



Enquiries: Xavier Dubreuil
Direct 07 5433 2739
Our Ref: DA/2023/3496
Your Ref: 22-000082_2
Date: 22 December 2023

Foreverlen Pty Ltd
PO Box 5233
BRISBANE QLD 4001

Dear Applicant,

Re: DEVELOPMENT APPROVAL

Planning Act 2016

Development Application No.: DA/2023/3496

Property Location: 409-423 Caboolture River Road LILYWOOD

Property Description: Lot 1 RP 866105

Lot 12 RP 866105

Development Type: Operational Works - Development Permit for Roadworks & Stormwater (Lilywood Landings, Stage 2)

Please be advised that on 21 December 2023 the above development application was approved by Council's Delegate as the Assessment Manager subject to conditions.

The following type of approval has been issued:

- **Development Permit - Operational Works for Roadworks & Stormwater (Lilywood Landings, Stage 2)**

The development allowed by this approval must be carried out in accordance with the attached Decision package.

Attached is an extract from the *Planning Act 2016* which details your appeal rights and the appeal rights of any submitters, if applicable, regarding this decision.

Should you require any further information about this matter, please contact Xavier Dubreuil as referenced above.

Yours faithfully

A handwritten signature in black ink that reads "X. Dubreuil". The signature is written in a cursive style and is positioned above a horizontal line.

Xavier Dubreuil
Senior Engineer
Development Services

Enclosures: Attachment 1 - Decision Notice
Attachment 2 - Assessment Manager Conditions
Attachment 3 - Approved Plans / Documents
Attachment 4 - Appeal Rights
Attachment 5 - Infrastructure Charges

Cc Unitywater
Development.Services@Unitywater.com

ATTACHMENT 1

Decision Notice

Decision Notice

Planning Act 2016, section 63

APPLICATION DETAILS

Application No:	DA/2023/3496
Applicant:	Foreverlen Pty Ltd
Street Address:	409-423 Caboolture River Road LILYWOOD
Real Property Description:	Lot 1 RP 866105 Lot 12 RP 866105
Planning Scheme:	Moreton Bay Regional Council Planning Scheme

APPROVAL DETAILS

Date of Decision: **21 December 2023**

The development application was approved by Council's Delegate as the Assessment Manager subject to conditions (refer Attachment 2).

Application Type	Development Permit	Preliminary Approval
Operational Works for Roadworks & Stormwater (Lilywood Landings, Stage 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

OTHER NECESSARY PERMITS

Not applicable.

In addition to this approval, you may also be required to obtain a water approval from the Northern SEQ Distributor Retailer, trading as Unitywater. To engage a Registered Certifier to lodge your connection application, go to Unitywater's website www.unitywater.com/certifier

CURRENCY PERIOD OF APPROVAL

The currency period stated in section 85 of the *Planning Act 2016* applies to this approval as outlined below:

- Operational Works - 2 years from the date of this approval starts to have effect.

DEEMED APPROVAL

Not applicable.

VARIATION APPROVAL

Not applicable.

INFRASTRUCTURE

Unless otherwise specified, all assessment manager conditions of this development approval relating to the provision of infrastructure are non-trunk infrastructure conditions under Chapter 4, section 145 of the *Planning Act 2016*.

ASSESSMENT MANAGER CONDITIONS

The Conditions relevant to this development approval are listed in Attachment 2 of the Decision package.

APPROVED PLANS / DOCUMENTS

The approved plans and/or documents as listed below for this development approval are included in Attachment 3 of the Decision package.

The approved plans/documents for this development approval are listed below.

Approved Plans and Documents			
Plan / Document Name	Reference Number	Prepared By	Dated
Title Sheet & Locality Plan	22-000082_2 Dwg. 1000 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Site Layout Plan	22-000082_2 Dwg. 1100 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Retaining Wall Setout Plan Sheet 1 of 3	22-000082_2 Dwg. 1200 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Retaining Wall Setout Plan Sheet 2 of 3	22-000082_2 Dwg. 1201 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Retaining Wall Setout Plan Sheet 3 of 3	22-000082_2 Dwg. 1202 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Retaining Wall Notes & Details	22-000082_2 Dwg. 1203 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Control Line Setout Plan Sheet 1 of 3	22-000082_2 Dwg. 1300 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Control Line Setout Plan Sheet 2 of 3	22-000082_2 Dwg. 1301 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Control Line Setout Plan Sheet 3 of 3	22-000082_2 Dwg. 1302 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Control Line Setout Details	22-000082_2 Dwg. 1303 Rev. B	Egis Consulting Pty Ltd	12/12/2023
Roadworks Layout Plan Sheet 1 of 3	22-000082_2 Dwg. 1310 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Roadworks Layout Plan Sheet 2 of 3	22-000082_2 Dwg. 1311 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Roadworks Layout Plan Sheet 3 of 3	22-000082_2 Dwg. 1312 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Intersection Details	22-000082_2 Dwg. 1320 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 2 Longitudinal Sections Sheet 1 of 2	22-000082_2 Dwg. 1330 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 2 Longitudinal Sections Sheet 2 of 2	22-000082_2 Dwg. 1331 Rev. C	Egis Consulting Pty Ltd	12/12/2023

Approved Plans and Documents			
Plan / Document Name	Reference Number	Prepared By	Dated
Road 2 Cross Sections	22-000082_2 Dwg. 1332 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 7 Longitudinal Section	22-000082_2 Dwg. 1333 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 7 Cross Sections	22-000082_2 Dwg. 1334 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 8 Longitudinal Section	22-000082_2 Dwg. 1335 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 8 Cros Sections	22-000082_2 Dwg. 1336 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Road 9 Longitudinal and Cross Sections	22-000082_2 Dwg. 1337 Rev. B	Egis Consulting Pty Ltd	12/12/2023
Road 19 Longitudinal and Cross Sections	22-000082_2 Dwg. 1338 Rev. B	Egis Consulting Pty Ltd	12/12/2023
Signage and Linemarking Layout Plan	22-000082_2 Dwg. 1340 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Layout Plan Sheet 1 of 5	22-000082_2 Dwg. 1400 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Layout Plan Sheet 2 of 5	22-000082_2 Dwg. 1401 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Layout Plan Sheet 3 of 5	22-000082_2 Dwg. 1402 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Layout Plan Sheet 4 of 5	22-000082_2 Dwg. 1403 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Layout Plan Sheet 5 of 5	22-000082_2 Dwg. 1404 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Drainage Notes and Details	22-000082_2 Dwg. 1405 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Catchment Plan Sheet 1 of 2	22-000082_2 Dwg. 1410 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Catchment Plan Sheet 2 of 2	22-000082_2 Dwg. 1411 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 1 of 6	22-000082_2 Dwg. 1420 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 2 of 6	22-000082_2 Dwg. 1421 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 3 of 6	22-000082_2 Dwg. 1422 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 4 of 6	22-000082_2 Dwg. 1423 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 5 of 6	22-000082_2 Dwg. 1424 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Longitudinal Sections Sheet 6 of 6	22-000082_2 Dwg. 1425 Rev. A	Egis Consulting Pty Ltd	12/12/2023

Approved Plans and Documents			
Plan / Document Name	Reference Number	Prepared By	Dated
Stormwater Catchment Calculation Tables Sheet 1 of 4	22-000082_2 Dwg. 1430 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Catchment Calculation Tables Sheet 2 of 4	22-000082_2 Dwg. 1431 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Catchment Calculation Tables Sheet 3 of 4	22-000082_2 Dwg. 1432 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Catchment Calculation Tables Sheet 4 of 4	22-000082_2 Dwg. 1433 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Structures Details Sheet 1 of 4	22-000082_2 Dwg. 1440 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Structures Details Sheet 2 of 4	22-000082_2 Dwg. 1441 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Structures Details Sheet 3 of 4	22-000082_2 Dwg. 1442 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Stormwater Structures Details Sheet 4 of 4	22-000082_2 Dwg. 1443 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Bio-Basin F2 Layout Plan	22-000082_2 Dwg. 1700 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Bio-Basin F2 Section Plan Sheet 1 of 2	22-000082_2 Dwg. 1701 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Bio-Basin F2 Section Plan Sheet 2 of 2	22-000082_2 Dwg. 1702 Rev. C	Egis Consulting Pty Ltd	12/12/2023
Bio-Basin Details	22-000082_2 Dwg. 1703 Rev. C	Egis Consulting Pty Ltd	12/12/2023

ASSESSMENT BENCHMARKS

The Assessment Benchmarks that applied to the development from the following Categorising Instruments include;

Categorising Instrument (*Planning Regulation 2017*)

State Planning Policy

- *State Planning Policy 2017*, Part E.

Regional Plan

- *South East Queensland Regional Plan 2017 (ShapingSEQ)*.

Local Categorising Instrument (*Moreton Bay Regional Planning Scheme*)

- MBRC Planning Scheme - Works Code, Reconfiguration a Lot (applicable precinct only) & Caboolture West Local plan

Local Categorising Instrument (*Variation Approval*)

Not applicable.

Local Categorising Instrument (Temporary Local Planning Instrument)

Not applicable.

OTHER RELEVANT ASSESSMENT MATTERS

Not applicable.

REASONS FOR THE DECISION

Not Applicable.

REASONS FOR APPROVAL DESPITE NON-COMPLIANCE WITH ASSESSMENT BENCHMARKS

Not applicable.

REFERRAL AGENCY CONDITIONS

There were no Referral Agencies applicable to this development application.

SUBMISSIONS

Not applicable.

APPEAL RIGHTS

Attachment 4 of the Decision package is an extract from the *Planning Act 2016* which details your appeal rights, and the appeal rights of any submitters, if applicable, regarding this decision.

ATTACHMENT 2

Assessment Manager Conditions of Approval

CONDITION	TIMING
OPERATIONAL WORKS	
DEVELOPMENT ENGINEERING	
1	Road Classifications for Pavement Design
	<p>Design pavement in accordance with the following road classifications:</p> <p>Road 02 - Modified Contemporary Residential Road - 3.0 x 10⁵ ESA Road 07 - Modified living Residential - 1.2 x 10⁵ ESA Road 08 - Modified living Residential - 1.2 x 10⁵ ESA Road 09 - Modified living Residential - 1.2 x 10⁵ ESA Road 19 - Driveway - 2.5 x 10³ ESA</p>
2	Non-Conforming Designs
	<p>Only non-conforming designs listed in this approval have been accepted. All other discrepancies with Council standards shall be redesigned and / or reconstructed as necessary to conform with Council standards at no cost to Council.</p>
3	Errors and Omissions
	<p>Where errors or omissions occur in the design or works do not conform to or meet Council standards then these works shall be rectified to comply with Council standards at no cost to Council.</p> <p>Where drawings contain insufficient detail or do not contain details of works that are either necessary or associated with the development then these works shall be designed and constructed to Council standards.</p> <p>Only the approved plans shall be used for construction.</p> <p>Note: Council reserves the right to amend the approved drawings or request further information should this become necessary.</p>
4	Works – Applicant’s Expense
	<p>All works, services, facilities and/or public utility alterations required by or as a consequence of this approval or stated condition/s, whether carried out by the Council or otherwise, shall be at the developer’s expense unless otherwise specified or agreed in writing.</p> <p>Replace existing Council infrastructure (including but not limited to street trees and footpaths) to Council’s standards.</p>
5	Works – Connection to existing works
	<p>Where existing works, including roads and drainage works, will not link up with and join smoothly to proposed works and are not more than twenty (20) metres from the nearest point</p>

CONDITION		TIMING
	<p>of the proposed works the developer shall carry out such works as are necessary to ensure that the incomplete works, including roads and drainage, are constructed to link up with and join smoothly to the works proposed in accordance with Council's standards.</p> <p>These works are to be undertaken at the developer's expense unless otherwise specified or agreed in writing.</p>	
6	Notification of Finalisation of Works	
	Notify Council in writing that the development works on site have been finalised.	At the time of completion of construction.
7	As Constructed Drawings	
A	<p>Provide, for review and approval, Council with a preliminary set of the surveyor and engineering As Constructed drawings for the approved works and a digital ADAC file.</p> <p>Note: The current design standard and relevant planning scheme policy is MBRC Planning Scheme Policy Operational Works inspection, maintenance and bonding procedures.</p>	Prior to requesting an On Maintenance inspection.
B	Submit 'As Constructed' drawings and digital ADAC file in accordance with Council's Planning Scheme, relevant Planning Scheme Policies and design standards current at the time of development.	Prior to works being accepted On Maintenance.
8	Works Through Land not owned by the Developer	
	Where any works are proposed to be undertaken on or extend into any property not owned by the developer then the other property owner's written consent must be lodged with Council. The written consent from the land owner must identify the correct drawing title and number (including revision number) for the works within or through their land.	Prior to any works commencing within those properties.
9	Works in Existing Roads	
A	Works carried out in or affecting existing Roads must be undertaken so that these roads are maintained in a safe and useable condition.	At all times.
B	<p>Provide to Council's delegated officer and receive acknowledgement of a Traffic Management Plan, with site specific Guidance Scheme, prepared and signed by an appropriately qualified person and in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) for any works that will affect traffic movements or traffic safety in existing roads.</p> <p>Note:</p> <ul style="list-style-type: none"> A 'Part Road Closure Application' for Development Works form is to accompany the Traffic Management Plan submission. 	At least five (5) days prior to undertaking the works in or affecting existing roads.

CONDITION		TIMING
	<ul style="list-style-type: none"> This submission is required to be made in addition to any Traffic Management Plan which has been submitted and/or approved as part of a Construction Management Plan for the site during the development application process for Material Change of Use or Reconfiguring a Lot or subsequent non-IDAS applications. 	
10	Information Sign – Works in Existing Roads	
	A construction advisory road sign must be erected and regularly updated and maintained displaying the developer and contractors details and the expected completion date for works on existing roads. The sign shall be located so as be clearly legible to the public from of minimum 15m distance from the existing road on which the works are to be carried out on.	For the duration of the works from commencement to acceptance of On Maintenance.
11	Notification to Affected Premises	
A	<p>Provide Council with a copy of an information kit for 'Notification to Affected Premises' which includes the following:</p> <ol style="list-style-type: none"> A layout plan of the proposed development showing adjoining lot boundaries, new and existing roads, park and open space, drainage reserves and community purposes lots as applicable; Details of any external works with any changes to existing works highlighted for easy identification; Scheduled start and completion dates; Contact names and phone numbers for the Developer, Supervising Engineer, Consulting Engineer, the Contractor, Wildlife Spotter and who to contact in an emergency; and The site working hours authorised for the site works. 	Prior to distribution of information kit to residents.
B	<p>Provide all occupiers of premises adjoining the site, directly opposite the frontage of the site, adjacent to and directly opposite external works and residents/occupiers likely to be directly affected by the works with a copy of the 'Notification to Affected Premises' information kit.</p> <p>Provide Council's delegated officer with a list of premises which the information kit has been delivered to.</p>	Not less than 14 days prior to commencing any construction works.
12	Information Sign – Development Works	
	<p>An information sign containing the following details and after hours contact details must be provided at each entrance to the development site:</p> <ul style="list-style-type: none"> Developer Supervising Consultant/ Engineers / Project Manager Principal Contractor 	For the duration of the development works from commencement to acceptance On Maintenance by Council.

CONDITION		TIMING
	The sign must be at least 0.9m (W) by 0.6m (H). The sign must be erected and maintained for the duration of the development works.	
13	Prestart Meeting	
	<p>Arrange a prestart meeting with Council officers from Development Services section on 3205 0555 or (Email - council@moretonbay.qld.gov.au - Attention - Development Services - Engineering Waraba Construction Team - Referencing DA/2023/3496.</p> <p>The following people will be required to attend the prestart meeting:</p> <ul style="list-style-type: none"> • Developer's Supervising Engineer • Contractor's Engineer / Project Manager • Contractor's Site Supervisor • Fauna Manager (where required). 	Not less than 7 days prior to commencing any construction works.
14	Mandatory Inspections with Council Officers	
	Submit required documentation for each mandatory inspection in accordance with MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.	Prior to requesting inspection.
	Undertake the following inspections with Council's delegated officer (where applicable to approved works) in accordance with MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures:	As prescribed below.
A	Stormwater drainage.	Prior to backfilling stormwater trenches.
B	Subgrade / box inspection.	Prior to placement of structural pavements.
C	Preseal inspection.	Prior to priming and sealing of structural pavements.
D	For concrete slabs and concrete pavements - foundations / subgrade and pre-pour inspections.	Prior to concrete pouring.
E	On maintenance inspection for Council's acceptance of all works.	Prior to works being accepted On Maintenance.
F	Off maintenance inspection of all works. Note: Reinspections attract a fee in accordance with Council's Fee Schedule. The fee must be paid prior to the reinspection.	After maintenance period has elapsed.
G	Provide Council's delegated officer with a copy of an Engineers' Certificate Soil tester's reports demonstrating that required compaction standards, finished levels and textures of finish have been obtained in accordance with Council's	Prior to proceeding to construction of next layer or surfacing.

CONDITION		TIMING
	Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.	
15	Testing Frequency – General	
A	All testing of the works shall be carried to comply with the minimum testing frequencies given in MBRC Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures. Note: Council's delegated officer may vary the frequency of testing to suit site conditions but must provide written advice to the supervising engineer prior to commencement of the relevant works.	At all times during construction.
B	Provide a plan identifying locations where testing has occurred.	Prior to works being accepted On Maintenance.
16	Construction Hours Restrictions	
	Ensure hours of construction are limited to 0630 to 1830 Monday to Saturday and not at all on Sundays and public holidays. Note: Council's engineer may approve (in writing) work outside the above hours where it can be demonstrated to the satisfaction of Council that the work will not cause unreasonable interference with the amenity of adjoining premise and any person.	At all times.
17	Construction Nuisance and Annoyance	
	Ensure construction works do not cause unreasonable interference with the amenity of adjoining premise and any person by reason of noise, vibration, electrical interference, smell, fumes, vapour, steam, soot, ash, dust, silt, wastewater, waste products, grit, oil or otherwise.	At all times.
18	Construction Site Management	
	Ensure the construction site is kept in a clean and tidy state.	At all times.
19	Temporary Sedimentation, Erosion and Runoff Control	
A	Implement an Erosion and Sediment Control Plan which is prepared by an experienced Certified Professional in Erosion and Sediment Control (CPESC) in accordance with International Erosion Control Association Australasia (IECA) Best Practice and Sediment Control document and MBRC Planning Scheme current at the time of development.	Prior to commencement of works and to be maintained current at all times during construction and until the development is accepted off-maintenance.
B	The temporary erosion and sediment control measures shall be maintained and be functional until the end of the Maintenance Period for the works or earlier if Council's delegated officer considers they are no longer required.	At all times during construction.

CONDITION		TIMING
	Note: Council's delegated officer may order additional measures to control silt on site at no cost to Council.	
20	Haul Routes	
	<p>Submit and have approved by Council's delegated officer all haul routes for the transport of imported or spoil material and gravel pavement material along Council roads below sub-arterial standard.</p> <p>Note: Refer to MBRC Planning Scheme Values and Constraints Mapping - Road Hierarchy for details on sub-arterial and arterial roads.</p>	Prior to a prestart meeting being held.
21	Spillage onto Existing Roads	
	<p>Clean those parts of the access route to the site that are affected by any material dropped, deposited or spilled on the roads as a result of construction processes associated with the site.</p> <p>Note:</p> <ul style="list-style-type: none"> • All materials must be swept up and removed from the roads and not directed into Council's stormwater drainage system. • All care must be taken to prevent sediments being deposited on roads. 	At all times during construction.
22	Dust Control – Nuisance and Annoyance	
	<p>Implement suitable dust control measures. If airborne particles are observed leaving the site, any work is to cease immediately and satisfactory dust suppression is to be implemented.</p> <p>Note: Dust suppression measures must be in place at all times including weekends and public holidays.</p>	At all times prior to works being accepted Off Maintenance.
23	Earthworks Batters	
	<p>Where approved drawings do not include specifications for scour and erosion protection apply the following treatments to batter slopes:</p> <ul style="list-style-type: none"> • Slopes of 1:6 or flatter – topsoil and seed • Slopes between 1:6 and 1:4 – topsoil and turf • Slopes of 1:4 or greater – provide treatment recommendation from a qualified geotechnical engineer (R.P.E.Q.) for Council approval prior to undertaking batter works • Or as directed by Council. <p>Note: Batters within Open and Civic Spaces are to be treated in accordance with MBRC Planning Scheme Policy Integrated Design - Open and Civil Space Design.</p>	At all times during construction.

CONDITION		TIMING
24	Road Crossings in Existing Roads	
	<p>All services crossings under Existing Council Roads are to be tunnel bored unless approved otherwise by Council's delegated officer.</p> <p>Where approval is given for open trenching, the following is to apply:</p> <ul style="list-style-type: none"> • Minor Roads - backfill shall be compacted in layers to 95% standard maximum dry density and topped with 300mm of pavement material and a 50mm AC wearing course. • Sub-arterial or Arterial roads - refer to I.P.W.E.A. Standard Drawing RS-170. • Verge - Backfill shall be compacted to 90% standard maximum dry density and topped with 75mm of sandy loam. Restoration of any vegetation shall be undertaken to a standard as near as practicable to the pre-construction standard. 	At all times during construction.
25	Site works – Stormwater Runoff Quality	
	<p>Carry out earthworks in accordance with the State Planning Policy - Water Quality and IECA Best Practice Erosion and Sediment Control document.</p> <p>Note:</p> <ul style="list-style-type: none"> • Soil disturbances of greater than 1.0 hectares will require a site specific Erosion & Sediment Control Plan. • Earthworks are to be undertaken to ensure that soil disturbances are staged into manageable areas of not greater than 3.5 hectares. 	At all time during construction and until the site is suitably stabilised.
26	Earth Retaining Structures	
A	<p>Earth retaining structures within the subject land around areas of cut that are on or near the boundaries of the site must be designed to allow for the existing live and dead loads associated with the adjoining land/premises current occupancy and use of the adjoining land including allowance for a 2m high boundary fence.</p> <p>The minimum design life (the period assumed in design for which a structure or structural element is required to perform its intended purpose without replacement or major structural repairs) for the earth retaining structure that is specified in Table 2.1 of Australian Standard AS4678.</p>	At all times.
B	<p>Submit for Council records copies of Forms 15 & 16 as detailed under section 254 of the Building Act 2006. The forms are to be signed by an RPEQ for all structural retaining walls.</p> <p>Additionally, submit certification from an R.P.E.Q. that the</p>	Prior to works being accepted On Maintenance.

CONDITION		TIMING
	design and construction of retaining walls comply with the requirements of this condition.	
27	Unsuitable Fill Materials	
	<p>Ensure that all fill material used on the development site is free of unsuitable materials, identified in AS3798 and the following:</p> <ul style="list-style-type: none"> • actual acid sulfate soils and potential acid sulfate soils; • organic or putrescible matter; • material imported from land which is, or has been, listed on the “Environmental Management Register” under the <i>Environmental Protection Act 1994</i>; and • building demolition material. 	At all times.
28	Compaction Requirements	
	All fill material which is intended to be load bearing, or the finished surface level of which is required to remain approximately constant, is selected, placed and compacted to the standard prescribed in Australian Standard AS3798 Guidelines on Earthworks for Commercial and Residential developments.	At all times during construction.
29	Advisory Sign – Future Road Extension	
	<p>At the end of each road that is intended to extend with future development an advisory sign shall be supplied and erected to inform residents and the public of the future road extension. The sign shall be worded as follows:</p> <p>“This road may be extended with future development of the adjoining land. For further information refer to Council’s Planning Scheme.”</p> <p>This sign must be easily read at a distance of 5 metres. The sign shall not be attached to the road end hazard sign above the sign board.</p>	Prior to works being accepted On Maintenance.
30	Pavement Design	
A	<p>All road pavements must be designed, constructed and tested in accordance with MBRC Planning Scheme Policy - Integrated Design - Street, Roads and Utilities and standard drawings current at the time of construction.</p> <p>Note:</p> <ul style="list-style-type: none"> • Council requires a primer seal placed under all asphalt surfaces. • Increased asphalt surface thicknesses for road thresholds are to be identified in the pavement design. 	At all times during construction.
B	Submit, for review and approval by Council’s delegated officer, a pavement design for all roads. Pavement designs are to include Soil tester’s reports.	Prior to subgrade inspection.

CONDITION		TIMING
31	Pavement Jointing Detail	
	Undertake pavement jointing in accordance with I.P.W.E.A.Q. Standard Drawings RS-170.	Prior to works being accepted On Maintenance.
32	Concrete Footpaths	
	Construct concrete footpaths and kerb ramps in accordance with I.P.W.E.A. Standard Drawings RS-065 and RS-090.	Prior to works being accepted On Maintenance.
33	Street Signs	
	<p>Street signs must be provided in accordance with Council's Standard Drawings and I.P.W.E.A. Standard Drawings.</p> <p>Note:</p> <ul style="list-style-type: none"> House numbers required for these signs shall be obtained from Council's house numbering officer by contacting Council's Customer Service. The MBRC Logo is not to be put on the sign. 	Prior to works being accepted On Maintenance.
34	Hazard Management	
A	<p>Undertake the hazard identification and treatment process for any additional, existing or introduced hazards identified onsite by the Consultant or by Council's delegated officer during the construction process.</p> <p>Undertake a review of the identified hazards and provide a copy of the completed Hazard Mitigation Worksheet found in AUSTRROADS Guide to Road Design Part 6: Roadside Design, Safety and Barriers Appendix B along with any supporting information.</p>	Prior to works being accepted On Maintenance.
B	Provide, for review and approval by Council's delegated officer, adequate design documentation for the recommended hazard management treatment in accordance with AS3845:1999 and AUSTRROADS Guide to Road Design Part 6: Roadside Design, Safety and Barriers.	Prior to construction of any hazard management treatment.
C	Construct approved hazard management treatments in accordance with Council's Planning Scheme, Planning Scheme Policies, standard drawings and any other relevant standards current at the time of development.	Prior to works being accepted On Maintenance.
35	Stormwater Runoff Control – Batters and Retaining Walls	
	<p>Provide cut-off drains at the top of the batter with turf or rock lined batter drains for all batters and/or retaining walls generally higher than 600mm in height and with a catchment greater than 1000m².</p> <p>Note: Where these are not detailed on the approved drawings then these works shall be in accordance with Council's current standards.</p>	Prior to works being accepted On Maintenance.

CONDITION		TIMING
36	Stormwater Runoff Control – Open Drains	
	<p>Provide lining with appropriate scour protection to all open drains and bunds in accordance with Council's Planning Scheme, Planning Scheme Policies and standard drawings current at the time of development.</p> <p>Note: Dumped rock is generally not considered as an appropriate solution.</p>	Prior to works being accepted On Maintenance.
37	Stormwater Pipe Outlets and Culvert Inlets and Outlets	
	<p>Stabilise all culvert inlets and outlets or stormwater drainage outlets in accordance with industry best practice and the following requirements:</p> <ol style="list-style-type: none"> 1. Rock gabion baskets/rock mattresses 2. Grouted rock/stone pitching with a properly designed and prepared base and constructed to the following requirements: <ol style="list-style-type: none"> a. Mortar to be 1 part cement to 3 parts sand (by volume). b. Open face stone pitching is to be used where the concrete is recessed 50mm behind the stone facing. c. Select spalls to avoid sharp edges. 3. Other solutions as approved by Council's delegated officer. <p>Note: Dumped rock is generally not considered as an appropriate solution.</p>	At all times.
38	Stormwater Overland Flow – Site Earthworks	
	<p>Earthworks must be undertaken on the site so as not to cause nuisance and annoyance to any person or premises. The development must:</p> <ul style="list-style-type: none"> • Allow stormwater overland flow which entered the land prior to the commencement of the earthworks to continue to enter the land; and • Ensure stormwater overland flow from the development site is not discharged or diverted onto land (other than a road) adjacent to the site in a manner which: <ul style="list-style-type: none"> ○ concentrates the rate of flow at any point along the property boundary; or ○ increases the peak flow rates of stormwater discharged at any point along the property boundary; beyond that which existed prior to commencement of these earthworks. 	At all times during construction.
39	CCTV – Stormwater Pipes	
A	Undertake and provide, to the satisfaction of the Council, a high definition Closed Circuit Television (CCTV) recording of all stormwater pipes, including inter allotment roof water drainage. Recording to be undertaken within one month immediately preceding making a request for On Maintenance	Prior to a request for On Maintenance Inspection

CONDITION	TIMING
<p>inspection and post road pavement construction works. CCTV to clearly display all joints (full surrounds) and any form of damage or defects, including date and time of the recording.</p> <p>The recording is to include a report signed by a suitably qualified Registered Professional Engineer Queensland (RPEQ) stating that the recording has been reviewed and all works are satisfactory.</p> <p>Where defects have been identified, consultant is to provide method of rectification to Council for approval, prior to carrying out any rectification works.</p>	
<p>B Undertake and provide, to the satisfaction of the Council, a high definition Closed Circuit Television (CCTV) recording of all stormwater pipes, including inter allotment roof water drainage. Recording to be undertaken within one month immediately preceding making a request for Off Maintenance inspection. CCTV to clearly display all joints (full surrounds) and any form of damage or defects, including date and time of the recording.</p> <p>The recording is to include a report signed by a suitably qualified Registered Professional Engineer Queensland (RPEQ) stating that the recording has been reviewed and all works are satisfactory.</p> <p>Where defects have been identified, consultant is to provide method of rectification to Council for approval, prior to carrying out any rectification works.</p>	Prior to a request for Off Maintenance inspection.
40	
<p>Drainage Behind Retaining Walls</p> <p>Design and install agricultural pipes or strip drains behind retaining walls in accordance with Q.U.D.M. to connect to:</p> <ul style="list-style-type: none"> • The proposed inter-allotment drainage systems; or • To drainage inlet structures via a stub connection in roadways; or • Directly to kerb and channel if there are no drainage structures within 10m of the frontage of the land; or • As approved in writing by Council's delegated officer. <p>Notes:</p> <ul style="list-style-type: none"> • Corrugated pipes are not to be used to connect the stormwater drainage to Council's infrastructure. • The drainage system behind retaining walls must not connect to Council's subsurface drainage system in the Council road. 	Prior to works being accepted On Maintenance.
41	
<p>Provision of Kerb Adapters</p> <p>Provide a minimum of two (2) metal kerb adaptors per lot for lots that drain to the road. Where a lot has side crossfall of up to 1.5%, one (1) kerb adaptor shall be located at each side</p>	Prior to works being accepted On Maintenance.

CONDITION		TIMING
	<p>of the lot. Where a lot has side crossfall of greater than 1.5%, both kerb adaptors shall be located at the low side of the lot.</p> <p>For lots with a concrete footpath at the frontage, the kerb adaptors shall be connected to the front boundary of the lot with Class SN8 uPVC stormwater pipe.</p>	
42	Certification – Public Stormwater Management Infrastructure	
	<p>Provide documentation to Council from a Registered Professional Engineer (RPEQ) specialising in stormwater design certifying that the stormwater management treatment train as approved in the stormwater management plan and design drawings has been constructed in accordance with engineering best practise and is functioning as designed.</p> <p>The certification shall include the completed sign-off forms for bioretention systems prepared by Water by Design in Partnership with Healthy Waterways shall be completed. The sign-off forms are accessible from www.waterbydesign.com.au.</p>	Prior to works being accepted On Maintenance.
43	Public Bioretention Inspections	
	<p>Provide Council with notice of the subsoil drains being laid and the filter media being installed.</p> <p>Note: Council's delegated officer may attend the inspection.</p>	Not less than 48 hours prior to subsoil drains being laid and the filter media being installed.
44	Maintenance Process for Public Bioretention Basin	
A	<p>The entire bioretention basin shall act as a sediment basin.</p> <p>Note: Council will consider alternative solutions to achieve the desired outcome.</p>	During the build-out phase (80%) or up to a maximum of two (2) years.
B	<p>Submit, for review and approval by Council's delegated officer, a deferred works schedule to cover the cost of basin conversion plus twenty-five percent (25%) and in accordance with the requirements of Council's Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures.</p> <p>The following works are to be included as a minimum in the deferred works bond schedule:</p> <ul style="list-style-type: none"> • removal of sacrificial turf and geofabric; and • In-situ hydraulic conductivity testing of filter material in accordance with the "Guidelines for Soil Filter Media in Bioretention Systems: (produced by the Faculty for Advanced Water Biofiltration) requirements. • Planting out of the basin in accordance with the approved landscaping drawings. 	Prior to the bioretention basin area being accepted On Maintenance as a sediment basin.
C	<p>Construct deferred works and any other works necessary to convert to the basin from sediment basin to a functioning bioretention basin in accordance with Council's Planning Scheme Policy - Operational Works inspection, maintenance</p>	Once the contributing catchment achieves eighty percent (80%)

CONDITION	TIMING
<p>and bonding procedures.</p> <p>In-situ hydraulic conductivity testing of filter material is to be provided to Council's delegated officer to demonstrate that area can be planted out. Where in-situ hydraulic conductivity testing shows that the filter material is not acceptable then replacement of the filter material is required in addition to planting out of basin area.</p> <p>Note: Deferred Works for bioretention basin conversion are subject to a separate on maintenance process to the other civil works for the development. The On Maintenance process is to be in accordance with Council's Planning Scheme Policy - Operational Works inspection, maintenance and bonding procedures including on and off maintenance inspections and maintenance period.</p>	<p>build-out or a maximum of 2 years.</p>
<p>45 Fertilisers for Grassing and Landscape Works</p>	
<p>Odorous chemicals, fertilisers, soil conditioners or mulches shall not be used on land development projects. Only a non-odorous, commercially bagged and labelled fertiliser shall be used when seeding grass areas or laying turf.</p> <p>Without limiting the above, Council's delegated officer may approve the use of suitably composed and aged organic material, such as soil conditioners, at the following locations:</p> <ul style="list-style-type: none"> • in isolated locations where existing and proposed houses are considerable distances from the work site; and • where, in the officer's opinion, their use would not adversely affect the occupiers of any nearby properties with strong odours or loose material blown from the work site. <p>Council's delegated officer will provide the approval in writing with conditions where odorous fertilisers are approved.</p>	<p>At all times during construction.</p>
<p>46 Stabilisation of Disturbed Areas</p>	
<p>Ensure that a grass strike rate of at least 80% cover has been attained on all disturbed areas or other approved means of stabilisation of grassed areas have been provided.</p> <p>Note: For residential and rural residential subdivisions, the road reserve between kerb and property line shall be turfed as a condition of completion.</p>	<p>Prior to works being accepted On Maintenance.</p>

ADVICES	
1	Development Permit
	<p>This approval shall comply with all the conditions of related approval as stipulated in Council's Decision Notice – Development Permit dated 24 August 2023 referenced as DA/2021/4669.</p> <p>The Applicant needs to be aware that the Currency Period of that Decision Notice may determine the validity period of this Decision Notice.</p>
2	Extent of Checking by Council
	<p>This approval shall not be taken to mean that the drawings have been checked in detail and Council accepts no responsibility whatsoever for the survey information, the design, or for the accuracy of any information or detail contained in the approved drawings and specifications.</p>
3	Aboriginal Cultural Heritage Act
	<p>The <i>Aboriginal Cultural Heritage Act 2003</i> commenced in Queensland on April 16, 2004. Under the Act, indigenous parties are key in assessing cultural heritage significance.</p> <p>The <i>Aboriginal Cultural Heritage Act 2003</i> establishes a Duty of Care for indigenous cultural heritage. This applies on all land and water, including freehold land. The Cultural Heritage Duty of Care lies with the person or entity conducting the activity.</p> <p>Penalty provisions apply for failing to fulfil the Cultural Heritage Duty of Care.</p> <p>Those proposing an activity that involves additional surface disturbance beyond that which has already occurred on the proposed site need to be mindful of the Duty of Care requirement.</p> <p>Details of how to fulfil the Duty of Care are outlined in the Duty of Care Guidelines gazetted with the Act.</p> <p>Council strongly advises that you contact the relevant state agency to obtain a copy of the Duty of Care Guidelines and further information on the responsibilities of developer under the terms of the <i>Aboriginal Cultural Heritage Act 2003</i>.</p>
4	Environmental Protection Act
	<p>It remains the duty of care of the site owner not to cause Environmental Harm as defined under the <i>Environmental Protection Act 1994</i>.</p>
5	Bulk Earthworks
	<p>This bulk earthworks approval does not imply that Council will support any other development over the site. Furthermore it shall not have any bearing on any future approvals.</p> <p>The earthworks have been assessed as a stand-alone application and it is at the Developer's risk should any future Development Applications require revised levels or layout.</p> <p>No other works are to commence until Council Operational Works approval is issued and a pre-start meeting has been held between the appropriate personnel and Council.</p>

ADVICES	
6	Road and Stormwater infrastructure
	<p>In respect to Road and Stormwater infrastructure, the works shall be designed and constructed in accordance with the relevant Planning scheme codes and policies;</p> <p>The current relevant planning scheme codes and policies are:</p> <ul style="list-style-type: none"> • Works code; • Reconfiguring a lot codes; • PSP- Integrated Design • PSP- Operational Works Inspection, Maintenance and Bonding Procedures. <p>All of which may be downloaded free of charge from Council's website at www.moretonbay.qld.gov.au.</p> <p>The PSP- Operational Works Inspection, Maintenance and Bonding Procedures also contains details of other requirements such as:</p> <ol style="list-style-type: none"> 1. arrangements for works going On or Off Maintenance; 2. inspection and testing; 3. checklists and certification proforma; 4. bonding procedures. <p>Should further information be required regarding the road and stormwater component of the Operational Works Application, please contact Council's Officer, Xavier Dubreuil on phone (07) 5433 2739.</p>
8	Acceptance Based on Applicant's Certification
	<p>Council's acceptance of the above submission is based solely on the applicant's certification that the proposal conforms totally to Council's Planning Scheme, Planning Scheme Policies and standard drawings.</p>
9	Biosecurity Act 2014 - Fire Ant Control
	<p>Significant portions of the Moreton Bay are within Fire Ant Biosecurity Zone 2 and must remain vigilant for the presence of fire ants. Under the Biosecurity Act 2014, individuals and businesses are responsible for ensuring that they follow the movement controls for specific organic materials to help prevent the spread of fire ants within South East Queensland's fire ant biosecurity zones. Movement of a fire ant carrier from within the fire ant biosecurity zone may need a biosecurity instrument permit.</p> <p>More information is available on https://www.fireants.org.au/treat/business--and-industry/movement-controls</p>

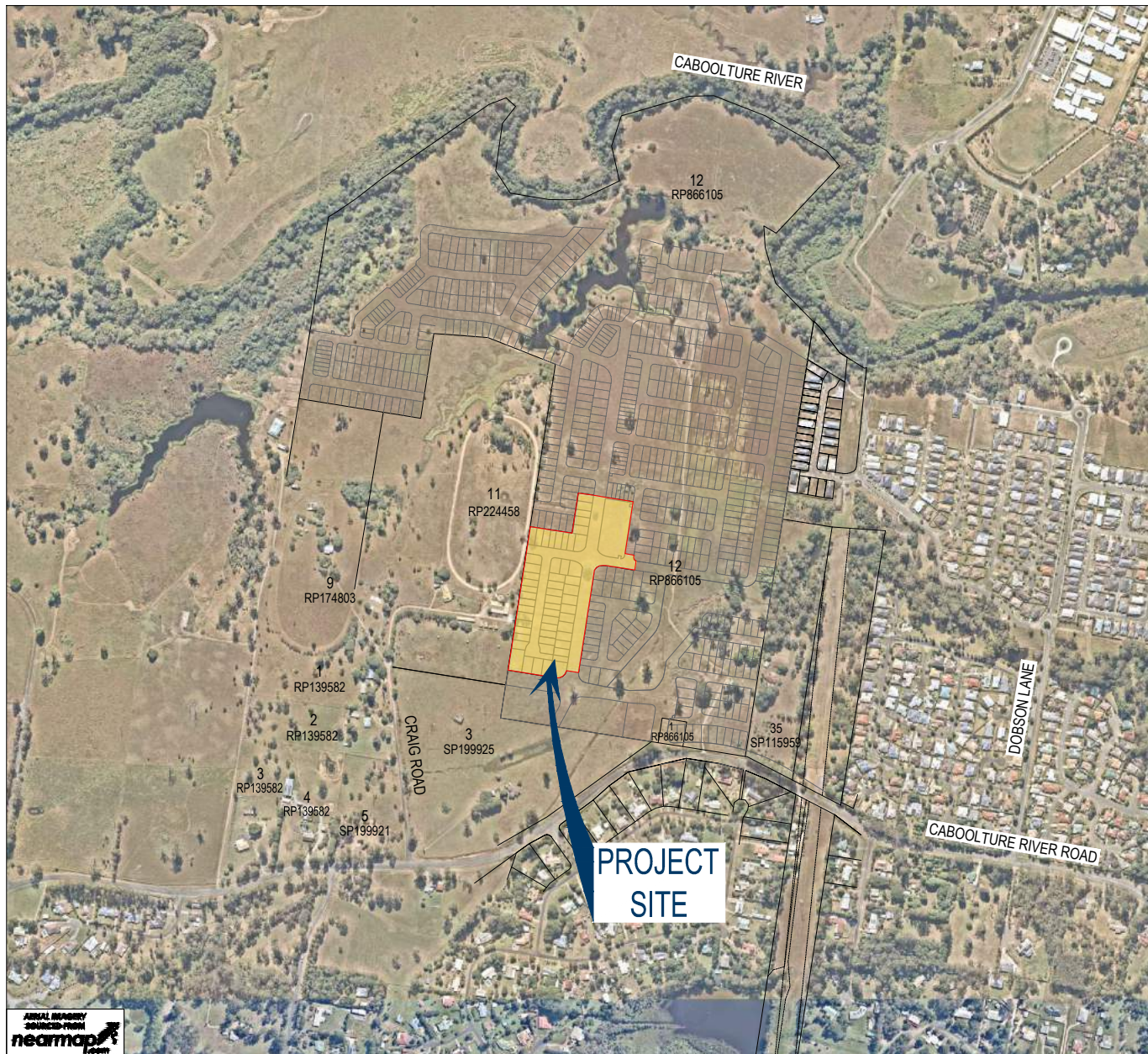
ATTACHMENT 3

Approved Plans / Documents

LILYWOOD LANDINGS



STAGES 2 - OPERATIONAL WORKS FOR FOREVERLEN PTY LTD



LOCALITY PLAN
N.T.S

MORETON BAY REGIONAL COUNCIL

AREA OF SITE: 4.313 ha

LOT INFORMATION

LOT 1 ON RP866105 & LOT 12 ON RP866105



DRAWINGS INDEX

GENERAL
1000 TITLE SHEET & LOCALITY PLAN

KEY PLAN
1100 SITE LAYOUT PLAN

RETAINING WALL SETOUT PLAN
1200 RETAINING WALL SETOUT PLAN SHEET 1 OF 3
1201 RETAINING WALL SETOUT PLAN SHEET 2 OF 3
1202 RETAINING WALL SETOUT PLAN SHEET 3 OF 3
1203 RETAINING WALL NOTES & DETAILS

CONTROL LINE SETOUT
1300 CONTROL LINE SETOUT PLAN SHEET 1 OF 3
1301 CONTROL LINE SETOUT PLAN SHEET 2 OF 3
1302 CONTROL LINE SETOUT PLAN SHEET 3 OF 3
1303 CONTROL LINE SETOUT DETAILS

ROADWORKS LAYOUT PLAN
1310 ROADWORKS LAYOUT PLAN SHEET 1 OF 3
1311 ROADWORKS LAYOUT PLAN SHEET 2 OF 3
1312 ROADWORKS LAYOUT PLAN SHEET 3 OF 3

INTERSECTION DETAILS
1320 INTERSECTION DETAILS

SECTIONS
1330 ROAD 2 LONGITUDINAL SECTION SHEET 1 OF 2
1331 ROAD 2 LONGITUDINAL SECTION SHEET 2 OF 2
1332 ROAD 2 CROSS SECTIONS
1333 ROAD 7 LONGITUDINAL SECTION
1334 ROAD 7 CROSS SECTIONS
1335 ROAD 8 LONGITUDINAL SECTION
1336 ROAD 8 CROSS SECTIONS
1337 ROAD 9 LONGITUDINAL AND CROSS SECTIONS
1338 ROAD 19 LONGITUDINAL AND CROSS SECTIONS

SIGNAGE AND LINEMARKING
1340 SIGNAGE AND LINEMARKING LAYOUT PLAN

STORMWATER LAYOUT PLANS
1400 STORMWATER LAYOUT PLAN SHEET 1 OF 5
1401 STORMWATER LAYOUT PLAN SHEET 2 OF 5
1402 STORMWATER LAYOUT PLAN SHEET 3 OF 5
1403 STORMWATER LAYOUT PLAN SHEET 4 OF 5
1404 STORMWATER LAYOUT PLAN SHEET 5 OF 5
1405 STORMWATER DRAINAGE NOTES AND DETAILS

STORMWATER CATCHMENT PLAN
1410 STORMWATER CATCHMENT PLAN SHEET 1 OF 2
1411 STORMWATER CATCHMENT PLAN SHEET 2 OF 2

STORMWATER LONGITUDINAL SECTIONS
1420 STORMWATER LONGITUDINAL SECTIONS SHEET 1 OF 6
1421 STORMWATER LONGITUDINAL SECTIONS SHEET 2 OF 6
1422 STORMWATER LONGITUDINAL SECTIONS SHEET 3 OF 6
1423 STORMWATER LONGITUDINAL SECTIONS SHEET 4 OF 6
1424 STORMWATER LONGITUDINAL SECTIONS SHEET 5 OF 6
1425 STORMWATER LONGITUDINAL SECTIONS SHEET 6 OF 6

STORMWATER CALCULATION TABLES

1430 STORMWATER CALCULATION TABLES SHEET 1 OF 4
1431 STORMWATER CALCULATION TABLES SHEET 2 OF 4
1432 STORMWATER CALCULATION TABLES SHEET 3 OF 4
1433 STORMWATER CALCULATION TABLES SHEET 4 OF 4

STORMWATER STRUCTURES
1440 STORMWATER STRUCTURES DETAILS SHEET 1 OF 4
1441 STORMWATER STRUCTURES DETAILS SHEET 2 OF 4
1442 STORMWATER STRUCTURES DETAILS SHEET 3 OF 4
1443 STORMWATER STRUCTURES DETAILS SHEET 4 OF 4

SEWER RETICULATION PLANS
1500 SEWER RETICULATION COVER SHEET
1501 SEWER RETICULATION LAYOUT PLAN SHEET 1 OF 4
1502 SEWER RETICULATION LAYOUT PLAN SHEET 2 OF 4
1503 SEWER RETICULATION LAYOUT PLAN SHEET 3 OF 4
1504 SEWER RETICULATION LAYOUT PLAN SHEET 4 OF 4
1505 SEWER RETICULATION DETAILS & NOTES

SEWER LONGITUDINAL SECTIONS
1510 SEWER LONGITUDINAL SECTIONS SHEET 1 OF 7
1511 SEWER LONGITUDINAL SECTIONS SHEET 2 OF 7
1512 SEWER LONGITUDINAL SECTIONS SHEET 3 OF 7
1513 SEWER LONGITUDINAL SECTIONS SHEET 4 OF 7
1514 SEWER LONGITUDINAL SECTIONS SHEET 5 OF 7
1515 SEWER LONGITUDINAL SECTIONS SHEET 6 OF 7
1516 SEWER LONGITUDINAL SECTIONS SHEET 7 OF 7
1520 SEWER MANHOLE DETAILS

WATER RETICULATION PLANS
1600 WATER RETICULATION COVER SHEET
1601 WATER RETICULATION LAYOUT PLAN SHEET 1 OF 3
1602 WATER RETICULATION LAYOUT PLAN SHEET 2 OF 3
1603 WATER RETICULATION LAYOUT PLAN SHEET 3 OF 3

BIO-BASIN PLANS
1700 BIO-BASIN F2 LAYOUT PLAN
1701 BIO-BASIN F2 SECTION PLAN SHEET 1 OF 2
1702 BIO-BASIN F2 SECTION PLAN SHEET 2 OF 2
1703 BIO-BASIN DETAILS

CONSTRUCTION NOTE

- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH:
- CRR INTERSECTION & IDC SET - 22-000082-CRR
 - BULK EARTHWORKS SET - 22-000082-EVKS
 - STAGE 1A & 1B SET - 22-000082_1A_1B
 - STAGE 3 SET - 22-000082_3
 - STAGE 4 SET - 22-000082_4
 - STAGE 22 SET - 22-000082_22
 - GEOTECHNICAL REPORT
 - BAF TRUNK WATER INFRASTRUCTURE SET - 22-000082_TWI
 - DOBSON LANE TRUNK GRAVITY SEWER SET - 20-000027
 - SIGNALS PLANS (BY CV SERVICES)
 - LANDSCAPE PLANS (BY AECOM)
 - ELECTRICAL/ COMMS PLAN (BY CV SERVICES)

CONSTRUCTION HOLD POINT

PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY LEVELS OF ALL EXISTING CROSSINGS AND CONNECTION POINTS.

LILYWOOD LANDINGS

STAGE 2

DA REF NO. - DA/2023/3496

Project No.: 22-000082_2	Stage: 2	Milestone: FOR	Revision Date.: 12/12/23	Drawing No.: 1000	Revision: C
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CONSTRUCTION



LEGEND

- STAGE BOUNDARY
- PROPOSED LOT BOUNDARY
- EXISTING LOT BOUNDARY
- FUTURE LOT BOUNDARY
- AREA OF FUTURE DEVELOPMENT
- AREA OF EXISTING DEVELOPMENT



REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

DRAWN	DESIGN	DRAWN CHECK	STATUS
IB	AA	aa	FOR CONSTRUCTION
IB	AA		
AA	AA		

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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CLIENT

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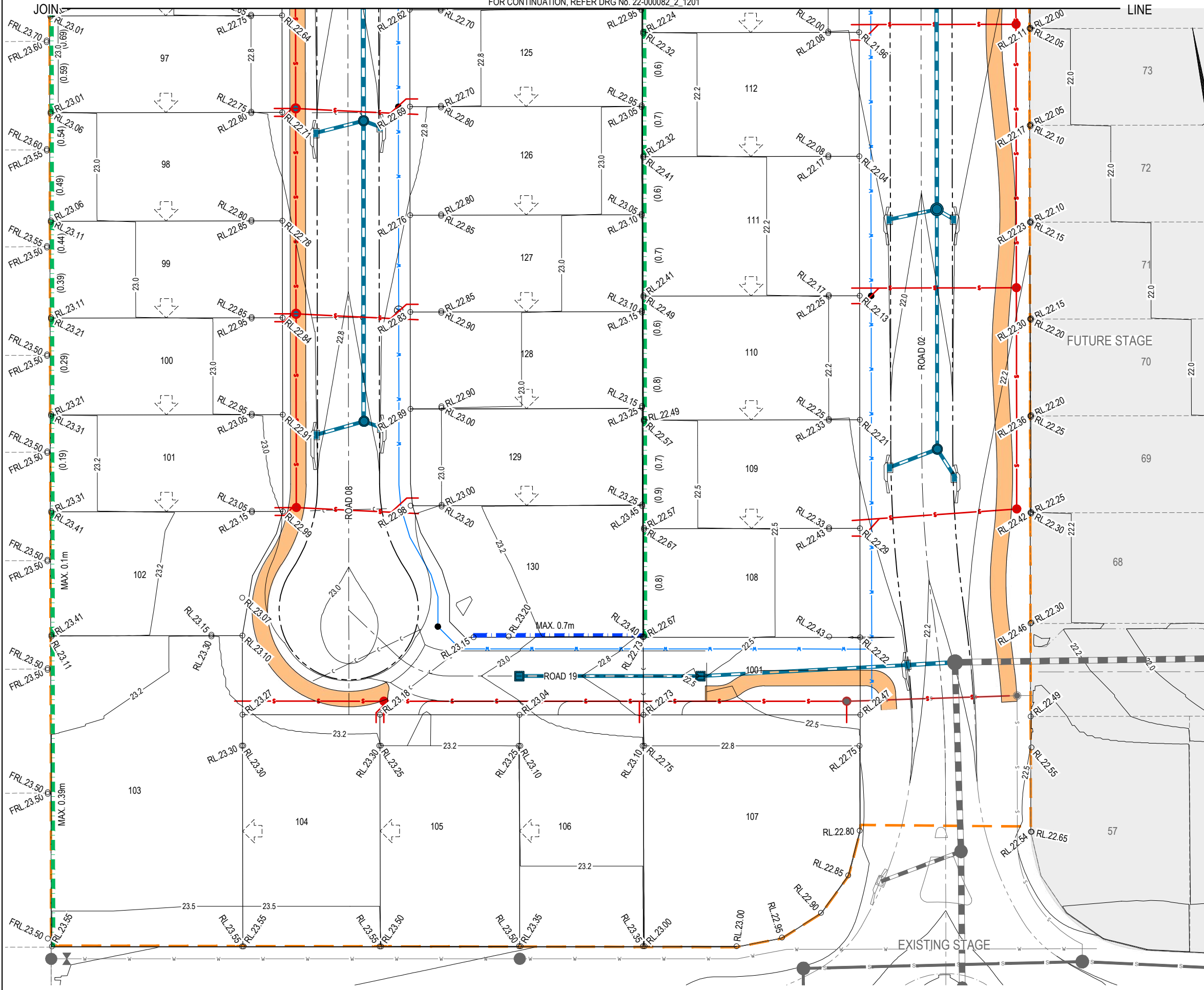
PROJECT

LANDINGS

STAGE 2

DISCLAIMER
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DRAWING TITLE		
SITE LAYOUT PLAN		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1100	C



LEGEND

- STAGE BOUNDARY
- 66.0 DESIGN SURFACE CONTOUR (0.5m INTERVALS)
- PROPOSED TYPE 1 SLEEPER RETAINING WALL
- PROPOSED TYPE 2 SLEEPER RETAINING WALL
- EXISTING SLEEPER RETAINING WALL
- RL 22.15 FINISHED SURFACE LEVEL
- (1.35) WALL HEIGHT (AVERAGE)
- FRL 22.15 FUTURE FINISHED SURFACE LEVEL (BY OTHERS)
- PROPOSED WATER MAIN
- PROPOSED SEWERAGE RETICULATION
- EXISTING TRUNK SEWER
- PROPOSED STORMWATER DRAINAGE
- CONCRETE FOOTPATH
- ⇩ INDICATIVE DRIVEWAY LOCATIONS
- ⇩ RECOMMENDED BUILD TO BOUNDARY WALL (B2B)
- ⇩ OPTIONAL BUILD TO BOUNDARY WALL

NOTE:
 1. REFER TO DRG 22-000082_2_1203 FOR STANDARD RETAINING WALL NOTES AND DETAILS.

<p>CAUTION !! UNDERGROUND TELECOMMS CABLES UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.</p>	<p>CAUTION !! UNDERGROUND GAS MAIN UNDERGROUND GAS MAIN EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR MAIN LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.</p>
<p>CAUTION !! OVERHEAD ELECTRICAL CABLES OVERHEAD ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX WHERE CABLE CLEARANCE IS COMPROMISED BY MACHINERY.</p>	<p>CAUTION !! UNDERGROUND ELECTRICAL CABLES UNDERGROUND ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.</p>

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A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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CLIENT

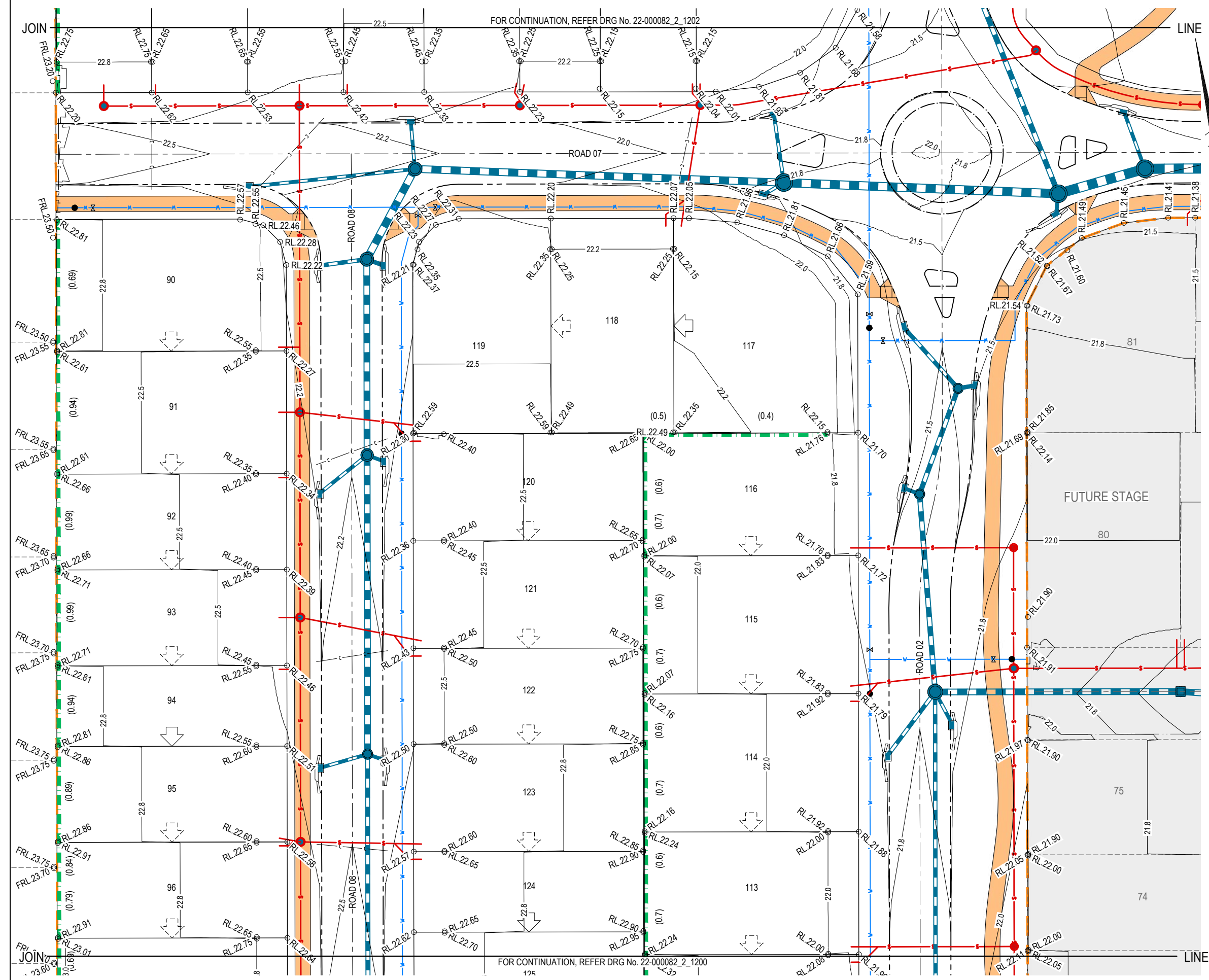
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LANDINGS
 STAGE 2

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RETAINING WALL SETOUT PLAN SHEET 1 OF 3		
PROJECT No. 22-000082_2	DRAWING No. 1200	REVISION C



LEGEND

- STAGE BOUNDARY
- 66.0 DESIGN SURFACE CONTOUR (0.5m INTERVALS)
- PROPOSED TYPE 1 SLEEPER RETAINING WALL
- PROPOSED TYPE 2 SLEEPER RETAINING WALL
- EXISTING SLEEPER RETAINING WALL
- RL.22.15 FINISHED SURFACE LEVEL
- (1.35) WALL HEIGHT (AVERAGE)
- FRL.22.15 FUTURE FINISHED SURFACE LEVEL (BY OTHERS)
- PROPOSED WATER MAIN
- PROPOSED SEWERAGE RETICULATION
- EXISTING TRUNK SEWER
- PROPOSED STORMWATER DRAINAGE
- CONCRETE FOOTPATH
- ⇩ INDICATIVE DRIVEWAY LOCATIONS
- ⇩ RECOMMENDED BUILD TO BOUNDARY WALL (B2B)
- ⇩ OPTIONAL BUILD TO BOUNDARY WALL

NOTE:
 1. REFER TO DRG 22-000082_2_1203 FOR STANDARD RETAINING WALL NOTES AND DETAILS.

<p>CAUTION !! UNDERGROUND TELECOMMS CABLES UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.</p>	<p>CAUTION !! UNDERGROUND GAS MAIN UNDERGROUND GAS MAIN EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR MAIN LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.</p>
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REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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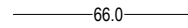



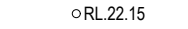
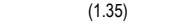







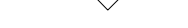
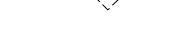
PROJECT

LANDINGS
STAGE 2

DISCLAIMER
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DRAWING TITLE		
RETAINING WALL SETOUT PLAN SHEET 2 OF 3		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1201	C

LEGEND

-  STAGE BOUNDARY
-  66.0 DESIGN SURFACE CONTOUR (0.5m INTERVALS)
-  PROPOSED TYPE 1 SLEEPER RETAINING WALL
-  PROPOSED TYPE 2 SLEEPER RETAINING WALL
-  EXISTING SLEEPER RETAINING WALL
-  FINISHED SURFACE LEVEL
-  WALL HEIGHT (AVERAGE)
-  FUTURE FINISHED SURFACE LEVEL (BY OTHERS)
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-  PROPOSED STORMWATER DRAINAGE
-  CONCRETE FOOTPATH
-  INDICATIVE DRIVEWAY LOCATIONS
-  RECOMMENDED BUILD TO BOUNDARY WALL (B2B)
-  OPTIONAL BUILD TO BOUNDARY WALL

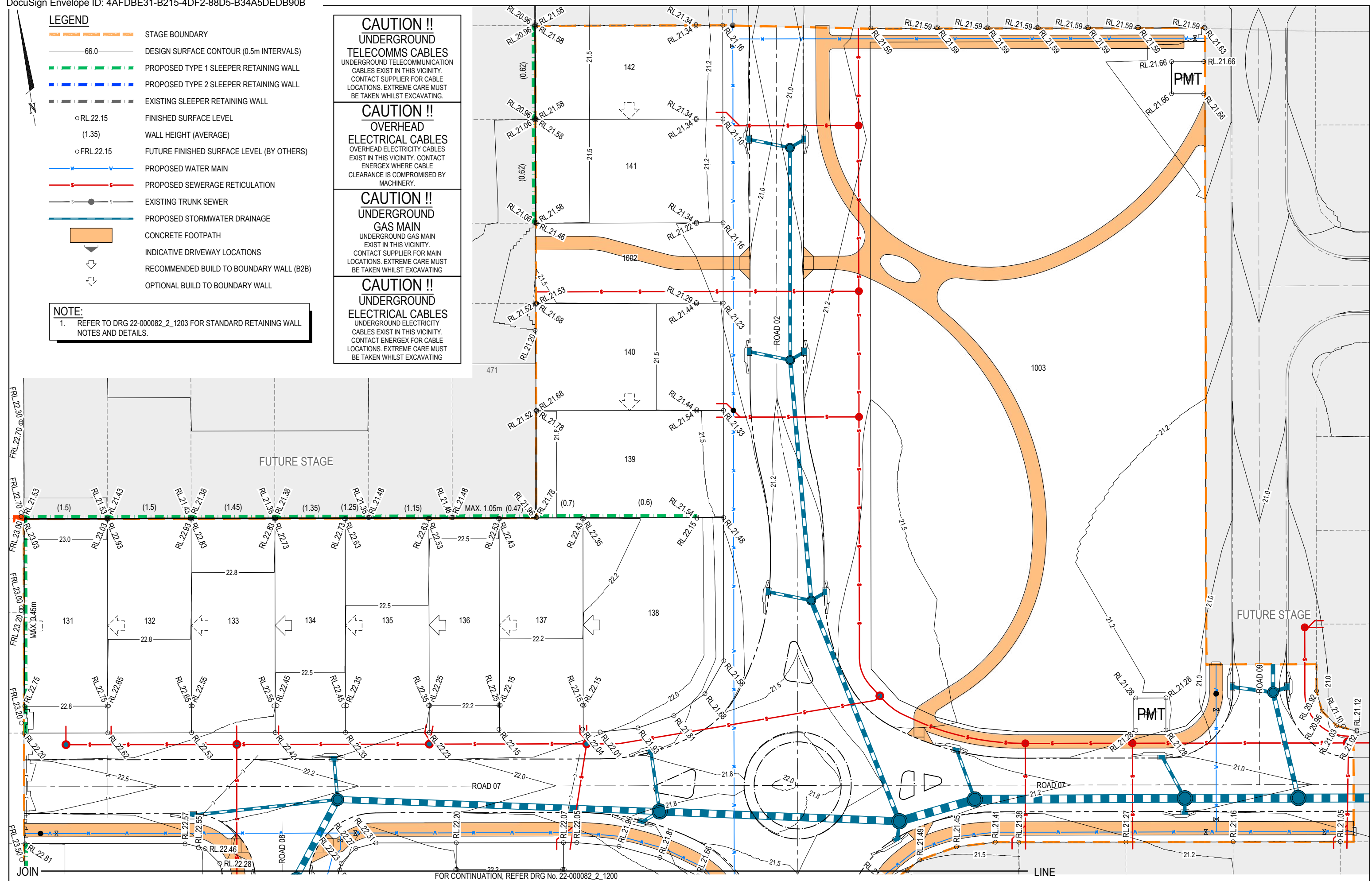
NOTE:
 1. REFER TO DRG 22-000082_2_1203 FOR STANDARD RETAINING WALL NOTES AND DETAILS.

CAUTION !!
UNDERGROUND TELECOMMS CABLES
 UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.

CAUTION !!
OVERHEAD ELECTRICAL CABLES
 OVERHEAD ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX WHERE CABLE CLEARANCE IS COMPROMISED BY MACHINERY.

CAUTION !!
UNDERGROUND GAS MAIN
 UNDERGROUND GAS MAIN EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR MAIN LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.

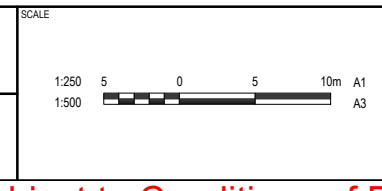
CAUTION !!
UNDERGROUND ELECTRICAL CABLES
 UNDERGROUND ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA	aa	
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT
FOREVERLEN PTY LTD
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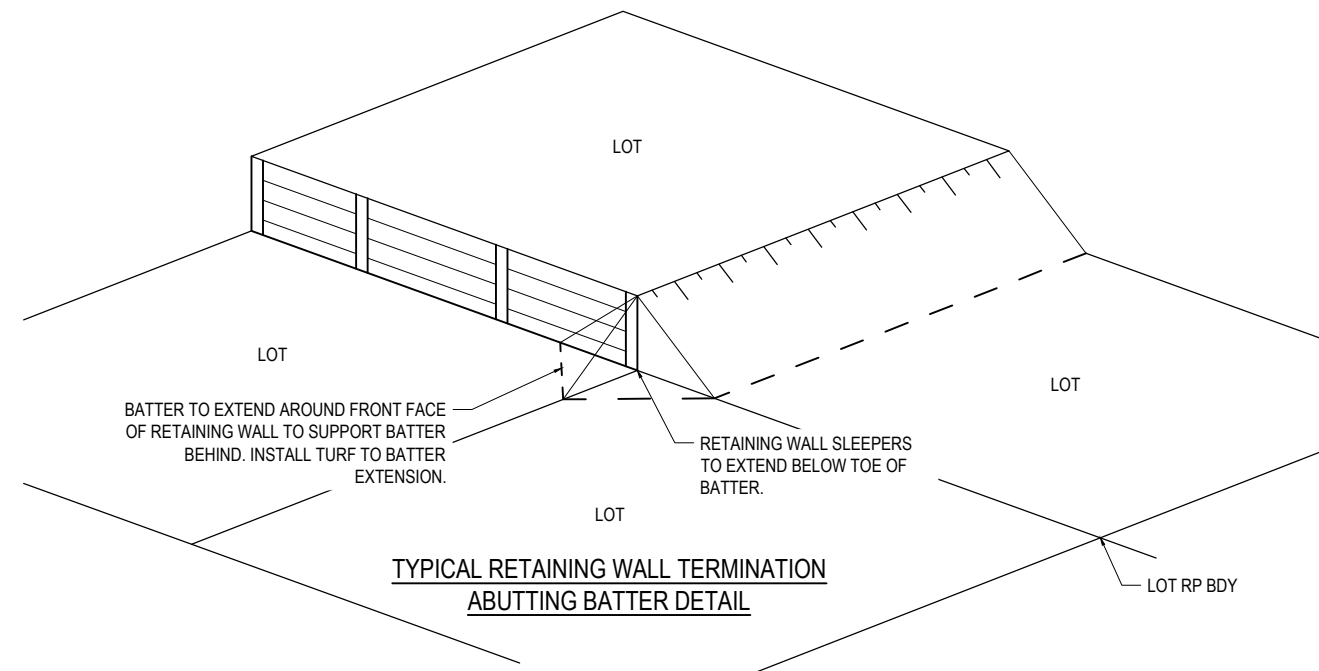
PROJECT
LYWOOD LANDINGS
STAGE 2
 DISCLAIMER
 ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
RETAINING WALL SETOUT PLAN SHEET 3 OF 3		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1202	C

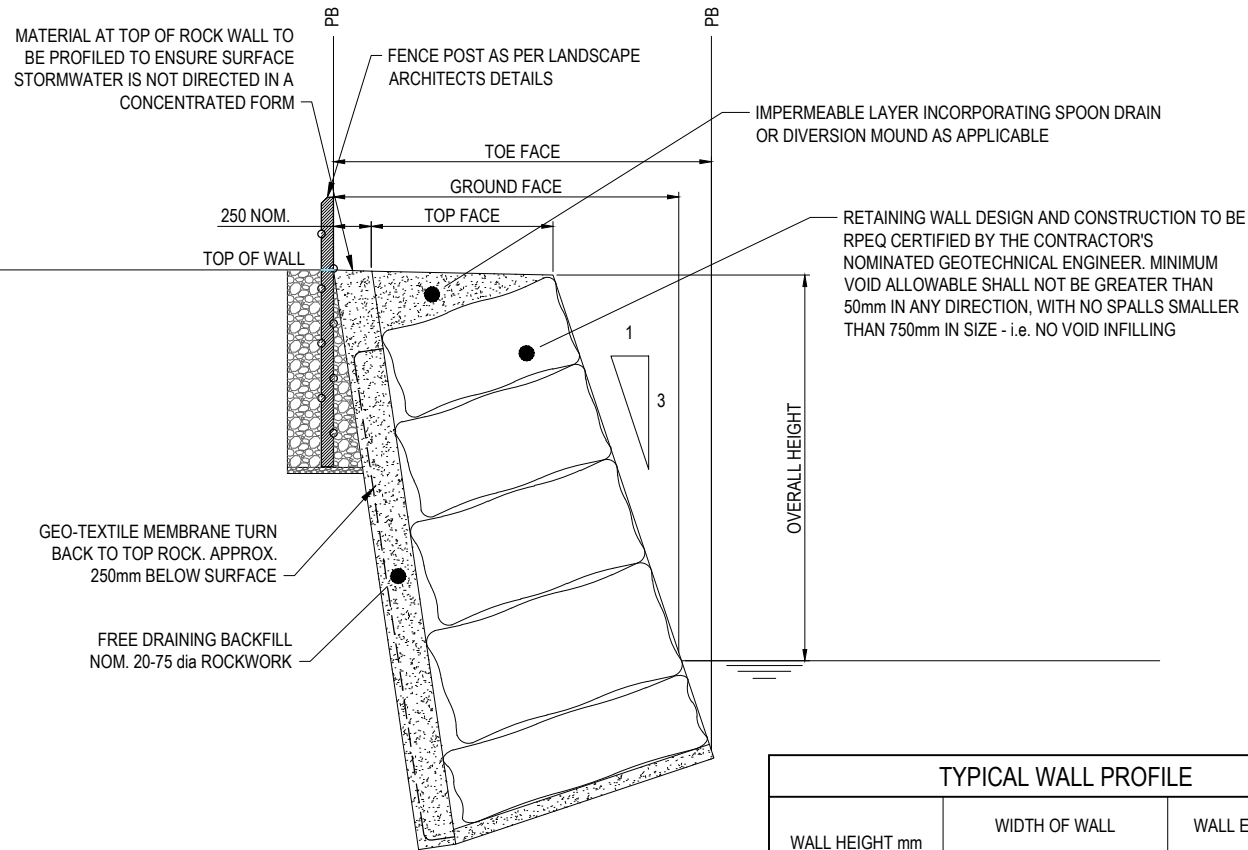
RETAINING WALL DESIGN AND CONSTRUCT NOTES:

1. CONCRETE SLEEPER RETAINING WALL IS A DESIGN AND CONSTRUCT ITEM.
2. CONTRACTOR SHALL ENGAGE A RPEQ STRUCTURAL ENGINEER WITH SUITABLE RETAINING WALL EXPERIENCE.
3. FOLLOWING DESIGN PARAMETERS SHALL BE ADOPTED.
 - a) SURCHARGE LOAD 5kPa FOR INTERALLOTMENT WALLS.
 - b) SURCHARGE LOAD 20kPa WHERE WALLS ARE SUPPORTING ROADS OR DRIVEWAYS.
 - c) ALLOW FOR WIND AND DEAD LOADS FOR SOLID 1.8m HIGH FENCE, OR HIGHER IF SPECIFIED IN THE ACOUSTIC REPORT.
 - d) ALLOW FOR MAX 1 IN 4 SLOPE AT TOP AND TOE OF WALLS.
 - e) TORSIONALLY RIGID BEAMS SUCH AS UC SECTION SHALL BE SPECIFIED.
 - f) DESIGN SHALL ACHIEVE 60 YEAR DESIGN LIFE. OR DESIGN LIFE SPECIFIED BY THE RELEVANT AUTHORITY.
 - g) CONTRACTOR SHALL ARRANGE GEOTECHNICAL INVESTIGATION AND STRUCTURAL DESIGN SHALL ALLOW FOR CONDITIONS IDENTIFIED IN INVESTIGATION.
 - h) WALL DESIGN SHOULD INCLUDE FOUNDATION LEVELS WITH THEIR LINE OF INFLUENCE CLEAR OF ANY PROPOSED UTILITY SERVICES INSTALLATIONS
4. CONTRACTOR SHALL PROVIDE RPEQ CERTIFIED STRUCTURAL DESIGN PRIOR TO CONSTRUCTION AND FORM 15 CERTIFICATION.
5. CONTRACTOR SHALL ARRANGE FOR RPEQ INSPECTIONS DURING CONSTRUCTION AND PROVIDE RPEQ CERTIFIED FORM 16 PRIOR TO PRACTICAL COMPLETION BEING AWARDED.
6. CONTRACTOR TO CONSIDER NEARBY EXISTING AND PROPOSED SERVICES WITHIN RPEQ DESIGN OF WALLS, AND TO OBTAIN BUILD OVER ASSET APPROVALS WITH THE RELEVANT AUTHORITIES AS REQUIRED BY THE AUTHORITIES' SPECIFICATIONS, PRIOR TO CONSTRUCTION. CONTRACTOR TO PROVIDE BUILD OVER ASSET APPROVALS TO THE SUPERINTENDENT, PRIOR TO CONSTRUCTION.
7. RETAINING WALLS TO BE CONSTRUCTED TO MANUFACTURERS SPECIFICATIONS.
8. PROVIDE APPROVED SAFETY FENCE TO ALL WALLS HIGHER THAN 1.0m.
9. CONTRACTOR TO ENSURE ALL WORKS ADJACENT TO EXISTING RETAINING WALLS IS UNDERTAKEN SO AS NOT TO IMPACT ON THE STRUCTURAL INTEGRITY OF THE EXISTING WALLS. SUBSOIL OUTLETS FOR EXISTING RETAINING WALLS TO BE KEPT FREE DRAINING AT ALL TIMES.
10. WALL ALIGNMENT IS TO BE PEGGED FOR INSPECTION BY SUPERINTENDENT PRIOR TO CONSTRUCTION.

11. WALLS TO BE VERTICAL FACE TYPE TO A MAXIMUM HEIGHT OF 2.0m. TYPE, FINISH AND COLOUR TO BE APPROVED BY SUPERINTENDENT, UNLESS NOTED OTHERWISE.
12. CONTRACTOR IS RESPONSIBLE FOR PROVIDING STRUCTURAL DESIGN, CONSTRUCTION SUPERVISION AND STRUCTURAL CERTIFICATION BY A SUITABLY QUALIFIED AND EXPERIENCED, REGISTERED STRUCTURAL ENGINEER (RPEQ) FOR ALL WALLS 1.0m HIGH OR GREATER.
13. BE LODGED FOR EARTH RETAINING STRUCTURES >1000mm HIGH.
14. ALL WALLS TO BE DESIGNED BASED ON A GEOTECHNICAL ASSESSMENT OF INSITU SOILS BY A SUITABLY QUALIFIED ENGINEER. SHOULD WALLS REQUIRE ADDITIONAL FOOTINGS AND/OR FOUNDATION SUPPORT, THESE ARE TO BE FACTORED INTO THE DESIGN AND THE TENDERED COST OF THE WALLS.
15. PRIVATE WALLS INCLUDING FOOTING TO BE CONTAINED WHOLLY WITHIN PRIVATE PROPERTY AND ARE TO BE FULLY CONTAINED WITHIN THE LOWER LOT UNLESS WALL ABUTS ROAD RESERVE/PARK, IN WHICH CASE THE WALL SHALL BE CONTAINED WHOLLY WITHIN THE PRIVATE PROPERTY.
16. SUBSOIL DRAINAGE BEHIND ALL WALLS TO INCLUDE DISCHARGE PIPE INTO THE NEAREST STORMWATER STRUCTURE (OR DEDICATED KERB ADAPTOR) AND MUST BE FREE DRAINING. ALL WALL DRAINAGE LINES DISCHARGING THROUGH LOTS OR ROAD VERGE TO BE SOLID uPVC (NO SLOTS) AND MUST BE FREE DRAINING.
17. WALLS ARE TO BE CAPABLE OF SUPPORTING TWO STOREY "HEAVY CONSTRUCTION" BUILDINGS.
18. CONTRACTOR TO PROVIDE & MAINTAIN SAFETY FENCE TO ALL WALLS GREATER THAN 1.0m IN HEIGHT.
19. A MINIMUM 600mm CLEARANCE IS TO BE MAINTAINED BETWEEN THE OUTSIDE OF THE BORED PIERS AND THE OUTSIDE OF ANY SEWER MAIN OR ROOFWATER PIPE IN THE VICINITY OF THE RETAINING WALL.
20. RETAINING WALL DESIGN AND CONSTRUCTION TO CONSIDER AND CATER FOR ALL SERVICES LOCATED UNDER, OR IN THE VICINITY OF, THE RETAINING WALL.
21. ALL WALLS TO BE DESIGNED TO ALLOW FOR 1.8m HIGH ENCLOSED FENCE.
22. WHERE APPLICABLE, RETAINING WALL DESIGN AND CONSTRUCTION SHALL MAKE ANY NECESSARY ALLOWANCES TO FACILITATE AND ENABLE FUTURE RETAINING WALL JOINTS/CONNECTIONS/EXTENSIONS.
23. EXTENT OF ALL WALLS TO BE CONFIRMED BY CONTRACTOR WITH SUPERINTENDENT PRIOR TO STARTING CONSTRUCTION.
24. ORANGE MESH SAFETY FENCING TO BE ERECTED ON TOP OF WALL 1.0m HIGH OR GREATER AND MAINTAINED UNTIL OFF-MAINTENANCE.



TYPICAL RETAINING WALL TERMINATION ABUTTING BATTER DETAIL

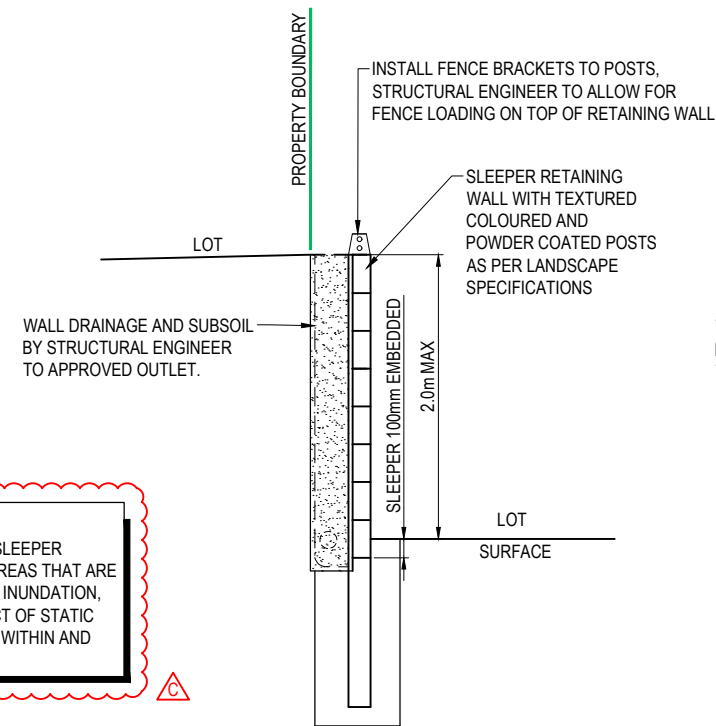


TYPICAL BOULDER RETAINING WALL DETAIL
N.T.S

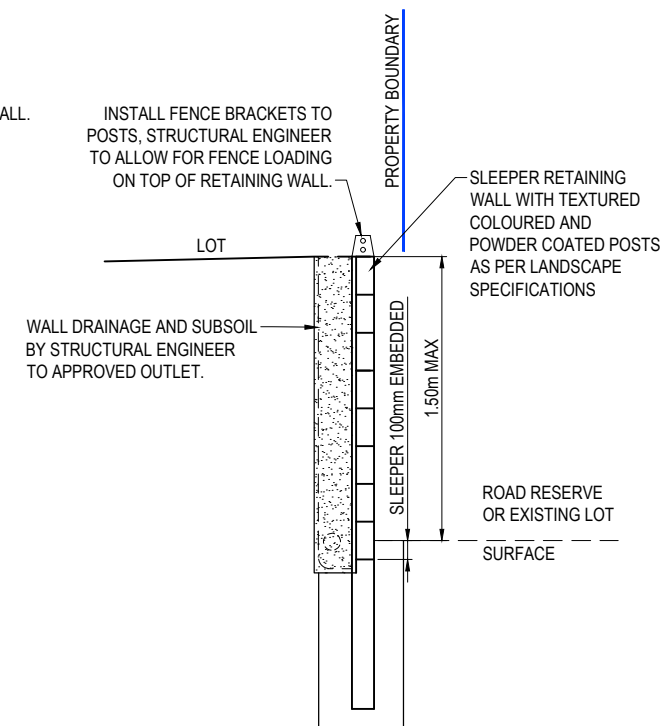
BOULDER RETAINING WALL NOTE
STEPPED BOULDER RETAINING WALLS TO BE CONSTRUCTED WITH 1.5m HORIZONTAL CLEARANCE BETWEEN THE FRONT AND BACK OF SUBSEQUENT WALLS.

WALL HEIGHT mm	WIDTH OF WALL		WALL EMBEDMENT
	BASE	TOP	FRONT FACE
1000	700	600	300
1500	900	600	400
2000	1200	750	500
2500	1500	750	500
3000	1800	900	750

NOTE
WHERE RETAINING WALLS (BOULDER AND SLEEPER RETAINING WALLS) ARE LOCATED WITHIN AREAS THAT ARE IMPACTED BY PERMANENT OR TEMPORARY INUNDATION, WALLS MUST BE DESIGNED FOR THE EFFECT OF STATIC AND TRANSIENT PORE WATER PRESSURES WITHIN AND EXTERNAL TO THE STRUCTURE.



TYPICAL SINGLE TIER CONCRETE SLEEPER RETAINING WALL AT BDY TYPE 1 (INCLUDING B2B WALLS)
N.T.S



TYPICAL SINGLE TIER CONCRETE SLEEPER RETAINING WALL AT BDY TYPE 2
N.T.S

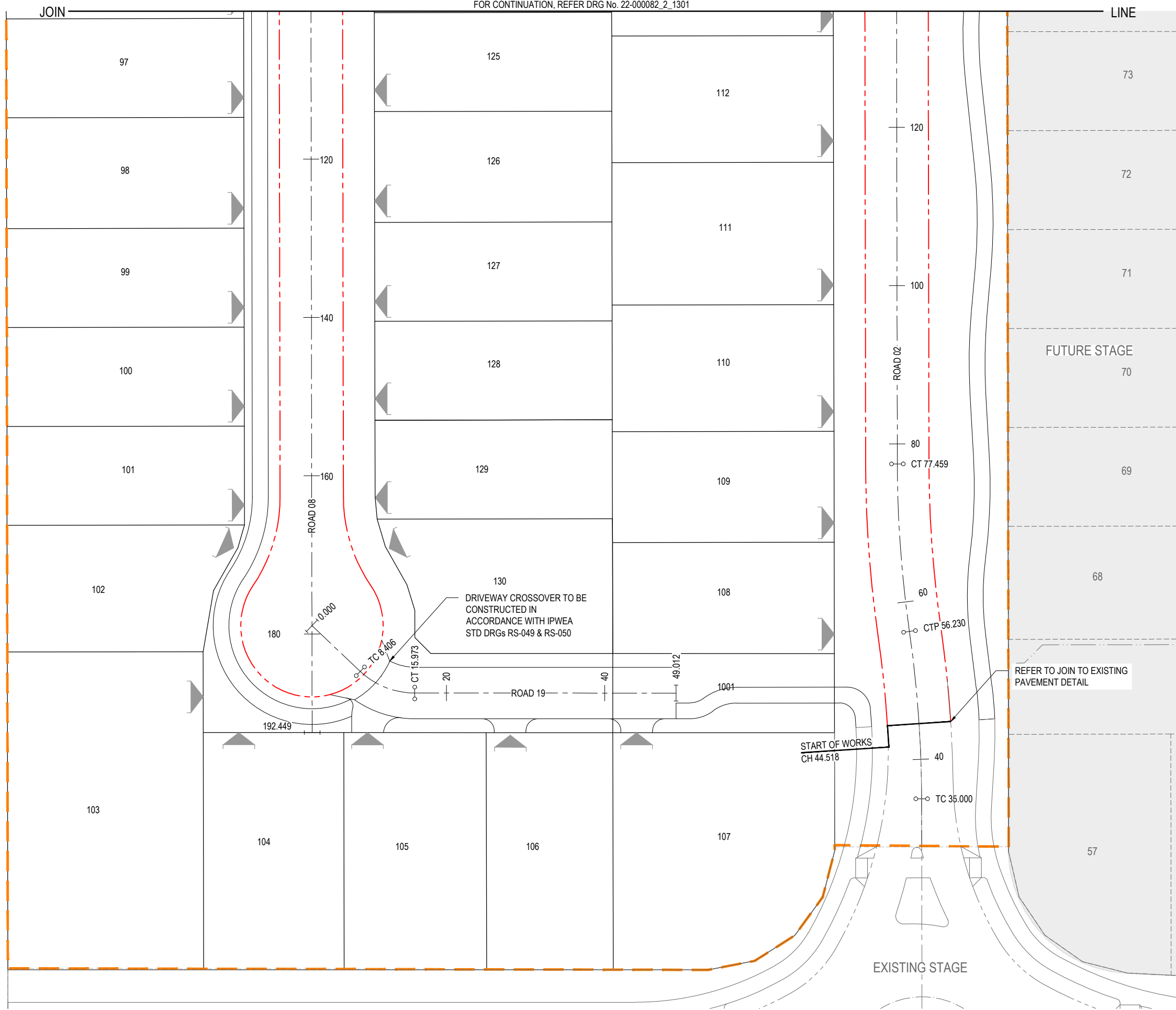
NOTE
DETAIL TO APPLY TO ALL RETAINING WALL TERMINATIONS ADJACENT TO BATTERS INCLUDING AT VERGES.

MINIMUM DESIGN REQUIREMENTS
- SURCHARGE LOADING ON BACKFILL : 5KPa FOR LOTS AND 20KPa FOR ROAD RESERVE.
- POST AND FOOTING DESIGN TO ALLOW FOR 1.8m HIGH FENCE OR HIGHER IF SPECIFIED IN THE ACOUSTIC REPORT.
- MAX 1V:4H SLOPE BEHIND WALL

NOTES:

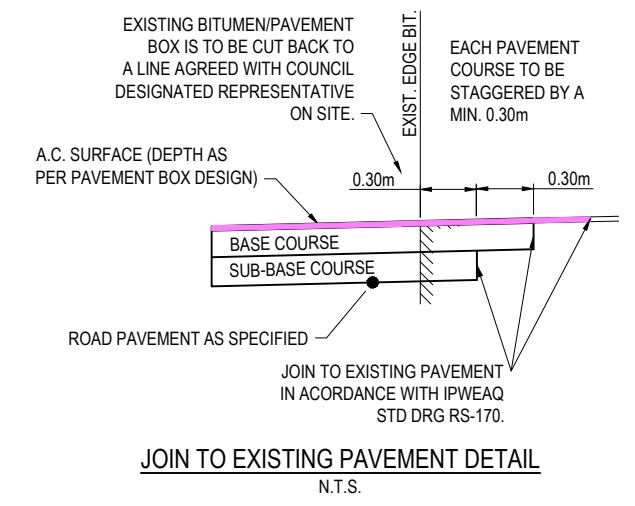
1. RETAINING WALLS TO BE CONSTRUCTED TO MANUFACTURERS SPECIFICATIONS.
2. CONTRACTOR TO PROVIDE STRUCTURAL CERTIFICATION FOR RETAINING WALLS DESIGN AND CONSTRUCTION.
3. PROVIDE APPROVED SAFETY FENCE TO ALL WALLS HIGHER THAN 1.0m.
4. ALL RETAINING WALL FOOTINGS TO BE LOCATED A MINIMUM 1.0m HORIZONTALLY CLEAR OF THE ROOFWATER AND SEWER AND BE TAKEN BELOW THE ZONE OF INFLUENCE.

<table border="1"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>ISSUE DETAILS</th> <th>DRAWN</th> <th>DESIGN</th> <th>DRAWN CHECK</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>07.03.23</td> <td>ISSUED FOR APPROVAL</td> <td>IB</td> <td>AA</td> <td></td> <td></td> </tr> <tr> <td>B</td> <td>25.05.23</td> <td>MINOR AMENDMENTS</td> <td>IB</td> <td>AA</td> <td></td> <td></td> </tr> <tr> <td>C</td> <td>12.12.23</td> <td>ISSUED FOR CONSTRUCTION</td> <td>AA</td> <td>AA</td> <td></td> <td></td> </tr> </tbody> </table>	REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	A	07.03.23	ISSUED FOR APPROVAL	IB	AA			B	25.05.23	MINOR AMENDMENTS	IB	AA			C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA			<p>FOR CONSTRUCTION</p> <p>APPROVED RYAN ASHWORTH RPEQ 19674</p> <p>FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD</p>	<p>SCALE</p> <p>1:20 0.2 0 0.2 0.4 0.6 0.8 1m A1 1:40 A3</p>	<p>CLIENT</p> <p>FOREVERLEN PTY LTD</p> <p>LENNIUM GROUP</p>	<p>PROJECT</p> <p>egis</p> <p>© 2023 Egis Consulting Pty Ltd www.egis-group.com</p>	<p>DRAWING TITLE</p> <p>RETAINING WALL NOTES & DETAILS</p> <p>PROJECT No. 22-000082_2 DRAWING No. 1203 REVISION C</p>
REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS																											
A	07.03.23	ISSUED FOR APPROVAL	IB	AA																													
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C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA																													



LEGEND

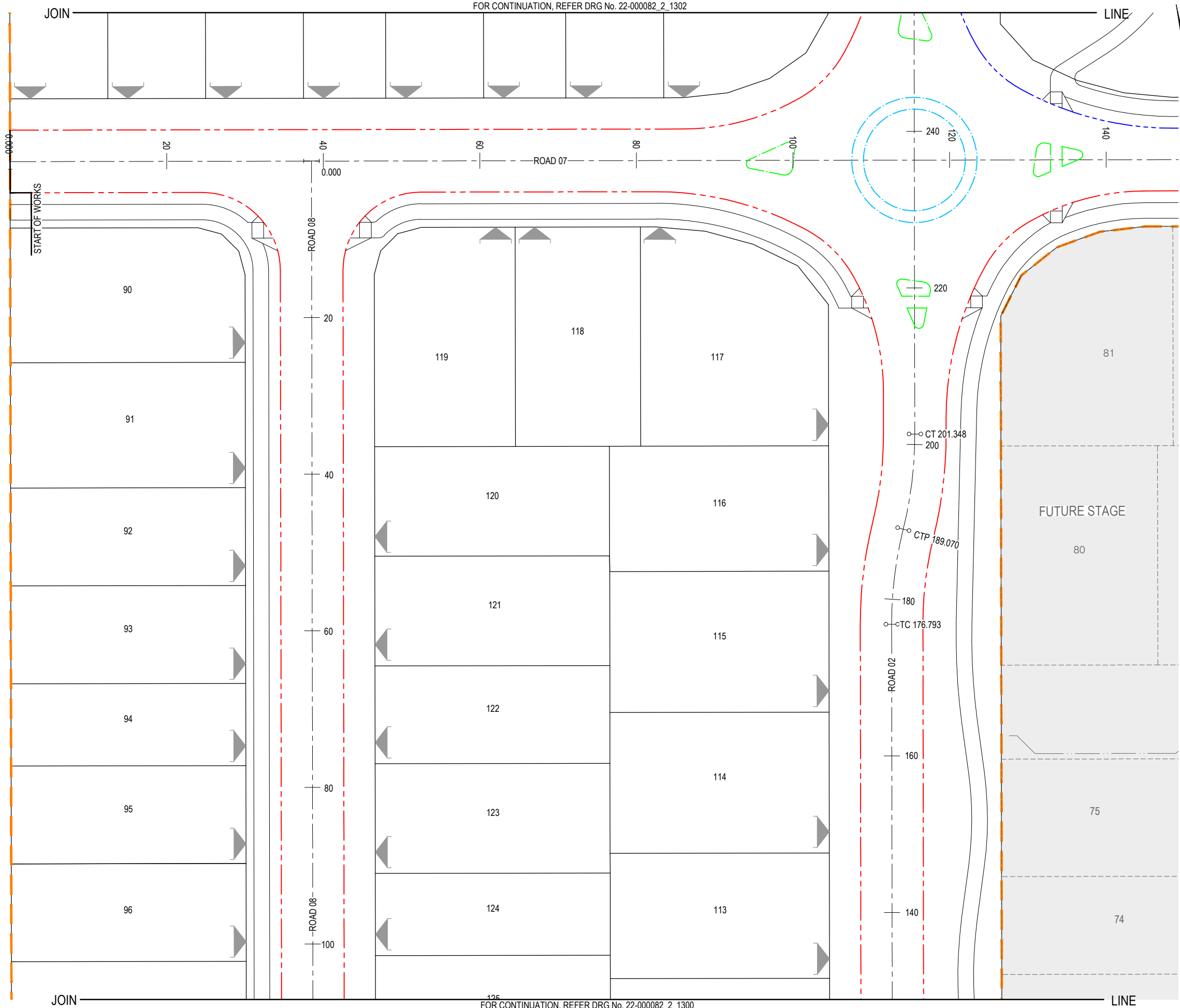
- STAGE BOUNDARY
- CONTROL LINE
- MOUNTABLE KERB & CHANNEL TYPE 'M3'
- SEMI MOUNTABLE KERB TYPE 'SM3'
- SEMI MOUNTABLE KERB TYPE 'SM5'
- BARRIER KERB AND CHANNEL TYPE 'B1'
- INDICATIVE DRIVEWAY LOCATIONS
- BUILD TO BOUNDARY



NOTE:

- REFER TO DRAWING 22-000082_2_1303 FOR KERB DETAILS AND CONTROL LINE SETOUT TABLES

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		<p>FOR CONSTRUCTION</p> <p>APPROVED RYAN ASHWORTH RPEQ 19674</p> <p><i>Ryan Ashworth</i> FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD</p>	<p>SCALE</p> <p>1:250 5 0 5 10m A1</p> <p>1:500</p>	<p>FOREVERLEN PTY LTD</p> <p>LENNIUM GROUP</p>	<p>egis</p> <p>© 2023 Egis Consulting Pty Ltd</p> <p>www.egis-group.com</p>	<p>LANDINGS</p> <p>STAGE 2</p> <p>DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.</p>
B	25.05.23	MINOR AMENDMENTS	IB	AA						
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA						
										<p>CONTROL LINE SETOUT PLAN SHEET 1 OF 3</p> <p>PROJECT No. 22-000082_2 DRAWING No. 1300 REVISION C</p>



LEGEND	
	STAGE BOUNDARY
	CONTROL LINE
	MOUNTABLE KERB & CHANNEL TYPE 'M3'
	SEMI MOUNTABLE KERB TYPE 'SM3'
	SEMI MOUNTABLE KERB TYPE 'SM5'
	BARRIER KERB AND CHANNEL TYPE 'B1'
	INDICATIVE DRIVEWAY LOCATIONS
	BUILD TO BOUNDARY

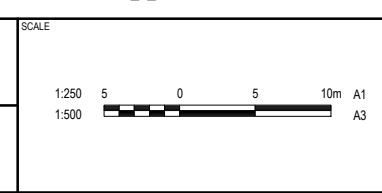
NOTE:
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REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

DRAWN	DESIGN	DRAWN CHECK	STATUS
IB	AA	aa	FOR CONSTRUCTION
IB	AA		
AA	AA		

DESIGN CHECK: *MT*

APPROVED: **RYAN ASHWORTH** RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT

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PROJECT

LANDINGS

STAGE 2

DISCLAIMER
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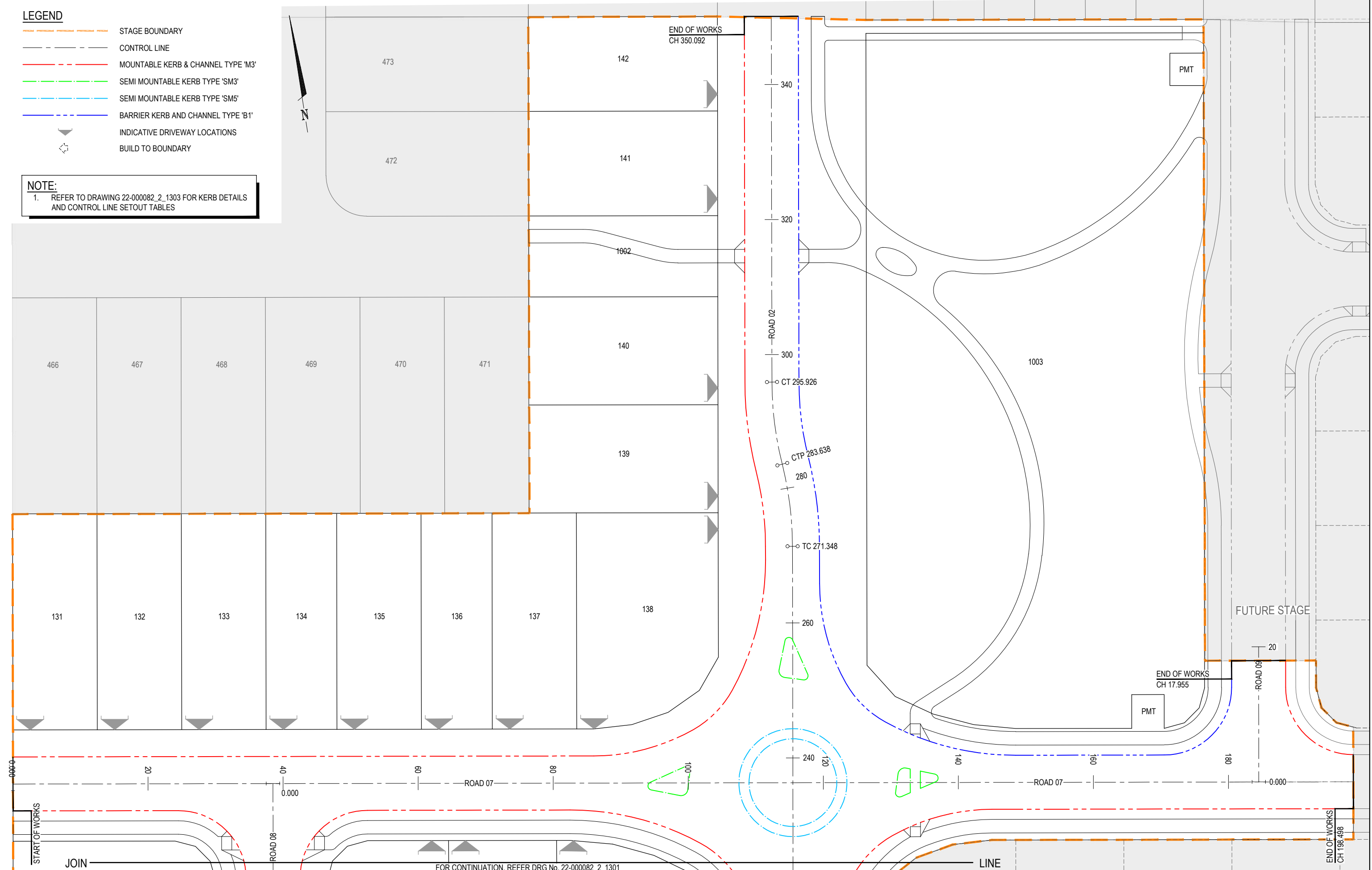
DRAWING TITLE		
CONTROL LINE SETOUT PLAN SHEET 2 OF 3		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1301	C

LEGEND

- - - - - STAGE BOUNDARY
- - - - - CONTROL LINE
- - - - - MOUNTABLE KERB & CHANNEL TYPE 'M3'
- - - - - SEMI MOUNTABLE KERB TYPE 'SM3'
- - - - - SEMI MOUNTABLE KERB TYPE 'SM5'
- - - - - BARRIER KERB AND CHANNEL TYPE 'B1'
- INDICATIVE DRIVEWAY LOCATIONS
- BUILD TO BOUNDARY

NOTE:

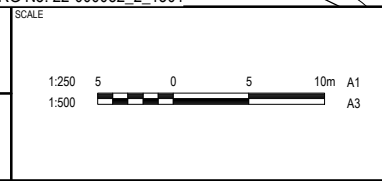
1. REFER TO DRAWING 22-000082_2_1303 FOR KERB DETAILS AND CONTROL LINE SETOUT TABLES



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA	aa	
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT

edgwood LANDINGS

STAGE 2

DISCLAIMER
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DRAWING TITLE		
CONTROL LINE SETOUT PLAN SHEET 3 OF 3		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1302	C

ROAD 02 CONTROL LINE SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	90724.656	502060.627	8°49'28.47"			
TC	35.000	90730.025	502095.213	8°49'28.47"			
IP 2	45.615	90731.657	502105.720		R = -150.000	21.230	8°06'32.67"
CC	56.230	90731.789	502116.351	0°42'55.79"			
IP 3	66.844	90731.922	502126.983		R = 150.000	21.230	8°06'32.67"
CT	77.459	90733.553	502137.490	8°49'28.47"			
TC	176.793	90748.792	502235.648	8°49'28.47"			
IP 4	182.932	90749.738	502241.744		R = 50.000	12.277	14°04'08.15"
CC	189.070	90752.139	502247.428	22°53'36.62"			
IP 5	195.209	90754.539	502253.112		R = -50.000	12.277	14°04'08.15"
CT	201.348	90755.485	502259.209	8°49'28.47"			
TC	271.348	90766.224	502328.380	8°49'28.47"			
IP 6	277.493	90767.172	502334.483		R = -50.000	12.291	14°05'03.02"
CC	283.638	90766.605	502340.634	354°44'25.45"			
IP 7	289.782	90766.039	502346.783		R = 50.000	12.288	14°04'51.70"
CT	295.926	90766.986	502352.885	8°49'17.15"			
IP 8	378.051	90779.580	502434.038	8°49'17.15"			

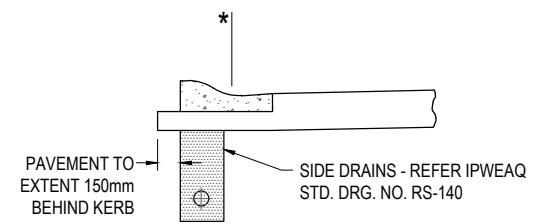
ROAD 19 CONTROL LINE SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	90657.314	502128.774	142°17'34.82"			
TC	8.406	90662.455	502122.124	142°17'34.82"			
IP 2	12.189	90664.886	502118.979		R = -10.000	7.567	43°21'25.28"
CT	15.973	90668.813	502118.362	98°56'09.54"			
IP 3	49.012	90701.452	502113.230	98°56'09.54"			

BASIN F1 ACCESS CONTROL LINE SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	90895.596	502251.074	98°49'28.42"			
TC	6.368	90901.888	502250.097	98°49'28.42"			
IP 2	9.742	90905.356	502249.558		R = 10.000	6.749	38°40'15.54"
CT	13.117	90907.726	502246.972	137°29'43.95"			
IP 3	18.110	90911.100	502243.290	137°29'43.95"			

ROAD 07 CONTROL LINE SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	90646.723	502311.511	98°49'24.45"			
TC	394.861	91036.911	502250.943	98°49'24.45"			
IP 2	406.641	91051.733	502248.642		R = -15.000	23.562	89°59'55.96"
CT	418.422	91054.034	502263.464	8°49'28.49"			
TC	612.371	91083.788	502455.117	8°49'28.49"			
IP 3	624.152	91086.089	502469.940		R = -15.000	23.562	90°00'00.05"
CT	635.933	91071.267	502472.241	278°49'28.44"			
IP 4	918.310	90792.232	502515.560	278°49'28.44"			

ROAD 08 CONTROL LINE SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP 1	0.000	90684.766	502305.605	188°49'28.47"
IP 2	192.449	90655.243	502115.434	188°49'28.47"

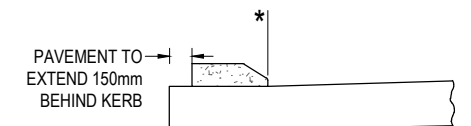
ROAD 09 CONTROL LINE SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP 1	0.000	90829.038	502283.210	8°49'28.48"
IP 2	148.455	90851.813	502429.908	8°49'28.48"



MOUNTABLE KERB AND CHANNEL
TYPE M3 IPWEAQ

SCALE 1:25

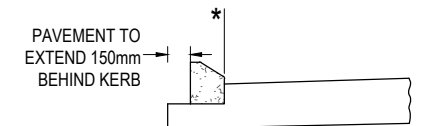
* NOMINAL KERB LINE



SEMI-MOUNTABLE KERB AND CHANNEL
TYPE SM5 IPWEAQ

SCALE 1:25

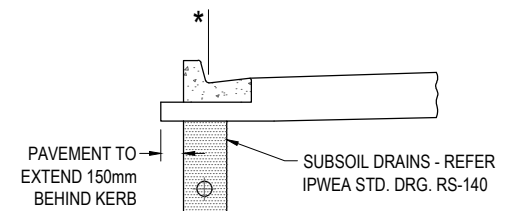
* NOMINAL KERB LINE



SEMI-MOUNTABLE KERB AND CHANNEL
TYPE SM3 IPWEAQ

SCALE 1:25

* NOMINAL KERB LINE

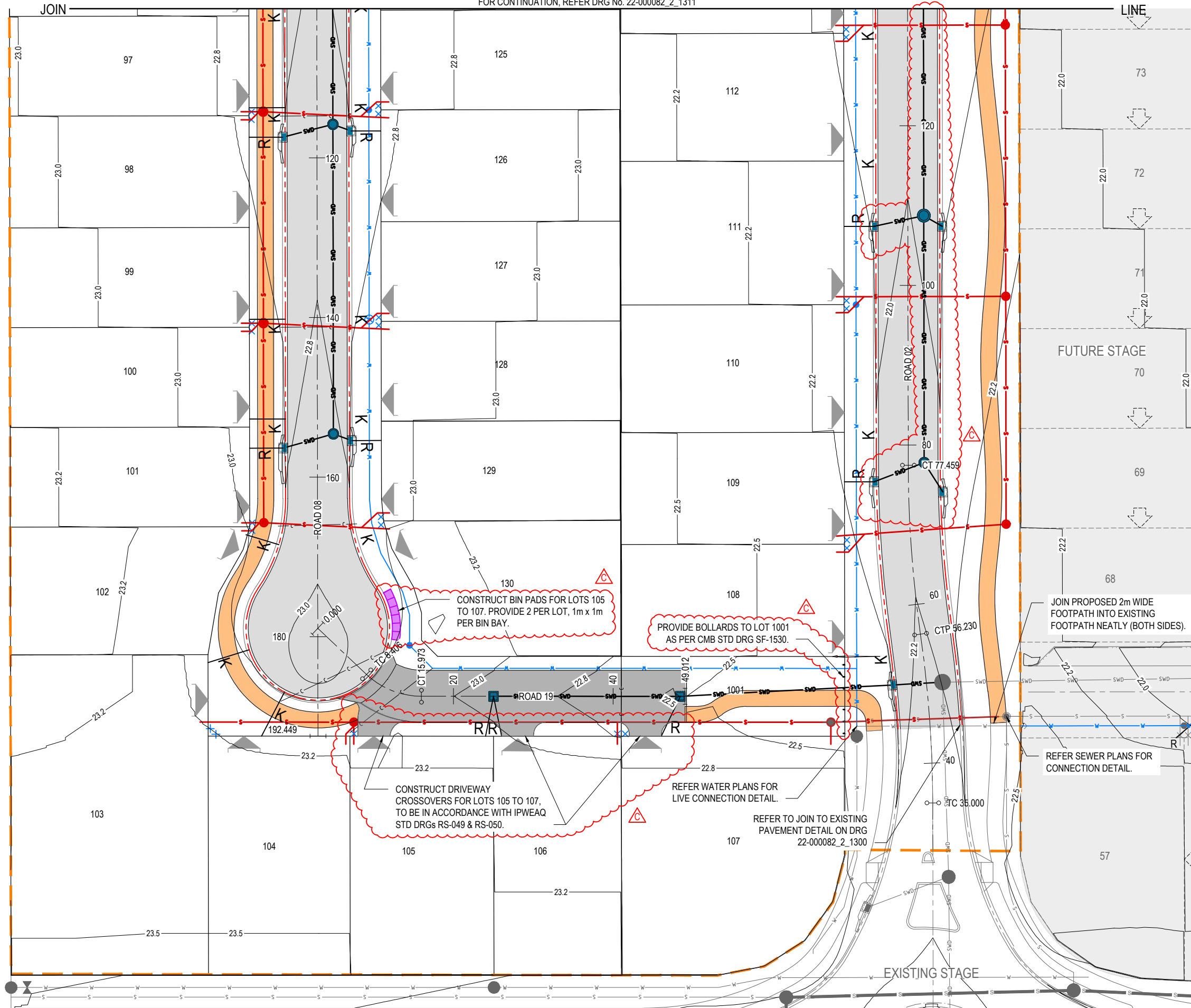


BARRIER KERB AND CHANNEL
TYPE B1 (300mm) IPWEAQ

SCALE 1:25

* NOMINAL KERB LINE

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE
A	25.05.23	ISSUED FOR APPROVAL	AA	AA	aa	FOR CONSTRUCTION	1:25 1:50	FOREVERLEN PTY LTD LENNIUM GROUP	egis © 2023 Egis Consulting Pty Ltd www.egis-group.com	LANDINGS STAGE 2
B	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA	aa	APPROVED RYAN ASHWORTH RPEQ 19674 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD			DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.	CONTROL LINE SETOUT DETAILS
									PROJECT No. 22-000082_2	DRAWING No. 1303
										REVISION B



LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- EXISTING STORMWATER STRUCTURE
- CONCRETE FOOTPATH
- ROAD PAVEMENT
- CONCRETE DRIVEWAY
- MOUNTABLE KERB & CHANNEL TYPE 'M3'
- SEMI MOUNTABLE KERB TYPE 'SM3'
- SEMI MOUNTABLE KERB TYPE 'SM5'
- BARRIER KERB AND CHANNEL TYPE 'B1'
- DESIGN SURFACE CONTOUR (0.25m INTERVALS)
- PROPOSED WATER MAIN
- PROPOSED WATER FITTING
- PROPOSED WATER CONDUIT
- PROPOSED SEWERAGE RETICULATION
- PROPOSED KERB ADAPTER + PVC PIPE CONDUIT
- PROPOSED ROOF WATER LINE
- EXISTING WATER MAIN
- PROPOSED SLEEPER RETAINING WALL
- INDICATIVE DRIVEWAY LOCATION
- EXISTING TRUNK SEWER
- BUILD TO BOUNDARY

NOTE:

- REFER TO DRG 22-000082_2_1311 FOR ROADWORKS NOTES.
- REFER TO DRG 22-000082_2_1312 FOR TYPICAL LOT SERVICE CONNECTION LAYOUT
- RESIDENTIAL DRIVEWAYS ARE SHOWN FOR CONFORMANCE CHECKS ONLY AND ARE TO BE DELIVERED BY THE HOUSE BUILDER AS PART OF THE BA PHASE

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
 Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

1:250 5 0 5 10m A1
 1:500

CLIENT

FOREVERLEN PTY LTD
LENNIUM GROUP

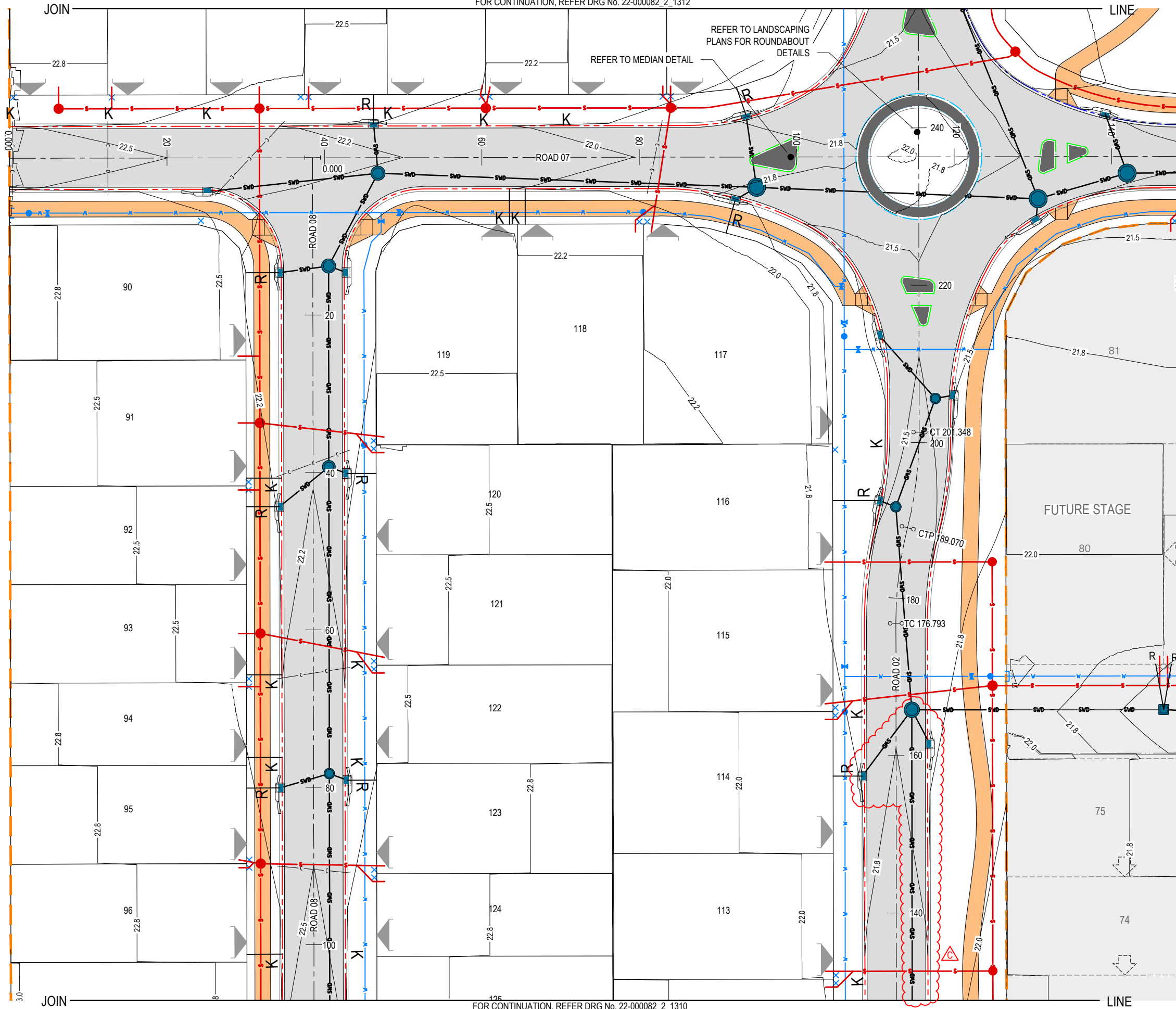
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PROJECT

LANDINGS
 STAGE 2

DISCLAIMER
 ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
ROADWORKS LAYOUT PLAN SHEET 1 OF 3		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1310	C

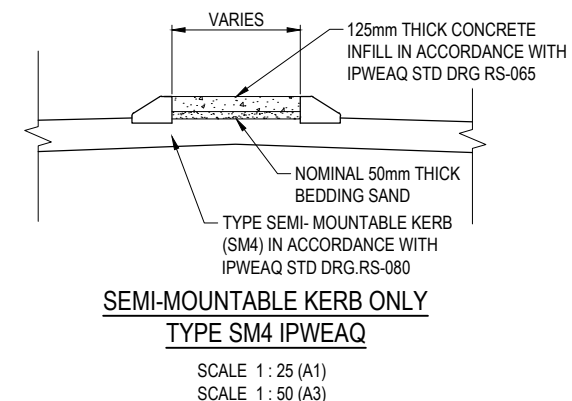


ROADWORKS NOTES

1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT MORETON BAY REGIONAL COUNCIL STANDARD DRAWINGS AND METHODS.
2. NOTWITHSTANDING THE LIMITS OF CUTTING AND FILLING SHOWN ON THE CROSS SECTIONS, THE ACTUAL LIMITS SHALL BE DETERMINED ON-SITE BY THE SUPERINTENDENT DURING CONSTRUCTION AND SIMILARLY THE FINISHED SURFACE CONTOURS MAY BE ADJUSTED BY WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION.
3. LEVELS FOR KERB AND CHANNEL CONSTRUCTION ARE AT EQUAL INTERVALS AT LIP OF CHANNEL UNLESS SHOWN OTHERWISE.
4. SIDE DRAINS TO BE CONSTRUCTED UNDER ALL KERBS AND ALL KERB AND CHANNEL AND IN LOCATIONS DIRECTED BY THE SUPERINTENDENT IN ACCORDANCE WITH MORETON BAY REGIONAL COUNCIL STANDARDS.
5. LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE A SATISFACTORY CONNECTION AND THE CONTRACTOR SHALL INCLUDE THE COST OF THIS WORK IN THE TENDER PRICE. WHERE NEW WORK JOINS EXISTING, THE WORK SHALL TRANSITION NEATLY WITH THE PAVEMENT SO THAT DEVIATION FROM THE LINE OF A 3.0m STRAIGHT EDGE SHALL BE NO GREATER THAN 10mm.
6. SUBGRADE TEST RESULTS TO BE FORWARDED TO SUPERINTENDENT. FOR DETERMINATION OF BOX DEPTHS PRIOR TO EXCAVATION, TESTS SHALL INCLUDE SOAKED CBR AND/OR OTHER TESTS AS REQUESTED BY THE SUPERINTENDENT.
7. CONTRACTOR TO LIAISE WITH ALL RELEVANT SERVICE AUTHORITIES TO ASCERTAIN SERVICES PRESENT ON-SITE. ANY ALTERATION WORKS TO SERVICES WILL BE CARRIED OUT BY THAT SERVICE AUTHORITY ONLY.
8. FOOTPATHS AND BATTERS TO HAVE MINIMUM OF 75mm TOPSOIL (AND GRASSING IF ORDERED).
9. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF DEMOLISHING ANY EXISTING STRUCTURES WITHIN THE SITE AREAS.
10. WORKS SHALL BE PROGRAMMED SO AS NOT TO DISTURB NEARBY HOUSEHOLDERS EITHER BY DUST, NOISE, FLOODING OR DISCONNECTION OF SERVICES.
11. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH WORKPLACE HEALTH AND SAFETY REQUIREMENTS.

NOTE:

1. REFER TO DRG 22-000082_2_1311 FOR ROADWORKS LEGEND.
2. REFER TO DRG 22-000082_2_1314 FOR TYPICAL LOT SERVICE CONNECTION LAYOUT
3. RESIDENTIAL DRIVEWAYS ARE SHOWN FOR CONFORMANCE CHECKS ONLY AND ARE TO BE DELIVERED BY THE HOUSE BUILDER AS PART OF THE BA PHASE.



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
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C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

1:250 5 0 5 10m A1
 1:500

CLIENT

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PROJECT

LANDINGS
STAGE 2

DISCLAIMER
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DRAWING TITLE

ROADWORKS LAYOUT PLAN SHEET 2 OF 3

PROJECT No. 22-000082_2
 DRAWING No. 1311
 REVISION C

SERVICE CLEARANCE NOTE:

MINIMUM VERTICAL CLEARANCE BETWEEN SEWER H.C. AND WATER METER OF 700mm.

PROPOSED KERB ADAPTER + PVC PIPE CONNECTION

PE WATER METER BOX (NOM SIZE 400x275) IN ACCORDANCE WITH SEQ STD DRG SEQ-WAT-1108-3

DRIVEWAY CROSSOVER IN ACCORDANCE WITH IPWEA STANDARD DRAWING RS-049.

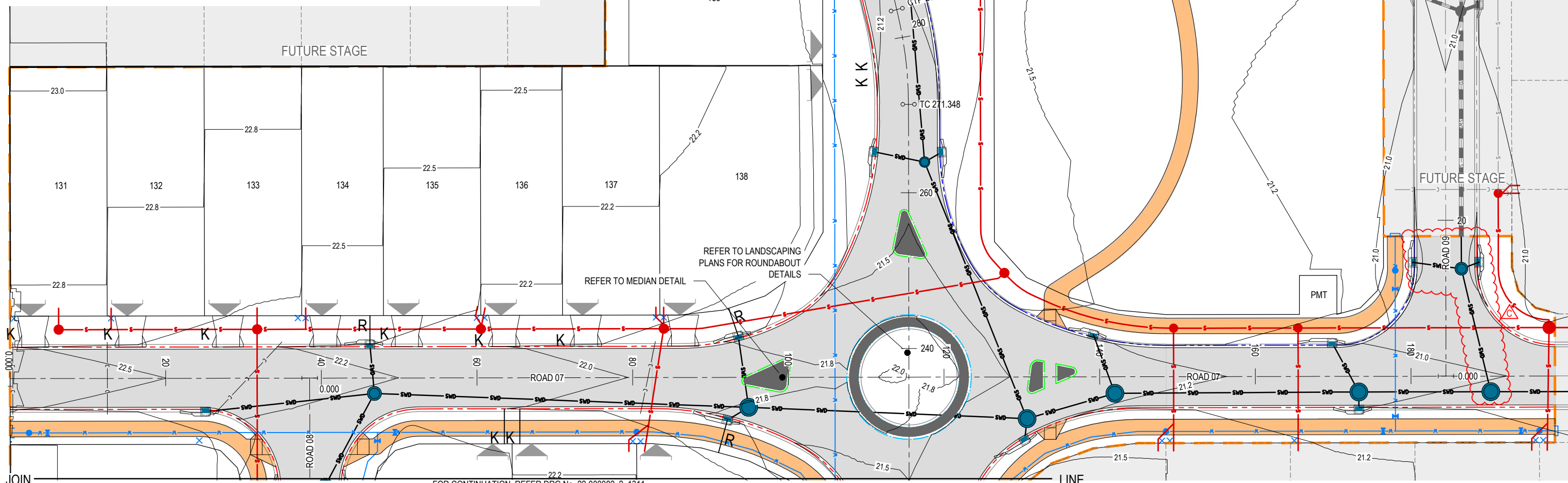
DRIVEWAY TO BE CONSTRUCTED BY THE HOUSE BUILDER DURING THE BA PHASE AND IS NOT PART OF THESE WORKS.

NOTE:

1. REFER TO DRG 22-000082_2_1311 FOR ROADWORKS LEGEND.
2. REFER TO DRG 22-000082_2_1314 FOR ROADWORKS NOTES.
3. RESIDENTIAL DRIVEWAYS ARE SHOWN FOR CONFORMANCE CHECKS ONLY AND ARE TO BE DELIVERED BY THE HOUSE BUILDER AS PART OF THE BA PHASE.

TYPICAL DRIVEWAY AND LOT SERVICE CONNECTION LAYOUT

SCALE 1:50 (A1)



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
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B	25.05.23	MINOR AMENDMENTS	IB	AA	aa	
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONTINUATION, REFER DRG No. 22-000082_2_1311

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

1:250 5 0 5 10m A1
1:500

CLIENT

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PROJECT

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PROJECT

Lilywood LANDINGS

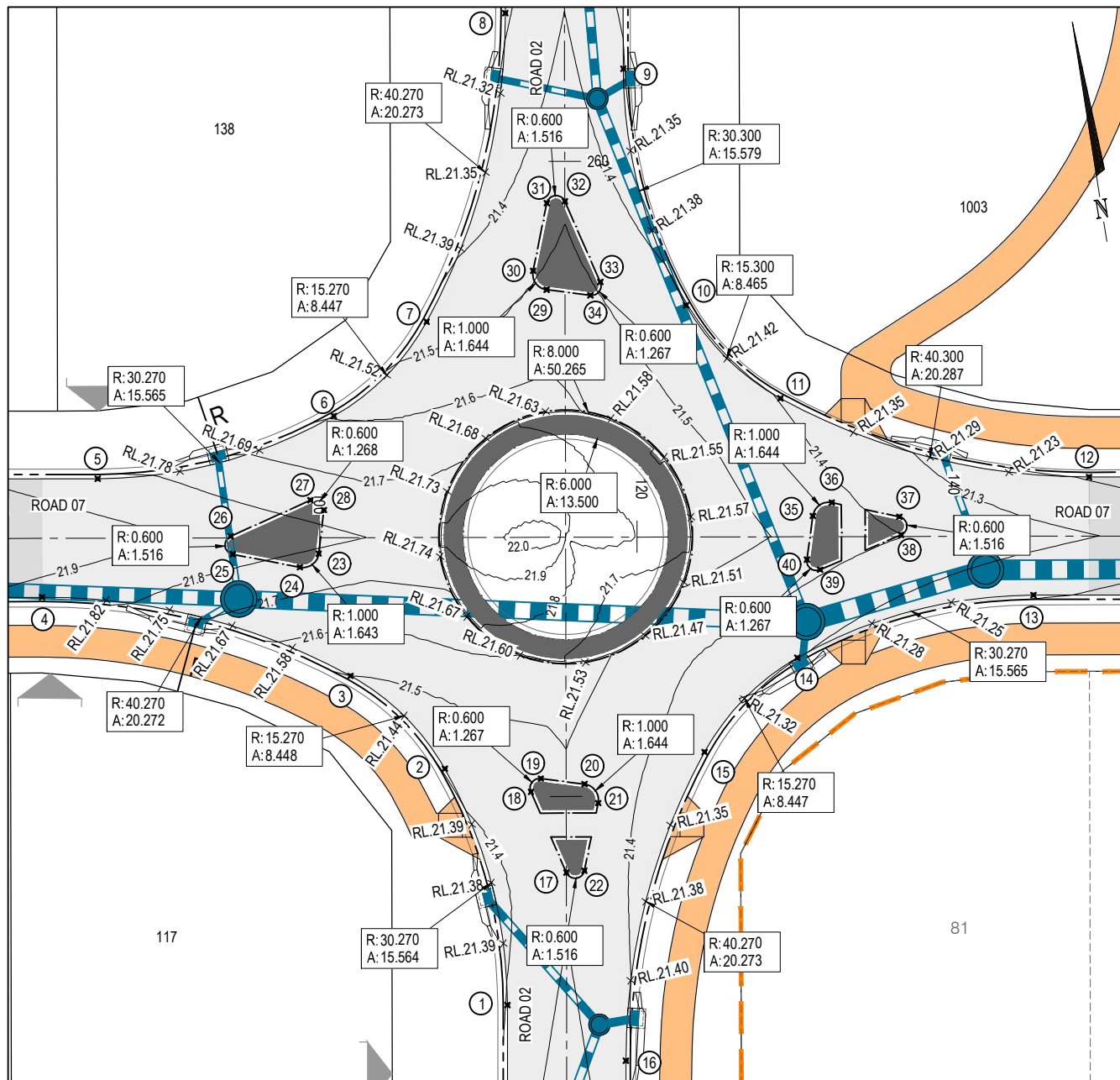
STAGE 2

DISCLAIMER
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DRAWING TITLE

ROADWORKS LAYOUT PLAN SHEET 3 OF 3

PROJECT No. 22-000082_2 DRAWING No. 1312 REVISION C



ROAD 2 AND ROAD 7 ROUNDABOUT
SCALE 1:200

LEGEND

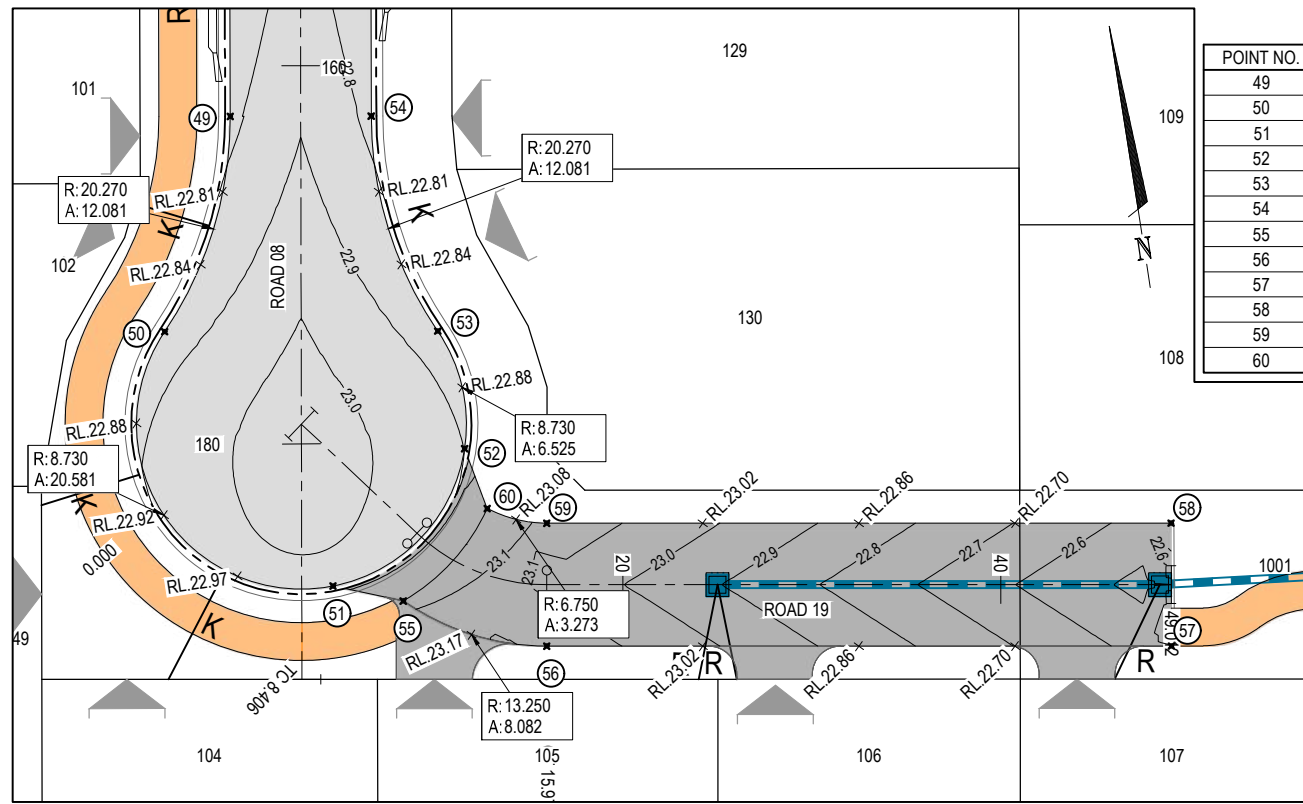
- WORKS BOUNDARY
- CONTROL LINE
- DESIGN SURFACE CONTOURS
- KERB INTERMEDIATE LEVEL
- KERB SETOUT POINT
- CONCRETE FOOTPATH
- Concrete Driveway
- Asphalt Surfacing Depth 40mm
- Asphalt Surfacing Depth 50mm
- CONCRETE DRIVEWAY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- INDICATIVE DRIVEWAY LOCATION

ROUNDABOUT SETOUT TABLE

POINT NO.	EASTING	NORTHING	LEVEL
1	90752.646	502265.237	21.408
2	90751.063	502280.548	21.416
3	90746.103	502287.254	21.500
4	90727.673	502295.170	21.862
5	90732.297	502302.002	21.832
6	90747.609	502303.586	21.595
7	90754.314	502308.545	21.454
8	90762.231	502326.976	21.289
9	90769.033	502322.357	21.313
10	90770.618	502307.030	21.414
11	90775.588	502300.311	21.396
12	90794.032	502292.389	21.193
13	90789.412	502285.587	21.217
14	90774.100	502284.002	21.303
15	90767.395	502279.044	21.334
16	90759.478	502260.613	21.426
17	90757.612	502272.900	21.482
18	90756.198	502278.273	21.458
19	90756.946	502279.002	21.471
20	90759.615	502278.224	21.466

ROUNDABOUT SETOUT TABLE

21	90760.272	502276.915	21.445
22	90758.755	502272.843	21.457
23	90745.317	502295.176	21.787
24	90744.014	502294.507	21.765
25	90739.963	502295.975	21.833
26	90740.009	502297.118	21.870
27	90745.332	502298.579	21.759
28	90746.068	502297.837	21.771
29	90762.095	502309.364	21.518
30	90761.437	502310.674	21.492
31	90762.954	502314.746	21.462
32	90764.097	502314.689	21.487
33	90765.512	502309.316	21.490
34	90764.764	502308.587	21.511
35	90776.452	502292.675	21.449
36	90777.766	502293.323	21.423
37	90781.827	502291.776	21.381
38	90781.762	502290.634	21.400
39	90776.378	502289.258	21.409
40	90775.655	502290.012	21.435

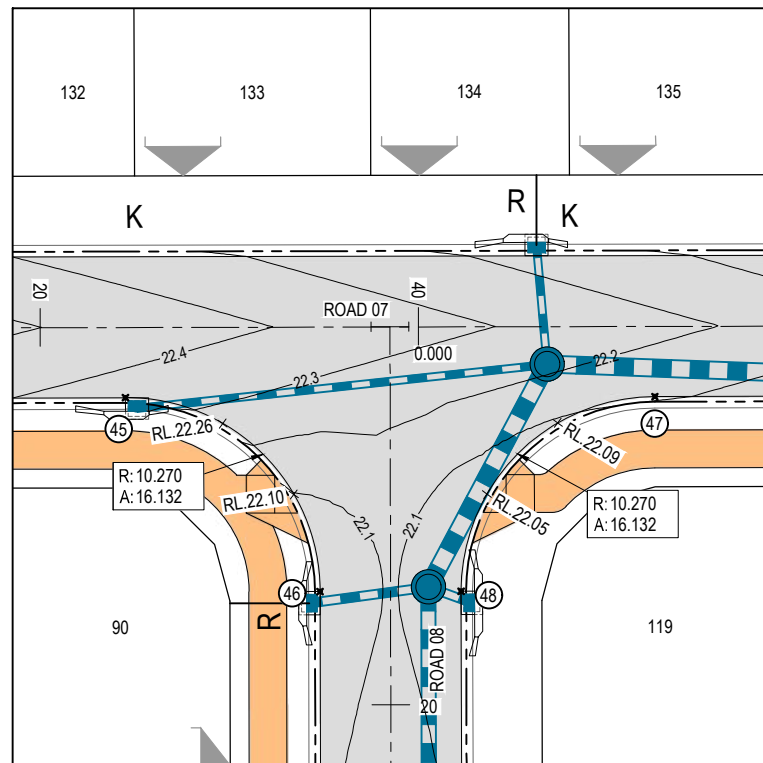


ROAD 08 CULSAC AND DRIVEWAY
SCALE 1:200

CULSAC SETOUT TABLE

POINT NO.	EASTING	NORTHING	LEVEL
49	90656.125	502145.433	22.779
50	90650.926	502134.725	22.855
51	90657.634	502120.050	22.977
52	90665.640	502126.149	22.899
53	90665.205	502132.508	22.858
54	90663.497	502144.288	22.778
55	90661.181	502118.691	23.084
56	90668.308	502115.151	23.177
57	90700.953	502110.018	22.606
58	90701.950	502116.441	22.597
59	90669.318	502121.572	23.123
60	90666.331	502122.830	23.040

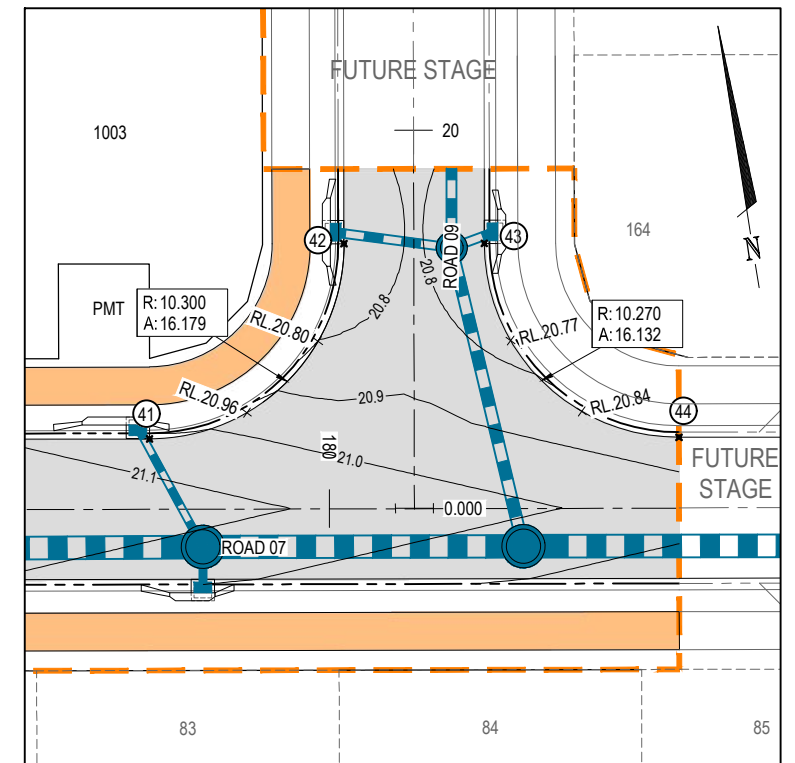
NOTE
KERB SETOUT IS TO LIP OF KERB AND CHANNEL. LEVEL ARE SHOWN TO LIP OF KERB AND CHANNEL. KERB LEVELS SHOWN AT EQUAL INTERVALS, U.N.O.



ROAD 8 TO ROAD 7 INTERSECTION
SCALE 1:200

ROAD 8 TO 7 SETOUT TABLE

POINT NO.	EASTING	NORTHING	LEVEL
45	90670.359	502304.067	22.353
46	90678.933	502292.343	22.033
47	90698.028	502299.772	22.116
48	90686.304	502291.199	22.033



ROAD 7 TO ROAD 9 INTERSECTION
SCALE 1:200

ROAD 7 TO 9 SETOUT TABLE

POINT NO.	EASTING	NORTHING	LEVEL
41	90815.772	502289.014	21.041
42	90827.530	502297.612	20.736
43	90834.872	502296.473	20.736
44	90843.445	502284.749	20.845

REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

1:200 2 0 2 4 6 8 10m A1
1:400 A3

CLIENT

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PROJECT

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DRAWING TITLE

LANDINGS
STAGE 2
DISCLAIMER
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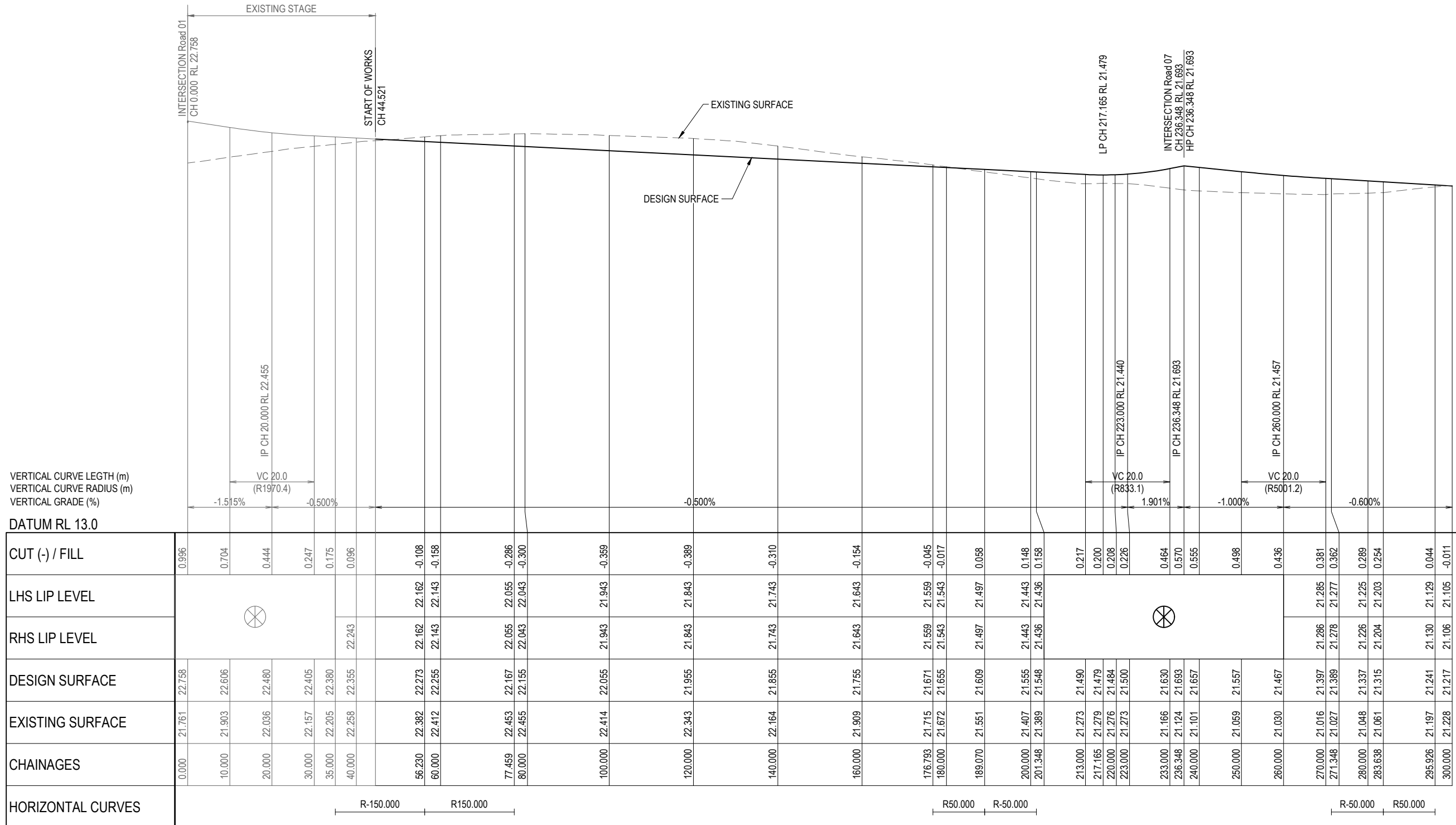
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1320	C

PRELIMINARY ROAD 2 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 2	3 *	3 X 10 ⁵	CONTEMPORARY RESIDENTIAL	25mm BCC TYPE 2	125	100	300	550

* ASSUMED SUBGRADE CBR

NOTE:
 1. PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
 2. WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



CONTINUES ON DRG. 22-000082_2_1331

CUT (-) / FILL	LHS LIP LEVEL	RHS LIP LEVEL	DESIGN SURFACE	EXISTING SURFACE	CHAINAGES	HORIZONTAL CURVES
0.996			22.758	21.761	0.000	
0.704			22.606	21.903	10.000	
0.444			22.480	22.036	20.000	
0.247			22.405	22.157	30.000	
0.175			22.380	22.205	35.000	
0.096			22.355	22.258	40.000	
-0.108			22.273	22.382	56.230	
-0.158			22.255	22.412	60.000	
-0.286			22.167	22.453	77.459	
-0.300			22.155	22.455	80.000	
-0.359			22.055	22.414	100.000	
-0.389			21.955	22.343	120.000	
-0.310			21.855	22.164	140.000	
-0.154			21.755	21.909	160.000	
-0.045			21.671	21.715	176.793	
-0.017			21.655	21.672	180.000	
0.058			21.609	21.551	189.070	
0.148			21.555	21.407	200.000	
0.158			21.548	21.389	201.348	
0.217			21.490	21.273	213.000	
0.200			21.479	21.279	217.165	
0.208			21.464	21.276	220.000	
0.226			21.500	21.273	223.000	
0.464			21.630	21.166	233.000	
0.570			21.693	21.124	236.348	
0.555			21.657	21.101	240.000	
0.498			21.557	21.059	250.000	
0.436			21.467	21.030	260.000	
0.381			21.397	21.016	270.000	
0.362			21.389	21.027	271.348	
0.289			21.337	21.048	280.000	
0.254			21.315	21.061	283.638	
0.044			21.241	21.197	295.926	
-0.011			21.217	21.228	300.000	

ROAD 2 - LONGITUDINAL SECTION

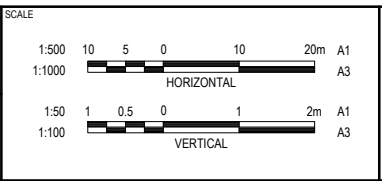
HORIZ SCALE: 500
 VERTICAL SCALE: 50

REFER INTERSECTION DETAILS FOR LEVELS

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
 Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT
LYWOOD LANDINGS
STAGE 2
 DISCLAIMER
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DRAWING TITLE		
ROAD 2 LONGITUDINAL SECTION SHEET 1 OF 2		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1330	C

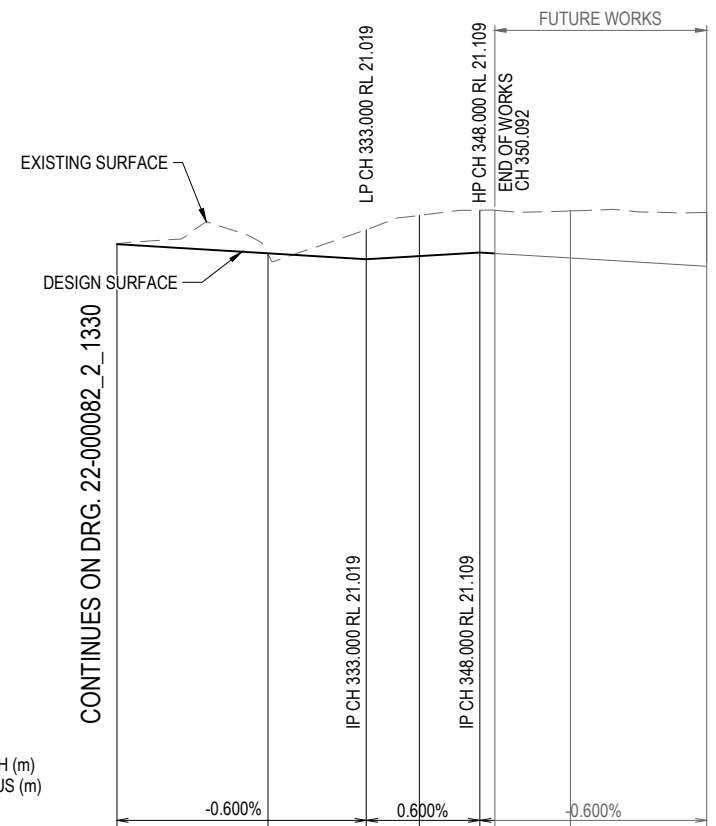
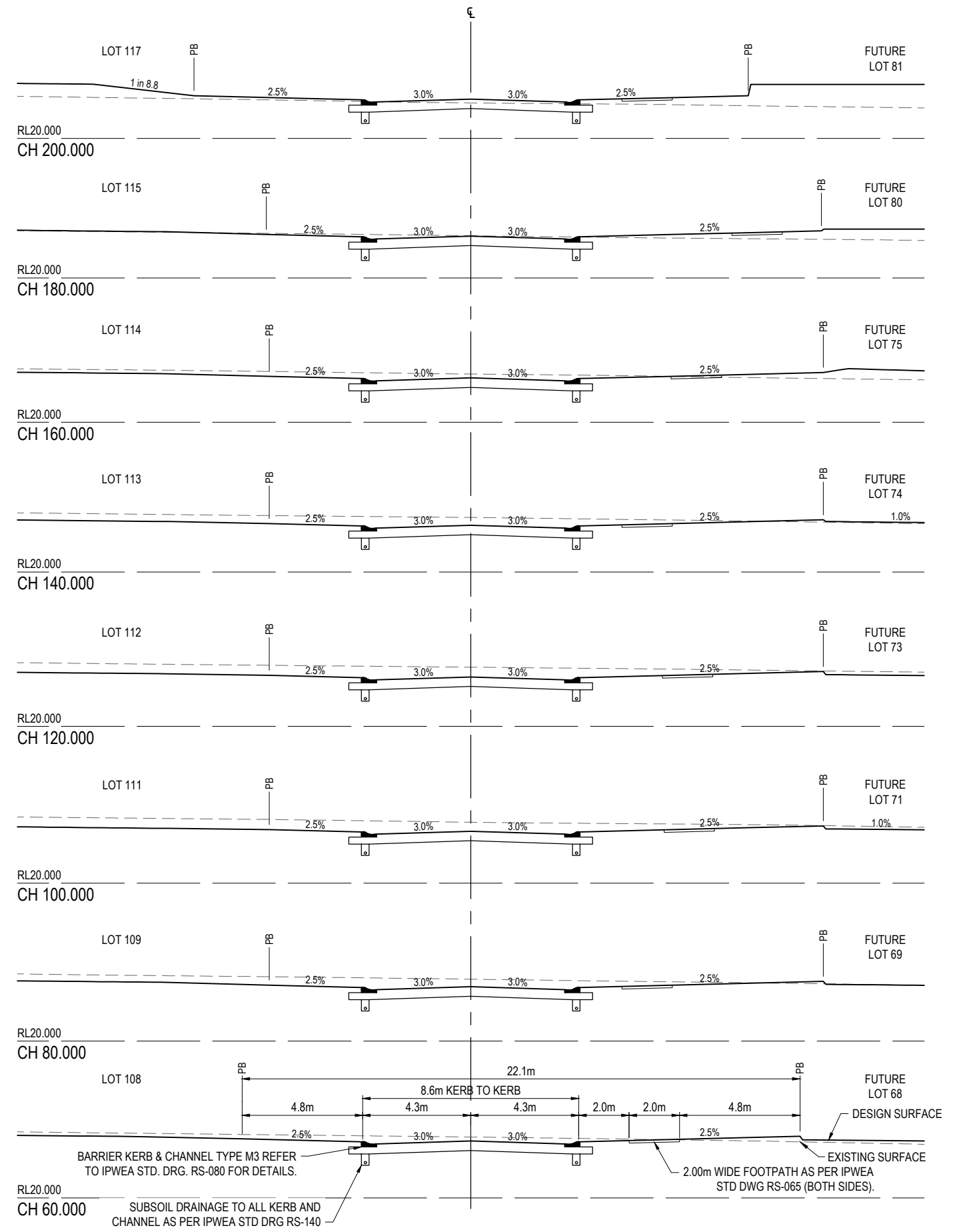
PRELIMINARY ROAD 2 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 2	3*	3 X 10 ⁵	CONTEMPORARY RESIDENTIAL	25mm BCC TYPE 2	125	100	300	550

* ASSUMED SUBGRADE CBR

NOTE:

- PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
- WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



VERTICAL CURVE LEGTH (m)
VERTICAL CURVE RADIUS (m)
VERTICAL GRADE (%)

DATUM RL 13.0

	300.000	320.000	333.000	340.000	348.000	360.000	378.051
CUT (-) / FILL	-0.011	0.012	-0.392	-0.540	-0.560	-0.621	-0.710
LHS LIP LEVEL	21.105	20.985	20.907	20.949	20.997	20.925	
RHS LIP LEVEL	21.106	20.986	20.908	20.950	20.997	20.925	
DESIGN SURFACE	21.217	21.097	21.019	21.061	21.109	21.037	20.928
EXISTING SURFACE	21.228	21.084	21.411	21.600	21.669	21.657	21.638
CHAINAGES	300.000	320.000	333.000	340.000	348.000	360.000	378.051
HORIZONTAL CURVES							

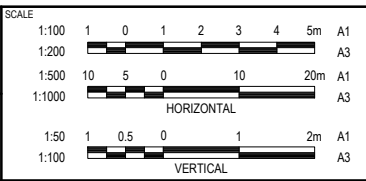
ROAD 2 - LONGITUDINAL SECTION

HORIZ SCALE: 500
VERTICAL SCALE: 50

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT: FOREVERLEN PTY LTD

LENNIUM GROUP

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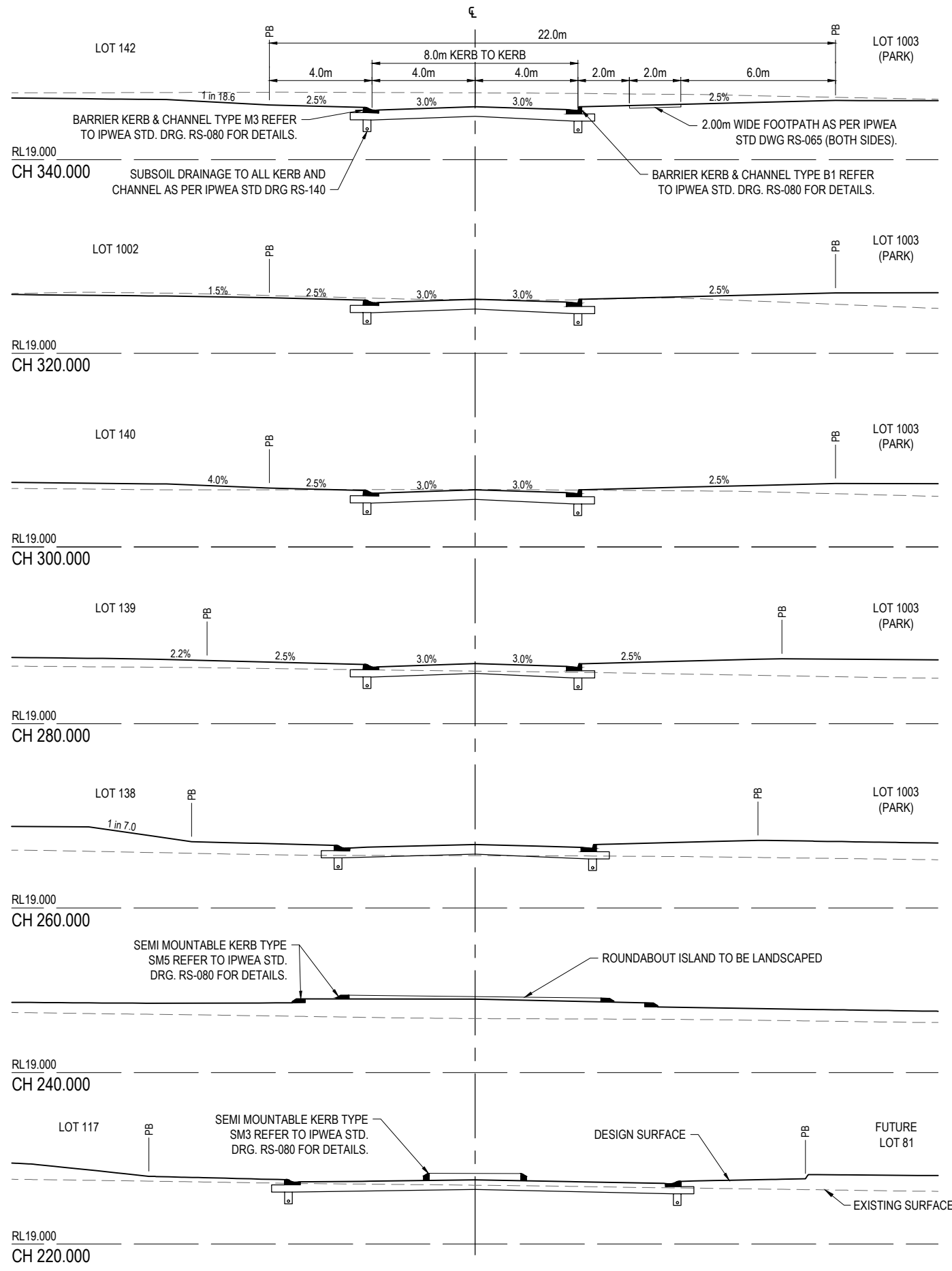
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PROJECT: LILYWOOD LANDINGS

STAGE 2

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

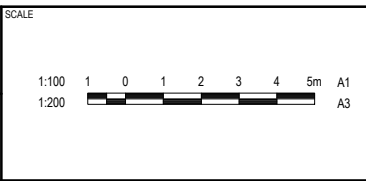
DRAWING TITLE		
ROAD 2 LONGITUDINAL SECTION SHEET 2 OF 2		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1331	C



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT

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PROJECT

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PROJECT

LANDINGS

STAGE 2

DISCLAIMER
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DRAWING TITLE		
ROAD 2 CROSS SECTIONS		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1332	C

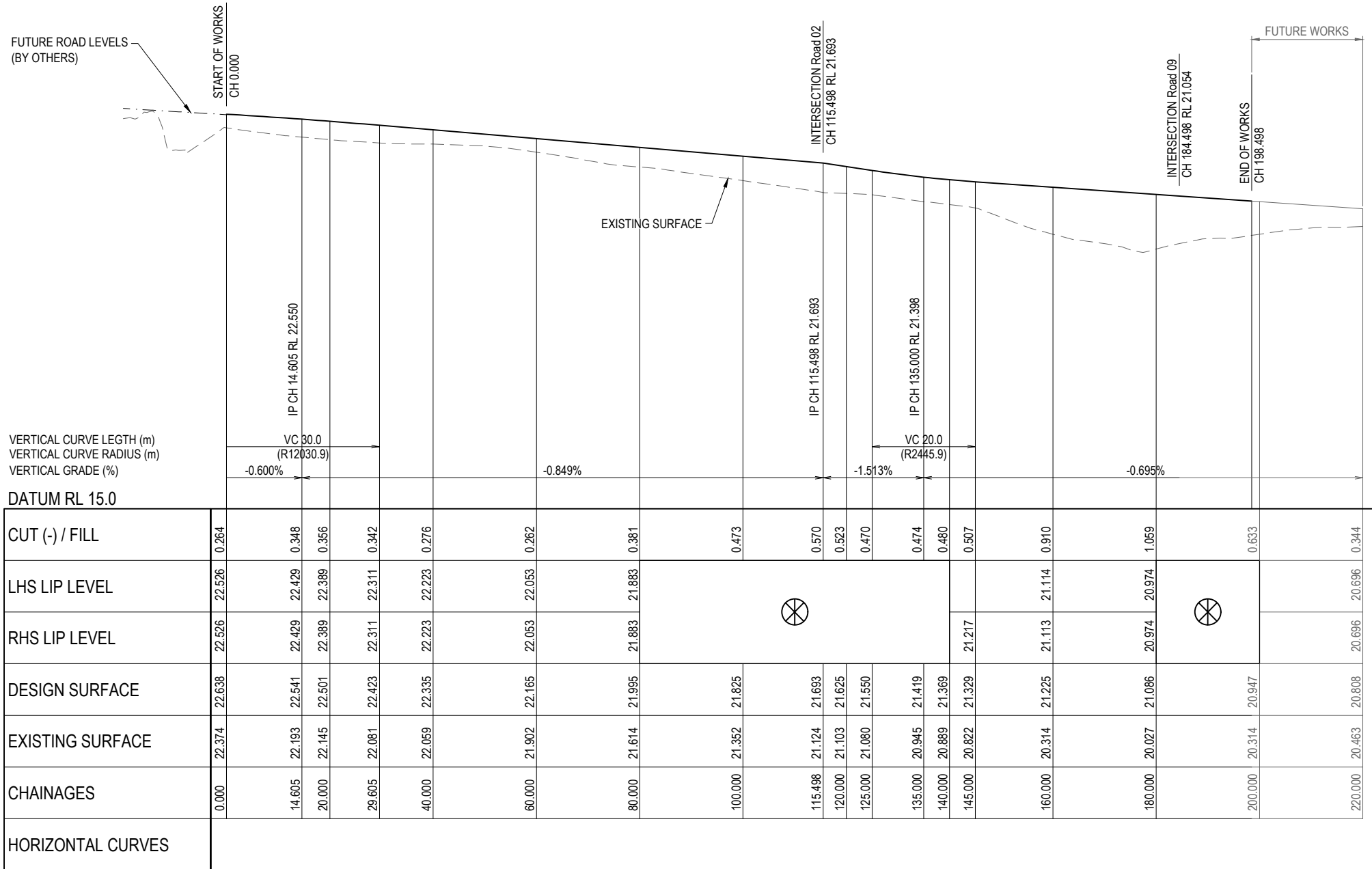
PRELIMINARY ROAD 7 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 7	3*	1.2 X 10 ⁵	LIVING RESIDENTIAL	25mm BCC TYPE 2	100	100	300	525

* ASSUMED SUBGRADE CBR

NOTE:

- PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
- WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



ROAD 7 - LONGITUDINAL SECTION

HORIZ SCALE: 500
VERTICAL SCALE: 50

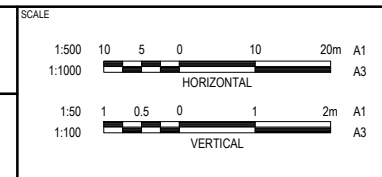
REFER INTERSECTION DETAILS FOR LEVELS

REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

DRAWN	DESIGN	DRAWN CHECK	STATUS
IB	AA	aa	FOR CONSTRUCTION
IB	AA		
AA	AA		

DESIGN CHECK: *MT*

APPROVED: RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT: FOREVERLEN PTY LTD

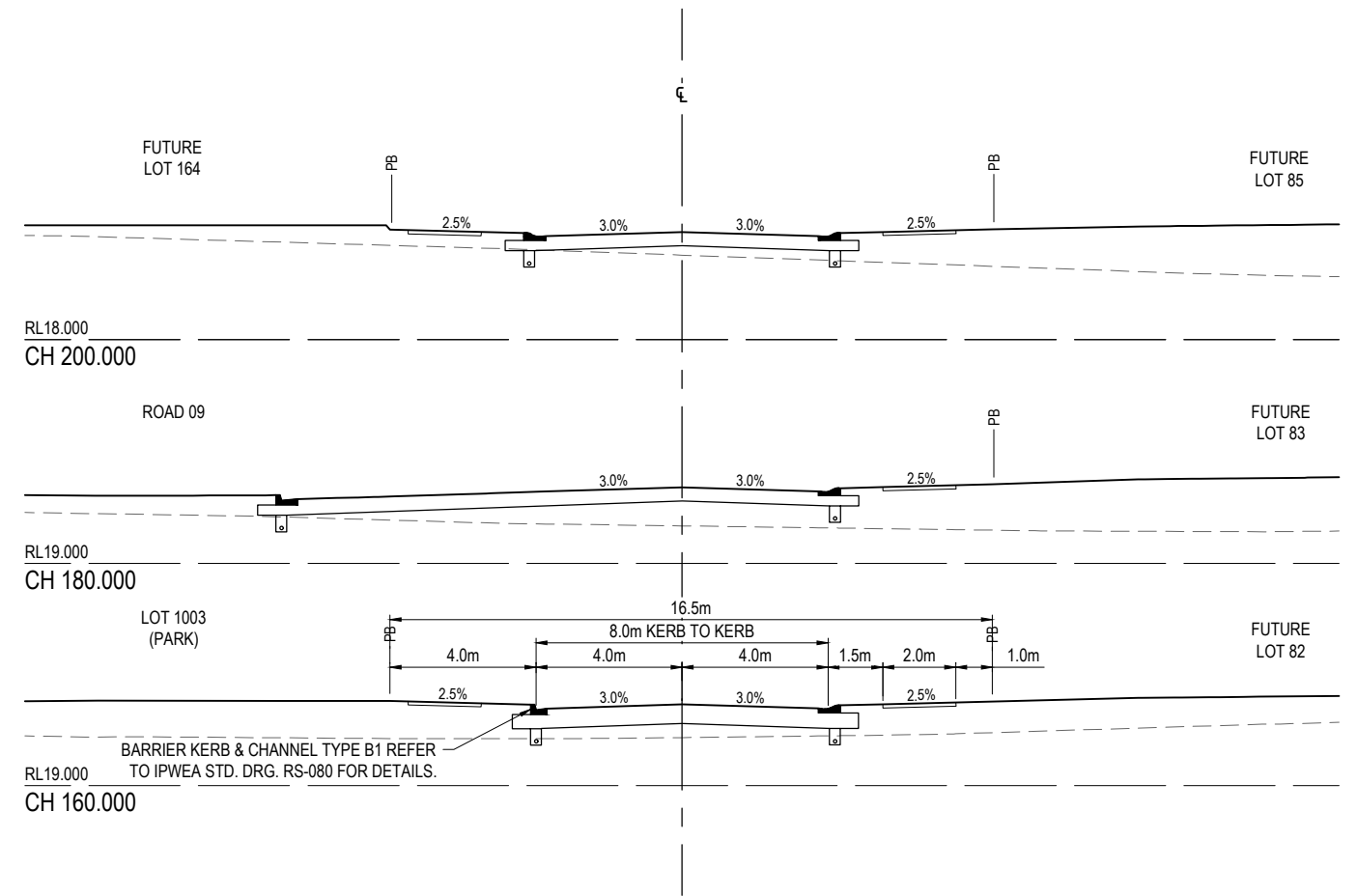
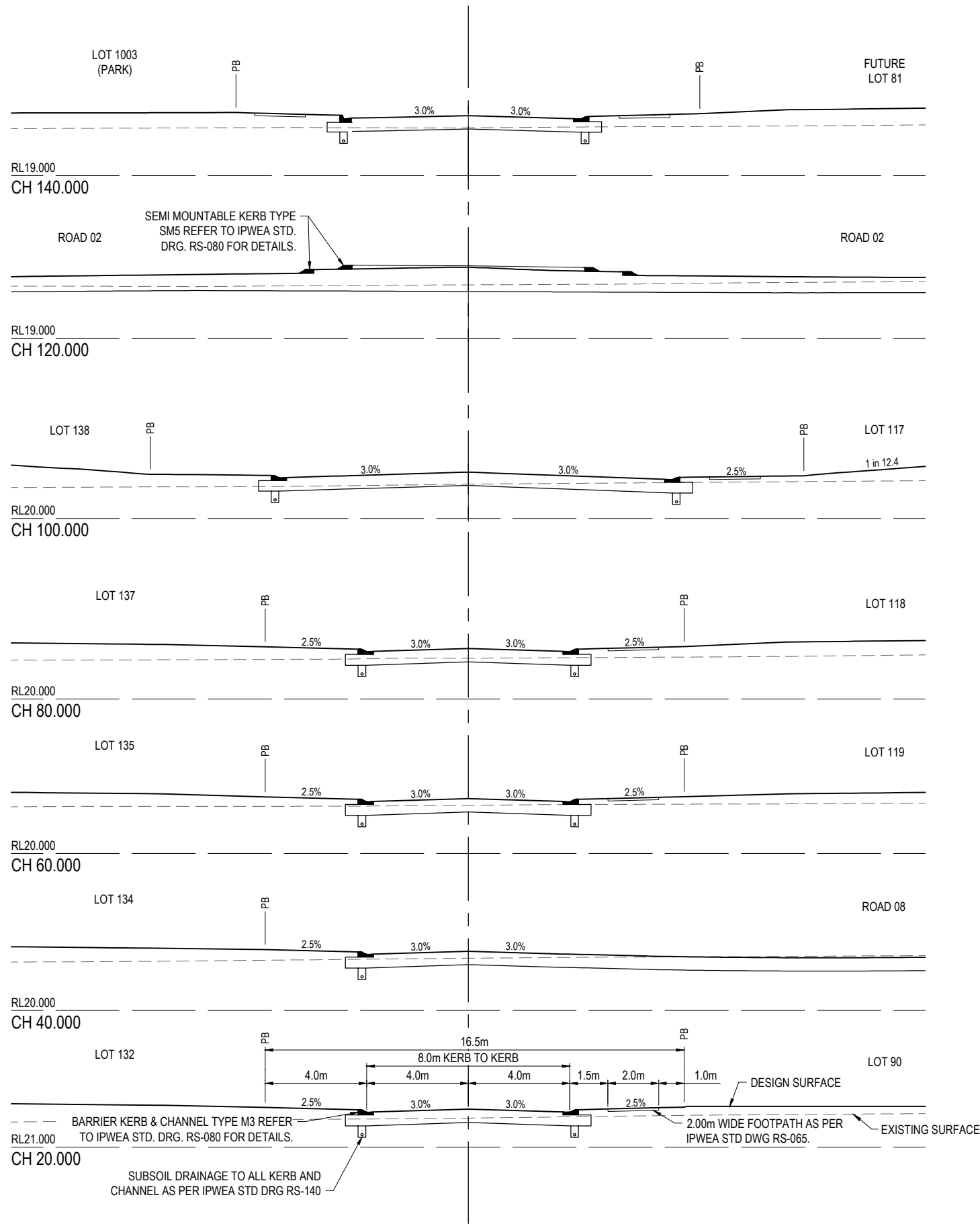
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PROJECT: *Lilywood LANDINGS*

STAGE 2

DISCLAIMER: ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
ROAD 7 LONGITUDINAL SECTION		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1333	C



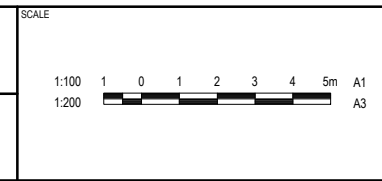
REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED RYAN ASHWORTH RPEQ 19674

Ryan Ashworth

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PROJECT

LANDINGS

STAGE 2

DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
ROAD 7 CROSS SECTIONS		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1334	C

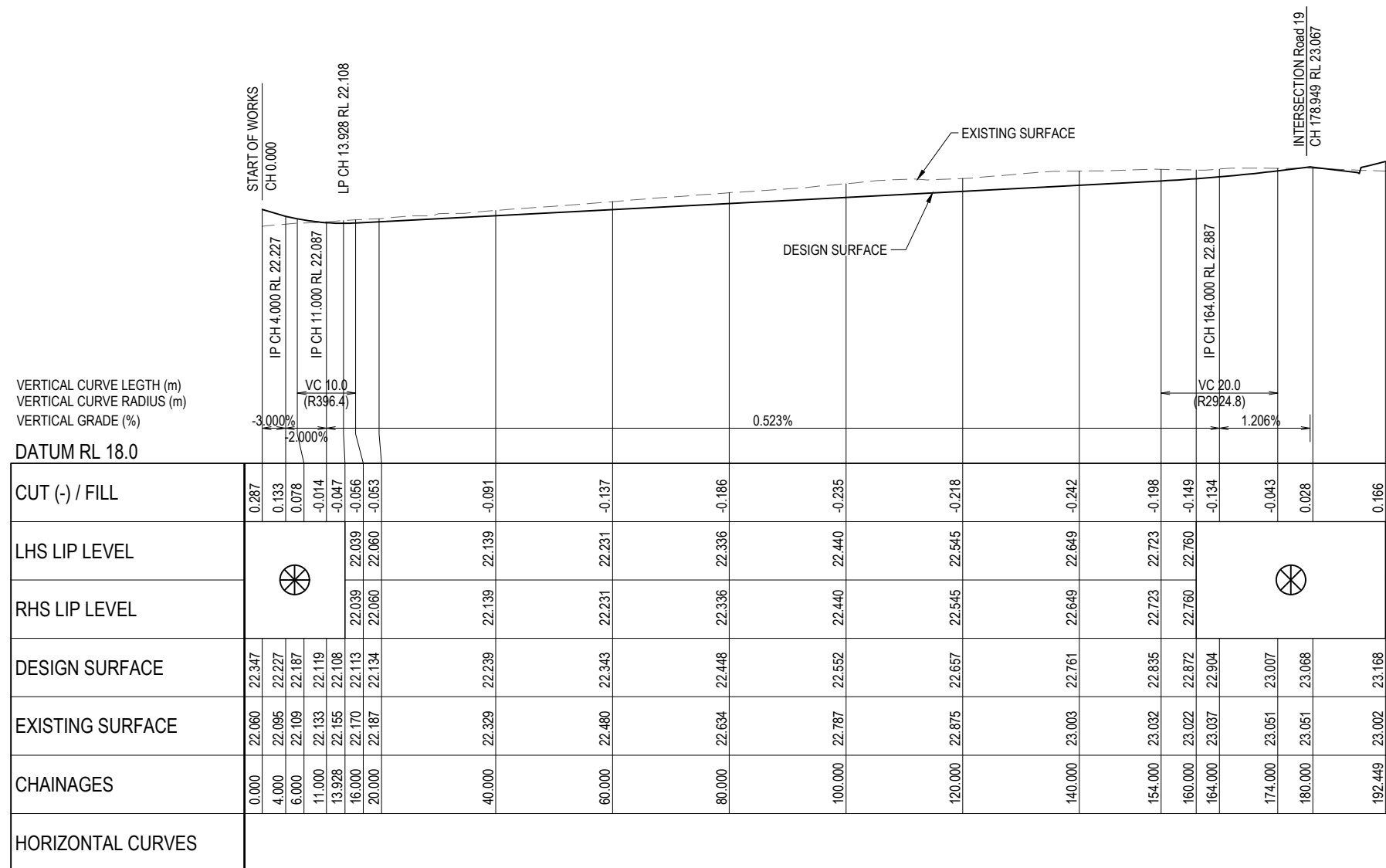
PRELIMINARY ROAD 8 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 8	3*	1.2 X 10 ⁵	LIVING RESIDENTIAL	25mm BCC TYPE 2	100	100	300	525

* ASSUMED SUBGRADE CBR

NOTE:

- PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
- WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



	0.000	4.000	6.000	11.000	13.928	16.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	154.000	160.000	164.000	174.000	180.000	192.449
CUT (-) / FILL	0.287	0.133	0.078	-0.014	-0.047	-0.056	-0.053	-0.091	-0.137	-0.186	-0.235	-0.218	-0.242	-0.198	-0.149	-0.134	-0.043	0.028	0.166
LHS LIP LEVEL						22.039	22.060	22.139	22.231	22.336	22.440	22.545	22.649	22.723	22.760				
RHS LIP LEVEL						22.039	22.060	22.139	22.231	22.336	22.440	22.545	22.649	22.723	22.760				
DESIGN SURFACE	22.347	22.227	22.187	22.119	22.108	22.113	22.134	22.239	22.343	22.448	22.552	22.657	22.761	22.835	22.872	22.904	23.007	23.068	23.168
EXISTING SURFACE	22.060	22.095	22.109	22.133	22.155	22.170	22.187	22.329	22.480	22.634	22.787	22.875	23.003	23.032	23.022	23.037	23.051	23.051	23.002
CHAINAGES	0.000	4.000	6.000	11.000	13.928	16.000	20.000	40.000	60.000	80.000	100.000	120.000	140.000	154.000	160.000	164.000	174.000	180.000	192.449
HORIZONTAL CURVES																			

ROAD 8 - LONGITUDINAL SECTION

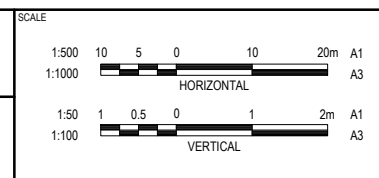
HORIZ SCALE: 500
VERTICAL SCALE: 50

REFER INTERSECTION DETAILS FOR LEVELS

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
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Ryan Ashworth
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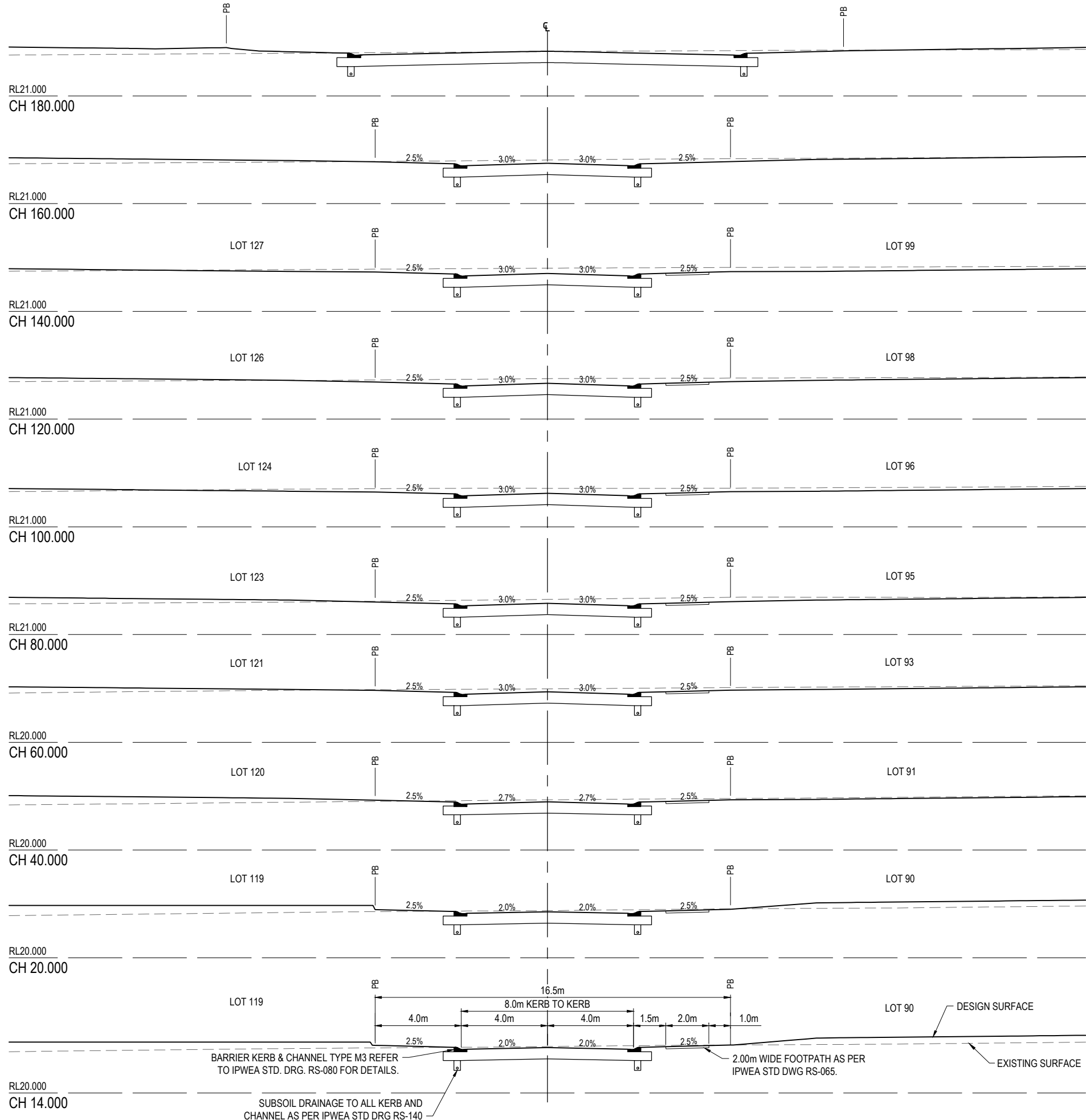
PROJECT

LANDINGS

STAGE 2

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

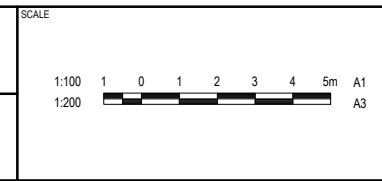
DRAWING TITLE		
ROAD 8 LONGITUDINAL SECTION		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1335	C



REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

DRAWN	DESIGN	DRAWN CHECK	STATUS
IB	AA	AA	FOR CONSTRUCTION
IB	AA	AA	
AA	AA	AA	

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
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PROJECT
LANDINGS
STAGE 2
 DISCLAIMER
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DRAWING TITLE		
ROAD 8 CROSS SECTIONS		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1336	C



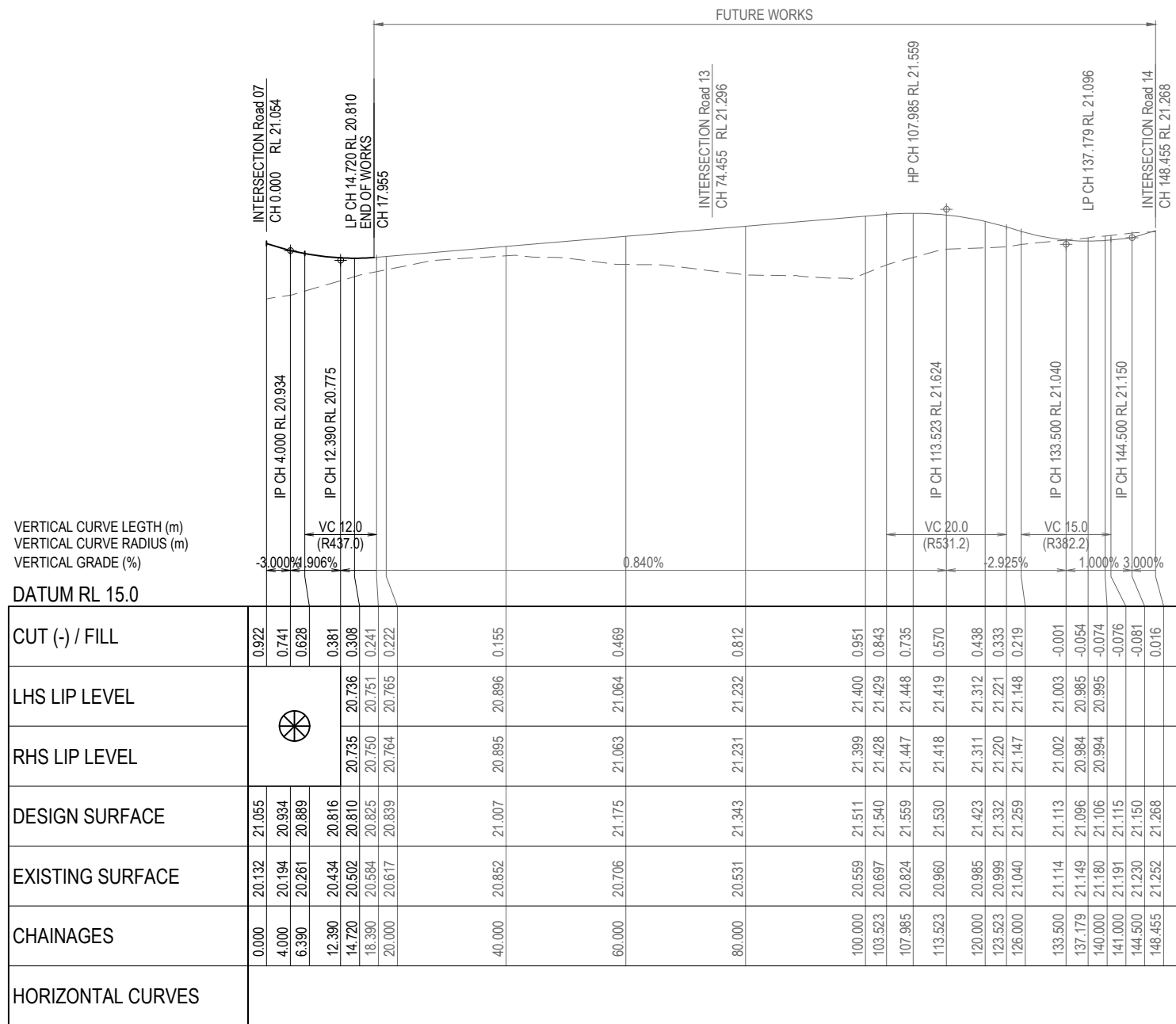
PRELIMINARY ROAD 9 PAVEMENT DESIGN

ROAD	SUBGRADE CBR	TRAFFIC ESA'S	ROAD CLASS	AC SURFACING (mm)	BASE (mm)	SUB-BASE (mm)	LOWER SUB-BASE (mm)	TOTAL BOX (mm)
ROAD 9	3*	1.2 X 10 ⁵	LIVING RESIDENTIAL	25mm BCC TYPE 2	100	100	300	525

* ASSUMED SUBGRADE CBR

NOTE:

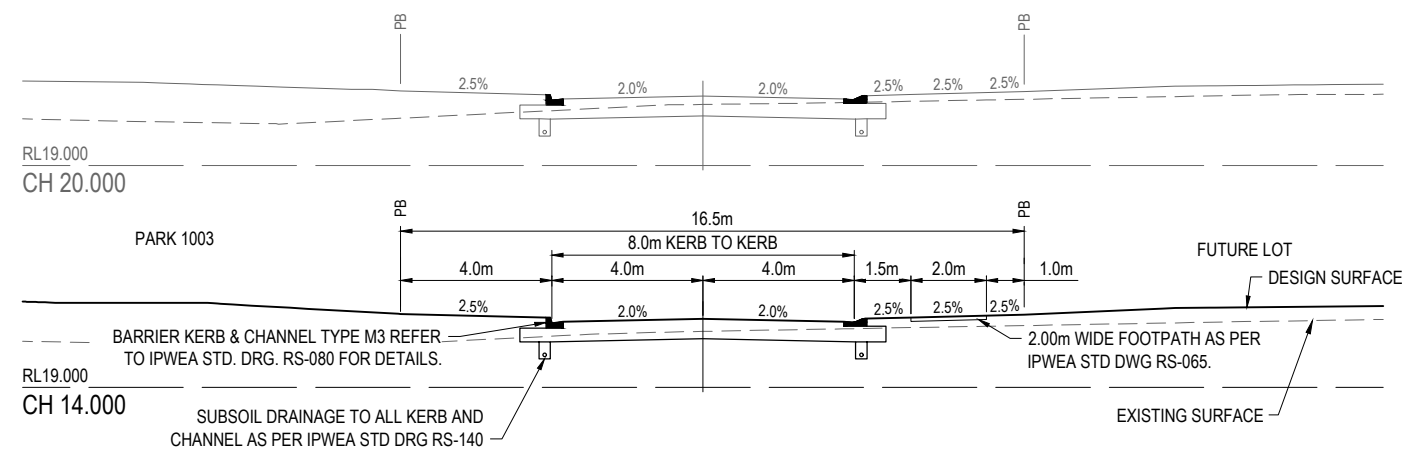
- PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
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LONGITUDINAL SECTION - Road 09

HORIZ SCALE: 500
VERTICAL SCALE: 50

REFER INTERSECTION DETAILS FOR LEVELS

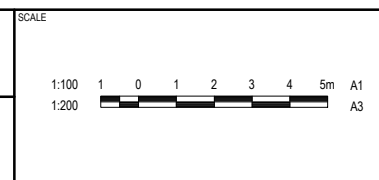


REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	25.05.23	ISSUED FOR APPROVAL	IB	AA		
B	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

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PROJECT

LANDINGS

STAGE 2

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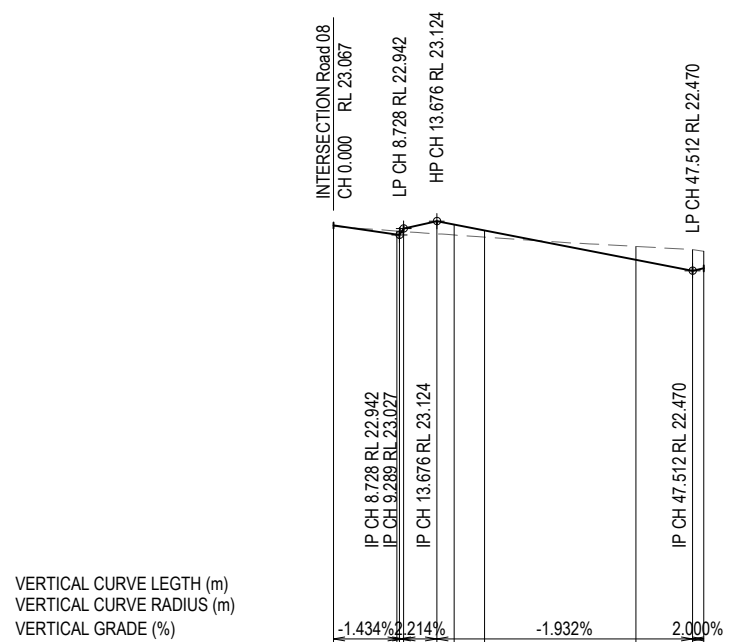
DRAWING TITLE		
ROAD 9 LONGITUDINAL AND CROSS SECTIONS		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1337	B

PAVEMENT NOTE:

1. DRIVEWAY TO BE 175mm THICK N32 CONCRETE WITH SL92 MESH ON 150mm BASE TYPE 2.1. FINISH PER LANDSCAPE SPECIFICATION.

NOTE:

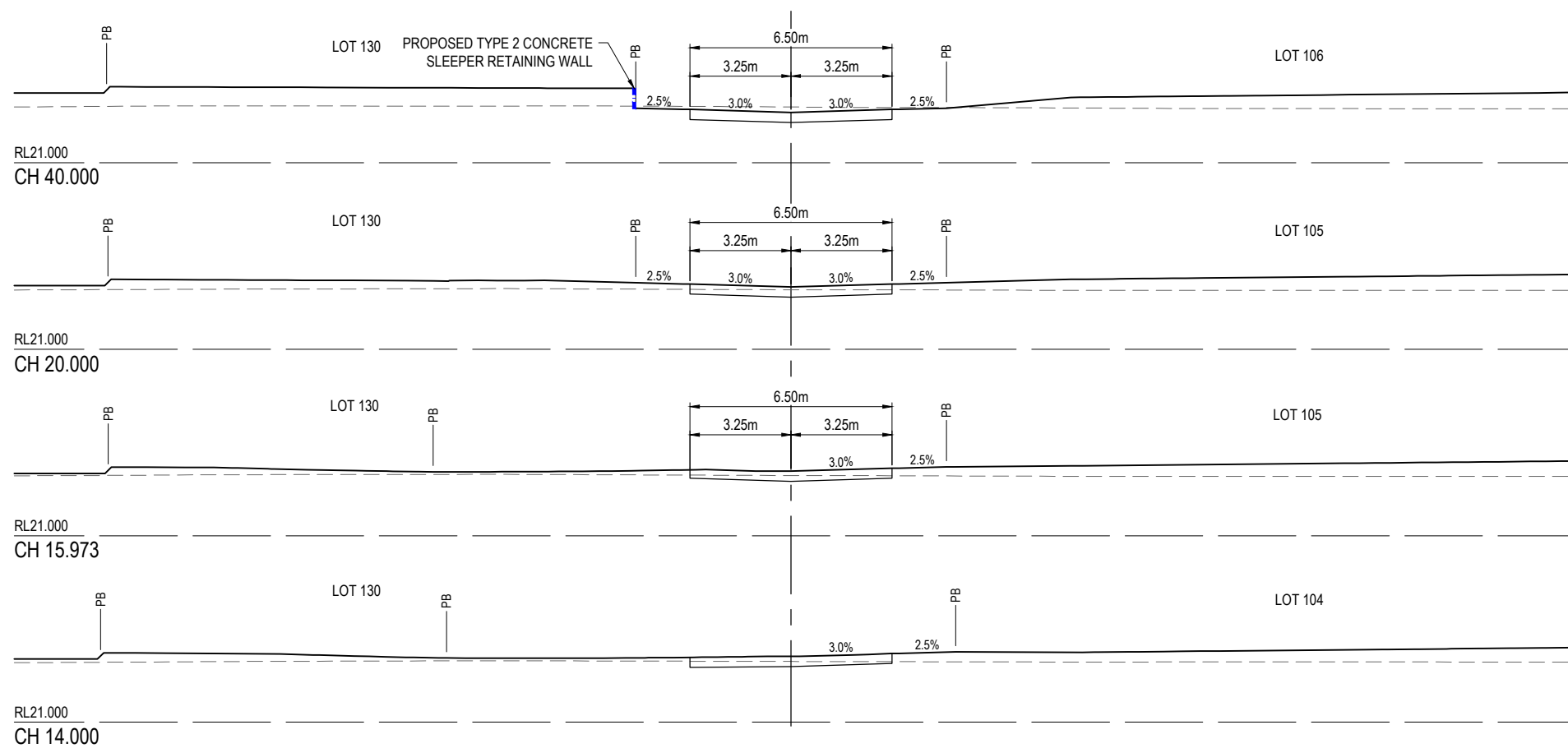
1. PRELIMINARY PAVEMENT DESIGNS HAVE BEEN BASED ON AN ASSUMED SUBGRADE CBR. ACTUAL PAVEMENT DESIGNS WILL BE BASED ON TEST RESULTS TAKEN AFTER STRIPPING HAS BEEN COMPLETED.
2. WHEN THE TOTAL PAVEMENT DEPTH (AS DETERMINED BY SUBGRADE TESTS) EXCEEDS THE NORMAL DEPTH, THE PAVEMENT GRAVEL SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm BEHIND (TYP).



DATUM RL 17.0

CUT (-) / FILL	0.012	-0.048	-0.050	0.038	0.166	0.137	0.088	-0.176
LHS LIP LEVEL							23.099	22.713
RHS LIP LEVEL						23.177	23.099	22.713
DESIGN SURFACE	23.067	22.947	22.942	23.027	23.124	23.079	23.002	22.615
EXISTING SURFACE	23.055	22.995	22.992	22.988	22.958	22.942	22.914	22.791
CHAINAGES	0.000	8.406	8.728	9.289	13.676	15.973	20.000	40.000
HORIZONTAL CURVES		R-10.000						

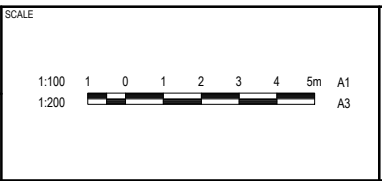
LONGITUDINAL SECTION - Road 19 REFER INTERSECTION DETAILS FOR LEVELS
 HORIZ SCALE: 500
 VERTICAL SCALE: 50



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	25.05.23	ISSUED FOR APPROVAL	IB	AA		
B	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
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 Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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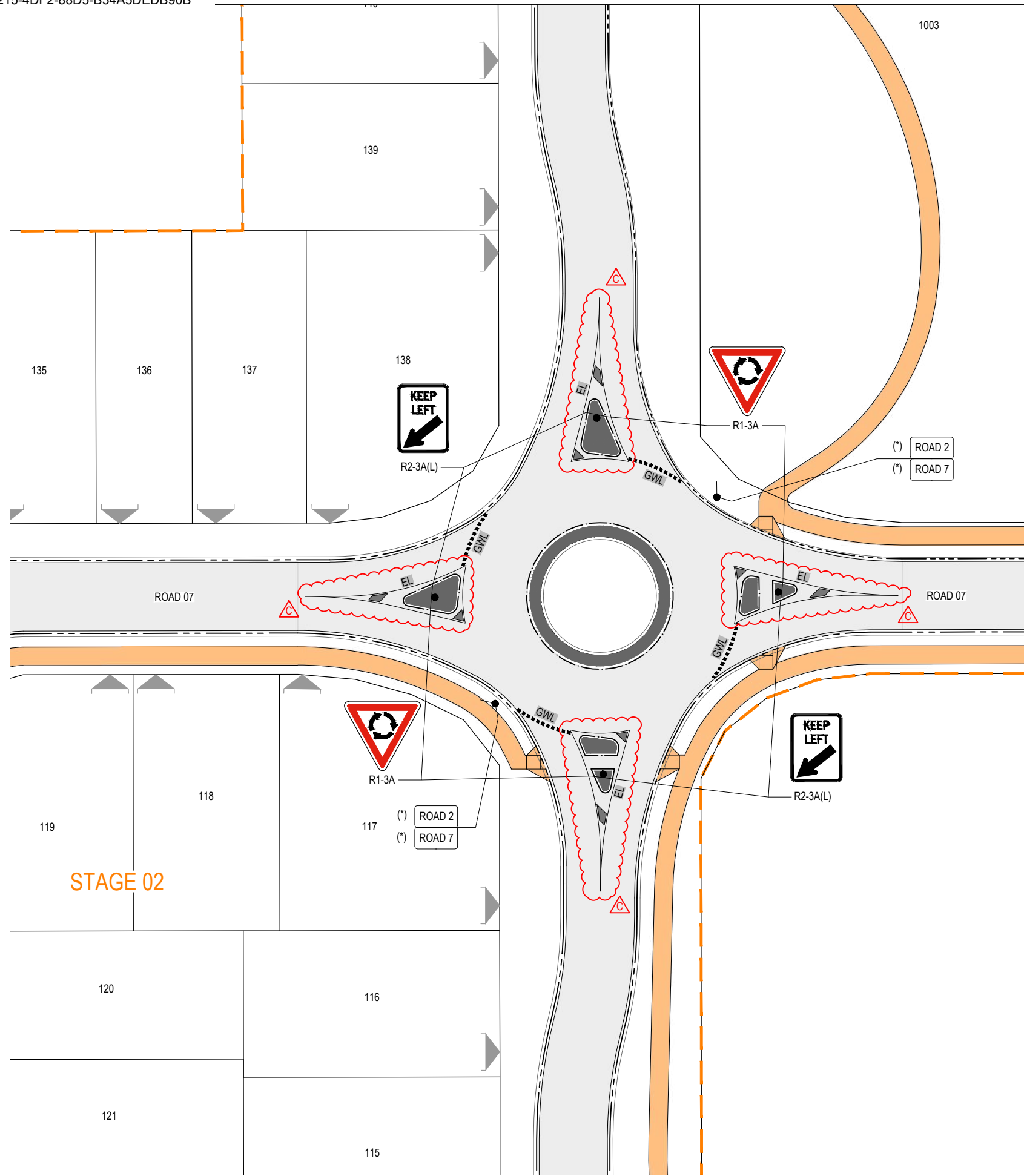
PROJECT

Lilywood LANDINGS

STAGE 2

DISCLAIMER
 ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
ROAD 19 LONGITUDINAL AND CROSS SECTIONS		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1338	B



LEGEND

- WORKS BOUNDARY
- LOTS BOUNDARY
- CONTROL LINE
- MOUNTABLE KERB & CHANNEL TYPE 'M3'
- BARRIER KERB & CHANNEL TYPE 'B1'
- SEMI-MOUNTABLE KERB ONLY TYPE 'SM3'
- SINGLE POST SIGN
- DOUBLE POST SIGN
- DOUBLE STREET NAME TYPE AS PER IPWEAQ STD DRG No. RS-130. BLACK POWDER COATED POSTS.
- GWL GIVE WAY LINE
- UBL UNBROKEN LANE LINE
- EL EDGE LINE
- CL CONTINUITY LINE
- BBL BARRIER LINE (BOTH DIRECTIONS)
- PDC PEDESTRIAN CROSSWALK
- SL STOP LINE

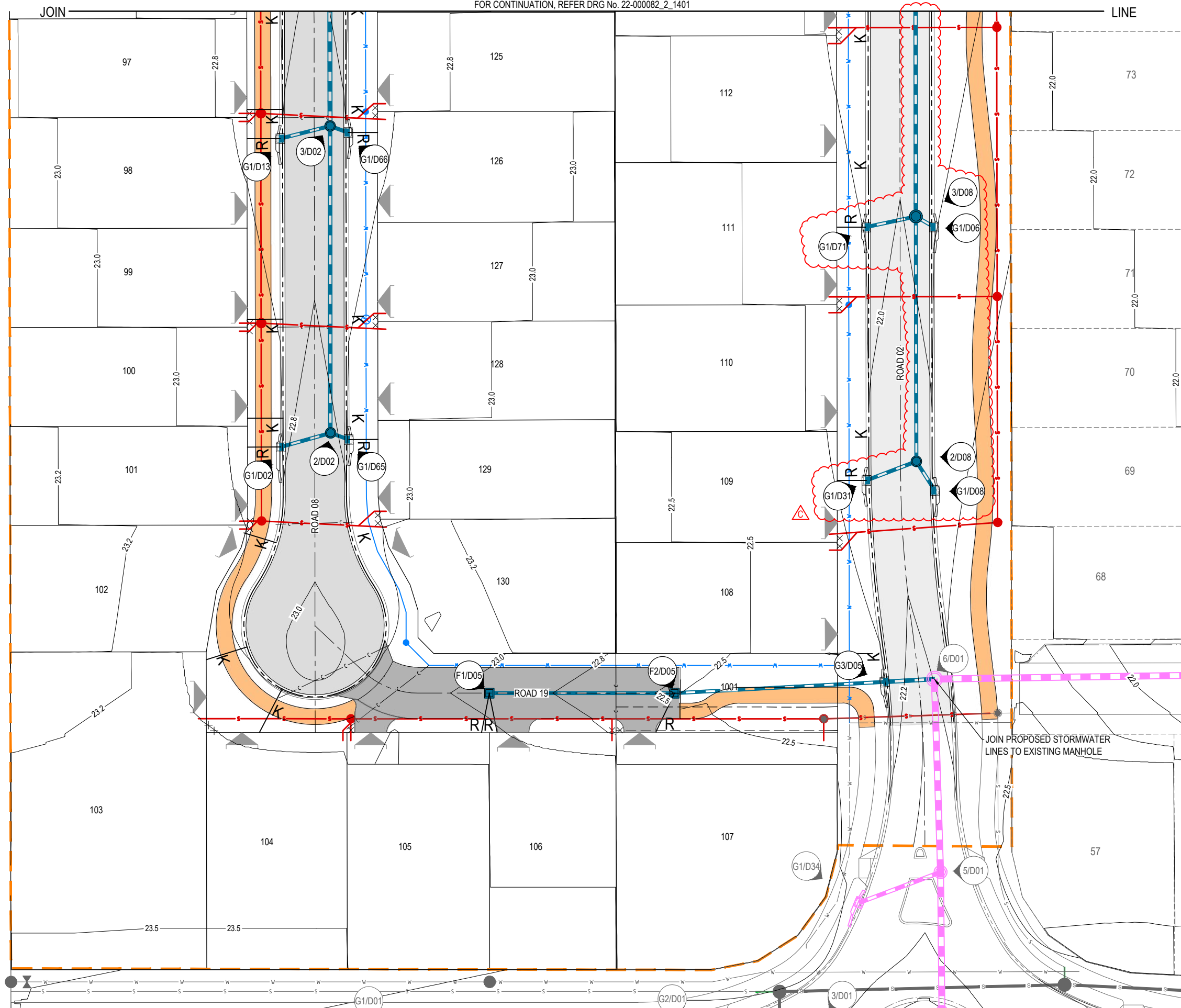
PAVEMENT MARKING LEGEND

PAVEMENT MARKINGS	LENGTH(m)	GAP(m)	WIDTH(mm)
EXISTING PAVEMENT MARKINGS	-	-	-
PARK LINE	-	-	100
CONTINUITY LINE	1.0	3.0	200
UNBROKEN LANE LINE	-	-	80
EDGE LINE	-	-	100
STOP LINE	-	-	300
PEDESTRIAN CROSSWALK	1.0	0.3	150
TURN LINE	0.6	0.6	100
HOLDING LINE	0.6	0.6	300
GIVE WAY LINE	0.6	0.6	200
BARRIER LINE (BOTH DIRECTIONS)	-	-	80
BARRIER LINE (ONE DIRECTIONS)	3	9.0	80

NOTE:
ALL LINEMARKING AND SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND MBRC SINGLE LANE ROUNDABOUT SIGNAGE DETAILS (SI-6010).

NOTE:
(*) STREET NAME TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO PURCHASING OF STREET SIGNS.

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>ISSUE DETAILS</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>07.03.23</td> <td>ISSUED FOR APPROVAL</td> </tr> <tr> <td>B</td> <td>25.05.23</td> <td>MINOR AMENDMENTS</td> </tr> <tr> <td>C</td> <td>12.12.23</td> <td>ISSUED FOR CONSTRUCTION</td> </tr> </tbody> </table>	REVISION	DATE	ISSUE DETAILS	A	07.03.23	ISSUED FOR APPROVAL	B	25.05.23	MINOR AMENDMENTS	C	12.12.23	ISSUED FOR CONSTRUCTION	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DRAWN</th> <th>DESIGN</th> <th>DRAWN CHECK</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>IB</td> <td>AA</td> <td>aa</td> <td>FOR CONSTRUCTION</td> </tr> <tr> <td>IB</td> <td>AA</td> <td></td> <td></td> </tr> <tr> <td>AA</td> <td>AA</td> <td></td> <td></td> </tr> </tbody> </table>	DRAWN	DESIGN	DRAWN CHECK	STATUS	IB	AA	aa	FOR CONSTRUCTION	IB	AA			AA	AA			<p style="text-align: center;">FOR CONSTRUCTION</p> <p style="text-align: center;">APPROVED RYAN ASHWORTH RPEQ 19674 <i>Ryan Ashworth</i> FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD</p>	<p>SCALE</p> <p>1:250 5 0 5 10m A1 1:500 5 0 5 10m A3</p>	<p>CLIENT</p> <p style="text-align: center;">FOREVERLEN PTY LTD</p> <p style="text-align: center;">LENNIUM GROUP</p>	<p>PROJECT</p> <p style="text-align: center;">egis</p> <p style="text-align: center;">© 2023 Egis Consulting Pty Ltd www.egis-group.com</p>	<p>PROJECT</p> <p style="text-align: center;">LANDINGS</p> <p style="text-align: center;">STAGE 2</p> <p>DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.</p>	<p>DRAWING TITLE</p> <p style="text-align: center;">SIGNAGE AND LINEMARKING LAYOUT PLAN</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>PROJECT No.</td> <td>DRAWING No.</td> <td>REVISION</td> </tr> <tr> <td>22-000082_2</td> <td>1340</td> <td>C</td> </tr> </table>	PROJECT No.	DRAWING No.	REVISION	22-000082_2	1340	C
REVISION	DATE	ISSUE DETAILS																																							
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22-000082_2	1340	C																																							



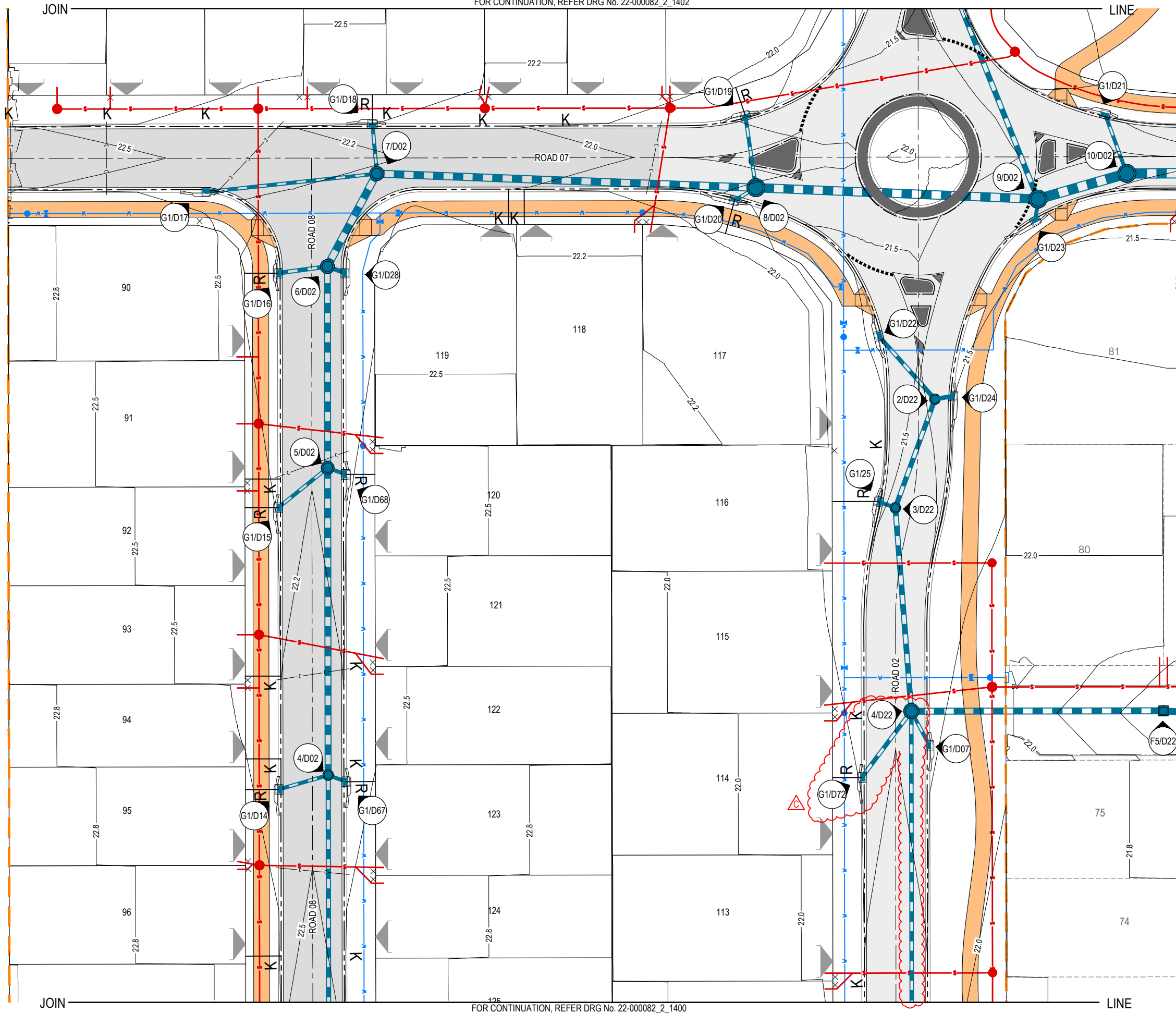
LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- ROCK SCOUR PROTECTION
- EXISTING SURFACE CONTOUR (0.5m INTERVALS)
- DESIGN SURFACE CONTOUR (0.5m INTERVALS)
- EXISTING STORMWATER DRAINAGE
- EXISTING MAINTENANCE HOLE
- EXISTING GULLY PIT
- EXISTING WATER RECTIFICATION
- EXISTING SEWER RECTIFICATION
- PROPOSED WATER MAIN
- PROPOSED WATER FITTING
- PROPOSED WATER CONDUIT
- PROPOSED SEWERAGE RETICULATION
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED BOULDER RETAINING WALL
- EXISTING RETAINING WALL + ACOUSTIC FENCE
- PROPOSED KERB ADAPTER + LINE
- PROPOSED ROOF WATER LINE
- EXISTING BATTERS
- CONCRETE FOOTPATH
- INDICATIVE DRIVEWAY LOCATION
- 5% AEP (20YR ARI) FLOOD LEVEL
- 1% AEP (100YR ARI) FLOOD LEVEL
- PROPOSED TRUNK SEWER
- BUILD TO BOUNDARY

NOTE:

- REFER TO DRG 22-000082_2_1405 FOR STORMWATER STANDARD NOTES AND DETAILS.
- REFER TO DRG 22-000082_2_1410-1411 FOR STORMWATER CATCHMENT PLAN.
- REFER TO DRGs 22-000082_2_1420-1424 FOR STORMWATER LONGITUDINAL SECTIONS.
- REFER TO DRGs 22-000082_2_1430-1433 FOR STORMWATER CALCULATION TABLES.

<table border="1"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>ISSUE DETAILS</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>07.03.23</td> <td>ISSUED FOR APPROVAL</td> </tr> <tr> <td>B</td> <td>25.05.23</td> <td>MINOR AMENDMENTS</td> </tr> <tr> <td>C</td> <td>12.12.23</td> <td>ISSUED FOR CONSTRUCTION</td> </tr> </tbody> </table>		REVISION	DATE	ISSUE DETAILS	A	07.03.23	ISSUED FOR APPROVAL	B	25.05.23	MINOR AMENDMENTS	C	12.12.23	ISSUED FOR CONSTRUCTION	<table border="1"> <thead> <tr> <th>DRAWN</th> <th>DESIGN</th> <th>DRAWN CHECK</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>IB</td> <td>AA</td> <td>aa</td> <td>FOR CONSTRUCTION</td> </tr> <tr> <td>IB</td> <td>AA</td> <td></td> <td></td> </tr> <tr> <td>AA</td> <td>AA</td> <td></td> <td></td> </tr> </tbody> </table>		DRAWN	DESIGN	DRAWN CHECK	STATUS	IB	AA	aa	FOR CONSTRUCTION	IB	AA			AA	AA			<p>APPROVED RYAN ASHWORTH RPEQ 19674 <i>Ryan Ashworth</i> FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD</p>		<p>SCALE</p>		<p>CLIENT</p> <p>FOREVERLEN PTY LTD</p> <p>LENNIUM GROUP</p>		<p>PROJECT</p> <p>egis</p> <p>© 2023 Egis Consulting Pty Ltd www.egis-group.com</p>		<p>DRAWING TITLE</p> <p>STORMWATER LAYOUT PLAN SHEET 1 OF 5</p>	
REVISION	DATE	ISSUE DETAILS																																							
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<p>Moreton Bay Regional Council</p>				<p>DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.</p>		<p>PROJECT No. 22-000082_2</p>		<p>DRAWING No. 1400</p>		<p>REVISION C</p>																															



LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- ROCK SCOUR PROTECTION
- EXISTING SURFACE CONTOUR (0.5m INTERVALS)
- DESIGN SURFACE CONTOUR (0.5m INTERVALS)
- EXISTING STORMWATER DRAINAGE
- EXISTING MAINTENANCE HOLE
- EXISTING GULLY PIT
- EXISTING WATER RETICULATION
- EXISTING SEWER RETICULATION
- PROPOSED WATER MAIN
- PROPOSED WATER FITTING
- PROPOSED WATER CONDUIT
- PROPOSED SEWERAGE RETICULATION
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED BOULDER RETAINING WALL
- EXISTING RETAINING WALL + ACOUSTIC FENCE
- PROPOSED KERB ADAPTER + LINE
- PROPOSED ROOF WATER LINE
- EXISTING BATTERS
- CONCRETE FOOTPATH
- INDICATIVE DRIVEWAY LOCATION
- 5% AEP (20YR ARI) FLOOD LEVEL
- 1% AEP (100YR ARI) FLOOD LEVEL
- PROPOSED TRUNK SEWER
- BUILD TO BOUNDARY

NOTE:

1. REFER TO DRG 22-000082_2_1405 FOR STORMWATER STANDARD NOTES AND DETAILS.
2. REFER TO DRG 22-000082_2_1410-1411 FOR STORMWATER CATCHMENT PLAN.
3. REFER TO DRGs 22-000082_2_1420-1424 FOR STORMWATER LONGITUDINAL SECTIONS.
4. REFER TO DRGs 22-000082_2_1430-1433 FOR STORMWATER CALCULATION TABLES.

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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1:1000

CLIENT

FOREVERLEN PTY LTD
LENNIUM GROUP

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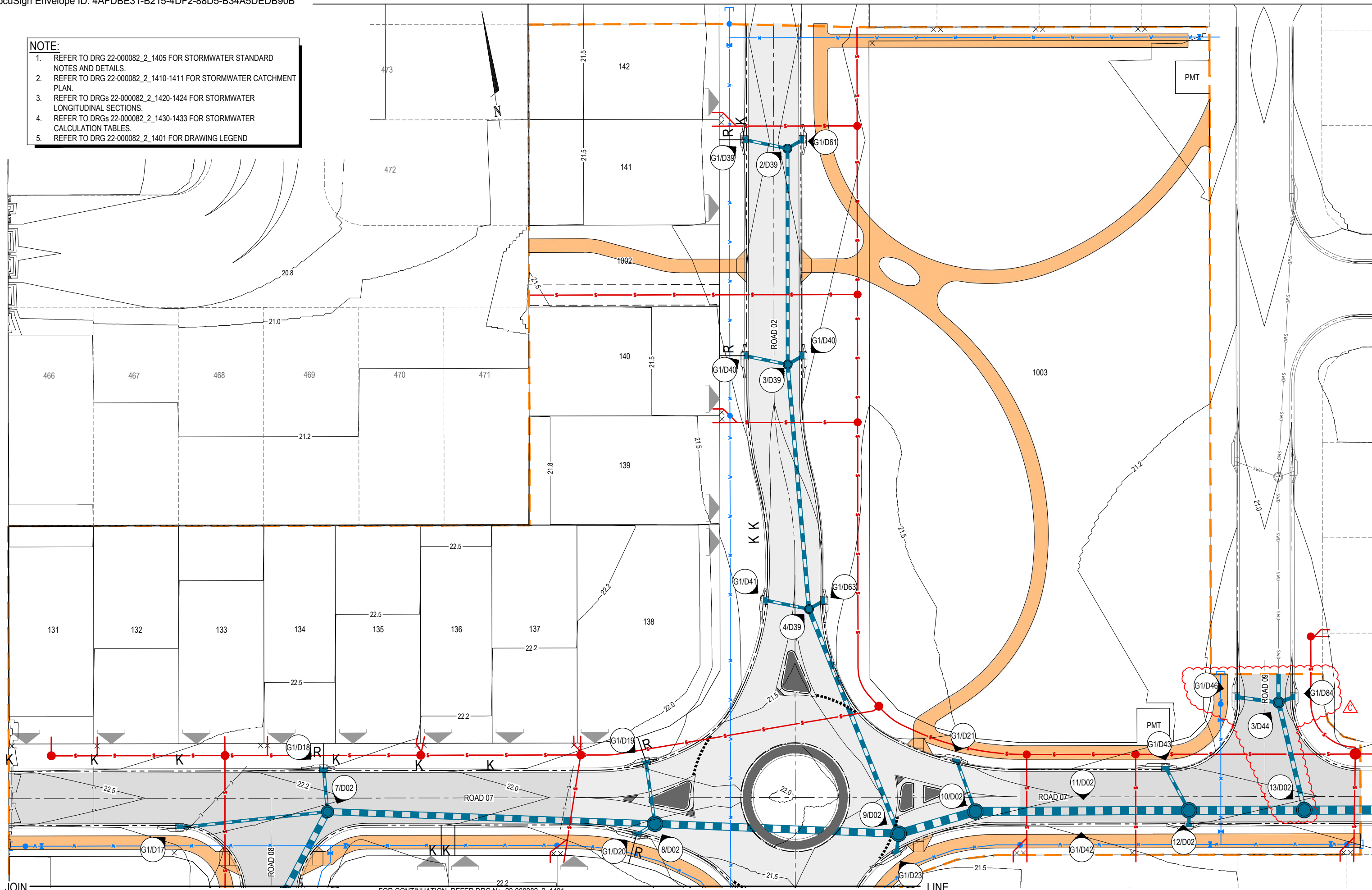
PROJECT

LANDINGS
STAGE 2

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
STORMWATER LAYOUT PLAN SHEET 2 OF 5		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1401	C

- NOTE:**
1. REFER TO DRG 22-000082_2_1405 FOR STORMWATER STANDARD NOTES AND DETAILS.
 2. REFER TO DRG 22-000082_2_1410-1411 FOR STORMWATER CATCHMENT PLAN.
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 5. REFER TO DRG 22-000082_2_1401 FOR DRAWING LEGEND



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA	aa	
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONTINUATION, REFER DRG No. 22-000082_2_1401

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
 Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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PROJECT

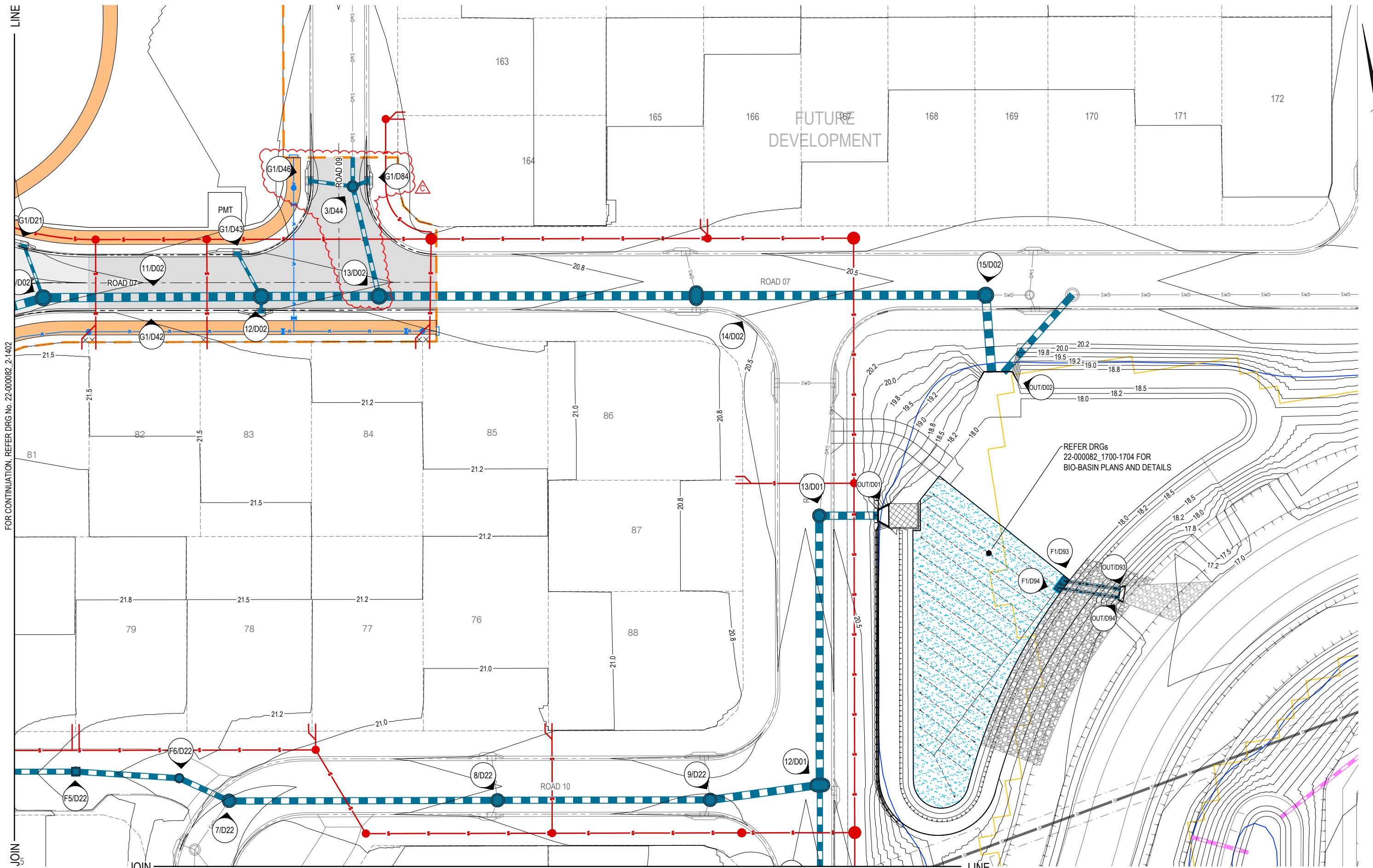
Lilywood LANDINGS
STAGE 2

DISCLAIMER
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DRAWING TITLE

STORMWATER LAYOUT PLAN SHEET 3 OF 5

PROJECT No. 22-000082_2
 DRAWING No. 1402
 REVISION C



FOR CONTINUATION, REFER DRG No. 22-000082_2-1402

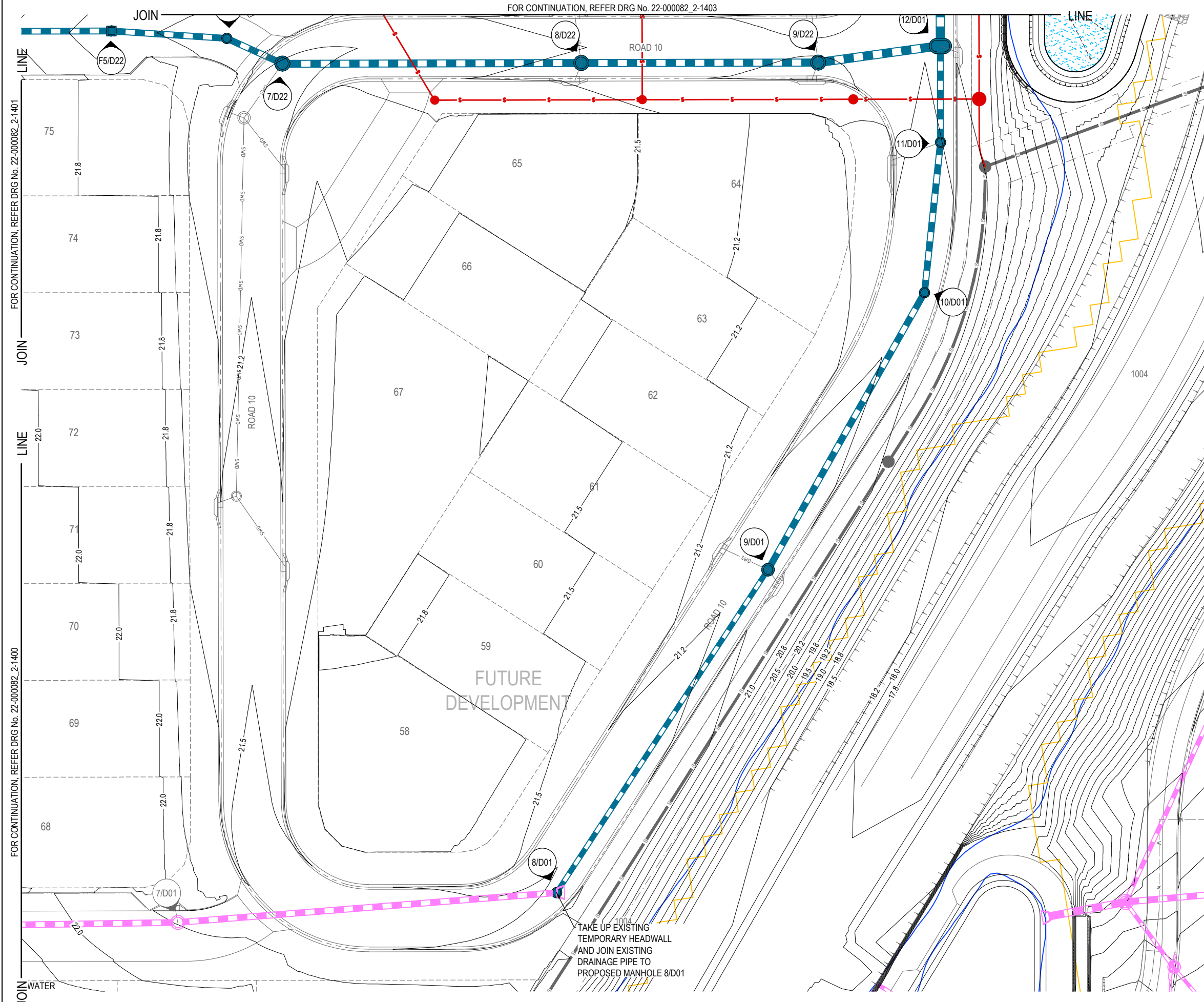
FOR CONTINUATION, REFER DRG No. 22-000082_2-1404

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE
A	07.03.23	ISSUED FOR APPROVAL	IB	AA			SCALE 1:500 10 5 0 10 20m A1 1:1000	FOREVERLEN PTY LTD LENNIUM GROUP	egis © 2023 Egis Consulting Pty Ltd www.egis-group.com	LYWOOD LANDINGS STAGE 2 DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.
B	25.05.23	MINOR AMENDMENTS	IB	AA	aa					
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA						
APPROVED RYAN ASHWORTH RPEQ 19674 <i>Ryan Ashworth</i> FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD										DRAWING No. 22-000082_2
										DRAWING No. 1403
										REVISION C



Approved Subject to Conditions of Decision Notice DA/2023/3496

21/12/2023



LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- ROCK SCOUR PROTECTION
- EXISTING SURFACE CONTOUR (0.5m INTERVALS)
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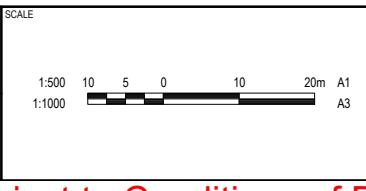
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IB	AA		
AA	AA		

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT

LANDINGS

STAGE 2

DISCLAIMER
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DRAWING TITLE		
STORMWATER LAYOUT PLAN SHEET 5 OF 5		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1404	C

STORMWATER DRAINAGE NOTES

- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT M.B.R.C STANDARD DRAWINGS AND METHODS.
- ALL STORMWATER PIPES UNDER ROADWAYS AND FOOTPATHS SHALL BE RCP CLASS 3 U.N.O.
- ALL STORMWATER PIPES UP TO AND INCLUDING 600Ø SHALL BE R.R.J. STORMWATER PIPES GREATER THAN 600Ø SHALL BE INTERNAL FLUSH JOINTED WITH PROPRIETARY EXTERNAL BAND.
- STEPIRONS ARE TO BE PROVIDED IN STORMWATER MANHOLES AND GULLIES GREATER THAN 1.20m DEEP, IN ACCORDANCE WITH M.B.R.C STD. DRG. SD.10.
- ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
- CONTRACTOR TO LIAISE WITH ALL RELEVANT SERVICE AUTHORITIES TO ASCERTAIN SERVICES PRESENT ON-SITE. ANY ALTERATION WORKS TO SERVICES WILL BE CARRIED OUT BY THAT SERVICE AUTHORITY ONLY.
- THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF DEMOLISHING ANY EXISTING STRUCTURES WITHIN THE SITE AREAS.
- THE STORMWATER PIPE CLASSES HAVE BE DESIGNED FOR SERVICE LOADS ONLY, AND THE CONTRACTOR SHALL ASSESS ANTICIPATED CONSTRUCTION LOADS AND UPGRADE THE PIPE CLASSES IF NECESSARY, IN ACCORDANCE WITH AS3725-2007.
- RETAINING WALL SUBSOIL DRAINS TO CONNECT TO KERB AND CHANNEL SUBSOIL OR STORMWATER DRAINAGE STRUCTURES.
- WORKS SHALL BE PROGRAMMED SO AS NOT TO DISTURB NEARBY HOUSEHOLDERS EITHER BY DUST, NOISE, FLOODING OR DISCONNECTION OF SERVICES.
- ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- ANTI PONDING GULLIES ARE TO BE SIDE ENTRY TYPE. CHAMBER AND GRATE ONLY TYPE NOT TO BE USED.
- GULLY PITS IN EXCESS OF 1.5 METRES DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE.
- CRACKS IN STORMWATER PIPES WILL NOT BE ACCEPTED.
- LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE A SATISFACTORY CONNECTION AND THE CONTRACTOR SHALL INCLUDE THE COST OF THIS WORK IN THE TENDER PRICE. WHERE NEW WORK JOINS EXISTING, THE WORK SHALL TRANSITION NEATLY WITH THE PAVEMENT SO THAT DEVIATION FROM THE LINE OF A 3.0m STRAIGHT EDGE SHALL BE NO GREATER THAN 10mm.
- CONDUITS SHALL BE IN ACCORDANCE WITH I.P.W.E.A STD. DRG. RS-101.
- ALL EXCAVATION AND FILLING SHALL BE COMPACTED TO THE REQUIREMENTS OF AS3798-2007 IN ACCORDANCE WITH THE LOCAL AUTHORITY REQUIREMENTS.
- ALL LEVELS ARE IN METRES ABOVE AUSTRALIAN HEIGHTS DATUM (mAHD) UNLESS OTHERWISE SHOWN

KERB ADAPTORS NOTES

ALL LOTS NOT DRAINING TO A PROPERTY PIT TO HAVE 2 KERB ADAPTORS . KERB ADAPTORS SHOWN ARE INDICATIVE ONLY AND ARE TO BE INSTALLED IN ACCORDANCE WITH IPWEA STD DRG RS-081.

NOTE:

NOTWITHSTANDING THAT EXISTING SERVICES MAY OR MAY NOT BE SHOWN ON THE JOB DRAWINGS, NO RESPONSIBILITY IS TAKEN BY THE SUPERINTENDENT OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE POSITION OF ANY UNDERGROUND SERVICES IN THIS AREA AND SHALL BE RESPONSIBLE FOR MAKING GOOD ANY DAMAGE THERETO.

SCOUR PROTECTION NOTES:

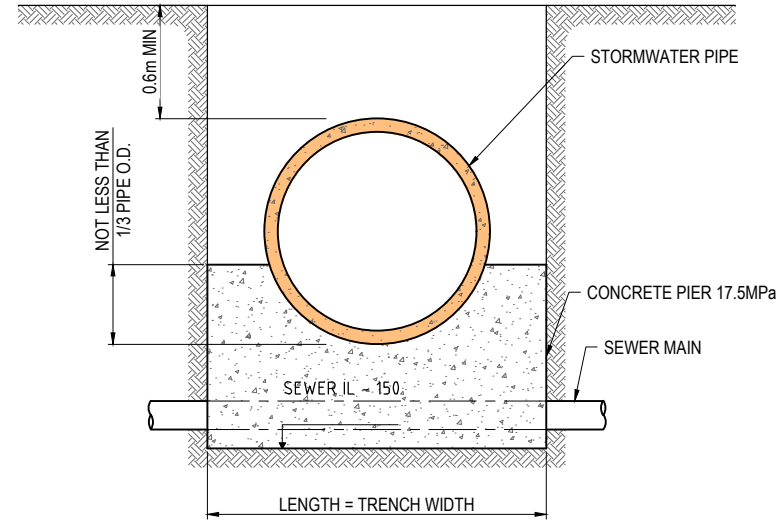
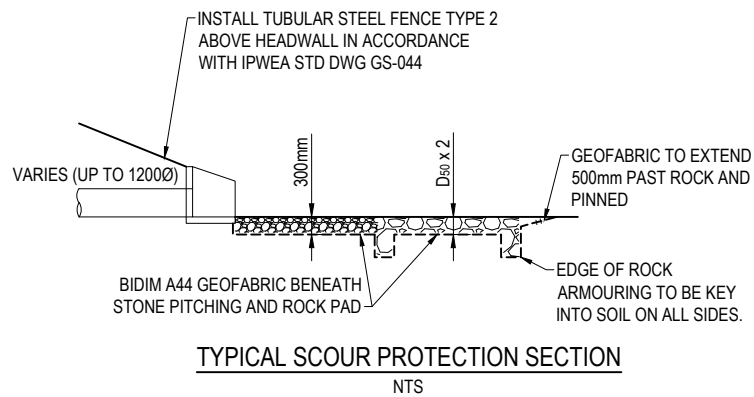
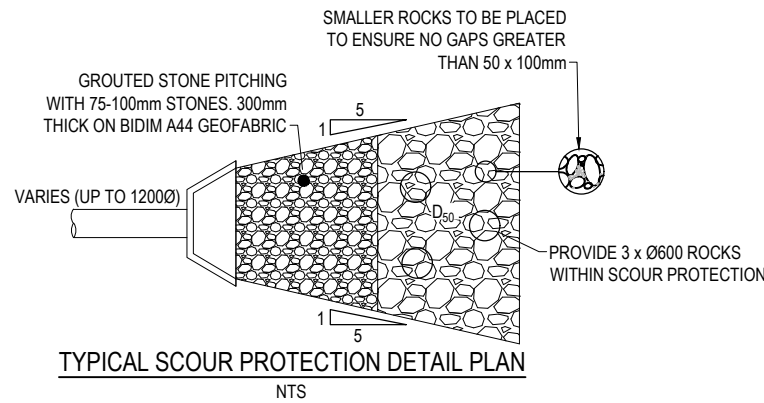
- IF ROCK SIZE IS SPECIFIED ON THE PLAN AS D₅₀ THIS CORRESPONDS TO A ROCK SIZE WITH A MEDIAN ROCK DIAMETER OF D₅₀. A VARIANCE OF ±30% IS ACCEPTABLE. Eg. IF D₅₀ = 600 IS SPECIFIED THEN THE EQUIVALENT ROCK DIAMETER RANGES FROM 420mm TO 780mm.
- NEITHER BREADTH NOR THICKNESS OF A SINGLE ROCK SHALL BE LESS THAN ONE HALF ITS LENGTH (ie THE ROCK SHALL BE CHUNKY RATHER THAN FLAT).
- ROCK TYPE - BASALT OR OTHER APPROVED MATERIAL. TO BE CONFIRMED WITH SUPERINTENDENT BEFORE COMMENCING ROCK WORK.
- ROCKS GREATER THAN D₅₀=450 TO BE PLACED AND INTERLOCKED INTO POSITION AND BUILT UP TO FINAL LEVELS SHOWN, ENSURING COVERAGE OF GEOFABRIC. GAPS BETWEEN THE BOULDERS ARE TO BE FILLED BY DROPPING STONES INTO GAPS AND LOCKING INTO POSITION WITH A CROWBAR.
- ROCKS LESS THAN & EQUAL TO D₅₀=450 TO BE DUMPED & MOVED INTO POSITION. BUILD UP TO FINAL LEVELS & ENSURING COVERAGE OF GEOFABRIC.

REFERENCE POINT LOCATION FOR DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL CONTROL (REFERENCE POINT LOCATION)	VERTICAL CONTROL (REFERENCE LEVEL)
MANHOLE		FINISHED SURFACE LEVEL
GULLY PIT		KERB LIP LEVEL
HEADWALL		INVERT OF HEADWALL

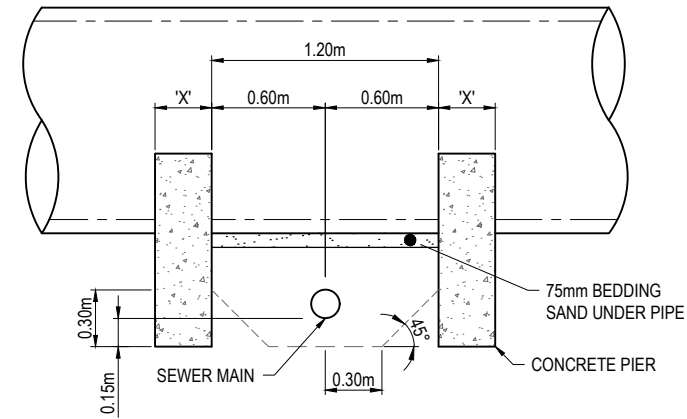
ROCK SCOUR PROTECTION

OUTLET	OUTLET PIPE SIZE	VELOCITY	D ₅₀	'L'
OUT/D93 & OUT/D94	Ø 2/ 450	1.68 m/s	300 mm	10.5 m



STORMWATER / SEWER BRIDGING DETAIL - SECTION

SCALE 1:20 (A1)
SCALE 1:40 (A3)



STORMWATER / SEWER BRIDGING DETAIL - ELEVATION

SCALE 1:20 (A1)
SCALE 1:40 (A3)

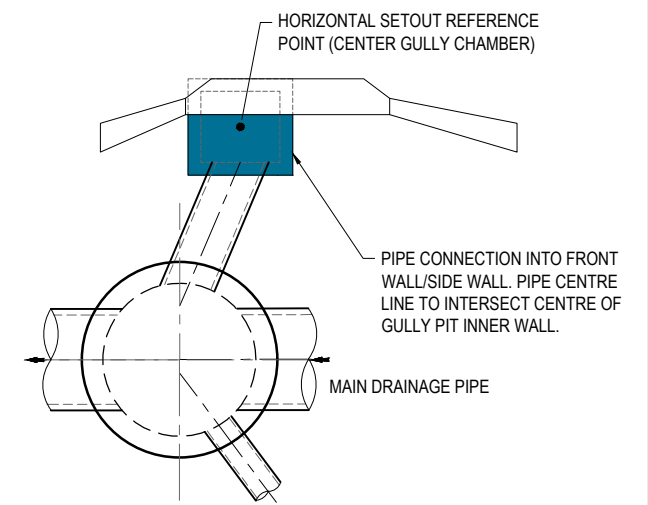
PIPE SIZE	X = WIDTH OF CONCRETE PIERS (mm)	
	FIRM/STIFF CLAY SAFE BEARING >150kPa	STIFF/VERY STIFF CLAY SAFE BEARING >200kPa
600Ø - 1050Ø	600	450
1200Ø - 2100Ø	450	350

NOTE:

GROUND CONDITIONS TO BE VERIFIED ON-SITE BY SUPERINTENDENT. IF LESSER GROUND CONDITIONS PREVAIL, SPECIALLY DESIGNED DRILLED PIERS ARE TO BE CONSIDERED.

NOTE:

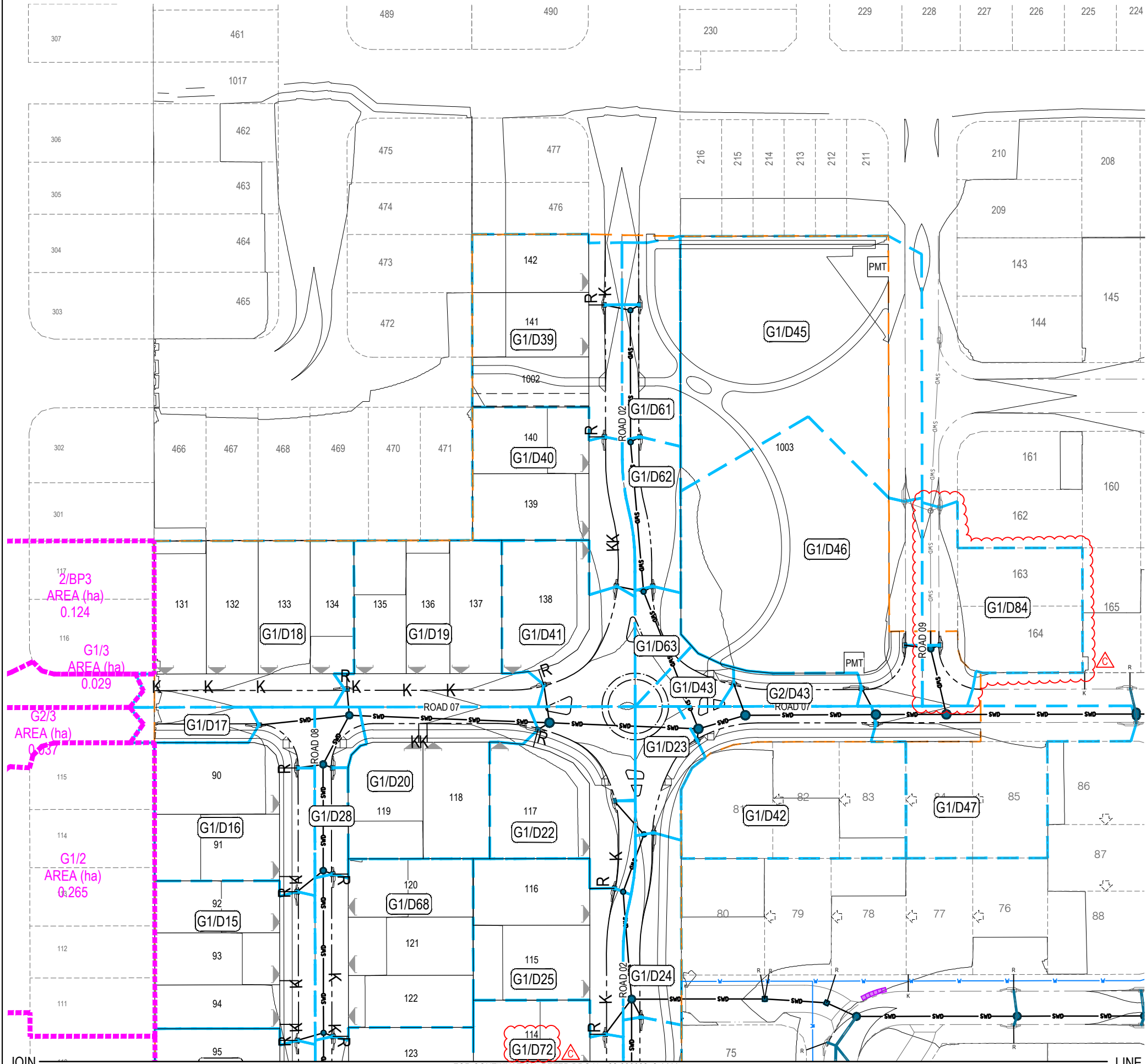
CONTRACTOR TO ENSURE PIPE CONNECTORS TO GULLY PITS ARE NOT CONSTRUCTED INTO THE CORNER OF TWO WALLS.



TYPICAL GULLY PIT PIPE CONNECTION DETAIL

NTS

<table border="1"> <thead> <tr> <th>REVISION</th> <th>DATE</th> <th>ISSUE DETAILS</th> <th>DRAWN</th> <th>DESIGN</th> <th>DRAWN CHECK</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>07.03.23</td> <td>ISSUED FOR APPROVAL</td> <td>IB</td> <td>AA</td> <td></td> <td></td> </tr> <tr> <td>B</td> <td>25.05.23</td> <td>MINOR AMENDMENTS</td> <td>IB</td> <td>AA</td> <td>aa</td> <td></td> </tr> <tr> <td>C</td> <td>12.12.23</td> <td>ISSUED FOR CONSTRUCTION</td> <td>AA</td> <td>AA</td> <td></td> <td></td> </tr> </tbody> </table>	REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	A	07.03.23	ISSUED FOR APPROVAL	IB	AA			B	25.05.23	MINOR AMENDMENTS	IB	AA	aa		C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA			<p>FOR CONSTRUCTION</p> <p>AS SHOWN</p>	<p>SCALE</p>	<p>CLIENT</p> <p>FOREVERLEN PTY LTD</p> <p>LENNIUM GROUP</p>	<p>PROJECT</p> <p>egis</p> <p>© 2023 Egis Consulting Pty Ltd</p> <p>www.egis-group.com</p>	<p>PROJECT</p> <p>LANDINGS</p> <p>STAGE 2</p> <p>DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.</p>	<p>DRAWING TITLE</p> <p>STORMWATER DRAINAGE NOTES AND DETAILS</p> <p>PROJECT No. 22-000082_2</p> <p>DRAWING No. 1405</p> <p>REVISION C</p>
REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS																												
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LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- STORMWATER CATCHMENT NAME
- EXISTING STORMWATER CATCHMENT NAME
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- EXISTING GULLY PIT

CATCHMENT NAME	CATCHMENT AREA (Ha)
G1/D02	0.274
F1/D05	0.115
F2/D05	0.101
G3/D05	0.036
G1/D06	0.047
G1/D07	0.076
G1/D08	0.064
G1/D13	0.150
G1/D14	0.144
G1/D15	0.137
G1/D16	0.143
G1/D17	0.024
G1/D18	0.192
G1/D19	0.152
G1/D20	0.128
G1/D22	0.127
G1/D23	0.039
G1/D24	0.057
G1/D25	0.124
G1/D28	0.039
G1/D31	0.120
G1/D39	0.155
G1/D40	0.125
G1/D41	0.107
G1/D42	0.127
G1/D43	0.020
G2/D43	0.026
G1/D45	0.347
G1/D46	0.269
G1/D47	0.207
G1/D61	0.069
G1/D62	0.044
G1/D63	0.025
G1/D65	0.118
G1/D66	0.148
G1/D67	0.141
G1/D68	0.151
G1/D71	0.121
G1/D72	0.180
G1/D84	0.134

CAUTION !!
UNDERGROUND TELECOMMS CABLES
 UNDERGROUND TELECOMMUNICATION CABLES EXIST IN THIS VICINITY. CONTACT SUPPLIER FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.

CAUTION !!
OVERHEAD ELECTRICAL CABLES
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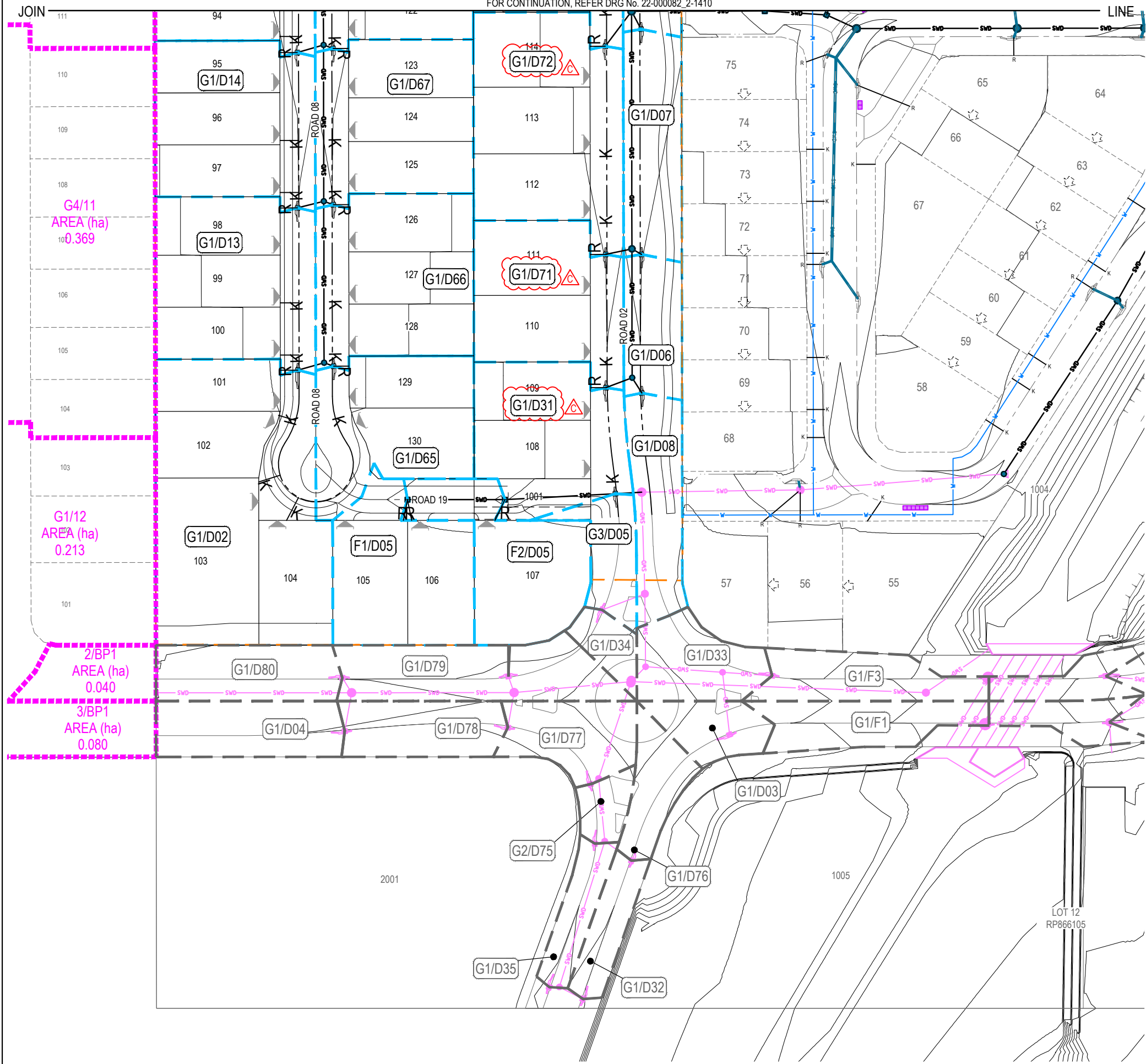
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JOIN FOR CONTINUATION, REFER DRG No. 22-000082_2-1411 LINE

REVISION A 07.03.23 ISSUED FOR APPROVAL B 25.05.23 MINOR AMENDMENTS C 12.12.23 ISSUED FOR CONSTRUCTION	ISSUE DETAILS DRAWN: IB AA DESIGN: AA AA DRAWN CHECK: AA DESIGN CHECK: MT	STATUS FOR CONSTRUCTION APPROVED BY: RYAN ASHWORTH RPEQ 19674 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD	SCALE 1:500 10 5 0 10 20m A1 1:1000	CLIENT FOREVERLEN PTY LTD LENNIUM GROUP	© 2023 Egis Consulting Pty Ltd www.egis-group.com	PROJECT LILYWOOD LANDINGS STAGE 2	DRAWING TITLE STORMWATER CATCHMENT PLAN SHEET 1 OF 2
		APPROVED BY: RYAN ASHWORTH RPEQ 19674 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD		ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.		PROJECT No. 22-000082_2 DRAWING No. 1410 REVISION C	21/12/2023

FOR CONTINUATION, REFER DRG No. 22-000082_2-1410



LEGEND

- STAGE BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- STORMWATER CATCHMENT NAME
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 UNDERGROUND ELECTRICITY CABLES EXIST IN THIS VICINITY. CONTACT ENERGEX FOR CABLE LOCATIONS. EXTREME CARE MUST BE TAKEN WHILST EXCAVATING.

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
 RYAN ASHWORTH RPEQ 19674
 Ryan Ashworth
 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE
 1:500 10 5 0 10 20m A1
 1:1000

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PROJECT
LYNSWOOD LANDINGS
STAGE 2
 DISCLAIMER
 ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
STORMWATER CATCHMENT PLAN SHEET 2 OF 2		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1411	C

STRUCTURE NAME	EX2/10	1/D01	2/D01	3/D01	4/D01	5/D01	6/D01	7/D01	8/D01	9/D01	10/D01	11/D01	12/D01	13/D01	OUT/D01
STRUCTURE DESCRIPTION	MANHOLE 1500mm DIA	MANHOLE 1500mm DIA	MANHOLE 1500mm DIA	MANHOLE	MANHOLE 1200mm DIA	MANHOLE 1200mm DIA	MANHOLE 1500mm DIA	MANHOLE 1350mm DIA	MANHOLE 1200mm DIA	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1441	MANHOLE 1200mm DIA	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1442	MANHOLE 1500mm DIA EXT. 900mm REFER MANHOLE DETAIL ON DRG. 1442	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1442	PRECAST HEADWALL

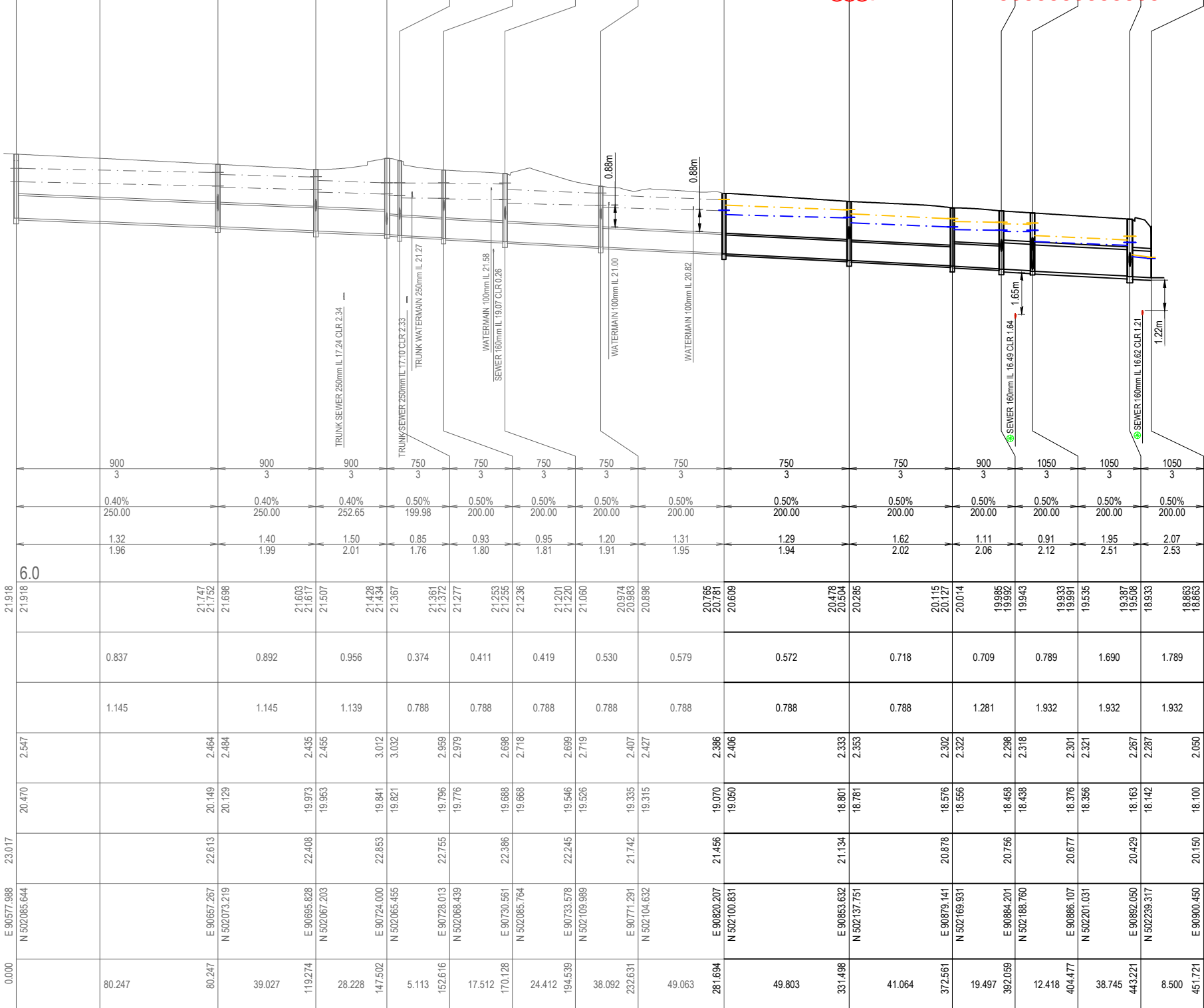
- LEGEND**
- DESIGN SURFACE
 - - - EXISTING SURFACE
 - - - HYDRAULIC GRADE LINE (10% AEP ARI)
 - - - HYDRAULIC GRADE LINE (1% AEP ARI)

NOTES:

- NOTWITHSTANDING THE STORMWATER STRUCTURE LEVELS SHOWN, THE COVER OR GRATE LEVEL SHALL SUIT THE FINISHED SURFACE PROFILE.
- THE PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. THE CONTRACTOR SHALL ASSESS ANTICIPATED LOADS AND UPGRADE THE PIPE CLASSES IF NECESSARY IN ACCORDANCE WITH AS 3725-2007. CRACKED PIPES WILL NOT BE ACCEPTED.
- REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405

PIPE SIZE (mm)	900	900	900	750	750	750	750	750	750	750	900	1050	1050	1050													
PIPE CLASS	3	3	3	3	3	3	3	3	3	3	3	3	3	3													
PIPE GRADE (%)	0.40%	0.40%	0.40%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%													
PIPE SLOPE (1 in X)	250.00	250.00	252.65	199.98	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00													
FULL PIPE VELOCITY (m/s)	1.32	1.40	1.50	0.85	0.93	0.95	1.20	1.29	1.62	1.11	0.91	1.95	2.07														
PART FULL VELOCITY (m/s)	1.96	1.99	2.01	1.76	1.80	1.81	1.91	1.95	2.02	2.06	2.12	2.51	2.53														
DATUM RL	6.0																										
H.G.L IN PIPE & W.S.E IN STRUCTURE	21.918	21.747 21.752	21.698	21.603 21.617	21.507	21.428 21.434	21.367	21.381 21.372	21.277	21.253 21.255	21.236	21.201 21.220	21.060	20.974 20.983	20.765 20.781	20.609	20.476 20.504	20.285	20.115 20.127	20.014	19.985 19.992	19.943	19.933 19.991	19.535	19.387 19.508	19.933	18.863 18.863
PIPE FLOW (Cumecs)	0.837	0.892	0.956	0.374	0.411	0.419	0.530	0.579	0.572	0.718	0.709	0.789	1.690	1.789													
PIPE CAPACITY AT GRADE (Cumecs)	1.145	1.145	1.139	0.788	0.788	0.788	0.788	0.788	0.788	0.788	1.281	1.932	1.932	1.932													
DEPTH TO INVERT	2.547	2.464 2.484	2.435 2.455	3.012 3.032	2.959 2.979	2.698 2.718	2.669 2.719	2.407 2.427	2.386 2.406	2.333 2.353	2.302 2.322	2.298 2.318	2.301 2.321	2.267 2.287	2.050 2.050												
INVERT LEVEL OF DRAIN	20.470	20.149 20.129	19.973 19.953	19.841 19.821	19.796 19.776	19.688 19.668	19.546 19.526	19.335 19.315	19.070 19.050	18.801 18.781	18.576 18.556	18.458 18.438	18.376 18.356	18.163 18.142	18.100 18.100												
DESIGN SURFACE LEVEL	23.017	22.613	22.408	22.853	22.755	22.396	22.245	21.742	21.456	21.134	20.878	20.756	20.677	20.429	20.150												
SETOUT COORDINATES	E 90577.988 N 502085.644	E 90657.267 N 502073.219	E 90695.628 N 502067.203	E 90724.000 N 502085.455	E 90728.013 N 502088.439	E 90730.561 N 502085.764	E 90733.578 N 502109.989	E 90771.291 N 502104.632	E 90820.207 N 502100.831	E 90853.632 N 502137.751	E 90879.141 N 502169.931	E 90884.201 N 502188.760	E 90886.107 N 502201.031	E 90892.050 N 502239.317	E 90900.450 N 502238.013												
RUNNING CHAINAGE	0.000	80.247	39.027	119.274	28.228	147.502	5.113	162.616	17.512	170.128	24.412	194.539	38.092	232.631	49.063	281.694	49.803	331.498	41.064	372.561	19.497	392.059	12.418	404.477	38.745	443.221	8.500

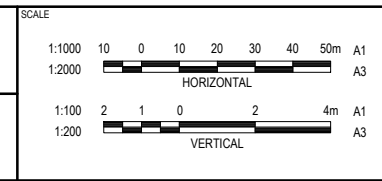


REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674

Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT

LANDINGS

STAGE 2

DISCLAIMER
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DRAWING TITLE		
STORMWATER LONGITUDINAL SECTIONS SHEET 1 OF 6		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1420	C

STRUCTURE NAME	G1/D02	2/D02	3/D02	4/D02	5/D02	6/D02	7/D02	8/D02	9/D02	10/D02	11/D02	12/D02	13/D02	14/D02	15/D02	OUT/D02
STRUCTURE DESCRIPTION	GULLY PIT L.I.L. 2.4m Linel. BK&C	MANHOLE 1050mm DIA	MANHOLE 1050mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1500mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1350mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1443	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440	MANHOLE 1500mm DIA EXT. 900mm REFER MANHOLE DETAIL ON DRG. 1440	MANHOLE 2100mm DIA	HEADWALL

- LEGEND**
- DESIGN SURFACE
 - - - EXISTING SURFACE
 - - - HYDRAULIC GRADE LINE (10% AEP ARI)
 - - - HYDRAULIC GRADE LINE (1% AEP ARI)

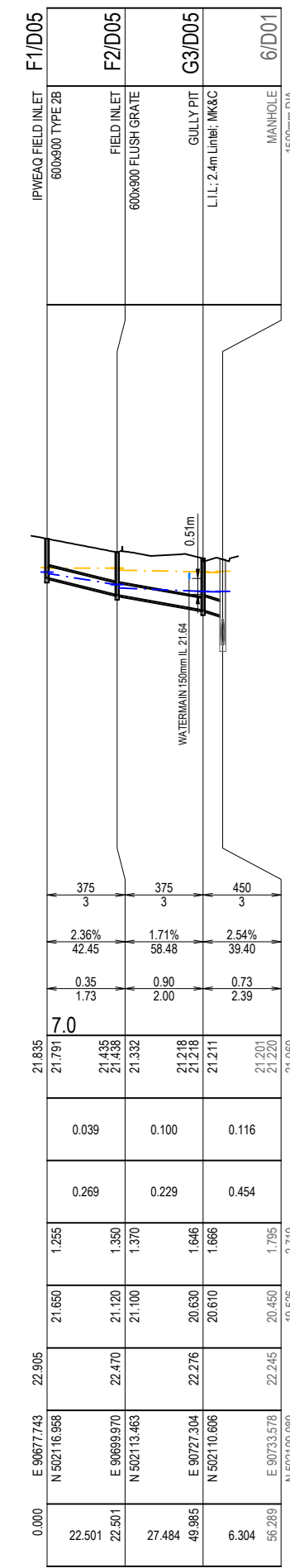
NOTES:

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- REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

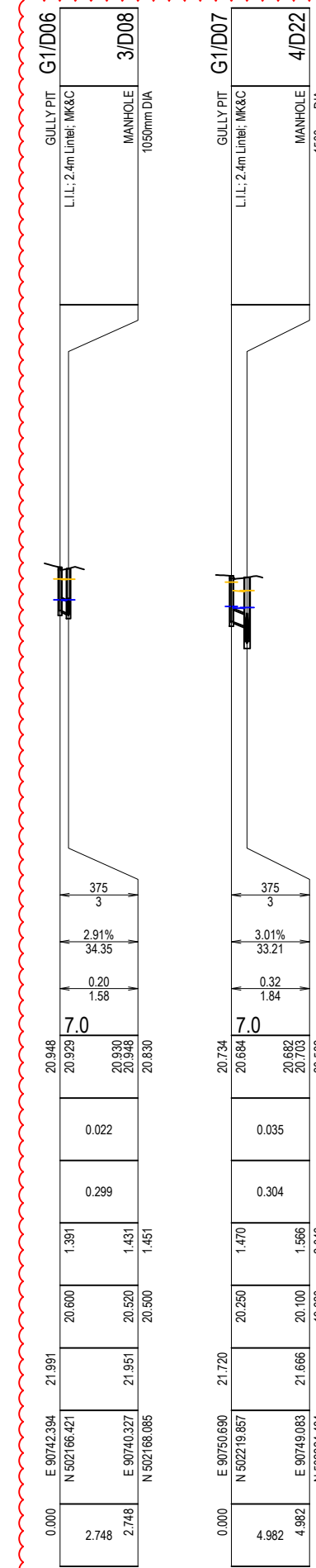
BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405

PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE SLOPE (1 in X)	FULL PIPE VELOCITY (m/s)	PART FULL VELOCITY (m/s)	DATUM RL	H.G.L IN PIPE & W.S.E IN STRUCTURE	PIPE FLOW (Cumecs)	PIPE CAPACITY AT GRADE (Cumecs)	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN SURFACE LEVEL	SETOUT COORDINATES	RUNNING CHAINAGE
375	3	1.22%	81.95	0.96	1.79	6.0	22.172 21.851	0.106	0.194	1.421	21.400	22.821	E 90656.633 N 502151.760	0.000
450	3	0.77%	129.28	1.01	1.67		21.827 21.844 21.699	0.161	0.251	1.468	21.320	22.778	E 90663.027 N 502152.536	6.556
525	3	0.96%	104.24	1.44	2.13		21.699 21.686 21.622 21.383	0.312	0.421	1.478	21.300	22.575	E 90668.976 N 502190.860	38.783
600	3	0.87%	114.62	1.56	2.24		21.383 21.242 21.285 21.036	0.442	0.574	1.575	21.000	22.379	E 90674.733 N 502227.943	37.528
750	3	0.94%	106.38	1.27	2.47		21.036 20.791 20.808 20.704	0.563	1.080	1.759	20.620	22.183	E 90680.712 N 502266.454	121.839
900	3	1.20%	83.50	1.01	2.78		20.704 20.550 20.568 20.450	0.644	1.982	1.943	20.240	22.068	E 90684.631 N 502291.682	25.530
900	3	1.08%	92.54	1.15	2.77		20.450 20.689 20.688 20.303	0.732	1.883	2.088	19.980	22.217	E 90692.666 N 502302.355	13.360
1050	3	0.67%	149.20	0.97	2.40		20.303 19.917 19.924 19.776	0.843	2.237	2.397	19.820	21.725	E 90739.895 N 502293.132	208.860
1200	3	0.51%	195.66	0.97	2.32		19.776 19.660 19.671 19.568	1.096	2.788	2.445	19.280	21.345	E 90775.017 N 502286.153	35.809
1200	3	0.51%	196.93	0.97	2.31		19.568 19.553 19.566 19.490	1.101	2.779	2.345	19.000	21.288	E 90786.665 N 502287.619	11.740
1200	3	0.48%	206.83	1.02	2.30		19.490 19.446 19.450 19.420	1.153	2.712	2.369	18.920	21.180	E 90802.252 N 502285.325	15.755
1200	3	0.44%	225.86	1.03	2.23		19.420 19.448 19.448 19.435	1.160	2.595	2.329	18.750	21.079	E 90816.558 N 502283.104	14.478
1200	3	0.53%	188.11	1.32	2.54		19.435 19.463 19.299	1.494	2.844	2.349	18.730	20.954	E 90834.413 N 502280.333	18.069
1200	3	0.43%	233.55	1.42	2.39		19.299 19.217 19.223 19.170	1.611	2.552	2.304	18.650	20.575	E 90888.320 N 502271.965	54.552
1200	3	0.54%	185.57	1.54	2.65		19.170 19.145 19.208 18.884	1.740	2.863	2.255	18.320	20.349	E 90920.630 N 502266.949	32.697
							18.884 18.775 18.775 18.775			1.900	18.100	20.000	E 90919.746 N 502255.851	11.134

Line D02



Line D05



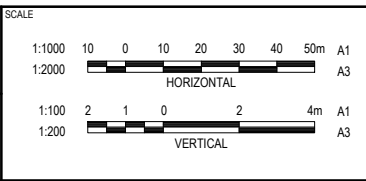
Line D06

Line D07

REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

DRAWN	DESIGN	DRAWN CHECK	STATUS
IB	AA	aa	FOR CONSTRUCTION
IB	AA		
AA	AA		

APPROVED
RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT
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PROJECT
Lilywood LANDINGS
STAGE 2
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
STORMWATER LONGITUDINAL SECTIONS SHEET 2 OF 6		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1421	C

STRUCTURE NAME	G1/D08	2/D08	3/D08	4/D22
STRUCTURE DESCRIPTION	GULLY PIT L.I.L.: 2.4m Linel, MK&C	MANHOLE 1050mm DIA	MANHOLE 1050mm DIA	MANHOLE 1500mm DIA

LEGEND

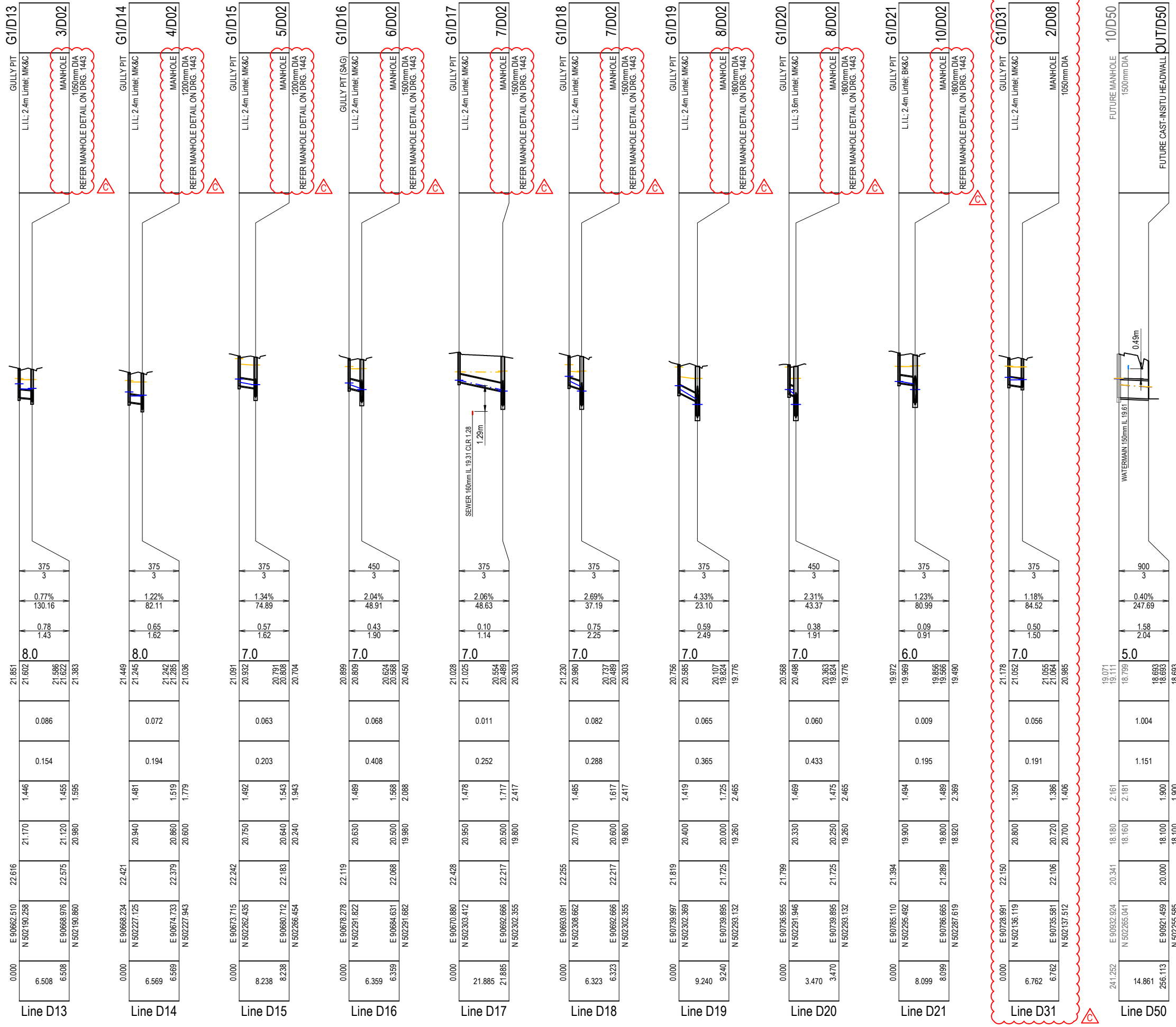
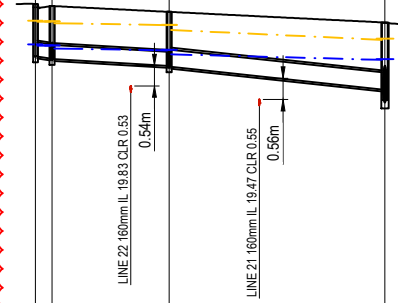
- DESIGN SURFACE
- - - EXISTING SURFACE
- - - HYDRAULIC GRADE LINE (10% AEP ARI)
- - - HYDRAULIC GRADE LINE (1% AEP ARI)

NOTES:

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- REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405

PIPE SIZE (mm)	375	375	450
PIPE CLASS	3	3	3
PIPE GRADE (%)	1.13%	0.58%	1.05%
PIPE SLOPE (1 in X)	88.76	171.88	95.15
FULL PIPE VELOCITY (m/s)	0.27	0.77	1.01
PART FULL VELOCITY (m/s)	1.24	1.28	1.88
DATUM RL	7.0		
H.G.L IN PIPE & W.S.E IN STRUCTURE	21.091 21.055	21.055 21.054 20.995	20.930 20.948 20.830
PIPE FLOW (Cumecs)	0.030	0.086	0.161
PIPE CAPACITY AT GRADE (Cumecs)	0.186	0.134	0.292
DEPTH TO INVERT	1.388	1.386 1.406	1.431 1.451
INVERT LEVEL OF DRAIN	20.770	20.720 20.700	20.520 20.500
DESIGN SURFACE LEVEL	22.158	22.106	21.951
SETOUT COORDINATES	E 90737.324 N 502133.511	E 90735.581 N 502137.512	E 90740.327 N 502168.085
RUNNING CHAINAGE	0.000	4.438	30.939

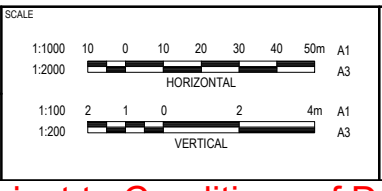


REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA	aa	
B	25.05.23	MINOR AMENDMENTS	IB	AA	aa	
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA	aa	

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674

Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT

LANDINGS

STAGE 2

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DRAWING TITLE		
STORMWATER LONGITUDINAL SECTIONS SHEET 3 OF 6		
PROJECT No. 22-000082_2	DRAWING No. 1422	REVISION C

STRUCTURE NAME	STRUCTURE DESCRIPTION
G1/D22	GULLY PIT (SAG) L.L.L.: 2.4m Linel, MK&C
2/D22	MANHOLE 1050mm DIA
3/D22	MANHOLE 1050mm DIA
4/D22	MANHOLE 1350mm DIA
F5/D22	IPWEAQ FIELD INLET 600x900 TYPE 2B ON 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1441
F6/D22	FIELD INLET 900x900 FLUSH GRATE ON 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1441
7/D22	MANHOLE 1500mm DIA
8/D22	MANHOLE 1500mm DIA
9/D22	MANHOLE 1500mm DIA
12/D01	MANHOLE 1500mm DIA EXT. 900mm REFER MANHOLE DETAIL ON DRG. 1442
G1/D23	GULLY PIT L.L.L.: 3.6m Linel, MK&C
9/D02	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440
G1/D24	GULLY PIT L.L.L.: 3.6m Linel, MK&C
2/D22	MANHOLE 1050mm DIA
G1/D25	GULLY PIT L.L.L.: 2.4m Linel, MK&C
3/D22	MANHOLE 1050mm DIA
G1/D28	GULLY PIT (SAG) L.L.L.: 3.6m Linel, MK&C
6/D02	MANHOLE 1500mm DIA REFER MANHOLE DETAIL ON DRG. 1443
G1/D39	GULLY PIT (SAG) L.L.L.: 2.4m Linel, MK&C
2/D39	MANHOLE 1050mm DIA
3/D39	MANHOLE 1050mm DIA REFER MANHOLE DETAIL ON DRG. 1442
4/D39	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1442
9/D02	MANHOLE 1800mm DIA REFER MANHOLE DETAIL ON DRG. 1440
G1/D40	GULLY PIT L.L.L.: 2.4m Linel, MK&C
3/D39	MANHOLE 1050mm DIA REFER MANHOLE DETAIL ON DRG. 1442
G1/D41	GULLY PIT L.L.L.: 2.4m Linel, MK&C
4/D39	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1442

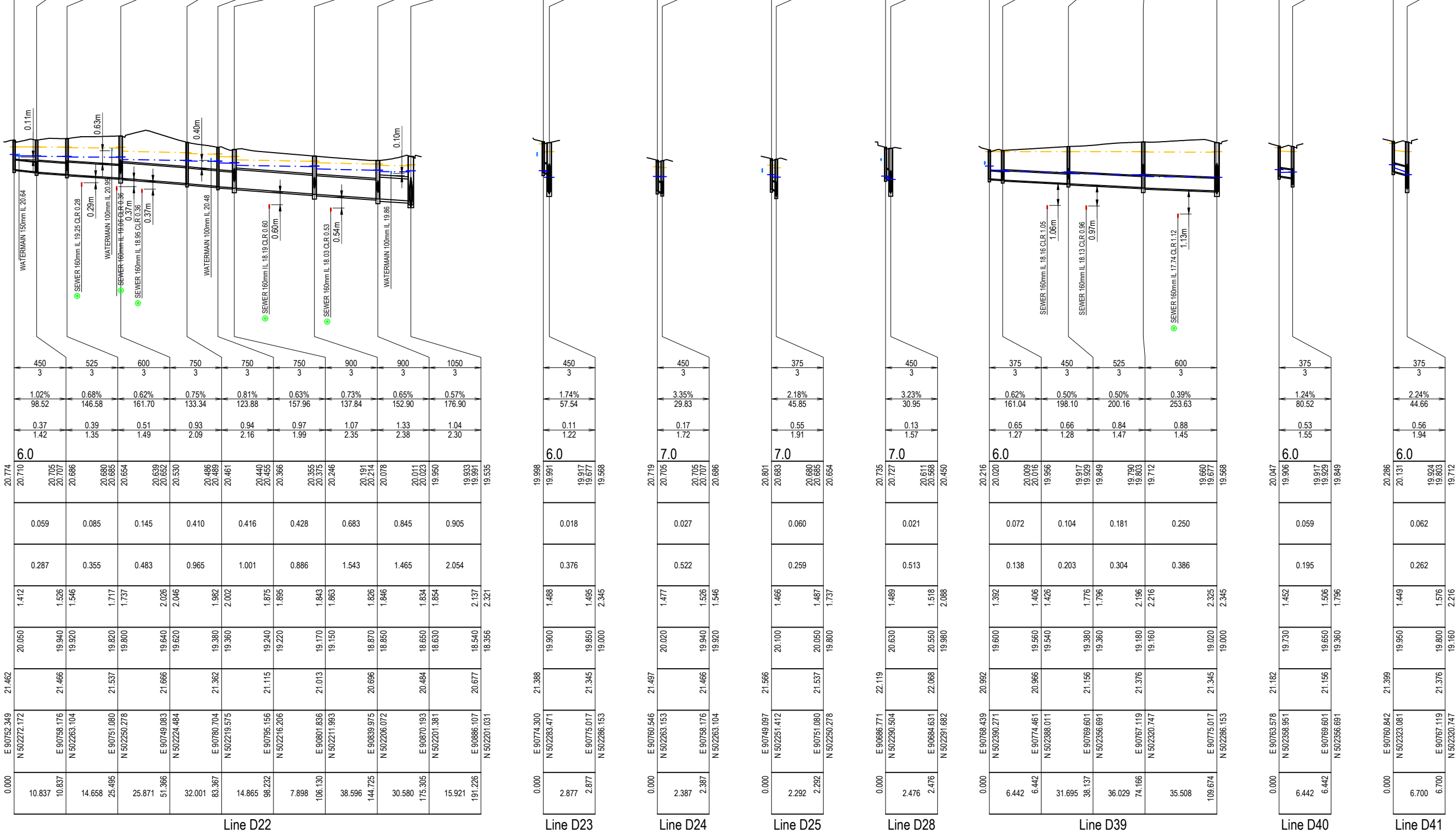
LEGEND

- DESIGN SURFACE
- - - EXISTING SURFACE
- . - . HYDRAULIC GRADE LINE (10% AEP ARI)
- - - - HYDRAULIC GRADE LINE (1% AEP ARI)

NOTES:

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- REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405



PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE SLOPE (1 in X)	FULL PIPE VELOCITY (m/s)	PART FULL VELOCITY (m/s)	DATUM RL	H.G.L IN PIPE & W.S.E IN STRUCTURE	PIPE FLOW (Cumecs)	PIPE CAPACITY AT GRADE (Cumecs)	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN SURFACE LEVEL	SETOUT COORDINATES	RUNNING CHAINAGE
450	3	1.02%	98.52	0.37	1.42	6.0	20.774 20.710	0.059	0.287	1.412	20.050	21.462	E 90752.349 N 502272.172	0.000
525	3	0.68%	146.58	0.39	1.35	6.0	20.705 20.686	0.085	0.355	1.526	19.940	21.466	E 90758.176 N 502263.104	10.837
600	3	0.62%	161.70	0.51	1.49	6.0	20.680 20.664	0.145	0.483	1.717	19.820	21.537	E 90751.080 N 502250.278	14.658
750	3	0.75%	133.34	0.93	2.09	6.0	20.639 20.632	0.410	0.965	2.026	19.640	21.666	E 90749.083 N 502224.484	25.871
750	3	0.81%	123.88	0.94	2.16	6.0	20.468 20.461	0.416	1.001	1.982	19.380	21.362	E 90780.704 N 502219.575	32.001
750	3	0.63%	157.96	0.97	1.99	6.0	20.355 20.375	0.428	0.886	2.002	19.360	21.362	E 90801.836 N 502211.993	38.367
900	3	0.73%	137.84	1.07	2.35	6.0	20.246 20.244	0.683	1.543	1.843	19.170	21.013	E 90801.836 N 502211.993	7.898
900	3	0.65%	152.90	1.33	2.38	6.0	20.191 20.214	0.845	1.465	1.826	18.870	20.696	E 90839.975 N 502206.072	106.130
1050	3	0.57%	176.90	1.04	2.30	6.0	20.011 20.023	0.905	2.054	1.846	18.850	20.464	E 90870.193 N 502201.381	38.596
						6.0	19.950 19.981			2.137	18.540	20.677	E 90886.107 N 502201.031	175.305
						6.0	19.933 19.981			2.321	18.356			144.725
						6.0	19.917 19.977				19.150			30.580
						6.0	19.988				19.150			175.305
						7.0	20.719 20.705			1.477	20.020	21.487	E 90760.546 N 502283.471	191.226
						7.0	20.705 20.707			1.526	19.940	21.466	E 90758.176 N 502263.104	192.877
						7.0	20.686			1.546	19.920	21.466	E 90758.176 N 502263.104	2.877
						7.0	20.801 20.683			1.466	20.100	21.566	E 90749.097 N 502251.412	2.292
						7.0	20.680 20.685			1.467	20.050	21.537	E 90751.080 N 502250.278	2.292
						7.0	20.654			1.737	19.800	21.537	E 90751.080 N 502250.278	2.476
						7.0	20.735 20.727			1.469	20.630	22.119	E 90686.771 N 502290.504	2.476
						7.0	20.611 20.568			1.518	20.550	22.068	E 90684.631 N 502291.682	2.476
						7.0	20.450			2.088	19.980	22.068	E 90684.631 N 502291.682	2.476
						6.0	20.216 20.020			1.392	19.600	20.992	E 90768.439 N 502390.271	6.442
						6.0	20.009 20.016			1.406	19.560	20.966	E 90774.461 N 502388.011	6.442
						6.0	19.966 19.917			1.426	19.540	20.966	E 90769.601 N 502356.691	31.695
						6.0	19.849 19.829			1.776	19.380	21.156	E 90789.601 N 502356.691	38.137
						6.0	19.790 19.803			1.796	19.360	21.156	E 90789.601 N 502356.691	36.029
						6.0	19.712 19.660			2.196	19.160	21.376	E 90767.119 N 502320.747	74.166
						6.0	19.660 19.677			2.216	19.160	21.345	E 90775.017 N 502286.153	35.508
						6.0	19.568			2.345	19.020	21.345	E 90775.017 N 502286.153	109.674
						6.0	20.047 19.906			1.452	19.730	21.182	E 90763.578 N 502356.951	6.442
						6.0	19.917 19.929			1.506	19.650	21.156	E 90769.601 N 502356.691	6.442
						6.0	19.849			1.796	19.360	21.156	E 90769.601 N 502356.691	6.700
						6.0	20.286 20.131			1.449	19.950	21.399	E 90760.842 N 502323.081	6.700
						6.0	19.924 19.803			1.576	19.800	21.376	E 90767.119 N 502320.747	6.700
						6.0	19.712			2.216	19.160	21.376	E 90767.119 N 502320.747	6.700

REVISION	DATE	ISSUE DETAILS
A	07.03.23	ISSUED FOR APPROVAL
B	25.05.23	MINOR AMENDMENTS
C	12.12.23	ISSUED FOR CONSTRUCTION

FOR CONSTRUCTION	APPROVED RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD	Ryan Ashworth

SCALE
1:1000 10 0 10 20 30 40 50m A1
1:2000 HORIZONTAL
1:100 2 1 0 2 4m A1
1:200 VERTICAL

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LENNIUM GROUP

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PROJECT
LIBBYWOOD LANDINGS
STAGE 2
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE	STORMWATER LONGITUDINAL SECTIONS SHEET 4 OF 6
PROJECT No.	22-000082_2
DRAWING No.	1423
REVISION	C

STRUCTURE NAME	G1/D42
STRUCTURE DESCRIPTION	GULLY PIT L.L.I.: 2.4m Linel: MK&C MANHOLE 1800mm DIA

LEGEND

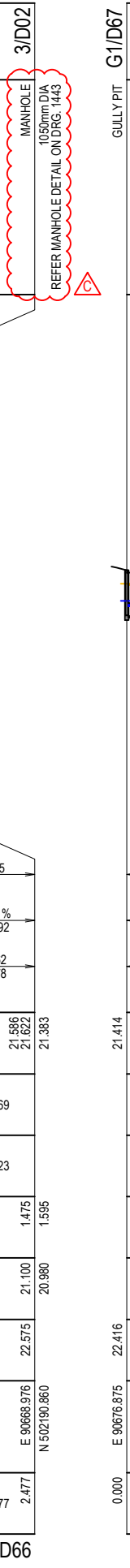
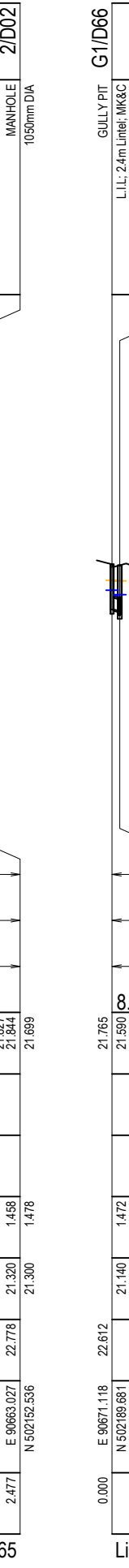
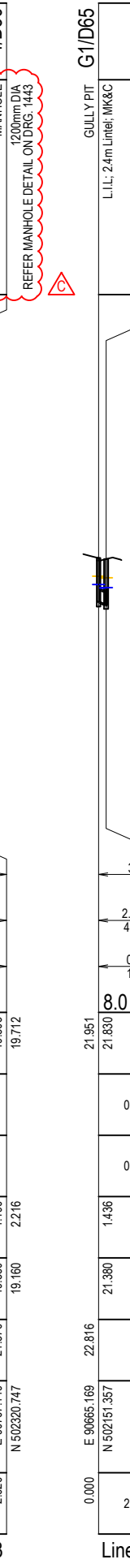
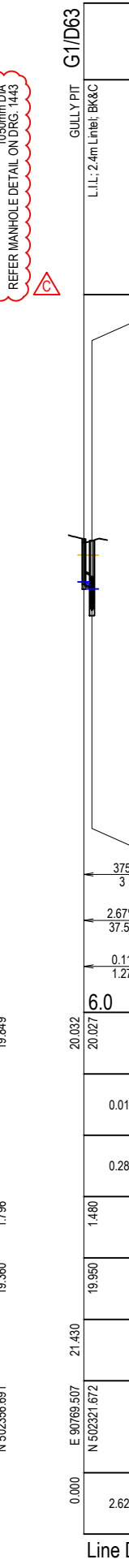
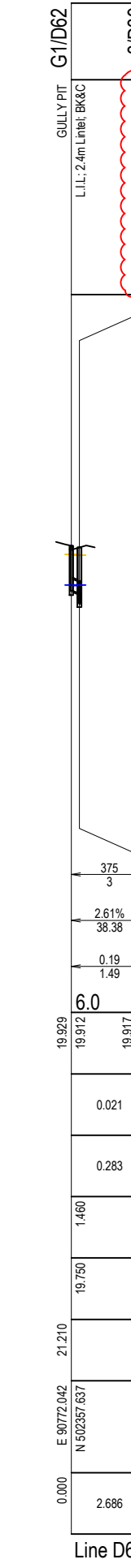
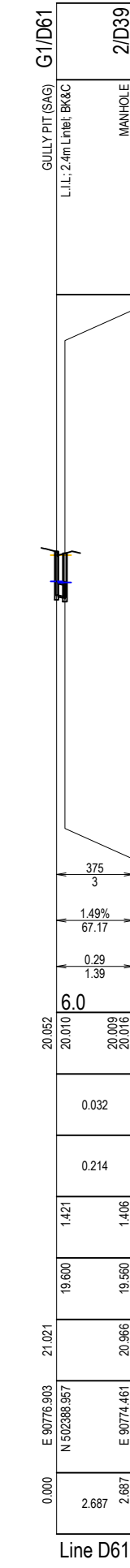
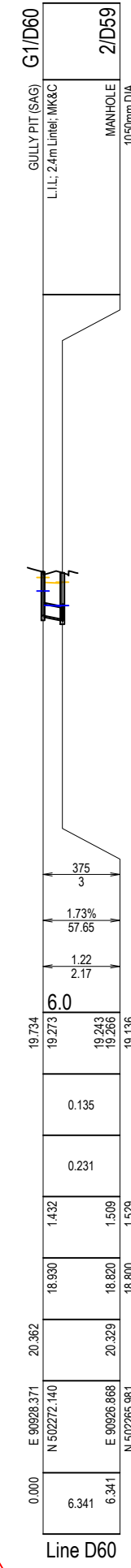
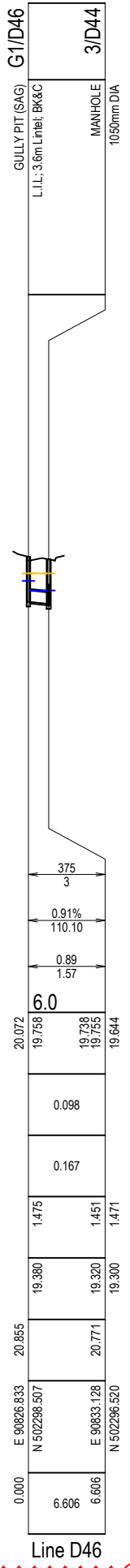
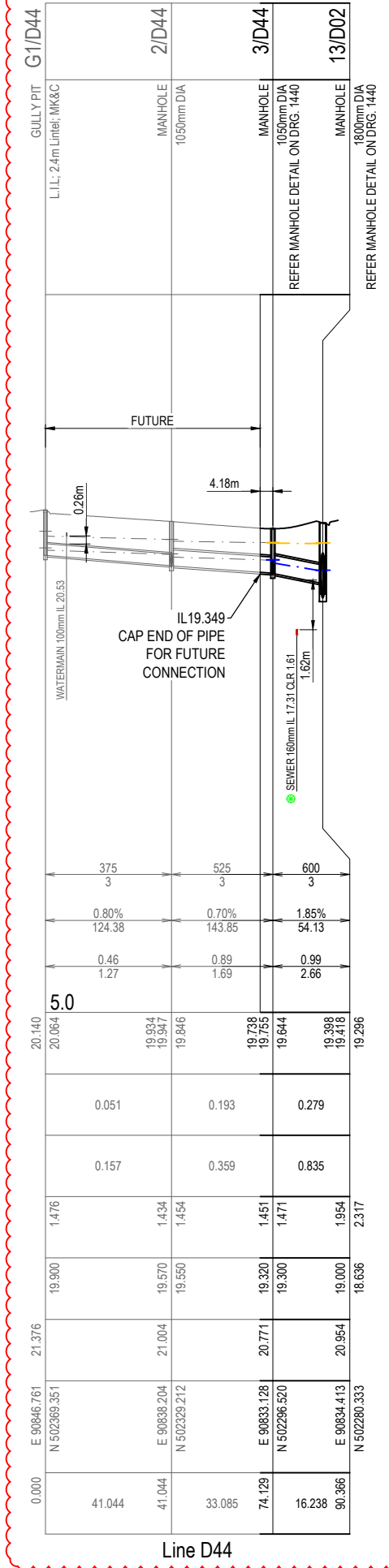
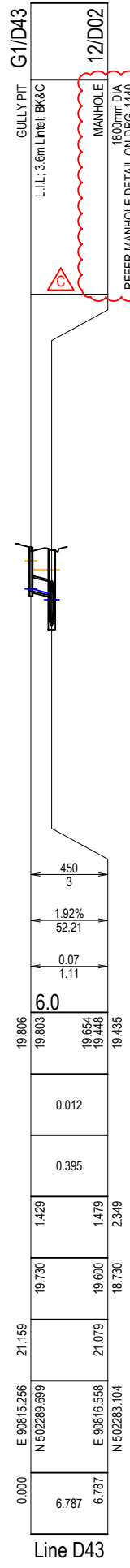
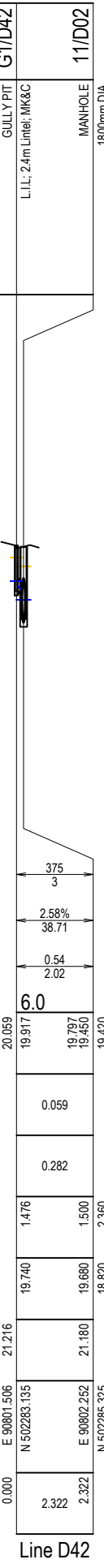
- DESIGN SURFACE
- - - EXISTING SURFACE
- - - HYDRAULIC GRADE LINE (10% AEP ARI)
- - - HYDRAULIC GRADE LINE (1% AEP ARI)

NOTES:

- NOTWITHSTANDING THE STORMWATER STRUCTURE LEVELS SHOWN, THE COVER OR GRATE LEVEL SHALL SUIT THE FINISHED SURFACE PROFILE.
- THE PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. THE CONTRACTOR SHALL ASSESS ANTICIPATED LOADS AND UPGRADE THE PIPE CLASSES IF NECESSARY IN ACCORDANCE WITH AS 3725-2007. CRACKED PIPES WILL NOT BE ACCEPTED. REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405

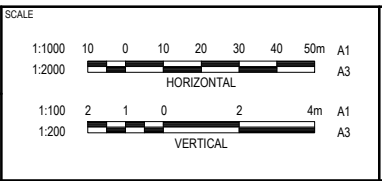
PIPE SIZE (mm)	375
PIPE CLASS	3
PIPE GRADE (%)	2.58%
PIPE SLOPE (1 in X)	38.71
FULL PIPE VELOCITY (m/s)	0.54
PART FULL VELOCITY (m/s)	2.02
DATUM RL	6.0
H.G.L. IN PIPE & W.S.E. IN STRUCTURE	19.069 19.917 19.797 19.450 19.420
PIPE FLOW (Cumecs)	0.059
PIPE CAPACITY AT GRADE (Cumecs)	0.282
DEPTH TO INVERT	1.476 1.500 2.360
INVERT LEVEL OF DRAIN	19.740 19.680 18.820
DESIGN SURFACE LEVEL	21.216 21.180
SETOUT COORDINATES	E 90801.506 N 502283.135 E 90802.252 N 502285.325
RUNNING CHAINAGE	0.000 2.322 2.322



REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT

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LENNIUM GROUP

PROJECT

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PROJECT

LANDINGS
STAGE 2

DRAWING TITLE		
STORMWATER LONGITUDINAL SECTIONS SHEET 5 OF 6		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1424	C

STRUCTURE NAME	G1/D68	5/D02
STRUCTURE DESCRIPTION	GULLY PIT L.L.: 2.4m Linel: MK&C	MANHOLE 1200mm DIA REFER MANHOLE DETAIL ON DRG. 1443

LEGEND

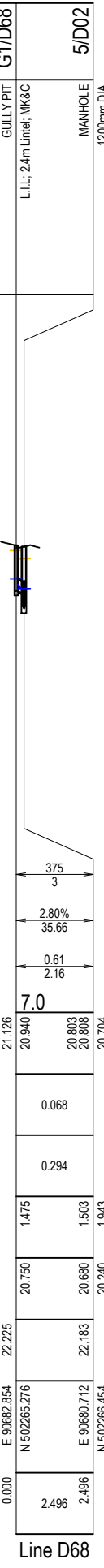
- DESIGN SURFACE
- EXISTING SURFACE
- HYDRAULIC GRADE LINE (10% AEP ARI)
- HYDRAULIC GRADE LINE (1% AEP ARI)

NOTES:

- NOTWITHSTANDING THE STORMWATER STRUCTURE LEVELS SHOWN, THE COVER OR GRATE LEVEL SHALL SUIT THE FINISHED SURFACE PROFILE.
- THE PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. THE CONTRACTOR SHALL ASSESS ANTICIPATED LOADS AND UPGRADE THE PIPE CLASSES IF NECESSARY IN ACCORDANCE WITH AS 3725-2007. CRACKED PIPES WILL NOT BE ACCEPTED.
- REFER DRG 22-000082_2_1405 FOR STORMWATER NOTES.

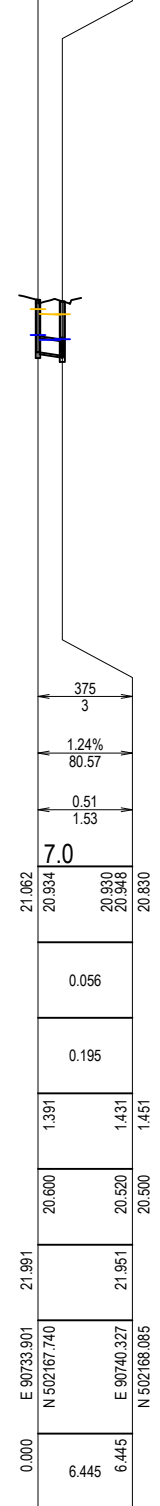
BRIDGING NOTE:
REFER TO BRIDGING DETAIL ON DRG 22-000082_2_1405

PIPE SIZE (mm)	375
PIPE CLASS	3
PIPE GRADE (%)	2.80%
PIPE SLOPE (1 in X)	35.66
FULL PIPE VELOCITY (m/s)	0.61
PART FULL VELOCITY (m/s)	2.16
DATUM RL	7.0
H.G.L IN PIPE & W.S.E IN STRUCTURE	21.126 20.940 20.803 20.808 20.704
PIPE FLOW (Cumecs)	0.068
PIPE CAPACITY AT GRADE (Cumecs)	0.294
DEPTH TO INVERT	1.475 1.503 1.943
INVERT LEVEL OF DRAIN	20.760 20.680 20.240
DESIGN SURFACE LEVEL	22.225 22.183
SETOUT COORDINATES	E 90682.854 N 502265.276 E 90680.712 N 502266.454
RUNNING CHAINAGE	0.000 2.496



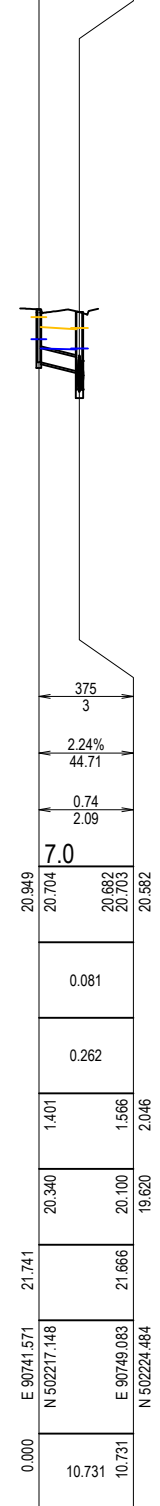
Line D68

STRUCTURE NAME	G1/D71	3/D08
STRUCTURE DESCRIPTION	GULLY PIT L.L.: 2.4m Linel: MK&C	MANHOLE 1050mm DIA



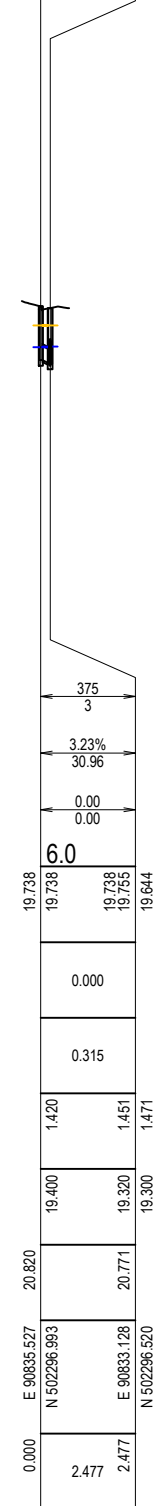
Line D71

STRUCTURE NAME	G1/D72	4/D22
STRUCTURE DESCRIPTION	GULLY PIT L.L.: 2.4m Linel: MK&C	MANHOLE 1500mm DIA



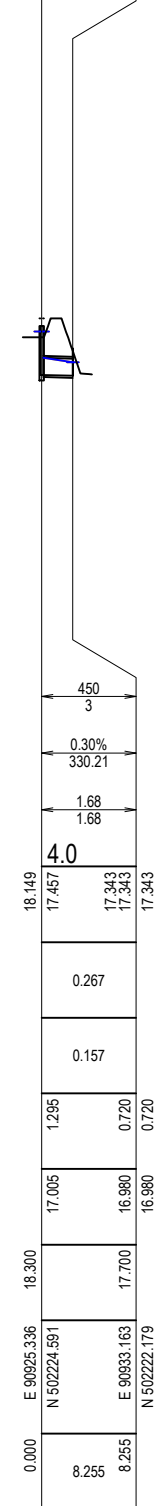
Line D72

STRUCTURE NAME	G1/D84	3/D44
STRUCTURE DESCRIPTION	GULLY PIT (SAG) L.L.: 2.4m Linel: MK&C	MANHOLE 1050mm DIA REFER MANHOLE DETAIL ON DRG. 1440



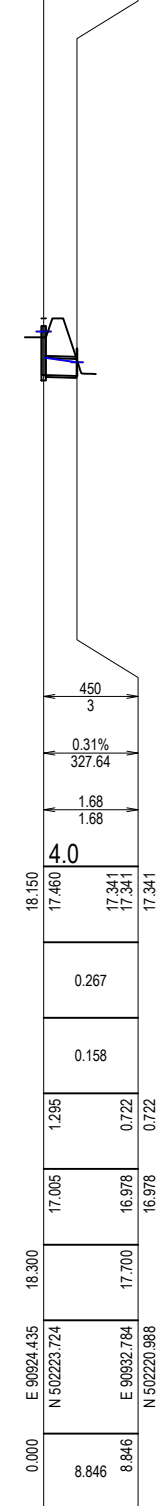
Line D84

STRUCTURE NAME	F1/D93	OUT/D93
STRUCTURE DESCRIPTION	FIELD INLET 900x900 RAISED GRATE	PRECAST HEADWALL



Line D93

STRUCTURE NAME	F1/D94	OUT/D94
STRUCTURE DESCRIPTION	FIELD INLET 900x900 RAISED GRATE	PRECAST HEADWALL

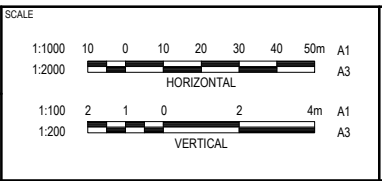


Line D94

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN
A	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA

FOR CONSTRUCTION

APPROVED
RYAN ASHWORTH RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



CLIENT

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PROJECT

STAGE 2
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE STORMWATER LONGITUDINAL SECTIONS SHEET 6 OF 6		
PROJECT No. 22-000082_2	DRAWING No. 1425	REVISION A

Main data table with columns: DESIGN ARI, LOCATION, CATCHMENT PROPERTIES, FULL AREA RUNOFF, PART AREA RUNOFF, INLET DESIGN, DRAIN DESIGN, HEADLOSSES, PART FULL, DESIGN LEVELS. Includes rows for various structures like EX2/10, 1/D01, 2/D01, etc., with detailed runoff and flow data.

STORMWATER DRAINAGE CALCULATIONS - MINOR 10% AEP

REVISION table with columns: REVISION, DATE, ISSUE DETAILS, DRAWN, DESIGN, DRAWN CHECK, STATUS. Includes entries for approvals and construction issues.

FOR CONSTRUCTION
APPROVED BY: RYAN ASHWORTH
RPEQ 19674
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE: 1:100
CLIENT: FOREVERLEN PTY LTD
LENNIUM GROUP

Project logo and title: egis, LANDINGS STAGE 2, www.egis-group.com

DRAWING TITLE: STORMWATER CALCULATION TABLES SHEET 1 OF 4
PROJECT No: 22-00082_2
DRAWING No: 1430
REVISION: C

DESIGN No	LOCATION	CATCHMENT PROPERTIES			FULL AREA RUNOFF				PART AREA RUNOFF				INLET DESIGN				DRAIN DESIGN				HEADLOSSES						PART FULL		DESIGN LEVELS															
		fi	Ci	Cp	Ic	I	A	CA	Q	Ic	I	A	CA	Q	Ic	I	CA	Q	L	S	Vf	S/Do	Qg/Go	Du/Do	CHART(S) USED	VELOCITY HEAD	US HEAD LOSS COEFFICIENT	US HEAD LOSS	W.S.E COEFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEAD LOSS	NORMAL DEPTH	NORMAL DEPTH VEL.	PIPE US I.L.	PIPE DS I.L.	PIPE US H.G.L.	PIPE DS H.G.L.	W.S.E	GRATE LEVEL	FREEBOARD	STRUCTURE No.		
																																											mm	mm
10%	G1D37	85	0.9	0.64	10	168	0.189	0.162	76	5	207	0.175	0.153	88	136	3.639	0.108	0.09	0.85	3							G2	0.052	3.7	0.192	0.192	0.4	0.026	0.189	2	19.3	19.2	20.267	20.241	20.459	20.851	0.192	G1D37	

STORMWATER DRAINAGE CALCULATIONS - MINOR 10% AEP






REVISION A 07.03.23 ISSUED FOR APPROVAL B 25.05.23 MINOR AMENDMENTS C 12.12.23 ISSUED FOR CONSTRUCTION		ISSUE DETAILS ISSUED FOR APPROVAL MINOR AMENDMENTS ISSUED FOR CONSTRUCTION		DRAWN IB AA IB AA AA AA		DESIGN IB AA IB AA AA AA		DRAWN CHECK  AA DESIGN CHECK  AA		STATUS FOR CONSTRUCTION		SCALE AS SHOWN		CUSTOMER FOREVERLEN PTY LTD 		PROJECT  STAGE 2		DRAWING TITLE STORMWATER CALCULATION TABLES SHEET 2 OF 4					
								APPROVED RYAN ASHWORTH RPEQ 19674  FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD				DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.		PROJECT No: 22-00082_2		DRAWING No: 1431		REVISION: C					

Table with columns: DESIGN ARI, LOCATION, CATCHMENT PROPERTIES, FULL AREA RUNOFF, PART AREA RUNOFF, INLET DESIGN, DRAIN DESIGN, HEADLOSSES, PART FULL, DESIGN LEVELS. It contains a detailed grid of stormwater calculation data for various design areas and structures.

STORMWATER DRAINAGE CALCULATIONS - MAJOR 1% AEP (INCLUDING 20% ABOVE STANDARD 1% AEP INTENTIONS FOR CLIMATE CHANGE)

Table with columns: REVISION, DATE, ISSUE DETAILS, DRAWN, DESIGN, DRAWN CHECK, STATUS. It lists revision history for the drawing.

FOR CONSTRUCTION
APPROVED RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

CLIENT: FOREVERLEN PTY LTD
LENNIUM GROUP

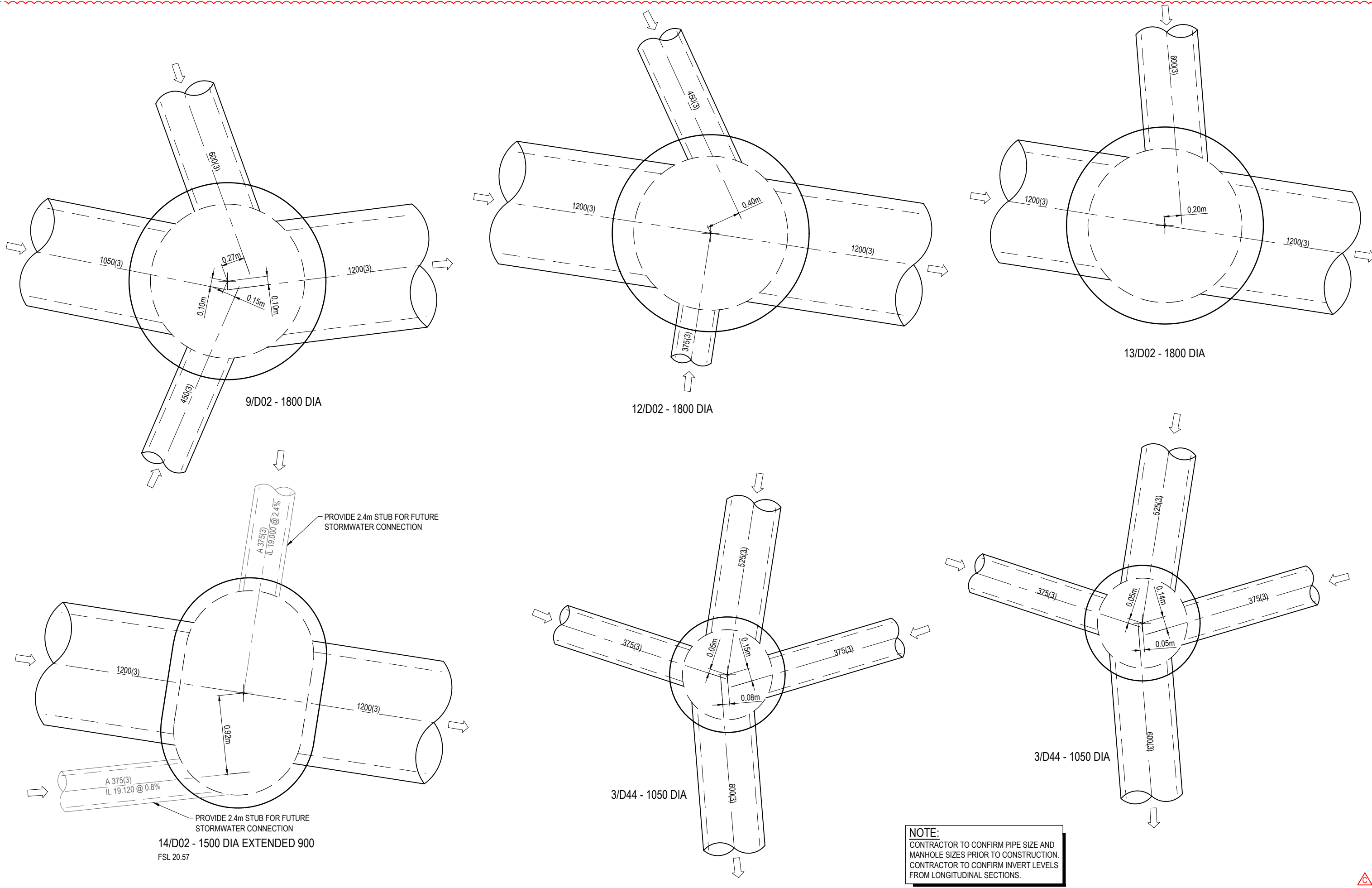


PROJECT: LILYWOOD LANDINGS STAGE 2
DRAWING TITLE: STORMWATER CALCULATION TABLES SHEET 3 OF 4
PROJECT No: 22-000082_2, DRAWING No: 1432, REVISION: C

Approved Subject to Conditions of Decision Notice DA/2023/3496

21/12/2023

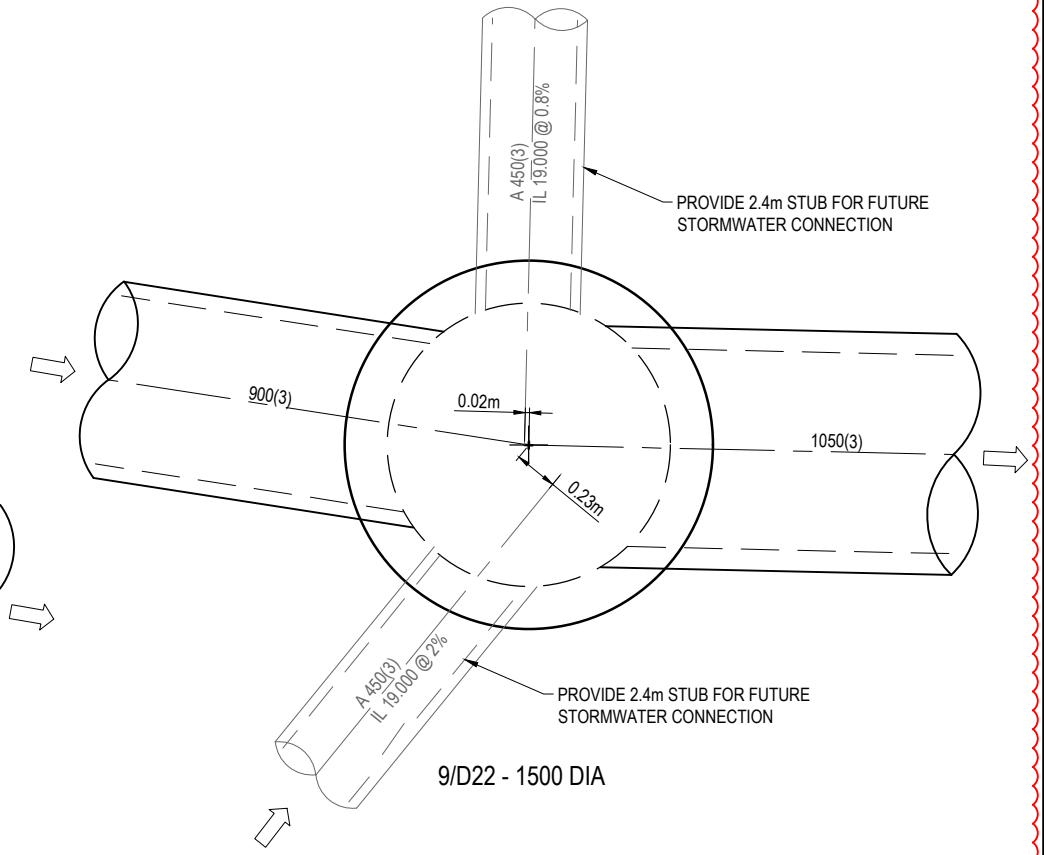
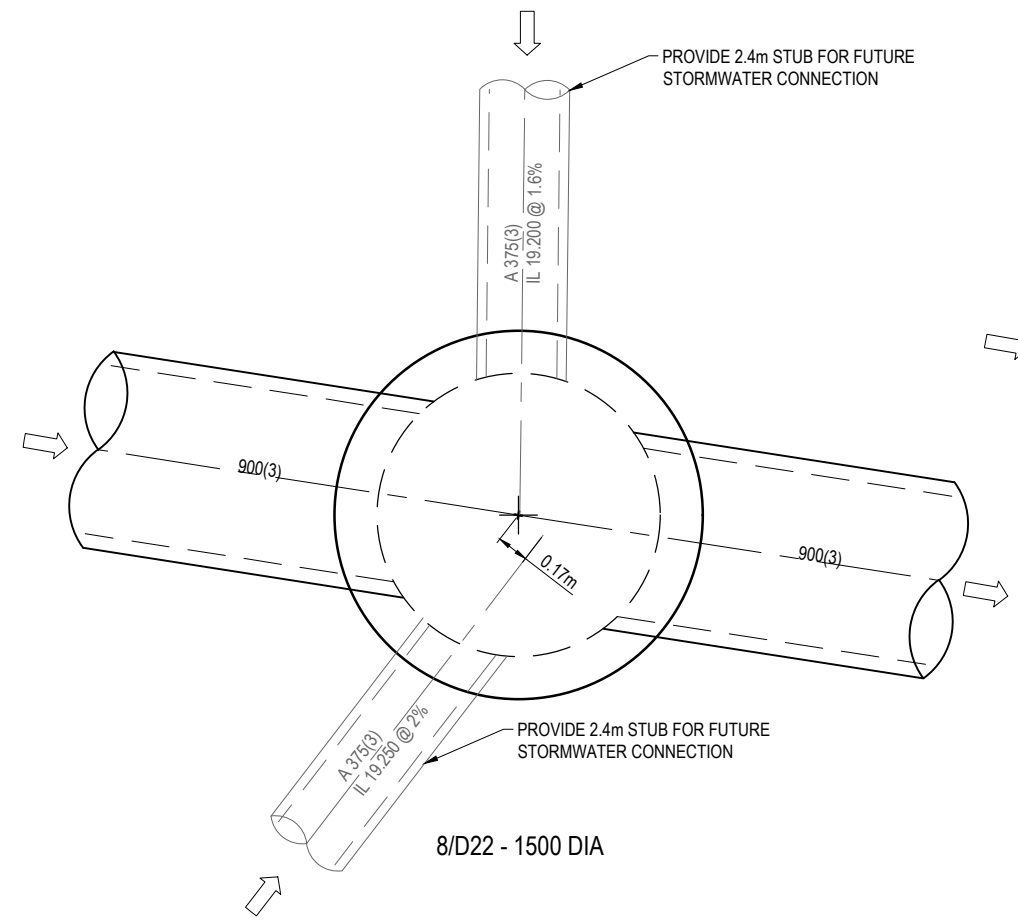
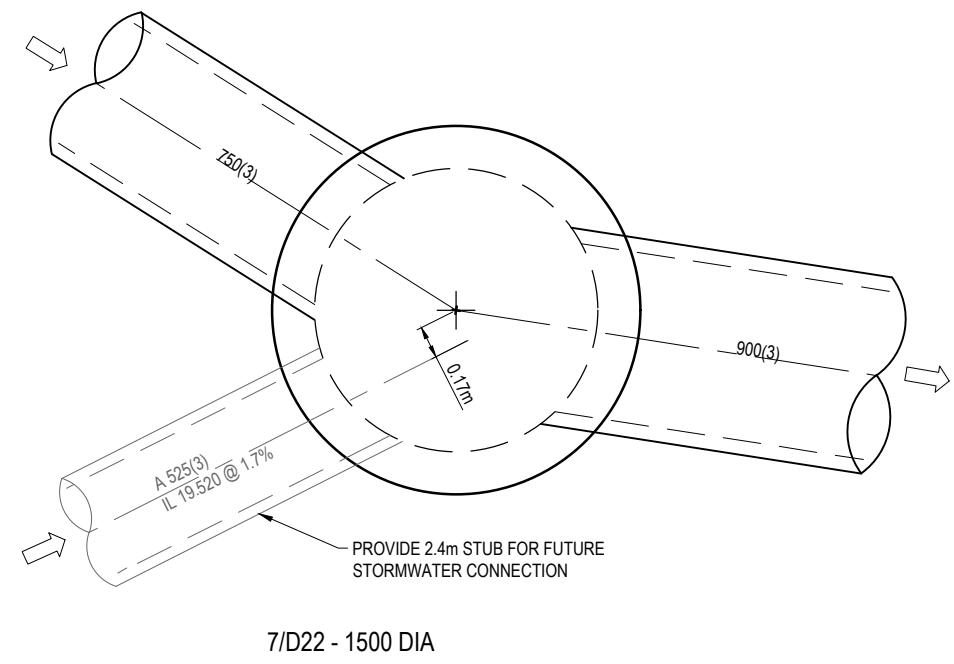
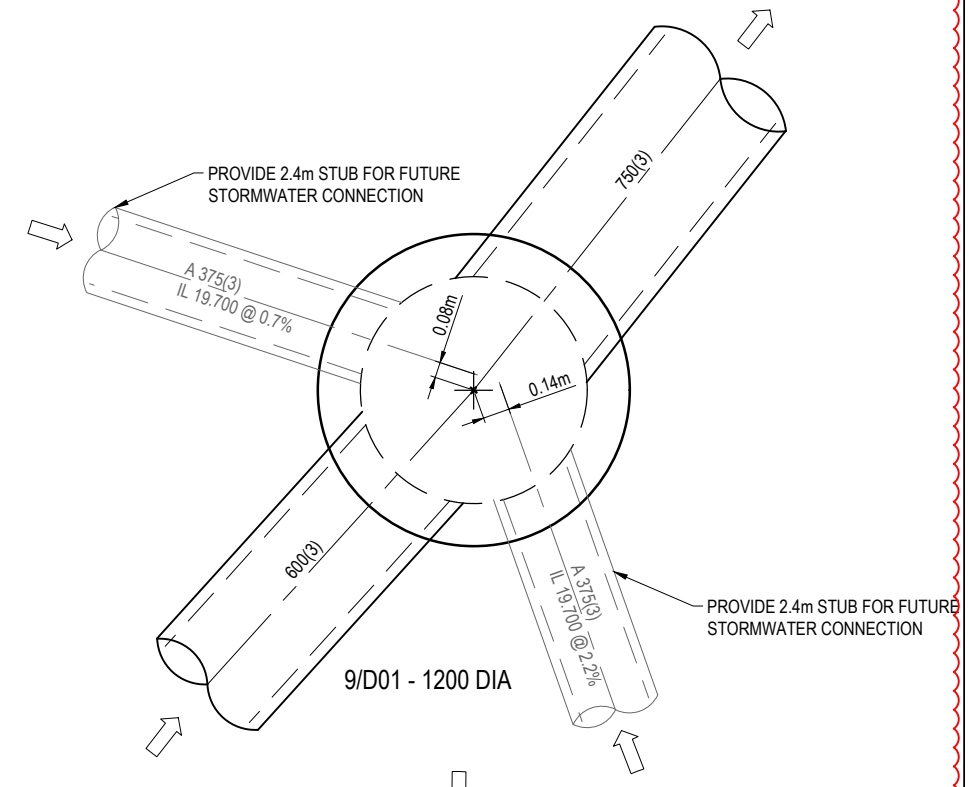
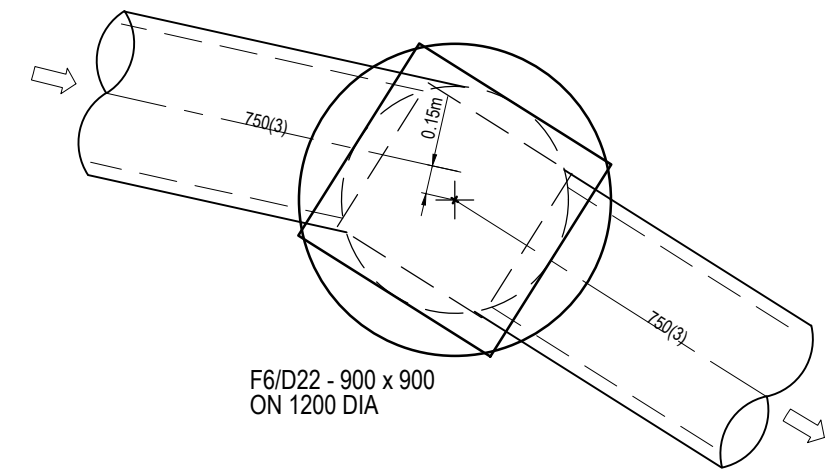
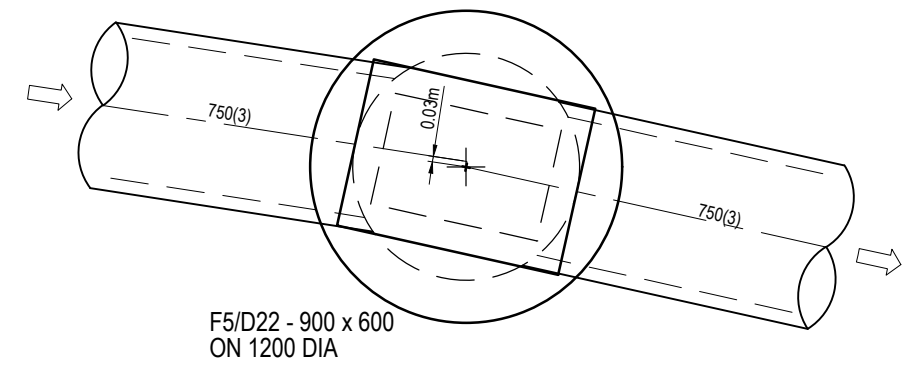
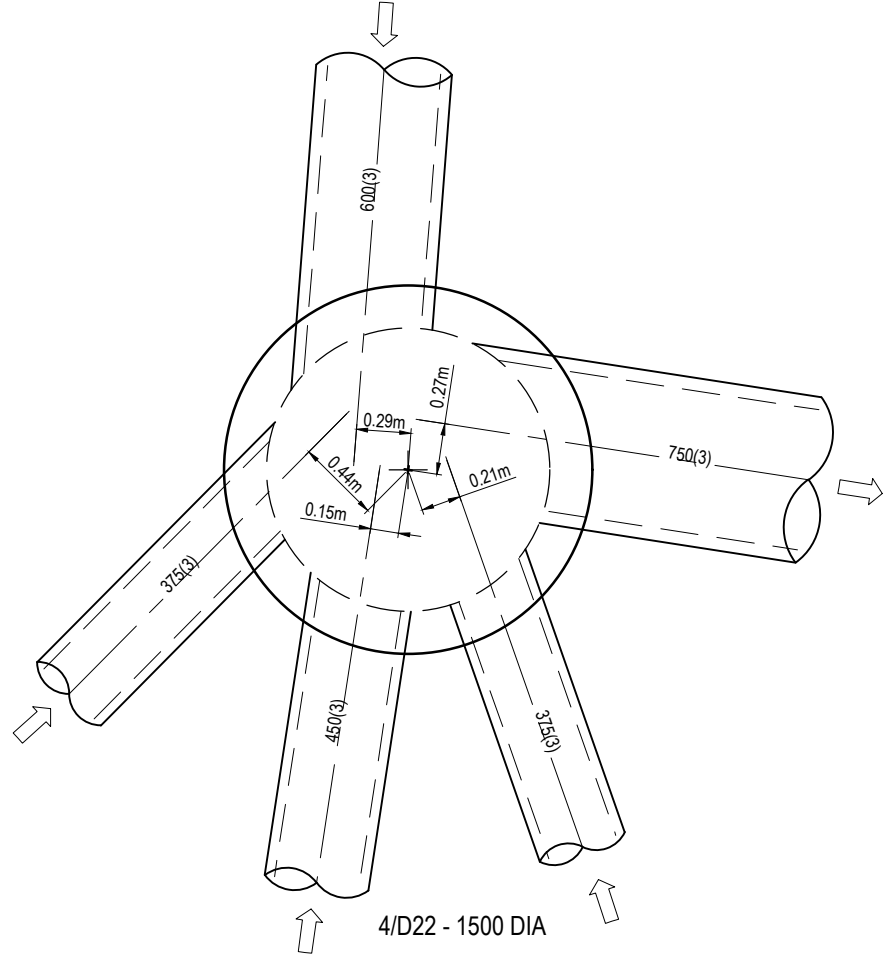
DESIGN ARI	CATCHMENT PROPERTIES				FULL AREA RUNOFF					PART AREA RUNOFF					INLET DESIGN					DRAIN DESIGN					HEADLOSSES					PART FULL		DESIGN LEVELS																								
	STRUCTURE No.	FRACTION IMPERVIOUS	COEFFICIENT OF RUNOFF IMPERVIOUS AREA	COEFFICIENT OF RUNOFF PERVIOUS AREA	TIME OF CONCENTRATION	RAINFALL INTENSITY	SUB-CATCHMENT AREA	EQUVALENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE	TIME OF CONCENTRATION	RAINFALL INTENSITY	PARTIAL CATCHMENT AREA	EQUVALENT IMPERVIOUS AREA	SUB-CATCHMENT DISCHARGE	FLOW IN K3/C(INC. BYPASS)	FLOW WIDTH	FLOW DEPTH	FLOW DAY	ROAD GRADE AT INLET	ROAD X/FALL AT INLET	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C+A)	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE SIZE	FULL PIPE VELOCITY	SUBMERGENCE RATIO	GRATE FLOW RATIO	DIAMETER RATIO	CHART(S) USED	VELOCITY HEAD	US HEAD LOSS COEFFICIENT	US HEAD LOSS	W.S.E COEFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEAD LOSS	NORMAL DEPTH	NORMAL DEPTH VEL.	PIPE US I.L	PIPE DS I.L	PIPE US H.G.L	PIPE DS H.G.L	W.S.E	GRATE LEVEL	FREEBOARD	STRUCTURE No.			
																																																						Yrs	fi	Ci
min	mm/h	ha	ha	L/s	min	mm/h	ha	ha	L/s	L/s	m	m	%	%	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	mm	m	%	mm	m/s	%	mm	mm	mm	mm	mm	mm	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
1%	G1/D37	85	1	0.77	10	294	0.189	0.182	149	5	370	0.175	0.171	176	647	2.268	0.178	0.2	0.85	3	GULLY MK-S	55	591	G1/D11	5	370	0.171	55	6.357	1.57	375	0.5	3.28	1	G2	0.013	3.5	0.045		0.045	0.1	0.006	0.128	1.66	19.3	19.2	20.484	20.478	20.529	20.651	0.122	G1/D37				
1%	G1/D38	85	1	0.77	10	294	0.138	0.133	109	5	370	0.128	0.125	129	194	4.766	0.123	0.1	0.85	3	GULLY MK-S	35	158	G1/D12	5	370	0.125	35	2.478	2.02	375	0.32	3.19	1	G2	0.005	3.59	0.019		0.019	0.04	0.001	0.095	1.6	19.3	19.25	20.479	20.478	20.497	20.651	0.153	G1/D38				
1%	G1/D39	85	1	0.77	10	294	0.155	0.15	122	5	370	0.144	0.141	145	313		0.089		0.6	3	SAG MK-S	2	311	LOST	5	370	0.141	2	6.442	0.62	375	0.02	3.49	1	G2	0	3.27	0		0	0	0	0.029	0.43	19.6	19.56	20.907	20.907	20.907	20.907	0	G1/D39				
1%	2/D39	0																			MH1050						5.09	368	0.204	9	31.695	0.5	450	0.06	3.04	0	1	T6/T9	0	1.75	0	1.93	0	0	0	0.064	0.64	19.54	19.38	20.907	20.907	20.966	0.059	2/D39		
1%	3/D39	0																			MH1050						5.5	362	0.358	156	36.029	0.5	525	0.72	2.95	0	1	T6/T9	0	1.86	0.001	2.12	0.001	0	0	0	0.267	1.41	19.36	19.18	20.907	20.906	20.907	20.907	0.249	3/D39
1%	4/D39	0																			MH2100						5.93	356	0.48	334	35.508	0.39	600	1.18	2.91	0	1	T6/T9	0.009	1.71	0.163	1.82	0.017	0.04	0.013	0.431	1.53	19.16	19.02	20.891	20.907	20.907	21.376	0.469	4/D39	
1%	G1/D40	85	1	0.77	10	294	0.125	0.121	98	5	370	0.116	0.113	116	280	5.944	0.145	0.11	0.6	3	GULLY MK-S	112	168	G1/D39	5	370	0.113	112	6.442	1.24	375	1.01	3.64	1	G2	0.052	3.1	0.163		0.163	0.41	0.026	0.204	1.83	19.73	19.65	20.934	20.878	21.097	21.097	0	G1/D40				
1%	G1/D41	85	1	0.77	10	294	0.107	0.103	84	5	370	0.099	0.097	100	327	6.412	0.151	0.12	0.62	2.88	GULLY MK-S	164	164	G1/D40	5	370	0.097	164	6.7	2.24	375	1.48	3.64	1	G2	0.112	3.11	0.349		0.349	0.87	0.058	0.215	2.51	19.95	19.8	20.965	20.906	21.313	21.314	0.001	G1/D41				
1%	G1/D42	85	1	0.77	10	294	0.186	0.179	146	5	370	0.172	0.168	173	534	7.058	0.173	0.17	0.7	3	GULLY MK-S	90	444	G1/D47	5	370	0.168	97	2.278	2.63	375	0.87	2.44	1	G2	0.039	5.17	0.202		0.202	0.3	0.057	0.151	2.33	19.74	19.68	20.452	20.445	20.654	21.02	0.367	G1/D42				
1%	G1/D43	85	1	0.77	10	294	0.026	0.025	20	5	370	0.024	0.023	24	204	3.995	0.15	0.13	0.7	1.59	GULLY BK-M	132	71	G1/D46	5	370	0.023	132	7.317	1.78	450	0.83	2.13	1	G2	0.035	6.45	0.228		0.228	0.22	0.016	0.183	2.18	19.73	19.6	20.461	20.445	20.689	21.045	0.356	G1/D43				
1%	G1/D44	85	1	0.77	10	294	0.11	0.106	87	5	370	0.102	0.1	102	102	3.009	0.093	0.08	1.43	2.94	GULLY MK-S	91	12	G1/D51	5	370	0.1	91	41.044	0.8	375	0.82	2.09	1	G1	0.034	4.61	0.159		0.159	0.27	0.11	0.204	1.47	19.9	19.57	20.525	20.415	20.684	21.296	0.611	G1/D44				
1%	2/D44	0																			MH1050						5.48	362	0.403	164	33.085	0.7	525	0.76	1.66	0	1	T3/T6	0.029	1.89	0.055	2.17	0.063	0.14	0.048	0.249	1.62	19.55	19.32	20.312	20.423	21.004	0.581	2/D44		
1%	3/D44	0																			MH1050						5.81	357	0.696	148	16.238	1.85	600	0.52	1.69	0	1	T1/T3	0.014	1.27	0.118	1.49	0.021	0.06	0.099	0.171	2.23	19.3	19	20.294	20.285	20.315	20.771	0.455	3/D44	
1%	G1/D45	35	1	0.77	10	294	0.347	0.294	240	5	370	0.234	0.208	213	240	4.303	0.154	0.14	0.84	3	GULLY BK-M	72	168	G1/D46	10	294	0.294	72	6.73	1.19	375	0.65	2.38	1	G2	0.022	3.99	0.117		0.117	0.17	0.011	0.16	1.61	19.65	19.57	20.427	20.415	20.544	20.772	0.428	G1/D45				
1%	G1/D46	35	1	0.77	10	294	0.269	0.228	186	5	370	0.181	0.161	165	425		0.07		0.36	2.56	SAG BK-M	9	416	G1/D84	10	294	0.228	9	6.606	0.91	375	0.08	2.49	1	G2	0	4.94	0.002		0.002	0	0	0.06	0.81	19.38	19.32	20.312	20.312	20.314	20.736	0.421	G1/D46				
1%	G1/D47	85	1	0.77	10	294	0.148	0.143	117	5	370	0.137	0.135	138	583	7.254	0.178	0.18	0.69	1.39	GULLY MK-M	196	386	G1/D48	5	370	0.135	196	2.278	3.51	375	1.78	3.68	1	G2	0.161	3.07	0.495		0.495	1.25	0.029	0.209	3.11	19.2	19.12	20.084	20.055	20.579	20.585	0.007	G1/D47				
1%	G1/D48	85	1	0.77	10	294	0.217	0.211	171	5	370	0.201	0.197	202	1504		0.07		0.02	1.52	SAG MK-M	90	1414	G2/D48	5	370	0.197	90	8.565	0.58	375	0.81	3.29	1	G2	0.034	3.49	0.118		0.118	0.26	0.023	0.225	1.3	19.2	18.95	20.114	20.092	20.233	20.305	0.073	G1/D48				
1%	G2/D48	85	1	0.77	10	294	0.043	0.041	34	5	370	0.04	0.039	40	1454		0.085		0.02	1.52	SAG BK-M	163	1291	LOST	5.12	368	0.236	252	19.231	1.72	450	1.59	2.63	0.64	0.83	G1/T10	0.128	2.43	0.312	2.6	0.334	0.78	0.15	0.271	2.52	18.93	18.6	19.78	19.63	20.114	20.306	0.192	G2/D48			
1%	G1/D49	85	1	0.77	10	294	0.072	0.069	57	5	370	0.066	0.065	67	70	7.582	0.186	0.2	0.7	3	GULLY MK-S	182	487	G1/D60	5	370	0.066	182	6.504	3.07	375	1.65	2.63	1	G2	0.139	3.12	0.434		0.434	1.08	0.07	0.208	2.9	19.2	19	20.125	20.055	20.526	20.596	0.036	G1/D49				
1%	G1/D50	85	1	0.77	10	294	0.15	0.145	118	5	370	0.139	0.136	140	140				0.59	3	GULLY MK-S	98	42	G1/D73	5	370	0.136	98	10.886	0.73	375	0.89	2.98									0.06	0.31	0.034	0.22	1.45	20.05	19.97	21.109	21.073	21.169	21.45	0.281	G1/D50		
1%	G2/D50	85	1	0.77	10	294	0.169	0.163	133	5	370	0.156	0.153	157	157				0.95	3	GULLY MK-S	5	152	G3/D50	5.13	368	0.289	102	26.807	0.56	375	0.92	3.01	0.05	1	T6/T9	0.043	1.67	0.072	1.77	0.076	0.34	0.09	0.248	1.31	19.95	19.8	21.003	21.015	21.08	21.36	0.28	G2/D50			
1%	G3/D50	85	1	0.77	10	294	0.1	0.096	79	5	370	0.092	0.091	93	245				0.59	3	GULLY MK-S	100	145	G1/D53	5.51	362	0.381	195	14.233	0.91	450	1.23	2.52	0.5	0.83	T1/T3	0.077	1.37	0.105	1.41	0.108	0.47	0.067	0.282	1.86	19.78	19.65	20.808	20.741	20.916	21.2	0.284	G3/D50			
1%	4/D50	0																			MH1350						5.65	360	0.663	320	23.199	0.99	525	1.48	2.18	0	1	T6/T9	0.112	1.91	0.214	2.2	0.246	0.55	0.229	0.339	2.17	19.63	19.4	20.527	20.399	20.773	21.1	0.327	4/D50	
1%	5/D50	0																			MH1050						5.84	357	0.797	392	33.042	1.09	600	1.39	1.74	0	1	T1/T3	0.098	1.41	0.139	1.66	0.163	0.41	0.135	0.339	2.38	19.38	19.02	20.26	20.125	20.423	20.922	0.499	5/D50	
1%	6/D50	0																			MH2100						6.09	353	0.843	495	17.457	0.57	750	1.12	1.52	0	0.94	T1/T3	0.064	1.16	0.074	1.37	0.088	0.2	0.035	0.413	1.98	19	18.9	20.051	20.016	20.139	20.725	0.586		



NOTE:
 CONTRACTOR TO CONFIRM PIPE SIZE AND
 MANHOLE SIZES PRIOR TO CONSTRUCTION.
 CONTRACTOR TO CONFIRM INVERT LEVELS
 FROM LONGITUDINAL SECTIONS.

REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS	SCALE	CLIENT	PROJECT	DRAWING TITLE	
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		FOR CONSTRUCTION APPROVED RYAN ASHWORTH RPEQ 19674 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD <i>Ryan Ashworth</i>	1:20 0.2 0 0.2 0.4 0.6 0.8 1m A1 1:40	FOREVERLEN PTY LTD LENNIUM GROUP	egis © 2023 Egis Consulting Pty Ltd www.egis-group.com	LILYWOOD LANDINGS STAGE 2 DISCLAIMER ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.	STORMWATER STRUCTURES DETAILS SHEET 1 OF 4 PROJECT No. 22-000082_2 DRAWING No. 1440 REVISION C
B	25.05.23	MINOR AMENDMENTS	IB	AA	aa						
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA	aa						

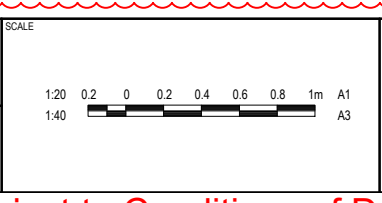




NOTE:
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REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		FOR CONSTRUCTION
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

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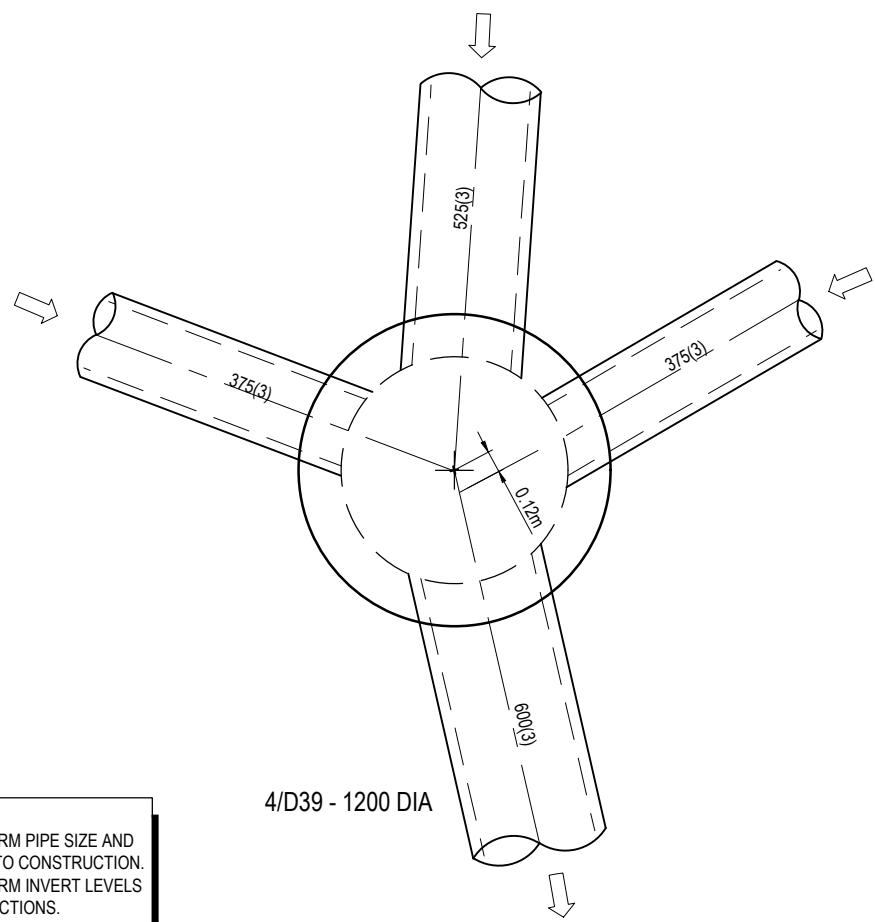
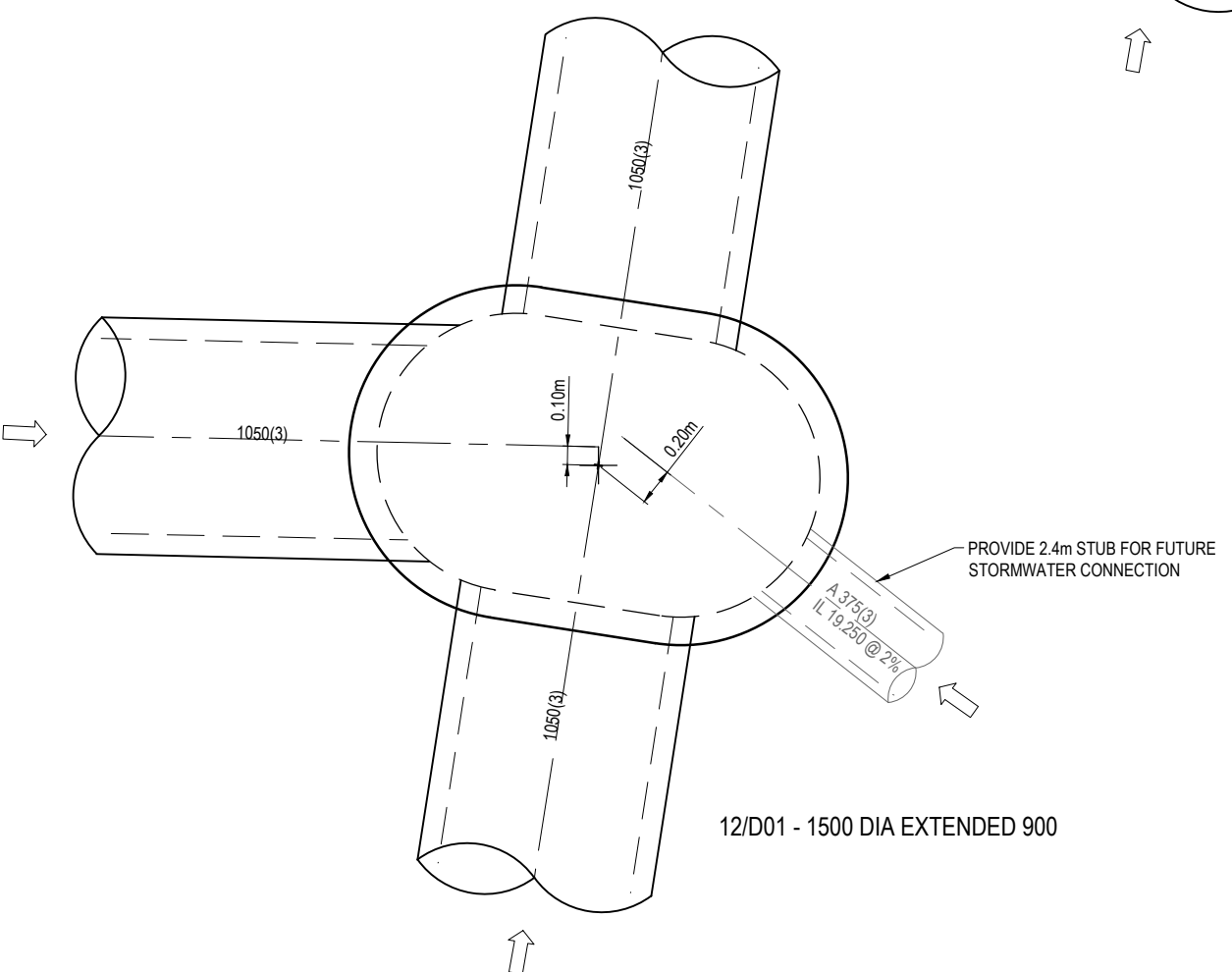
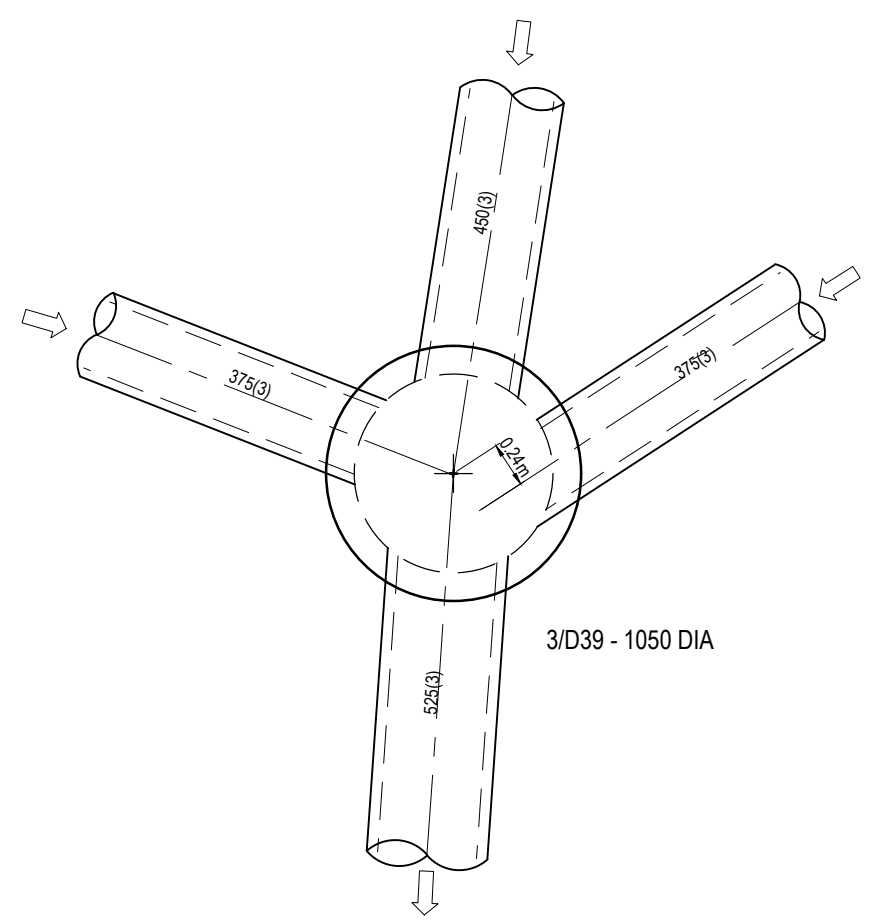
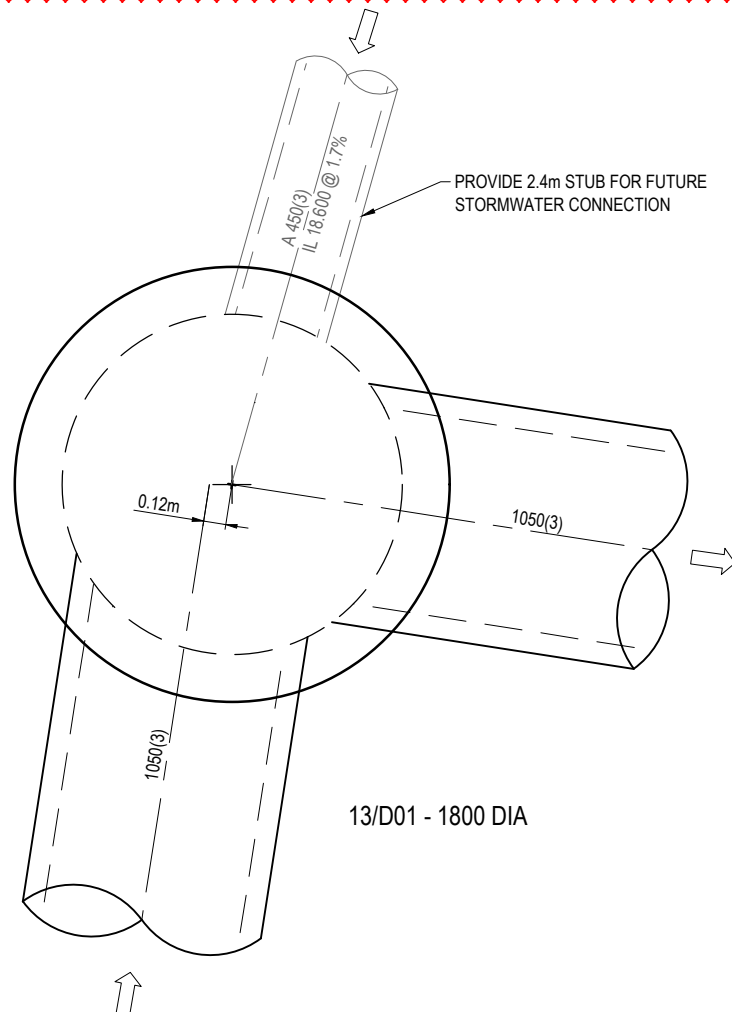
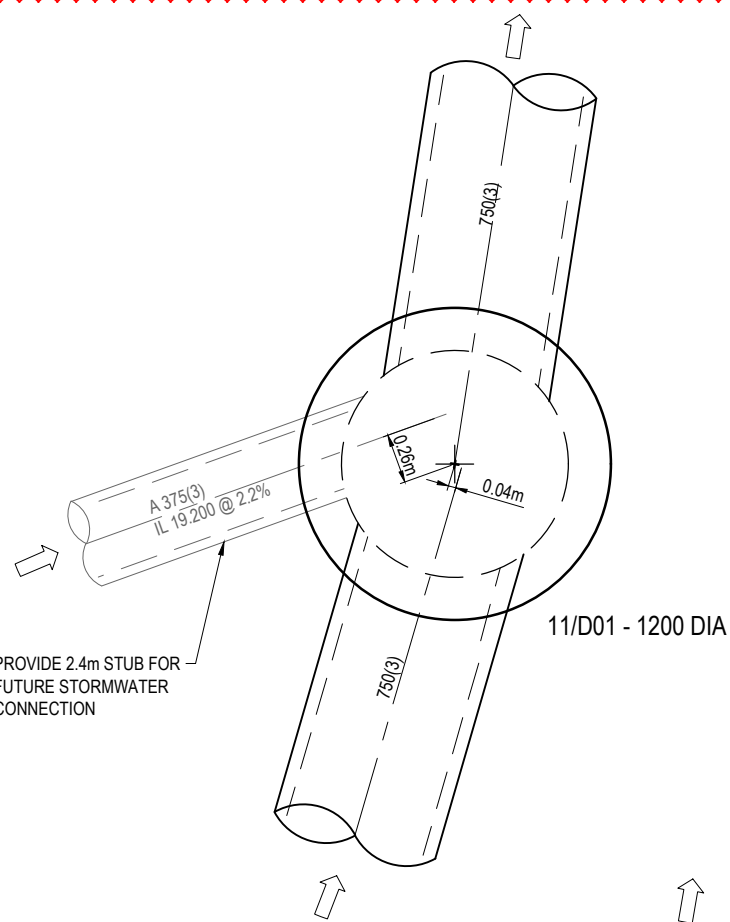


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DRAWING TITLE		
STORMWATER STRUCTURES DETAILS SHEET 2 OF 4		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1441	C

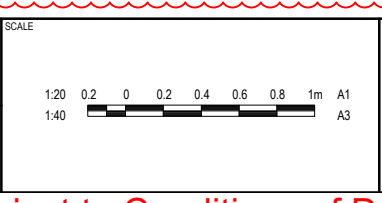


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REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
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C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

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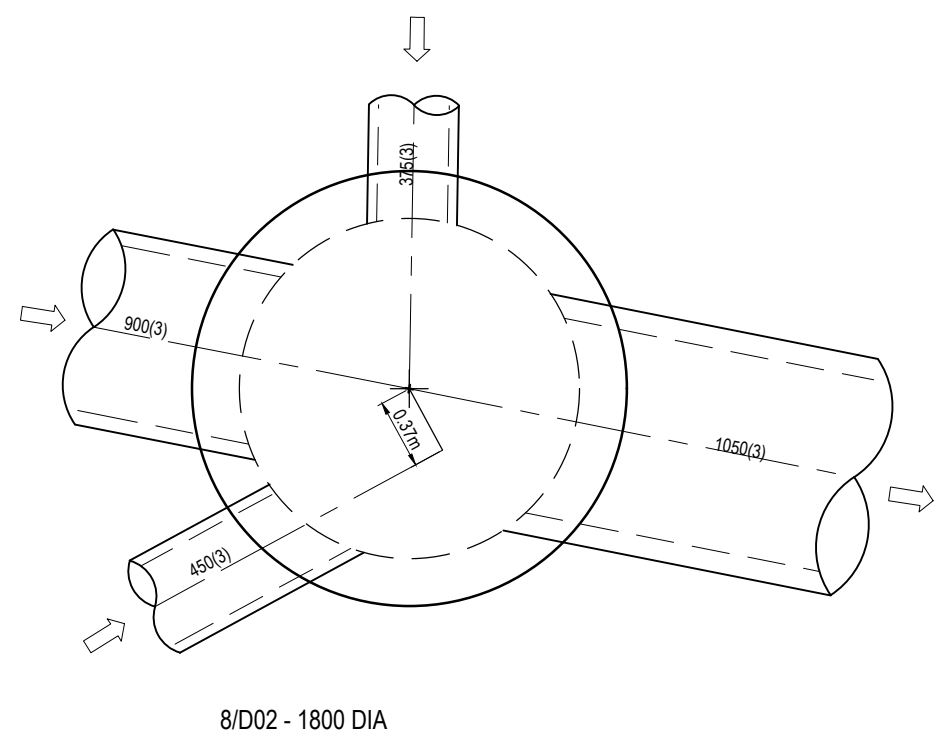
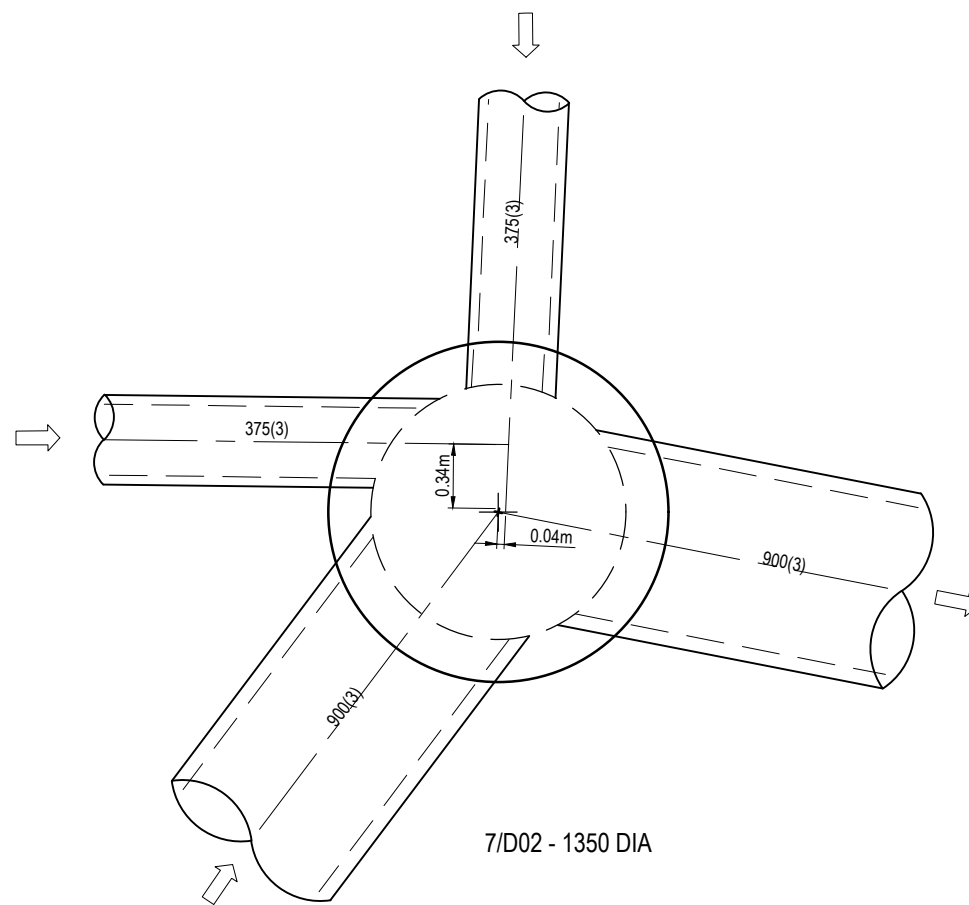
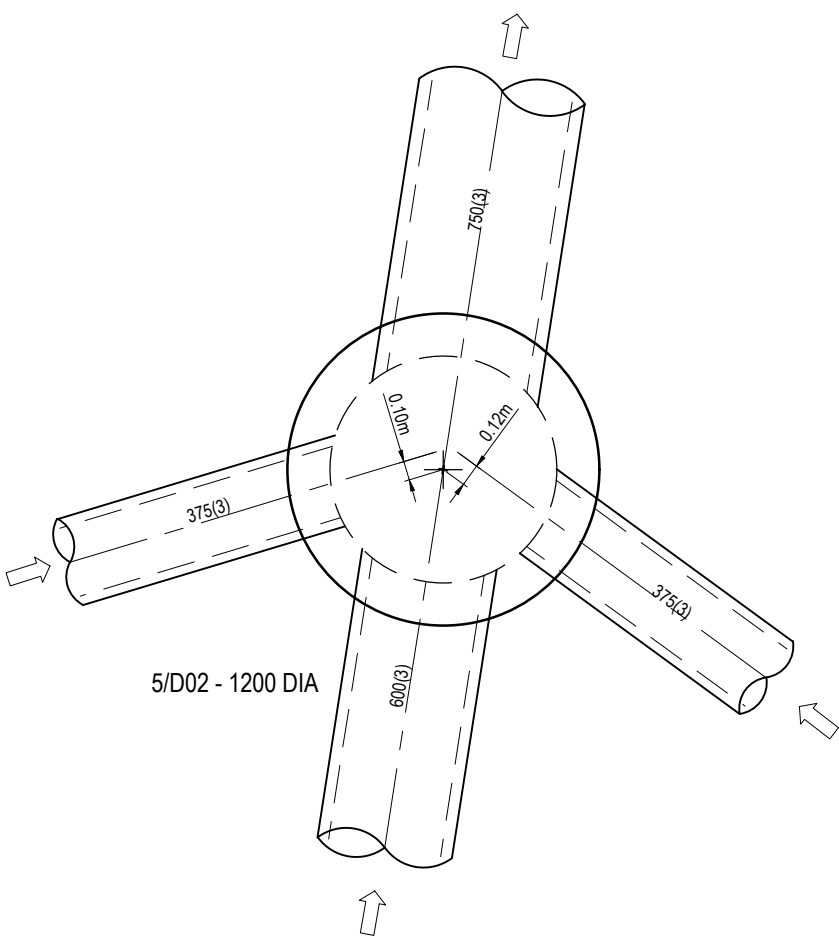
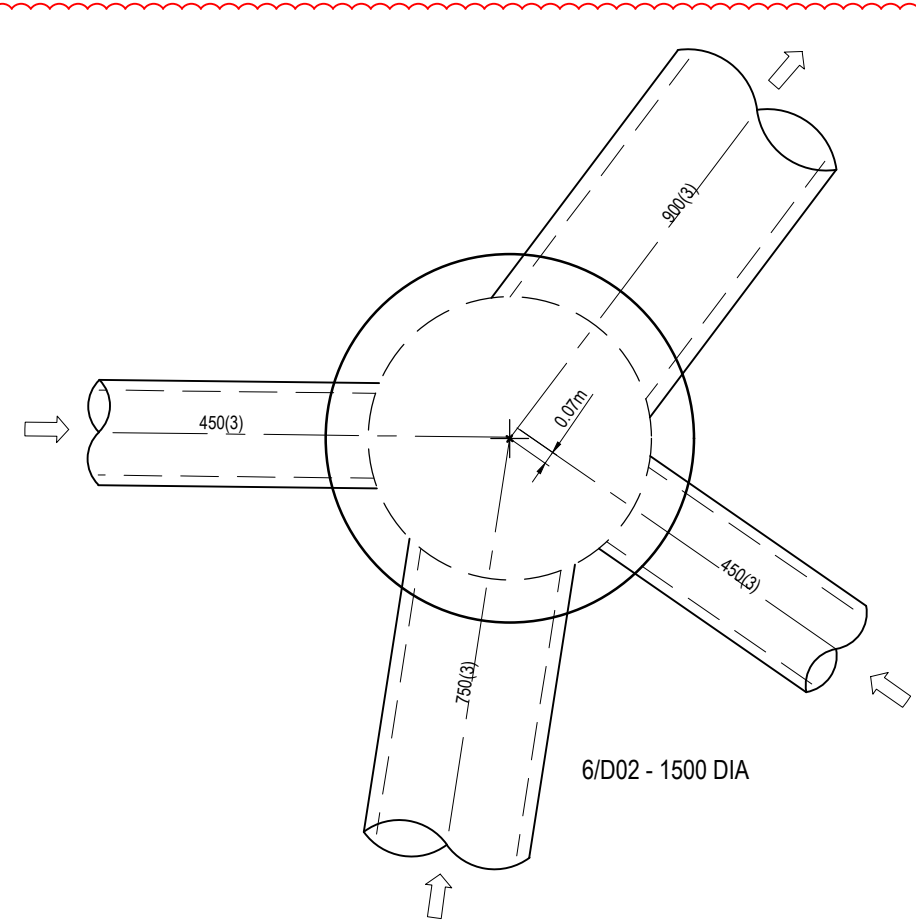
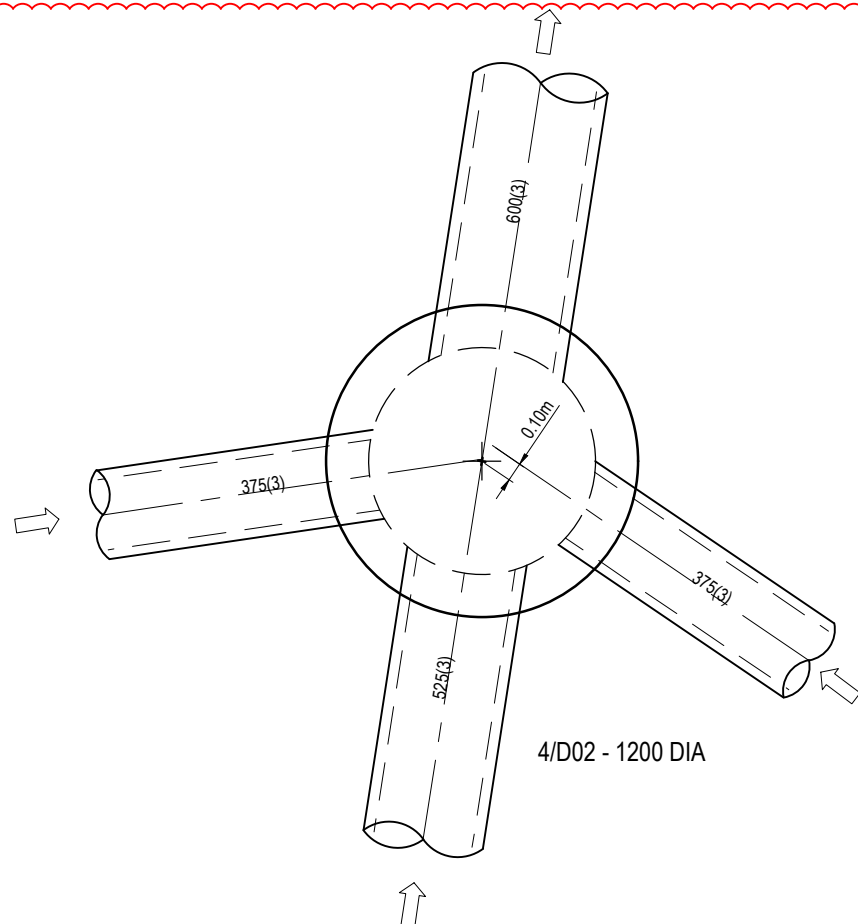
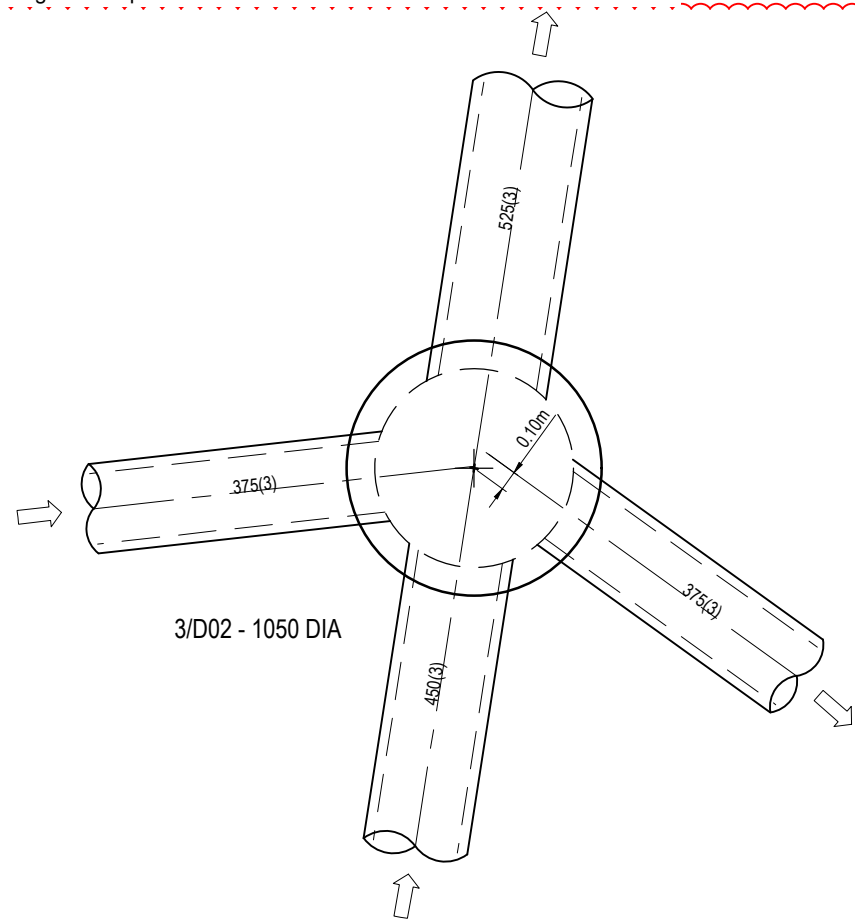


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DRAWING TITLE		
STORMWATER STRUCTURES DETAILS SHEET 3 OF 4		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1442	C

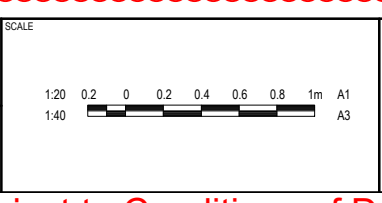


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REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

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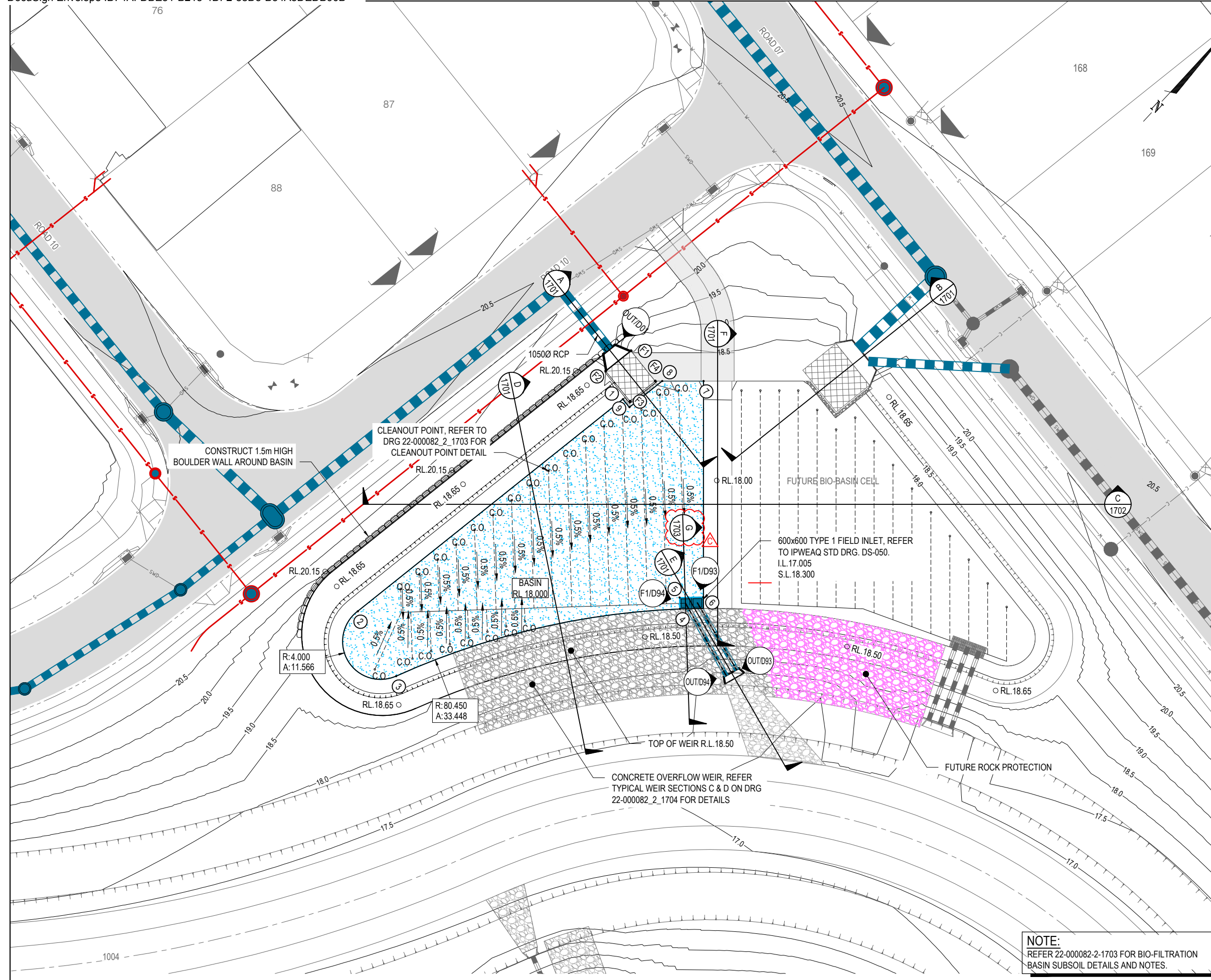
PROJECT

LANDINGS

STAGE 2

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DRAWING TITLE		
STORMWATER STRUCTURES DETAILS SHEET 4 OF 4		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1443	C



LEGEND

- WORKS BOUNDARY
- STORMWATER DRAINAGE
- MAINTENANCE HOLE
- GULLY PIT
- OUTLET STRUCTURE
- FIELD INLET
- CONCRETE FOOTPATH
- PROPOSED KERB
- DESIGN SURFACE CONTOUR (0.50m INTERVALS)
- FUTURE STORMWATER DRAINAGE
- FUTURE STORMWATER STRUCTURE
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED BOULDER RETAINING WALL
- CONCRETE DRIVEWAY
- BIO-BASIN FOREBAY AREA
- BIO-RETENTION BASIN FILTER MEDIA
- SCOUR PROTECTION
- 100Ø SLOTTED AGI DRAIN, 0.5% MIN GRADE TO OUTLET PIT AS SHOWN.
- 150Ø UN-SLOTTED AGI DRAIN, 0.5% MIN GRADE TO OUTLET PIT AS SHOWN.
- C.O. CLEANOUT POINT
- SETOUT POINT
- PROPOSED BATTERS
- PROPOSED WATER MAIN
- PROPOSED SEWERAGE RETICULATION
- EXISTING TRUNK SEWER

BIO-RETENTION BASIN G1 DETAILS

PARAMETER	BASIN
FILTER SURFACE AREA (m ²)	615
FILTER SURFACE LEVEL (m)	18.00
TEMPORARY PONDING DEPTH (mm)	300
STORAGE VOLUME (m ³)	307.5
TOP OF EMBANKMENT (m)	18.65
EMERGENCY WEIR LEVEL (m)	18.50

BIO-BASIN F2 SETOUT TABLE

POINT_NUMBER	EASTING	NORTHING	LEVEL
1	90905.010	502235.122	18.000
2	90899.514	502199.718	18.000
3	90907.126	502197.411	18.000
4	90924.401	502222.858	18.000
5	90923.569	502223.722	18.000
6	90925.370	502225.456	18.000
7	90909.994	502242.277	18.046
8	90906.776	502239.328	18.000
9	90906.097	502234.953	18.000

BIO-BASIN F2 FOREBAY SETOUT TABLE

POINT_NUMBER	EASTING	NORTHING	LEVEL
F1	90902.194	502239.470	18.650
F2	90901.670	502236.095	18.650
F3	90905.721	502235.466	18.100
F4	90906.245	502238.841	18.100

NOTE:
REFER 22-000082-2-1703 FOR BIO-FILTRATION BASIN SUBSOIL DETAILS AND NOTES.

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FOR CONSTRUCTION

APPROVED
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Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

SCALE

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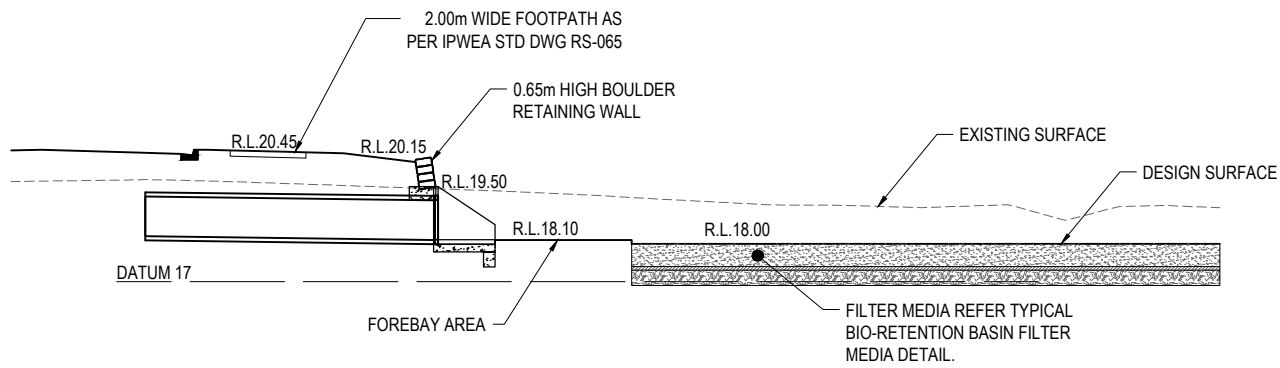
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PROJECT

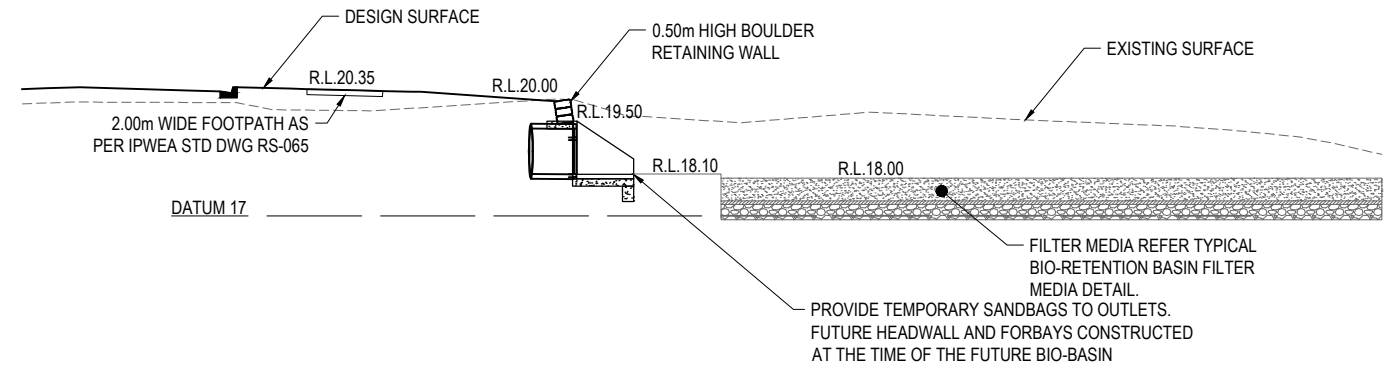
LANDINGS
STAGE 2

DISCLAIMER
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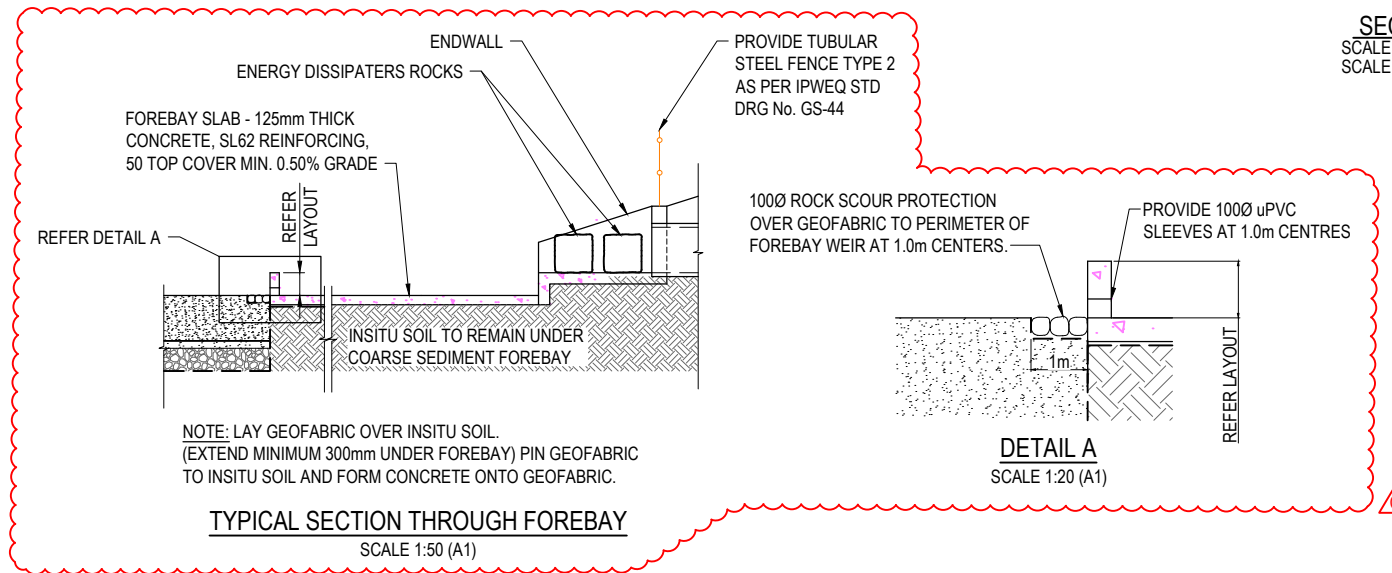
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BIO-BASIN F2 LAYOUT PLAN		
PROJECT No.	DRAWING No.	REVISION
22-000082_2	1700	C



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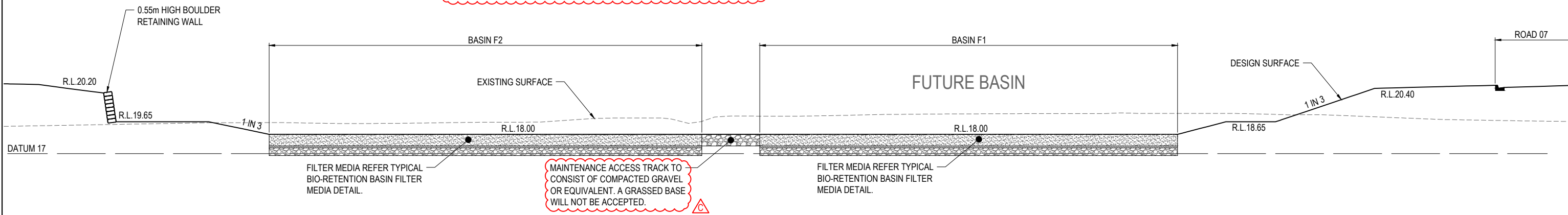


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TYPICAL SECTION THROUGH FOREBAY
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DETAIL A
SCALE 1:20 (A1)



SECTION C
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B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

APPROVED
RYAN ASHWORTH RPEQ 19674
Ryan Ashworth
FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD

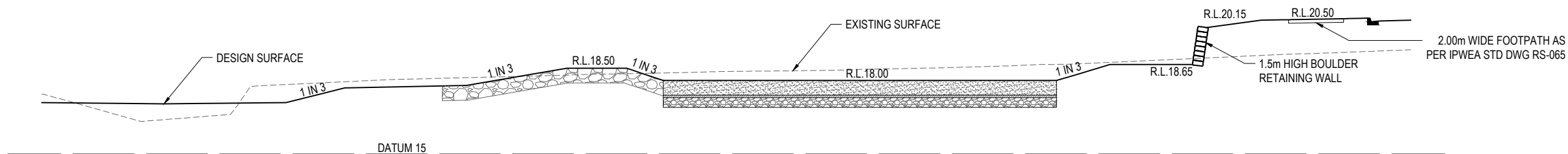
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CLIENT
FOREVERLEN PTY LTD
LENNIUM GROUP

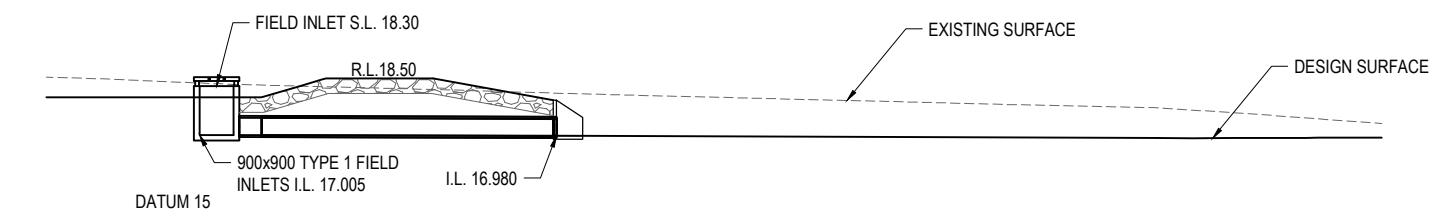
PROJECT
egis
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DRAWING TITLE
BIO-BASIN F2 SECTION PLAN SHEET 1 OF 2
STAGE 2
DISCLAIMER
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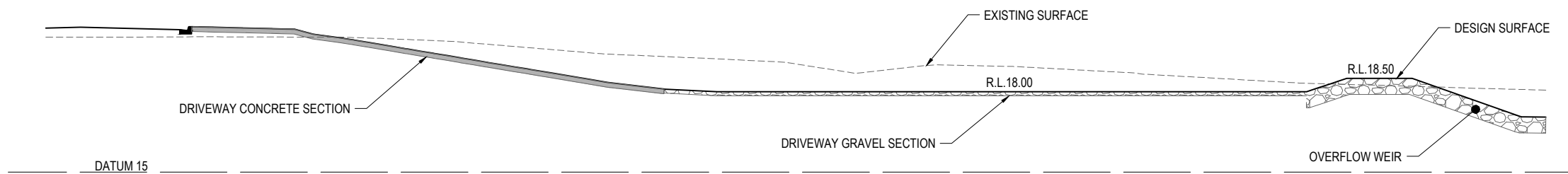
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22-000082_2	1701	C



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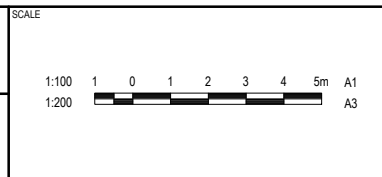
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SECTION **F**
 SCALE (A1): 1:100
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REVISION	DATE	ISSUE DETAILS	DRAWN	DESIGN	DRAWN CHECK	STATUS
A	07.03.23	ISSUED FOR APPROVAL	IB	AA		
B	25.05.23	MINOR AMENDMENTS	IB	AA		
C	12.12.23	ISSUED FOR CONSTRUCTION	AA	AA		

DRAWN CHECK	STATUS
aa	FOR CONSTRUCTION
MT	APPROVED RYAN ASHWORTH RPEQ 19674 FOR & ON BEHALF OF CALIBRE PROFESSIONAL SERVICES PTY LTD



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PROJECT: **LYLYWOOD LANDINGS**

STAGE 2

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DRAWING TITLE	PROJECT No.	DRAWING No.	REVISION
BIO-BASIN F2 SECTION PLAN SHEET 2 OF 2	22-000082_2	1702	C

BIO RETENTION PARTICLE SIZE DISTRIBUTION AND PROPERTIES GUIDE:

(SOURCE: BIOFILTRATION MEDIA GUIDELINES (VERSION 3.01), PREPARED BY THE FACILITY FOR ADVANCING WATER BIOFILTRATION (FAWB), JUNE 2009.)

MATERIAL COMPOSITION RANGE GUIDE:

CLAY AND SILT	<3%	(<0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15-0.25mm)
MEDIUM TO COARSE SAND	40-60%	(0.25-1.0mm)
COARSE SAND	7-10%	(1.0-2.0mm)
FINE GRAVEL	<3.0%	(2.0-3.4mm)

IT IS ESSENTIAL THAT THE TOTAL CLAY AND SILT MIX IS LESS THAN 3% (w/w) TO REDUCE THE LIKELIHOOD OF STRUCTURAL COLLAPSE OF SUCH SOILS.

SOIL SPECIFICATIONS:

- TOTAL NITROGEN CONTENT - <1000mg/kg
- ORTHOPHOSPHATE CONTENT - <80mg/kg SOILS WITH TOTAL PHOSPHORUS CONCENTRATIONS >100mg/kg SHOULD BE TESTED FOR POTENTIAL LEACHING. WHERE PLANTS WITH MODERATE PHOSPHORUS SENSITIVITY ARE TO BE USED, TOTAL PHOSPHORUS CONCENTRATIONS SHOULD BE <20mg/kg)
- ORGANIC MATTER CONTENT - AT LEAST 3% (w/w). AN ORGANIC CONTENT LOWER THAN 3% IS LIKELY TO HAVE TOO LOW A WATER HOLDING CAPACITY TO SUPPORT HEALTHY PLANT GROWTH. IN ORDER TO COMPLY WITH BOTH THIS AND THE TOTAL NITROGEN AND ORTHOPHOSPHATE CONTENT REQUIREMENTS, A LOW NUTRIENT ORGANIC MATTER WILL BE REQUIRED.
- pH - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' 5.5-7.5 (pH 1:5 IN WATER)
- ELECTRICAL CONDUCTIVITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' <1.2 dS/m.

BIO RETENTION INSTALLATION STANDARD NOTES:

THE PLACEMENT OF DRAINAGE, TRANSITION AND FILTER MEDIA LAYERS MUST BE UNDERTAKEN CAREFULLY TO ENSURE CORRECT DEPTH, SLOPE AND COMPACTION:

DEPTH: FILTER MEDIA SHOULD BE INSTALLED AND COMPACTED IN TWO LIFTS FOR DEPTHS OVER 500mm.

SLOPE: THE TOP SURFACE OF THE DRAINAGE LAYER, TRANSITION LAYER AND FILTER MEDIA LAYER SHOULD BE FLAT. A SPREADER BAR SHOULD LEVEL THE SURFACE OF EACH LAYER.

COMPACTION: THE FILTER MEDIA MUST BE LIGHTLY COMPACTED DURING INSTALLATION TO PREVENT THE MIGRATION OF FINE PARTICLES. THIS CAN BE ACHIEVED WITH A SINGLE PASS OF A LIGHT ROLLER SUCH AS A DRUM LAWN ROLLER. A VIBRATING PLATE CAN ALSO BE USED TO COMPACT SMALL BIO RETENTION SYSTEMS OR 'POZITRACK' BOBCATS CAN BE USED FOR LARGE SYSTEMS. ENSURE ONLY ONE COMPACTING PASS IS MADE OVER THE MEDIA FOR LIGHT COMPACTION.

CONTRACTOR TO ENSURE BIOFILTRATION FILTER MEDIA MEETS THE CRITERIA OUTLINED IN THE MARCH 2008 VERSION OF THE GUIDELINE SPECIFICATION FOR SOIL MEDIA IN BIORETENTION SYSTEMS (VERSION 2.01), FACILITY FOR ADVANCING WATER BIOFILTRATION.

BIO-RETENTION/DETENTION BASINS CONSTRUCTION SEQUENCE AND NOTES:

- ESTABLISH SEDIMENT AND EROSION CONTROL MEASURES IN CATCHMENT, INCLUDING SILT FENCES, SEEDING OF ALLOTMENTS, & FULL WIDTH VERGE TURFING.
- SURVEY BASIN LOCATION.
- INSTALL OVERFLOW PIT AND ENSURE PIT CREST IS AT DESIGN LEVEL. THIS PIT CREST WILL THEN BE USED AS A DATUM FROM WHICH OTHER LEVELS WITHIN THE BASIN WILL BE MEASURED. THE PIT REQUIRES HOLES FOR DRAINAGE PIPE CONNECTIONS WHICH CAN BE DRILLED AT THIS STAGE OR AFTER STEP 5 BELOW.
- CONSTRUCT KERB TURNOUTS.
- EXCAVATE SURROUNDING LANDFORM TO DESIGN SUBSOIL LEVEL (ACHIEVING SURROUNDING LEVEL AT THIS STAGE REDUCES THE NEED FOR EARTHWORKS ADJACENT TO THE BASIN AFTER THEY HAVE BEEN CONSTRUCTED).
- EXCAVATE BASIN TO DESIGN DEPTH ENSURING BASE OF POD HAS MINIMUM 0.25% GRADE TOWARDS PIT. ENSURE BASE OF BASIN IS FREE FROM DEBRIS.

SUPERINTENDENT INSPECTION AND SIGN OFF REQUIRED BEFORE PROCEEDING.

- LINE SYSTEM WITH GEOFABRIC, AND EXTEND GEOFABRIC A MINIMUM OF 500 MM BEYOND TOP OF EXCAVATION. THESE ARE THE FLAPS REFERRED TO IN ITEM 13 BELOW.
- PLACE DRAINAGE LAYER (USING CLEAN 5-7mm AGGREGATE) TO DESIGN LEVEL.
- NOTE THAT CORRECT FUNCTIONING OF THE DRAINAGE PIPES IS CRITICAL TO THE PERFORMANCE OF THE BIORETENTION SYSTEM. DIG TRENCHES IN DRAINAGE LAYER AND PLACE DRAINAGE PIPES. ENSURE PIPES ARE LAID AT MIN 0.5% SLOPE WITH NO LOCALIZED DEPRESSIONS VERIFIED USING LEVEL OR STRING LINE. ALL JOINTS AND JUNCTIONS IN PIPES TO BE SEALED. CONNECT CLEAN OUT POINTS ENSURING TOP OF CLEAN OUT POINTS ARE NOT LESS THAN 50mm BELOW OVERFLOW PIT CREST.

SUPERINTENDENT INSPECTION AND SIGN OFF REQUIRED BEFORE PROCEEDING.

- COVER DRAINAGE PIPES WITH DRAINAGE MEDIA, ENSURING DESIGN COVER.
- PLACE TRANSITION LAYER (USING ONLY PRESCRIBED DRAINAGE MATERIAL: 2.0mm SAND) TO DESIGN LEVEL (REFER DRAWINGS).

SUPERINTENDENT INSPECTION AND SIGN OFF REQUIRED BEFORE PROCEEDING.

- PLACE FILTER MEDIA (USING ONLY PRESCRIBED MATERIAL: 0.7mm SAND) TO DESIGN LEVEL (REFER DRAWINGS). SPREAD MATERIAL USING EXCAVATOR BUCKET OR HAND TOOLS TO OBTAIN LIGHT AND EVEN COMPACTION OF FILTER MEDIA. DO NOT DRIVE OVER FILTER MEDIA WITH ANY VEHICLE AS EXCESSIVE COMPACTION CAN IMPEDE DRAINAGE THROUGH THE FILTER MEDIA. FILTER MEDIA SURFACE MUST BE LEVEL (HORIZONTAL) AND FREE FROM LOCAL DEPRESSIONS AND SET AT 100mm BELOW PIT CREST (EXCEPT FOREBAY AREA WHICH IS 200mm). AS SOON AS FILTER MEDIA IS PLACED IT MUST BE IMMEDIATELY COVERED WITH A GEOFABRIC COVER WHICH MUST REMAIN IN PLACE AT ALL TIMES EXCEPT WHEN ACCESS TO FILTER MEDIA IS REQUIRED. THIS PROTECTIVE COVER IS ONLY TO BE REMOVED BY LANDSCAPERS IMMEDIATELY PRIOR TO PLANTING.

- LAY EXCESS GEOFABRIC FLAPS FROM BASIN OUTWARD ACROSS ADJACENT SUBSOIL AND PLACE LANDSCAPING TOPSOIL ON TOP OF THIS GEOFABRIC AND AROUND BASIN AS PER DESIGNS.

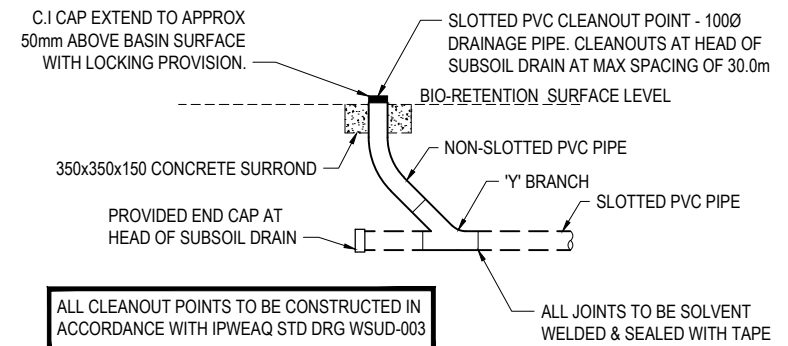
- INSTALL PROTECTIVE PLYWOOD BARRIERS ENSURING THE CREST IS AT DESIGN LEVEL (MIN 100mm ABOVE ELEVATION OF PIT CREST) AND EXTENDS LATERALLY TO BASIN BATTERS BY 300mm, AND VERTICALLY INTO THE FILTER MEDIA BY 200mm. THIS PLYWOOD BARRIER NEEDS TO REMAIN IN PLACE FOR 12 MONTHS AND PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE MAJORITY FOR THE BASIN AREA. AFTER 12 MONTHS ONCE THE VEGETATION IS ESTABLISHED AND THE ALLOTMENT CONSTRUCTION IS COMPLETE THESE PLYWOOD BARRIERS WILL BE TAKEN OUT AND THE SYSTEM BROUGHT ONLINE.

- COVER INLET ZONE WITH PROTECTIVE GEOFABRIC ENSURING GEOFABRIC EXTENDS OVER CREST OF PROTECTIVE PLYWOOD BARRIER. COVER GEOFABRIC WITH MIN 50mm TOPSOIL SUITABLE FOR TURF GROWTH. SIMILAR TO THE PLYWOOD BARRIERS, THIS GEOFABRIC IS A TEMPORARY PROTECTIVE MEASURE TO PROTECT THE FILTER MEDIA IN THE INLET ZONE FROM BEING CLOGGED WITH CONSTRUCTION SEDIMENT, AND WILL BE REMOVED AFTER 12 MONTHS.

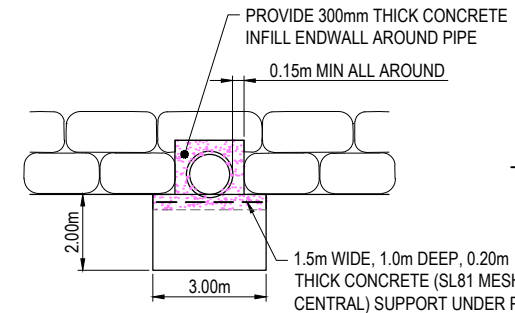
- FLUSH DRAINAGE PIPES TO REMOVE ANY INITIAL INGRESS OF MATERIAL AND TO ENSURE ADEQUATE DRAINAGE.

FINAL SUPERINTENDENT INSPECTION AND SIGN OFF

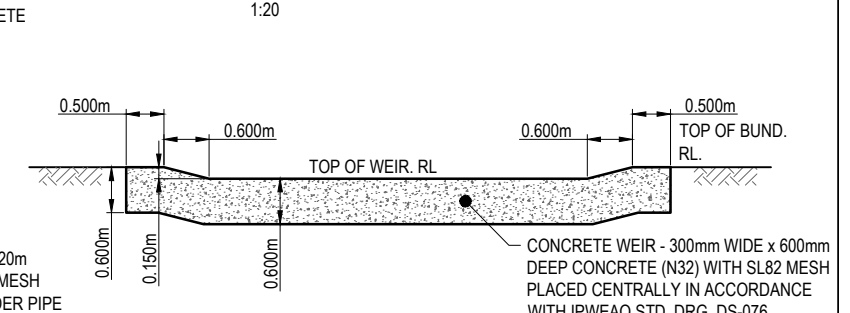
NOTE THAT BETWEEN STEPS 5 - 16 ABOVE THE BASINS WILL BE SUSCEPTIBLE TO STORM DAMAGE. THEREFORE ONCE COMMENCED PODS MUST BE COMPLETED AS SOON AS POSSIBLE TO MINIMISE THE RISK OF STORM DAMAGE. INSPECTION IS REQUIRED IF RAINFALL EVENT OCCURS BETWEEN CONSTRUCTION STEPS 5 - 16 ABOVE.



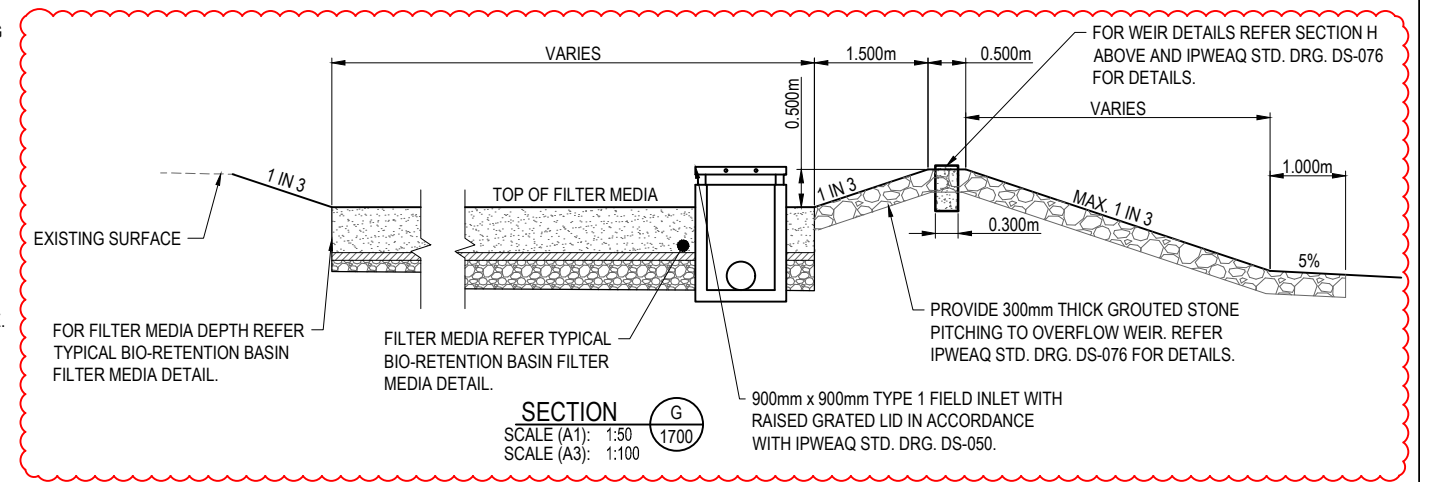
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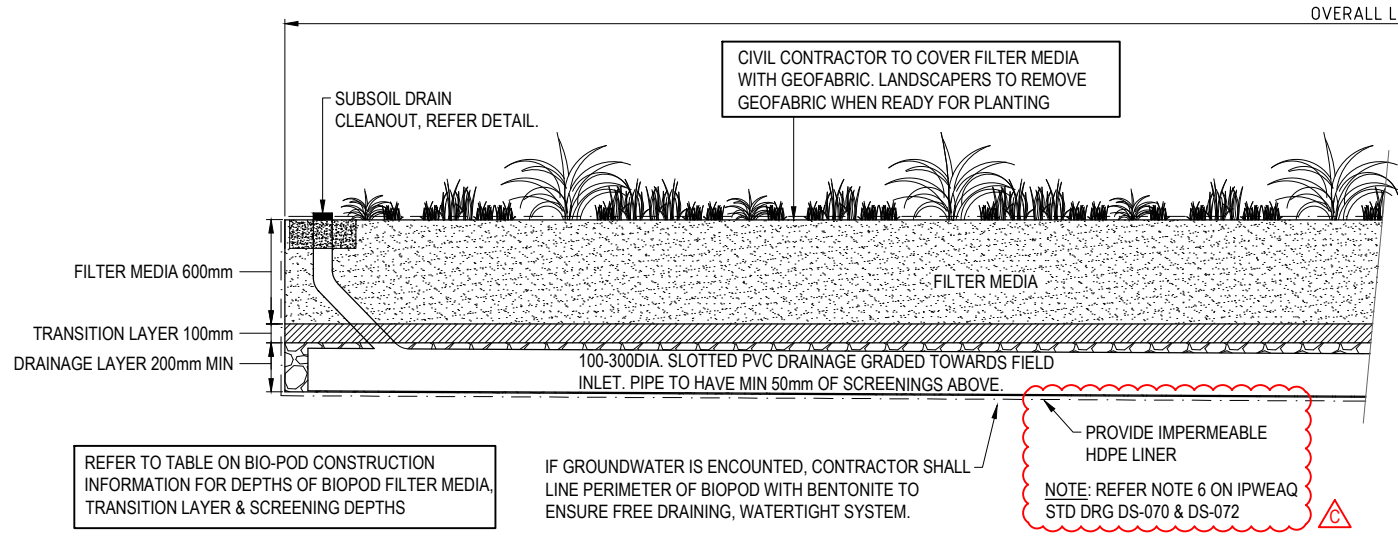
OUTLET THROUGH ROCKWALL DETAIL



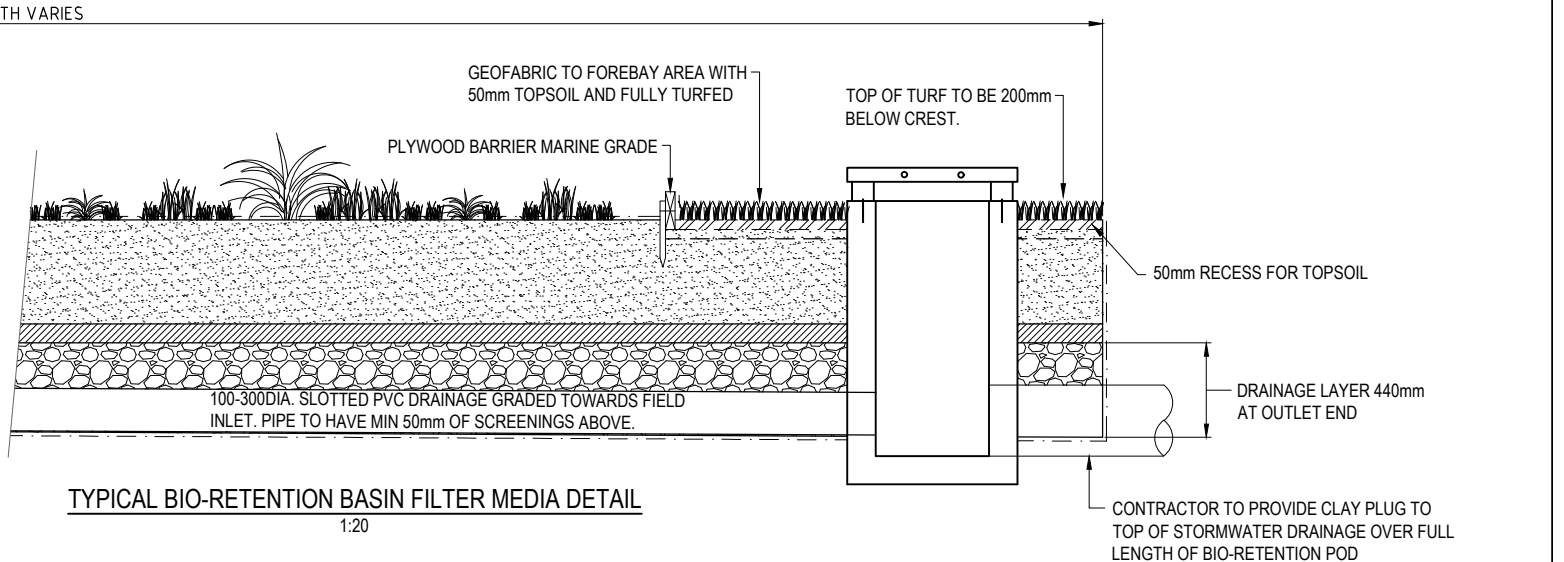
SECTION H



SECTION G



TYPICAL BIO-RETENTION BASIN FILTER MEDIA DETAIL



OVERALL LENGTH VARIES

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ATTACHMENT 4

Appeal Rights

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

- (1) Schedule 1 states—
 - (a) matters that may be appealed to—
 - (i) either a tribunal or the P&E Court; or
 - (ii) only a tribunal; or
 - (iii) only the P&E Court; and
 - (b) the person—
 - (i) who may appeal a matter (the *appellant*); and
 - (ii) who is a respondent in an appeal of the matter; and
 - (iii) who is a co-respondent in an appeal of the matter; and
 - (iv) who may elect to be a co-respondent in an appeal of the matter.
- (2) An appellant may start an appeal within the appeal period.
- (3) The *appeal period* is—
 - (a) for an appeal by a building advisory agency—10 business days after a decision notice for the decision is given to the agency; or
 - (b) for an appeal against a deemed refusal—at any time after the deemed refusal happens; or
 - (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises—20 business days after a notice is published under section 269(3)(a) or (4); or

- (d) for an appeal against an infrastructure charges notice—20 business days after the infrastructure charges notice is given to the person; or
- (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given—30 business days after the applicant gives the deemed approval notice to the assessment manager; or
- (f) for an appeal relating to the *Plumbing and Drainage Act 2018*—
 - (i) for an appeal against an enforcement notice given because of a belief mentioned in the *Plumbing and Drainage Act 2018*, section 143(2)(a)(i), (b) or (c)—5 business days after the day the notice is given; or
 - (ii) for an appeal against a decision of a local government or an inspector to give an action notice under the *Plumbing and Drainage Act 2018*—5 business days after the notice is given; or
 - (iii) for an appeal against a failure to make a decision about an application or other matter under the *Plumbing and Drainage Act 2018*—at anytime after the period within which the application or matter was required to be decided ends; or
 - (iv) otherwise—20 business days after the day the notice is given; or
- (g) for any other appeal—20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note—

See the P&E Court Act for the court's power to extend the appeal period.

- (4) Each respondent and co-respondent for an appeal may be heard in the appeal.

-
- (5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
 - (6) To remove any doubt, it is declared that an appeal against an infrastructure charges notice must not be about—
 - (a) the adopted charge itself; or
 - (b) for a decision about an offset or refund—
 - (i) the establishment cost of trunk infrastructure identified in a LGIP; or
 - (ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

- (1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that—
 - (a) is in the approved form; and
 - (b) succinctly states the grounds of the appeal.
- (2) The notice of appeal must be accompanied by the required fee.
- (3) The appellant or, for an appeal to a tribunal, the registrar, must, within the service period, give a copy of the notice of appeal to—
 - (a) the respondent for the appeal; and
 - (b) each co-respondent for the appeal; and
 - (c) for an appeal about a development application under schedule 1, section 1, table 1, item 1—each principal submitter for the application whose submission has not been withdrawn; and
 - (d) for an appeal about a change application under schedule 1, section 1, table 1, item 2—each principal submitter for the application whose submission has not been withdrawn; and

- (e) each person who may elect to be a co-respondent for the appeal other than an eligible submitter for a development application or change application the subject of the appeal; and
 - (f) for an appeal to the P&E Court—the chief executive; and
 - (g) for an appeal to a tribunal under another Act—any other person who the registrar considers appropriate.
- (4) The *service period* is—
- (a) if a submitter or advice agency started the appeal in the P&E Court—2 business days after the appeal is started; or
 - (b) otherwise—10 business days after the appeal is started.
- (5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).
- (6) A person elects to be a co-respondent to an appeal by filing a notice of election in the approved form—
- (a) if a copy of the notice of appeal is given to the person—within 10 business days after the copy is given to the person; or
 - (b) otherwise—within 15 business days after the notice of appeal is lodged with the registrar of the tribunal or the P&E Court.
- (7) Despite any other Act or rules of court to the contrary, a copy of a notice of appeal may be given to the chief executive by emailing the copy to the chief executive at the email address stated on the department’s website for this purpose.

231 Non-appealable decisions and matters

- (1) Subject to this chapter, section 316(2), schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.

-
- (2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
- (3) A person who, but for subsection (1) could have made an application under the *Judicial Review Act 1991* in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
- (4) In this section—
- decision** includes—
- (a) conduct engaged in for the purpose of making a decision; and
 - (b) other conduct that relates to the making of a decision; and
 - (c) the making of a decision or the failure to make a decision; and
 - (d) a purported decision; and
 - (e) a deemed refusal.
- non-appealable**, for a decision or matter, means the decision or matter—
- (a) is final and conclusive; and
 - (b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the *Judicial Review Act 1991* or otherwise, whether by the Supreme Court, another court, any tribunal or another entity; and
 - (c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, any tribunal or another entity on any ground.

232 Rules of the P&E Court

- (1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
- (2) However, the P&E Court may hear and decide an appeal even if the person has not complied with rules of the P&E Court.

ATTACHMENT 5

Infrastructure Charges Notice

In accordance with the Infrastructure Charges Resolution (No. 10) dated 5 October 2022 or as amended, there is no Infrastructure Charges applicable to the development.