

DELEGATED REPORT

TO: COORDINATOR PLANNING SERVICES

FROM: Senior Planner

FILE: OPW/24/0008

DATE: 12 December 2024

APPLICATION DETAILS

APPLICATION		PREMISES	
FILE NO:	OPW/24/0008	ADDRESS:	Ray Road & Rayfield Avenue, Mareeba
APPLICANT:	TW Hedley	RPD:	Lot 46 on SP210288
LODGED BY:	Neon Consulting	AREA:	10.23 ha
DATE LODGED:	13 November 2024	OWNER:	Mareeba Lifestyle Developments Pty Ltd
TYPE OF APPROVAL:	Development Permit		
PROPOSED DEVELOPMENT:	Operational Works (Roadworks, Earthworks, Stormwater and Water Reticulation for Stage 2 (23 Lots) of Development Permit REC/07/0083 – Rayfield Estate)		
PLANNING SCHEME:	Mareeba Shire Council Planning Scheme 2016		
ZONE:	Rural residential zone		
LEVEL OF ASSESSMENT:	Code Assessment		

PREVIOUS APPLICATIONS & APPROVALS

REC/07/0083

DESCRIPTION OF PROPOSED DEVELOPMENT

- Operational Works (Roadworks, Earthworks, Stormwater and Water Reticulation for Stage 2 (23 Lots) of Development Permit REC/07/0083 – Rayfield Estate)

ASSESSMENT

State Planning Policy

Separate assessment against the State Planning Policy (SPP) is not required because the Mareeba Shire Council Planning Scheme appropriately integrates all relevant aspects of the SPP.

Relevant Development Codes

The following Development Codes are considered to be applicable to the assessment of the application:

- 6.2.10 Rural residential zone code
- 9.4.4 Reconfiguring a lot code
- 9.4.5 Works, services and infrastructure code

The application did not include a planning report and assessment against the planning scheme. An officer assessment has found that the application satisfies the relevant acceptable solutions (or probable solutions/performance criteria where no acceptable solution applies) of the relevant codes set out below.

Relevant Codes	Comments
Rural residential zone code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.
Reconfiguring a lot code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.
Works, services and infrastructure code	The application can be conditioned to comply with the relevant acceptable outcomes contained within the code.

Compliance with conditions of earlier related approval

REC/07/0083 – Minor Change Decision Notice

CONDITIONS

- (a) The Council Resolution included on the Decision Notice dated 18 September 2007 be amended as follows:

Resolved that Council:-

~~A. Issue a Development Permit for the application by Mareeba Lifestyle Developments Pty Ltd for the reconfiguration of land described as Lot 2 on RP720057, Parish of Tinaroo, situated at 189 Ray Road, Mareeba into forty-five (45) lots as indicated on Drawing No. 1095-SK1 Amdt C submitted with the application, subject to the following conditions:-~~

- A. Issue a Development Permit for the application made by Mareeba Lifestyle Developments Pt Ltd for the reconfiguration of land described as Lot 2 on RP720057, Parish of Tinaroo, situated at 189 Ray Road, Mareeba into 45 lots as indicated on **generally in accordance with** Drawing No. 1095-SK1 Amdt C **(Stage 1) and Drawing No. 004-2403-01-DRG-1001 Rev A (Stage 2)** submitted with the application, subject to the following conditions:-

COUNCIL CONDITIONS

- (b) Condition one (1) of Council's Decision Notice dated 18 September 2007 be deleted and an Adopted Infrastructure Charges Notice be issued in its place.

~~1. To cover extra traffic movements created by this development, the applicant must contribute per additional allotment towards the augmentation of the road network in accordance with the adopted policy of Council existing at the time of payment. This contribution is to be paid prior to the signing and sealing of the Plan of Survey.~~

~~At the same time as the contribution is paid, a copy of the Plan of Survey and the Form 6 that is lodged with the Department of Natural Resources and Water for each permanent survey mark installed must also be lodged with Council prior to the signing and sealing of the Plan of Survey.~~

(c) Condition two (2) - External Works of Council's Decision Notice dated 18 September 2007 be deleted.

~~2. External Works~~

~~(i) The applicant is to construct kerb and channel for the full frontage of Lot 2 on RP720057 on Ray Road.~~

~~(ii) The applicant is to widen the existing bitumen on Ray Road for the full frontage of Lot 2 on RP720057 by 2.5 metres to the kerb mentioned in (i) above.~~

~~(iii) The kerb and channel and bitumen widening mentioned in (i) and (ii) above is to be designed and constructed to the following requirements mentioned below as per the FNQROC Development Manual and all construction methods are to be carried out to the satisfaction of the Manager Civil Works.~~

~~(iv) Details of the kerb and channel and bitumen widening mentioned in (i) and (ii) above must be submitted for approval on the Engineering Drawings.~~

3. General

(i) All operational works relating to this development will be undertaken by the applicant as per the FNQROC Development Manual, including the following.

(ii) Prior to the submission of any documentation Council draws your attention to AP 1 Application Procedures with particular reference to:-

AP 1.02	Pre-Lodgement Discussion
AP 1.07	Supporting Information, in particular:-
	9 (xi) Erosion and Sediment Control Strategy (ESCS)
	9 (xvii) Landscaping Design Plan
AP 1.08-1.14	Plan Presentation
AP 1.15-1.31	Design Drawings (including asphalt intersection/ cul-de-sac details with bitumen road)

(iii) Documentation as detailed in AP 1 should be submitted at least one (1) month prior to the proposed starting date for construction.

(iv) Refer also to associated Mareeba Shire Council Specific Requirements and Standard Drawings.

- (v) All aspects of construction works must be undertaken to the satisfaction of the Manager Civil Works.
- (vi) Council wishes to advise the applicant of the Aboriginal Cultural Heritage Act 2003 and the Environment Protection and Biodiversity Conservation Act 1999 which may impact on this development.
- (vii) No work may commence on site until Council has approved both the:-
 - (a) Erosion and Sediment Control Strategy; and
 - (b) Principal Contractor's Sediment Control Plan.

4. Roadworks and Earthworks

- (i) Roadworks are to be designed and constructed in accordance with FNQROC Development Manual with particular reference to the following sections:-

DP 1	Development Principles
D1	Road Geometry
D2	Site Regrading
D3	Road Pavements (Design)
S1	Earthworks
S2	Road Pavements (Specification)

TableD1.1 Street and Road Hierarchy

- (ii) Refer also to associated Mareeba Shire Council Specific Requirements and Standard Drawings including 4% crossfall on all roads.

5. Stormwater Drainage

- (i) Stormwater drainage is to be designed and constructed in accordance with FNQROC Development Manual with particular reference to the following sections.

DP 1	Development Principles
D4	Stormwater Drainage (Design)
D5	Stormwater Quality Management
S4	Stormwater Drainage (Specification)

- (ii) Refer also to Mareeba Shire Council specific requirements and site drawings.

- (d) **Condition five (5) (iii) only of Councils Decision Notice dated 18 September 2007 be deleted and an Adopted Infrastructure Charges Notice be issued in its place.**

~~(iii) The applicant shall contribute to the cost of drainage headworks (currently \$3,000.00 per additional allotment) in accordance with the adopted policy of Council existing at the time of payment. This payment to be made prior to the signing and sealing of the Plan of Survey.~~

6. Water Supply

- (i) Water reticulation is to be designed and constructed in accordance with FNQROC Development Manual with particular reference to the following sections.

D5 Water Reticulation (Design)
S5 Water Reticulation (Specification)

- (ii) Refer also to Mareeba Shire Council specific requirements and standard drawings, as listed in the FNQROC Manual.

- (iii) All work mentioned above including laying and installation, is to be carried out to the specific requirements of Mareeba Shire Council and the satisfaction of the Manager - Civil Works.

- (e) **Condition six (6) (iv) only of Councils Decision Notice dated 18 September 2007 be deleted and an Adopted Infrastructure Charges Notice be issued in its place.**

~~(iv) — The applicant shall contribute to the cost of water headworks in accordance with the adopted policy of Council existing at the time of payment. This payment to be made prior to the signing and sealing of the Plan of Survey.~~

- (f) **Condition seven (7) of Council's Decision Notice dated 18 September 2007 be amended as follows:**

7. Wastewater Disposal

~~The developer shall provide a Site and Soil Evaluation Report prepared by a suitably qualified Registered Professional Engineer acceptable to Council, for the proposed development. The report shall be prepared in accordance with the requirements of AS1547.2000 and shall specifically address those issues pertaining to the planning, rezoning and subdivision of land. The developer shall warrant that each lot within the proposed subdivision is of sufficient size and soil classification to dispose of wastewater generated by any development consistent with the zoning of the land without impacting on any adjoining lands. The report will include a detailed investigation of problem lots within the development. AS1547.2000 provides direction on the preparation of such a report and guidance on the minimum level of testing required to produce such a report.~~

At the time of construction of a new dwelling on each lot, any associated on-site effluent disposal system must be constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547) to the satisfaction of the Council's delegated officer.

8. Construction

- (i) As well as the requirements set out in the Design Guidelines and Specifications of the FNQROC Development Manual, Council draws your attention to CP 1 Construction Procedures which details minimum requirements acceptable to Council. Particular reference is made to the following sections.

CP 1.04 Inspection and Test Plan
 CP 1.06 Contractors Erosion and Sediment Control Plan
 CP 1.08 Notice to Commence Works
 CP 1.09 Pre-Start Meeting

- (ii) Before any contractor can proceed on site, the applicant is to complete and submit for signing of approval to the Manager Civil Works, the "Notice of Appointment of Principal Contractor" form, stating who is to be the Principal Contractor for this development.
 - (iii) All construction works are to be carried out to the requirements of the FNQROC Development Manual and the specific Mareeba Shire Council requirements.
 - (iv) All aspects of construction works must be undertaken to the satisfaction of the Manager Civil Works.
9. The applicant shall provide written advice from Ergon Energy that satisfactory arrangements have been made for an electricity connection to be provided to the proposed allotments.
10. The applicant shall provide written advice from Telstra that a telephone service can be made available to the proposed allotments.
- (g) Condition 11 of Council's Decision Notice dated 18 September 2007 be deleted and an Adopted Infrastructure Charges Notice be issued in its place.**

~~11. The Applicant shall make a contribution per additional allotment towards public open space in accordance with the adopted policy of Council existing at the time of payment. This payment to be made prior to the signing and sealing of the Plan of Survey.~~

- (h) Condition 12 of Councils Decision Notice dated 18 September 2007 be amended as follows:**

12. Access
- (i) The applicant is to construct an access to the proposed allotments to the Mareeba Shire Access requirements of the FNQROC Development Manual and to the satisfaction of the Manager Civil Works. These accesses must be constructed from the edge of the road pavement to the property boundary.
- The provision of rollover/layback kerbing along all new internal access road/s will satisfy this requirement.**
- (ii) The applicant is to construct the access way **handle driveways** for proposed ~~Lot~~ **30 Lots 30, 48 and 58** to a minimum **3 metre wide** all weather hard standing surface (i.e. asphalt, bitumen, concrete), from the new road to the main body of ~~the~~ **each** allotment.
13. Buffer Areas in accordance with the provisions of Planning Guidelines: Separating Agricultural and Residential Land Uses must be established within the subject land to protect neighbouring rural/agricultural developments.

A plan indicating the design and extent of these buffers is to be submitted to Council for approval as part of the Application for Operational Works.

B. Authorise the Mayor and Chief Executive Officer to sign and seal the plan of survey when all of the above conditions have been completed to the satisfaction of the Shire Planner.

(i) **To support the issue of an Adopted Infrastructure Charges Notice, additional advice clauses (a) and (b) must be included on Council's Decision Notice dated 18 September 2007 as follows:**

- (a) An Adopted Infrastructure Charges Notice has been issued with respect to the approved development. The Adopted Infrastructure Charges Notice details the type of infrastructure charge/s, the amount of the charge/s and when the charge/s are payable.
- (b) The Adopted Infrastructure Charges Notice does not include all charges or payments that are payable with respect to the approved development. A number of other charges or payments may be payable as conditions of approval. The applicable fee is set out in Council's Fees & Charges Schedule for each respective financial year.

FNQROC Regional Development Manual Checklist

Section	Assessment
DP1 - Development Principles	Complies
AP1 - Application Procedures	Complies
D1 - Road Geometry	Complies
D2 - Site Regrading	Complies
D3 - Road Pavements	Complies
D4 - Stormwater Drainage	Conditioned to comply
D5 - Stormwater Quality Management	Conditioned to comply
D6 - Water Reticulation	Complies
D7 - Sewerage System	N/A
D8 - Utilities	Complies
D9 - Landscaping	N/A

REFERRALS

Nil

Internal/External Consultation

Technical Services (internal) and Trinity Engineering Consultancy (external)

OFFICER'S RECOMMENDATION

1. That in relation to this operational works development application:

APPLICATION		PREMISES	
APPLICANT:	TW Hedley Pty Ltd	ADDRESS:	Ray Road and Rayfield Avenue, Mareeba
DATE LODGED	13 November 2024	RPD:	Lot 46 on SP210288
TYPE OF APPROVAL	Development Permit		
PROPOSED DEVELOPMENT	Operational Works (Roadworks, Earthworks, Stormwater and Water Reticulation for Stage 2 (23 Lots) of Development Permit REC/07/0083 – Rayfield Estate)		

and in accordance with the Planning Act 2016, as amended, the applicant be notified that the application for operational works:

Approved subject to the following assessment manager conditions:

(A) **APPROVED DEVELOPMENT:** Development Permit for Operational Works (Roadworks, Earthworks, Stormwater and Water Reticulation for Stage 2 (23 Lots) of Development Permit REC/07/0083 – Rayfield Estate)

(B) **APPROVED PLANS:**

Plan/Document Number	Plan/Document Title	Prepared by	Dated
004-2403-01-DRG-0101 A	Locality Plan	NEON Consulting	28/10/2024
004-2403-01-DRG-0102 A	Project Notes	NEON Consulting	28/10/2024
004-2403-01-DRG-0103 A	Overall Site Plan	NEON Consulting	28/10/2024
004-2403-01-DRG-0104 A	General Arrangement Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0105 A	General Arrangement Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0201 A	Earthworks Plan Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0202 A	Earthworks Plan Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0203 A	Earthworks Detail Plan	NEON Consulting	28/10/2024
004-2403-01-DRG-0301 A	Typical Sections and Details Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0302 A	Typical Sections and Details Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0303 A	Intersection Details	NEON Consulting	28/10/2024
004-2403-01-DRG-0401 A	Stormwater Drainage Plan Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0402 A	Stormwater Drainage Plan Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0403 A	Stormwater Longitudinal Sections Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0404 A	Stormwater Longitudinal Sections Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0601 A	Water Reticulation Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0602 A	Water Reticulation Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0701 A	Site Based Stormwater Managements Plan Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0702 A	Site Based Stormwater Managements Plan Sheet 2 of 2	NEON Consulting	28/10/2024

004-2403-01-DRG-0801 A	Master Services Plan Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0802 A	Master Services Plan Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0901 A	Road B Longitudinal Section	NEON Consulting	28/10/2024
004-2403-01-DRG-0902 A	Road B Cross Sections Sheet 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0903 A	Road B Cross Sections Sheet 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0904 A	OED 1 Longitudinal Section 1 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0905 A	OED 1 Longitudinal Section 2 of 2	NEON Consulting	28/10/2024
004-2403-01-DRG-0906 A	OED 1 Cross Sections Sheet 1 of 3	NEON Consulting	28/10/2024
004-2403-01-DRG-0907 A	OED 1 Cross Sections Sheet 2 of 3	NEON Consulting	28/10/2024
004-2403-01-DRG-0908 A	OED 1 Cross Sections Sheet 3 of 3	NEON Consulting	28/10/2024
004-2403-01-DRG-0908 A	OED 1 Longitudinal and Cross Sections	NEON Consulting	28/10/2024

(C) ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)

1. General

1.1 Development must be carried out substantially in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations:

- found necessary by the Council's Delegated Officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements;
- to ensure the works comply in all respects with the requirements and procedures of the FNQROC Development Manual, Queensland Urban Drainage Manual and good engineering practice; and
- to ensure compliance with the following conditions of approval.

1.2 All operational works must be designed and constructed in accordance with the design guidelines and procedures as set out in the FNQROC Development Manual, prior to works acceptance.

1.3 Amended Earthworks Plan

Provide updated Earthworks Plan(s) that include an additional south-to-north aligned side boundary drains and perimeter bunds along the low side of each lot boundary (Lots 60 to 68) to service the existing "fire trail" along the rear of Lots 24 to 32.

The surface drain must be designed to ensure free drainage towards proposed Road B, with a consistent south-to-north gradient (without surface irregularities and grass humps etc).

For clarity, this internal property drain, contained within the lot boundaries of this development site, must be privately owned and must not become an asset of Council (e.g., no easements are required). Maintenance of the drain will be the responsibility of each lot owner.

The amended Earthworks Plan(s) must be provided to Council for endorsement prior to the Prestart Meeting for Commencement of Works.

The constructed drainage path must be confirmed to the satisfaction of Council prior to Works Acceptance.

- 1.4 The final finished surface levels and grades of Lots 60 – 68 must not prevent the flow of surface water (sheet flow) originating from existing Lots 24 – 32 on SP210288, to the satisfaction of Council and prior to works acceptance.
- 1.5 'For Construction' Engineering Drawings, inclusive of any amendments required by Conditions of this Permit, must be certified as approved by a suitably qualified RPEQ Engineer and a copy submitted to Council, prior to Commencement of Work.
- 1.6 Where any part of Council's existing infrastructure or land is damaged as a result of construction activities occurring on the land, including but not limited to; mobilisation of heavy construction equipment, stripping, grubbing and vegetation damage, notify Council immediately of the affected infrastructure or land and have it repaired, replaced or reinstated at no cost to Council, prior to Works Acceptance.
- 1.7 Erosion and Sediment Control Plan

Prior to Commencement of Work, prepare and provide to Council for approval an Erosion and Sediment Control Plan (ESCP) to manage the site during construction and the defect liability period until Final Works Acceptance. The submitted plan is to be substantially in accordance with the approved Erosion and Sediment Control Strategy.

Soil and water management measures must be installed/implemented prior to discharge of water from the land, such that no external stormwater flow from the land adversely affects surrounding or downstream properties (in accordance with the requirements of the Environmental Protection Act 1994 (Qld), the FNQROC Development Manual and the International Erosion Control Association 2008 Guidelines).

- 1.8 Runoff Generally

All reasonable and practicable measures must be taken to prevent pollution entering existing creeks, waterways or drainage lines, as a result of silt run-off, oil and grease spills from any machinery. Wastewater as a result of cleaning equipment must not be discharged directly or in-directly to any watercourses, stormwater systems or private properties (in accordance with the requirements of the Environmental Protection Act (1994), the FNQROC Development Manual and Best Practice Erosion & Sediment Control – IECA Australasia).

- 1.9 Earthworks Construction

All earthworks must be constructed in accordance with AS 3798: Guidelines on earthworks for commercial and residential developments. At the completion of works, RPEQ Certification of the works and test results are required to be provided to Council, prior to Works Acceptance.

- 1.10 Stormwater Drainage

Stormwater drainage as shown on the Approved Plan(s), must be constructed in accordance with the relevant design and specifications sections of the

FNQROC Development Manual and the Queensland Urban Drainage Manual, prior to Works Acceptance.

All stormwater from the land must be directed to a lawful point of discharge as per the Approved Plan(s) such that it does not adversely affect surrounding properties or properties downstream from the development, in accordance with the Queensland Urban Drainage Manual.

- 1.11 Council's examination of the documents should not be taken to mean that the documents have been checked in detail and Council takes no responsibility for their accuracy. If during construction, inadequacies of the design are discovered, it is the responsibility of the Principal Consulting Engineer to resubmit amended plans to Council for approval and rectify works accordingly.

2. Pre-start Meeting

- 2.1 In addition to the requirements of Clause CP1.07 and CP1.08 of the FNQROC Development Manual; after documentation has been approved by Council, a pre-start meeting is to be held on site prior to the commencement of work. Part 1 of the **attached** pre-start meeting pro-forma is to be completed and returned prior to the meeting including clause 1.u 'Request for Meeting' together with the prescribed Construction Monitoring Fee as set out in Council's Schedule of Fees.

3. Inspections

- 3.1 Inspections are to be carried out as detailed in the FNQROC Manual unless advised otherwise at the pre-start meeting.

4. Construction Security Bond and Defects Liability Bond

- 4.1 In addition to Clauses CP1.06 and CP1.20 of the FNQROC Development Manual; the Construction Security Bond and Defects Liability Bond shall each be a minimum of \$1000 and Bank Guarantees shall have no termination date.
- 4.2 During the Defects Liability period, it is the responsibility of the developer to rectify any works found to be defective due to design faults and or found to exhibit faults attributed to the performance of the construction activities in terms of quality and conformance with design and specifications. The bond will be returned on satisfactory correction of any defective work and after expiration of the maintenance period. Failure to comply with a Council issued instruction to correct defective work may result in the call up of the bond to have the work completed.

5. Hours of Work

- 5.1 Work involving the operation of construction plant and equipment of any description, shall only be carried out on site during the following times:
- 7.00am to 6.00pm, Monday to Friday;
 - 7.00am to 1.00pm Saturdays;
 - No work is permitted on Sundays or Public Holidays.

- 5.2 No variation to the above working hours is allowed unless otherwise agreed in writing by Council.

6. Transportation of Soil

- 6.1 All soil transported to or from the site must be covered to prevent dust or spillage during transport. If soil is tracked or spilt onto the road pavement from works on the subject land, it must be removed no later than at the end of each working day. Sediment must not enter Council's stormwater drainage network.

(D) RELEVANT PERIOD

When approval lapses if development not started (s.85)

- Two (2) years (starting the day the approval takes effect).

(E) OTHER NECESSARY DEVELOPMENT PERMITS AND/OR COMPLIANCE PERMITS

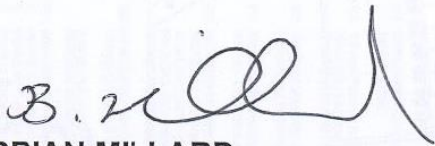
- Nil

DECISION BY DELEGATE

DECISION

Having considered the Senior Planners report detailed above, I approve, as delegate of Council, the application subject to the conditions listed in the report.

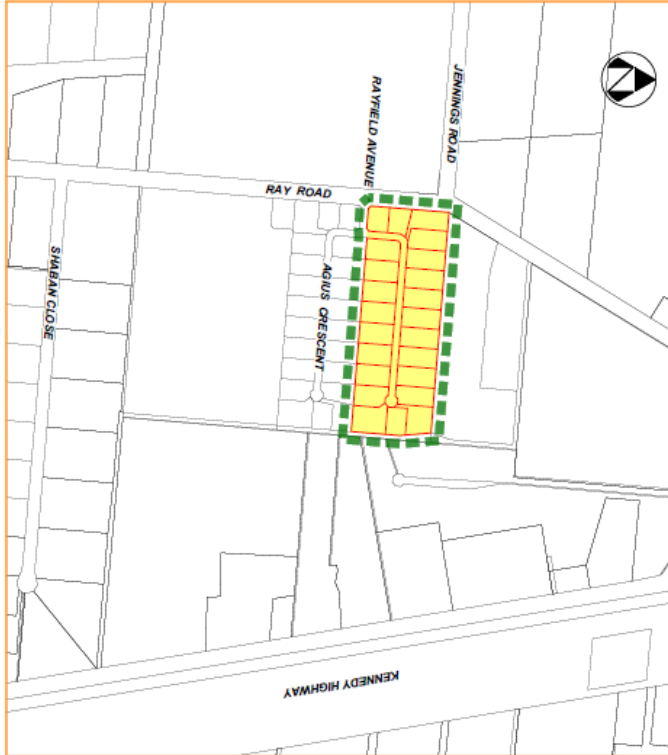
Dated the 12TH day of DECEMBER 2024



BRIAN MILLARD
COORDINATOR PLANNING SERVICES

MAREEBA SHIRE
AS DELEGATE OF THE COUNCIL

RAY ROAD SUBDIVISION 189 RAY ROAD, MAREEBA STAGE 2 CIVIL WORKS



LOCALITY PLAN
N.T.S.

INSTITUTE OF PUBLIC WORKS ENGINEERING
AUSTRALIA STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
0-000	EDIMENT CONTROL DEVICES - EDIMENT FENCE, ENTRUMENT EDIMENT TYP
0-001	EDIMENT CONTROL DEVICES - KERB AND FIELD NILES, CHECK DAMS & STRIP BILWEAMS

NEON
CONSULTING

TWINGLEY PTY LTD

RURAL RESIDENTIAL SUBDIVISION
189 RAY ROAD, MAREEBA
LOCALITY PLAN

DRAWING INDEX

DRAWING No.	DRAWING TITLE
00-1-2000-01-000-0001	QUALITY PLAN
00-1-2000-01-000-0002	PROJECT NOTES
00-1-2000-01-000-0003	OVERALL SITE PLAN
00-1-2000-01-000-0004	GENERAL ARRANGEMENT SHEET 1 OF 2
00-1-2000-01-000-0005	GENERAL ARRANGEMENT SHEET 2 OF 2
00-1-2000-01-000-0006	EXISTING SERVICES PLAN SHEET 1 OF 2
00-1-2000-01-000-0007	EXISTING SERVICES PLAN SHEET 2 OF 2
00-1-2000-01-000-0008	EXISTING SERVICES PLAN SHEET 3 OF 2
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00-1-2000-01-000-0042	EXISTING SERVICES PLAN SHEET 37 OF 2
00-1-2000-01-000-0043	EXISTING SERVICES PLAN SHEET 38 OF 2
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00-1-2000-01-000-0049	EXISTING SERVICES PLAN SHEET 44 OF 2
00-1-2000-01-000-0050	EXISTING SERVICES PLAN SHEET 45 OF 2
00-1-2000-01-000-0051	EXISTING SERVICES PLAN SHEET 46 OF 2
00-1-2000-01-000-0052	EXISTING SERVICES PLAN SHEET 47 OF 2
00-1-2000-01-000-0053	EXISTING SERVICES PLAN SHEET 48 OF 2
00-1-2000-01-000-0054	EXISTING SERVICES PLAN SHEET 49 OF 2
00-1-2000-01-000-0055	EXISTING SERVICES PLAN SHEET 50 OF 2
00-1-2000-01-000-0056	EXISTING SERVICES PLAN SHEET 51 OF 2
00-1-2000-01-000-0057	EXISTING SERVICES PLAN SHEET 52 OF 2
00-1-2000-01-000-0058	EXISTING SERVICES PLAN SHEET 53 OF 2
00-1-2000-01-000-0059	EXISTING SERVICES PLAN SHEET 54 OF 2
00-1-2000-01-000-0060	EXISTING SERVICES PLAN SHEET 55 OF 2
00-1-2000-01-000-0061	EXISTING SERVICES PLAN SHEET 56 OF 2
00-1-2000-01-000-0062	EXISTING SERVICES PLAN SHEET 57 OF 2
00-1-2000-01-000-0063	EXISTING SERVICES PLAN SHEET 58 OF 2
00-1-2000-01-000-0064	EXISTING SERVICES PLAN SHEET 59 OF 2
00-1-2000-01-000-0065	EXISTING SERVICES PLAN SHEET 60 OF 2
00-1-2000-01-000-0066	EXISTING SERVICES PLAN SHEET 61 OF 2
00-1-2000-01-000-0067	EXISTING SERVICES PLAN SHEET 62 OF 2
00-1-2000-01-000-0068	EXISTING SERVICES PLAN SHEET 63 OF 2
00-1-2000-01-000-0069	EXISTING SERVICES PLAN SHEET 64 OF 2
00-1-2000-01-000-0070	EXISTING SERVICES PLAN SHEET 65 OF 2
00-1-2000-01-000-0071	EXISTING SERVICES PLAN SHEET 66 OF 2
00-1-2000-01-000-0072	EXISTING SERVICES PLAN SHEET 67 OF 2
00-1-2000-01-000-0073	EXISTING SERVICES PLAN SHEET 68 OF 2
00-1-2000-01-000-0074	EXISTING SERVICES PLAN SHEET 69 OF 2
00-1-2000-01-000-0075	EXISTING SERVICES PLAN SHEET 70 OF 2
00-1-2000-01-000-0076	EXISTING SERVICES PLAN SHEET 71 OF 2
00-1-2000-01-000-0077	EXISTING SERVICES PLAN SHEET 72 OF 2
00-1-2000-01-000-0078	EXISTING SERVICES PLAN SHEET 73 OF 2
00-1-2000-01-000-0079	EXISTING SERVICES PLAN SHEET 74 OF 2
00-1-2000-01-000-0080	EXISTING SERVICES PLAN SHEET 75 OF 2
00-1-2000-01-000-0081	EXISTING SERVICES PLAN SHEET 76 OF 2
00-1-2000-01-000-0082	EXISTING SERVICES PLAN SHEET 77 OF 2
00-1-2000-01-000-0083	EXISTING SERVICES PLAN SHEET 78 OF 2
00-1-2000-01-000-0084	EXISTING SERVICES PLAN SHEET 79 OF 2
00-1-2000-01-000-0085	EXISTING SERVICES PLAN SHEET 80 OF 2
00-1-2000-01-000-0086	EXISTING SERVICES PLAN SHEET 81 OF 2
00-1-2000-01-000-0087	EXISTING SERVICES PLAN SHEET 82 OF 2
00-1-2000-01-000-0088	EXISTING SERVICES PLAN SHEET 83 OF 2
00-1-2000-01-000-0089	EXISTING SERVICES PLAN SHEET 84 OF 2
00-1-2000-01-000-0090	EXISTING SERVICES PLAN SHEET 85 OF 2
00-1-2000-01-000-0091	EXISTING SERVICES PLAN SHEET 86 OF 2
00-1-2000-01-000-0092	EXISTING SERVICES PLAN SHEET 87 OF 2
00-1-2000-01-000-0093	EXISTING SERVICES PLAN SHEET 88 OF 2
00-1-2000-01-000-0094	EXISTING SERVICES PLAN SHEET 89 OF 2
00-1-2000-01-000-0095	EXISTING SERVICES PLAN SHEET 90 OF 2
00-1-2000-01-000-0096	EXISTING SERVICES PLAN SHEET 91 OF 2
00-1-2000-01-000-0097	EXISTING SERVICES PLAN SHEET 92 OF 2
00-1-2000-01-000-0098	EXISTING SERVICES PLAN SHEET 93 OF 2
00-1-2000-01-000-0099	EXISTING SERVICES PLAN SHEET 94 OF 2
00-1-2000-01-000-0100	EXISTING SERVICES PLAN SHEET 95 OF 2

FNOROC STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
5300-1-5310	ROADWORKS AND DRAINAGE
5300-1-5305	WATER
5300-1-5315	SEWERAGE

GENERAL ARRANGEMENT

GENERAL

- 01. ALL WORKS ARE TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL SPECIFICATIONS TO BE
- 02. CONTRACTOR TO PROVIDE PUBLIC NOTIFICATION BEFORE MINORS DEVELOPMENT MANUAL (07/11)
- 03. CLEARING/REGISTRATION SHALL BE MATCHED ON SITE BY THE CONTRACTOR
- 04. FOR KESB FROM THE DETAILS REFER MINORS STD DMS 50MM
- 05. FOR KESB FROM THE DETAILS REFER MINORS STD DMS 50MM
- 06. FOR CONCRETE MANHOLE DETAILS REFER MINORS STD DMS 51114

EXISTING SERVICES

- E01. EXISTING SERVICES ARE NOT TO BE REMOVED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBILITY IS TAKEN BY THE PRINCIPAL OR SUPERVISOR FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SUPPLIED.
- E02. PRIOR TO THE COMMENCEMENT OF CONTRIBUTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE WORK AREA. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SERVICES BY THE FOLLOWING METHODS FOR IDENTIFYING THE UTILITIES LOCATIONS TO BE LIMITED TO:
 - GENERAL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULT WITH THE BELLEVUE SERVICE AUTHORITY.
 - CONDUCT TAPPING WITH THE BELLEVUE SERVICE AUTHORITY.
 - HAND EXCAVATION TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE BELLEVUE SERVICE AUTHORITY.

VEGETATION REMOVAL

- V01. PRIOR TO THE REMOVAL OF ANY TREE, AN INSPECTION MUST BE CONDUCTED TO DETERMINE THE PRESENCE OF ANY SIGN OF PROTECTED WILDLIFE INCLUDING NESTS, ANIMAL HIDEOUTS, SHOULD ANY REMOVAL BE REQUIRED. THE REMOVAL OF ANY TREE MUST NOT OCCUR UNTIL THE ANIMAL HAS MOVED THE AREA OF IMMEDIATE CONCERN. THE ANIMAL MUST BE IDENTIFIED AND THE REMOVAL MUST BE CONDUCTED IN ACCORDANCE WITH THE BELLEVUE SERVICE AUTHORITY'S GUIDELINES.
- V02. AN ASSESSMENT IS TO BE UNDERTAKEN BY A SUITABLY QUALIFIED AND EXPERIENCED PROFESSIONAL TO DETERMINE THE POSSIBLE PRESENCE OF BREEDING BIRDS, BATS, OR OTHER WILDLIFE. THE ASSESSMENT IS TO BE CONDUCTED PRIOR TO THE REMOVAL OF ANY TREE AND REGISTRATION AS PER THE REQUIREMENTS OF THE BELLEVUE SERVICE AUTHORITY'S GUIDELINES.
- V03. ANIMALS MUST BE NOTIFIED TWO DAYS PRIOR TO THE PROPOSED DATE OF COMMENCEMENT OF ANY PROPOSED VEGETATION REMOVAL TO PROVIDE SUFFICIENT NOTICE TO BIRDS AND BATS.
- V04. VEGETATION TO BE RETAINED MUST BE IDENTIFIED OR IDENTIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS.
- V05. ANIMALS MUST BE NOTIFIED TWO DAYS PRIOR TO THE PROPOSED DATE OF COMMENCEMENT OF ANY PROPOSED VEGETATION REMOVAL TO PROVIDE SUFFICIENT NOTICE TO BIRDS AND BATS.

EARTHWORKS

- E01. ALL WORKS TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL SPECIFICATIONS TO BE
- E02. PRIOR TO THE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE WORK AREA. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SERVICES BY THE FOLLOWING METHODS FOR IDENTIFYING THE UTILITIES LOCATIONS TO BE LIMITED TO:
 - GENERAL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULT WITH THE BELLEVUE SERVICE AUTHORITY.
 - CONDUCT TAPPING WITH THE BELLEVUE SERVICE AUTHORITY.
 - HAND EXCAVATION TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE BELLEVUE SERVICE AUTHORITY.

INTERSECTION DETAILS

- I01. ALL KESB DETAIL REQUIREMENTS TO BE UP TO KESB AND OWNED OR FACE OF KESB AS APPLICABLE.
- I02. FOR KESB FROM THE DETAILS REFER MINORS STD DMS 50MM
- I03. ALL TYPING, SIGNING AND PRESENTING MUST BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- I04. ALL SIGNAGE, MARKING AND ROADWORK TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- I05. NEW LANDING WORKS TO BE CONDUCTED IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- I06. FOR SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114

STORMWATER DRAINAGE

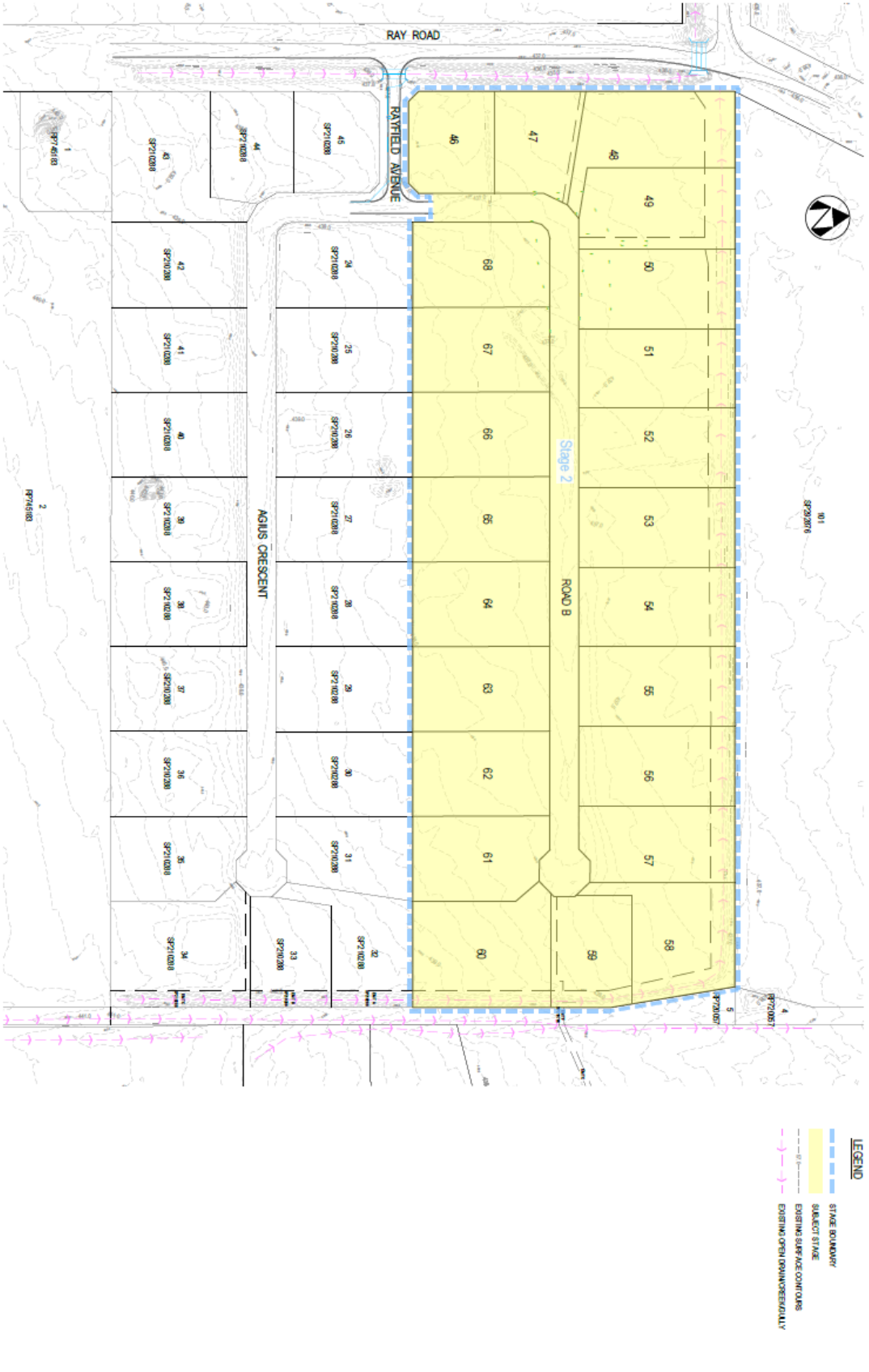
- D01. FOR SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- D02. THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORK AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IDENTIFY SERVICES REQUIRING EXISTING SERVICES REFER TO 001.
- D03. SUBSURFACE DRAINAGE TO BE CONDUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR ROADWORKS (MINORS DEVELOPMENT MANUAL 07/11)
- D04. PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR IS TO CONDUCT THE FOLLOWING METHODS FOR IDENTIFYING THE LOCATION OF ALL SERVICES TO BE LIMITED TO:
 - GENERAL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULT WITH THE BELLEVUE SERVICE AUTHORITY.
 - CONDUCT TAPPING WITH THE BELLEVUE SERVICE AUTHORITY.
 - HAND EXCAVATION TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE BELLEVUE SERVICE AUTHORITY.

WATER

- W01. ALL WATER MAINS ARE TO BE 1.2M MINIMUM FROM BOUNDARY LINES
- W02. FOR STANDARD DETAIL REFER MINORS STD DMS 50MM TO 51114
- W03. ALL WORKS ARE TO BE IN ACCORDANCE WITH MINORS DEVELOPMENT MANUAL SPECIFICATIONS.
- W04. COMMENTS TO EXISTING COUNCIL WANTS TO BE MADE BY COUNCIL AND REQUIRE SIGNED NOTICE.
- W05. THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORK AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION. IDENTIFY SERVICES REQUIRING EXISTING SERVICES.
- W06. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- W07. PROVIDE A COMPRESSIBLE LAYER BETWEEN EXISTING AND PROPOSED SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- W08. PROVIDE TWO WATER MAINS TO WATER MAINS WORKS. ALL WORKS TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- W09. ALL WORKS TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)

EROSION AND SEDIMENT CONTROL STRATEGY

- S01. SEQUENCING OF CONTROL MEASURES
 - a) INITIAL STABILIZATION OF ENTRY
 - b) PROTECT EXISTING SERVICES
 - c) CONSTRUCT TEMPORARY EROSION BASINS
 - d) INITIAL STORMWATER PIPES
- S02. THE AMOUNT OF ASPHALT TO EXISTING VEGETATION IS TO BE A MINIMUM OF 10% OF THE TOTAL AREA OF THE SITE.
- S03. EXISTING VEGETATION IS TO BE PROTECTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- S04. STOCKPILE LOCATION TO BE AWAY FROM COUNCIL & THE SUPERINTENDENT'S OFFICE. STOCKPILES TO BE PROTECTED BY EROSION CONTROL MEASURES AND TO BE PLACED ON THE DOWNWIND SIDE.
- S05. SETTING IN SALT FLUX TO BE AT 200MM INTERVALS WITH INITIAL DRAINAGE TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- S06. VARIATION IN SALT FLUX TO BE AT 200MM INTERVALS WITH INITIAL DRAINAGE TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- S07. ALL EROSION CONTROL MEASURES TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL
- S08. THE FOLLOWING EROSION CONTROL MEASURES ARE TO BE UNDERTAKEN IMMEDIATELY UPON COMMENCEMENT OF WORKS:
 - a) INITIAL STABILIZATION OF ENTRY
 - b) PROTECT EXISTING SERVICES
 - c) CONSTRUCT TEMPORARY EROSION BASINS
 - d) INITIAL STORMWATER PIPES
- S09. REGISTRATION IS TO BE UNDERTAKEN IMMEDIATELY WITH THE BELLEVUE SERVICE AUTHORITY.
- S10. CONTRACTOR MUST MANAGE A SUFFICIENTLY MAINTAINED STRATEGY TO MANAGE THE RISK OF EROSION AND SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH THE MINORS DEVELOPMENT MANUAL (07/11)
- S11. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- S12. WATER QUALITY MONITORING IS TO BE UNDERTAKEN DURING SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- S13. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- S14. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- S15. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
- S16. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114
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- S100. SIGNAGE TO WATER MAINS DETAILS REFER MINORS STD DMS 51114



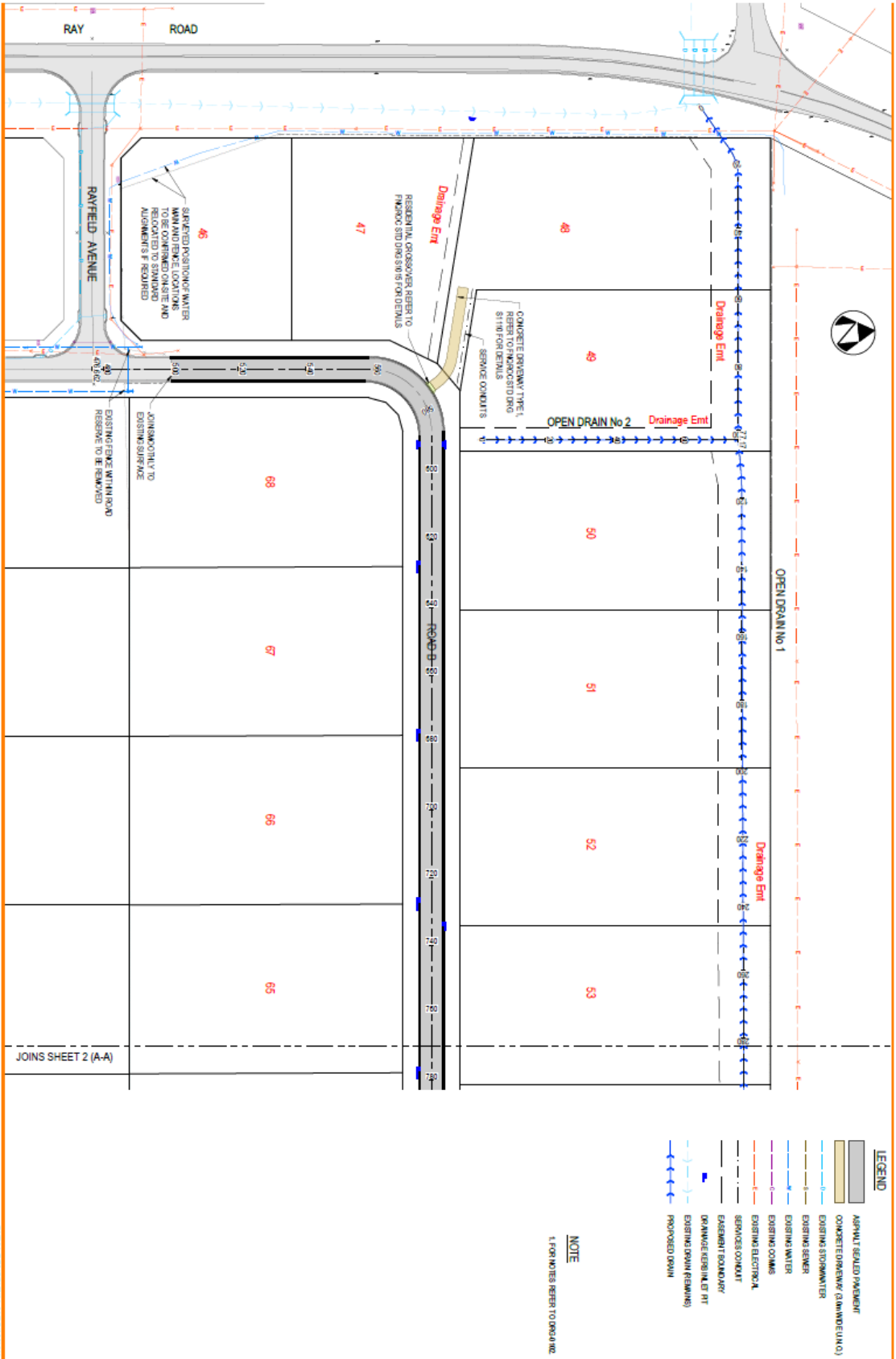
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NEON
 CONSULTING

TWIDLEY PTY LTD

RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREBA
 OVERALL SITE PLAN

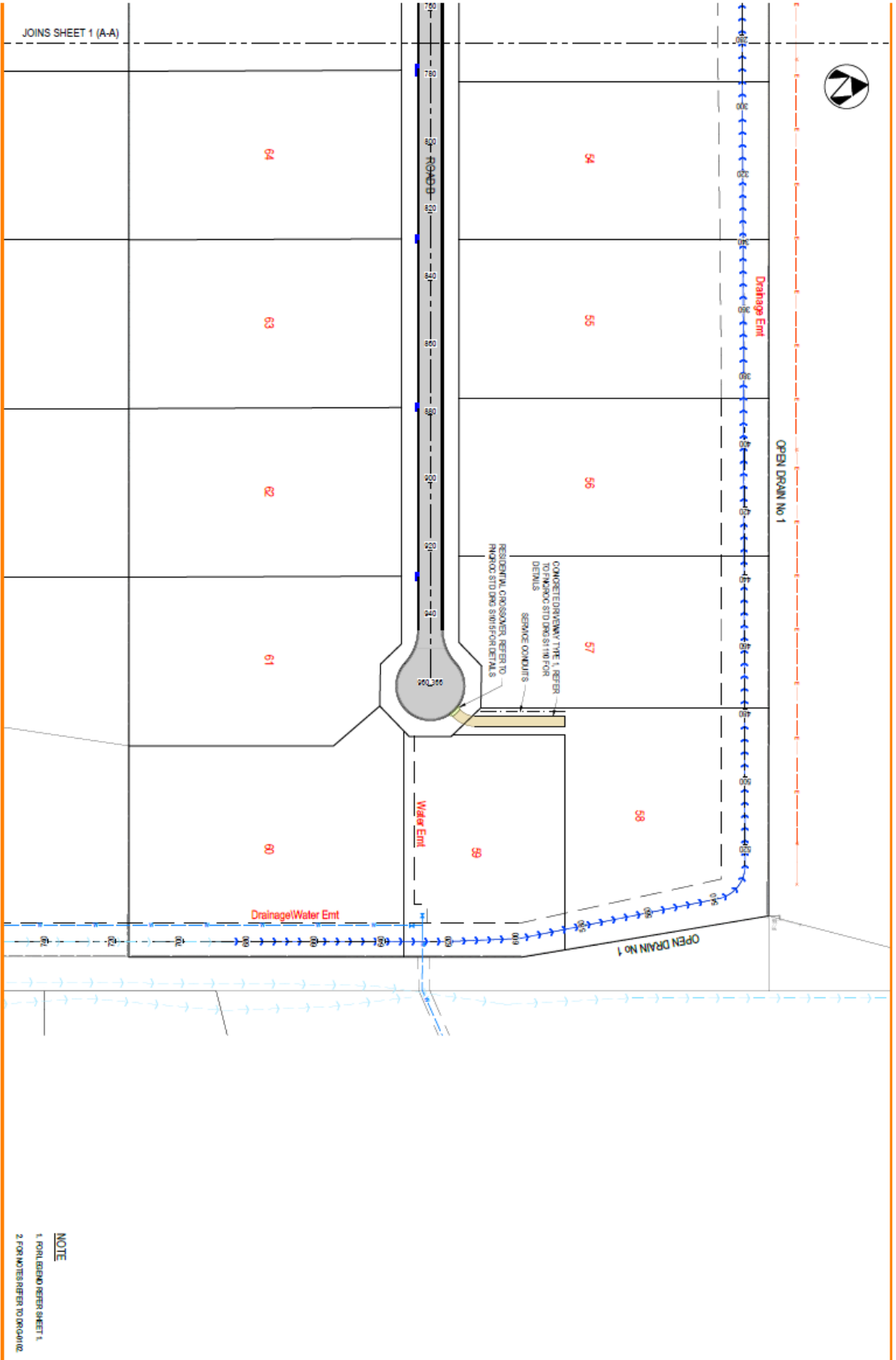
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 Project Name: RURAL RESIDENTIAL SUBDIVISION



TWIDLEY PTY LTD
 RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREHA
 GENERAL ARRANGEMENT
 SHEET 1 OF 2
 004-240301-DWG-0104
 21/221



CONCRETE DRAINWAY TYPE 1 REFER TO PAVED STODMS SECTION DETAILS
 SERVICE CONNECTIONS
 RESIDENTIAL CROSSOVERS REFER TO PAVED STODMS SECTION DETAILS

NOTE

- 1. FOR LAYOUT REFER SHEET 1.
- 2. FOR NOTES REFER TO DRAWING.

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TWIDDELEY PTY LTD
 RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREHA
 GENERAL ARRANGEMENT
 SHEET 2 OF 2

A 21121 1/10/2024
 Drawing Sheet: 48864
 Version: 1, Version Date: 09/11/2024



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TWINEDELEY PTY LTD

RURAL RESIDENTIAL SUBDIVISION
180 RAY ROAD, WAREHA
EARTHWORKS PLAN
SHEET 1 OF 2

A 21/02/24 MINUTE
Drawing No: 48884
Version 1, Version Date: 09/11/2024

004-240301-DWG-0201

LEGEND - DEPTH OF EARTHWORKS

DEPTH OF CUT	DEPTH OF FILL
LESS THAN 0.5m	
0.5m TO 1.0m	
1.0m TO 1.5m	
1.5m TO 2.0m	
2.0m TO 2.5m	
2.5m TO 3.0m	
MORE THAN 3.0m	

LEGEND

- FINISHED SURFACE LEVEL
- FALL OF LOTS
- DESIGN SURFACE CONTOURS (0.2m INTERVAL)
- EXISTING SURFACE CONTOURS (0.2m INTERVAL)
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER
- EXISTING GUMS
- EXISTING ELECTRICAL
- EXISTING BOUNDARY
- OPEN DRAIN
- EXISTING OPEN DRAIN/DEVELOPMENTAL MAINS ABOVE GROUND TO BE NOTED ON COUNCIL WATER NOTICE
- EXISTING WATER SURFACE ELEVATION - 50MM TOLERANCE

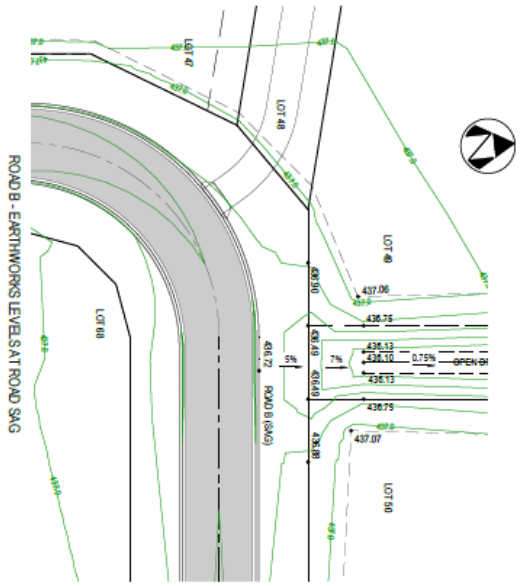
NOTE

1. REFER TO SHEET 1 TO SEE 400.

EXISTING DISSECTION POINTS TO BE RULED AND BRUSHED OFF TO SMOOTH TO ROAD FRONTAGE

EXISTING DISSECTION POINTS TO BE RULED AND BRUSHED OFF TO SMOOTH TO ROAD FRONTAGE

JOINS SHEET 2 (A-A)



LEGEND
 - 0.1% FINISHED SURFACE LEVEL
 - 0.1% DESIGNATIVE CONTOURS (DOMINANT)

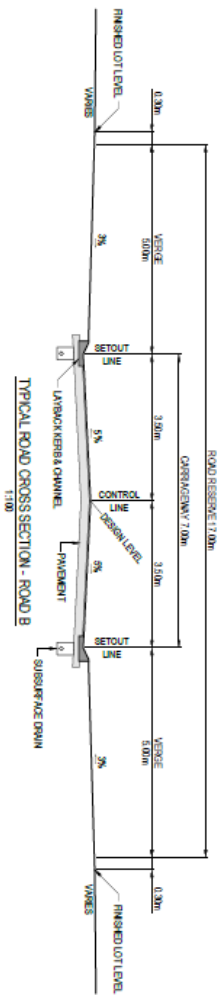
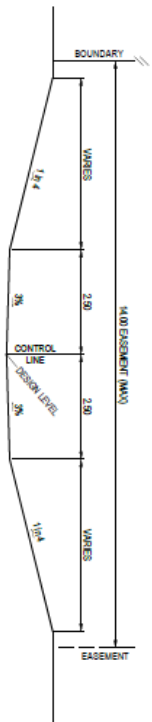
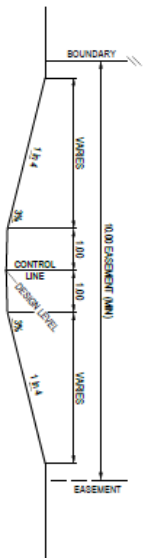
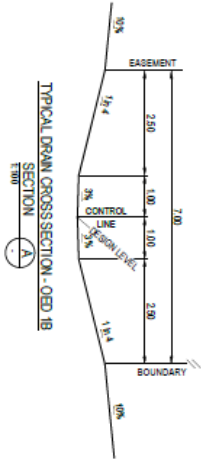
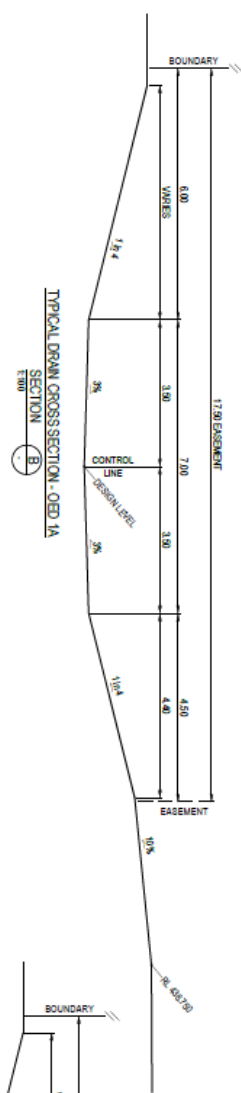
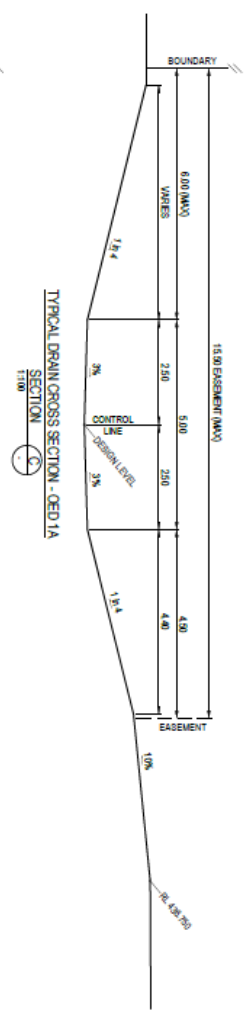


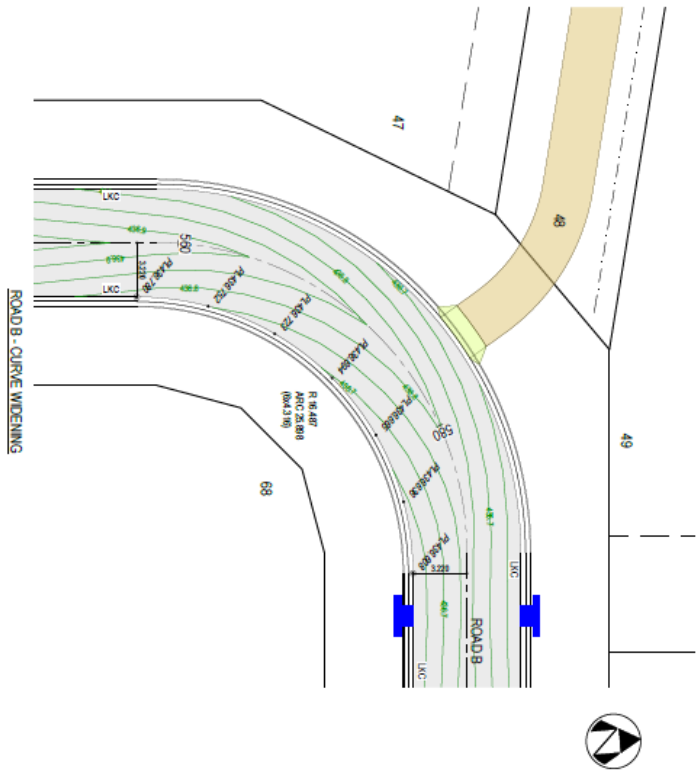
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 NSW 2448
 08 4921 1111
 004-240301-DWG-0203

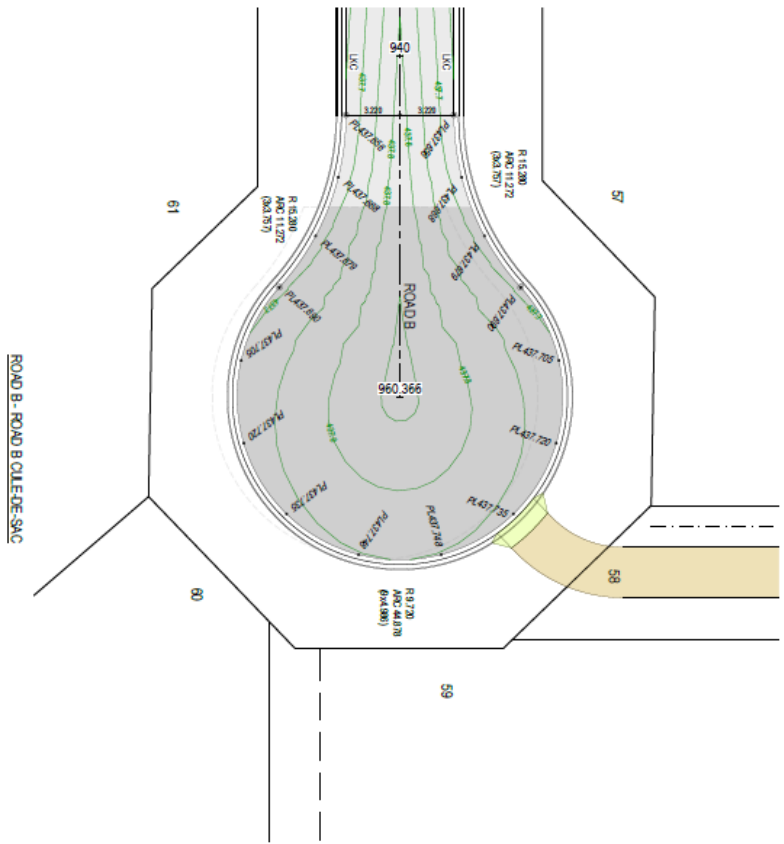
A 21121 - MINUTE
 Drawing No: 488614
 Version 1, Version Date: 09/11/2024

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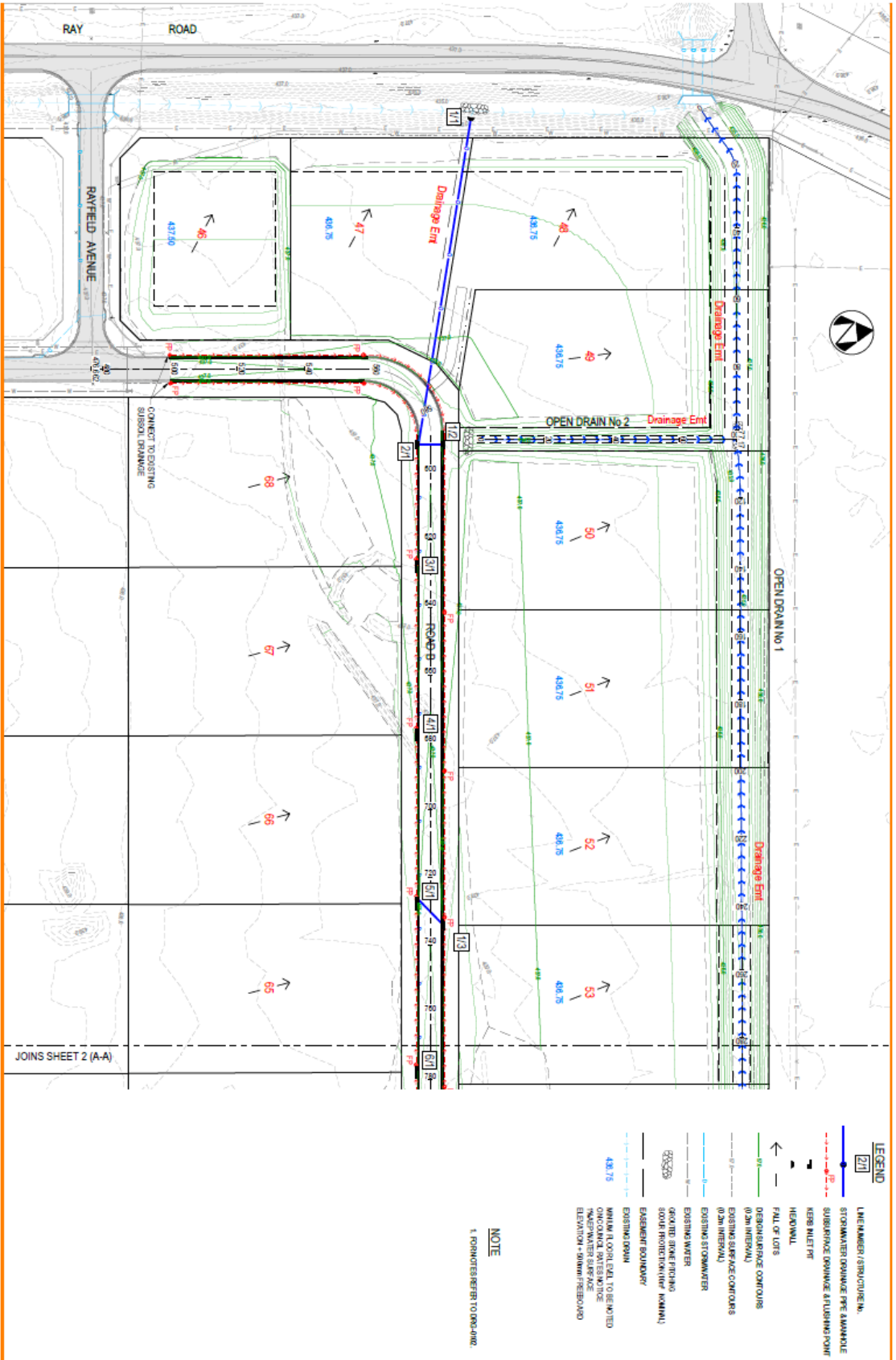




- LEGEND**
- R 44.896 PAVEMENT LEVEL OF KERBS & TRAY
 - TRIMMER POINT
 - ▬▬▬ LANE BACKERS AND CHANNEL
 - ▬▬▬ KERBS/INLET PIT
 - DESIGN SURFACE CONTOURS (100M INTERVAL)
 - ▬▬▬ ACCESS CROSSOVER
 - ▭ OPEN ASPHALT SURFACE



ROAD B - ROAD B CILE-DE-SAC



LEGEND

- LINE NUMBER / STRUCTURE NO.
- STORMWATER DRAINAGE PRE-APPROVAL
- SUBSIDIARY DRAINAGE FLUSHING POINT
- KERB INLET PIT
- HEADWALL
- FALL OF LOTS
- DEGRADATION COMPOURS (0.2M INTERVAL)
- EXISTING SURFACE COMPOURS (0.2M INTERVAL)
- EXISTING STORMWATER
- EXISTING WATER
- GROUND BENEATH (SOIL PRODUCTION / KANAW)
- EASEMENT BOUNDARY
- EXISTING DRAIN
- MAIN FLOOR LEVEL TO BE NOTED (ON-COASTAL WATER NOTICE)
- WATER SURFACE ELEVATION - 0.000M / 0.000M

NOTE

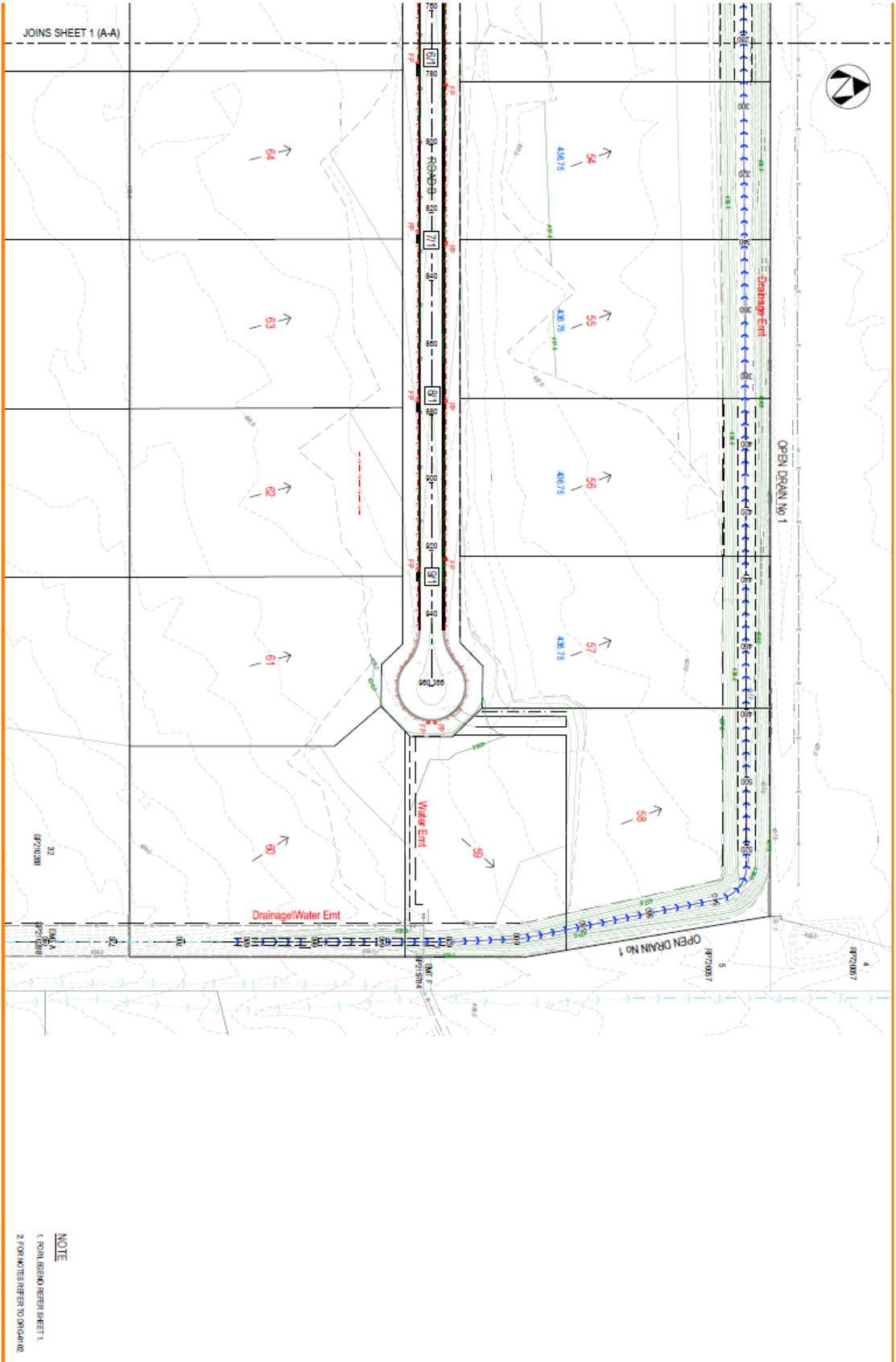
1. FOR NOTES REFER TO DRG-001.

A 21/221 - MINUTE
 Drawing No: 448844
 Version 1, Version Date: 09/11/2024

NEON
 CONSULTING

TWIDLEY PTY LTD
 PWA PWA CM CM

RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREHA
 STORMWATER DRAINAGE PLAN
 SHEET 1 OF 2
 004-240301-DWG-0401
 A



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CONSULTING

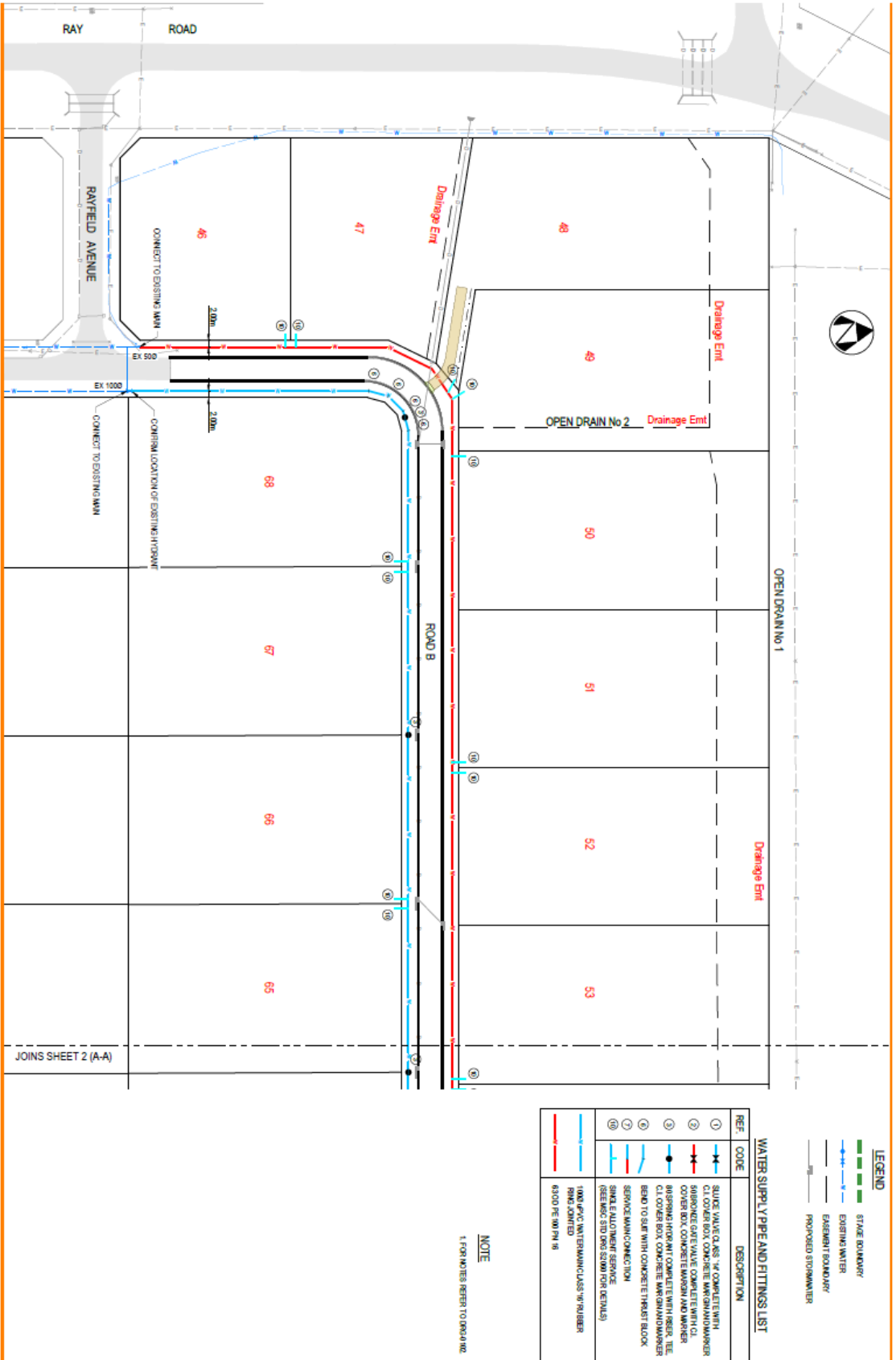
TWHEELBY PTY LTD

NOTE
 1. FOR BOUNDARY SHEET 1.
 2. FOR WATERBURY TO DRAINAGE.

RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREBA
 STORMWATER DRAINAGE PLAN
 SHEET 7 OF 2

A 21124 - MINUTE
 Drawing No: 243844
 Version: 1, Version Date: 09/11/2024
 Version 1: 09/11/2024

004-240301-DWG-0402 A



WATER SUPPLY TYPE AND FITTINGS LIST

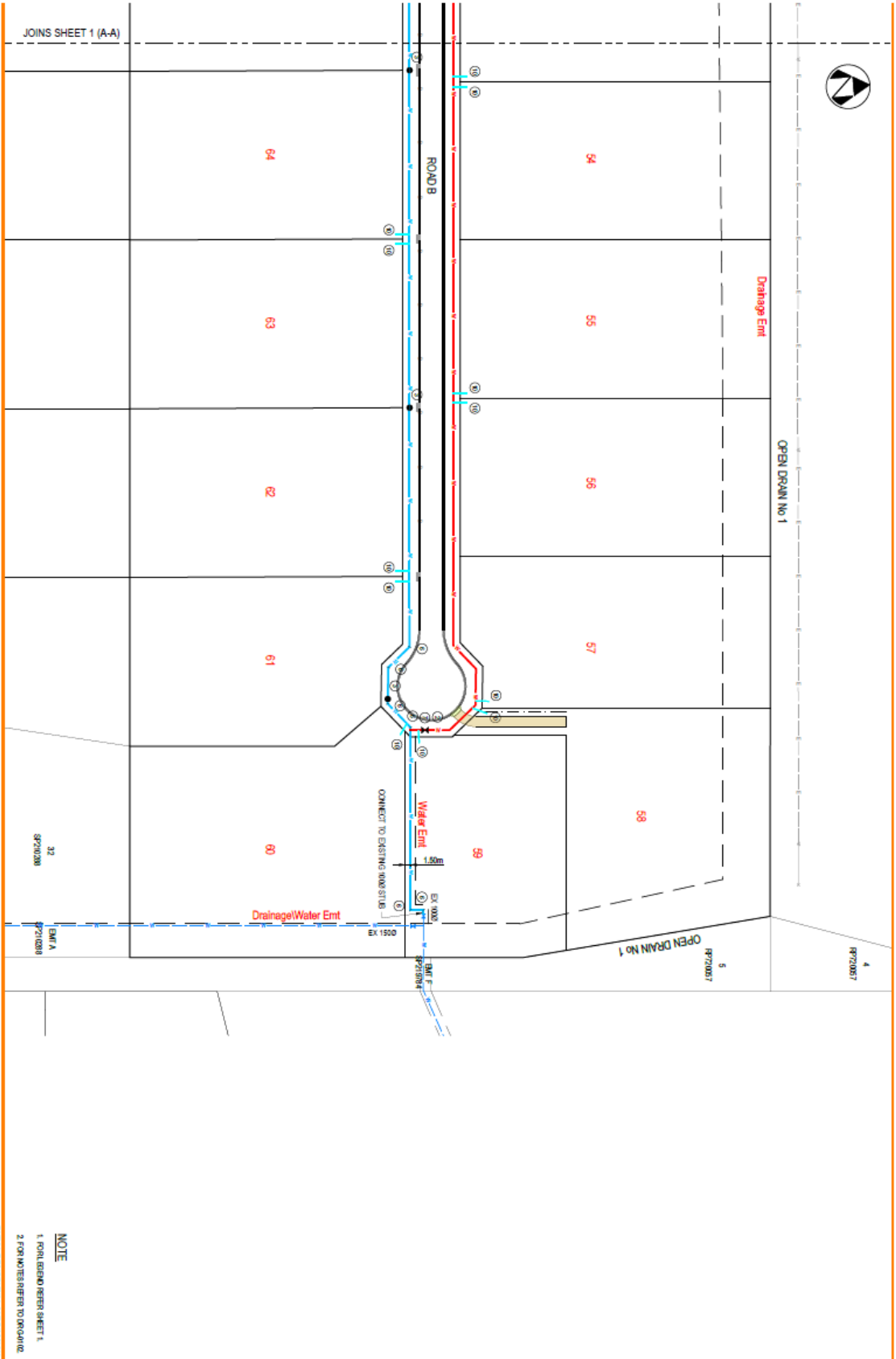
REF. CODE	DESCRIPTION
①	SLUICE VALVE CLASS 'A' COMPLETE WITH C/I COVER BOX COMPLETE WITH GROUNDWATER
②	BARBED GATE VALVE COMPLETE WITH C/I COVER BOX COMPLETE WITH GROUNDWATER
③	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
④	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑤	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑥	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑦	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑧	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑨	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑩	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑪	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑫	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑬	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑭	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑮	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑯	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
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⑱	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑲	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
⑳	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉑	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉒	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉓	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉔	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉕	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉖	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉗	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉘	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉙	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉚	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉛	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉜	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉝	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉞	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㉟	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊱	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊲	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊳	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊴	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊵	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊶	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊷	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊸	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊹	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊺	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊻	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊼	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊽	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊾	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER
㊿	DIAPHRAGM VALVE COMPLETE WITH GROUNDWATER

NOTE
1. FOR NOTES REFER TO DWG 102

Drawn: 11/11/2024
Version: 1, Version Date: 09/11/2024



TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
188 RAY ROAD, WAREHA
WATER RETICULATION
SHEET 1 OF 2
004-240301-DRC-0801

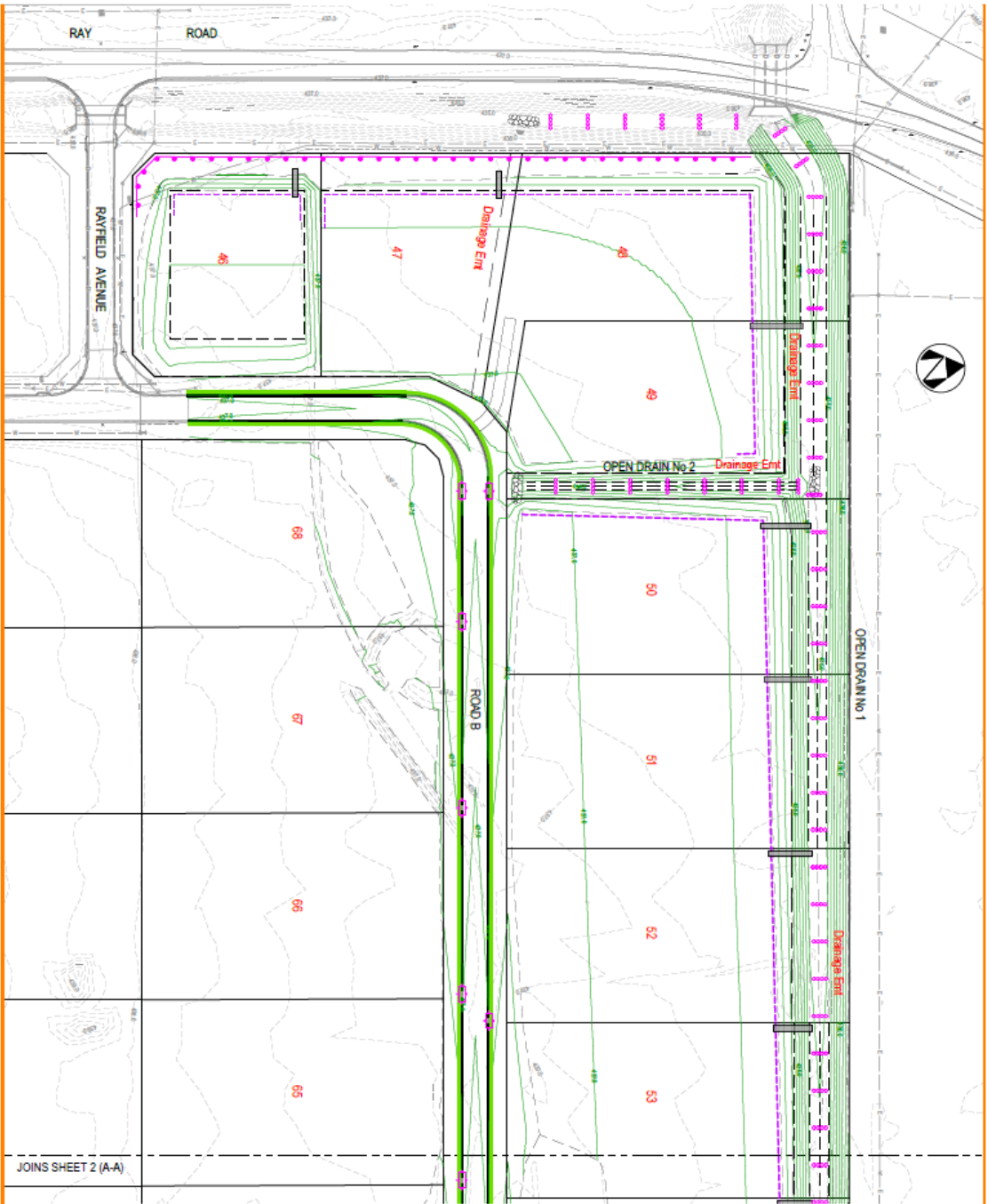


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A 21/12/21 11:41:41 AM
Drawing No: 210301-DRG-082
Version: 1, Version Date: 09/11/2024

TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
188 RAY ROAD, WAREHA
WATER RETICULATION
SHEET 2 OF 2
004-240301-DRG-082
A

NOTE
1. FOR BOUND REFER SHEET 1.
2. FOR NOTES REFER TO DRAWING.



LEGEND

- ▲ ALT. FINISH
- PROTECTED MEASURES
- PROTECTION
- BATTER SAND
- TIE STRIPS
- WICKEN UNLINED WATER GUTTE
- STORMWATER DRAINAGE PIPE
- KERB/INLET PIT
- FALL OF LOTS
- OPENED SURFACE CONTOURS (0.5m INTERVAL)
- EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- EXISTING STORMWATER
- EXISTING WATER
- GRADED STONE FINISH (ROAD PROTECTION INLET/ KINK)

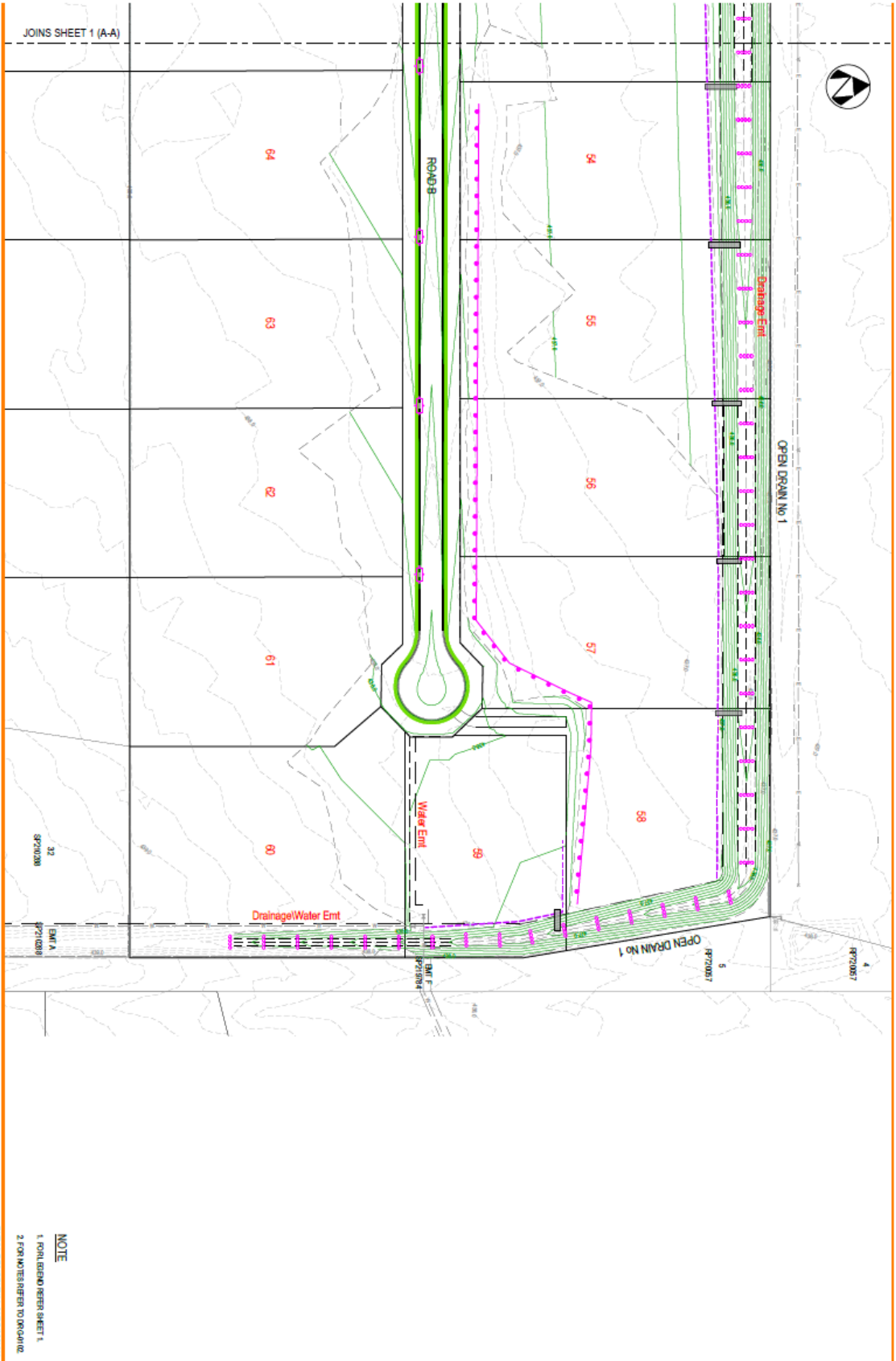
NOTE
 1. FORNOTES REFER TO DWG. NO.

A SITE PLAN
 Location: Site No. 18844
 Version: 1, Version Date: 08/11/2024



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TWHEEDY PTY LTD
 RBAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, MAREEBA
 SITE BASED STORMWATER MANAGEMENT PLAN
 SHEET 1 OF 2
 00-240301-DWG-C-071
 A

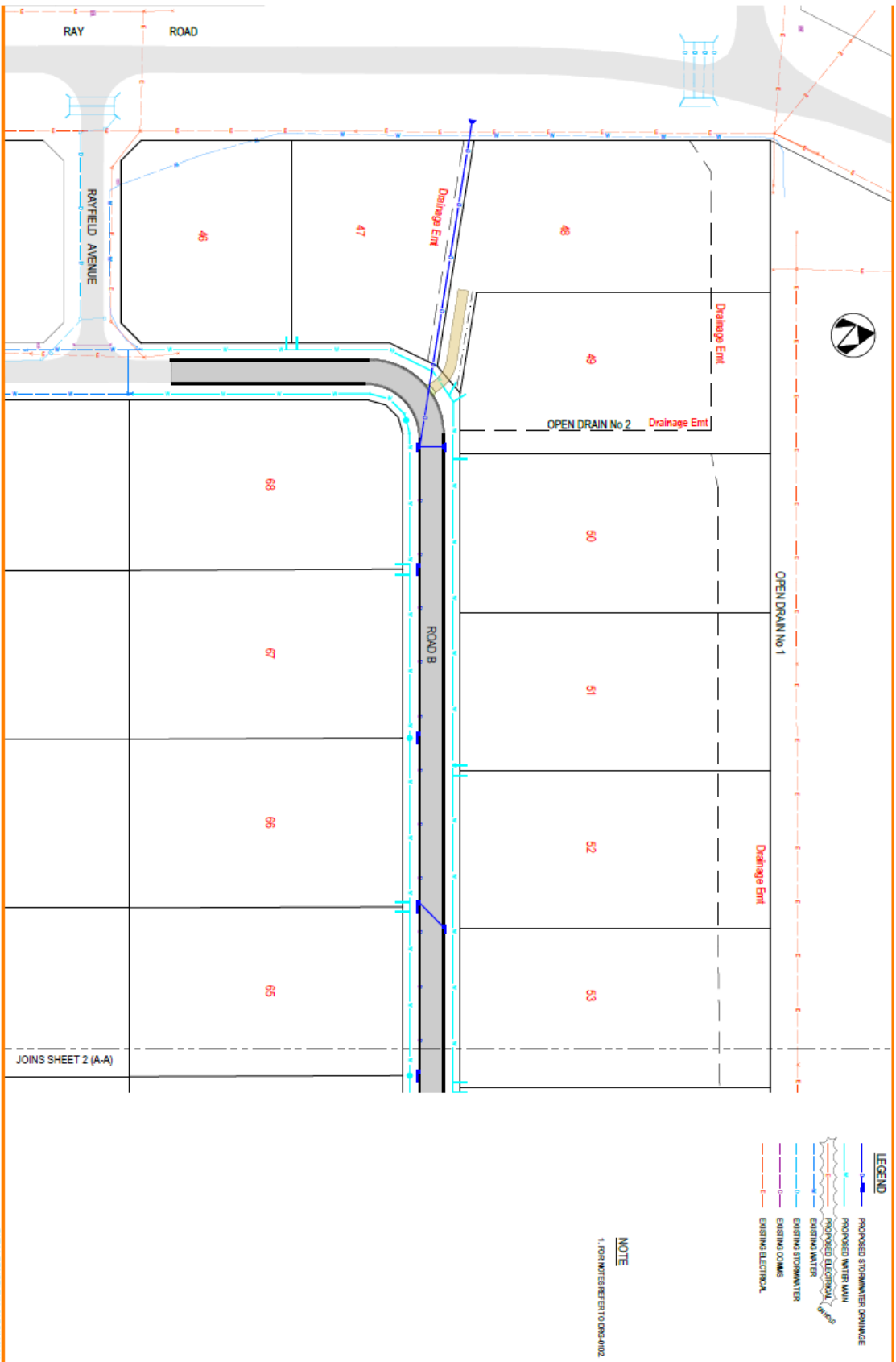


A 21/2121 MINUTE
 Doodin Road 448844
 Version 1, Version Date 09/11/2024

NEON
 CONSULTING

TWIDDELY PTY LTD
 RURAL RESIDENTIAL SUBDIVISION
 188 RAY ROAD, WAREBA
 SITE BASED STORMWATER MANAGEMENT PLAN
 SHEET 2 OF 2
 004-240301-DWG-0702
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NOTE
 1. FOR BOUND REFER SHEET 1.
 2. FOR NOTES REFER TO DRAWING.

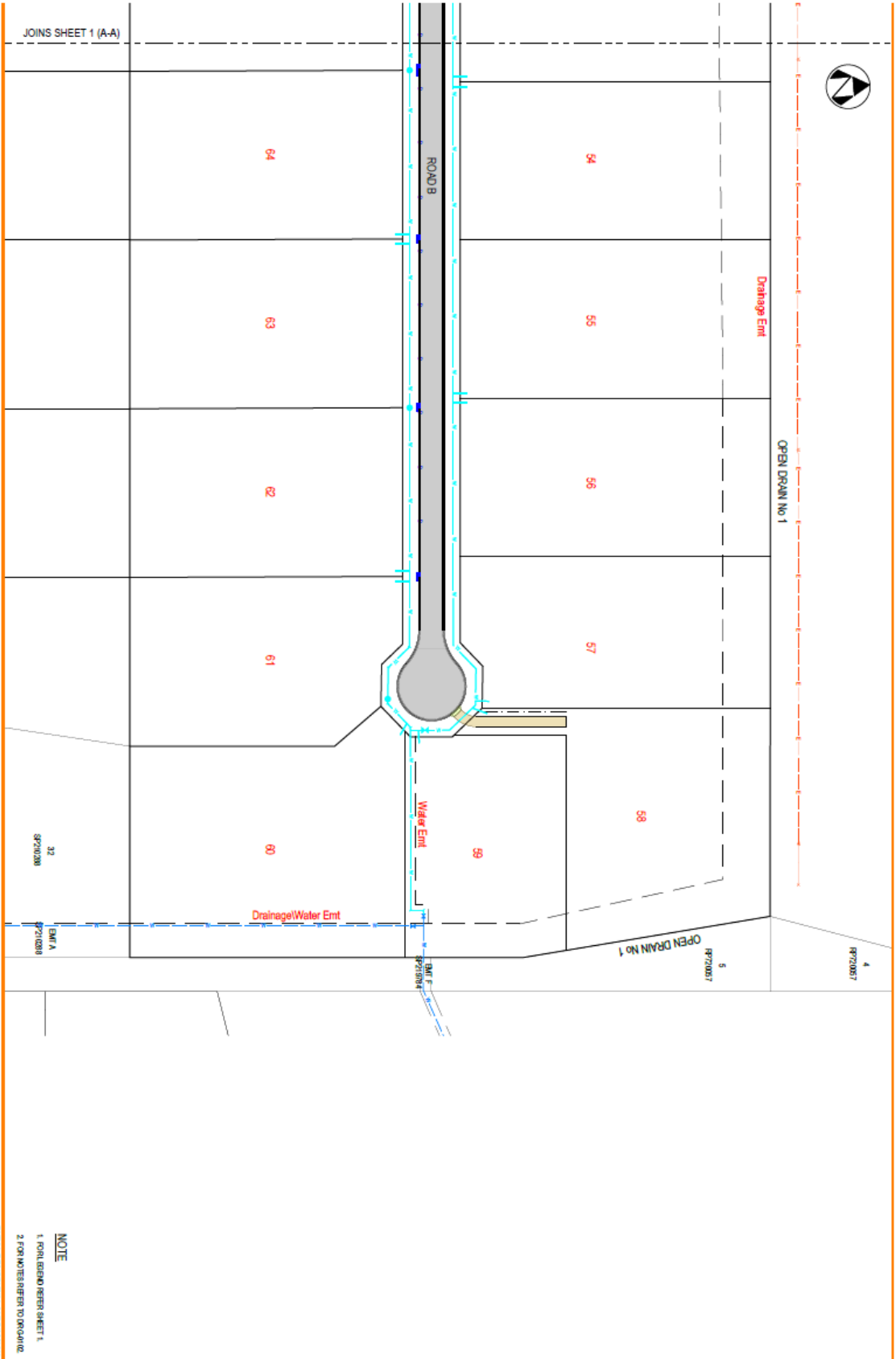


A 21/214 1/14/2024
 Drawing No: 488614
 Version 1, Version Date: 09/11/2024

NEON
 CONSULTING

TWIDLEY PTY LTD
 1/14/2024 10:10:00 AM
 004-240301-DWG-0801

RURAL RESIDENTIAL SUBDIVISION
 189 RAY ROAD, WAREHA
 MARSHER SERVICES PLAN
 SHEET 1 OF 2
 A



A 21/02/21 11:04:00 AM
 Drawing No: 488614
 Version: 1, Version Date: 09/11/2024

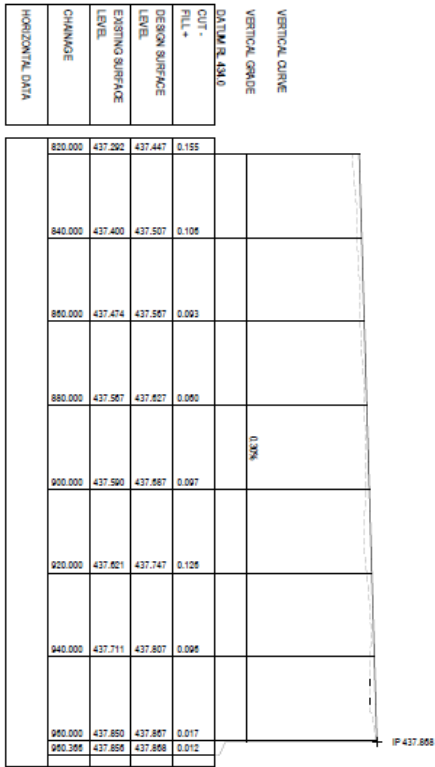
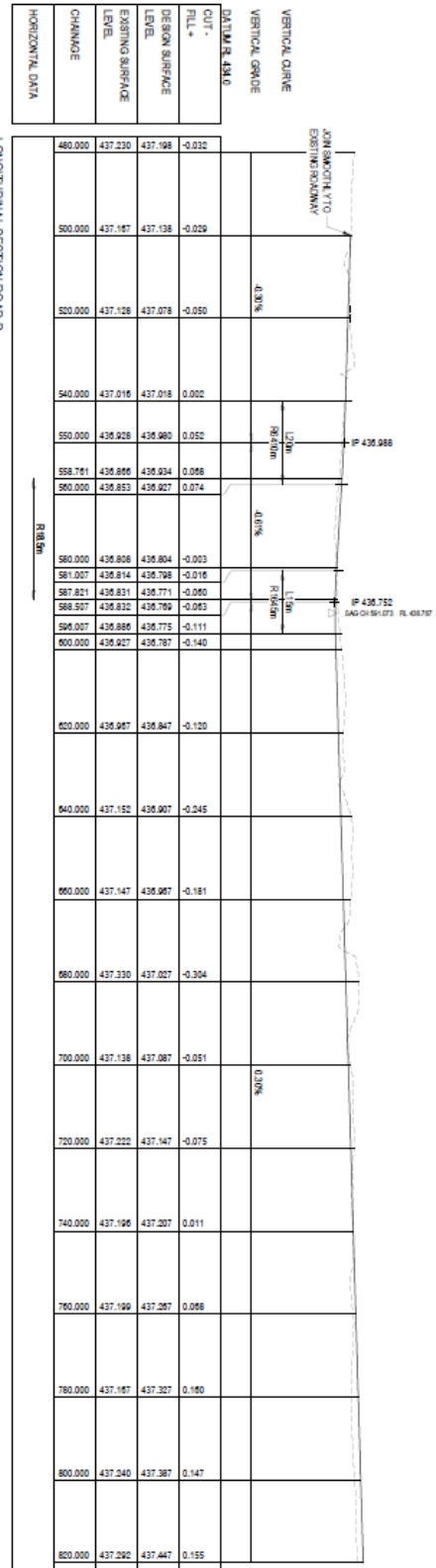
NEON
 CONSULTING

TWIDDELY PT LTD
 17/01/2021 11:04:00 AM
 004-240301-DRC-0802

RURAL RESIDENTIAL SUBDIVISION
 189 RAY ROAD, WAREHA
 MAHER SERVICES PLAN
 SHEET 2 OF 2
 A

NOTE

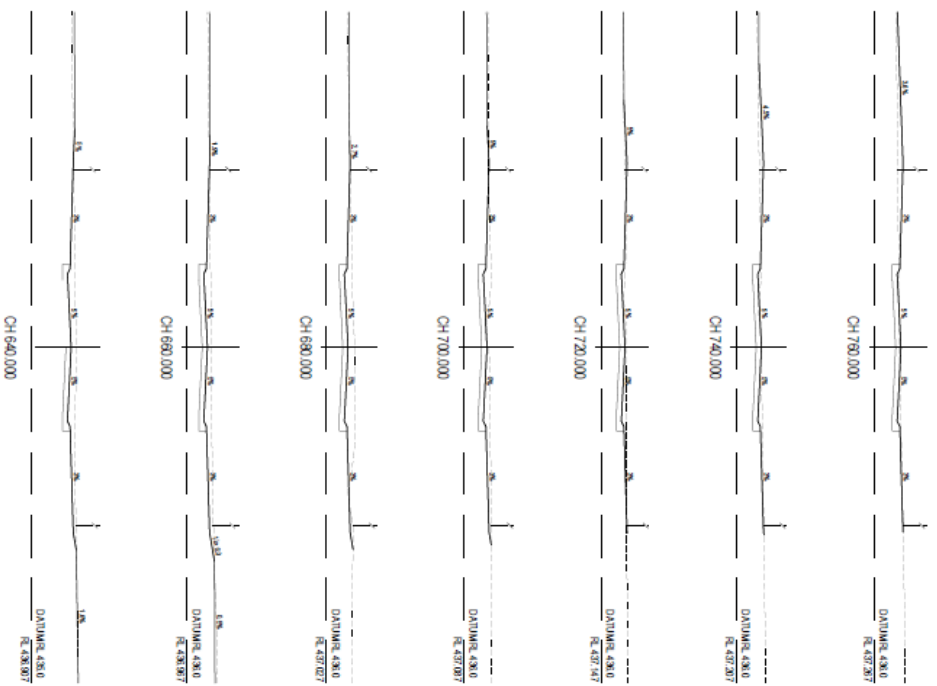
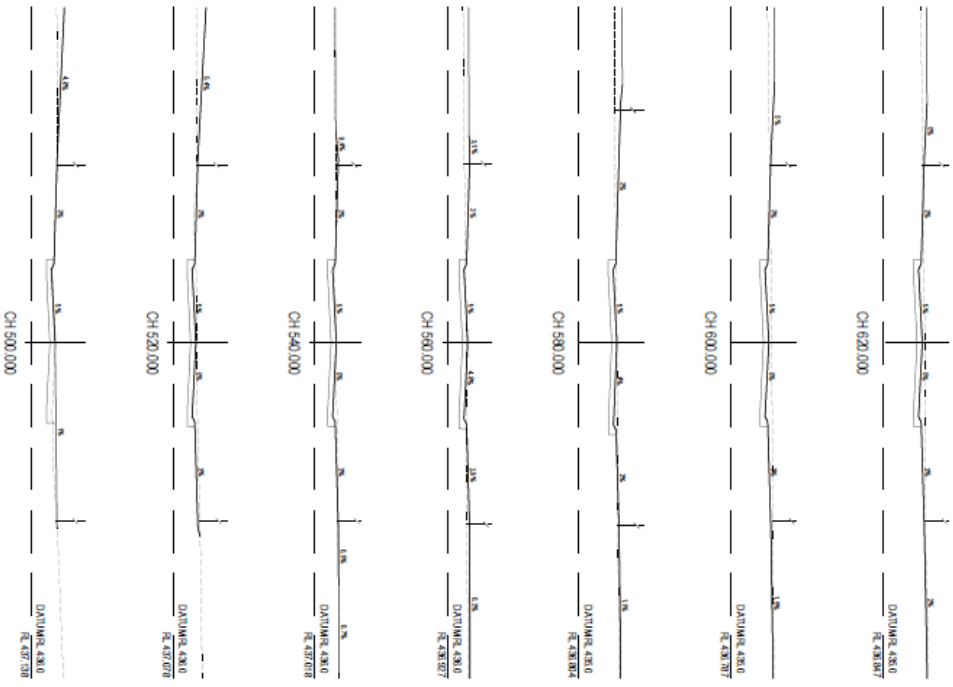
- 1. FOR BOUNDARY SHEET 1.
- 2. FOR NOTES REFER TO DRAWING.



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CONSULTING

TWHEEDY PTY LTD
17/01/2022

RURAL RESIDENTIAL SUBDIVISION
188 RAY ROAD, WAREEBA
ROAD B LONGITUDINAL SECTION
004-240301-DWG-0901 A



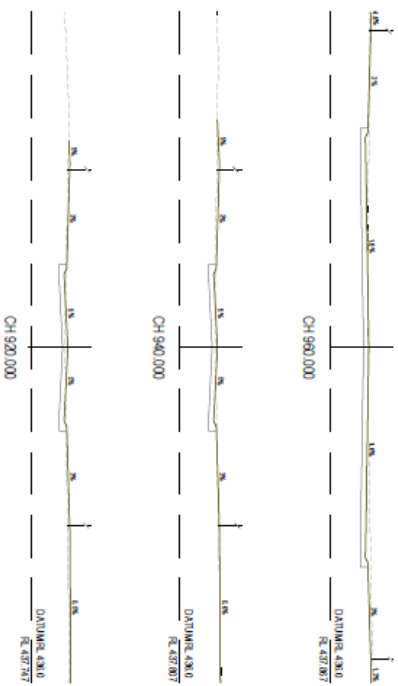
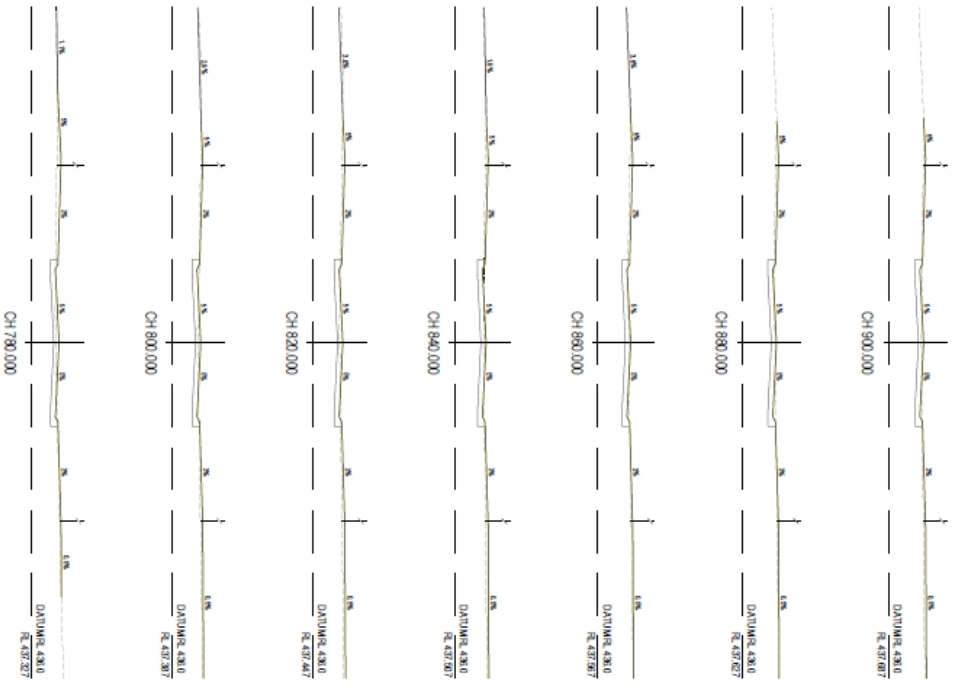
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CONSULTING

TWIDDELY PTY LTD

RURAL RESIDENTIAL SUBDIVISION
188 RAY ROAD, WAREHA
ROAD CROSS SECTION
SHEET 1 OF 2

A 21124 - MINUTE
Drawing Number: 418814
Version: 1, Version Date: 09/11/2024

004-240301-DRC-0902 A



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CONSULTING

TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
188 RAY ROAD, WAREHA
ROAD CROSS SECTION
SHEET 2 OF 2
00-260301-DRC-0903
A

A 21124 - MINUTE
Drawing No: 48814
Version: Version Date: 09/11/2024

VERTICAL CURVE		VERTICAL GRADE		DATA R. 431.0	
CUT +	FILL -	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CHANGE	HORIZONTAL DATA
0.000	434.457	434.457	434.457	-0.000	1+ 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000
2.154	434.670	434.670	434.670	0.000	
16.016	436.220	434.898	434.898	-1.522	0.20%
32.032	436.234	434.708	434.708	-1.526	
48.048	436.232	434.716	434.716	-1.516	0.20%
64.064	436.225	434.741	434.741	-1.489	
80.080	436.206	434.786	434.786	-1.480	0.20%
96.096	436.204	434.826	434.826	-1.478	
112.112	436.348	434.886	434.886	-1.482	0.20%
128.128	436.389	434.905	434.905	-1.483	
144.144	436.421	434.945	434.945	-1.455	0.20%
160.160	436.429	434.985	434.985	-1.443	
176.176	436.528	435.026	435.026	-1.502	0.20%
192.192	436.587	435.065	435.065	-1.401	
208.208	436.574	435.106	435.106	-1.468	0.20%
224.224	436.569	435.146	435.146	-1.423	
240.240	436.595	435.186	435.186	-1.409	0.20%
256.256	436.639	435.226	435.226	-1.413	
272.272	436.599	435.266	435.266	-1.333	0.20%
288.288	436.637	435.306	435.306	-1.331	
304.304	436.646	435.346	435.346	-1.300	0.20%
320.320					

LONGITUDINAL SECTION OED-1
SCALE: 1:100'

VERTICAL CURVE		VERTICAL GRADE		DATA R. 432.0	
CUT +	FILL -	DESIGN SURFACE LEVEL	EXISTING SURFACE LEVEL	CHANGE	HORIZONTAL DATA
1.300	436.945	436.945	436.945	-1.300	0.20%
2.600	436.947	436.986	436.986	-1.261	
3.900	436.704	436.926	436.926	-1.278	0.20%
5.200	436.690	436.866	436.866	-1.233	
6.500	436.780	436.806	436.806	-1.274	0.20%
7.800	436.773	436.835	436.835	-1.238	
9.100	436.782	436.857	436.857	-1.226	0.20%
10.400	436.900	436.836	436.836	-1.264	
11.700	436.968	436.716	436.716	-1.272	0.20%
13.000	437.124	436.795	436.795	-1.329	
14.300	437.255	436.875	436.875	-1.380	0.20%
15.600	437.270	436.900	436.900	-1.370	
16.900	437.360	436.868	436.868	-1.272	0.20%
18.200	437.360	436.868	436.868	-1.272	
19.500	437.363	436.862	436.862	-0.992	0.20%
20.800	437.603	436.835	436.835	-0.968	
22.100	437.896	436.808	436.808	-0.987	0.20%
23.400	437.873	437.182	437.182	-0.691	
24.700	437.730	437.455	437.455	-0.275	0.20%
26.000	438.007	437.729	437.729	-0.278	
27.300	438.119	438.002	438.002	-0.115	0.20%
28.600					

LONGITUDINAL SECTION OED-1
SCALE: 1:100'

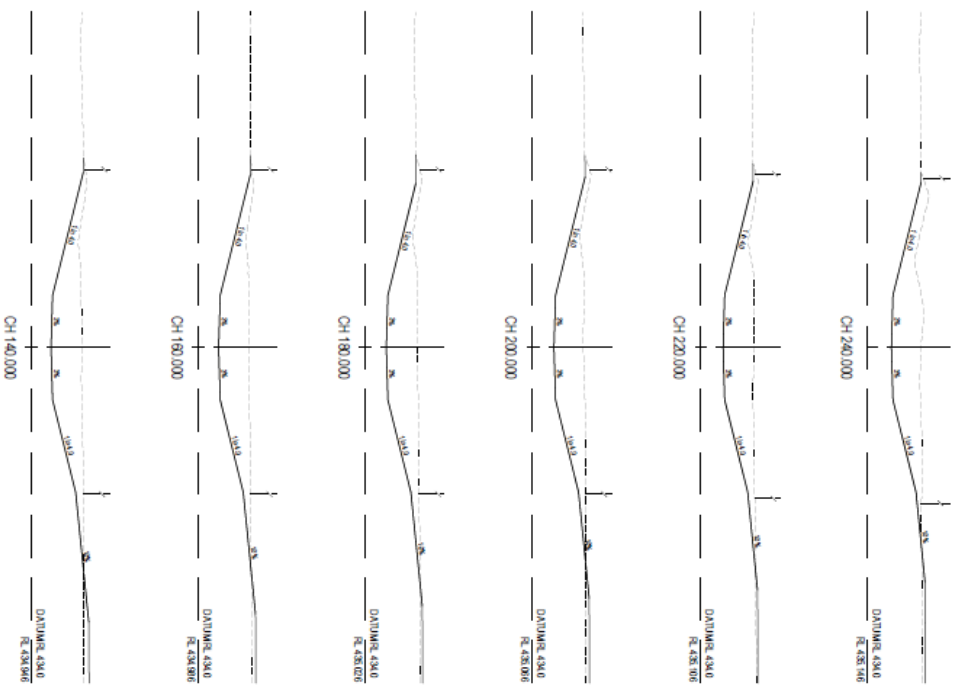
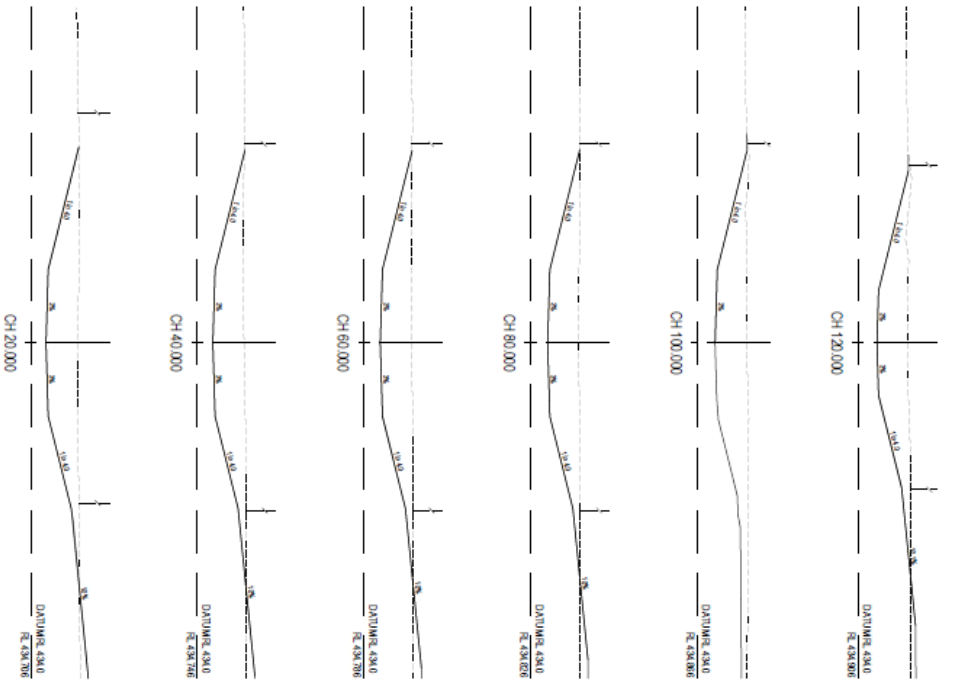


TWIDDEY PVT LTD

RURAL RESIDENTIAL SUBDIVISION
189 RAY ROAD, WAREEBA
OED LONGITUDINAL SECTION
SHEET 1 OF 2

A 21/04/2024
Version 1: Version Date 09/11/2024

004-240301-DWG-0904 A

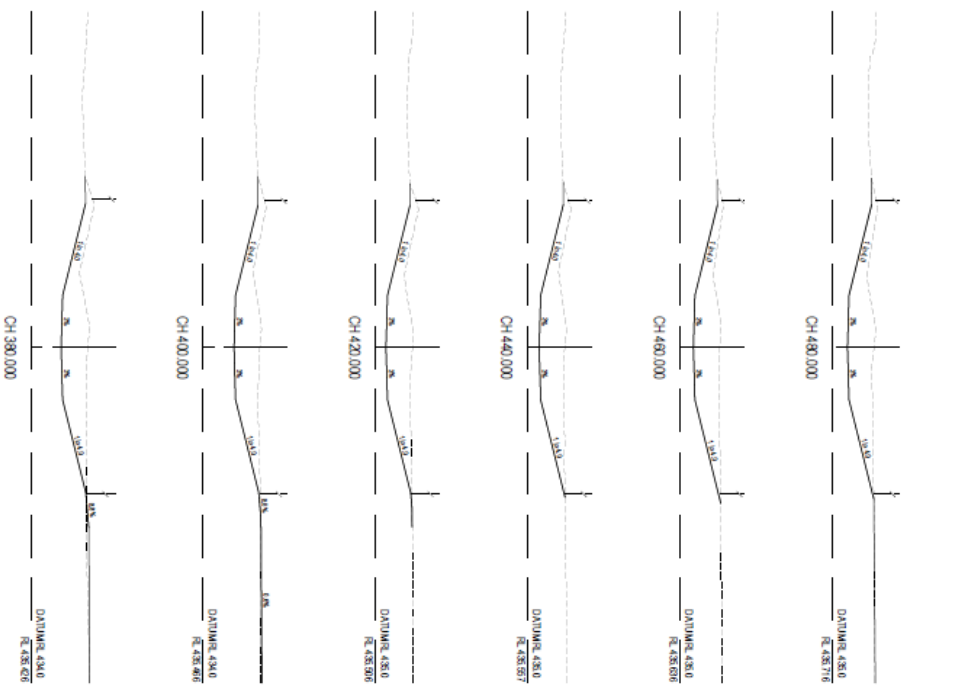
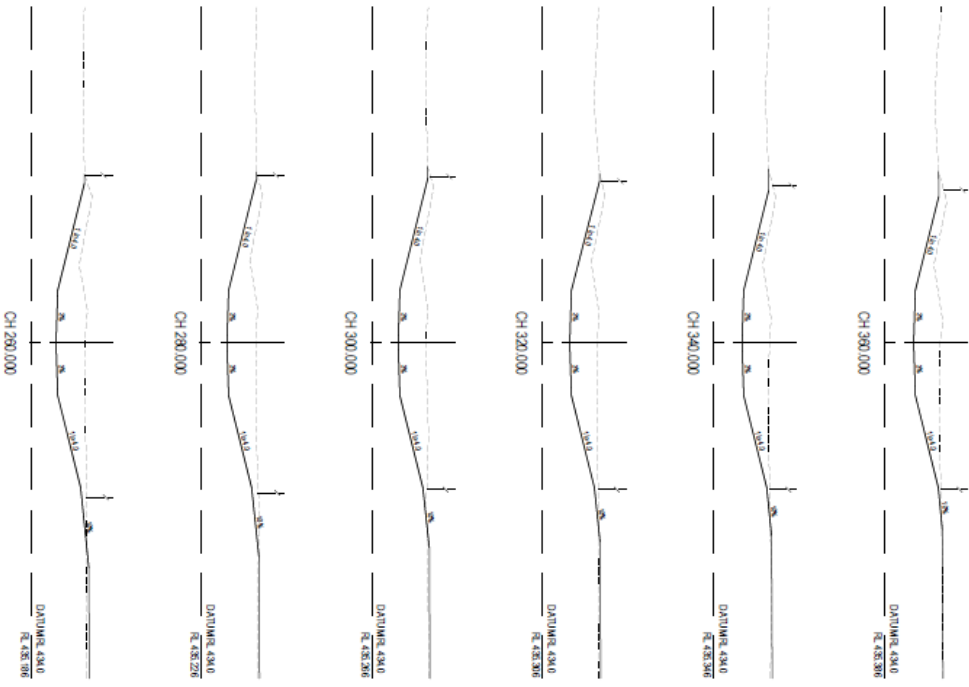


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CONSULTING

TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
180 RAY ROAD, WAREHA
OED 1 CROSS SECTION
SHEET 1 OF 3

A 21124 - MINUTE
Drawing Number: 21124-01
Version: 1 - Version Date: 09/11/2024

00-240301-DWG-0906 A

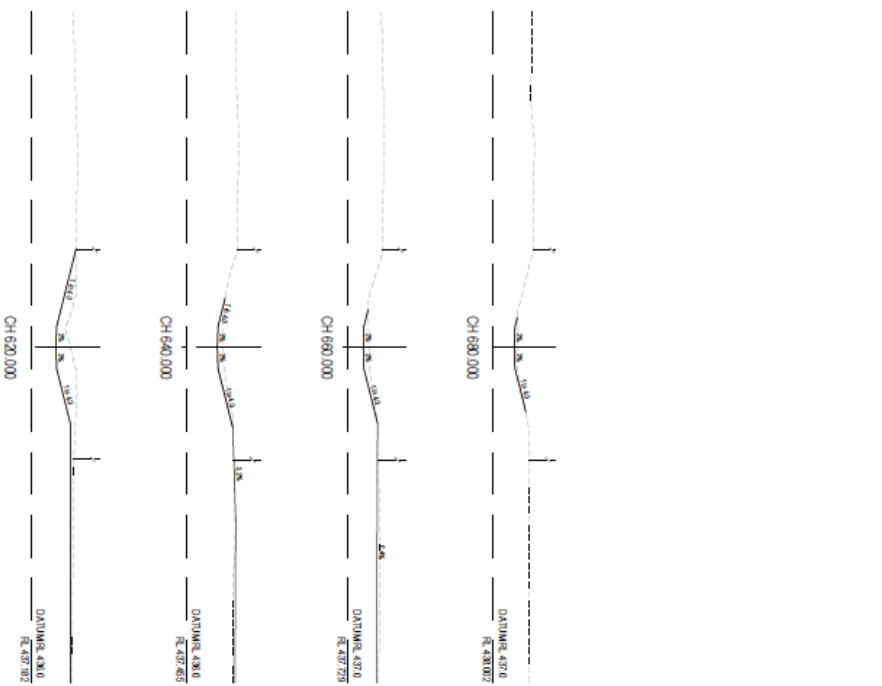
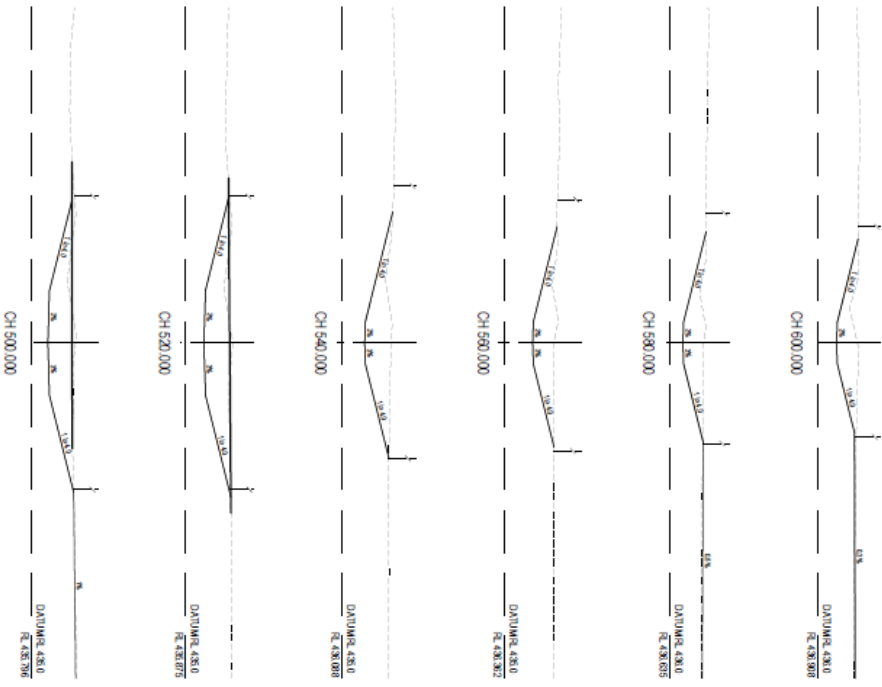


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CONSULTING

TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
189 RAY ROAD, WAREHA
OED 1 CROSS SECTION
SHEET 2 OF 3

A 21124 - MINUTE
Drawing Date: 28/04/2024
Version: 1, Version Date: 09/11/2022

004-240301-DWG-0907 A



NEON
CONSULTING

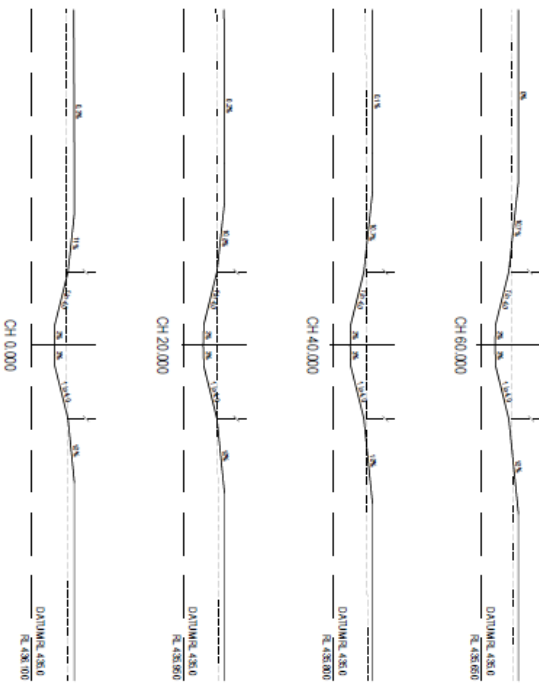
TWIDLEY PTY LTD
RURAL RESIDENTIAL SUBDIVISION
189 RAY ROAD, WAREHA
OED 1 CROSS SECTION
SHEET 1 OF 3

A 21124 - MINUTE
Drawing Number: 438814
Version 1 - Version Date: 09/11/2024

00-240301-DWG-098 A

VERTICAL CURVE	
VERTICAL GRADE	
DATA R. 438.0	
OUT -	0.589
FILL +	-0.578
DESIGN SURFACE LEVEL	435.950
EXISTING SURFACE LEVEL	436.808
CHANGE	0.859
HORIZONTAL DATA	
0.000	20.000
40.000	60.000
71.215	73.872
77.170	77.170

LONGITUDINAL SECTION OED-2
SCALE: 1:1000
E. 100V



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CONSULTING

TWIDELBY PTY LTD

PROJECT NO: 200301-DRC-0908

21/12/24

RURAL RESIDENTIAL SUBDIVISION
189 RAY ROAD, WAREHA
OED 1: LONGITUDINAL AND CROSS SECTIONS

A