPICAL HEADWALL INLET/OUTLET (SIDE SECTION) - PIT 1.A & 1.C

SCALE 1:20



TYPICAL HEADWALL INLET/OUTLET (PLAN VIEW) - PIT 1.A & 1.C

SCALE 1:20

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:20@A1
0 0.4 0.8 1.2 1.6 2.0 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONSTRUCTION DETAILS
SHEET 2 OF 2
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-701
REV: A

N

NOTE:
1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
3. CONFIRMATION OF LOCATION AND DEPTH OF ALL EXISTING SERVICES ARE REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:
- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

1 RP850455 | 2 RP850455 | 3 RP850455 | 2 RP749617

1 RP727052

1 2777m²
NOTE:
LOT 1 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

2 2968m²
NOTE:
LOT 2 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

3 3111m²
NOTE:
LOT 3 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

4 3111m²
NOTE:
LOT 4 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

5 3009m²
NOTE:
LOT 5 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

6 7377m²
NOTE: EXISTING ON-SITE EFFLUENT SYSTEM SERVICING THE STRUCTURES WITHIN PROPOSED LOT 6 ARE TO BE LOCATED & RELOCATED WITHIN THE PROPOSED PROPERTY BOUNDARY AS REQUIRED
ALL INTERNAL SANITARY SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

7 4149m²
NOTE:
LOT 7 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

8 2455m²
NOTE:
LOT 8 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

9 2696m²
NOTE:
LOT 9 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

10 2696m²
NOTE:
LOT 10 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
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ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

11 2519m²
NOTE:
LOT 11 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

12 5262m²
NOTE: EXISTING ON-SITE EFFLUENT SYSTEM SERVICING THE STRUCTURES WITHIN PROPOSED LOT 12 ARE TO BE LOCATED & RELOCATED WITHIN THE PROPOSED PROPERTY BOUNDARY AS REQUIRED
ALL INTERNAL SANITARY SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

EXISTING RESIDENCE | EXISTING SHED | EXISTING SHED | EXISTING RESIDENCE

1 RP719276 | 2 RP719276 | 3 RP719276 | 2 RP901433 | 3 RP901433 | 4 RP901433

A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026
Revision	Amendments	Approved	Date

Lekker Urban.
CAIRNS: 3A SCOTT STREET, PARRAMATTA PARK QLD
GOLD COAST: 16/17 KARP COURT, BUNDALL QLD
CONTACT@LEKKERURBAN.COM
WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B.	Checked: J.L.A.
Authorised: J.L.A.	Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
SEWER RETICULATION LAYOUT PLAN

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-SD-200

REV: A

N

NOTE:
1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
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5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:
- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- NEW DN100 PVC MAIN PN16
- NEW WATER SERVICE CONNECTION (INSTALLATION BY COUNCIL)
- NEW FIRE HYDRANT
- NEW VALVE
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

CONNECT TO EXISTING WATER MAIN
Ø100 TEE
CONTRACTOR IS TO LIAISE WITH MAREEBA SHIRE COUNCIL FOR CONNECTION

Ø100 VALVES
Ø100 x 45° BENDS

EXISTING WATER METER TO SERVICE TO BE REMOVED & REINSTATE WITH NEW METER

NOTE: EXISTING INTERNAL PLUMBING SERVICING THE STRUCTURES WITHIN PROPOSED LOT 12 ARE TO BE LOCATED & RECONNECTED TO THE NEW WATER METER ALL INTERNAL WATER SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

NOTE: EXISTING INTERNAL PLUMBING SERVICING THE STRUCTURES WITHIN PROPOSED LOT 6 ARE TO BE LOCATED & RECONNECTED TO THE NEW WATER METER ALL INTERNAL WATER SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

Lot	Area
1	2777m²
2	2968m²
3	3111m²
4	3111m²
5	3009m²
6	7377m²
7	4149m²
8	2455m²
9	2696m²
10	2696m²
11	2519m²
12	5262m²

EXISTING RESIDENCE
EXISTING SHED

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

Lekker Urban.
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WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CIVIL WORKS LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-203
REV: A