

Author name: Name suppressed

Date of submission: Tuesday, 4 June 2024

Your submission for this review:

Please see attached a submission on behalf of Mirvac Homes (NSW) Pty Ltd.

3 June 2024

Our Ref: GLN_10801_IPART Submission_June24

Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop
Sydney NSW 1240

Attention: Scott.Chapman@ipart.nsw.gov.au

Dear Scott,

RE: Submission - Review of Penrith City Council's Glenmore Park Stage 3 Contributions Plan

This submission has been prepared on behalf of Mirvac Homes (NSW) Pty Ltd (**Mirvac**) for the purpose of providing a response to IPART's *Draft Report on the Review of Penrith City Council's Glenmore Park Stage 3 Contributions Plan 2022* (the **Draft Report**). As IPART are aware, Mirvac act as one of two key landholders, and in conjunction with Council, will ultimately deliver the majority of local infrastructure required to support the 2,330 dwellings anticipated in the release area.

We congratulate IPART on their timely review of the Contributions Plan. As part of the Draft Report, IPART have requested additional information from Penrith City Council (**Council**) concerning a number of matters to allow for the finalisation of the review, anticipated to occur in July 2024.

The below items provide a response to each of the key recommendations and requests for information contained in the Draft Report. For ease of reference, we have generally adopted the same structure as IPART.

Response to Draft Recommendations

Recommendation (1): Update the cost of plan administration to be 1.5% of the revised total works costs

Response: Mirvac raises no objections to IPART's recommendation.

Recommendation (2): The Council use the following contingency allowances

30% for MB1, VB2, MB3, MB4, and MB5 stormwater works items

20% for transport works

15% for open space embellishment works

Response: Mirvac raises no objections to IPART's recommendation.

Recommendation (3): Adjust the work schedule for residential development to:



- a. *Remove the contingency allowance from the base cost of works for INT1-5.*

Response: Mirvac raises no objections to this recommendation.

- b. *Update the CPI values for transport works and land costs to reflect the September 2023 indexed value*

Response: Mirvac raises no objections to this recommendation.

- c. *Reduce the land disturbance allowance for transport land items T3.4, INT4 and INT3 to 5%*

Response: Mirvac raises no objections to this recommendation. The previous rate was an error in the works schedule.

- d. *Use the R2 (>10,000 square metre) rate for T2.1 and T3.1, the R3 (<10,000 square metre) rate for T3.4, and use the R2 (<10,000 square metre) rate for T3.5 from the land valuation report.*

Response: The majority of the roads included within the Contributions Plan traverse multiple zoning and ownership boundaries. The plan's use of 4 parent lot area ranges and 6 underlying land use zones results in a matrix of 24 separate land acquisition rates. This approach is overly complex for the purposes of estimating land acquisition costs in a contributions plan. The approach would be also difficult to administer as the exact location and lengths of roads are likely to vary as part of the lodgement of development applications over the lands.

The previous valuation report commissioned by Mirvac and prepared by Cushman Wakefield instead adopts a 'blended', or average square metre rate for all roads. This approach is recommended by IPART as part of Transport Items T2.2, T3.4, T4.4 and T5 that use a blended approach to consider the underlying zoning (page 23 of the Draft Report). It is considered that adopting more than one approach would add a layer of complexity to the costings without improving the reasonableness of the contributions.

We note that IPART has also recognised the blended approach as suitable for the Contributions Plan for Orchard Hills North being assessed concurrently with this Plan.

For consistency, we recommend a 'blended'/average square metre rate is adopted for all roads. The rate can be determined using the estimated value of land to be acquired for roads as per IPART's recommendations of \$45,052,383 (excluding disturbance), and dividing it by the total land to be acquired for roads of 99,455m². This maintains the total value of roads to be acquired in the Contributions Plan (thereby mitigating the risk to Council of there being a shortfall) and provides an average rate of \$453/m², which is also consistent with the average of the land rates provided by Deloitte (\$450/m²).

Recommendation (4): Include indicative timing for individual infrastructure items in the work schedule for the plan.

Response: Indicative timing for each infrastructure item is provided in Column 'P' of the works schedule. The indicative timeframe for roads was omitted as these are likely to be delivered in stages associated with various stages of the development, and as noted above, some roads span across



multiple landowners which makes it impractical to establish approximate timeframes. Mirvac considers that the current timing details are adequate.

Additional Information Requested

Request (1): The Council provide further information about whether the land and/or works of the linear parks (LIN1-4) meets the essential works list.

Response: As noted by IPART, the Department of Planning and Environment's 'Practice Note – Local Infrastructure Contributions' (January 2019) states the following:

"The acquisition of land and the undertaking of works for environmental purposes e.g. bushland regeneration or riparian corridors are not defined as essential works for the purposes of this Practice Note.

The only exception to this is where it can be demonstrated that the land and/or works in question serve a dual purpose with one or more of the categories of works that meet the definition of essential infrastructure outlined above. In this situation, only the component of land and/or works that serves the dual purpose can be considered as essential works." (Page 16)

We agree that the principal purpose of the environmental corridors, having been zoned C2 Environmental Conservation is to protect lands in accordance with the Cumberland Plain Conservation Plan (**CPCP**).

All Linear Parks (with the exception of Linear Park 4) serve multiple functions, being:

- passive open space consisting of base level embellishments including walking trails, seating, shared paths and pedestrian paths, and basic park infrastructure including seating, and
- stormwater infrastructure.

The linear parks (with the exception of Linear Park 4) therefore meet the definition of essential works.

Specifically with regards to Linear Park 4, we note this was originally included in the plan as it provided a stormwater function as an overland flow path, however, these flows are now piped through the stormwater drainage network. Additionally, Linear Park 4 includes an active transport link, however, this was leftover from previous iterations of the plan where Local Park 2 was over 17,000m² and a direct connection was proposed to District Park 4, which is no longer the case. Given Linear Park 4 no longer provides a stormwater function and the active transport link is not required, and given it is too narrow to function as a useable open space area, Mirvac recommends Linear Park 4 is removed from the Contributions Plan.

Request (2): The Council provide information about why 25 hectares of open space has not been included when considering the provision of open space in the plan.

Response: The 25 hectares relates to the proposed linear parks in the release area. We understand IPART is concerned that the embellishment costs for the linear parks are included, but not the land acquisition costs.

The following points are relevant to IPART's assessment:



- The Contributions Plan also contains 22 hectares of proposed open space on land that is zoned RE1 Public Recreation. This land is considered the primary open space serving the new community. The RE1 zoned open space areas alone represents a provision rate of 3.19 hectares per 1,000 future residents. If the environmental corridors were accounted for as public open space, the provision rate would rise to almost 7ha per 1,000 residents.
- The proposed linear parks are additional areas that are CPCP lands that mostly abut RE1 zoned areas. Their future use for passive open space is a logical strategy.
- Council and Mirvac are negotiating for the linear parks on Mirvac land to be embellished in a manner that retains the conservation values of the land, while also including facilities such as walking trails for the benefit of the future community.

In the context of the above, particularly the perception that including linear parks in the open space quantum results in a very high rate of provision of open space, Mirvac has no objection to the removal of the linear park embellishment works from the Contributions Plan (should this be an option that IPART is considering).

Request (3): The Council provide further information to support the cost estimates for transport works items T3.1-T3.5.

Response: Mirvac is confident that items T3.1-T3.5, being the collector roads included within the Contributions Plan, have been costed accurately.

Request (4): The Council provides further information on costs that should be included in the plan for LIN1-4 that meet the essential works list.

Response: Refer to the response to items (1) and (2) above.

Request (5): The Council provides further information:

a. On whether the underlying zoning for transport land items T2.2, T3.4 and T4.4 and T5 could be used to determine the land value.

Response: Refer to the response to the IPART recommendation 3(d) above.

b. Rates used in the work schedule to value C2 Environmental Conservation land differ from the valuation report.

Response: We understand that Penrith Council will provide the previous valuation report commissioned by Mirvac from Cushman and Wakefield, which provides a more detailed analysis of the C2 Zoned lands informed by the constraints associated with the Cumberland Plain Conservation Plan.

c. Stormwater land items that appear to be under 1 hectare in size differs from value used in the valuation report.

Response: As per the above response, we understand that Council will provide the previous Cushman and Wakefield report to justify the valuations used for these lands.



Request (6): The Council provide further information about the methodology used to determine the 5% land disturbance allowance.

Response: Previous advice provided by Cushman and Wakefield was to adopt a 5.5% disturbance allowance for lands <\$3.5m and 7.0% for land >\$3.5m. The disturbance allowance for Orchard Hills North has also adopted a 5% allowance which has been accepted by IPART and Mirvac have no objection to adopting this rate.

Request (7): The Council provides further detail explaining why transport costs have not been apportioned to non-residential development.

Response:

Lands zoned for non-residential development are situated on lands outside of the control of Mirvac. As noted by IPART, we understand that Council intends to apply the Citywide Section 7.12 Contributions Plan to non-residential development on the E1 Local Centre zoned land.

Under the current Contributions Plan the full cost of local infrastructure in GP3 is met entirely by new residential development. However, we consider there is clear nexus between the transport items and water cycle management items and the E1 zoned land (i.e. non-residential development).

The Comprehensive Transport Impact Assessment (CTIA) prepared by The Transport Planning Partnership (TPPP) determined the traffic generation potential of GP3 which then informed the transport items that are required in the Contributions Plan. The traffic generation potential was determined by assigning a trip generation rate to each land use, including residential and non-residential development, which then provided the total traffic generation for GP3. It is important to note, the non-residential trips are in addition to the residential trips, thereby establishing a nexus between the E1 zoned land and the transport items.

To avoid double counting, a discount was applied to the non-residential trips to account for 'pass-by trips' per Austroads Guide to Traffic Management part 12. Pass-by trips occur where a vehicle visits a non-residential use such as a supermarket, when travelling between its origin and final destination (these trips would already be captured as background traffic along The Northern Road).

J. Wyndham Prince prepared the Water Cycle Management Strategy for GP3 which informed the water cycle management infrastructure in the draft contributions plan. The modelling assumes a stormwater connection from the E1 zoned land to the broader water cycle management network, including detention basin VB4. This establishes a nexus between the E1 zoned land and the water cycle management infrastructure.

The application of the Section 7.12 approach would be acceptable so long as it does not lead to unreasonable s7.11 contributions being imposed on the rest of the developable land in the Contributions Plan. The Section 7.11 rates in the draft plan erroneously assume that development on R2 and R3 land will create all of the demand for all the local infrastructure in the Contributions Plan works schedule. This is incorrect as the retail, commercial and other future uses on the E1 zoned land will also generate demand for the transport and drainage works in the works schedule. Failure to account for this sharing of demand between development on E1 zoned land and Residential zoned land results in unreasonable residential contributions.

This creates a situation where Council are collecting a contribution above the total value of works required to service the precinct. By contrast, Council's Orchard Hills North Contributions plan applies a portion of infrastructure costs to non-residential land based on a rate per hectare of NDA, while reducing the overall \$7.11 contribution applied to residential development.

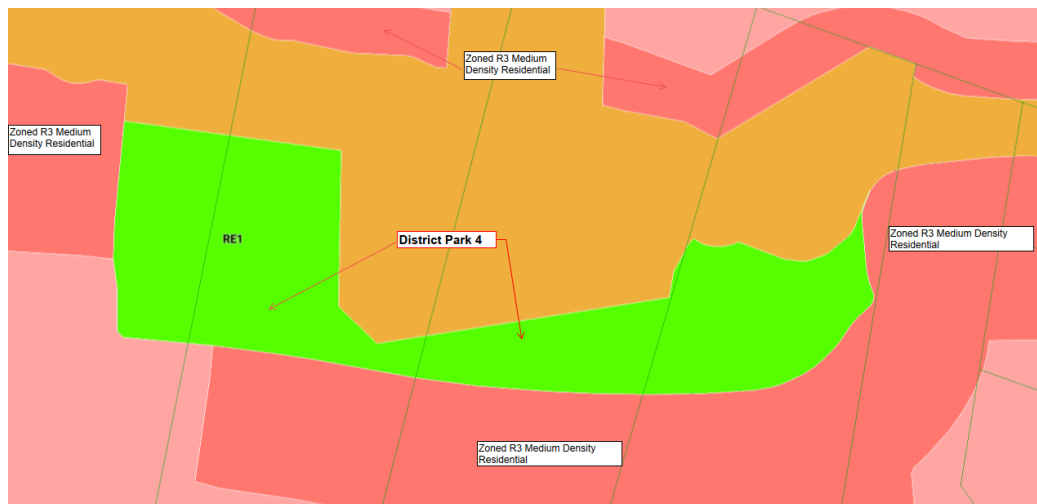
The E2 Zoned Land in GP3 represents approximately 2% of the total NDA. Approximately 2% of the total costs of transport and water cycle facilities in the draft CP are therefore attributable to the development on E1 land. Or, more to the point, residential zoned land cannot be required to meet 100% of these costs, but instead approximately 98%. On this basis, we recommend that IPART use this or another acceptable apportionment method to ensure that the residential contributions in the draft plan are reasonable.

Additional Matters

In addition to the responses provided to the items noted by IPART above, we also provide the following comments regarding the components of the contributions plan.

District Park 4 Underlying Zoning

An underlying zoning of R2 Low Density Residential has been adopted for District Park 4. This is in contrast to previous iterations of the Contributions Plan exhibited by Council in 2022, which adopt an underlying zone of R3 Medium Density Residential. Mirvac considers R3 to be the more appropriate zone given that District Park 4 is surrounded on most sides by this zone (refer **Figure 1**). The underlying zoning logic at GP3, as evident at the northern side of the environmental corridor is for lands adjacent the C2 Environmental Conservation lands to be zoned R3 Medium Density. It is standard practice to consider the underlying zoning of the lands had they not been required for local infrastructure. As shown in the figure, following this logic, it is most likely that the lands would have been zoned R3. It is recommended that the Contributions Plan be updated accordingly.

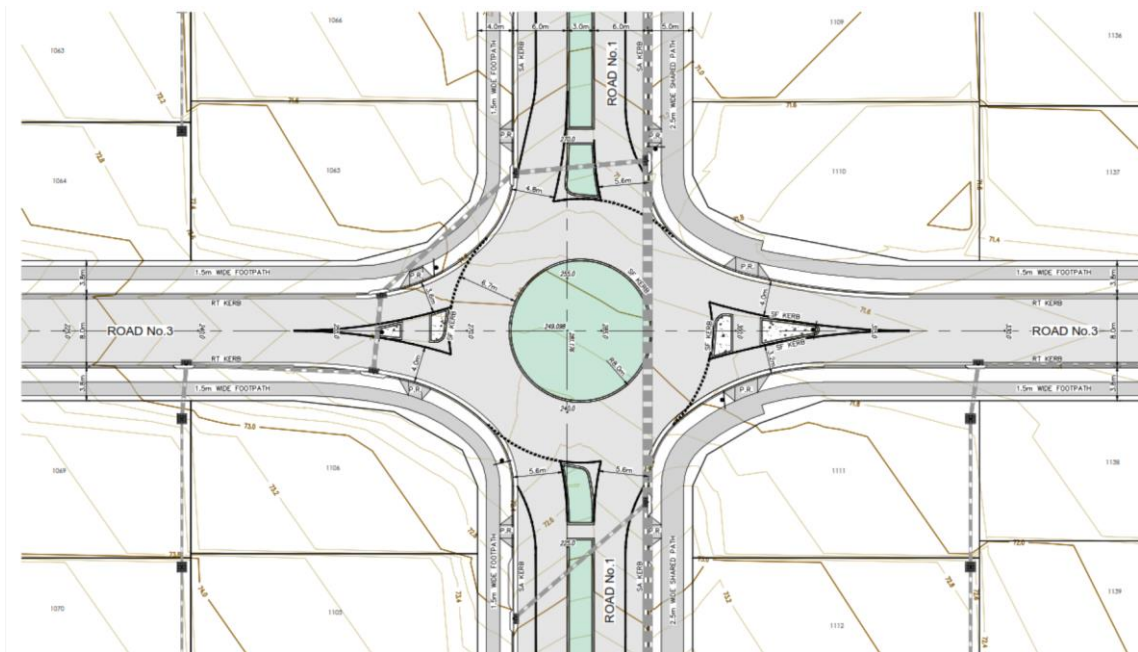


Source: Mirvac, 2024

Figure 1. District Park 4 Surrounding Land Zoning

Stage 1 Roundabout

Since the rezoning of the GP3 release area, Mirvac has submitted a development application (reference DA23/0955) for residential subdivision, civil works and landscape embellishments at Stage 1 of the release area, which is currently being assessed by Penrith City Council. As part of assessment of the development application, Council has requested an additional roundabout (Intersection 6) to be included along the Entry Boulevard connecting to Chain-O-Ponds Road (refer to **Figure 2** below). Mirvac has commissioned additional costing for this item, estimated to be \$451,500 (excluding contingency and professional fees) (refer Attachment A) and a sketch as part of the revised technical drawings, which are provided for IPART's consideration at **Attachment B**. Mirvac recommends the Intersection 6 works and land are included in the Contributions Plan.



Source: ADW Johnson, 2024

Figure 2. Entry Boulevard Chain-O-Ponds Road Roundabout

Trunk Drainage 1

As part of the documentation required for DA23/0955, further modelling and design work was completed on the water cycle management strategy and concept civil engineering design. This included advancing the design of TD1 in conjunction with Council. To ensure that TD1 meets the design intent of the WCMS, detailed modelling has confirmed that a single 1050mm diameter pipe is suitable to convey the 1% Annual Exceedance Probability design flows. An alternate horizontal alignment for TD1 was considered to reduce the overall depth of the pipe, however Council were not supportive of this. Therefore, TD1 is required to be conveyed through an existing crest, located approximately at the entry roundabout (INT 1). As a result, the depth of TD1 increases up to a maximum of approximately 7 metres. As part of the assessment of the development application, Council has also requested that the internal SW drainage does not connect into TD1 within deep areas, to minimise oversizing stormwater pits. As a result, the internal stormwater drainage is required to be conveyed in an alternate stormwater pipe constructed parallel to TD1, until the depth of TD1 returns to a standard depth. This results in the length of TD1 being increased to approximately

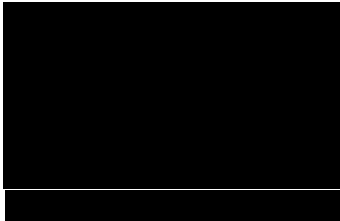


RE: Submission - Review of Penrith City Council's Glenmore Park Stage 3 Contributions Plan

470 metres. Mirvac commissioned an updated cost estimate for TD1 which accounts for the change in pipe size, excavation depths required and additional length, which is estimated to be \$2,163,000 (excluding contingency), refer to **Attachment C**. Mirvac recommends the costs for TD1 in the Contributions Plan are updated to reflect the revised scope.

Yours faithfully

GLN PLANNING PTY LTD



INFRASTRUCTURE FUNDING & DELIVERY CONSULTANT

ATTACHMENTS

ATTACHMENT A – COST ESTIMATE ADDITIONAL ROUNDABOUT: ENTRY BOULEVARD / CHAIN-O-PONDS ROAD

ATTACHMENT B – REVISED TECHNICAL DRAWINGS INCLUDING ADDITIONAL ROUNDABOUT

ATTACHMENT C – COST ESTIMATE TRUNK DRAINAGE 1

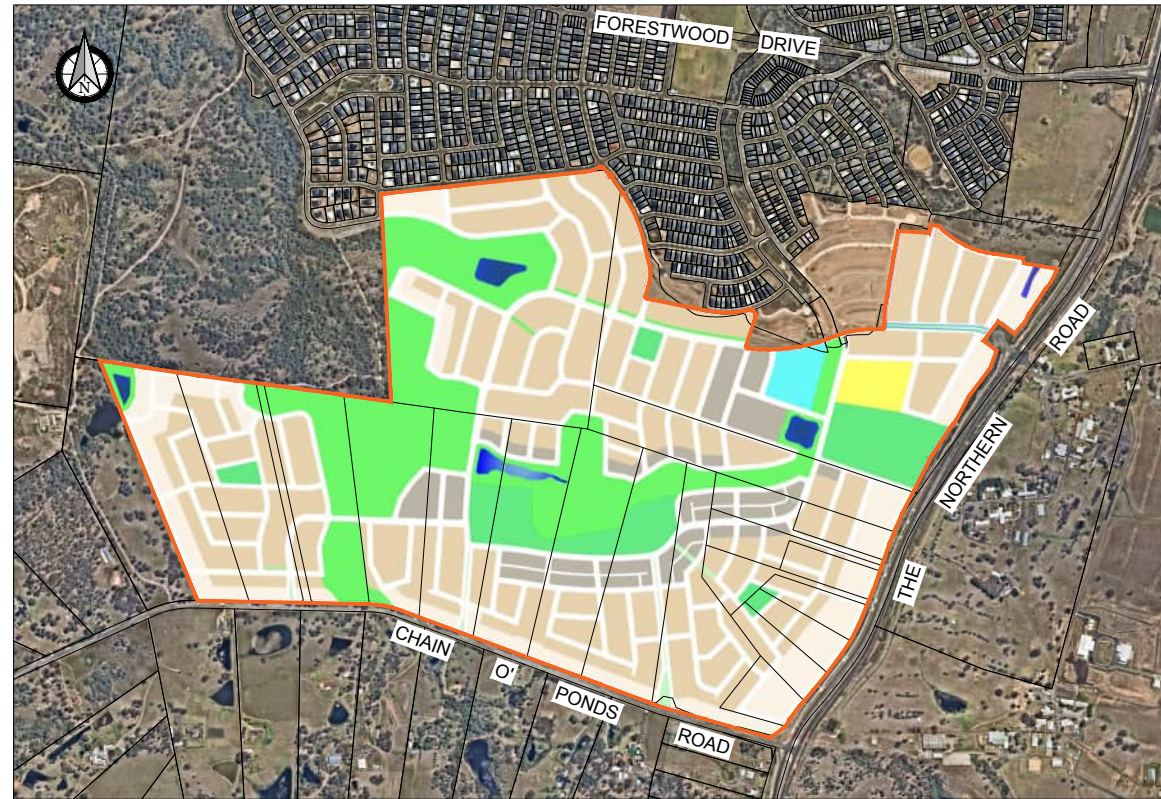
GP3 S7.11 PLAN: INT6 (Entry Boulevard/Road 3) - Works Cost Schedule

Item	Description	Estimated Quantity	Unit	Estimated Rate	Estimated Cost (ex GST)	Comments
1	CONSTRUCTION			sub-total	\$451,500.00	
1.1	General			sub-total	\$10,000.00	
1.1.1	Establishment & Preliminaries	0	item	\$120,000.00	\$0.00	Assumed completed as part of the civil works
1.1.2	Survey and setout	1	item	\$10,000.00	\$10,000.00	Allowance only
1.1.3	Geotechnical	0	item	\$30,000.00	\$0.00	Assumed completed as part of the civil works
1.1.4	Service adjustments/relocation	0	item		\$0.00	
1.1.5	Traffic Control	0	item	\$160,000.00	\$0.00	Assumed completed as part of the civil works
1.1.6	Clearing & Demolition	0	item	\$20,000.00	\$0.00	Assumed completed as part of the civil works
1.2	Earthworks			sub-total	\$36,800.00	
1.2.1	Topsoil Strip and Replace	2150	m ²	\$7.00	\$15,050.00	
1.2.2	Bulk earthworks	1100	m ³	\$10.00	\$11,000.00	Allowance to undertake approx. 1m cut to fill over the extent of works
1.2.3	Trim subgrade	2150	m ²	\$5.00	\$10,750.00	
1.3	Roadworks			sub-total	\$253,700.00	
1.3.1	Full depth flexible Pavement	1060	m ²	\$170.00	\$180,200.00	
1.3.2	SA Type Kerb	170	m ²	\$100.00	\$17,000.00	
1.3.3	SF Type Kerb	150	m ²	\$90.00	\$13,500.00	
1.3.4	Concrete Works	430	m ²	\$100.00	\$43,000.00	
1.3.5	Driveway reconstruction	0	ea	\$5,000.00	\$0.00	
1.3.6	Coloured surface coating to R110 (Bus/Cycle)	0	m ²	\$40.00	\$0.00	
1.3.7	Concrete traffic island	0	m ²	\$140.00	\$0.00	incl. in Concrete Works
1.4	Stormwater			sub-total	\$81,000.00	
1.4.1	Reinforced concrete pipes	120	m	\$250.00	\$30,000.00	Allowance for stormwater under SA kerbs only
1.4.2	Stormwater Pits	6	ea	\$2,500.00	\$15,000.00	Allowance for 1 pit approx. every 50m of SA kerb
1.4.3	Subsoil drainage (NFC)	320	m	\$50.00	\$16,000.00	Allowance for subsoil drainage under kerbs
1.4.4	Erosion and sediment control	1	item	\$20,000.00	\$20,000.00	Nominal allowance only
1.5	Traffic facilities			sub-total	\$45,000.00	
1.5.1	Linemarking and signposting	1	item	\$15,000.00	\$15,000.00	Nominal allowance only
1.5.2	Street lighting	2	ea	\$15,000.00	\$30,000.00	Allowance for approx. 1 light every 60m
1.6	Landscaping			sub-total	\$25,000.00	
1.6.1	Landscaping	1	item	\$25,000.00	\$25,000.00	Allowance only
6	CONTINGENCY			sub-total	\$90,300.00	
6.1	Contingency on construction	20%	of	\$451,500.00	\$90,300.00	
Total (ex GST)					\$541,800.00	

EXCLUSIONS / QUALIFICATIONS

1. These costs should be read in conjunction with plan set prepared by ADW Johnson, as amended, titled "GP3 Section 7.11 Plan Technical Drawings", revision H, dated 31/5/24
2. Construction cost estimates based on works inside the road reserve boundary only - no acquisition costs allowed for
3. Refer to GP3 s7.11 plan set prepared by ADW Johnson ref: 300070-PSK-133 for details of upgrade works dated 07/09/23
4. No allowance has been made for service relocation works
5. No allowance has been made for structural design

GP3 SECTION 7.11 PLAN: TECHNICAL DRAWINGS CHAIN-O-PONDS & THE NORTHERN ROAD, MULGOA



LOCALITY PLAN
 NOT TO SCALE

INDEX OF DRAWINGS	
DRAWING No.	DRAWING TITLE
300070-PSK-100	COVER SHEET, LOCALITY PLAN & INDEX OF DRAWINGS
300070-PSK-101	TRAFFIC & TRANSPORT MANAGEMENT ITEMS
300070-PSK-111	ROAD SECTIONS - SHEET 1
300070-PSK-112	ROAD SECTIONS - SHEET 2
300070-PSK-113	ROAD SECTIONS - SHEET 3
300070-PSK-114	ROAD SECTIONS - SHEET 4
300070-PSK-115	ROAD SECTIONS - SHEET 5
300070-PSK-131	ROAD INTERSECTION No.1
300070-PSK-132	ROAD INTERSECTION No.2
300070-PSK-133	ROAD INTERSECTION No.3
300070-PSK-134	ROAD INTERSECTION No.4
300070-PSK-135	ROAD INTERSECTION No.5
300070-PSK-136	ROAD INTERSECTION No.6
300070-PSK-141	OPEN SPACE & RECREATION ITEMS
300070-PSK-151	STORMWATER MANAGEMENT ITEMS
300070-PSK-161	ACTIVE TRANSPORT ITEMS

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:		

drawing title:
COVER SHEET, LOCALITY PLAN & INDEX OF DRAWINGS

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-100

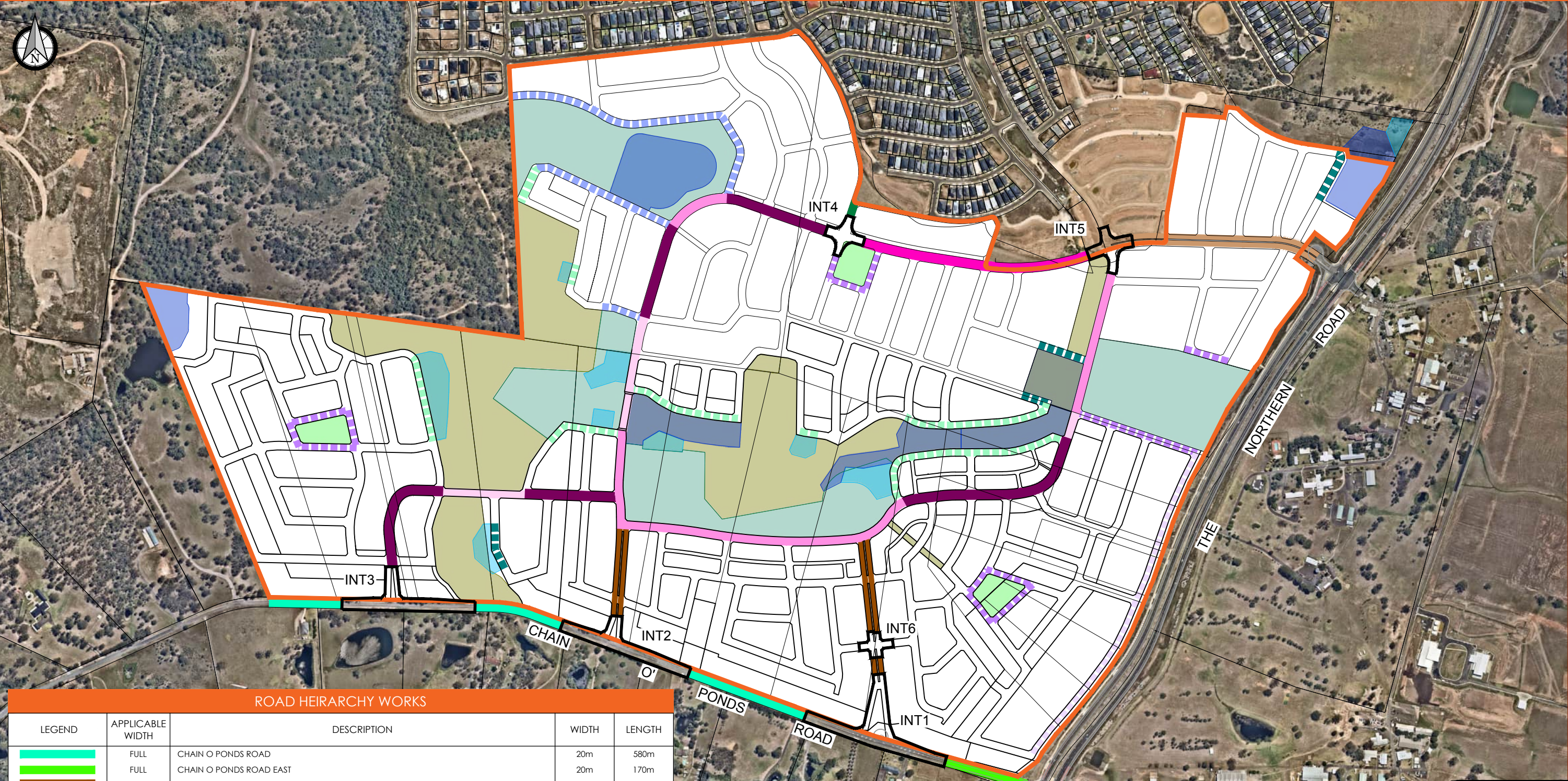
client:

central coast office ph: (02) 4305 4300
 hunter office ph: (02) 4978 5100
 sydney office ph: (02) 8046 7411

www.adwjohanson.com.au

GP3 S.7.11 PLAN: TRAFFIC & TRANSPORT MANAGEMENT ITEMS

300070-PSK-101



ROAD HEIRARCHY WORKS

LEGEND	APPLICABLE WIDTH	DESCRIPTION	WIDTH	LENGTH
	FULL	CHAIN O PONDS ROAD	20m	580m
	FULL	CHAIN O PONDS ROAD EAST	20m	170m
	FULL	ENTRY BOULEVARD (CHAIN O PONDS ROAD)	24m	464m
	FULL	ENTRY BOULEVARD (THE NORTHERN ROAD)	26m	377m
	FULL	COLLECTOR ROAD WITH MEDIAN	23.8m	463m
	FULL	COLLECTOR ROAD (ADJACENT TO DEVELOPMENT ON BOTH SIDES)	20.8m	1237m
	FULL	COLLECTOR ROAD (ADJACENT TO BUSHFIRE HAZARD / ACTIVE DISTRICT PARK)	17.8m	1213m
	FULL	COLLECTOR ROAD (ADJACENT TO BUSHFIRE HAZARD / PASSIVE DISTRICT PARK / LINEAR PARKS)	15.3m	456m
	FULL	COLLECTOR ROAD (AT GLENMORE PARK STAGE 2 BOUNDARY)	19.6m	30m
	HALF	MINOR LOCAL ROAD - (ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE)	15.6m	368m
	HALF	MINOR LOCAL PERIMETER ROAD (ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE)	15m	1461m
	HALF	MINOR LOCAL PERIMETER ROAD (ADJACENT TO BUSHFIRE HAZARD / DISTRICT PARK 1 & 2)	17.5m	1020m
	HALF	MINOR LOCAL ROAD (ADJACENT TO LOCAL PARK/DISTRICT PARK 2)	12.8m	1288m
	HALF	MINOR LOCAL ROAD (THE NORTHERN ROAD INTERFACE)	12.5m	699m

INTERSECTIONS

INT1	CHAIN-O-PONDS ROAD / ENTRY BOULEVARD (EAST)
INT2	CHAIN-O-PONDS ROAD / ENTRY BOULEVARD (WEST)
INT3	CHAIN-O-PONDS ROAD / COLLECTOR ROAD
INT4	COLLECTOR ROAD / LOCAL ROAD (VIANELLO LAND)
INT5	COLLECTOR ROAD / ENTRY BOULEVARD (VIANELLO LAND)
INT6	ENTRY BOULEVARD (EAST)/LOCAL ROAD

LEGEND

	GP3 BOUNDARY
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY
	LOCAL PARK
	DISTRICT PARK
	LINEAR OPEN SPACE
	STORMWATER BASIN
	RAINGARDEN

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:4000 A3 1:8000	

drawing title:
**TRAFFIC & TRANSPORT
MANAGEMENT ITEMS**

location: CHAIN-O-PONDS ROAD,
MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-101

client:

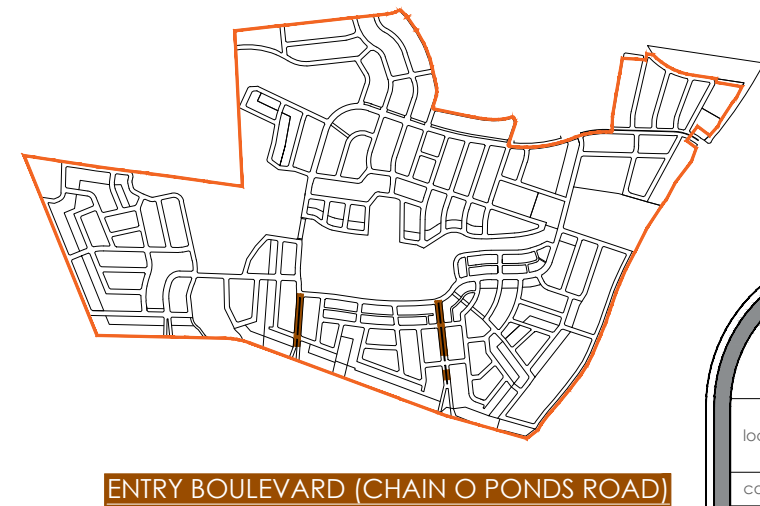
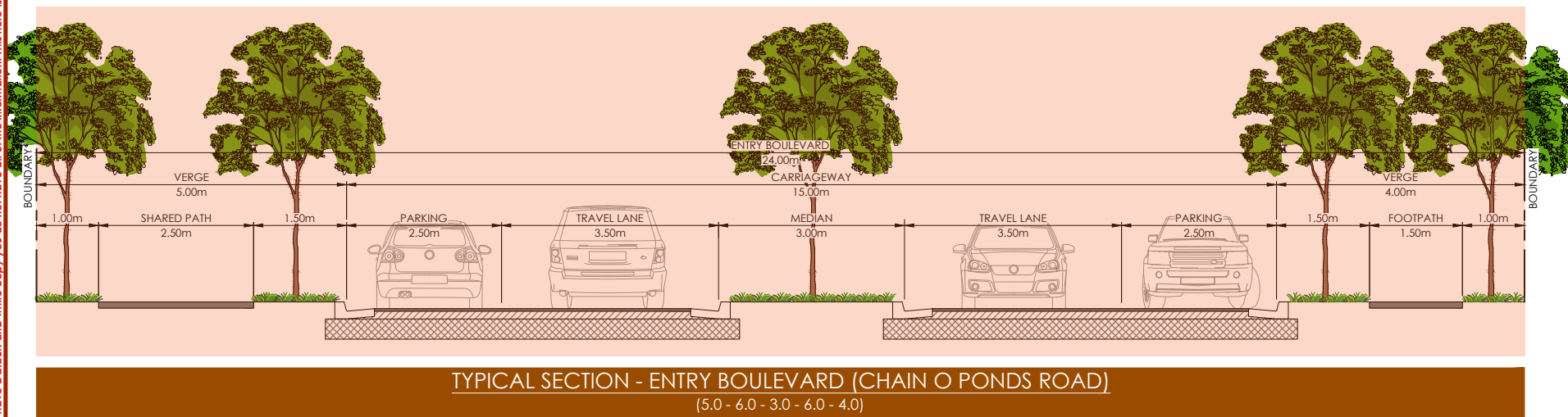
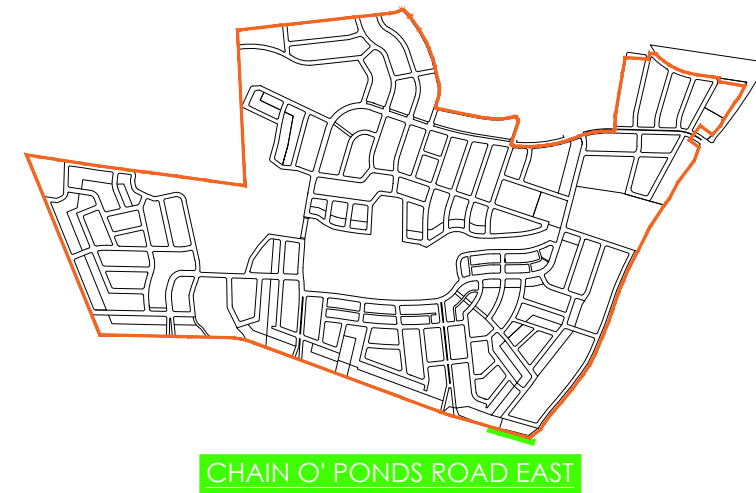
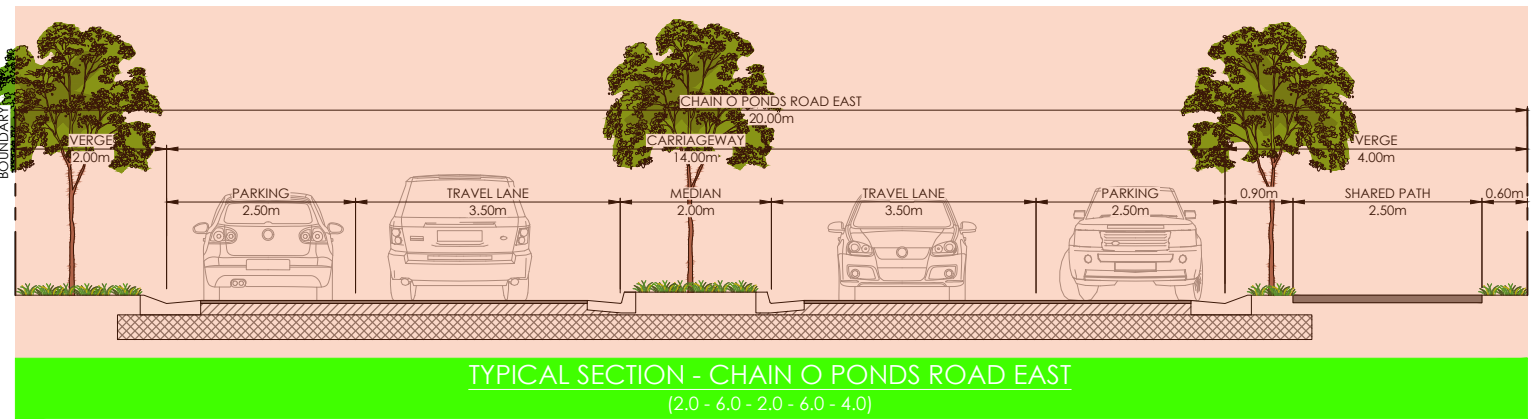
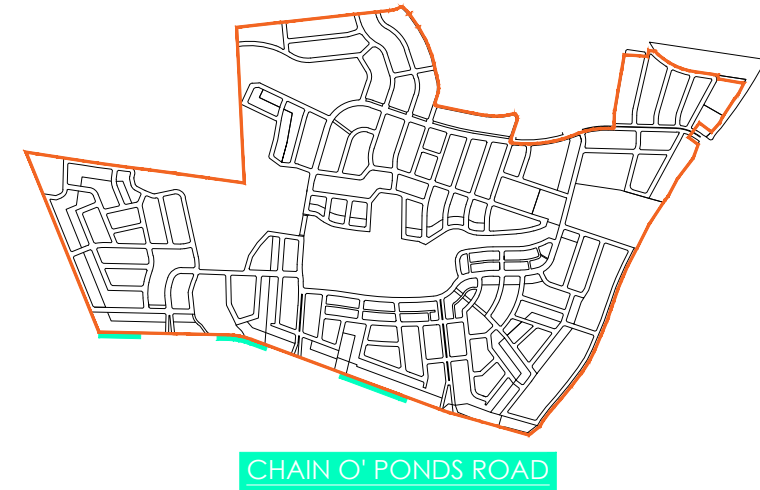
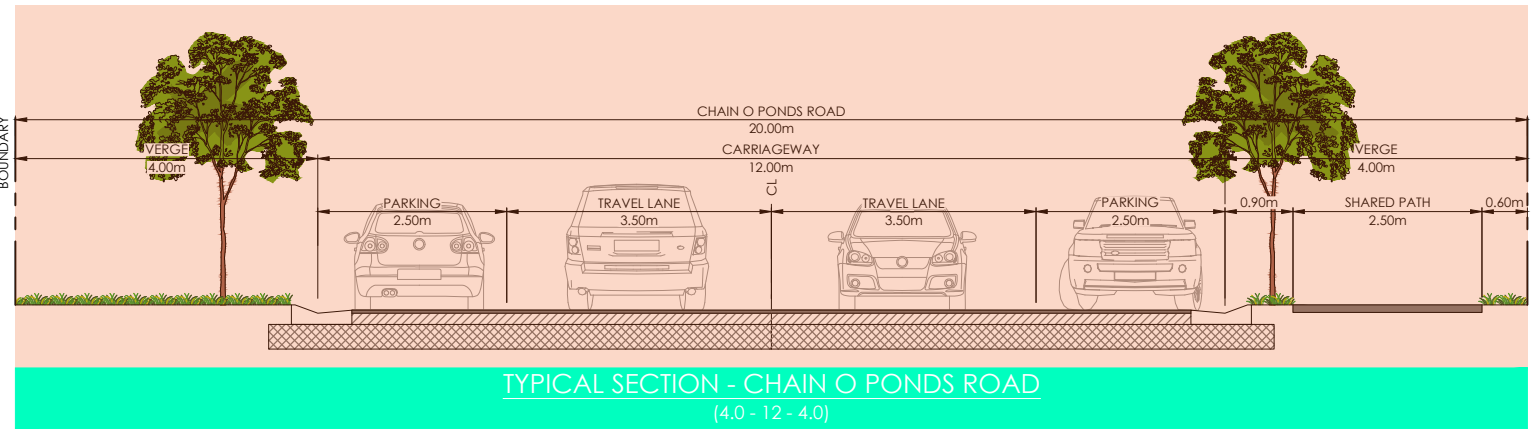


central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411
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Plotted By: Jacob Jackson Plot Date: 03/06/24 11:00:13AM Cad File: S:\300070\DRAWINGS\PLANNING\GP3 S.7.11\300070-PSK-101.DWG
 This plan includes coloured information. If you have a black and white copy you do not have all of the information. This note is coloured red.

working beyond expectations

GP3 S.7.11 PLAN: ROAD SECTIONS



NOTE:
DENOTES ITEMS INCLUDED
IN WORKS SCHEDULE

Plotted By: Jacob Jackson Plot Date: 03/06/24 11:00:24AM Cad File: S:\300070\DRAWINGS\PLANNING\GP3 S711\300070-PSK-111.DWG
This plan includes coloured information. If you have a black and white copy you do not have all of the information. This note is coloured RED.

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:50 0 1.25 2.5 m A3 1:100	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:
ROAD SECTIONS - SHEET 1

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-111

client:

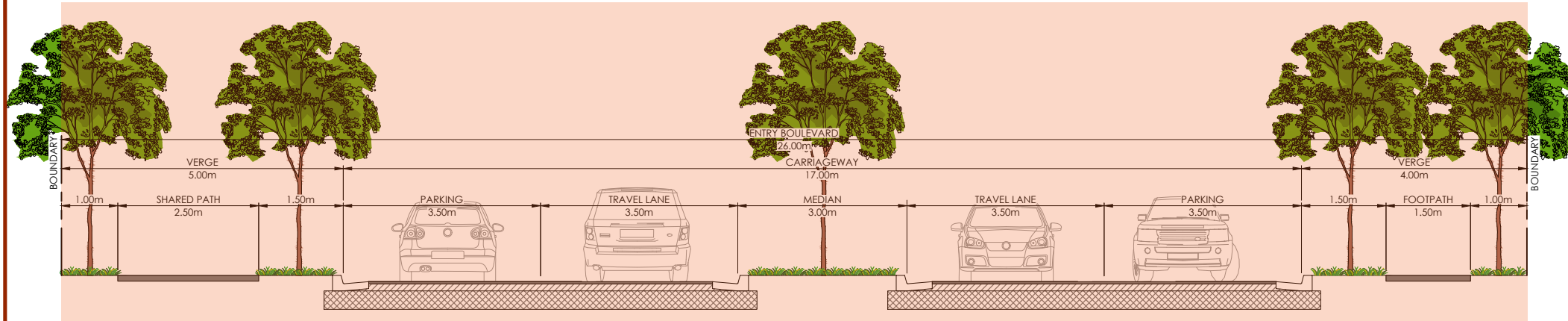


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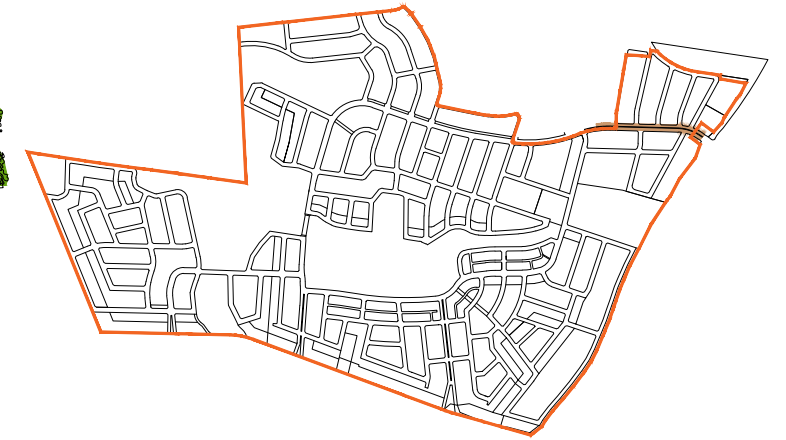
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GP3 S.7.11 PLAN: ROAD SECTIONS

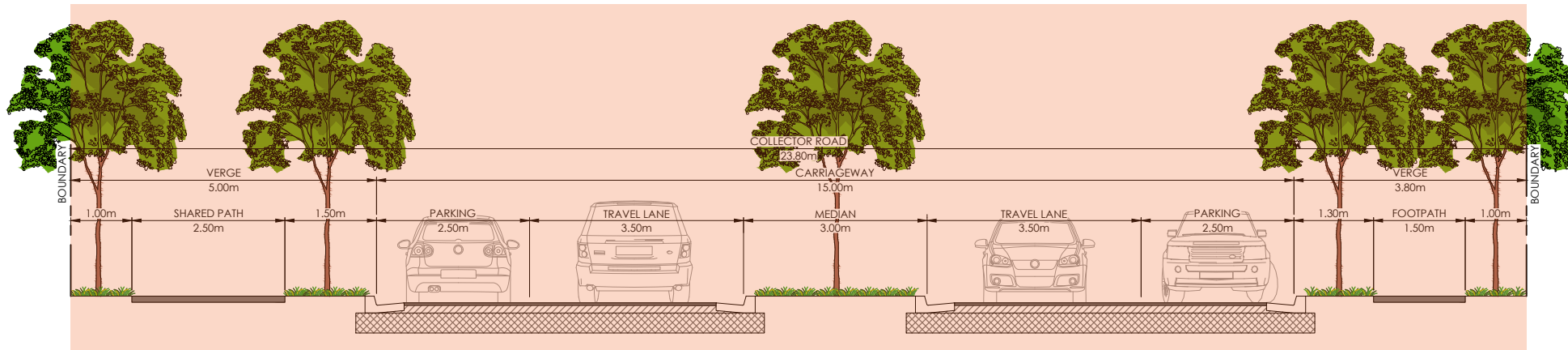
NOTE:
DENOTES ITEMS INCLUDED
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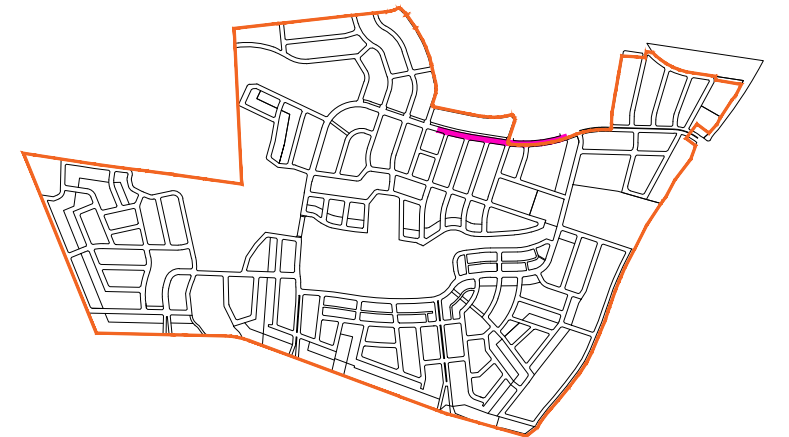
TYPICAL SECTION - ENTRY BOULEVARD (THE NORTHERN ROAD)
(5.0 - 7.0 - 3.0 - 7.0 - 4.0)



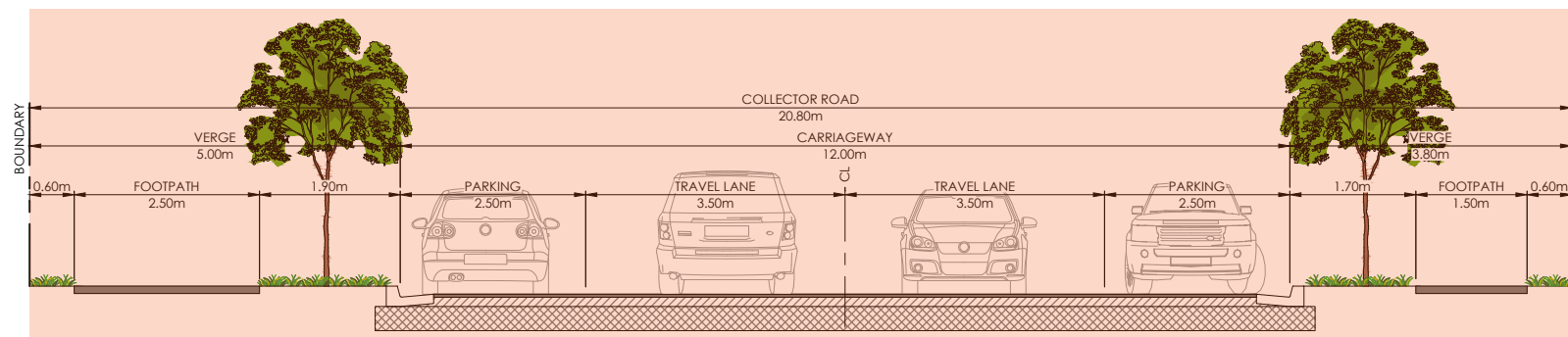
ENTRY BOULEVARD (THE NORTHERN ROAD)



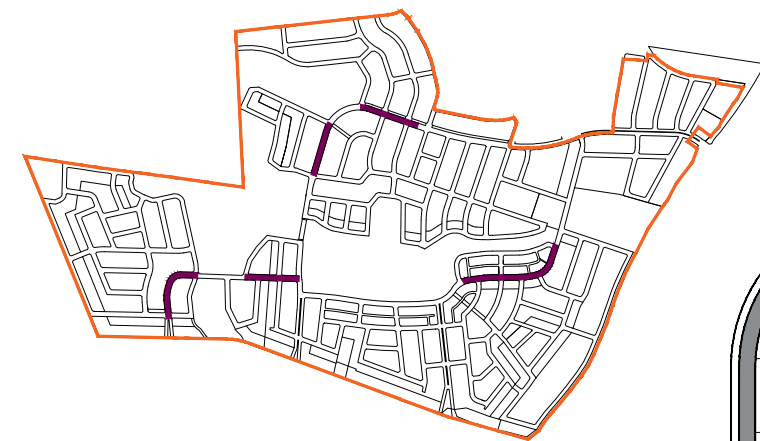
TYPICAL SECTION - COLLECTOR ROAD WITH MEDIAN
(5.0 - 6.0 - 3.0 - 6.0 - 3.8)



COLLECTOR ROAD WITH MEDIAN



TYPICAL SECTION - COLLECTOR ROAD (ADJACENT TO DEVELOPMENT ON BOTH SIDES)
(5.0 - 12 - 3.8)



COLLECTOR ROAD
(ADJACENT TO DEVELOPMENT ON BOTH SIDES)

Plotted By: Jacob Jackson Plot Date: 03/06/24 11:00:35AM Cad File: S:\300070\DRAWINGS\PLANNING\GP3 S711\300070-PSK-112.DWG
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drawing title:
ROAD SECTIONS - SHEET 2

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-112

client:



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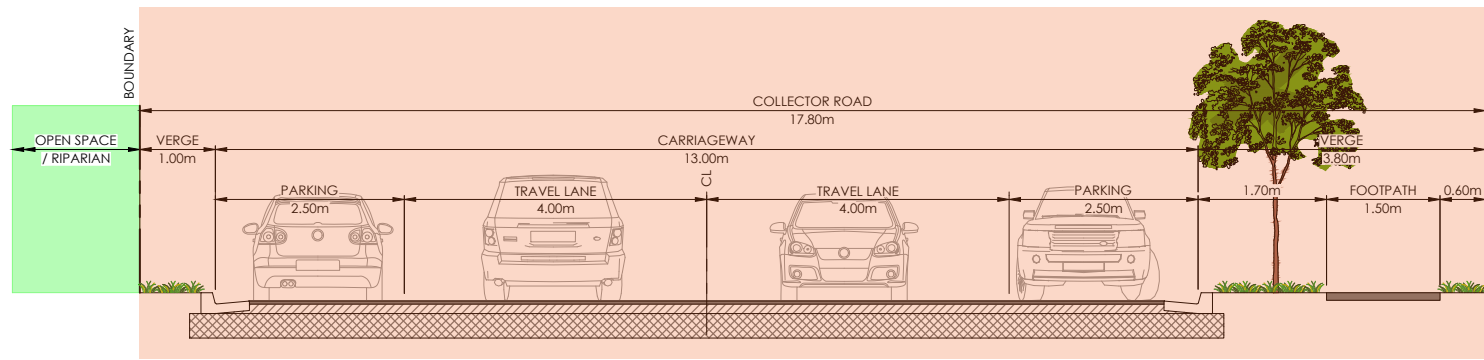
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H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:50 0 1.25 2.5 m A3 1:100	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

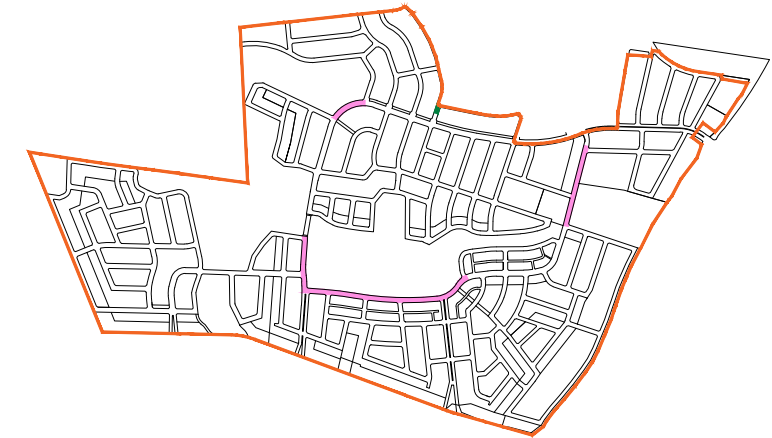
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GP3 S.7.11 PLAN: ROAD SECTIONS

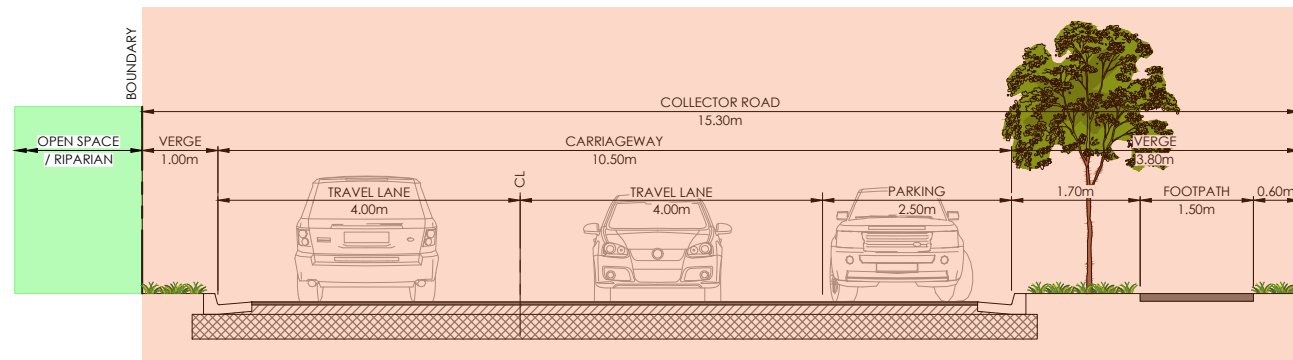
NOTE:
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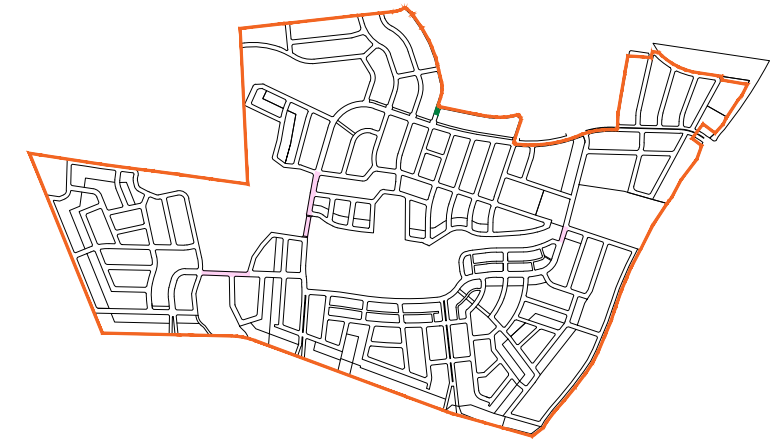
TYPICAL SECTION - COLLECTOR ROAD (ADJACENT TO BUSHFIRE HAZARD / ACTIVE DISTRICT PARK)
(1 - 13 - 3.8)



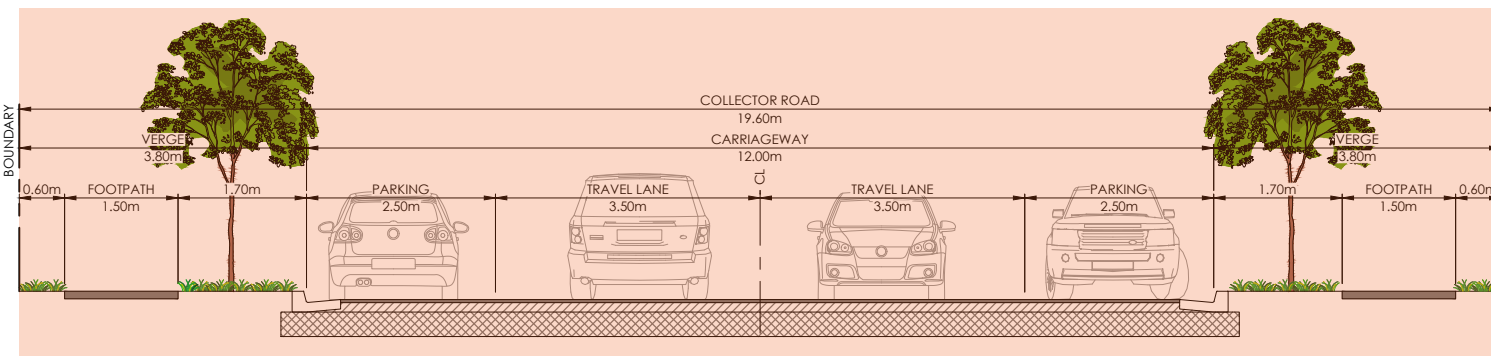
COLLECTOR ROAD
(ADJACENT TO BUSHFIRE HAZARD / ACTIVE DISTRICT PARK)



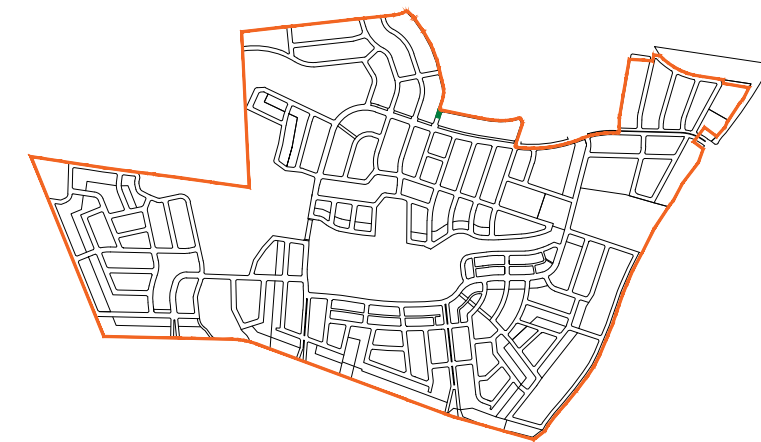
TYPICAL SECTION - COLLECTOR ROAD (ADJACENT TO BUSHFIRE HAZARD / PASSIVE DISTRICT PARK / LINEAR PARKS)
(1 - 10.5 - 3.8)



COLLECTOR ROAD
(ADJACENT TO BUSHFIRE HAZARD / PASSIVE DISTRICT PARK / LINEAR PARKS)



TYPICAL SECTION - COLLECTOR ROAD (AT GLENMORE PARK STAGE 2 BOUNDARY)
(3.8 - 12 - 3.8)



COLLECTOR ROAD
(AT GLENMORE PARK STAGE 2 BOUNDARY)

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drawing title:
ROAD SECTIONS - SHEET 3

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-113

client:



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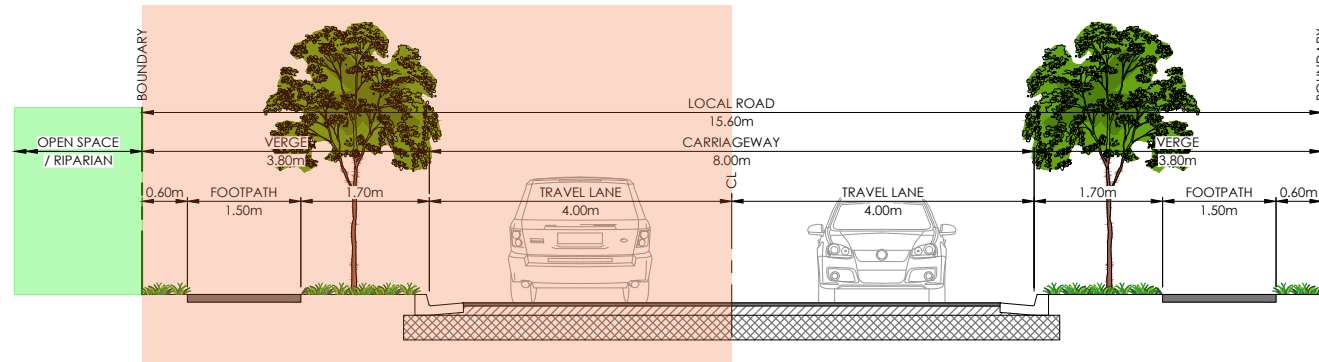
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- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

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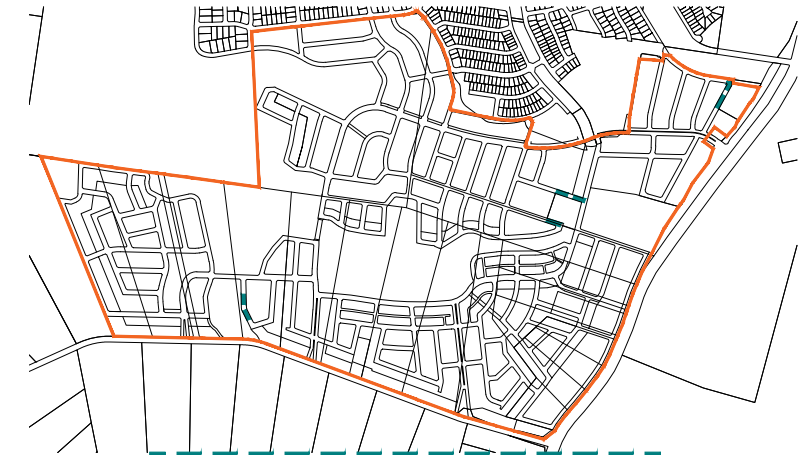
GP3 S.7.11 PLAN: ROAD SECTIONS

NOTE:
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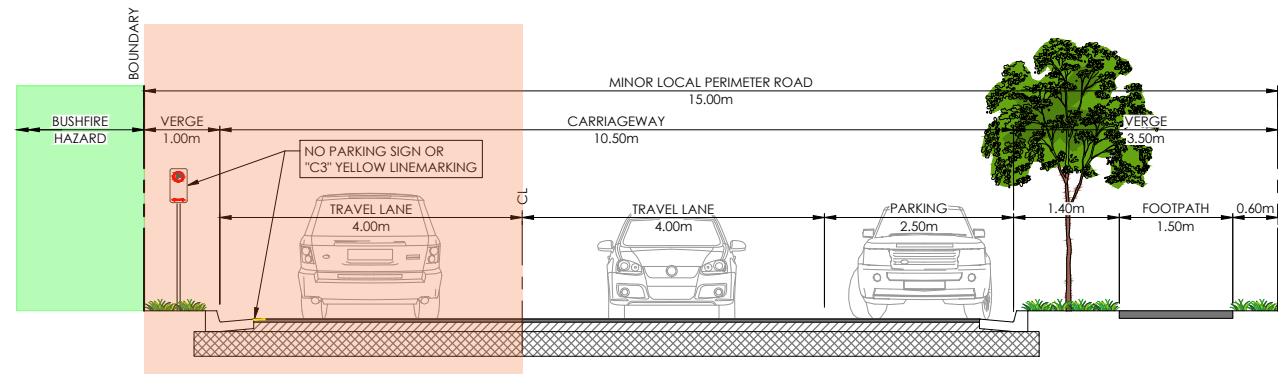


- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON OPEN SPACE / RIPARIAN SIDE

**TYPICAL SECTION - MINOR LOCAL ROAD
(ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE)**
(3.8 - 8.0 - 3.8)

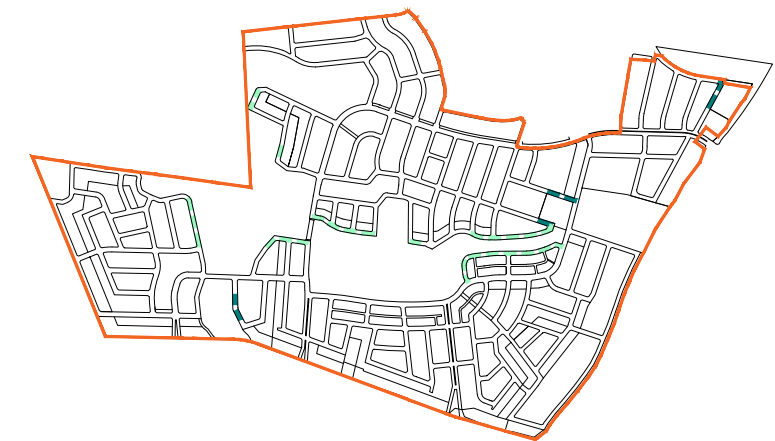


**MINOR LOCAL ROAD
(ADJACENT TO STORMWATER /
DISTRICT OPEN SPACE ON ONE SIDE)**

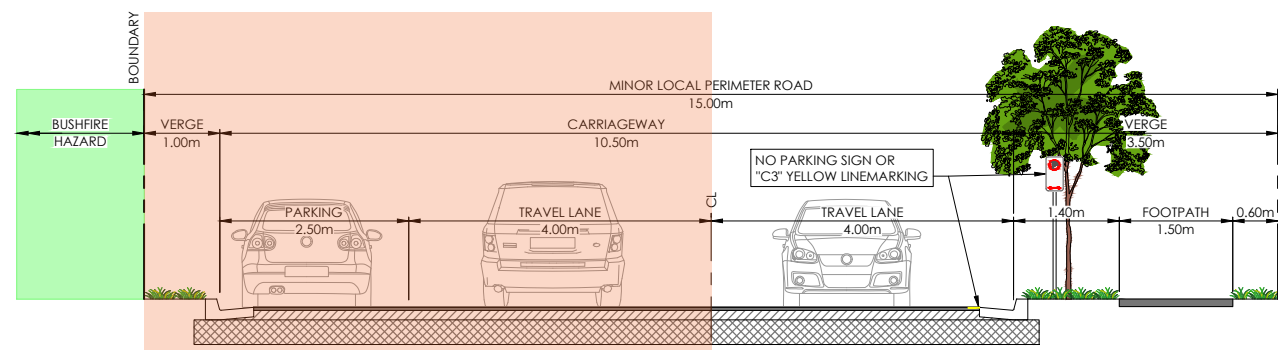


- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON BUSHFIRE HAZARD SIDE

TYPICAL SECTION - MINOR LOCAL PERIMETER ROAD (ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE) OPTION A
(1.0 - 10.5 - 3.5)

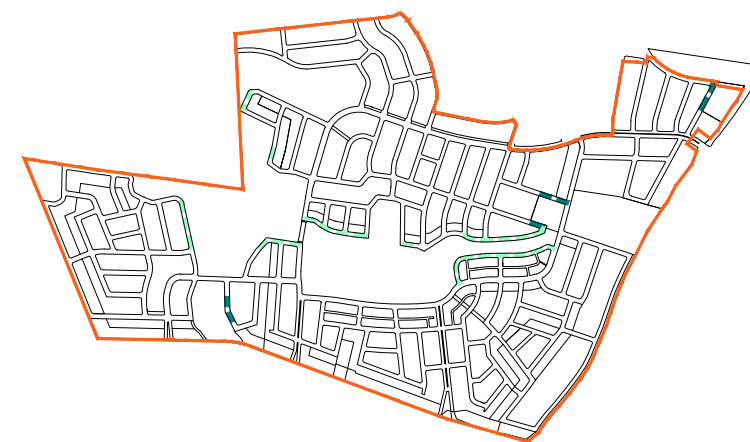


**MINOR LOCAL PERIMETER ROAD
(ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE)**



- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON BUSHFIRE HAZARD SIDE

TYPICAL SECTION - MINOR LOCAL PERIMETER ROAD (ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE) OPTION B
(1.0 - 10.5 - 3.5)



**MINOR LOCAL PERIMETER ROAD
(ADJACENT TO STORMWATER / DISTRICT OPEN SPACE ON ONE SIDE)**

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H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:50 0 1.25 2.5 m A3 1:100	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:
ROAD SECTIONS - SHEET 4

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-114

client:

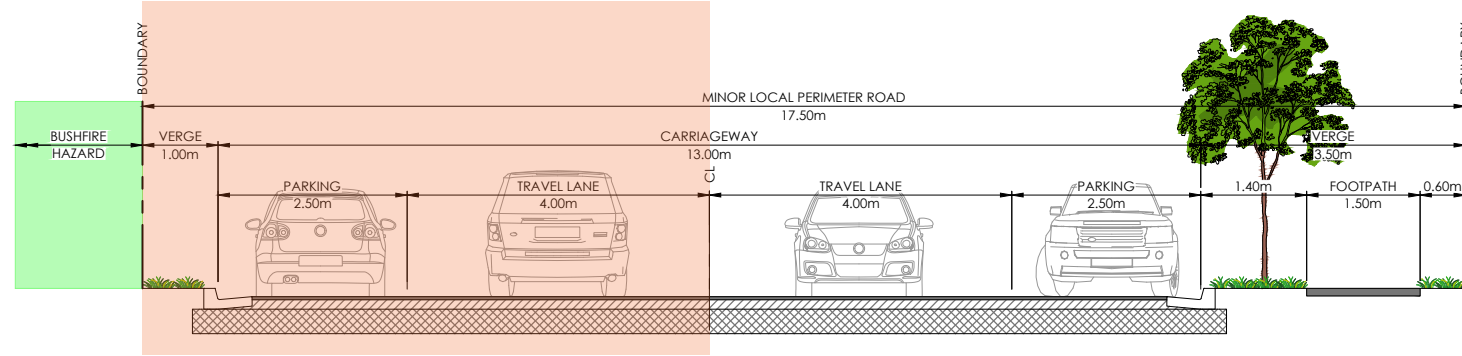


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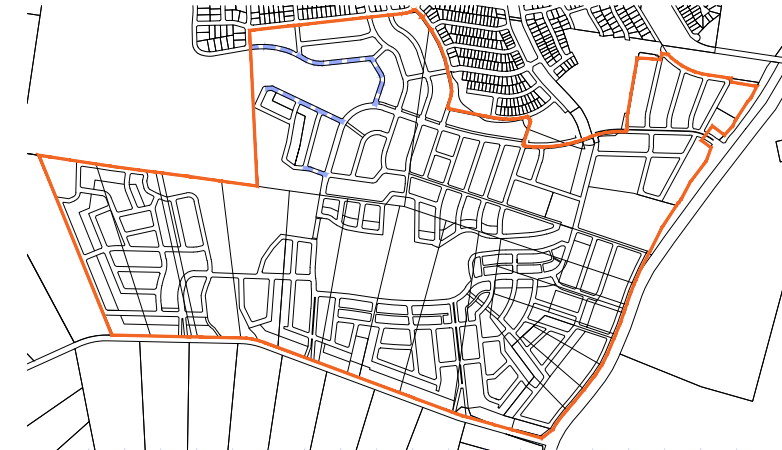
GP3 S.7.11 PLAN: ROAD SECTIONS

NOTE:
DENOTES ITEMS INCLUDED
IN WORKS SCHEDULE

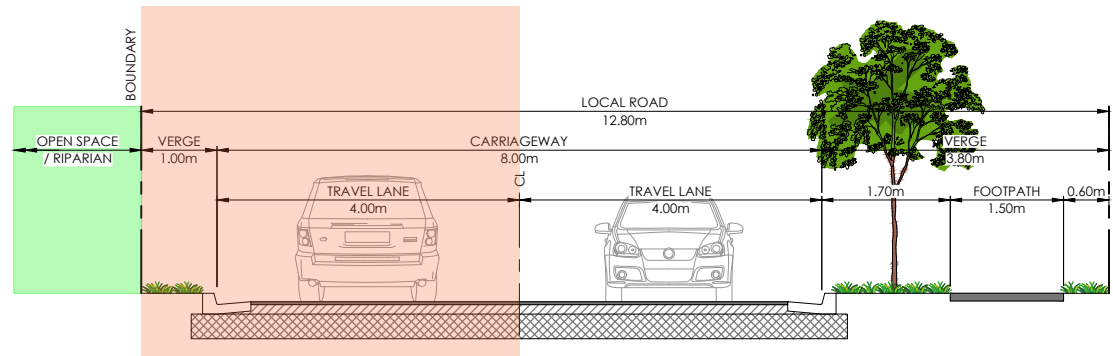


- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON BUSHFIRE HAZARD SIDE

TYPICAL SECTION - MINOR LOCAL PERIMETER ROAD (ADJACENT TO BUSHFIRE HAZARD / DISTRICT PARK 1 & 2)
(1.0 - 13 - 3.5)

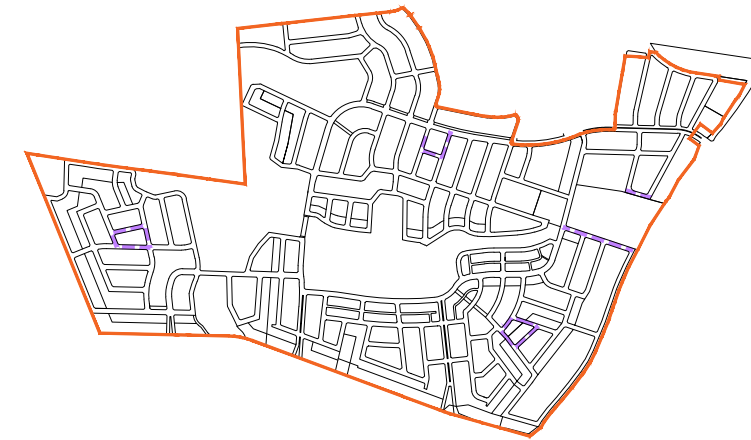


MINOR LOCAL PERIMETER ROAD (ADJACENT TO BUSHFIRE HAZARD / DISTRICT PARK 1 & 2)

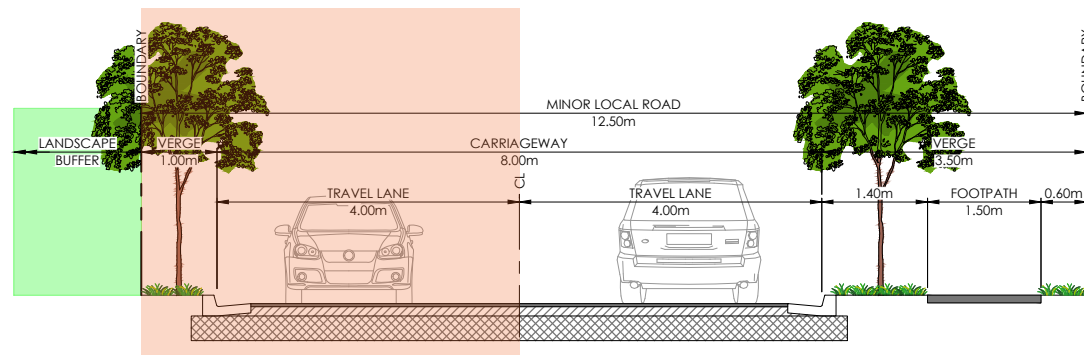


- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON OPEN SPACE / RIPARIAN SIDE

TYPICAL SECTION - MINOR LOCAL ROAD (ADJACENT TO LOCAL PARK/DISTRICT PARK 2)
(1.0 - 8 - 3.8)

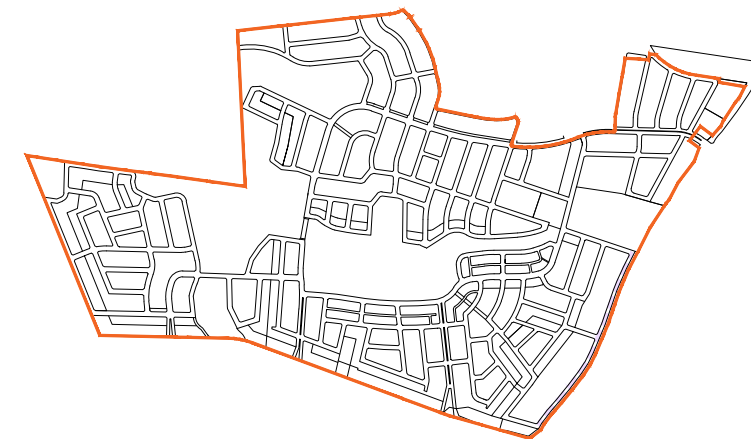


MINOR LOCAL ROAD (ADJACENT TO LOCAL PARK/DISTRICT PARK 2)



- ALL WORKS BETWEEN ROAD CENTRELINE AND ROAD RESERVE BOUNDARY ON OPEN SPACE SIDE

TYPICAL SECTION - MINOR LOCAL ROAD (THE NORTHERN ROAD INTERFACE)
(1.0 - 8 - 3.5)



MINOR LOCAL ROAD (THE NORTHERN ROAD INTERFACE)

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H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:50 0 1.25 2.5 m A3 1:100	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:
ROAD SECTIONS - SHEET 5

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-115

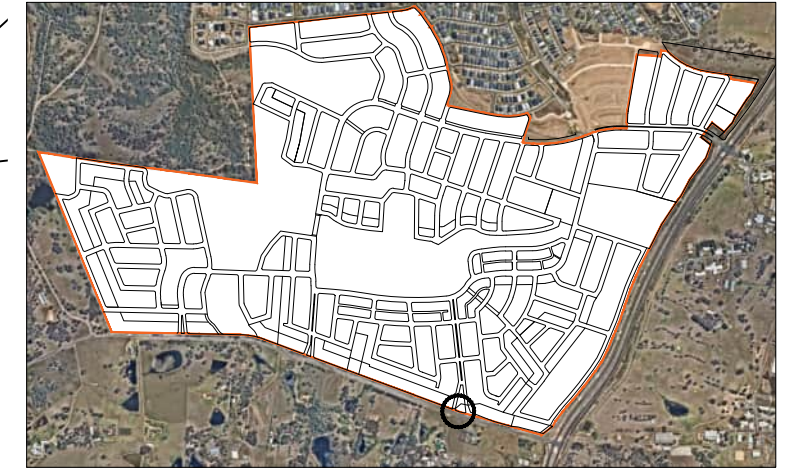
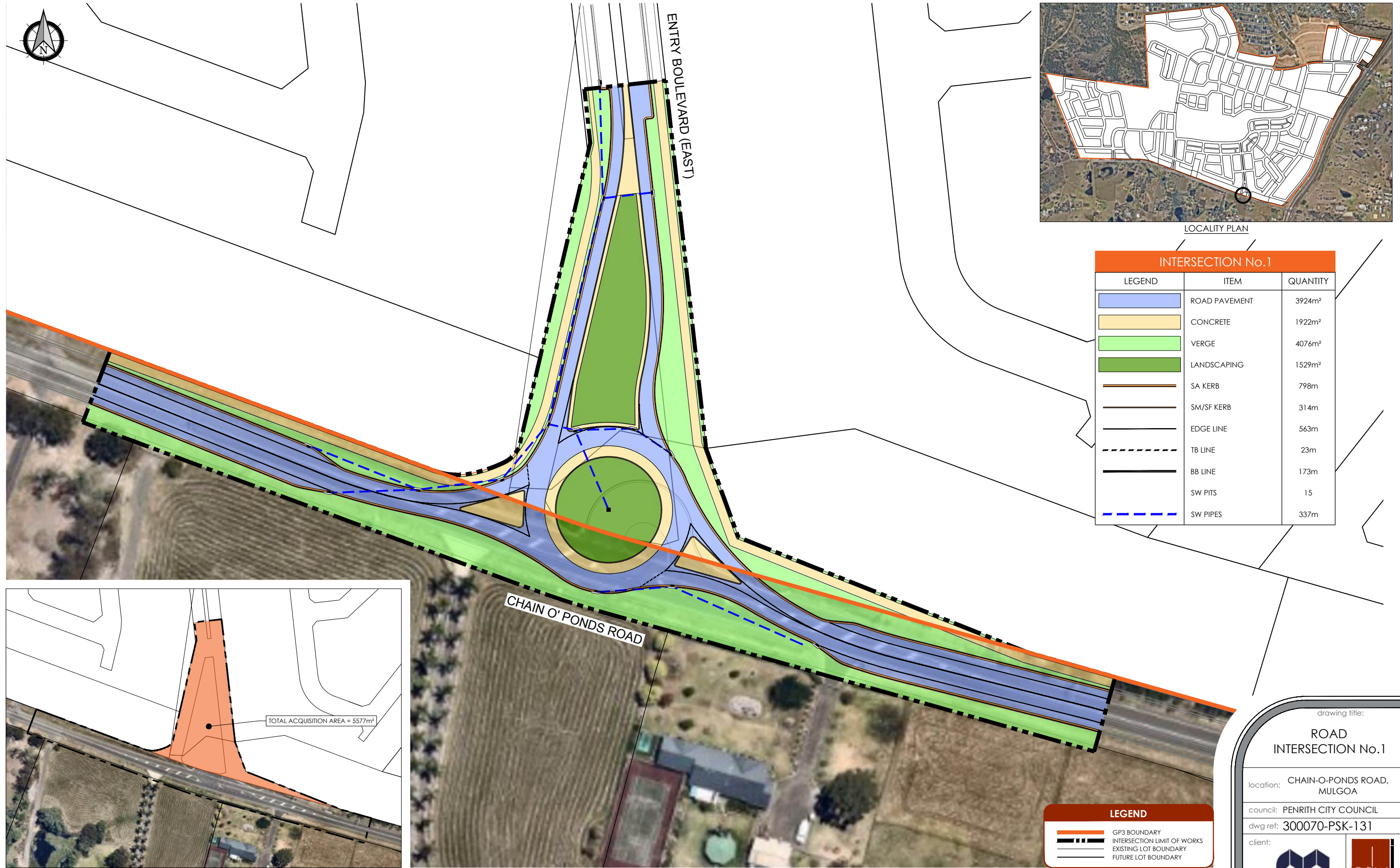
client:



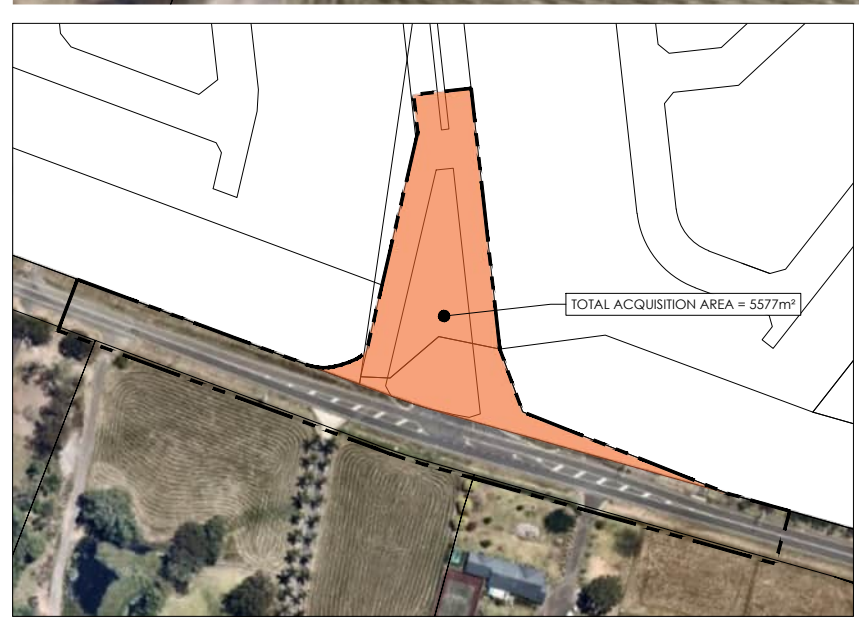
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GP3 S.7.11 PLAN: INT1 WORKS



INTERSECTION No.1		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	3924m ²
	CONCRETE	1922m ²
	VERGE	4076m ²
	LANDSCAPING	1529m ²
	SA KERB	798m
	SM/SF KERB	314m
	EDGE LINE	563m
	TB LINE	23m
	BB LINE	173m
	SW PITS	15
	SW PIPES	337m



LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

drawing title:
ROAD INTERSECTION No.1

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-131

client:



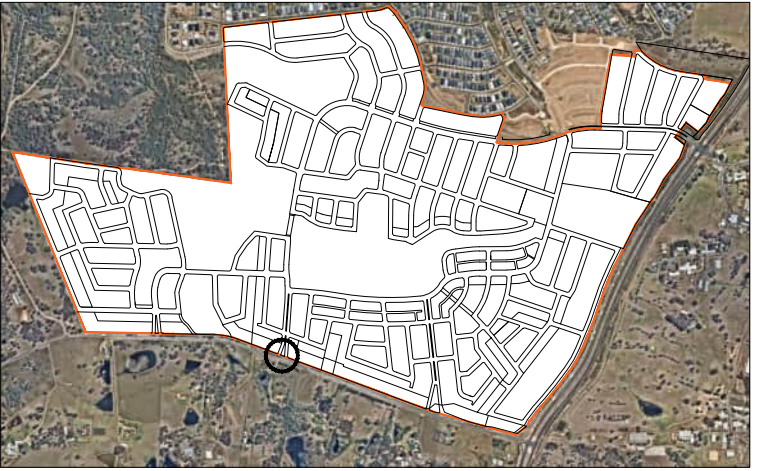
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H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:500 0 12.5 25.0m A3 1:1000	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

GP3 S.7.11 PLAN: INT2 WORKS



INTERSECTION No.2		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	4350m ²
	CONCRETE	775m ²
	VERGE	2063m ²
	LANDSCAPING	294m ²
	SA KERB	612m
	SM KERB	99m
	EDGE LINE	986m
	C1 LINE	95m
	TB LINE	16m
	BB LINE	67m
	CHEVRONS	70m ²
	ARROWS	3



LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

drawing title:
ROAD INTERSECTION No.2

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-132

client:



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 hunter office ph: (02) 4978 5100
 sydney office ph: (02) 8046 7411

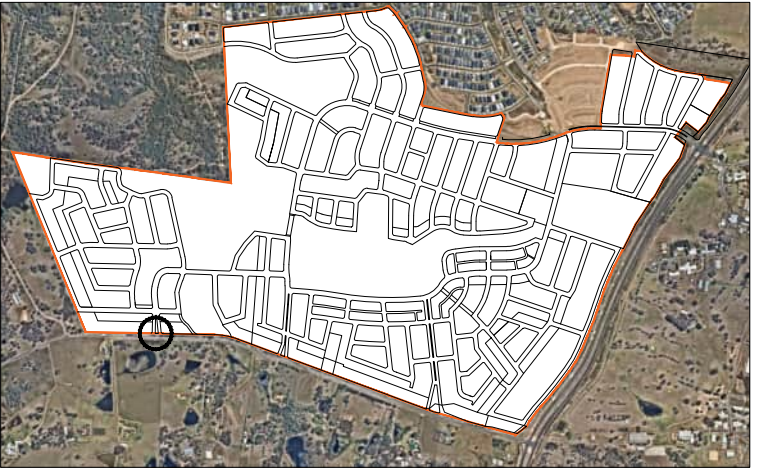
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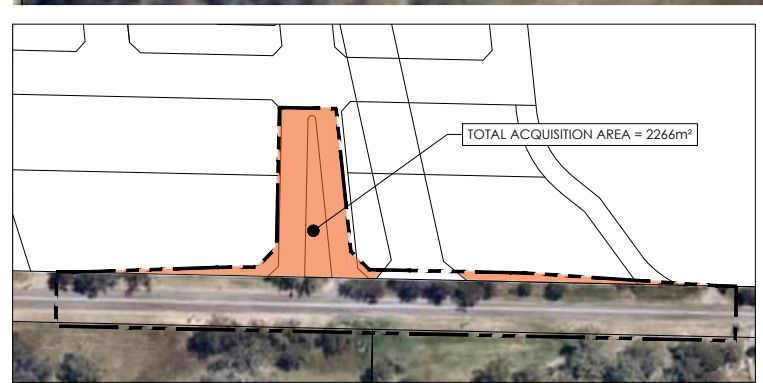
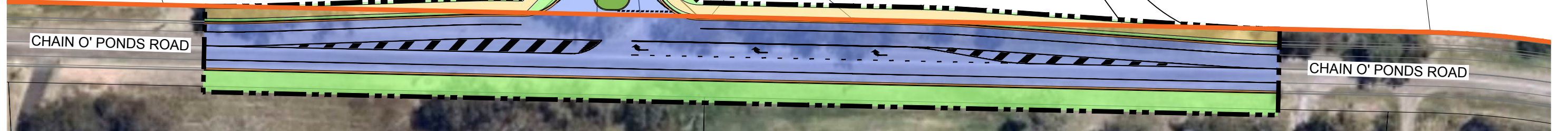
ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:500 0 12.5 25.0m A3 1:1000	

GP3 S.7.11 PLAN: INT3 WORKS



LOCALITY PLAN

INTERSECTION No.3		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	4487m ²
	CONCRETE	842m ²
	VERGE	2107m ²
	LANDSCAPING	320m ²
	SA KERB	644m
	SM KERB	132m
	EDGE LINE	1018m
	C1 LINE	95m
	TB LINE	14m
	BB LINE	69m
	CHEVRONS	73m ²
	ARROWS	3



LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

drawing title:
ROAD INTERSECTION No.3

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-133

client:



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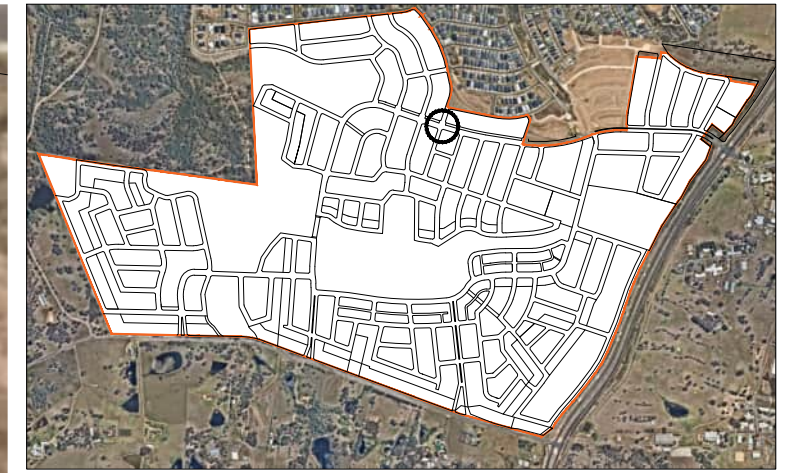
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H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:500 0 12.5 25.0m A3 1:1000	

GP3 S.7.11 PLAN: INT4 WORKS



LOCALITY PLAN

INTERSECTION No.4		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	1371m ²
	CONCRETE	466m ²
	VERGE	609m ²
	LANDSCAPING	144m ²
	SA KERB	246m
	SM/SF KERB	114m
	EDGE LINE	192m
	TB LINE	23m
	BB LINE	19m

LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

Plotted By: Jacob Jackson Plot Date: 03/06/24 11:01:47AM Cwd File: S:\300070\DRAWINGS\PLANNING\GP3 S.7.11\300070-PSK-134.DWG
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ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:500 0 12.5 25.0m A3 1:1000	

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

drawing title:
ROAD INTERSECTION No.4

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

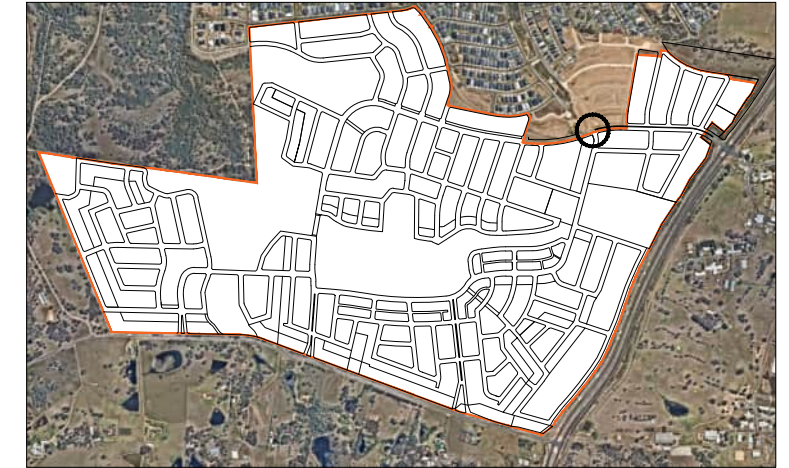
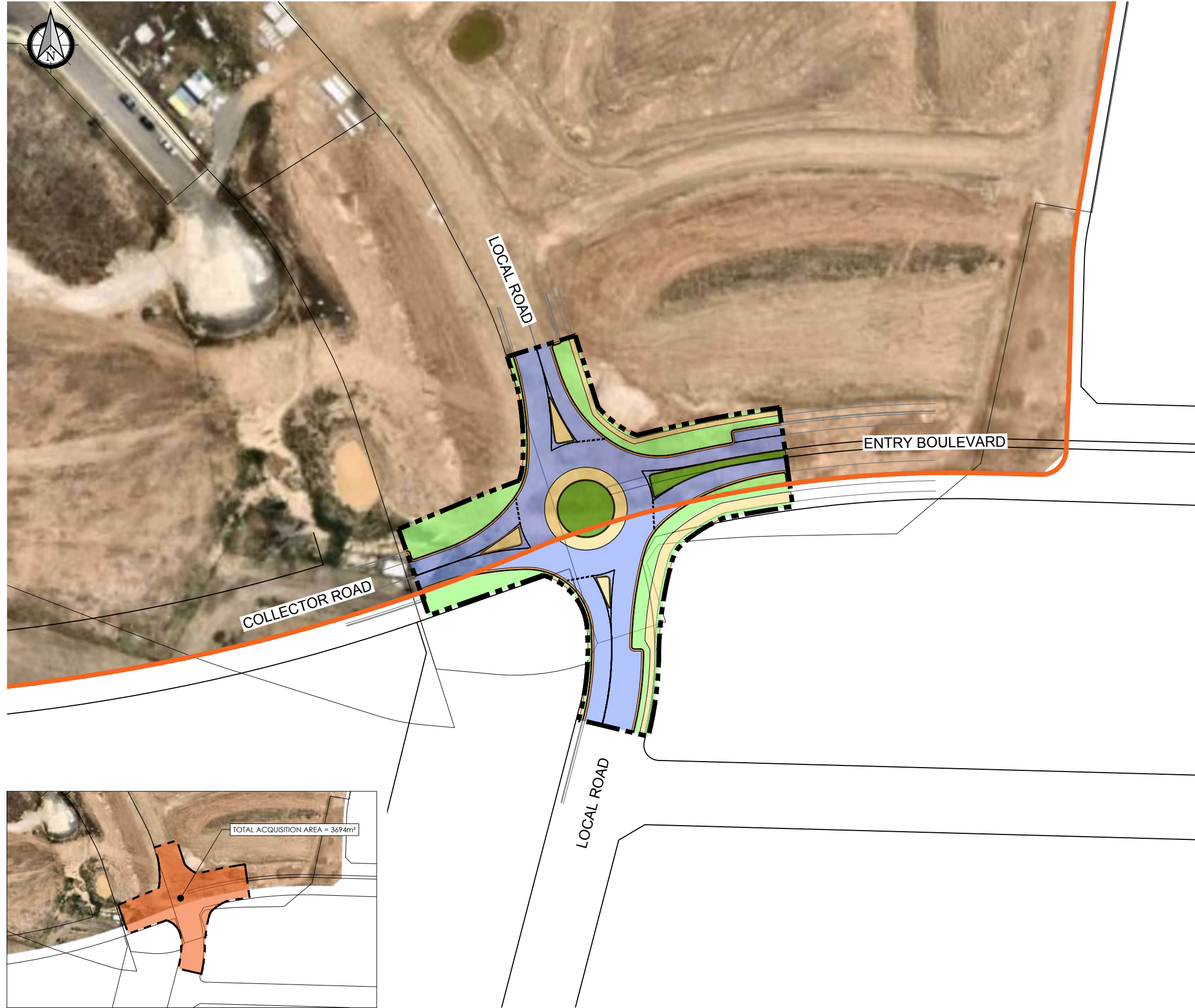
dwg ref: 300070-PSK-134

client:

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sydney office ph: (02) 8046 7411

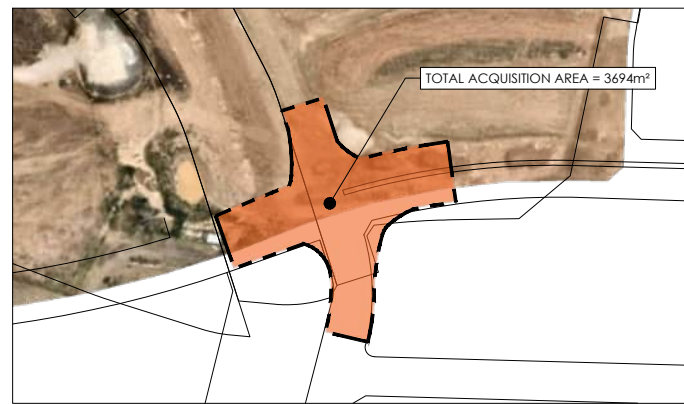
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GP3 S.7.11 PLAN: INT5 WORKS



LOCALITY PLAN

INTERSECTION No.5		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	1754m ²
	CONCRETE	467m ²
	VERGE	1012m ²
	LANDSCAPING	221m ²
	SA KERB	308m
	SM/SF KERB	191m
	EDGE LINE	174m
	TB LINE	26m
	BB LINE	33m



TOTAL ACQUISITION AREA = 3694m²

LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:500 0 12.5 25.0m A3 1:1000	

drawing title:
ROAD INTERSECTION No.5

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

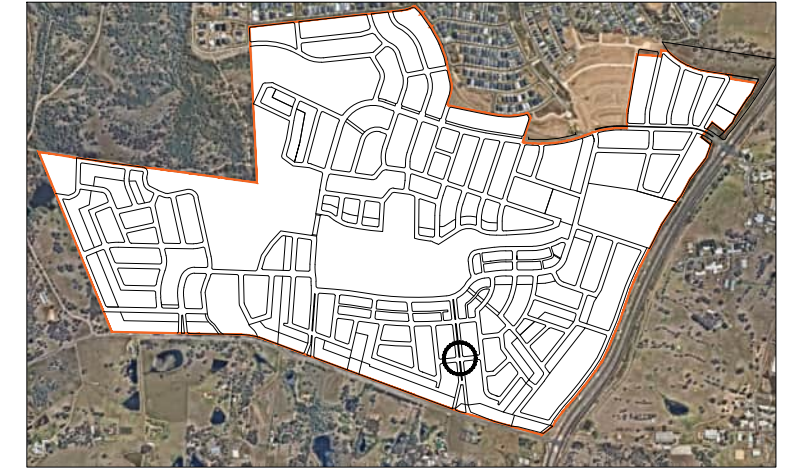
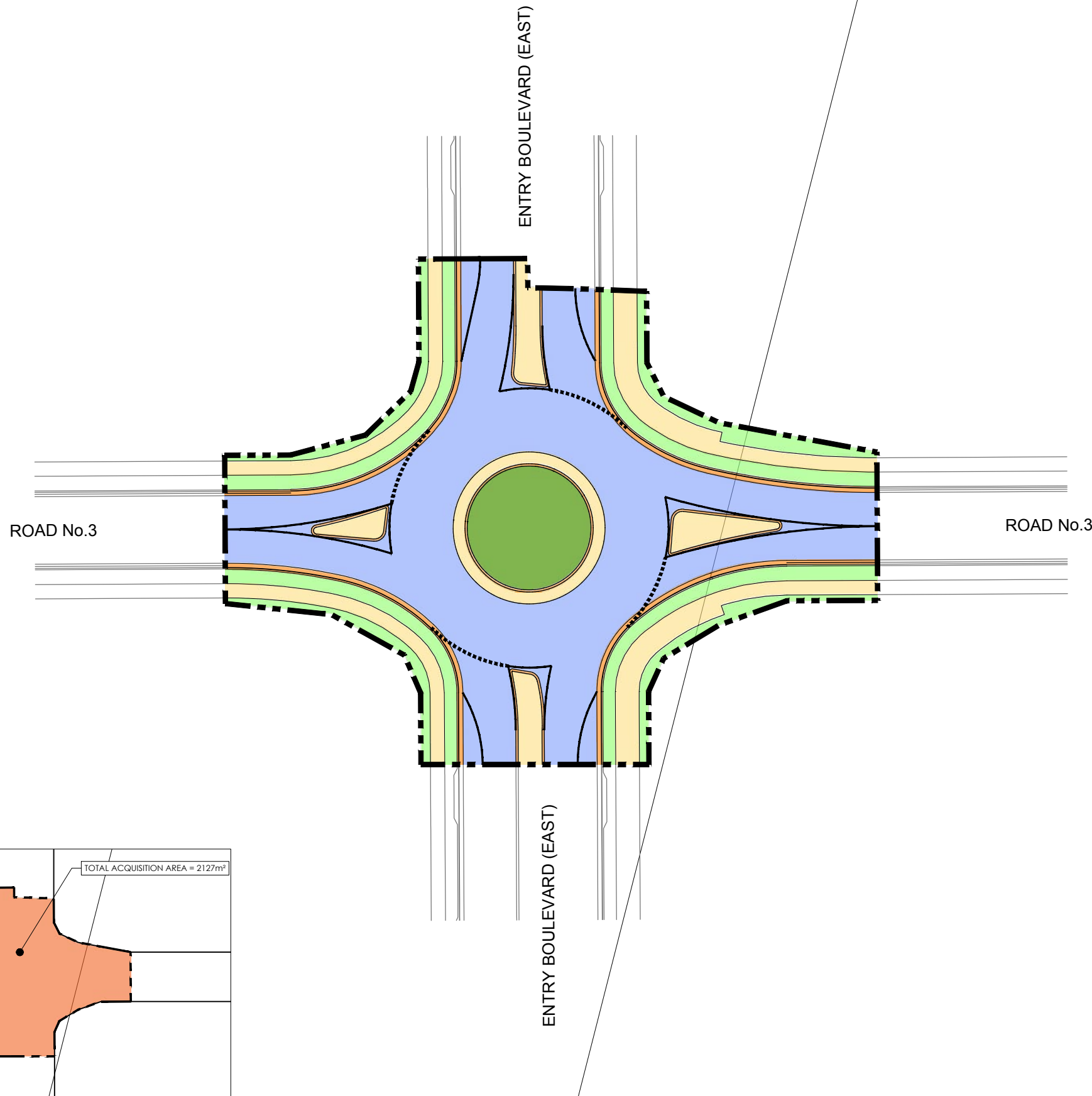
dwg ref: 300070-PSK-135

client:

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hunter office ph: (02) 4978 5100
sydney office ph: (02) 8046 7411

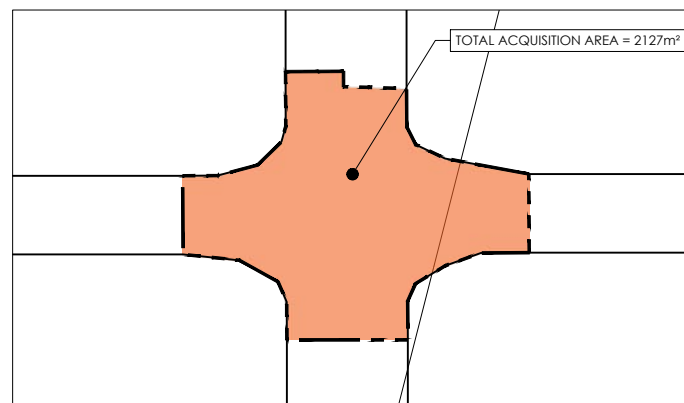
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GP3 S.7.11 PLAN: INT6 WORKS



LOCALITY PLAN

INTERSECTION No.6		
LEGEND	ITEM	QUANTITY
	ROAD PAVEMENT	1053m ²
	CONCRETE	423m ²
	VERGE	378m ²
	LANDSCAPING	133m ²
	SA KERB	168m
	SM/SF KERB	148m
	EDGE LINE	170m
	TB LINE	35m



LEGEND	
	GP3 BOUNDARY
	INTERSECTION LIMIT OF WORKS
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY

drawing title:
ROAD INTERSECTION No.6

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-136

client:



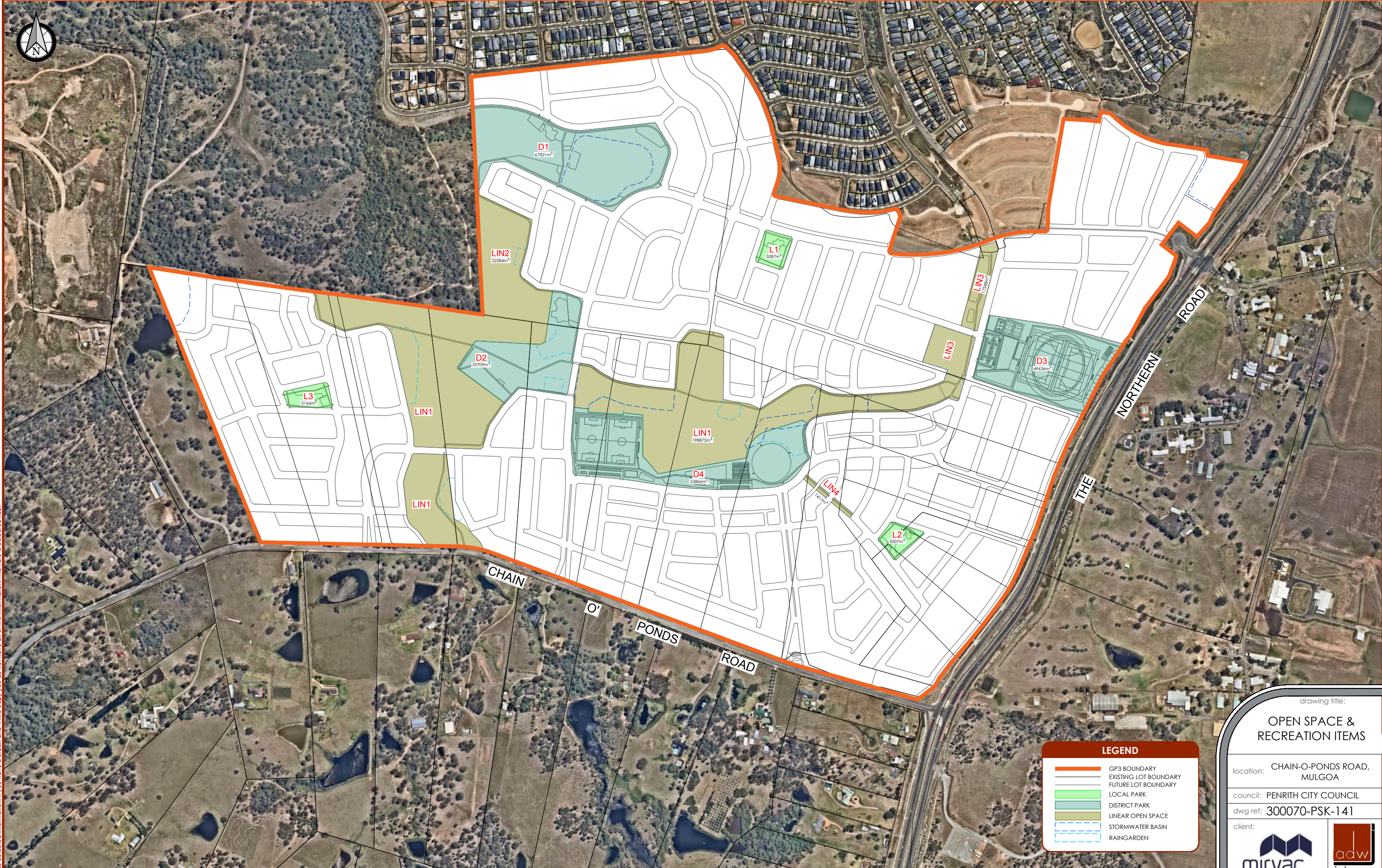
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ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:250 0 5.0 10.0 12.5m A3 1:500	

GP3 S.7.11 PLAN: STORMWATER MANAGEMENT ITEMS

300070-PSK-141



Plot Date: 03/06/24 11:02:12AM C:\Users\jacob.jacobson\Documents\Drawings\GP3 S.7.11\300070-PSK-141.DWG
 This plan includes coloured information. If you have a black and white copy you do not have all of the information. This note is coloured red.

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:4000 A3 1:8000	LOCATIONS AND SIZES OF STORMWATER MANAGEMENT FACILITIES SUBJECT TO REFINEMENT THROUGHOUT FUTURE DESIGN PHASES.

LEGEND

- GP3 BOUNDARY
- EXISTING LOT BOUNDARY
- FUTURE LOT BOUNDARY
- LOCAL PARK
- DISTRICT PARK
- LINEAR OPEN SPACE
- STORMWATER BASIN
- RAINGARDEN

drawing title:
OPEN SPACE & RECREATION ITEMS

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-141

client:

mirvac **adw johnson**

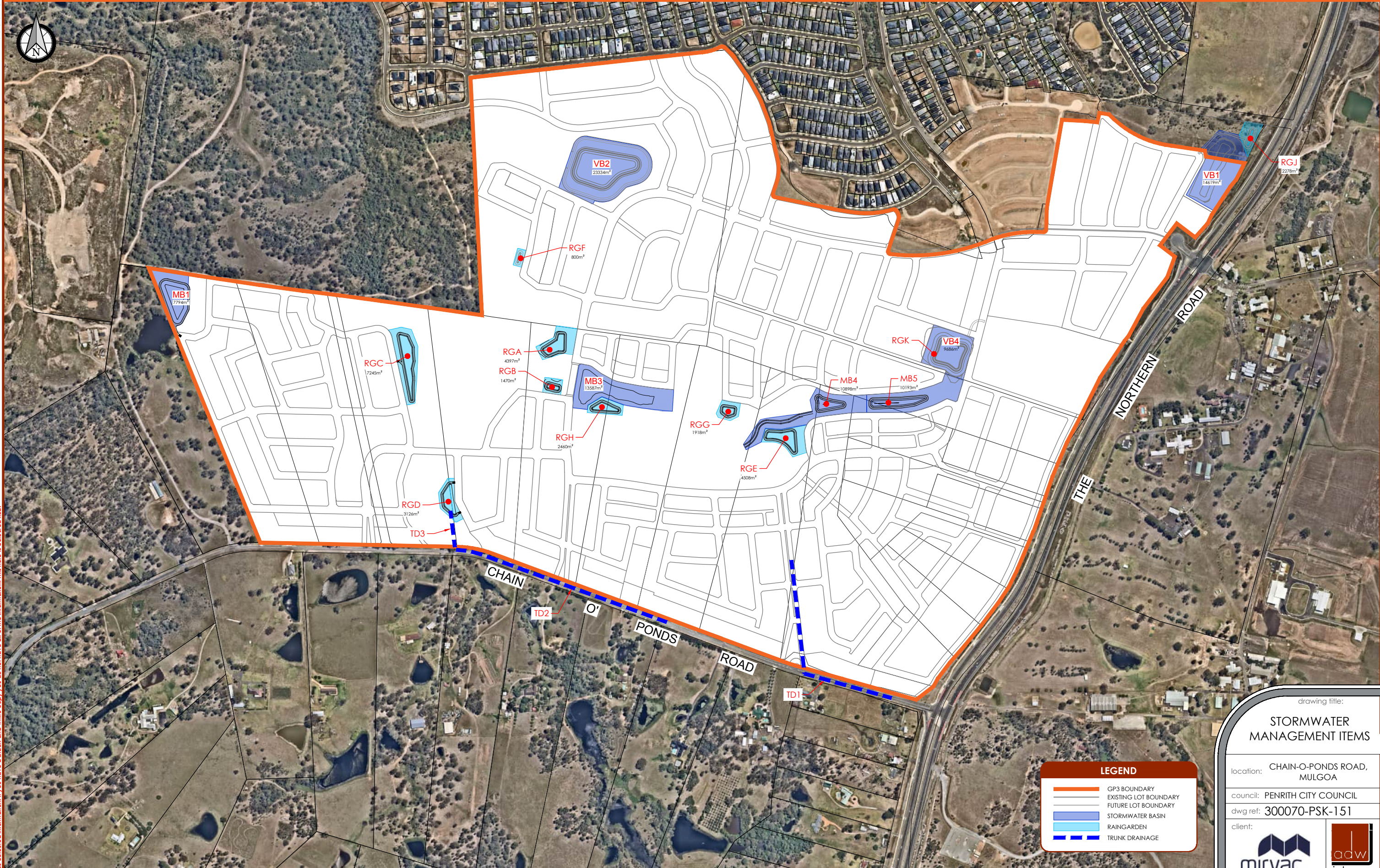
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 hunter office ph: (02) 4978 5100
 sydney office ph: (02) 8046 7411

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GP3 S.7.11 PLAN: STORMWATER MANAGEMENT ITEMS

300070-PSK-151



Plot Date: 03/06/24 11:02:20AM Cod File: S:\300070\DRAWINGS\PLANNING\GP3 S.7.11\300070-PSK-151.DWG
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working beyond expectations

LEGEND

- GP3 BOUNDARY
- EXISTING LOT BOUNDARY
- FUTURE LOT BOUNDARY
- STORMWATER BASIN
- RAINGARDEN
- TRUNK DRAINAGE

drawing title:
STORMWATER MANAGEMENT ITEMS

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-151

client:



central coast office ph: (02) 4305 4300
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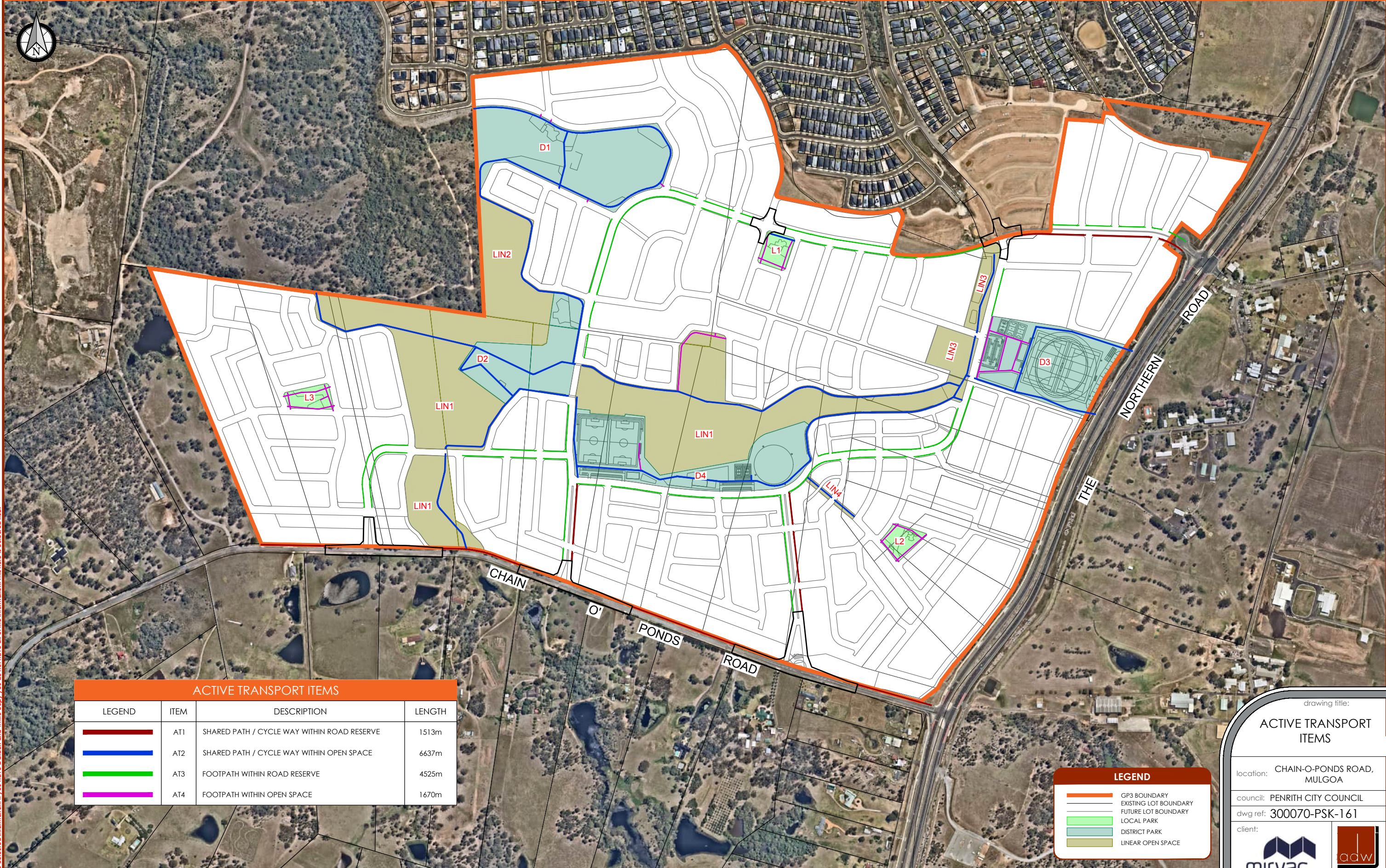
ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:4000 A3 1:8000	LOCATIONS AND SIZES OF STORMWATER MANAGEMENT FACILITIES SUBJECT TO REFINEMENT THROUGHOUT FUTURE DESIGN PHASES.

- project management
- civil engineering
- infrastructure
- superintendency
- social impact
- town planning
- surveying
- development feasibility
- visualisation
- urban design

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GP3 S.7.11 PLAN: ACTIVE TRANSPORT ITEMS

300070-PSK-161



ACTIVE TRANSPORT ITEMS

LEGEND	ITEM	DESCRIPTION	LENGTH
	AT1	SHARED PATH / CYCLE WAY WITHIN ROAD RESERVE	1513m
	AT2	SHARED PATH / CYCLE WAY WITHIN OPEN SPACE	6637m
	AT3	FOOTPATH WITHIN ROAD RESERVE	4525m
	AT4	FOOTPATH WITHIN OPEN SPACE	1670m

LEGEND	
	GP3 BOUNDARY
	EXISTING LOT BOUNDARY
	FUTURE LOT BOUNDARY
	LOCAL PARK
	DISTRICT PARK
	LINEAR OPEN SPACE

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
H	31.05.2024	INTERSECTION No.6 ADDED & TD1 UPDATED	JJ	MO	DATUM: GDA2020 MGA56 CONTOUR INTERVAL:	A1 1:4000 A3 1:8000	

drawing title:
ACTIVE TRANSPORT ITEMS

location: CHAIN-O-PONDS ROAD, MULGOA

council: PENRITH CITY COUNCIL

dwg ref: 300070-PSK-161

client:

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PRELIMINARY COST ESTIMATE

PROJECT: Glenmore Park Stage 3

TRUNK CULVERT TD1

NO.	ITEM	QTY.	UNIT	RATE	AMOUNT
				Exc GST\$	Exc GST\$
1	DRAINAGE TD1 - 1 x 1050mm RCP				
	Establishment (5%)	1	Item	\$105,000.00	\$105,000.00
	Provision for Traffic	1	Item	\$5,000.00	\$5,000.00
	Temporary Security Fencing	1	Item	\$4,000.00	\$4,000.00
	Trench para-web fencing	1	Item	\$3,000.00	\$3,000.00
	Clearing & grubbing	1	Item	\$8,000.00	\$8,000.00
	Sediment and erosion control	1	Item	\$6,000.00	\$6,000.00
	Excavation	20,000	cu.m.	\$25.00	\$500,000.00
	1050mm dia RCP	470	lin.m.	\$650.00	\$305,500.00
	Pits	3	ea	\$4,500.00	\$13,500.00
	Granular Backfill	19,500	cu.m.	\$60.00	\$1,170,000.00
	Sub-soil drains (incl flushing points)	470	lin.m.	\$7.50	\$3,525.00
	Concrete Headwalls @\$8000 / cu.m assume 200 thick	3	cu.m.	\$8,000.00	\$24,000.00
	Rip Rap Scour Protection	120	sq.m.	\$110.00	\$13,200.00
	Re-vegetate - spray grass	2,200	sq.m.	\$0.95	\$2,090.00
				SUBTOTAL	\$2,163,000.00
				TOTAL FOR ITEM 1	\$2,163,000.00
2	PLANT & CONTINGENCIES				
	30% Plant & Contingency		item		\$649,000.00
				TOTAL WITH 30% CONTINGENCY	\$2,812,000.00