DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Karkel Contracting Pty Ltd
Contact name *(only applicable for companies)*	Kel Howard
Postal address *(P.O. Box or street address)*	24b Boscanwan Crescent
Suburb	Bellbird park
State	Qld
Postcode	4300
Country	Aust.
Contact number	0437362417
Email address *(non-mandatory)*	karkelcontracting@gmail.com
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	AU010594

1.1) Home-based business
☒ Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application ☒ No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

☐ Street address **AND** lot on plan (*all lots must be listed*), ***or***

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
		47	Johnston Road	Mossman Gorge
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
		2	Sp295098	Douglas Shire Council
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☒ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
16°27'48.2"S	145°22'01.4"E	☒ WGS84 ☐ GDA94 ☐ Other:	Douglas Shire Couoncil

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☒ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:	Marrs Creek

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:	
Name of port authority for the lot:	

☐ In a tidal area

Name of local government for the tidal area *(if applicable)*:	
Name of port authority for tidal area *(if applicable)*	

☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*	
Name of airport:	
☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☒ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☐ No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☒ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☒ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

Operational works for Mossman Retirement Village

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☒ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☒ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

57 unit blocks + community centre + pool + work shed

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development
☐ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
☒ Not required
6.4) Is the application for State facilitated development?
☐ Yes - Has a notice of declaration been given by the Minister?
☒ No

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☐ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☒ Yes – complete division 3
Building work	☐ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*

8.2) Does the proposed use involve the use of existing buildings on the premises?
☐ Yes
☐ No

8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?	
☐ Yes – provide details below or include details in a schedule to this development application	
☐ No	
Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10)*	☐ Dividing land into parts by agreement *(complete 11)*
☐ Boundary realignment *(complete 12)*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13)*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☒ Road work	☒ Stormwater	☒ Water infrastructure
☒ Drainage work	☒ Earthworks	☒ Sewage infrastructure
☒ Landscaping	☒ Signage	☒ Clearing vegetation
☐ Other – please specify:		

14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*	
☐ Yes – specify number of new lots:	Relevant building applications in future
☒ No	

14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*

$2,630,000

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

16) Has the local government agreed to apply a superseded planning scheme for this development application?

☒ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
☐ No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?
***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

☒ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016***:

☐ Clearing native vegetation
☐ Contaminated land *(unexploded ordnance)*
☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☐ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
☐ Infrastructure-related referrals – near a state-controlled road intersection
☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
☐ Koala habitat in SEQ region – key resource areas
☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
☐ Ports – Brisbane core port land – hazardous chemical facility
☐ Ports – Brisbane core port land – taking or interfering with water
☐ Ports – Brisbane core port land – referable dams
☐ Ports – Brisbane core port land – fisheries
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
☐ SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
☐ SEQ northern inter-urban break – tourist activity or sport and recreation activity

☐ SEQ northern inter-urban break – community activity
☐ SEQ northern inter-urban break – indoor recreation
☐ SEQ northern inter-urban break – urban activity
☐ SEQ northern inter-urban break – combined use
☐ Tidal works or works in a coastal management district
☐ Reconfiguring a lot in a coastal management district or for a canal
☐ Erosion prone area in a coastal management district
☐ Urban design
☐ Water-related development – taking or interfering with water
☐ Water-related development – removing quarry material *(from a watercourse or lake)*
☐ Water-related development – referable dams
☐ Water-related development –levees *(category 3 levees only)*
☐ Wetland protection area

Matters requiring referral to the **local government:**

☐ Airport land
☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*
☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**

☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:

- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**

☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**

☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**

☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**

☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**

☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**

☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
☒ No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

PART 6 – INFORMATION REQUEST

19) Information request under the DA Rules

☒ I agree to receive an information request if determined necessary for this development application

☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or*
- *Part 2under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☒ Yes – provide details below or include details in a schedule to this development application

☐ No

List of approval/development application references	Reference number	Date	Assessment manager
☒ Approval ☒ Development application	Mcuc2023—5532/1 doc id 1224905	24 may 2024	Paul hoye
☐ Approval ☐ Development application			

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application

☒ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid

☐ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached

☒ No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

☒ No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

☒ No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

☒ No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*

2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

☒ No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

☒ No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.desi.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au for further information.*

DA templates are available from planning.statedevelopment.qld.gov.au. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

☒ No

DA templates are available from planning.statedevelopment.qld.gov.au. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

☒ No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Environment, Science and Innovation at www.desi.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

☒ No

***Note**: See guidance materials at www.resources.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:
- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for information requirements regarding development of Queensland heritage places.*

For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qldgov.au for information regarding assessment of Queensland heritage places.

Name of the heritage place:		Place ID:	

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.14) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

☒ No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

☒ No

***Note**: See guidance materials at www.planning.statedevelopment.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist

I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	☒ Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☒ Yes ☐ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	☒ Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued *(see 21)*	☒ Yes ☐ Not applicable

25) Applicant declaration
☒ By making this development application, I declare that all information in this development application is true and correct ☒ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note**: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

DA Form 2 – Building work details

Approved form (version 1.2 effective 7 February 2020) made under Section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving building work**.

For a development application involving **building work only**, use this form (*DA Form 2*) only. The DA Forms Guide provides advice about how to complete this form.

For a development application involving **building work associated and any other type of assessable development** (i.e. material change of use, operational work or reconfiguring a lot), use *DA Form 1 – Development application details* **and** parts 4 to 6 of this form (*DA Form 2*).

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Karkel Contracting Pty Ltd
Contact name *(only applicable for companies)*	Kel Howard
Postal address *(PO Box or street address)*	24b Boscawan Crescent
Suburb	Bellbird park
State	Qld
Postcode	4300
Country	Australia
Contact number	0437362417
Email address *(non-mandatory)*	karkelcontracting@gmail.com
Mobile number *(non-mandatory)*	0437362417
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

PART 2 – LOCATION DETAILS

2) Location of the premises *(complete 2.1 and 2.2 if applicable)*

Note*: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

2.1) Street address and lot on plan

☒ Street address **AND** lot on plan (*all lots must be listed*), **or**

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

Unit No.	Street No.	Street Name and Type	Suburb
	47	Johnston Road	Mossman Gorge
Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	2	Sp295098	Dougla Shire Council

2.2) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

3) Are there any existing easements over the premises?

***Note**: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see the DA Forms Guide*

☒ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☐ No

PART 3 – FURTHER DETAILS

4) Is the application only for building work assessable against the building assessment provisions?

☒ Yes – proceed to 8)

☐ No

5) Identify the assessment manager(s) who will be assessing this development application

6) Has the local government agreed to apply a superseded planning scheme for this development application?

☐ Yes – a copy of the decision notice is attached to this development application

☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached

☒ No

7) Information request under Part 3 of the DA Rules

☒ I agree to receive an information request if determined necessary for this development application

☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties.*
- *Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.*

Further advice about information requests is contained in the DA Forms Guide.

8) Are there any associated development applications or current approvals?

☒ Yes – provide details below or include details in a schedule to this development application

☐ No

List of approval/development application	Reference	Date	Assessment manager
☒ Approval ☒ Development application	Mcuc 2023-5532/1 doc id 1224905	24 may 2024	Paul hoye
☐ Approval ☐ Development application			

9) Has the portable long service leave levy been paid?		
☐ Yes – a copy of the receipted QLeave form is attached to this development application ☒ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid ☐ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*		
Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

10) Is this development application in response to a show cause notice or required as a result of an enforcement notice?
☐ Yes – show cause or enforcement notice is attached ☒ No

11) Identify any of the following further legislative requirements that apply to any aspect of this development application			
☐ The proposed development is on a place entered in the **Queensland Heritage Register** or in a local government's **Local Heritage Register**. See the guidance provided at www.des.qld.gov.au about the requirements in relation to the development of a Queensland heritage place			
Name of the heritage place:		Place ID:	

PART 4 – REFERRAL DETAILS

12) Does this development application include any building work aspects that have any referral requirements?
☐ Yes – the *Referral checklist for building work* is attached to this development application ☒ No – proceed to Part 5

13) Has any referral agency provided a referral response for this development application?		
☐ Yes – referral response(s) received and listed below are attached to this development application ☐ No		
Referral requirement	Referral agency	Date referral response
Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable)*		

PART 5 – BUILDING WORK DETAILS

14) Owner's details	
☐ Tick if the applicant is also the owner and proceed to 15). Otherwise, provide the following information.	
Name(s) (*individual or company full name*)	Cooloola Waters Pty Ltd
Contact name *(applicable for companies)*	Gary Simonite
Postal address *(P.O. Box or street address)*	Suite 34, (Level 36), Riparian Plaza, 71 Eagle Street,
Suburb	Brisbane
State	Qld

Postcode	4000
Country	Australia
Contact number	07 35233366
Email address *(non-mandatory)*	
Mobile number *(non-mandatory)*	0438331116
Fax number *(non-mandatory)*	

15) Builder's details	
☒ Tick if a builder has not yet been engaged to undertake the work and proceed to 16). Otherwise provide the following information.	
Name(s) *(individual or company full name)*	
Contact name *(applicable for companies)*	
QBCC licence or owner – builder number	
Postal address *(P.O. Box or street address)*	
Suburb	
State	
Postcode	
Contact number	
Email address *(non-mandatory)*	
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	

16) Provide details about the proposed building work			
What type of approval is being sought?			
☒ Development permit ☐ Preliminary approval			
b) What is the level of assessment?			
☒ Code assessment ☐ Impact assessment *(requires public notification)*			
c) Nature of the proposed building work (tick all applicable boxes)			
☒ New building or structure ☐ Change of building classification *(involving building work)* ☐ Demolition		☐ Repairs, alterations or additions ☐ Swimming pool and/or pool fence ☐ Relocation or removal	
d) Provide a description of the work below or in an attached schedule.			
57 unit blocks + 1 community centre + pool + work shed			
e) Proposed construction materials			
External walls	☐ Double brick ☐ Brick veneer ☐ Stone/concrete	☐ Steel ☐ Timber ☐ Fibre cement	☐ Curtain glass ☐ Aluminium ☐ Other
Frame	☐ Timber ☐ Other	☐ Steel	☐ Aluminium
Floor	☐ Concrete	☐ Timber	☐ Other
Roof covering	☐ Slate/concrete ☐ Aluminium	☐ Tiles ☐ Steel	☐ Fibre cement ☐ Other
f) Existing building use/classification? *(if applicable)*			

g) New building use/classification? *(if applicable)*
h) Relevant plans ***Note:*** *Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*
☒ Relevant plans of the proposed works are attached to the development application

17) What is the monetary value of the proposed building work?
$

18) Has Queensland Home Warranty Scheme Insurance been paid?		
☐ Yes – provide details below ☐ No		
Amount paid	Date paid (dd/mm/yy)	Reference number
$		

PART 6 – CHECKLIST AND APPLICANT DECLARATION

19) Development application checklist	
The relevant parts of *Form 2 – Building work details* have been completed	☐ Yes
This development application includes a material change of use, reconfiguring a lot or operational work and is accompanied by a completed *Form 1 – Development application details*	☐ Yes ☐ Not applicable
Relevant plans of the development are attached to this development application ***Note****: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☐ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (*see 9*)	☐ Yes ☐ Not applicable

20) Applicant declaration
☐ By making this development application, I declare that all information in this development application is true and correct ☐ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note****: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 7 – FOR COMPLETION BY THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference numbers:

For completion by the building certifier		
Classification(s) of approved building work		
Name	QBCC Certification Licence number	QBCC Insurance receipt number

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

Additional information required by the local government			
Confirm proposed construction materials:			
External walls	☐ Double brick ☐ Brick veneer ☐ Stone/concrete	☐ Steel ☐ Timber ☐ Fibre cement	☐ Curtain glass ☐ Aluminium ☐ Other
Frame	☐ Timber ☐ Other	☐ Steel	☐ Aluminium
Floor	☐ Concrete	☐ Timber	☐ Other
Roof covering	☐ Slate/concrete ☐ Aluminium	☐ Tiles ☐ Steel	☐ Fibre cement ☐ Other

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

Additional building details required for the Australian Bureau of Statistics			
Existing building use/classification? *(if applicable)*			
New building use/classification?			
Site area *(m^2)*		Floor area *(m^2)*	

Company owner's consent to the making of a development application under the *Planning Act 2016*

I,

[*Insert name in full.*]

Sole Director/Secretary of the company mentioned below.

[*Delete the above where company owner's consent must come from both director and director/secretary*]

I,

[*Insert name in full.*]

Director of the company mentioned below.

and I,

[*Insert name in full.*

[*Insert position in full—i.e. another director, or a company secretary.*]

Delete the above two boxes where there is a sole director/secretary for the company giving the owner's consent.

Of

[*Insert name of company and ACN.*]

the company being the owner of the premises identified as follows:

[*Insert street address, lot on plan description or coordinates of the premises the subject of the application.]*

consent to the making of a development application under the *Planning Act 2016* by:

[*Insert name of applicant.*]

on the premises described above for:

[Insert details of the proposed development, e.g. material change of use for four-storey apartment building.]

Company seal *[if used]*

Company Name and ACN: ……
…… Signature of Sole Director/Secretary
…… Date

[*Delete the above where company owner's consent must come from both director and director/secretary.*]

Company Name and ACN: ……	
…… Signature of Director	…… Signature of Director/Secretary
…… Date	…… Date

[Delete the above where there is a sole director/secretary for the company giving the owner's consent.]

03/07/2026

Chief Executive Officer
Mossman Shire Council
PO Box 723
Mossman QLD 4873

Development Application for Material Change of Use for a Retirement Facility
At 47 Johnston Road Mossman Gorge
On Land Described as Lot 2 on SP295098
CONDITION 12 & 13 RESPONSE

To whom it may concern,

We are writing in response to Council's Development Approval Conditions dated 30 April 2024. The following information has been provided to satisfy Conditions 12 and 13 of the Assessment Manager Conditions and Advice:

Updated Drainage Study

12. As part of the supporting information for the application for Operational Works, provide updated drainage calculations confirming the capacity and operation of the existing drainage adjacent to the site. In particular, the updated calculations must provide further information to address the following:
    a. Provide calculations of the existing open drain south-east of the property boundary to demonstrate that sufficient capacity and freeboard are provided to accommodate the modified flow produced as a result of the development, in accordance with the Queensland Urban Drainage Manual;
    b. Provide calculations of the existing open drain north of the property boundary to address the following:
        i. Provide the pre- and post-development peak flows downstream from the existing open drain outlet to Marrs Creek, demonstrating no worsening effect on upstream and downstream drainage features, properties and infrastructure; and
        ii. Provide drain hydraulic calculations to demonstrate that sufficient capacity and freeboard are provided to accommodate the modified flow produced as a result of the development, in accordance with the Queensland Urban Drainage Manual.
    c. Amend the engineering plan(s) to indicate potential drainage easement locations.

RESPONSE 12a:

As per Neon Consulting Plan 021-2302-BE-9001 Revision A, the existing contributing catchment to the existing open southern drain was calculated as 0.48m³/s under a 1% AEP event and 0.3m³/s under a 10% AEP event, as shown in Figure 1.

Open Channel Full Depth Calculations (Figure 2) show that the existing open channel did not have sufficient capacity to convey the catchment flow within the open drain to the invert of the existing 2/600 culverts. As the total existing pre-development catchment flow of 1.04 ha is not contributed at the upstream point of the open drain reach, the failure in open drain capacity would have been displayed in the lower quarter only. The first half of the open drain length would have sufficient capacity to mitigate the distributed catchment flows, as the contributing sub-catchments are smaller and generate smaller sub-catchment flows.

The proposed retirement village redesign has reduced the contributing South-Eastern open drain catchment to 0.353 ha, as shown in Figure 3 – Blue Catchment below. This reduced catchment area equates to 0.1643m³/s for the 1% AEP event, ensuring the existing South-Eastern open drain now has sufficient capacity and freeboard under all events, including the 1% AEP. For details, see Figure 4.

RESPONSE 12b (i):

As shown in Figure 1 below, the calculated pre-development peak flow at the North-Western outlet of the open drain to Marrs Creek was calculated at 1.43m³/s for the 1% AEP event and 0.88m³/s for the 10% AEP event, as noted on Neon Consulting engineering plan 021-2302-BE-9001 Revision A, submitted as part of the Information Request response by RPS dated 8 February 2024.

As per Figure 5, the post-development peak flow for the 1% AEP has been calculated at 0.703m³/s and 0.416m³/s for the 10% AEP event. The 0.727m³/s reduction in the 1% AEP event flow at the North-Western downstream end of the existing open drain is due to the reduction in post-development catchment area compared to the pre-development catchment area. The difference in catchment area has been redirected to a proposed detention basin located in the north-western corner of the site, proposed as part of the retirement village development.

The considerable change to post-development catchment flows within the existing north-western open channel, as shown in Figure 6, confirms there are no worsening effects on upstream or downstream drainage features, properties or infrastructure.

RESPONSE 12b (ii):

The existing north-western open drain post-development catchment flows, as noted in Response 12b(i) above, have sufficient capacity to convey the flow and indicate a depth of flow under a 1% AEP event of 0.426m. This equates to a freeboard of 0.574m, as shown in Figure 7, demonstrating that the amendments satisfy the condition.

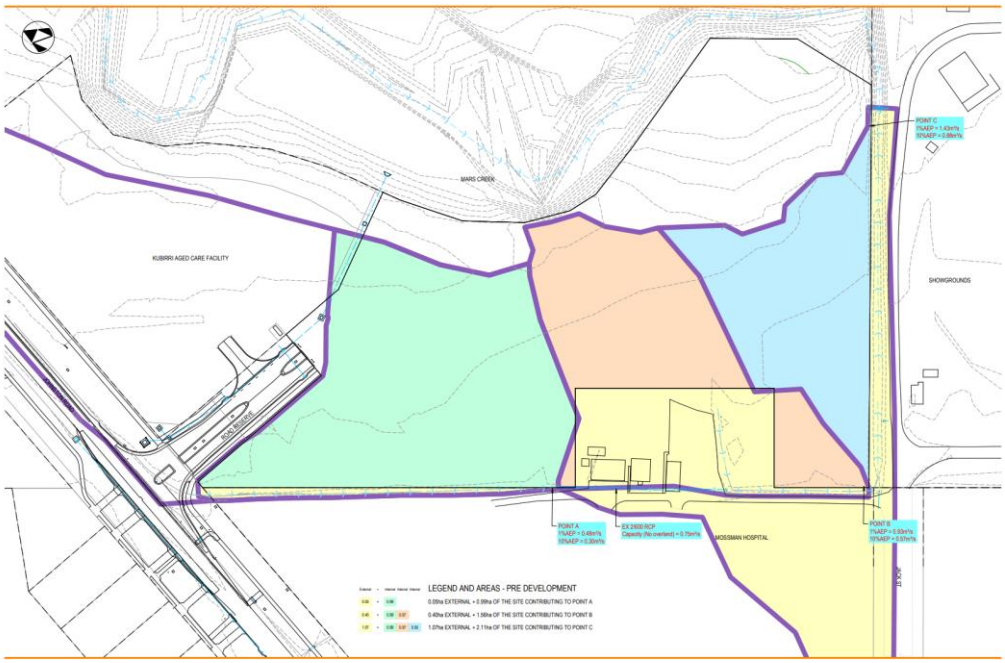
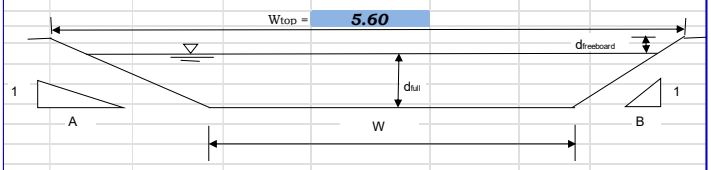


Figure 1 Existing open drain catchment information

	Project	Job #	Rev
	47 Johnston Road, Mossman Gorge		01
			Made by / date
			EM / 29.06.26
	Subject		Checked / date
	Existing South-East Open Drain		KH / 29.06.26



PARAMETERS TABLE

W	0.00	Channel width in metres
A	8.4	Grade of left hand channel bank. (1 in ___)
B	3.81	Grade of right hand channel bank. (1 in ___)
S	0.79	Slope of channel bed in percent.
n	0.035	Manning's "n" which is the channel roughness.
dfull	0.32	Full Flow Depth in metres
dfreeboard	0.15	Desired Freeboard Depth in metres
Qdesign	0.48	Calculated Runoff to be conveyed in Channel (m3/s)

OPEN CHANNEL FULL DEPTH FLOW CALCULATIONS

FLOW AREA (m2)	WETTED PERIM. (m)	HYDRAULIC RADIUS (m)	FLOW CAPACITY (m3/s)	VELOCITY (m/s)	D-V PRODUCT	FACTOR OF SAFETY
0.63	3.97	0.16	0.463	0.74	0.24	0.96
			FAILS!!			

Notes

1 This spreadsheet calculates flow in an open channel using Manning's equation from QUDM 9.03.5.

Figure 2 Existing South-Eastern Open Drain Calculations – Pre-Development Catchment

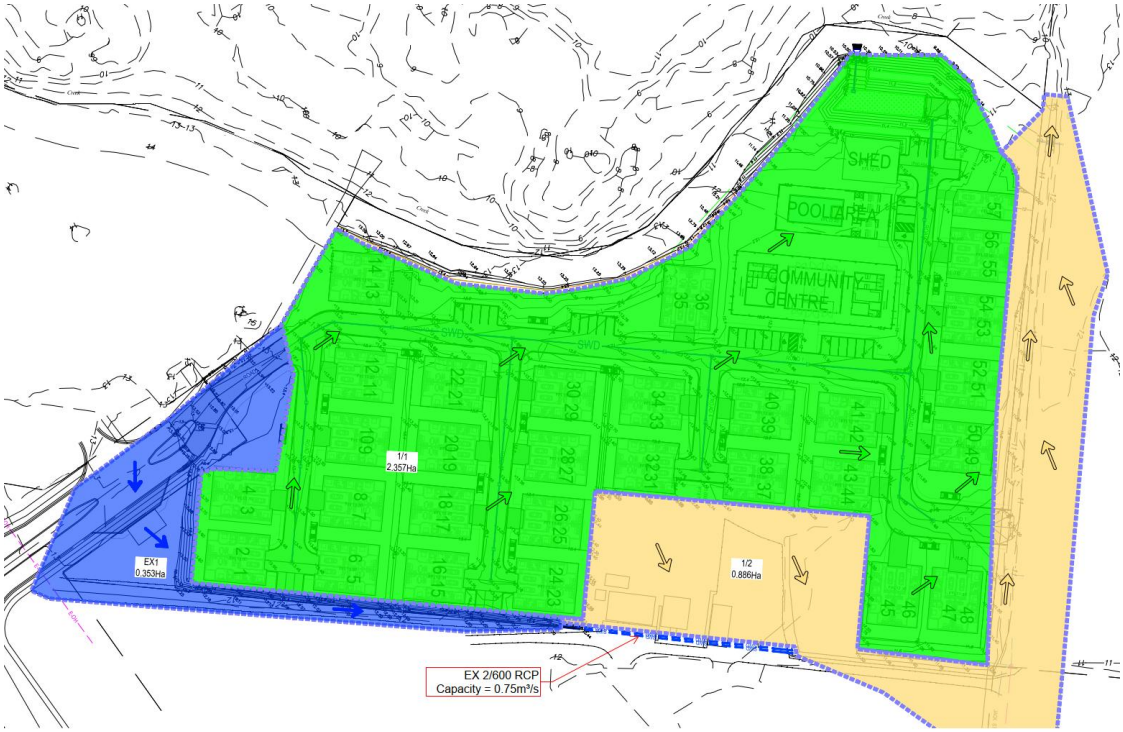
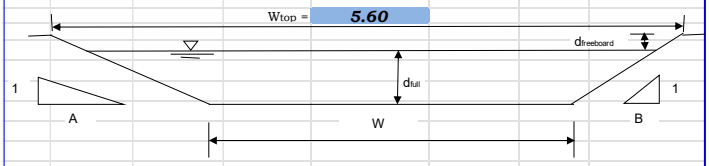


Figure 3 Revised Retirement Village - Post-Development Catchment

	Project	Job #	Rev
	47 Johnston Road, Mossman Gorge		01
			Made by / date
			EM / 29.06.26
	Subject		Checked / date
	Existing South-East Open Drain - Developed Catchment		KH / 29.06.26



PARAMETERS TABLE

W	0.00	Channel width in metres
A	8.4	Grade of left hand channel bank. (1 in ___)
B	3.81	Grade of right hand channel bank. (1 in ___)
S	0.79	Slope of channel bed in percent.
n	0.035	Manning's "n" which is the channel roughness.
d_{full}	0.32	Full Flow Depth in metres
$d_{freeboard}$	0.15	Desired Freeboard Depth in metres
Q_{design}	0.16	Calculated Runoff to be conveyed in Channel (m3/s)

OPEN CHANNEL FULL DEPTH FLOW CALCULATIONS

FLOW AREA (m2)	WETTED PERIM. (m)	HYDRAULIC RADIUS (m)	FLOW CAPACITY (m3/s)	VELOCITY (m/s)	D-V PRODUCT	FACTOR OF SAFETY
0.63	3.97	0.16	0.463	0.74	0.24	2.82

OKAY

Notes

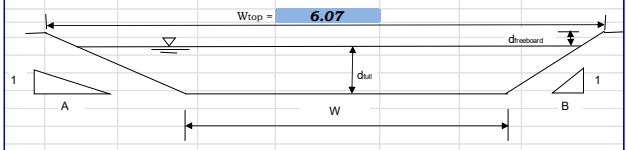
1 This spreadsheet calculates flow in an open channel using Manning's equation from QUDM 9.03.5.

Figure 4 Existing South-Eastern Open Drain Calculations – Post-Development Catchment

CATCHMENT LABEL	AREA (m²)	AREA (ha)	Fraction Imp. (Fi)	1.00 C10	1.000 C10	1.200 C100	CA10	CA100	TOC (min)	I10	I100	DISCHARGE (CUMECS) ARI10	DISCHARGE (CUMECS) ARI1	DISCHARGE (LITRES/S) ARI10	DISCHARGE (LITRES/S) ARI1
EX1, 1/2	1.239	1.2390	0.20	0.74	0.740	0.888	0.917	1.100	20.0	163.396	230.055	0.416	0.703	416.141	703.093

Figure 5 Rational Method Calculations – Post-Development

Project	Job #	Rev
47 Johnston Road, Mossman Gorge		01
		Made by / date: EM / 29.06.26
Subject: Existing North-Western Open Drain - Developed Catchment		Checked / date: KH / 29.06.26



PARAMETERS TABLE

W	1.85	Channel width in metres
A	2.17	Grade of left hand channel bank. (1 in ___)
B	2.7	Grade of right hand channel bank. (1 in ___)
S	0.2	Slope of channel bed in percent.
n	0.035	Manning's "n" which is the channel roughness.
dfull	0.85	Full Flow Depth in metres
dfreeboard	0.15	Desired Freeboard Depth in metres
Qdesign	0.70	Calculated Runoff to be conveyed in Channel (m3/s)

OPEN CHANNEL FULL DEPTH FLOW CALCULATIONS

FLOW AREA (m2)	WETTED PERIM. (m)	HYDRAULIC RADIUS (m)	FLOW CAPACITY (m3/s)	VELOCITY (m/s)	D-V PRODUCT	FACTOR OF SAFETY
3.33	6.33	0.53	2.775	0.83	0.71	3.95

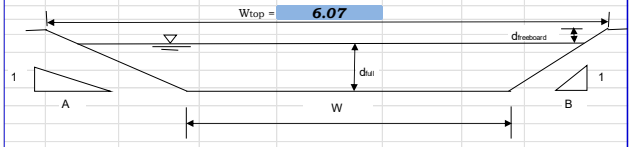
OKAY

Notes

1 This spreadsheet calculates flow in an open channel using Manning's equation from QUDM 9.03.5.

Figure 6 Existing North-Western Open Drain Capacity Calculations – Post-Development

Project	Job #	Rev
47 Johnston Road, Mossman Gorge		01
		Made by / date: EM / 29.06.26
Subject: Existing North-Western Open Drain - Developed Catchment		Checked / date: KH / 29.06.26



PARAMETERS TABLE

W	1.85	Channel width in metres
A	2.17	Grade of left hand channel bank. (1 in ___)
B	2.7	Grade of right hand channel bank. (1 in ___)
S	0.2	Slope of channel bed in percent.
n	0.035	Manning's "n" which is the channel roughness.
dfull	0.426	Full Flow Depth in metres
dfreeboard	0.57	Desired Freeboard Depth in metres
Qdesign	0.70	Calculated Runoff to be conveyed in Channel (m3/s)

OPEN CHANNEL FULL DEPTH FLOW CALCULATIONS

FLOW AREA (m2)	WETTED PERIM. (m)	HYDRAULIC RADIUS (m)	FLOW CAPACITY (m3/s)	VELOCITY (m/s)	D-V PRODUCT	FACTOR OF SAFETY
1.23	4.09	0.30	0.705	0.57	0.24	1.00

OKAY

Notes

1 This spreadsheet calculates flow in an open channel using Manning's equation from QUDM 9.03.5.

Figure 7 Existing North-Western Open Drain Freeboard Depth – Post-Development

RESPONSE 12c:

As per the Information Request Response - 47 Johnston Road, dated 15 March 2024 by Neon Consulting, the same request was identified for response, as shown below. Neon Consulting recommended that easements be created over the existing stormwater paths. However, as clearly shown in Condition Responses 12a and 12b above, the contributing flows within both the South-Eastern and North-Western open drains have been extensively reduced, ensuring sufficient capacity in the drains and confirming no worsening due to the proposed development. This satisfies the condition.

d. Identify any requirement for potential drainage easements, including the open drain along the northern boundary of the site, and open drain along the eastern boundary of the site;

It is recommended that easements are created for the existing stormwater paths identified to provide Council authority for maintenance and access. Exacting easement requirements will be shown as part of the operational works phase.

Drainage Design

13. Design a stormwater drainage system, internal and external to the land, in accordance with section D4 of the FNQROC Development Manual, to satisfactorily drain the subject land such that upstream drainage is not adversely affected and the downstream drainage system is capable of adequately catering for the discharge of the modified flow produced as a result of the development. Detailed design drawings of all stormwater infrastructure required as a result of the development are to be provided to Council for endorsement. The drainage design must include, but is not limited to, the following:
    a. Stormwater Masterplan of the drainage system including pipe, pit, kerb and channel and defined overland flow paths;
    b. Hydraulic modelling of the existing 2/600 diameter RCP (east of the property boundary) including pipe grade levels, water depth, freeboard, velocity and actual tailwater conditions;
    c. Information on any proposed works and mitigation measures to the open drain north of the site to accommodate the proposed development.

RESPONSE 13a: ***A revised detailed design of the retirement village has been provided as part of this response. Details of the stormwater network and catchment plan have been provided on engineering plan 260401-OPW-400 – Revision A.***

RESPONSE 13b: ***As noted in Response 12 above, the post-development catchment area has been substantially reduced compared to the pre-development condition. The considerable reduction in flows indicates the existing 2/600 RCP will be at 64% capacity. The pre-development condition showed the 2/600 RCP were at or above 100% capacity. Council's concerns with the previous engineering design provided by Neon Consulting were understood to relate to the increased fraction impervious percentage, which could create actionable nuisance impacts on surrounding properties and would not comply with QUDM.***

RESPONSE 13c: ***As demonstrated in Responses 12b(i) and 12b(ii), the proposed development significantly reduces the catchment area and associated flows discharging to the existing open drain north of the site. Post-development peak flows have reduced from 1.43m³/s to 0.703m³/s for the 1% AEP event. Hydraulic calculations confirm the existing drain has sufficient capacity and freeboard to accommodate the reduced post-development flows. Accordingly, no upgrade works or additional mitigation measures are required within the existing open drain. The proposed detention basin and revised catchment layout provide the required mitigation by reducing runoff and improving the performance of the existing drainage system compared to the pre-development condition.***

We consider the above responses, satisfy Condition 12 and 13 of the Decision Notice MCUC 2023_5532/1.

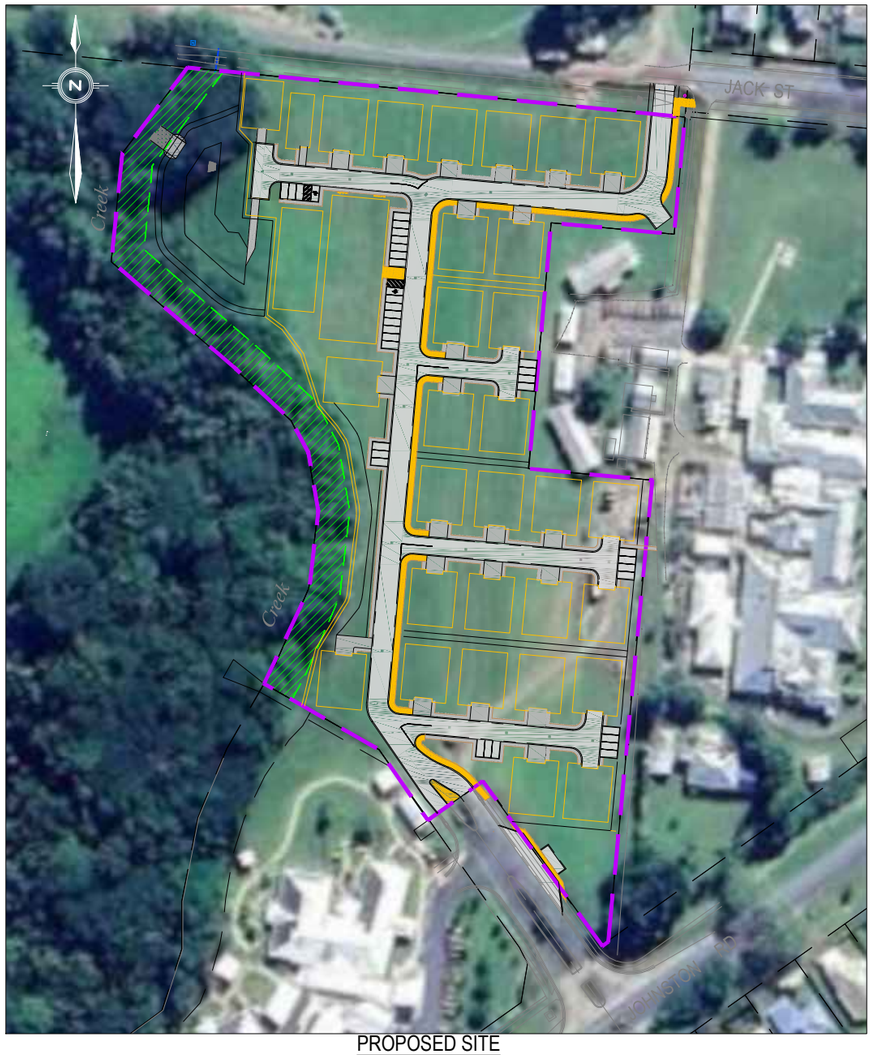
Kind Regards,



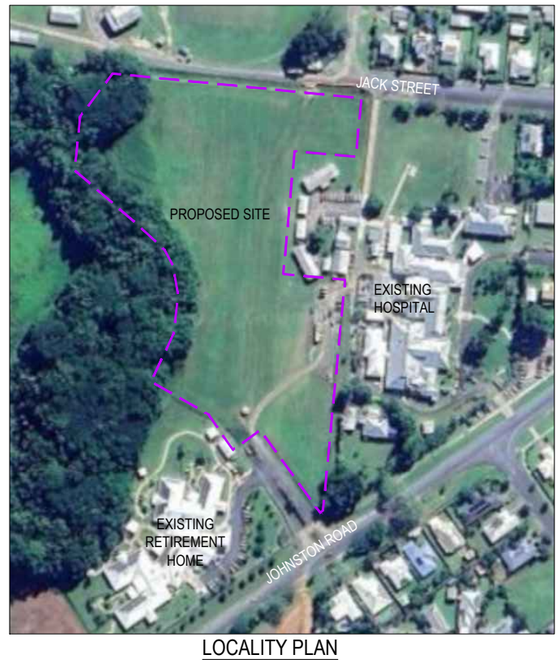
Kel Howard
RPEQ 07619

MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

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C605	SEWER LONG. SECTIONS - SHEET 1 OF 2



PROPOSED SITE
SCALE 1:1000



LOCALITY PLAN
SCALE 1:2000

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 1000 10 0 10 20 30 40 50m A1
1 : 2000 A3
1 : 2000 20 0 20 40 60 80 100m A1
1 : 4000 A3

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STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

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MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DRAWING INDEX AND LOCALITY PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	000-	A

GENERAL

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE FOLLOWING DOCUMENTS:
   - OTHER PROVIDED ENGINEERING DRAWINGS
   - TECHNICAL SPECIFICATIONS
   - SUPPLEMENTARY SPECIFICATIONS
   - WRITTEN INSTRUCTIONS
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF FNQROC.
3. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. DISCREPANCIES SHALL BE REFERRED TO THE SITE SUPERINTENDENT.
4. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF ALL SERVICES AND PROTECT THESE SERVICES PRIOR TO WORKING IN THE VICINITY. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. WORKS TO ANY SERVICES SHOULD BE DONE IN CONSULTATION WITH THE APPROPRIATE SERVICE PROVIDER.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROVISION OF ANY TEMPORARY BRACING, PROPPING ETC. TO UNDERGROUND SERVICES DURING CONSTRUCTION . STRUCTURES SHALL BE MAINTAINED IN A STABLE POSITION AND NO PART SHALL BE OVERSTRESSED.
7. DO NOT OBTAIN DIMENSIONS FROM SCALING.
8. NATURAL SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.
9. ANY PERMITS AND APPROVALS REQUIRED FOR CONSTRUCTION OF PERMANENT OR TEMPORARY WORKS SHALL BE OBTAINED BY THE CONTRACTOR.
10. FNQROC STANDARD DETAILS ARE TO BE ADOPTED UNLESS STATED OTHERWISE.

EXCAVATION

1. ALL EXCAVATIONS DEEPER THAN 1.5m WILL NEED TO BE TEMPORARILY SUPPORTED OR BATTERED TO ENSURE PERSONNEL SAFETY.
2. TEMPORARY CUT BATTERS ARE TO BE MAXIMUM SLOPE OF 1:2

DAM EXCAVATION AND DE-WATERING

1. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR THE DE-WATERING OF THE EXISTING DAM AND THE DISPOSAL OF THE DAM WATER IN ACCORDANCE WITH AN APPROVED DAM DEWATERING MANAGEMENT PLAN.

SUBGRADE PREPARATION GENERAL

1. CLEARING, STRIPPING AND GRUBBING MUST BE CARRIED OUT IN ALL AREAS SUBJECT TO EARTHWORKS (AS TRAFFICABILITY CONDITIONS ALLOW).
2. SOILS CONTAINING ORGANIC MATTER MUST BE STRIPPED FROM THE CONSTRUCTION AREA AND MUST NOT BE USED FOR STRUCTURAL FILL.
3. DEPRESSIONS FORMED BY THE REMOVAL OF EXISTING STRUCTURES, VEGETATION, UNDERGROUND ELEMENTS ETC. MUST HAVE ALL DISTURBED WEAKENED SOIL CLEANED OUT AND MUST BE BACKFILLED WITH COMPACTED SELECT MATERIAL.
4. IN AREAS WHERE WEAK SOILS FORM THE SUBGRADE THE SUPERVISING ENGINEER MAY DIRECT THE INSTALLATION OF A BRIDGING/WORKING LAYER TO SUPPORT CONSTRUCTION EQUIPMENT AND ALLOW FOR THE PLACEMENT OF FILL.
5. EXISTING SOILS ARE KNOWN TO LOSE STRENGTH IF THEY BECOME WET AND THE CONTRACTOR MUST MAKE EFFORT TO AVOID WETTING.

SUBGRADE PREPARATION ROADWORKS & DRIVEWAYS

1. THE SUBGRADE MUST BE PROOF ROLLED UNDER THE SUPERVISION OF AN RPEQ ENGINEER USING A STATIC VEHICLE WITH A TARE OF AT LEAST 8 TONNES AT REAR WHEELS AND THEN COMPACTED TO THE DEGREE REQUIRED.
2. AREAS DEMONSTRATING EXCESSIVE MOVEMENT UNDER PROOF ROLLING MUST BE DRIED AND RECOMPACTED OR REMOVED AND REPLACED WITH COMPACTED FILL.
3. ANY FILL MATERIAL ENCOUNTERED SHOULD BE CONSIDERED UNCONTROLLED AND REQUIRING TREATMENT.

BULK EARTHWORKS

1. REFER TO GEOTECHNICAL REPORT FOR ALL INSTRUCTIONS REGARDING EARTHWORKS OPERATIONS.
2. ALL EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3798, UNDER LEVEL 1 SUPERVISION.
3. INSITU SOILS ARE NOT TO BE USED AS STRUCTURAL FILL.
4. IMPORTED GENERAL FILL MUST BE COHESIVE IN NATURE AND GOOD QUALITY LOW PLASTICITY WITH:
   - 4.1. A LIQUID LIMIT LESS THAN 45%
   - 4.2. PLASTICITY INDEX OF LESS THAN 15%.
   - 4.3. SOAKED CBR GREATER THAN 10%
   - 4.4. MAXIMUM PARTICLE SIZE OF 75MM
   - 4.5. AT LEAST 80% PASSIVE THE 19MM SIEVE
5. FILL MATERIAL MUST BE PLACED IN LAYERS NOT EXCEEDING 200MM OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
6. UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT, MINIMUM RELATIVE STANDARD COMPACTION OF ALL EARTHWORKS IS TO A DENSITY NOT LESS THAN 98%.
7. THE SUB-BASE MATERIAL SHOULD BE COMPACTED TO A DENSITY NOT LESS THAN 98% OF MAXIMUM DRY DENSITY.
8. UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT, ALL FILL SHALL BE PLACED AT BETWEEN +2% AND -2% OF OPTIMUM MOISTURE CONTENT.
9. FIELD DENSITY TESTING MUST BE CARRIED OUT TO CHECK THE STANDARD OF COMPACTION ACHIEVED AND THE MOISTURE CONTENT IN ACCORDANCE WITH AS3798-2007.
10. BACKFILLING OF SERVICE TRENCHES MUST USE GOOD QUALITY MATERIAL PLACED IN UNIFORM LAYERS NOT EXCEEDING 200MM OVER THE WIDTH OF THE EXCAVATION.
11. BATTER SLOPES IN THE EXISTING FILLING CUT TO NO DEEPER THAN 2M, MAY BE DESIGN FOR TEMPORARY CONDITION OF 1:1 AND PERMANENT SLOPES OF 1:2.5
12. ALL OF THE SITE SHALL BE KEPT FREE DRAINING DURING ALL PHASES OF THE PROJECT.
13. NOTWITHSTANDING THE LIMITS 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.
14. ALL LEVELS PROVIDED ARE TO FINISHED FLOOR & FINISHED SURFACE LEVEL UNLESS SPECIFIED OTHERWISE.
15. WHERE A RISK OF SOME FUTURE DIFFERENT SETTLEMENT CAN BE ACCEPTED EXCAVATE SORT AND RE COMPACT THE TOP 0.5m.

LAND CLEARING

1. ALL CLEARING TO BE UNDERTAKEN IN ACCORDANCE WITH APPROVED TREE MANAGEMENT PLAN AND CONDITIONS OF ICC APPROVAL
2. LAND CLEARING MUST BE DELAYED AS LONG AS PRACTICAL AND MUST BE UNDERTAKEN IN CONJUNCTION WITH DEVELOPMENT OF EACH STAGE OF WORKS, UNLESS OTHERWISE APPROVED BY SUPERINTENDENT.
3. ALL REASONABLE AND PRACTICAL EFFORTS MUST BE TAKEN TO DELAY THE REMOVAL OF, OR DISTURBANCE TO EXISTING GROUND COVER (ORGANIC OR INORGANIC) PRIOR TO LAND-DISTURBING ACTIVITIES.
4. BULK TREE CLEARING MUST OCCUR IN A MANNER THAT MINIMISES DISTURBANCES TO EXISTING GROUND COVER.
5. BULK TREE CLEARING AND GRUBBING OF THE SITE MUST BE IMMEDIATELY FOLLOWED BY SPECIFIC TEMPORARY STABILISATION MEASURES (E.G. TEMPORARY GRASSING OR MULCHING) PRIOR TO COMMENCEMENT OF EACH STAGE OF CONSTRUCTION WORKS.
6. DISTURBANCE TO NATURAL WATER COURSES (INCLUDING BED AND BANKS) AND THEIR ASSOCIATED RIPARIAN ZONES MUST BE LIMITED TO THE MINIMUM PRACTICAL.
7. NO LAND CLEARING SHALL BE UNDERTAKEN UNLESS PROCEEDED BY THE INSTALLATION OF ADEQUATE DRAINAGE AND SEDIMENT CONTROL MEASURES, IN WHICH CASE, ONLY THE MINIMUM CLEARING REQUIRED TO INSTALL SUCH MEASURES SHALL OCCUR.
8. LAND CLEARING MUST BE LIMITED TO 5m FROM THE EDGE OF PROPOSED CONSTRUCTION WORKS, 2m OF ESSENTIAL CONSTRUCTION TRAFFIC ROUTES AND A TOTAL OF 10m WIDTH FROM CONSTRUCTION ACCESS, UNLESS OTHERWISE APPROVED BY SUPERINTENDENT.
9. PRIOR TO LAND CLEARING, AREAS OF PROTECTED VEGETATION, AND SIGNIFICANT AREAS OF RETAINED VEGETATION MUST BE CLEARLY IDENTIFIED(E.G. WITH HIGH VISIBILITY TAPE, OR LIGHT FENCING) FOR THE PURPOSE OF MINIMISING RISK OF UNNECESSARY CLEARING.
10. ALL REASONABLE AND PRACTICAL MEASURES MUST BE TAKEN TO MINIMISE THE REMOVAL OF, OR DISTURBANCE TO, THOSE TREES, SHRUBS AND GROUND COVERS (ORGANIC OR INORGANIC) THAT ARE INTENDED TO BE RETAINED.
11. ALL LAND CLEARING MUST BE IN ACCORDANCE WITH THE FEDERAL, STATE AND LOCAL GOVERNMENT VEGETATION PROTECTION/PRESERVATION REQUIREMENTS AND/OR POLICIES.
12. LAND CLEARING IS LIMITED TO THE MINIMUM PRACTICAL DURING THOSE PERIODS WHEN SOIL EROSION DUE TO WIND, RAIN OR SURFACE WATER IS POSSIBLE.
13. LAND CLEARING MUST NOT EXCEED BEYOND THAT NECESSARY TO PROVIDE UP TO EIGHT (8) WEEKS OF SITE ACTIVITY DURING THOSE MONTHS WHEN THE ACTUAL OR AVERAGE RAINFALL IS LESS THAN 45mm, SIX (6) IF BETWEEN 45mm AND 100mm, FOUR (4) WEEKS IF BETWEEN 100mm AND 225mm AND TWO (2) WEEKS IF GREATER THAN 225mm.
14. NATIVE SITE VEGETATION REQUIRED AND APPROVED FOR CLEARING SHOULD BE MULCHED AND STOCKED PILED FOR LATER USE IN LANDSCAPING, STABILISATION AND/OR SITE REHABILITATION WORKS.

ROADWORKS

1. CONTRACTOR TO ALLOW FOR STAGING OF ROADWORKS (AS REQUIRED) TO LIMIT THE IMPACT OF THE CONSTRUCTION ON EXISTING TRAFFIC. CONTRACTOR TO MAKE DUE ALLOWANCE FOR ALL PERMIT MANAGEMENT.
2. CONTRACTOR TO CONFIRM CONDUIT REQUIREMENTS FROM LANDSCAPING AND ELECTRICAL/COMMS DRAWINGS AND ALLOW FOR THESE PRIOR TO ANY PAVEMENT CONSTRUCTION.
3. THE CONTRACTOR SHALL ENSURE THAT ALL KERB AND CHANNEL GRADES SHALL NOT FALL BELOW 0.2% AT ANY POINT IRRESPECTIVE OF ROAD CENTRELINE GRADING OR INTERSECTION DESIGN LEVELS.
4. THE CONTRACTOR IS TO ENSURE ALL KERBING DRAINS FREELY AND IS TO NOTIFY THE SUPERINTENDENT IMMEDIATELY IF THIS WILL NOT OCCUR.
5. PAVEMENT SUB-BASE TO EXTEND 150mm (MIN) BEHIND BACK OF KERB OR AS PER COUNCIL STANDARDS.
6. CONTRACTOR TO REINSTATE ANY DAMAGE TO THE EXISTING KERB / FOOTPATH AND PROVIDE 'B' GRADE TURF BEHIND ANY REINSTATED KERB AND TO ALL DISTURBED AREAS.
7. ALL LAYERS OF PAVEMENT WORKS ARE TO BE PROOF ROLLED AND TESTED IN ACCORDANCE WITH COUNCIL REQUIREMENTS, SPECIFICATIONS AND TO THE APPROVAL OF COUNCIL AND THE SUPERINTENDENT.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE SUPERINTENDENT A MINIMUM OF 24 HOURS NOTICE TO ALLOW FOR PAVEMENT INSPECTIONS TO BE BOOKED.
9. SUB-SOIL DRAINAGE SHALL BE INSTALLED UNDER ALL NEW KERB AND GRADED AT 0.5% (MIN) TO CONNECT WITH DRAINAGE PITS.
10. SUBSURFACE DRAINAGE FLUSHING POINTS/ OUTLET REFER TO FNQROC STD DWG S1095C.

DRAINAGE

1. ALL STORMWATER PIPES ARE TO BE STEEL REINFORCED CONCRETE CLASS DEPENDS ON CONSTRUCTION AND OPERATIONAL LOAD.
2. ALL STORMWATER PIPES IN PUBLIC LAND (I.E. COUNCIL VERGE) ARE TO BE REINFORCED CONCRETE CLASS 3 UNLESS SPECIFIED OTHERWISE.
3. EXISTING STRUCTURES THAT ARE INTERFERED WITH DURING CONSTRUCTION WORKS (I.E. EXISTING GULLY PITS OR PIPEWORK PROVIDING CONNECTION) ARE TO BE REINSTATED OR REPLACED TO MEET CURRENT DESIGN SPECIFICATIONS.
4. ALL DRAINAGE STRUCTURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS:
   - CONDITIONS OF DEVELOPMENT APPROVAL OR COMPLIANCE ASSESSMENT,
   - FNQROC. DESIGN GUIDELINES, STANDARD DRAWINGS AND SPECIFICATIONS;
   - ANY MANUFACTURERS STANDARD DRAWINGS AND SPECIFICATIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF THE STATUTORY AUTHORITIES WHERE APPLICABLE.
3. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE ASSESSMENT OF CONSTRUCTION LOADS AND PROVISION OF ANY TEMPORARY BRACING, PROPPING, ETC. REQUIRED DURING CONSTRUCTION. STRUCTURES SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
4. PRECAST REINFORCED CONCRETE PIPES ARE TO BE MANUFACTURED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 4058 AND AS 1992.
5. ALL PIPES ARE TO BE RUBBER RING JOINTED.
6. BACKFILL AND BEDDING TO PIPES TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS & SPECIFICATIONS. REFER TO FNQROC STD DWG S1046A
7. UNSUITABLE FOUNDING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITH AUSTRALIAN STANDARDS & SPECIFICATIONS AND MAIN ROADS AUSTRALIA SPECIFICATIONS.
8. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED. ALL GRATES ARE TO BE CLASS D (UNLESS NOTED OTHERWISE) AND BICYCLE SAFE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3996 UNLESS NOTED OTHERWISE. REFER TO FNQROC STD DWG S1060B.
9. GRATE SUPPORT TO BE CONSTRUCTED LEVEL TO ENSURE THAT THE GRATE DOES NOT ROCK AFTER INSTALLATION.
10. ALL LEVELS ARE APPROXIMATE ONLY AND ARE SUBJECT TO FULL DETAIL SURVEY.
11. GULLYPITS TO BE CONSTRUCTED IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1050B & S1055D..
12. GULLY PITS IN EXCESS OF 1.5m DEEP ARE TO BE CONSTRUCTED AS A GULLY PIT/ACCESS CHAMBER STRUCTURE
13. STEP IRONS ARE TO BE INSTALLED IN ALL ACCESS CHAMBERS AND GULLYPITS IN EXCESS OF 1.2m DEEP.
14. FOR CONCRETE ACCESS CHAMBERS/ MANHOLES REFER TO FNQROC STD DWG S1065B.
15. FIELD INLET PITS REFER TO FNQROC STD DWG S1070B & S1060B.
16. FOR CONCRETE HEADWALLS REFER TO FNQROC STD DWG S1075B.

CONSTRUCTION MANAGEMENT

1. ALL CONSTRUCTION PHASE APPROVALS ARE TO BE OBTAINED AND COMPLIED WITH BY THE CONTRACTOR INCLUDING BUT NOT LIMITED TO :
   - TRAFFIC CONTROL
   - TREE CLEARING
   - HES BASIN CERTIFICATION
   - WORKS IN THE VICINITY OF EXISTING SERVICES
   - DE-WATERING OF DAM

AS CONSTRUCTED INFORMATION

1. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL AS-CONSTRUCTED SURVEY AND THE PROVISION TO THE SUPERINTENDENT.
2. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE AS-CONSTRUCTED SURVEY TO ENSURE THAT ALL CONSTRUCTED ELEMENTS ARE SURVEYED PRIOR TO ANY BACKFILLING.
3. AS-CONSTRUCTED INFORMATION IS TO REFLECT THE ACTUAL CONSTRUCTION AND ENDORSED BY A REGISTERED SURVEYOR.
4. THE AS-CONSTRUCTED POINTS/LEVELS SHALL BE TAKEN AT THE SAME POINTS/LEVELS LOCATIONS SHOWN ON DESIGN DRAWINGS AND ANY OTHER RELEVANT LOCATIONS TO ALLOW ASSESSMENT AGAINST THE DESIGN INTENT.
5. THE PRINCIPAL CONTRACTOR IS TO ISSUE AS-CONSTRUCTED SURVEY OF ALL CIVIL WORKS DETAILED IN THESE DRAWINGS IN 3D DWG AND PDF FORMAT AND IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY STANDARDS.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

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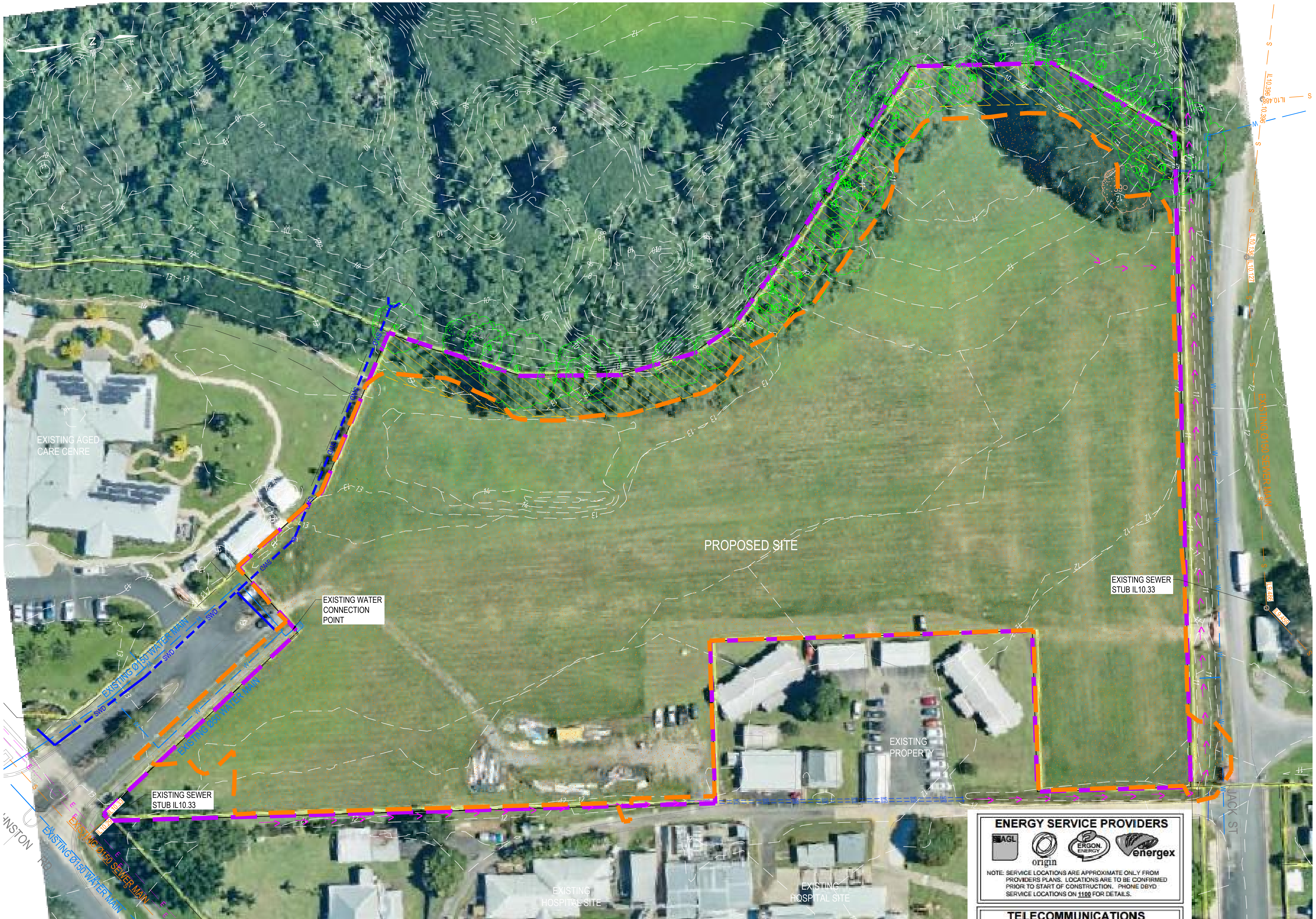
CERTIFIED: RPEQ 07619 KEL HOWARD

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OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
GENERAL NOTES

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	001-	A



EXISTING FEATURES PLAN

SCALE 1:500

LEGEND

Symbol	Description
(purple dashed line)	SITE BOUNDARY
(orange dashed line)	LIMIT OF WORKS
— — 6.00 — —	EXISTING SURFACE CONTOURS
— — W — — —	EXISTING WATER
— — SWD — — —	EXISTING STORMWATER
— — E-UG — —	EXISTING UNDERGROUND ELECT.
○FH	EXISTING FIRE HYDRANT
WM	EXISTING WATER METER
○PP	EXISTING POWER POLE
○LP	EXISTING LIGHT POLE
EPIL	EXISTING ELECTRICITY PIT
TPIT	EXISTING TELSTRA PIT
(hatched box)	10m CREEK BUFFER
— <— <—	EXISTING SWALE
(green tree)	EXISTING TREE TO REMAIN
(red tree)	EXISTING TREE TO REMOVED

TREE SURVEY

Pt No.	TRUNK (DIA)	SPREAD (DIA)	HEIGHT	TREE
2167	0.3	8	10	Tree (unknown)
2207	0.5	10	20	Tree (unknown)
1	0.6	12	18	Melicope Elleryana
2	0.65	15	25	Melicope Elleryana
3	0.5	12	18	Melicope Elleryana
4	0.6	20	25	Melicope Elleryana
5	0.35	10	16	Melicope Elleryana
6	0.35	10	16	Rhus taitensis
7	0.5	16	25	Melicope Elleryana
8	0.5	12	18	Glochidian sp
9	0.4	8	14	Polyscias elegans
10	0.4	8	16	Acacia celsa
11	0.3	8	16	Acacia celsa
12	0.4	12	18	Rhus taitensis
13	0.3	14	16	Rhus taitensis
14	0.35	8	16	Melicope Elleryana
15	0.6	14	20	Acacia celsa
16	0.4	8	16	Macaranga tanarius
17	0.4	12	20	Elaeocarpus grandis
18	0.55	12	22	Acacia celsa
19	0.8	15	26	African Tulip (weed)
20	0.65	15	25	Acacia celsa
21	0.55	15	25	Melicope Elleryana
22	0.4	8	10	Acacia celsa
23	0.6	14	22	Acacia celsa
24	0.8	20	28	Cassia javanica(weed)
25	0.5	16	25	Melicope Elleryana
26	0.6	12	20	Macaranga tanarius
27	1.2	16	28	Melicope Elleryana
28	0.45	12	22	Cassia javanica(weed)
29	0.6	16	28	Mango
30	1.8	30	35	Raintree (weed)
31	0.7	14	25	Nauclea orientalis
23	1.1	20	35	Raintree (weed)
33	1.8	25	35	Raintree (weed)
34	1	15	22	Ficus benjamina
35	1.3	25	35	Mango
36	1.3	25	35	Terminalia microcarpa
37	0.35	14	18	Alphitonia excelsa
38	0.45	10	18	Alphitonia excelsa
39	0.35	12	14	Alphitonia excelsa

ENERGY SERVICE PROVIDERS

AGL origin ERGON ENERGY energex

NOTE: SERVICE LOCATIONS ARE APPROXIMATE ONLY FROM PROVIDERS PLANS. LOCATIONS ARE TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. PHONE DBYD SERVICE LOCATIONS ON 1100 FOR DETAILS.

TELECOMMUNICATIONS SERVICE PROVIDERS

'yes' OPTUS Telstra visionstream nbn

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NOTES / WARNINGS

1. UNDERGROUND SERVICES EXIST IN THIS AREA.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.

DIAL BEFORE YOU DIG
www.1100.com.au

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COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD
ABN 77461010305

STATUS:
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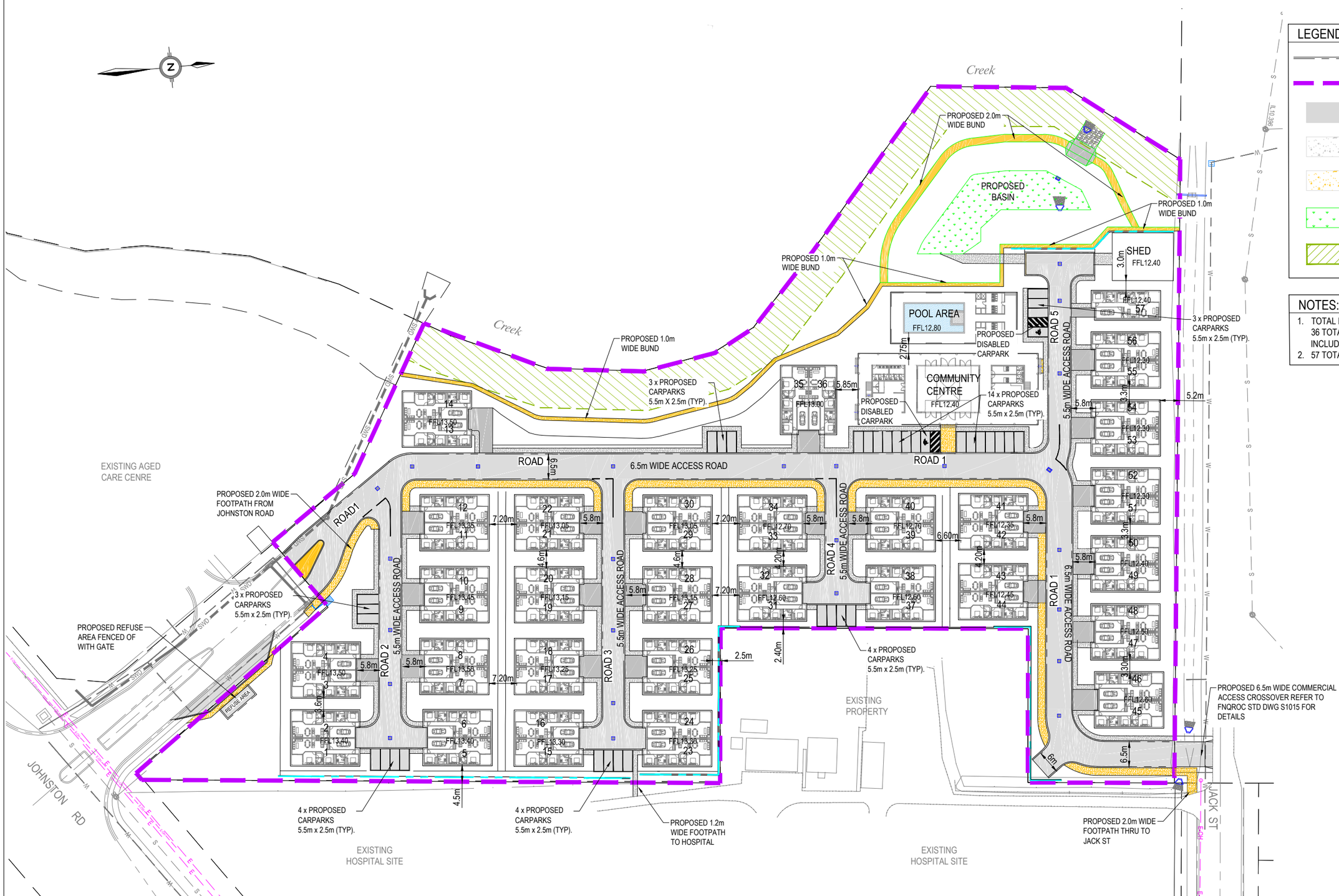
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
GRID	LOCAL	REVIEWED	KH
		APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EXISTING FEATURES LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	C010	A



OVERALL LAYOUT PLAN

SCALE 1:500

LEGEND

- PROPOSED KERB EDGE RESTRAINT
- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED STORMWATER BASIN AREA
- 10m CREEK BUFFER

NOTES:

1. TOTAL NUMBER OF CARPARKS;
   36 TOTAL CARPARKS
   INCLUDING 2 X DISABLED PARKING BAYS
2. 57 TOTAL DUPLEX UNITS

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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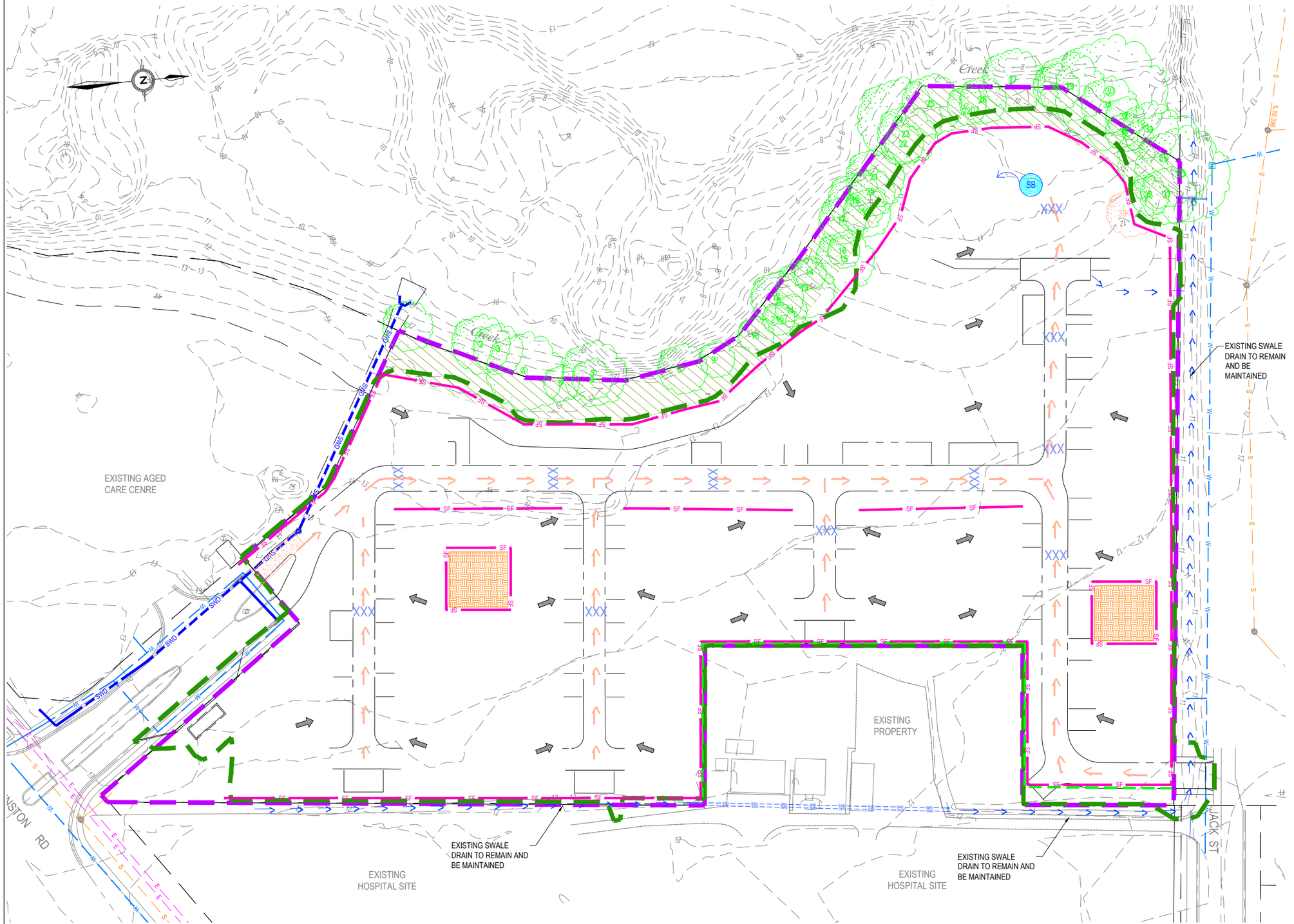
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OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
OVERALL LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	010-	A



PHASE 1 LAYOUT PLAN
SCALE 1:500

LEGEND

- EXISTING SURFACE CONTOURS
- PROPOSED SURFACE CONTOURS
- PROPOSED SITE BOUNDARY
- PROPOSED LIMIIT OF WORKS
- PROPOSED ROAD CENTRELINE
- PROPOSED NOMINAL KERB LINE
- PROPOSED STORMWATER LINE
- SITE ASSESS SHAKEDOWN AREA
- PROPOSED TOPSOIL STOCKPILE
- GULLY PIT SEDIMENT BARRIER
- PROPOSED ROCK CHECK DAM
- OVERLAND FLOW DIRECTION
- SILT FENCE TO BE INSTALLED
- DUST FENCE TO BE INSTALLED
- PROPOSED FIELD INLET SEDIMENT BARRIER
- PROPOSED SEDIMENT BASIN
- CLEAN WATER DIVERSION DRAIN
- DIVERSION DRAIN
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING ELECTRICAL
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMOVED

PHASE 1 PRE-START NOTE:

1. MEASURES SHOWN ON THIS PLAN ARE TO BE IMPLEMENTED PRIOR TO PRE-START MEETING WITH COUNCIL.
2. THE CONTRACTOR MUST INFORM THEMSELVES OF AND COMPLY WITH THE STATE PLANNING POLICY FOR HEALTHY WATERS".
3. SEDIMENT FENCES TO BE INSTALLED DOWNSTREAM OF ALL WORKS AND EXPOSED SOILS
4. IN ADDITION TO THE ABOVE SILT FENCING TO BE INSTALLED ACROSS SITE AT MINIMUM 30m SPACINGS WHERE AREAS HAVE BEEN EXPOSED.
5. MINIMISE THE NUMBER OF SITE ACCESS LOCATIONS (PREFERENCE FOR ONE ONLY) AND PROVIDE STABILISED SITE ACCESS AND SHAKEDOWN TO EACH ACCESS TO MINIMISE TRANSPORT OF SEDIMENT OF SITE.
6. ALL DUST GENERATING ACTIVITIES TO CEASE WHEN WIND SPEED REACHES 35kmhr AND ABOVE. THE CONTRACTOR IS RESPONSIBILE FOR PROVIDING A CALIBRATED WIND METER ON SITE.
7. INCREASED WATERING ON SITE TO PROVENT DUST GENERATION, INCLUDING THE TEMPORARY SPRINKLERS (AS REQUIRED).
8. ALL SEDIMENT AND EROSION CONTROL STRUCTURES, TRENCHES ETC SHALL BE REGULARLY MAINTAINED AND INSPECTED FOR EFFECTIVENESS.
9. REFER TO DWG C120-C122 FOR DETAILS AND NOTES

PHASE 1 MEASURES:

1. INSTALL SHAKEDOWN
2. INSTALL SEDIMENT AND EROSION CONTROL FENCES
3. CUT CLEAN WATER CATCH DRAIN
4. LINE CLEAN WATER CATCH DRAIN BASE WITH SYNTHETIC EROSION CONTROL MATTING OR ROCK AS VELOCITY > 0.5m/s
5. INSTALL TEMPORARY CLEAN WATER CULVERT CROSSING TO POSITIONS SHOWN.

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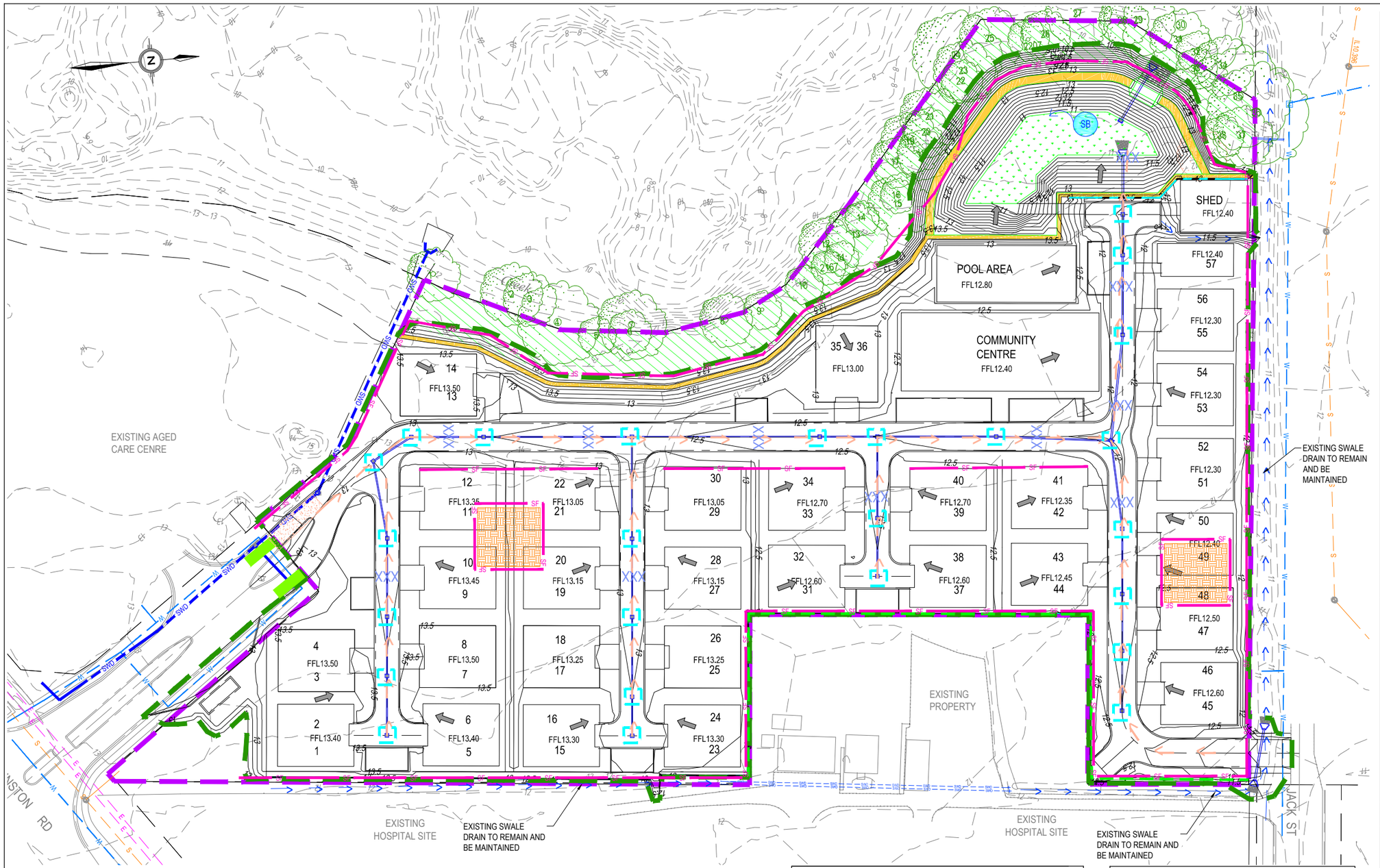
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OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EROSION AND SEDIMENT CONTROL PLAN PHASE 1

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	100-	A



EROSION AND SEDIMENT CONTROL PLAN
PHASE 2&3 DURING CONSTRUCTION
SCALE 1:500

LEGEND

- EXISTING SURFACE CONTOURS
- PROPOSED SURFACE CONTOURS
- PROPOSED SITE BOUNDARY
- PROPOSED LIMIT OF WORKS
- PROPOSED ROAD CENTRELINE
- PROPOSED MOUNTABLE KERB
- PROPOSED STORMWATER LINE
- SITE ASSESS SHAKEDOWN AREA
- PROPOSED TOPSOIL STOCKPILE
- GULLY PIT SEDIMENT BARRIER
- PROPOSED ROCK CHECK DAM
- OVERLAND FLOW DIRECTION
- SILT FENCE TO BE INSTALLED
- DUST FENCE TO BE INSTALLED
- PROPOSED FIELD INLET SEDIMENT BARRIER
- PROPOSED SEDIMENT BASIN
- CLEAN WATER DIVERSION DRAIN
- DIVERSION DRAIN
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING ELECTRICAL

PHASE2 NOTES:

PHASE 2 - DURING CONSTRUCTION
THIS PHASE IS TO BE IN ACCORDANCE WITH THE CONTRACTOR'S SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR IS TO ENGAGE A STORMWATER QUALITY CONSULTANT TO UNDERTAKE STORMWATER QUALITY AND EVENT MONITORING DURING THE "CONSTRUCTION" PHASE, INCLUDING BUT NOT LIMITED TO REMEDIAL ACTION FOLLOWING EVENT MONITORING RESULTS.

THE MONTHLY ALLOWANCE IN THE SCHEDULE WILL NOT BE CLAIMABLE IF TESTS SHOW A RELEASE OF GREATER THAN 50mg/L OF SUSPENDED SOLIDS AND THE RAIN EVENTS DO NOT EXCEED 75TH PERCENTILE OF A 5 DAY EVENT (ON THIS SITE 40mm OVER 5 DAYS). ALL OTHER COSTINGS NOT SCHEDULED ARE DEEMED INCLUDED.

MEASURES SHOWN ON THIS PLAN ARE TO BE IMPLEMENTED PRIOR TO PRE-START MEETING WITH COUNCIL.

THE CONTRACTOR MUST INFORM THEMSELVES OF AND COMPLY WITH "THE STATE PLANNING POLICY FOR HEALTHY WATERS".

PHASE 2 MEASURES:

1. MAINTAIN SEDIMENT FENCE AND REPLACE AS REQUIRED.
2. MAINTAIN CLEAN WATER CATCH DRAINS AND LINER
3. INSTALL CHECK DAMS AS SHOWN
4. SEDIMENT BASINS TO DESIGNED AND INSTALLED TO ACHIEVE 80% HYDRAULIC EFFECTIVENESS WITH CAPTURED RUNOFF TREATED SUCH THAT DISCHARGE CONTAINS < TOTAL SUSPENDED SOLIDS AND IS WITHIN A PH RANGE OF 6.5-8.5.

STABILISATION NOTES:

1. TOP SOIL AND SEED MUST BE PLACED ON COMPLETED AREAS WITHIN 7 DAYS OF THAT AREA BEING COMPLETED.
2. HYDROMULCHING MAY BE ORDERED BY THE SUPERINTENDENT.
3. ALL BATTERS GREATER THAN 1 IN 4 TO BE MULCHED WITH ONSITE MULCH.
4. 90% STRIKE MUST OCCUR WITHIN 4 WEEKS. AFTER THIS PERIOD RE-SEEDING MAY BE ORDERED AT THE CONTRACTOR'S COST.

STOCKPILE NOTES:

1. ALL STOCKPILES MUST BE SURROUNDED BY A SILT FENCE.
2. STOCKPILES MUST BE COVERED, IF NECESSARY, TO PREVENT DUST OR CONTAMINATION OF WATERS.

PHASE 3 MEASURES:

1. MAINTAIN SEDIMENT FENCE AND REPLACE AS REQUIRED.
2. MAINTAIN CLEAN WATER CATCH DRAINS AND LINER.
3. MAINTAIN SEDIMENT BASINS AND REMOVE SEDIMENT AS REQUIRED TO ENSURE BASINS ARE FUNCTIONING AS INTENDED.
4. INSTALL GULLY PIT SEDIMENT BARRIERS.
5. INSTALL FIELD INLET SEDIMENT BARRIERS.

PHASE 3 NOTE:

PRACTICAL COMPLETION INSPECTION THE CONTRACTOR IS TO ENGAGE A STORMWATER QUALITY CONSULTANT TO UNDERTAKE STORMWATER QUALITY AND EVENT MONITORING DURING THE "MAINTENANCE" PHASE, INCLUDING BUT NOT LIMITED TO REMEDIAL ACTION FOLLOWING EVENT MONITORING RESULTS.

NOTES:

1. THE MEASURES SHOWN ON THIS PLAN ARE INDICATIVE ONLY. THE CONTRACTOR SHALL CARRY OUT ALL WORKS IN ACCORDANCE WITH THE CONTRACTORS SEDIMENT AND EROSION CONTROL PLAN. ALL RESPONSIBILITY FOR SEDIMENT AND EROSION CONTROL IS DELEGATED TO THE CONTRACTOR BY THE APPLICANT AND THE LAND OWNERS UNTIL THE ON MAINTENANCE INSPECTION.
2. THE CONTRACTOR AT A MINIMUM IS TO COMPLY WITH HEALTHY WATERWAYS "CONTROLLING STORMWATER POLLUTION ON YOUR BUILDING SITE" AND ALL ASSOCIATED DOCUMENTATION AND CHECKLISTS.
3. REFER TO DWG C120-C122 FOR DETAILS AND NOTES

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OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EROSION AND SEDIMENT CONTROL PLAN
PHASE 2 & 3 DURING CONSTRUCTION

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	110-	A



LEGEND

- 6.0 — PROPOSED SURFACE CONTOURS
- PROPOSED SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.50m WIDE CONCRETE FOOTPATH
- PROPOSED 2.00m WIDE CONCRETE FOOTPATH
- CONCRETE SLEEPER RETAINING WALL 0-3.0m MAX HEIGHT,
- PROPOSED TOPSOIL STOCKPILE
- PROPOSED MOUNTABLE KERB
- TOPSOIL (100mm THICK) AND TURFING
- AREA TOPSOIL (100mm-150mm THICK) GRASS-SEEDED
- AREA HYDROMULCHED (NATIVE SEED MIX)

NOTES

1. THE MEASURES SHOWN ON THIS PLAN ARE INDICATIVE ONLY. THE CONTRACTOR SHALL CARRY OUT ALL WORKS IN ACCORDANCE WITH THE CONTRACTORS SEDIMENT AND EROSION CONTROL PLAN. ALL RESPONSIBILITY FOR SEDIMENT AND EROSION CONTROL IS DELEGATED TO THE CONTRACTOR BY THE APPLICANT AND THE LAND OWNERS UNTIL THE ON MAINTENANCE INSPECTION.
2. THE CONTRACTOR AT A MINIMUM IS TO COMPLY WITH HEALTHY WATERWAYS "CONTROLLING STORMWATER POLLUTION ON YOUR BUILDING SITE" AND ALL ASSOCIATED DOCUMENTATION AND CHECKLISTS. SEDIMENT CONTROLS ARE NOT TO BE REMOVED PRIOR TO SATISFACTORY ESTABLISHMENT OF GROUND COVER/WRITTEN DIRECTION FROM THE SUPERINTENDENT.
3. ONCE HYDRO MULCH IS DEEMED TO BE SUFFICIENTLY ESTABLISHED, SILT FENCES CAN BE REMOVED IF INSTRUCTED BY THE PRINCIPLE.
4. REFER TO DWG C120-C122 FOR DETAILS AND NOTES

PHASE 4 MEASURES:

1. REMOVE PHASE 3 TREATMENTS ONCE BELOW WORKS COMPLETED.
2. SPREAD AND COMPACT TOPSOIL TO DISTURBED AREAS AS SOWN.
3. HYDROMULCH AREAS SHOWN.
4. TURF AREAS SHOWN AND IRRIGATE APPROPRIATELY.
5. GRASS SEED AREAS SHOWN AND IRRIGATE APPROPRIATELY.

PHASE 4 NOTE:

PRACTICAL COMPLETION INSPECTION THE CONTRACTOR IS TO ENGAGE A STORMWATER QUALITY CONSULTANT TO UNDERTAKE STORMWATER QUALITY AND EVENT MONITORING DURING THE "MAINTENANCE" PHASE, INCLUDING BUT NOT LIMITED TO REMEDIAL ACTION FOLLOWING EVENT MONITORING RESULTS.

EROSION AND SEDIMENT CONTROL PLAN
PHASE 4 POST CONSTRUCTION
SCALE 1:500

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TITLE
EROSION AND SEDIMENT CONTROL PLAN
PHASE 4 POST CONSTRUCTION

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	111-	A

GENERAL NOTES:

1. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IMPLEMENTED AND A REVISED EROSION AND SEDIMENT CONTROL PLAN (ESCP) MUST BE SUBMITTED FOR APPROVAL IN THE EVENT THAT SITE CONDITIONS CHANGE SIGNIFICANTLY FROM THOSE CONSIDERED WITHIN THE ESCP.
2. IN CIRCUMSTANCES WHERE IT IS CONSIDERED NECESSARY TO PREPARE AN AMENDED EROSION AND SEDIMENT CONTROL PLAN (ESCP), AND WHERE THE DELIVERY OF SUCH AN AMENDED ESCP IS NOT IMMINENT, THEN ALL NECESSARY NEW OR MODIFIED EROSION AND SEDIMENT CONTROL WORKS MUST BE IN ACCORDANCE WITH THE *IECA BEST PRACTICE GUIDELINES*. UPON APPROVAL OF THE AMENDED ESCP, ALL WORKS MUST BE IMPLEMENTED IN ACCORDANCE WITH THE AMENDED PLAN.

DISPERSIVE SOILS

1. REFER GEO TECH REPORT

SITE MONITORING:

1. THE CONTRACTOR WILL IMPLEMENT A MONITORING AND ASSESSMENT PROGRAM ON-SITE TO IDENTIFY, MEASURE, RECORD AND REPORT ON THE EFFECTNESS OF T EROSION AND SEDIMENT CONTROL AND THE FULNESS OF OF RELEASES.
2. THE CONTRACTOR SHALL IDENTIFY A DEDICATED PERSON TO UNDERTAKE THE MONITORING.
3. THE PROGRAM SHALL MONITOR ALL EVENT BASED RELEASES AND RELEASES CAUSED BY THE RAIN EVENTS.
4. ALL NON-COMPLIANCES SHALL BE REPORTED TO THE SUPERINTENDENT AND REVANT AUTHORITIES (AS APPLICABLE) WITHIN 48 HOURS IDENTIFICATION OF NON-COMPLIANCE.
5. WHERE RELEASE CRITERIA ARE EXCEEDED, THE CONTRACTOR WILL IMPLEMENT ADDITIONA OR ALTERNATE CONTROLS TO ACHIEVE ENVIRONMENTAL OUTCOMES.

SITE MAINTENANCE:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES, MUST BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THEIR OPERATIONAL LIVES.
2. ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED:
   (i) AT LEAST DAILY (WHEN WORK IS OCCURRING ON-SITE);
   (ii) AT LEAST WEEKLY (WHEN WORK IS NOT OCCURRING ON-SITE);
   (iii) WITHIN 24 HOURS OF EXPECTED RAINFALL; AND
   (iv) WITHIN 18 HOURS OF A RAINFALL EVENT OF SUFFICIENT INTENSITY AND DURATION TO CAUSE RUNOFF ON-SITE).
3. WASHING/FLUSHING OF SEALED ROADWAYS MUST ONLY OCCUR WHERE SWEEPING HAS FAILED TO REMOVE SUFFICIENT SEDIMENT AND THERE IS A COMPELLING NEED TO REMOVE THE REMAINING SEDIMENT (E.G. FOR SAFETY REASONS). IN SUCH CIRCUMSTANCES, ALL REASONABLE AND PRACTICABLE SEDIMENT CONTROL MEASURES MUST BE USED TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT INTO RECEIVING WATERS. ONLY THOSE MEASURES THAT WILL NOT CAUSE SAFETY AND PROPERTY FLOODING ISSUES SHALL BE EMPLOYED. SEDIMENT REMOVED FROM ROADWAYS MUST BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
4. SEDIMENT REMOVED FROM SEDIMENT TRAPS AND PLACES OF SEDIMENT DEPOSITION MUST BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
5. MAINTENANCE MOWING OF ALL ROAD SHOULDERS, TABLE DRAINS, BATTERS AND OTHER SURFACES LIKELY TO EXPERIENCE ACCELERATED SOIL EROSION MUST AIM TO LEAVE THE GRASS LENGTH NO SHORTER THAN 50mm WHERE REASONABLE AND PRACTICABLE.
6. MAINTENANCE MOWING MUST BE DONE IN A MANNER THAT WILL NOT DAMAGE THE PROFILE OF FORMED, SOFT EDGES, SUCH AS THE CREST OF EARTH EMBANKMENTS.

SITE MANAGEMENT:

1. ALL OFFICE FACILITIES AND OPERATIONAL ACTIVITIES MUST BE LOCATED SUCH THAT ANY LIQUID EFFLUENT (E.G. PROCESS WATER, WASH-DOWN WATER, EFFLUENT FROM EQUIPMENT CLEANING, OR PLANT WATERING), CAN BE TOTALLY CONTAINED AND TREATED WITHIN THE SITE.
2. THE CONSTRUCTION SCHEDULE MUST AIM TO MINIMISE THE DURATION THAT ANY AND ALL AREAS OF SOIL ARE EXPOSED TO THE EROSIVE EFFECTS OF WIND, RAIN AND SURFACE WATER.
3. LAND-DISTURBING ACTIVITIES MUST BE UNDERTAKEN IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN (ESCP) AND ASSOCIATED DEVELOPMENT CONDITIONS.
4. LAND-DISTURBING ACTIVITIES MUST BE UNDERTAKEN IN SUCH A MANNER THAT ALLOWS ALL REASONABLE AND PRACTICABLE MEASURES TO BE UNDERTAKEN TO:
   (i) ALLOW STORMWATER TO PASS THROUGH THE SITE IN A CONTROLLED MANNER AND AT NON-EROSIVE FLOW VELOCITIES UP TO THE SPECIFIED DESIGN STORM DISCHARGE;
   (ii) MINIMISE SOIL EROSION RESULTING FROM RAIN, WATER FLOW AND/OR WIND;
   (iii) MINIMISE ADVERSE EFFECTS OF SEDIMENT RUNOFF, INCLUDING SAFETY ISSUES;
   (iv) PREVENT, OR AT LEAST MINIMISE, ENVIRONMENTAL HARM RESULTING FROM WORK-RELATED SOIL EROSION AND SEDIMENT RUNOFF;
   (v) ENSURE THAT THE VALUE AND USE OF LAND/PROPERTIES ADJACENT TO THE DEVELOPMENT (INCLUDING ROADS) ARE NOT DIMINISHED AS A RESULT OF THE ADOPTED ESC MEASURES.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST CONFORM TO THE STANDARDS AND SPECIFICATIONS CONTAINED IN:
   (i) THE DEVELOPMENT APPROVAL CONDITION ISSUED BY THE RELEVANT AUTHORITY; AND
   (ii) THE APPROVED ESCP AND SUPPORTING DOCUMENTATION; OR
   (ij) THE LATEST VERSION OF IECA BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES IF THE STANDARDS AND SPECIFICATIONS ARE NOT CONTAINED IN THE APPROVED ESCP.
6. ADDITIONAL AND/OR ALTERNATIVE ESC MEASURES MUST BE IMPLEMENTED IN THE EVENT THAT SITE INSPECTIONS, THE SITE'S MONITORING AND MAINTENANCE PROGRAM, OR THE REGULATORY AUTHORITY, IDENTIFIES THAT UNACCEPTABLE OFF-SITE SEDIMENTATION IS OCCURRING AS A RESULT OF THE WORK ACTIVITIES.
7. LAND-DISTURBING ACTIVITIES MUST NOT CAUSE UNNECESSARY SOIL DISTURBANCE IF AN ALTERNATIVE CONSTRUCTION PROCESS IS AVAILABLE THAT ACHIEVES THE SAME OR EQUIVALENT OUTCOMES AT AN EQUIVALENT COST.
8. SEDIMENT (INCLUDING CLAY, SILT, SAND, GRAVEL, SOIL, MUD, CEMENT AND CERAMIC WASTE) DEPOSITED OFF THE SITE AS A DIRECT RESULT OF AN ON-SITE ACTIVITY, MUST BE COLLECTED AND THE AREA APPROPRIATELY CLEANED/REHABILITATED AS SOON AS REASONABLE AND PRACTICABLE, AND IN A MANNER THAT GIVES APPROPRIATE CONSIDERATION TO THE SAFETY AND ENVIRONMENTAL RISKS ASSOCIATED WITH THE SEDIMENT DEPOSITION.
9. WHEREVER REASONABLE AND PRACTICABLE, BRICK, TILE AND MASONRY CUTTING MUST BE CARRIED OUT ON A PERVIOUS SURFACE, SUCH AS GRASS, OR OPEN SOIL, OR IN SUCH A MANNER THAT ALL SEDIMENT-LADEN RUNOFF IS PREVENTED FROM DISCHARGING INTO A GUTTER, DRAIN, OR WATER BODY.
10. ADEQUATE WASTE COLLECTION BINS MUST BE PROVIDED ON-SITE AND MAINTAINED SUCH THAT POTENTIAL AND ACTUAL ENVIRONMENTAL HARM RESULTING FROM SUCH MATERIAL WASTE IS MINIMISED.
11. CONCRETE WASTE AND CHEMICAL PRODUCTS, INCLUDING PETROLEUM AND OIL-BASED PRODUCTS, MUST BE PREVENTED FROM ENTERING AN INTERNAL WATER BODY, OR AN EXTERNAL DRAIN, STORMWATER SYSTEM, OR WATER BODY.
12. ALL FLAMMABLE AND COMBUSTIBLE LIQUIDS, INCLUDING ALL LIQUID CHEMICALS IF SUCH CHEMICALS COULD POTENTIALLY BE WASHED OR DISCHARGED FROM THE SITE, ARE STORED AND HANDLED ON-SITE IN ACCORDANCE WITH RELEVANT STANDARDS SUCH AS AS1940 THE STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.
13. TRENCHES NOT LOCATED WITHIN ROADWAYS MUST BE BACKFILLED, CAPPED WITH TOPSOIL, AND COMPACTED TO A LEVEL AT LEAST 75mm ABOVE ADJOINING GROUND LEVEL AND APPROPRIATELY STABILISED.
14. ALL STORMWATER, SEWER LINE AND OTHER SERVICE TRENCHES, NOT LOCATED WITHIN ROADWAYS, MUST BE MULCHED AND SEEDED, OTHER OTHERWISE APPROPRIATELY STABILISED WITHIN 7 DAYS AFTER BACKFILL.
15. NO MORE THAN 150m OF A STORMWATER, SEWER LINE OR OTHER SERVICE TRENCH MUST TO BE OPEN AT ANY ONE TIME.
16. SITE SPOIL MUST BE LAWFULLY DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.

EROSION CONTROL RECOMMENDATIONS

1. ENTRY AND EXIT POINTS, AND SITE FACILITIES (INCLUDING PARKING) MUST BE STABILISED AS EARLY AS POSSIBLE.
2. THE SITE HAS BEEN CLEARED PREVIOUSLY AND IS NOW GRASSED.
3. STABILISE SOIL STOCKPILES AND UNFINISHED EARTHWORKS IF RAINFALL IS REASONABLY ANTICIPATED, AND WHERE DISTURBANCE IS EXPECTED TO BE SUSPENDED FOR A PERIOD EXCEEDING 20 DAYS DURING 'LOW - MEDIUM' EROSION RISK MONTHS AND 10 DAYS DURING 'HIGH' EROSION RISK MONTHS
4. STAGED CONSTRUCTION AND STABILISATION OF EARTH BATTERS (STEEPER THAN 1:6) IN MINIMUM 3m VERTICAL INCREMENTS WHEREVER REASONABLE AND PRACTICABLE.
5. RETAIN ANY MULCH (WON FROM TREE CLEARING) ON SITE FOR EROSION CONTROL DURING CONSTRUCTION (< 10% SLOPES).
6. STABILISE DISTURBED SOIL SURFACES WITH MINIMUM 75% COVER WITHIN 20 DAYS OF COMPLETION OF WORKS WITHIN ANY AREA OF THE WORK SITE. THIS CAN BE ACHIEVED USING MULCH IN ACCORDANCE WITH THE PREVIOUS DOT POINT. DURING CIVIL WORKS, THE CONTRACTOR MAY NEED TO USE POLYMER STABILISERS FOR THIS PURPOSE.
7. USE HEAVY MULCHING ON AREAS EXPECTED TO BE EXPOSED FOR LONG PERIODS OF TIME (>12 MONTHS). TYPES OF HEAVY MULCHING INCLUDE BARK OR WOODCHIP MULCH, COMPOST BLANKETS AND ROCK MULCH. POLYMER STABILISERS MAY ALSO BE USED WITH CAUTION.
8. WATER CARTS ARE TO BE UTILISED AS DUST CONTROL ON THIS SITE.
9. LOOSE ORGANIC MULCH MAY BE UTILISED ON SLOPES UP TO 1 IN 4 EXCEPT WHERE CONCENTRATED FLOWS ARE EXPECTED DOWN THE SLOPE. SLOPES STEEPER THAN 1 IN 4 WILL REQUIRE EROSION CONTROL BLANKETS (OR OTHER APPROVED EROSION CONTROL MEASURE) PRIOR TO REVEGETATION. UPSTREAM DIVERSION DRAINS OR BUNDS, LINED CHUTES OR SLOPE DRAINS SHOULD ALSO BE CONSIDERED WHERE RAIN IS IMMINENT TO REDUCE EROSION ON EXPOSED SLOPES.

DRAINAGE CONTROL RECOMMENDATIONS

1. IT IS RECOMMENDED THAT THE MAXIMUM SPACING OF DIRTY WATER CATCH DRAINS OR DIVERSION CHANNELS WITH BANKS FOR THIS PROJECT BE 40m. WHERE SLOPES ARE PROTECTED BY SUITABLE EROSION CONTROL METHODS (SUCH AS EROSION CONTROL BLANKETS, BONDED FIBRE MATRIX OR A HYDROMULCH STABILISED WITH A NON RE-WETTABLE TACKIFIER), CATCH DRAINS (OR DIVERSION BANKS) CAN BE OMITTED.
2. WHERE DIRTY WATER CATCH DRAINS ARE NOT LINED, THE VELOCITY WITHIN THESE DRAINS IS TO BE LIMITED TO 0.5m/s USING CHECK DAMS. SAND BAG CHECK DAMS ARE APPROPRIATE IN DRAINS LESS THAN 500mm DEEP AND WHERE THE GRADIENT IS LESS THAN 10%.
3. DRAINAGE CONTROLS HAVE BEEN SIZED IN ACCORDANCE WITHE THE STATE PLANNING POLICY. TEMPORARY DRAINAGE STRUCTURES ARE EXPECTED TO HAVE DESIGN LIFE <12 MONTHS AND HAVE BEEN DESIGNED FOR 1 IN 2 YEAR ARI/39%AEP.

EROSION CONTROL:

1. ALL EROSION CONTROL MEASURES MUST BE APPLIED AND MAINTAINED IN ACCORDANCE WITH IECA BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES
2. WHERE PRACTICABLE, MULCHED VEGETATION CAN BE UTILISED FOR EROSION CONTROL.
3. THE APPLICATION OF LIQUID-BASED DUST SUPPRESSION MEASURES MUST ENSURE THAT SEDIMENT-LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD.
4. ALL TEMPORARY EARTH BANKS, FLOW DIVERSION SYSTEMS, AND EMBANKMENTS ASSOCIATED WITH CONSTRUCTED SEDIMENT BASINS MUST BE MACHINE-COMPACTED, SEEDED AND MULCHED FOR THE PURPOSE OF ESTABLISHING A TEMPORARY VEGETATIVE COVER WITHIN 10 DAYS AFTER GRADING.
5. THE CONSTRUCTION AND STABILISATION OF EARTH BATTERS STEEPER THAN 6:1 (H:V) MUST BE STAGED SUCH THAT NO MORE THAN 3 VERTICAL-METRES OF ANY BATTER IS EXPOSED TO RAINFALL AT ANY INSTANT.
6. SYNTHETIC REINFORCED EROSION CONTROL MATS AND BLANKETS MUST NOT BE PLACED WITHIN, OR ADJACENT TO, RIPARIAN ZONES AND WATERCOURSES IF SUCH MATERIALS ARE LIKELY TO CAUSE ENVIRONMENTAL HARM TO WILDLIFE OR WILDLIFE HABITATS.
7. A MINIMUM 60% GROUND COVER MUST BE ACHIEVED ON ALL NON-COMPLETED EARTHWORKS EXPOSED TO ACCELERATED SOIL EROSION IF FURTHER CONSTRUCTION ACTIVITIES OR SOIL DISTURBANCES ARE LIKELY TO BE SUSPENDED FOR MORE THAN 30 DAYS DURING THOSE MONTHS WHEN THE RISK RATING IS LESS THAN 'VERY LOW'; MINIMUM 70% COVER WITHIN 30 DAYS IF RISK RATING IS 'LOW'; MINIMUM 70% COVER WITHIN 20 DAYS IF RISK RATING IS 'MEDIUM'; MINIMUM 75% COVER WITHIN 10 DAYS IF RISK RATING IS 'HIGH'; AND MINIMUM 80% COVER WITHIN 5 DAYS IF RISK RATING IS 'EXTREME'.

SEDIMENT CONTROL:

1. ALL SEDIMENT CONTROL MEASURES MUST BE APPLIED AND MAINTAINED IN ACCORDANCE WITH IECA BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES
2. OPTIMUM BENEFIT MUST BE MADE OF EVERY OPPORTUNITY TO TRAP SEDIMENT WITHIN THE WORK SITE, AND AS CLOSE AS PRACTICABLE TO ITS SOURCE.
3. SEDIMENT TRAPS MUST BE INSTALLED AND OPERATED TO BOTH COLLECT AND RETAIN SEDIMENT.
4. THE POTENTIAL SAFETY RISK OF A PROPOSED SEDIMENT TRAP TO SITE WORKERS AND THE PUBLIC MUST BE GIVEN APPROPRIATE CONSIDERATION, ESPECIALLY THOSE DEVICES LOCATED WITHIN PUBLICLY ACCESSIBLE AREAS.
5. ALL REASONABLE AND PRACTICABLE MEASURES MUST BE TAKEN TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT FROM THE SITE.
6. SUITABLE ALL-WEATHER MAINTENANCE ACCESS MUST BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
7. SEDIMENT CONTROL DEVICES MUST BE DE-SILTED AND MADE FULLY OPERATIONAL AS SOON AS REASONABLE AND PRACTICABLE AFTER A SEDIMENT-PRODUCING EVENT, WHETHER NATURAL OR ARTIFICIAL, IF THE DEVICE'S SEDIMENT RETENTION CAPACITY FALLS BELOW 75% OF ITS DESIGN RETENTION CAPACITY.
8. MATERIALS, WHETHER LIQUID OR SOLID, REMOVED FROM SEDIMENT CONTROL DEVICES DURING MAINTENANCE OR DECOMMISSIONING, MUST BE DISPOSED OF IN A MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.

DRAINAGE CONTROL:

1. ALL DRAINAGE CONTROL MEASURES MUST BE APPLIED AND MAINTAINED IN ACCORDANCE WITH IECA BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES
2. WHEREVER REASONABLE AND PRACTICABLE, STORMWATER RUNOFF ENTERING THE SITE FROM EXTERNAL AREAS, AND NON-SEDIMENT LADEN (CLEAN) STORMWATER RUNOFF ENTERING A WORK AREA OR AREA OF SOIL DISTURBANCE, MUST BE DIVERTED AROUND OR THROUGH THAT AREA IN A MANNER THAT MINIMISES SOIL EROSION AND THE CONTAMINATION OF THAT WATER FOR ALL DISCHARGES UP TO THE SPECIFIED DESIGN STORM DISCHARGE.
3. DURING THE CONSTRUCTION PERIOD, ALL REASONABLE AND PRACTICABLE MEASURES MUST BE IMPLEMENTED TO CONTROL FLOW VELOCITIES IN SUCH A MANNER THAN PREVENTS SOIL EROSION ALONG DRAINAGE PATHS AND AT THE ENTRANCE AND EXIT OF ALL DRAINS AND DRAINAGE PIPES DURING ALL STORMS UP TO THE RELEVANT DESIGN STORM DISCHARGE.
4. TO THE MAXIMUM DEGREE REASONABLE AND PRACTICABLE, ALL WATERS DISCHARGED DURING THE CONSTRUCTION PHASE MUST DISCHARGE ONTO STABLE LAND, IN A NON-EROSIVE MANNER, AND AT A LEGAL POINT OF DISCHARGE.
5. WHEREVER REASONABLE AND PRACTICABLE, "CLEAN" SURFACE WATERS MUST BE DIVERTED AWAY FROM SEDIMENT CONTROL DEVICES AND ANY UNTREATED, SEDIMENT-LADEN WATERS.
6. DURING THE CONSTRUCTION PERIOD, ROOF WATER MUST BE MANAGED IN A MANNER THAT MINIMISES SOIL EROSION THROUGHOUT THE SITE, AND SITE WETNESS WITHIN ACTIVE WORK AREAS.

DISCHARGE LIMITS

TOTAL SUSPENDED SOLIDS (TSS) = 50mg/L AS A MAXIMUM CONCENTRATION
TUBIDITY (NTU) LESS THAN 10% ABOVE BACKGROUND
pH BETWEEN 6.5 AND 8.5 (EXCEPT WHERE RECEIVING WATERS LAY OUTSIDE THIS RANGE)

TSS RELEASE MAY EXCEED 50mg/L WHERE:

a. FURTHER SIGNIFICANT RAINFALL IS FORECAST TO OCCUR BEFORE THE TSS CONCENTRATION IS LIKELY TO BE REDUCED TO 50MG/L;
b. RELEASING A HIGHER CONCENTRATION OF TOTAL SUSPENDED SOLIDS WILL RESULT IN A BETTER ENVIRONMENTAL OUTCOME BY PROVIDING STORAGE FOR THE CAPTURE AND TREATMENT OF RUN-OFF FROM THE IMMINENT RAINFALL AND RUN-OFF;
c. ALL REASONABLE AND PRACTICABLE STEPS HAVE BEEN TAKEN TO TREAT THE WATER WITHIN BEST-PRACTICE TIME FRAMES;
d. FLOCCULENT HAS BEEN APPROPRIATELY APPLIED AND THE CONCENTRATION OF TSS IN THE CAPTURED WATER HAS ALREADY SIGNIFICANTLY DECREASED.

FOR ALL OTHER STORMWATER RELEASES, FLOWS AND DISCHARGES FROM THE SITE, THE RELEASE LIMITS PRESCRIBED ABOVE MUST NOT BE EXCEEDED UNLESS THE DEVELOPMENT IS IN FULL COMPLIANCE WITH THIS STANDARD

SOIL AND STOCKPILE MANAGEMENT:

1. ALL REASONABLE AND PRACTICABLE MEASURES MUST BE TAKEN TO OBTAINED THE MAXIMUM BENEFIT FROM EXISTING TOPSOIL, INCLUDING:
   (i) WHERE THE PROPOSED AREA OF SOIL DISTURBANCE DOES NOT EXCEED 2500m^2, AND THE TOPSOIL DOES NOT CONTAIN UNDESIRABLE WEED SEED, THE TOP 100mm OF SOIL LOCATED WITHIN AREAS OF PROPOSED SOIL DISTURBANCE (INCLUDING STOCKPILE AREAS) MUST BE STRIPPED AND STOCKPILED SEPARATELY FROM THE REMAINING SOIL.
   (ii) WHERE THE PROPOSED AREA OF SOIL DISTURBANCE EXCEEDS 2500m^2, AND THE TOPSOIL DOES NOT CONTAIN UNDESIRABLE WEED SEED, THE TOP 50mm OF SOIL MUST BE STRIPPED AND STOCKPILED SEPARATELY FROM THE REMAINING TOPSOIL, AND SPREAD AS A FINAL SURFACE SOIL.
   (iii) IN AREAS WHERE THE TOPSOIL CONTAINS UNDESIRABLE WEED SEED, THE AFFECTED SOIL MUST BE SUITABLY BURIED OR REMOVED FROM THE SITE.
2. STOCKPILES OF ERODIBLE MATERIAL THAT HAS THE POTENTIAL TO CAUSE ENVIRONMENTAL HARM IF DISPLACED, MUST BE:
   (i) APPROPRIATELY PROTECTED FROM WIND, RAIN, CONCENTRATED SURFACE FLOW AND EXCESSIVE UP-SLOPE STORMWATER SURFACE FLOWS.
   (ii) LOCATED AT LEAST 2m FROM ANY HAZARDOUS AREA, RETAINED VEGETATION, OR CONCENTRATED DRAINAGE LINE.
   (iii) LOCATED UP-SLOPE OF AN APPROPRIATE SEDIMENT CONTROL SYSTEM.
   (iv) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 28 DAYS.
   (v) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 10 DAYS DURING THOSE MONTHS THAT HAVE A HIGH EROSION RISK.
   (vi) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 5 DAYS DURING THOSE MONTHS THAT HAVE A EXTREME EROSION RISK.
3. A SUITABLE FLOW DIVERSION SYSTEM MUST BE ESTABLISHED IMMEDIATELY UP-SLOPE OF A STOCKPILE OF ERODIBLE MATERIAL THAT HAS THE POTENTIAL TO CAUSE ENVIRONMENTAL HARM IF DISPLACED, IF THE UP-SLOPE CATCHMENT AREA DRAINING TO THE STOCKPILE EXCEEDS 1500m^2.

SEDIMENT BASIN NOTES:

1. THE SETTLING ZONE OF THIS TYPE D BASIN MUST BE FULLY DRAINED PRIOR TO ANY STORM. THE REMAINDER OF THE BASIN MAY RETAIN WATER BETWEEN STORMS EXCEPT DURING THE WET SEASON (DEC TO FEB) OR WHERE A SIGNIFICANT STORM IS PREDICTED.
2. FOLLOWING JAR TEST RESULTS, THE BASIN DIMENSIONS MAY BE ABLE TO BE REDUCED WITH THE INSTALLATION OF PERMEABLE BAFFLES.
3. NOTWITHSTANDING ANY DESCRIPTION CONTAINED WITHIN THE APPROVED PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING THEMSELVES AS TO THE NATURE AND EXTENT OF THE SPECIFIED WORKS AND THE PHYSICAL AND LEGAL CONDITIONS UNDER WHICH THE WORKS WILL BE CARRIED OUT. THIS SHALL INCLUDE MEANS OF ACCESS, EXTENT OF CLEARING, NATURE OF MATERIAL TO BE EXCAVATED, TYPE AND SIZE OF MECHANICAL PLANT REQUIRED, LOCATION AND SUITABILITY OF WATER SUPPLY FOR CONSTRUCTION AND TESTING PURPOSES, AND ANY OTHER LIKE MATTERS AFFECTING THE CONSTRUCTION OF THE WORKS.
4. THE BASIN MUST BE LOCATED SUCH THAT THEY INTERCEPT RUNOFF FROM THE LARGEST POSSIBLE PORTION OF THE DISTURBED SITE. THE CONTRACTOR IS TO ASSESS THE FINAL LOCATION OF SEDIMENT BASIN ON SITE.
5. CONSTRUCTED SEDIMENT BASINS MUST BE MAINTAINED AND FULLY OPERATIONAL THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL EACH BASIN'S CATCHMENT AREA ACHIEVES 75% GROUND COVER (7.5m^2/10m^2) ON ALL EXPOSED SURFACES.
6. CONSTRUCTION OF THE BASIN MUST BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED PLANS AND THE CONTRACT JOB SPECIFICATION.
7. ENSURE EXCAVATED DIMENSIONS ALLOW ADEQUATE BOXING-OUT SUCH THAT THE SPECIFIED ELEVATIONS, GRADES, CHUTE WIDTH, AND ENTRANCE AND EXIT SLOPES FOR THE EMERGENCY SPILLWAY WILL BE ACHIEVED AFTER PLACEMENT OF THE ROCK OR OTHER SCOUR PROTECTION MEASURES AS SPECIFIED IN THE PLANS.
8. AS-CONSTRUCTED PLANS MUST BE PREPARED FOR ALL FOR CONSTRUCTED SEDIMENT BASINS AND ASSOCIATED EMERGENCY SPILLWAYS. SUCH PLANS MUST APPROPRIATELY VERIFY THE BASIN'S DIMENSIONS, LEVELS AND VOLUMES, AND MUST BE SUBMITTED TO THE SUPERINTENDENT WITHIN 14 CALENDER DAYS OF THE CONSTRUCTION OF EACH BASIN.
9. SETTLED SEDIMENT MUST BE REMOVED FROM SEDIMENT BASINS WHEN THE VOLUME OF THE SEDIMENT EXCEEDS THE DESIGNATED SEDIMENT STORAGE VOLUME, OR THE DESIGN MAXIMUM SEDIMENT STORAGE ELEVATION. THE CONTRACTOR SHALL PLACE A POST OR STAKE WITHIN EACH BASIN TO INDICATE THE DEPTH AT WHICH ACCUMULATED SEDIMENT MUST BE REMOVED TO RESTORE THE ORIGINAL STORAGE VOLUME.
10. THE CONTRACTOR SHALL CONDUCT ROUTINE AND REGULAR MAINTENANCE INSPECTIONS OF THE SEDIMENT BASIN(S) DURING THE CONTRACT CONSTRUCTION PERIOD, FOLLOWING EACH RAINFALL EVENT AND PRIOR TO AND FOLLOWING ANY STOP WORK OR SITE SHUT DOWN.
11. DURING THESE INSPECTIONS THE CONTRACTOR SHALL CHECK ALL VISIBLE PIPE CONNECTIONS FOR LEAKS, CHECK EMBANKMENTS FOR EXCESSIVE SETTLEMENT, AND CHECK SUBMERGED INFLOW PIPES FOR SILT AND REPAIR AS NECESSARY. ALL TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM BASIN AND RISER AND SHALL DETERMINE WHETHER ANY DAMAGE HAS GENERALLY OCURRED TO THE BASINS.
12. SHOULD DAMAGE HAVE OCCURRED, THE CONTRACTOR SHALL REPAIR THE BASIN(S) TO THEIR ORIGINAL REQUIREMENTS AT THE CONTACTORS COST.
13. BEFORE STARTING ANY MAINTENANCE WORK ON THE BASIN OR SPILLWAY, INSTALL ALL NECESSARY SHORT-TERM SEDIMENT CONTROL MEASURES DOWNSTREAM OF THE SEDIMENT BASIN.
14. WHERE SEDIMENTS (INCLUDING DISPERSIVE SOILS) ARE TO BE TREATED IN TYPE B, D OR TYPE F BASINS THE CONTRACTOR MUST TREAT, TEST AND DECANT THE WATER TO ENSURE COMPLIANCE WITH THE LOCAL AUTHORITY DISCHARGE STANDARDS (TSS <50mg/L, pH BETWEEN 6.5 - 8.5 AND TURBIDITY NOT >10% HIGHER THAN RECEIVING WATERS TURBIDTY)
15. ALL COMMERCIAL FLOCCULANTS SHOULD BE APPLIED IN ACCORDANCE WITH SITE SPECIFIC SOIL INVESTIGATIONS (WHERE AVAILABLE), AND IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
16. ON OCCASIONS WHERE THE BASIN CANNOT BE DEWATERED PRIOR TO BEING SURCHARGED BY THE FOLLOWING RAIN EVENT, THE CONTRACTOR MUST KEEP RECORD OF THE EVENT.
17. WHEN WORKS WITHIN THE DRAINAGE AREA ABOVE A TEMPORARY SEDIMENT BASIN IS COMPLETED AND THE DISTURBED AREAS ARE ADEQUATELY STABILISED, THE BASIN CAN BE REMOVED OR OTHERWISE INCORPORATED INTO THE PERMANENT STORMWATER DRAINAGE SYSTEM. IN EITHER CASE, SEDIMENT SHOULD BE CLEARED AND PROPERLY DISPOSED OF AND THE BASIN AREA STABILISED.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

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STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
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GRID	LOCAL	APPROVER	KH
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PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EROSION AND SEDIMENT CONTROL DETAILS SHEET 1 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	120-	A

SEDIMENT FENCE NOTES:

MATERIALS

* FABRIC: POLYPROPYLENE, POLYAMIDE, NYLON, POLYESTER, OR POLYETHYLENE WOVEN OR NON-WOVEN FABRIC, AT LEAST 700mm IN WIDTH AND A MINIMUM UNIT WEIGHT OF 140GSM. ALL FABRICS TO CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE (ULTRAVIOLET STABILITY EXCEEDING 70%).
* FABRIC REINFORCEMENT: WIRE OR STEEL MESH MINIMUM 14-GAUGE WITH A MAXIMUM MESH SPACING OF 200mm (IF SPECIFIED)
* SUPPORT POSTS/STAKES: 1500mm2 (MIN) HARDWOOD, 2500mm2 (MIN) SOFTWOOD, OR 1.5KG/m (MIN) STEEL STAR PICKETS SUITABLE FOR ATTACHING FABRIC.

INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION, EXTENT, AND REQUIRED TYPE OF FABRIC (IF SPECIFIED). IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, FABRIC TYPE, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. TO THE MAXIMUM DEGREE PRACTICAL, AND WHERE THE PLANS ALLOW, ENSURE THE FENCE IS LOCATED:
   (i) TOTALLY WITHIN THE PROPERTY BOUNDARIES;
   (ii) ALONG A LINE OF CONSTANT ELEVATION WHEREVER PRACTICAL;
   (iii) AT LEAST 2m FROM THE TOE OF ANY FILLING OPERATIONS THAT MAY RESULT IN SHIFTING SOIL/FILL DAMAGING THE FENCE.
3. INSTALL RETURNS WITHIN THE FENCE AT MAXIMUM 20m INTERVALS IF THE FENCE IS INSTALLED ALONG THE CONTOUR, OR 5 TO 10m MAXIMUM SPACING (DEPENDING ON SLOPE) IF THE FENCE IS INSTALLED AT AN ANGLE TO THE CONTOUR. THE 'RETURNS' SHALL CONSIST OF EITHER:
   (i) V-SHAPED SECTION EXTENDING AT LEAST 1.5m UP THE SLOPE; OR
   (ii) SANDBAG OR ROCK/AGGREGATE CHECK DAM A MINIMUM 1/3 AND MAXIMUM 1/2 FENCE HEIGHT, AND EXTENDING AT LEAST 1.5m UP THE SLOPE.
4. ENSURE THE EXTREME ENDS OF THE FENCE ARE TURNED UP THE SLOPE AT LEAST 1.5m, OR AS NECESSARY, TO MINIMISE WATER BYPASSING AROUND THE FENCE.
5. ENSURE THE SEDIMENT FENCE IS INSTALLED IN A MANNER THAT AVOIDS THE CONCENTRATION OF FLOW ALONG THE FENCE, AND THE UNDESIRABLE DISCHARGE OF WATER AROUND THE ENDS OF THE FENCE.
6. IF THE SEDIMENT FENCE IS TO BE INSTALLED ALONG THE EDGE OF EXISTING TREES, ENSURE CARE IS TAKEN TO PROTECT THE TREES AND THEIR ROOT SYSTEMS DURING INSTALLATION OF THE FENCE. DO NOT ATTACH THE FABRIC TO THE TREES.
7. UNLESS DIRECTED BY THE SITE SUPERVISOR OR THE APPROVED PLANS, EXCAVATE A 200mm WIDE BY 200mm DEEP TRENCH ALONG THE PROPOSED FENCE LINE, PLACING THE EXCAVATED MATERIAL ON THE UP-SLOPE SIDE OF THE TRENCH.
8. ALONG THE LOWER SIDE OF THE TRENCH, APPROPRIATELY SECURE THE STAKES INTO THE GROUND SPACED NO GREATER THAN 3m IF SUPPORTED BY A TOP SUPPORT WIRE OR WEIR MESH BACKING, OTHERWISE NO GREATER THAN 2m.
9. IF SPECIFIED, SECURELY ATTACH THE SUPPORT WIRE OR MESH TO THE UP-SLOPE SIDE OF THE STAKES WITH THE MESH EXTENDING AT LEAST 200mm INTO THE EXCAVATED TRENCH. ENSURE THE MESH AND FABRIC IS ATTACHED TO THE UP-SLOPE SIDE OF THE STAKES EVEN WHEN DIRECTING A FENCE AROUND A CORNER OR SHARP CHANGE-OF-DIRECTION.
10. WHEREVER POSSIBLE, CONSTRUCT THE SEDIMENT FENCE FROM A CONTINUOUS ROLL OF FABRIC. TO JOIN FABRIC EITHER:
    (i) ATTACH EACH END TO TWO OVERLAPPING STAKES WITH THE FABRIC FOLDING AROUND THE ASSOCIATED STAKE ONE TURN, AND WITH THE TWO STAKES TIED TOGETHER WITH WIRE (METHOD 1); OR
    (ii) OVERLAP THE FABRIC TO THE NEXT ADJACENT SUPPORT POST (METHOD 2).
11. SECURELY ATTACH THE FABRIC TO THE SUPPORT POSTS USING 25 X 12.5mm STAPLES, OR TIE WIRE AT MAXIMUM 150mm SPACING.
12. SECURELY ATTACH THE FABRIC TO THE SUPPORT WIRE/MESH (IF ANY) AT A MAXIMUM SPACING OF 1m.
13. ENSURE THE COMPLETED SEDIMENT FENCE IS AT LEAST 450mm, BUT NOT MORE THAN 700mm HIGH. IF A SPILL-THOUGH WEIR IS INSTALLED, ENSURE THE CREST OF THE WEIR IS AT LEAST 300mm ABOVE GROUND LEVEL.
14. BACKFILL THE TRENCH AND TAMP THE FILL TO FIRMLY ANCHOR THE BOTTOM OF THE FABRIC AND MESH TO PREVENT WATER FROM FLOWING UNDER THE FENCE.
15. IF IT IS NOT POSSIBLE TO ANCHOR THE FABRIC IN AN EXCAVATED TRENCH, THEN USE A CONTINUOUS LAYER OF SAND OR AGGREGATE TO HOLD THE FABRIC FIRMLY ON THE GROUND.

ADDITIONAL REQUIREMENTS FOR THE INSTALLATION OF A SPILL-THROUGH WEIR

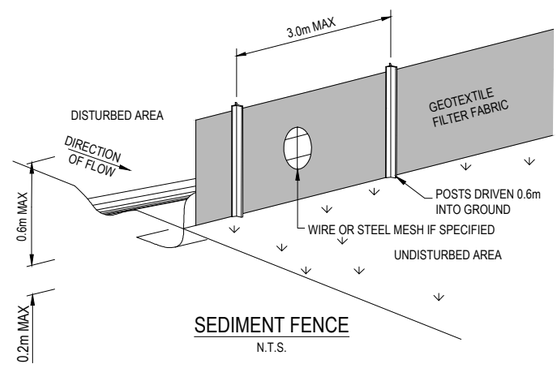
1. LOCATE THE SPILL-THROUGH WEIR SUCH THAT THE WEIR CREST WILL BE LOWER THAN THE GROUND LEVEL AT EACH END OF THE FENCE.
2. ENSURE THE CREST OF THE SPILL-THROUGH WEIR IS AT LEAST 300mm THE GROUND ELEVATION.
3. SECURELY TIE A HORIZONTAL CROSS MEMBER (WEIR) TO THE SUPPORT POSTS/STAKES EACH SIDE OF THE WEIR. CUT THE FABRIC DOWN THE SIDE OF EACH POST AND FOLD THE FABRIC OVER THE CROSS MEMBER AND APPROPRIATELY SECURE THE FABRIC.
4. INSTALL A SUITABLE SPLASH PAD AND/OR CHUTE IMMEDIATELY DOWN-SLOPE OF THE SPILL-THROUGH WEIR TO CONTROL SOIL EROSION AND APPROPRIATELY DISCHARGE THE CONCENTRATED FLOW PASSING OVER THE WEIR.

MAINTENANCE

1. INSPECT THE SEDIMENT FENCE AT LEAST WEEKLY AND AFTER ANY SIGNIFICANT RAIN. MAKE NECESSARY REPAIRS IMMEDIATELY.
2. REPAIR ANY TORN SECTIONS WITH A CONTINUOUS PIECE OF FABRIC FROM POST TO POST.
3. WHEN MAKING REPAIRS, ALWAYS RESTORE THE SYSTEM TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED OR SPECIFIED.
4. IF THE FENCE IS SAGGING BETWEEN STAKES, INSTALL ADDITIONAL SUPPORT POSTS.
5. REMOVE ACCUMULATED SEDIMENT IF THE SEDIMENT DEPOSIT EXCEEDS A DEPTH OF 1/3 THE HEIGHT OF THE FENCE.
6. DISPOSE OF SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
7. REPLACE THE FABRIC IF THE SERVICE LIFE OF THE EXISTING FABRIC EXCEEDS 6-MONTHS.

REMOVAL

1. WHEN DISTURBED AREAS UP-SLOPE OF THE SEDIMENT FENCE ARE SUFFICIENTLY STABILISED TO RESTRAIN EROSION, THE FENCE MUST BE REMOVED.
2. REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. REHABILITATE/REVEGETATE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.



SEDIMENT FENCE
N.T.S.

LEVEL SPREADER

INSTALLATION

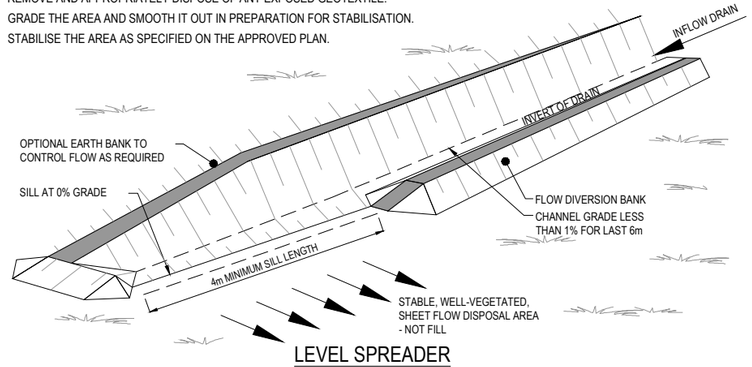
1. REFER TO APPROVED PLANS FOR LOCATION, DIMENSIONS AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. WHEREVER PRACTICAL, LOCATE THE LEVEL SPREADER ON UNDISTURBED, STABLE SOIL.
3. ENSURE FLOW DISCHARGING FROM THE LEVEL SPREADER WILL DISPERSE ACROSS A PROPERLY STABILISED SLOPE NOT EXCEEDING 10:1 (H:V) AND SUFFICIENTLY EVEN IN GRADE ACROSS THE SLOPE TO AVOID CONCENTRATING THE OUTFLOW.
4. THE OUTLET SILL OF THE SPREADER SHOULD BE PROTECTED WITH EROSION CONTROL MATTING TO PREVENT EROSION DURING THE ESTABLISHMENT OF VEGETATION. THE MATTING SHOULD BE A MINIMUM OF 1200mm WIDE EXTENDING AT LEAST 300mm UPSTREAM OF THE EDGE OF THE OUTLET CREST AND BURIED AT LEAST 150mm IN A VERTICAL TRENCH. THE DOWNSTREAM EDGE SHOULD BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY-DUTY WIRE STAPLES AT LEAST 150mm LONG.
5. ENSURE THAT THE OUTLET SILL (CREST) IS LEVEL FOR THE SPECIFIED LENGTH.
6. IMMEDIATELY AFTER CONSTRUCTION, TURF, OR SEED AND MULCH WHERE APPROPRIATE, THE LEVEL SPREADER.

MAINTENANCE

1. INSPECT THE LEVEL SPREADER AFTER EVERY RAINFALL EVENT UNTIL VEGETATION IS ESTABLISHED.
2. AFTER ESTABLISHMENT OF VEGETATION OVER THE LEVEL SPREADER, INSPECTIONS SHOULD BE MADE ON A REGULAR BASIS AND AFTER RUNOFF-PRODUCING RAINFALL.
3. ENSURE THAT THERE IS NO SOIL EROSION AND THAT SEDIMENT DEPOSITION IS NOT CAUSING THE CONCENTRATION OF FLOW.
4. ENSURE THAT THERE IS NO SOIL EROSION OR CHANNEL DAMAGE UPSTREAM OF THE LEVEL SPREADER, OR SOIL EROSION OR VEGETATION DAMAGE DOWNSTREAM OF THE LEVEL SPREADER.
5. INVESTIGATE THE SOURCE OF ANY EXCESSIVE SEDIMENTATION.
6. MAINTAIN GRASS IN A HEALTH CONDITION WITH NO LESS THAN 90% COVER UNLESS CURRENT WEATHER CONDITIONS REQUIRE OTHERWISE.
7. GRASS HEIGHT SHOULD BE MAINTAINED AT A MINIMUM 50mm BLADE LENGTH WITHIN THE LEVEL SPREADER AND DOWNSTREAM DISCHARGE AREA, AND A MAXIMUM BLADE LENGTH NO GREATER THAN ADJACENT GRASSES.

REMOVAL

1. TEMPORARY LEVEL SPREADERS SHOULD BE DECOMMISSIONED ONLY AFTER AN ALTERNATIVE STABLE OUTLET IS OPERATIONAL, OR WHEN THE INFLOW CHANNEL IS DECOMMISSIONED.
2. REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. REMOVE AND APPROPRIATELY DISPOSE OF ANY EXPOSED GEOTEXTILE.
4. GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION FOR STABILISATION.
5. STABILISE THE AREA AS SPECIFIED ON THE APPROVED PLAN.



LEVEL SPREADER
N.T.S.

MULCH FILTER BERMS

MATERIALS

1. MULCH MUST COMPLY WITH THE REQUIREMENTS OF AS4454.
2. MAXIMUM SOLUBLE SALT CONCENTRATION OF 5DS/M.
3. MOISTURE CONTENT OF 30 TO 50% PRIOR TO APPLICATION.

INSTALLATION

1. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, MATERIAL TYPE, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR CPESC FOR ASSISTANCE.
2. WHEN SELECTING THE LOCATION OF A MULCH FILTER BERM, TO THE MAXIMUM DEGREE PRACTICAL, ENSURE THE BERM IS LOCATED:
3. TOTALLY WITHIN THE PROPERTY BOUNDARIES;
4. ALONG A LINE OF CONSTANT ELEVATION (PREFERRED, BUT NOT ALWAYS PRACTICAL);
5. AT LEAST 1M, IDEALLY 3M, FROM THE TOE OF A FILL EMBANKMENT;
6. AWAY FROM AREAS OF CONCENTRATED FLOW.
7. ENSURE THE BERM IS INSTALLED IN A MANNER THAT AVOIDS THE CONCENTRATION OF FLOW ALONG THE BERM, OR THE UNDESIRABLE DISCHARGE OF WATER AROUND THE END OF THE BERM.
8. ENSURE THE BERM HAS BEEN PLACED SUCH THAT PONDING UP-SLOPE OF THE BERM IS MAXIMISED.
9. ENSURE BOTH ENDS OF THE BERM ARE ADEQUATELY TURNED UP THE SLOPE TO PREVENT FLOW BYPASSING PRIOR TO WATER PASSING OVER THE BERM.
10. ENSURE 100 PER CENT CONTACT WITH THE SOIL SURFACE.
11. WHERE SPECIFIED, TAKE APPROPRIATE STEPS TO VEGETATE THE BERM.

MAINTENANCE

1. DURING THE CONSTRUCTION PERIOD, INSPECT ALL BERMS AT LEAST WEEKLY AND AFTER ANY SIGNIFICANT RAIN. MAKE NECESSARY REPAIRS IMMEDIATELY.
2. REPAIR OR REPLACE ANY DAMAGED SECTIONS.
3. WHEN MAKING REPAIRS, ALWAYS RESTORE THE SYSTEM TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED OR SPECIFIED.
4. REMOVE ACCUMULATED SEDIMENT IF THE SEDIMENT DEPOSIT EXCEEDS A DEPTH OF 100mm OR ONE-THIRD THE HEIGHT OF THE BERM.
5. DISPOSE OF SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

CONSTRUCTION EXIT - VIBRATION GRID (SHAKE DOWN)

INSTALLATION

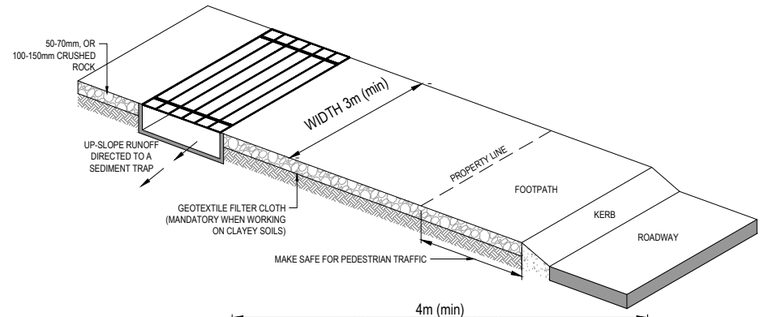
1. REFER TO APPROVED PLANS FOR LOCATION AND DIMENSIONAL DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE APPOINTED ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. CLEAR THE LOCATION OF THE VIBRATION GRID, REMOVING STUMPS, ROOTS AND OTHER VEGETATION TO PROVIDE FIRM FOUNDATION SO THAT THE ROCK IS NOT PRESSED INTO SOFT GROUND. CLEAR SUFFICIENT WIDTH TO ALLOW PASSAGE OF LARGE VEHICLES, BUT CLEAR ONLY THAT NECESSARY FOR EXIT. DO NOT CLEAR ADJACENT AREAS UNTIL THE REQUIRED EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE.
3. GRADE THE LOCATION OF THE VIBRATION GRID SO THAT RUNOFF FROM THE UNIT WILL NOT FLOW INTO THE STREET OR ADJOINING PROPERTIES, BUT WILL FLOW TOWARDS AN APPROPRIATE-TRAPPING DEVICE.
4. ENSURE THAT INSTALLATION OF THE VIBRATION GRID HAS ADEQUATE SEDIMENT STORAGE VOLUME UNDER THE GRID. WHERE NECESSARY, INSTALL SUITABLE PRECAST SEDIMENT COLLECTION CHAMBERS.
5. PLACE A ROCK PAD/RAMP FORMING A MINIMUM 200mm THICK LAYER OF CLEAN, OPEN-VOID ROCK OVER THE ROADWAY BETWEEN THE VIBRATION GRID AND THE SEALED STREET TO PREVENT TYRES FROM PICKING UP MORE SOIL AFTER THEY HAVE BEEN CLEANED.
6. THE TOTAL LENGTH OF THE VIBRATION GRID AND ROCK RAMPS SHOULD BE AT LEAST 15m WHERE PRACTICABLE, AND AS WIDE AS THE FULL WIDTH OF THE ENTRY OR EXIT AND AT LEAST 3m. THE ROCK RAMP SHOULD COMMENCE AT THE EDGE OF THE OFF-SITE SEALED ROAD OR PAVEMENT.
7. FLARE THE END OF THE ROCK PAD WHERE IT MEETS THE PAVEMENT SO THAT THE WHEELS OF TURNING VEHICLES DO NOT TRAVEL OVER UNPROTECTED SOIL.

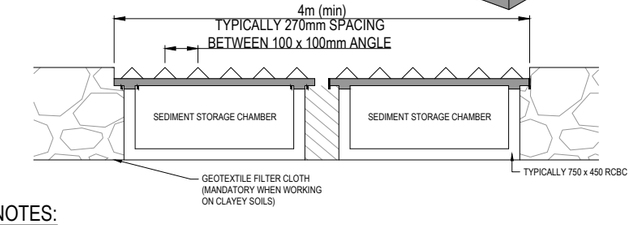
MAINTENANCE

1. INSPECT VIBRATION GRID PRIOR TO FORECAST RAIN, DAILY EXTENDED PERIODS OF RAINFALL AND AFTER SIGNIFICANT RUNOFF-PRODUCING RAINFALL OR OTHERWISE AFTER FORTNIGHTLY INTERVALS.
2. IF SAND, SOIL, SEDIMENT OR MUD IS TRACKED OR WASHED ONTO THE ADJACENT SEALED ROADWAY, THEN SUCH MATERIAL MUST BE PHYSICALLY REMOVED, FIRST USING A SQUARE-EDGED SHOVEL, AND THEN A STIFF-BRISTLED BROOM.
3. IF NECESSARY FOR SAFETY REASONS, THE ROADWAY SHALL ONLY BE WASHED CLEAN AFTER ALL REASONABLE EFFORTS HAVE BEEN TAKEN TO SHOVEL AND SWEEP THE MATERIAL FROM THE ROADWAY.
4. WHEN THE VOIDS BETWEEN THE ROCK BECOMES FILLED WITH MATERIAL AND THE EFFECTIVENESS OF THE ROCK RAMPS ARE REDUCED TO A POINT WHERE SEDIMENT IS BEING TRACKED OFF THE SITE, A NEW 100mm LAYER OF ROCK MUST BE ADDED AND/OR THE ROCK PAD MUST BE EXTENDED.
5. ENSURE ALL ASSOCIATED DRAINAGE CONTROL MEASURES ARE MAINTAINED IN ACCORDANCE WITH THEIR DESIRED OPERATIONAL CONDITION.
6. DISPOSE OF SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

1. THE VIBRATION GRID SHOULD BE REMOVED ONLY AFTER IT IS NO LONGER NEEDED AS A SEDIMENT CONTROL DEVICE.
2. REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. RE-GRADE AND STABILISE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.





CHECK DAMS NOTES:

INSTALLATION

1. REFER TO APPROVED EROSION AND SEDIMENT CONTROL PLANS FOR LOCATION AND INSTALLATION DETAILS.
2. PRIOR TO THE PLACEMENT OF THE CHECK DAMS, ENSURE THE TYPE AND SIZE OF EACH CHECK DAM WILL NOT CAUSE A SAFETY HAZARD OR CAUSE WATER TO SPILL OUT OF THE DRAIN.
3. LOCATE THE FIRST CHECKDAM AT THE DOWNSTREAM END OF THE SECTION OF CHANNEL BEING PROTECTED. LOCATE EACH SUCCESSIVE CHECK DAM SUCH THAT THE CREST OF THE IMMEDIATE DOWNSTREAM DAM IS LEVEL WITH THE TOE OF THE CHECK DAM BEING INSTALLED.
4. ENSURE THE CHANNEL SLOPE IS NO STEEPER THAN 10:1 (H:V). OTHERWISE CONSIDER THE USE OF A SUITABLE CHANNEL LINER INSTEAD OF THE CHECK DAMS.
5. WHERE SPECIFIED, THE CHECK DAMS SHALL BE CONSTRUCTED ON A SHEET OF GEOTEXTILE FABRIC USED AS A DOWNSTREAM SPLASH PAD.
6. EACH CHECK DAM SHALL BE EXTENDED UP THE CHANNEL BANK TO AN ELEVATION AT LEAST 150mm ABOVE THE CREST LEVEL OF THE DAM.

MAINTENANCE

1. INSPECT EACH CHECK DAM AND THE DRAINAGE CHANNEL AT LEAST WEEKLY AND AFTER RUNOFF PRODUCING RAINFALL.
2. CORRECT ALL DAMAGE IMMEDIATELY IF SIGNIFICANT EROSION OCCURS BETWEEN ANY OF THE CHECK DAMS, THEN CHECK THE SPACING OF DAMS AND WHERE NECESSARY INSTALL INTERMEDIATE CHECK DAMS OR SUITABLE CHANNEL LINER.
3. CHECK FOR DISPLACEMENT OF CHECK DAMS.
4. CHECK FOR SOIL SCOUR AROUND THE ENDS OF EACH CHECK DAM. IF SUCH EROSION IS OCCURRING, CONSIDER EXTENDING THE WIDTH OF THE CHECK DAM TO AVOID SUCH PROBLEMS.
5. REMOVE ANY SEDIMENT ACCUMULATED BY THE CHECK DAMS, UNLESS IT IS INTENDED THAT THIS SEDIMENT WILL REMAIN WITH THE CHANNEL.

REMOVAL

1. WHEN CONSTRUCTION WORK WITHIN THE DRAINAGE AREA ABOVE THE CHECK DAMS HAS BEEN COMPLETED, AND THE DISTURBED AREAS AND THE DRAINAGE CHANNEL ARE SUFFICIENTLY STABILISED TO RESTRAIN EROSION, ALL TEMPORARY CHECK DAMS MUST BE REMOVED.
2. REMOVE THE COLLECTED SEDIMENT AND DISPOSE OF ACCUMULATED SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. REMOVE AND APPROPRIATELY DISPOSE OF ALL MATERIALS INCLUDING ANY GEOTEXTILE FABRIC.
4. STABILISE THE DISTURBED CHANNEL WITH LINING OF FABRIC AND ROCK OR ESTABLISHED VEGETATION AS APPROPRIATE.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:

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STATUS: ISSUE FOR APPROVAL

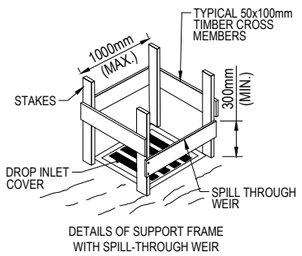
CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

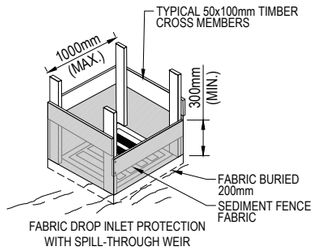
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EROSION AND SEDIMENT CONTROL DETAILS
SHEET 2 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	121-	A

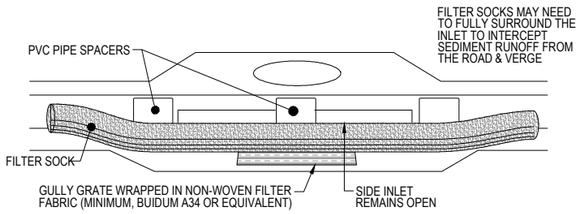


DETAILS OF SUPPORT FRAME WITH SPILL-THROUGH WEIR

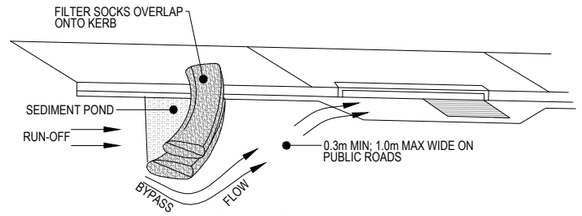


FABRIC DROP INLET PROTECTION WITH SPILL-THROUGH WEIR

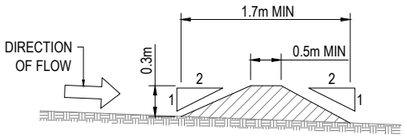
FABRIC WRAP INLET PROTECTION
N.T.S.



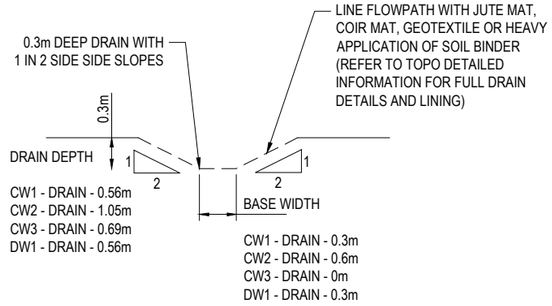
SAG GULLY PROTECTION
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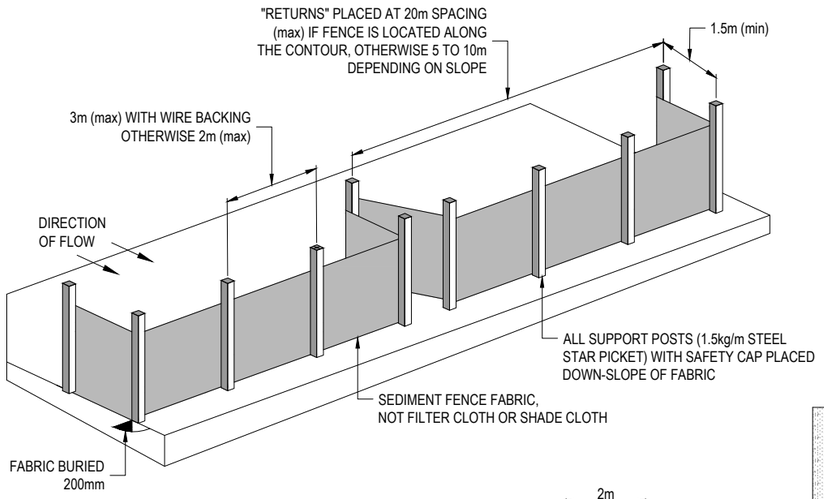
ON GRADE GULLY PROTECTION
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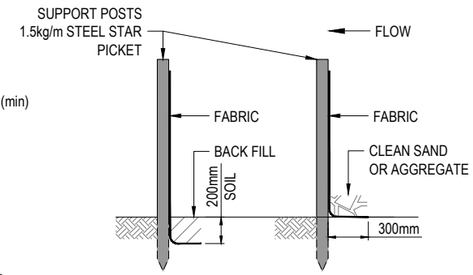


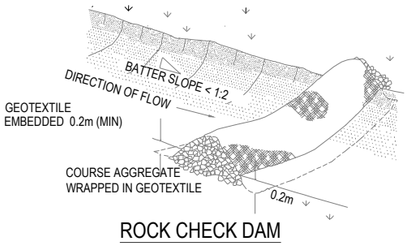
DIVERSION BERM (TYPICAL)
SCALE N.T.S.



DIVERSION DRAIN - TYPICAL DETAIL
SCALE N.T.S.

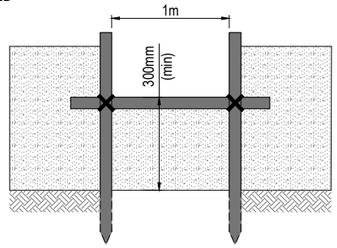


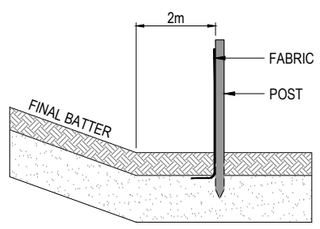


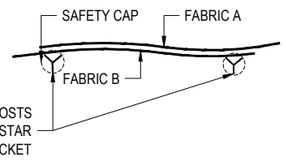


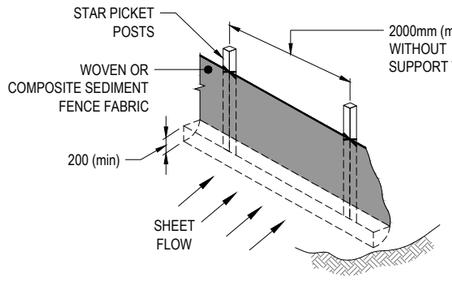
ROCK CHECK DAM
SCALE N.T.S.

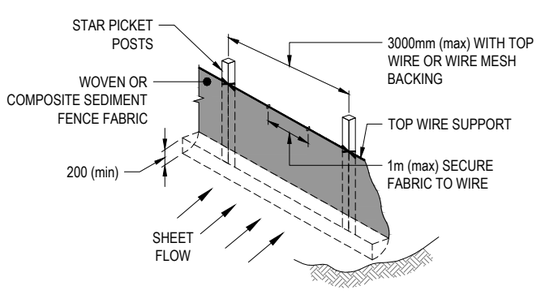
DIMENSIONS - CHECK DAMS
- MAXIMUM HEIGHT OF 0.5m UNLESS FORMALLY DESIGNED.
- MAXIMUM HEIGHT 1m IF FORMALLY DESIGNED.
- WEIR INVERT TO BE AT LEAST 150mm LOWER THAN OUTER EDGES.
- MAXIMUM BANK SLOPE OF 2(H): 2(V).
- ROCK SPALLS 50mm-200mm EVENLY MIXED.

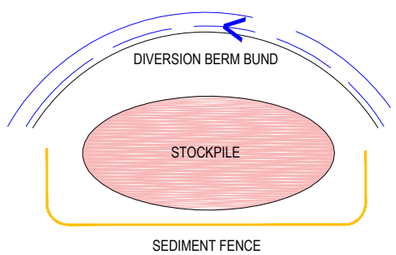




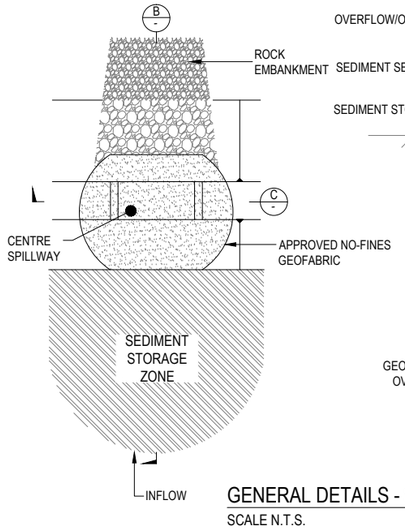


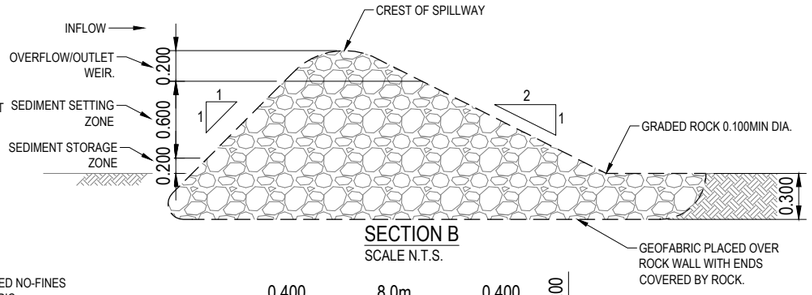




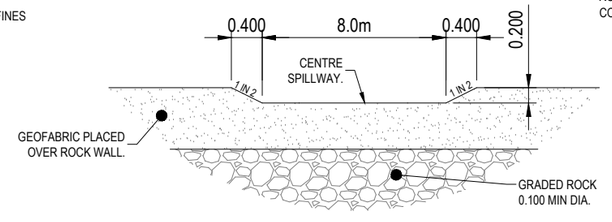


STOCKPILE CONTROLS AND BORROW PIT





SECTION B
SCALE N.T.S.



SECTION C
SCALE N.T.S.

GENERAL DETAILS - SEDIMENT BASIN (IF ORDERED)
SCALE N.T.S.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

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CONSULTANTS:

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ABN 77461610305

STATUS: ISSUE FOR APPROVAL

CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
EROSION AND SEDIMENT CONTROL DETAILS SHEET 3 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	122-	A



LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED KERB ONLY (TYPE B2)
- LIMIT OF WORKS
- SITE BOUNDARY
- 11.00 PROPOSED SURFACE CONTOURS
- 11.00 EXISTING SURFACE CONTOURS
- PROPOSED SWALE
- W EXISTING WATER
- SWD EXISTING STORMWATER
- E-UG EXISTING UNDERGROUND ELECTRICAL
- FH EXISTING FIRE HYDRANT
- WM EXISTING WATER METER
- PP EXISTING POWER POLE
- LP EXISTING LIGHT POLE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMOVED
- 10m CREEK BUFFER

CUT/FILL LEGEND

CUT 0m to .3m	FILL 0m to .3m
CUT .3m to .6m	FILL .3m to .6m
CUT .6m to .9m	FILL .6m to .9m
CUT .9m to 1.2m	FILL .9m to 1.2m
CUT 1.2m to 1.5m	FILL 1.2m to 1.5m
CUT 1.5m to 1.8m	FILL 1.5m to 1.8m
CUT 1.8m to 2.1m	FILL 1.8m to 2.1m
CUT 2.1m to 2.4m	FILL 2.1m to 2.4m
	FILL 2.4m to 2.7m
	FILL 2.7m to 3m
	FILL 3m to 3.3m

EARTHWORKS SCHEDULE

CUT OR FILL	ITEM	VOLUME (m^3)
CUT	TOTAL CUT	6,100
FILL	TOTAL FILL	6,050
TOTAL (BANK MEASURE)		50

NOTE: VOLUMES BASED ON;
-100mm TOPSOIL
-350mm FOR ROAD BOX
-400m FOR HOUSE PADS (WAFFLE PODS)

BULK EARTHWORKS LAYOUT PLAN

SCALE 1:500

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD ABN 77461010305

STATUS: ISSUE FOR APPROVAL

CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
BULK EARTHWORKS CUT/FILL LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	200-	A



BULK EARTHWORKS LAYOUT PLAN
SCALE 1:250

LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED EDGE RESTRAINT
- SITE BOUNDARY
- LIMIT OF WORKS
- 11.00 — PROPOSED SURFACE CONTOURS
- 11.00 — EXISTING SURFACE CONTOURS
- +12.650 — PROPOSED FINISH SURFACE LEVEL
- +TW12.65 — PROPOSED TOP OF WALL LEVEL
- +EX12.65 — EXISTING SURFACE LEVEL
- SINGLE TIER CONCRETE SLEEPER 0-1.5m HIGH
- PROPOSED SWALE
- W — EXISTING WATER
- SWD — EXISTING STORMWATER
- E-UG — EXISTING UNDERGROUND ELECTRICAL
- FH — EXISTING FIRE HYDRANT
- WM — EXISTING WATER METER
- PP — EXISTING POWER POLE
- LP — EXISTING LIGHT POLE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMOVED
- 10m CREEK BUFFER

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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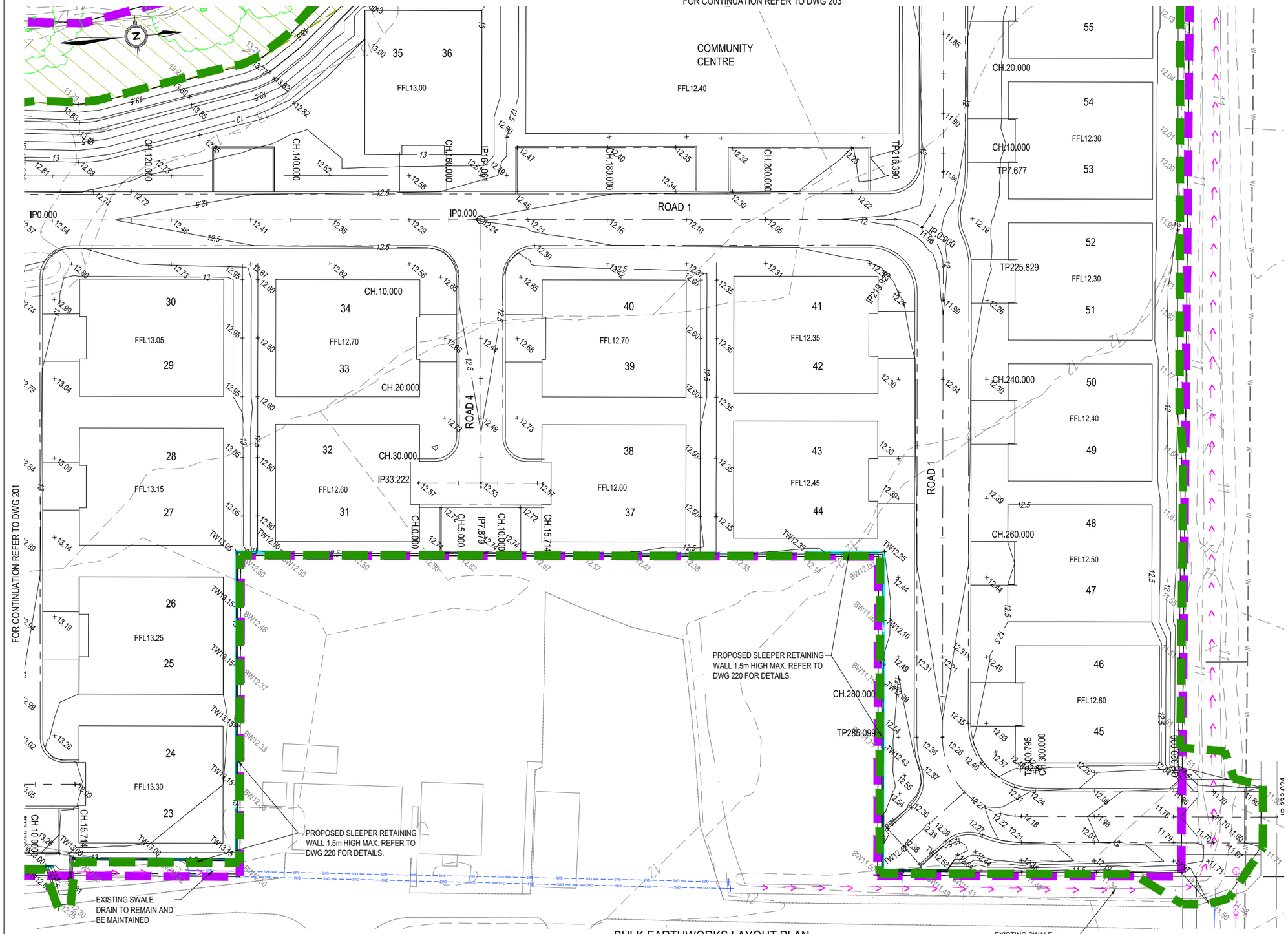
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CERTIFIED: RPEQ 7619 KEL HOWARD

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GRID	LOCAL	APPROVER	KH
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MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
BULK EARTHWORKS LAYOUT PLAN
SHEET 1 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	201-	A



BULK EARTHWORKS LAYOUT PLAN
SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 1 : 250 / 1 : 500 — 5 0 5 10m — A1 / A3

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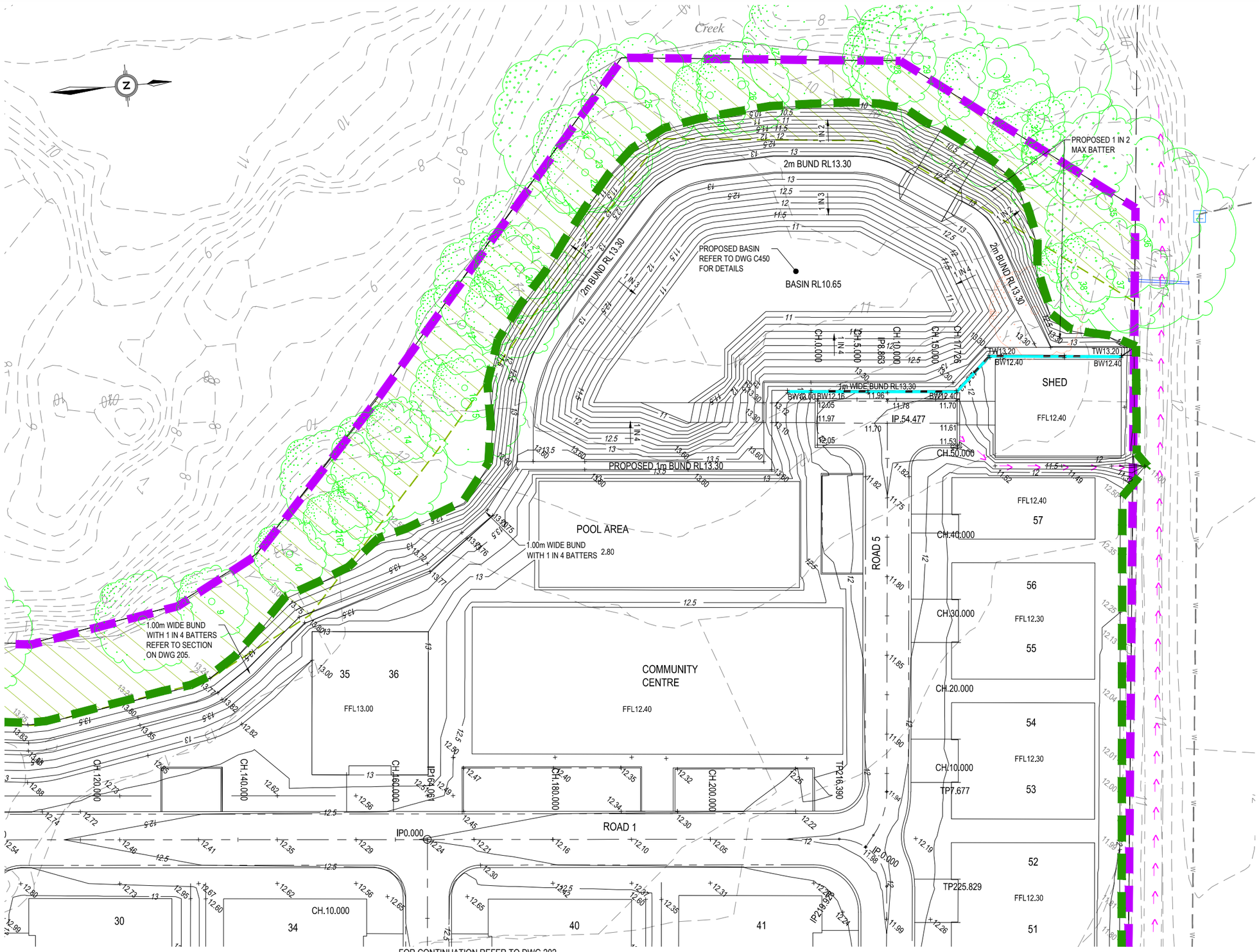
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OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
BULK EARTHWORKS LAYOUT PLAN
SHEET 2 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	202-	A



BULK EARTHWORKS LAYOUT PLAN
SCALE 1:250

LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED EDGE RESTRAINT
- SITE BOUNDARY
- LIMIT OF WORKS
- 11.00 PROPOSED SURFACE CONTOURS
- 11.00 EXISTING SURFACE CONTOURS
- +12.650 PROPOSED FINISH SURFACE LEVEL
- +TW12.65 PROPOSED TOP OF WALL LEVEL
- +EX12.65 EXISTING SURFACE LEVEL
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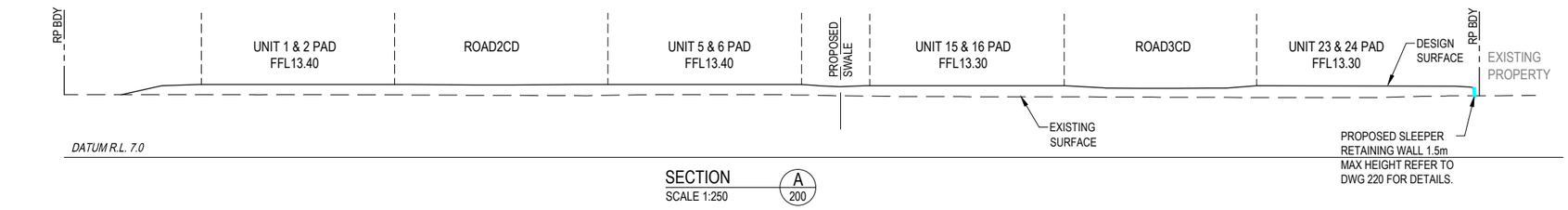
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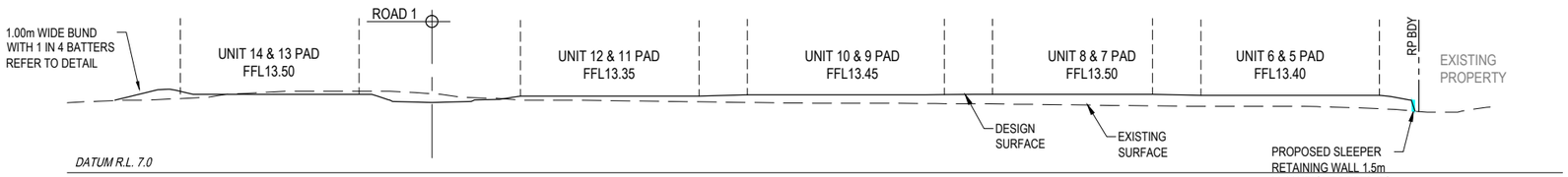
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
BULK EARTHWORKS LAYOUT PLAN
SHEET 3 OF 3

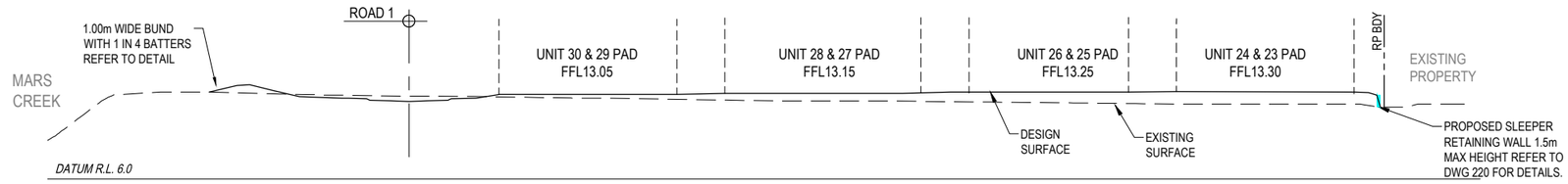
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	203-	A



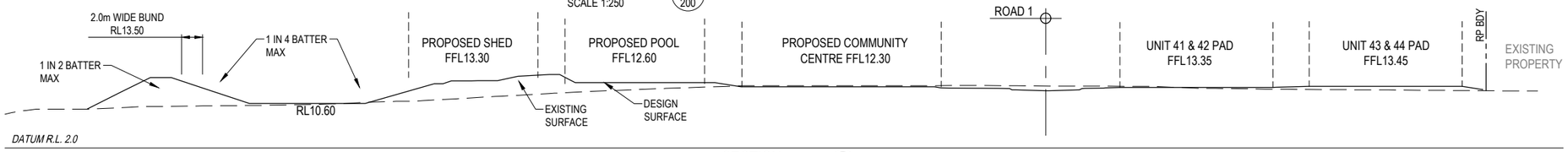
SECTION A
SCALE 1:250 200



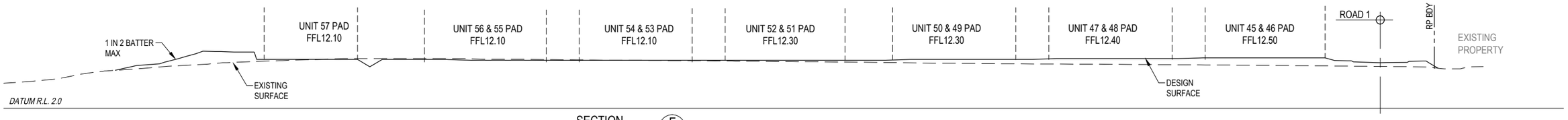
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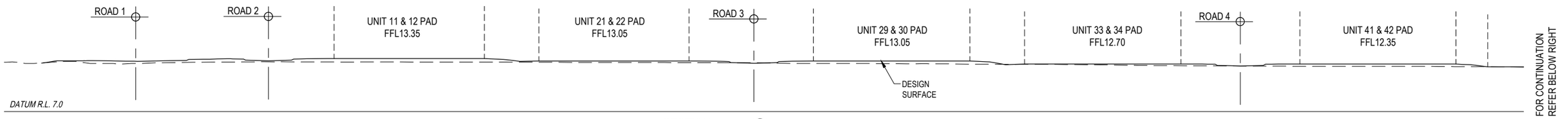
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SCALE 1:250 200



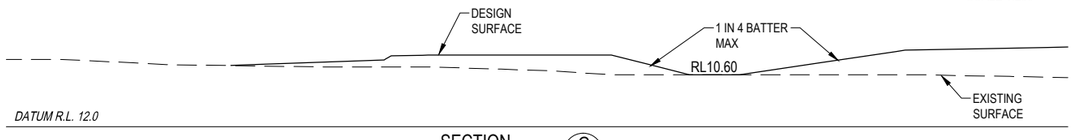
SECTION D
SCALE 1:250 200



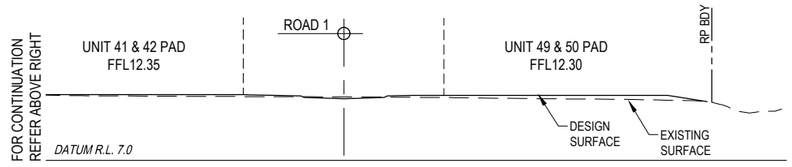
SECTION E
SCALE 1:250 200



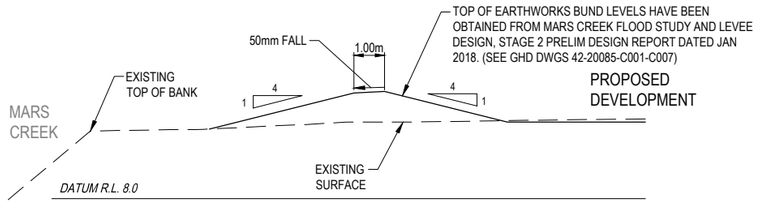
SECTION F
SCALE 1:250 200



SECTION G
SCALE 1:100 200



SECTION F
SCALE 1:250 200



TYPICAL BUND SECTION

SECTION AA
SCALE 1:100 200

REV	DESCRIPTION	BY	APP	DATE
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RPEQ NO. 07619
HEIGHT DATUM AHD
GRID LOCAL
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PROJECT TEAM
DESIGNER GC
REVIEWED KH
APPROVER KH

PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
BULK EARTHWORK SECTIONS

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	205-	A

RETAINING WALL SPECIFICATION TABLE
5kPa SURCHARGE WITH 1.80m HEIGHT MAX FENCE

POST SPACING (CTRS)	'H' (RETAINING WALL HEIGHT)	POST SIZE	POST EMBEDMENT (MIN)	'D' PIER DEPTH 'AVERAGE SOILS'	'D' PIER DEPTH 'GOOD SOILS'	'D' PIER DEPTH 'VERY GOOD SOILS'	PIER DIAMETER
2000mm	600mm	100UC14.8	200mm	1300mm	1300mm	1300mm	450Ø
2000mm	800mm	100UC14.8	300mm	1500mm	1400mm	1400mm	450Ø
2000mm	1000mm	100UC14.8	300mm	1600mm	1500mm	1500mm	450Ø
2000mm	1200mm	100UC14.8	300mm	1700mm	1700mm	1600mm	450Ø
2000mm	1400mm	100UC14.8*	300mm	1900mm	1800mm	1800mm	450Ø
2000mm	1600mm	100UC14.8*	300mm	2000mm	2000mm	1900mm	450Ø
2000mm	1800mm	100UC14.8*	300mm	2200mm	2100mm	2000mm	450Ø
2000mm	2000mm	150UC23.4	300mm	2400mm	2400mm	2300mm	450Ø
2000mm	2200mm	150UC23.4	400mm	2600mm	2500mm	2400mm	450Ø
2000mm	2400mm	150UC23.4	400mm	2900mm	2800mm	2600mm	450Ø
2000mm	2600mm	150UC23.4	400mm	3000mm	2900mm	2800mm	450Ø
2000mm	2800mm	150UC23.4	400mm	3300mm	3200mm	3000mm	450Ø
2000mm	3000mm	150UC30	400mm	3600mm	3400mm	3300mm	450Ø
2000mm	3200mm	150UC30	400mm	3900mm	3500mm	3500mm	450Ø

SLEEPER SPECIFICATION TABLE

	N10 BARS		N12 BARS	
THICKNESS (T)	WALL 'H'	REINFORCEMENT	WALL 'H'	REINFORCEMENT
70mm	0-1800 1800-2600	2 X N10 3 X N10	0-2400 2400-3000	2 X N12 3 X N12
90mm	2600-3000 3200-3400	2 X N10 3 X N10	3200-3400 4400-4000	2 X N12 3 X N12
2/70mm	3600-4000	2 X N10	-	-

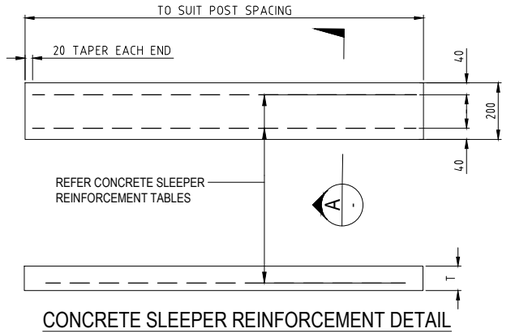
SOIL CLASSIFICATION

SOIL GROUP	TYPICAL SOILS IN GROUP
POOR	SOFT AND FIRM CLAY OF MEDIUM TO HIGH PLASTICITY, LOOSE VARIBLE CLAYEY FILL, LOOSE SANDY SILTS
AVERAGE	STILL SANDY CLAY, COMPACT CLAYEY SANDS, CONTROLLED FILL - CLASS 2 (95% COMPACTION)
GOOD	VERY STILL SANDY CLAY, DENSE WELL-GRADED SANDS, CONTROLLED FILL - CLASS 1 (98% COMPACTION)
VERY GOOD	WEAK WEATHERED ROCK

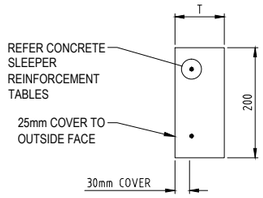
STEEL REINFORCING BAR SCHEDULE

WALL HEIGHT	FRONT FACE REINFORCEMENT	REAR FACE REINFORCEMENT	N12 TIES
<1000	2/N12	2/N12	NIL
1000 - 1600	2/N12	3/N12	NIL
1800 - 2000	2/N12	2/N16	NIL
2200 - 2600	2/N12	3/N16	NIL
2800 - 3200	2/N12	4/N20	YES
3400	2/N12	5/N20	YES
3600 - 4000	2/N16	5/N24	YES

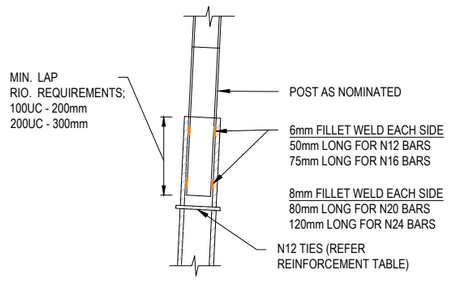
2ND FROM THE END POST SIZE WILL NEED TO BE INCREASED TO NEXT SIZE UP FOR END WALLS WHERE NO HEIGHT REDUCTION OR CORNER OCCURS.



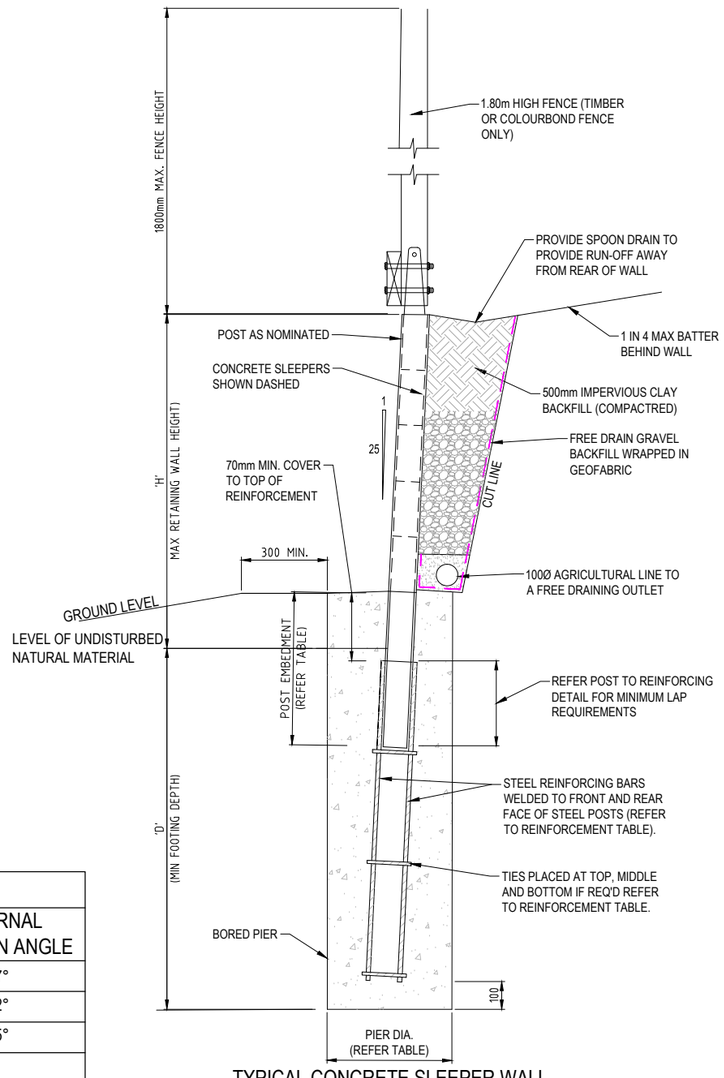
CONCRETE SLEEPER REINFORCEMENT DETAIL
SCALE 1:20



SECTION A
SCALE 1:10



POST TO REINFORCING BAR WELDING DETAIL
SCALE 1:20



TYPICAL CONCRETE SLEEPER WALL
SCALE 1:20

SOIL PARAMETER TABELS

SOIL CONDITION	BULK DENSITY (kn/m³)	INTERNAL FRICTION ANGLE
AVERAGE	17	27°
GOOD	18	32°
VERY GOOD	19	35°
GEOTECHNICAL ENGINEER TO CONFIRM SOIL PARAMETERS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION		

MATERIAL NOTES
1. RETAINING WALL UNITS AND CAPS : ADBRI MASONRY 'VERSAWALL' NO SUBSTITUTIONS
2. THE CLIENT OR CLIENT'S REPRESENTATIVE MUST ENGAGE A GEOTECHNICAL CONSULTANT TO EVALUATE THE PROPOSED SITE SOIL CONDITIONS TO VERIFY THAT THE PARAMETERS PROVIDED IN THIS DESIGN ARE APPROPRIATE.
3. CONCRETE LEVELING PAD : UNREINFORCED CONCRETE WITH 25MPA MINIMUM STRENGTH.
4. DRAINAGE PIPE : 100mm, FILTER WRAPPED (SOCKED) PERFORATED OR SLOTTED PVC OR CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH AS/NZS 2566.
5. NO FINES CONCRETE (NFC) : CLEAN 20mm AGGREGATE WITH A CEMENT CONTENT BETWEEN 10% - 14% BY WEIGHT. WATER CONTENT SHALL BE SUCH THAT THE CEMENT SLURRY EVENLY COATS THE AGGREGATE AND RETAINS A WET/GLOSSY APPEARANCE WITHOUT EXCESS SLURRY RUNNING OFF. THIS IS TYPICALLY AROUND 40 LITRES PER 100kg OF CEMENT.

CONSTRUCTION NOTES
1. PLACE BASE MATERIALS TO THE DEPTHS AND WIDTHS SHOWN ON THE DRAWINGS. EXTEND THE LEVELING PAD LATERALLY AT LEAST 150MM IN FRONT AND BEHIND THE LOWERMOST UNIT.
2. PREPARE BASE MATERIALS TO ENSURE COMPLETE CONTACT WITH THE RETAINING WALL UNITS. GAPS ARE NOT ALLOWED.
3. PLACE FIRST COURSE OF CONCRETE WALL UNITS SIDE-BY-SIDE ON THE PREPARED BASE MATERIAL. GAPS ARE NOT ALLOWED.
4. CHECK UNITS FOR LEVEL AND ALIGNMENT. MAINTAIN THE SAME ELEVATION AT THE TOP OF EACH UNIT WITHIN EACH SECTION OF THE BASE COURSE
5. ENSURE THE NO FINES CONCRETE IS INSTALLED COURSE-BY-COURSE WITH THE BLOCKS TO ENSURE ALL VOIDS ARE FILLED AND ADEQUATE BOND IS ACHIEVED.
6. INSTALL DRAINAGE PIPE AT THE LOWEST POSSIBLE ELEVATION AND FALL TO DISCHARGE AWAY FROM WALL FOUNDATION AND AT MAXIMUM 30m CENTRES
7. REMOVE EXCESS NO FINES CONCRETE FROM TOP OF UNITS PRIOR TO INSTALLING THE FOLLOWING COURSE.
8. CHECK EACH COURSE FOR LEVEL, ALIGNMENT AND SETBACK PRIOR TO PROCEEDING WITH EACH ADDITIONAL COURSE.
9. IT IS NOT RECOMMENDED TO INSTALL MORE THAN 600mm (3 COURSES) OF NO FINES CONCRETE BEFORE ALLOWING 'FIRST SET'
10. FIX THE CAPPING UNIT IN PLACE USING AN EXTERIOR GRADE MASONRY ADHESIVE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS
11. WALL CONSTRUCTION TOLERANCES
    a. VERTICAL ALIGNMENT : PLUS OR MINUS 25mm OVER ANY 3m DISTANCE, WITH A MAXIMUM DIFFERENTIAL OF 50mm OVER THE LENGTH OF THE WALL.
    b. HORIZONTAL LOCATION CONTROL FROM GRADING PLAN
       · STRAIGHT LINES : PLUS OR MINUS 25mm OVER ANY 3m DISTANCE, WITH A MAXIMUM DIFFERENTIAL OF 50mm OVER THE LENGTH OF THE WALL.
    c. IMMEDIATE POST CONSTRUCTION WALL BATTER : WITHIN 2 DEGREES OF THE DESIGN BATTER OF THE CONCRETE RETAINING WALL UNITS.
    d. BULGING : PLUS OR MINUS 25mm OVER ANY 3m DISTANCE.

GENERAL NOTES
1. EXCAVATION SUPPORT, INCLUDING THE STABILITY OF THE EXCAVATION AND ITS INFLUENCE ON ADJACENT PROPERTIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CLIENT.
2. NO EXCAVATIONS SHALL BE MADE WITHIN THE 'ZONE OF INFLUENCE EXTENDING 45° DOWN FROM THE BASE OF THE WALL.
3. LOCATION OF THE RETAINING WALL IN RELATION TO PROPERTY LINES, UTILITY EASEMENTS, WATERSHED EASEMENTS, OR ANY OTHER TYPE OF EASEMENTS ARE THE RESPONSIBILITY OF THE OWNER. THE ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE LOCATION OF THE SEGMENTAL RETAINING WALLS, OR IF CONSTRUCTION OF THE PROPOSED SEGMENTAL RETAINING WALLS ENCROACHES ANY PROPERTY LINES OR EASEMENTS.
4. SET-OUT OF ALL SEGMENTAL RETAINING WALLS MUST TAKE INTO ACCOUNT THE DESIGN BATTER INDICATED ON THE ENCLOSED PLANS AND DETAILS.
5. WALL GEOMETRY, LOCATIONS, SLOPES AND SURCHARGE LOADS FOR THE SEGMENTAL RETAINING WALLS WERE MEASURED FROM THE SITE GRADING PLAN. IF CONDITIONS VARY IN THE FIELD FROM THOSE SHOWN ON THIS PLAN, THE ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO CONSTRUCTION OF THE SEGMENTAL RETAINING WALLS TO REVIEW THE DESIGN AND / OR PLANS. MODIFICATIONS TO THE DESIGN AND / OR PLANS MAY BE REQUIRED AFTER THE REVIEW, AND MAY TAKE UP TO TEN BUSINESS DAYS TO COMPLETE.
6. IF THERE ARE DISCREPANCIES BETWEEN ANY INFORMATION ON THESE PLANS AND INFORMATION IN THE PROJECT SPECIFICATIONS, THE MORE RESTRICTIVE INFORMATION TAKES PRECEDENCE.
7. THE ENCLOSED SEGMENTAL RETAINING WALLS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS4678.
8. NO CONSIDERATION OF GLOBAL STABILITY (i.e. LAND-SLIPS) HAS BEEN MADE IN THESE DESIGNS. IT IS THE RESPONSIBILITY OF THE OWNER OR OWNERS REPRESENTATIVE TO ENGAGE A GEOTECHNICAL CONSULTANT TO DETERMINE THE SUSCEPTIBILITY OF THE PROPOSED SITE TO SLOPE INSTABILITY.
9. CONTROL JOINTS 10m MAX FOR WALLS OVER 1.4m IN HEIGHT.
10. ALL WALLS TO BE FULL DEPTH COLOUR.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 20 0.2 0 0.2 0.4 0.6 0.8 1.0m A1
1 : 40 A3

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD ABN 77461010305

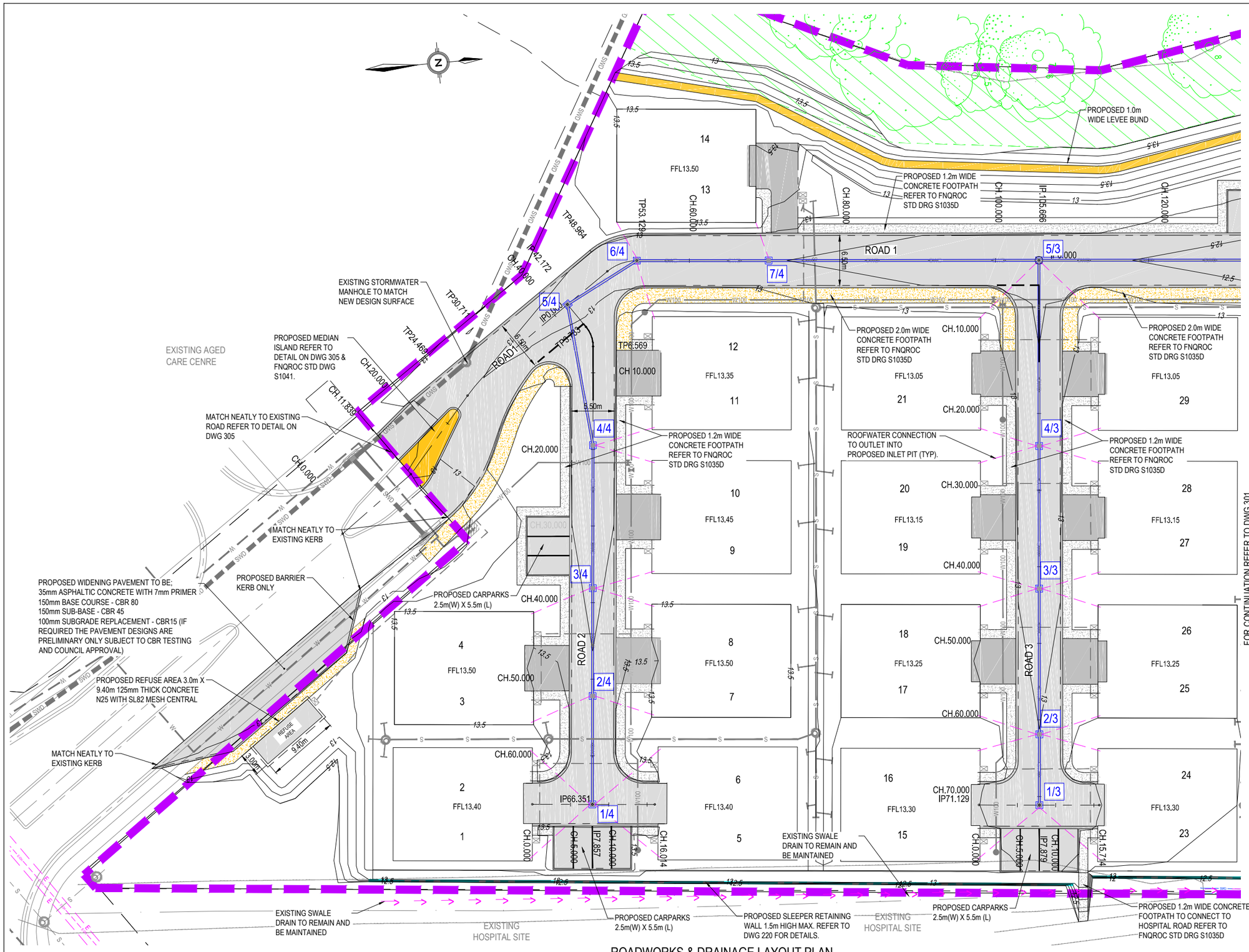
STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
TYPICAL RETAINING WALL DETAILS

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	220-	A



LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- PROPOSED BIO RETENTION BASIN
- 10m CREEK BUFFER
- PROPOSED TYPE F FENCING
- PROPOSED ACCESS CENTRELINE
- PROPOSED KERB EDGE RESTRAINT
- SWD — PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER INLET PIT
- DOWNPIPE CONNECTION TO INLET PIT
- 1/5B — PROPOSED STORMWATER LABEL
- 52 — PROPOSED SURFACE CONTOURS (0.25m INTERVALS)
- SINGLE TIER CONCRETE SLEEPER 0-1.5m HIGH
- PROPOSED SWALE
- SV FH RD EC — WATER MAIN, SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP
- W — EXISTING WATER
- SWD — EXISTING STORMWATER
- E-UG — EXISTING UNDERGROUND ELECTRICAL
- FH — EXISTING FIRE HYDRANT
- WM — EXISTING WATER METER
- PP — EXISTING POWER POLE
- LP — EXISTING LIGHT POLE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMOVED

NOTES

1. ALL STORMWATER INLET PITS TO HAVE STANDARD ENVIROPOD FILTER BASKETS OR EQUIVALENT FOR MORE DETAILS REFER STORMWATER360.
2. PROPOSED STD FIELD INLET REFER TO FNQROC STD DWG C1070..
3. FOR DOMETOP COVER REFER TO IPWEAQ STD DWG RS-069.
4. FOR INLET PIT DETAILS WITH FILTER BASKETS REFER TO DWG C440.
5. FOR STORMWATER ROCK SCOUR PROTECTION DETAILS REFER TO DWG C440.
6. ALL KERB PAMPS REFER TO FNQROC STD DWG S1016.
7. ALL ACCESS CROSS OVERS REFER TO FNQ ROC STD DWG S1015.
8. FOR ALL BIKEWAY/PATHWAYS REFER TO FNQROC STD DWG S1035.
9. FOR HEADWALL OUTLETS REFER TO FNQROC STD DWG S1075, S1085 & S1090.
10. FOR SUB SURFACE DRAINS REFER TO FNQROC STD DWG S1095.

ROADWORKS & DRAINAGE LAYOUT PLAN

SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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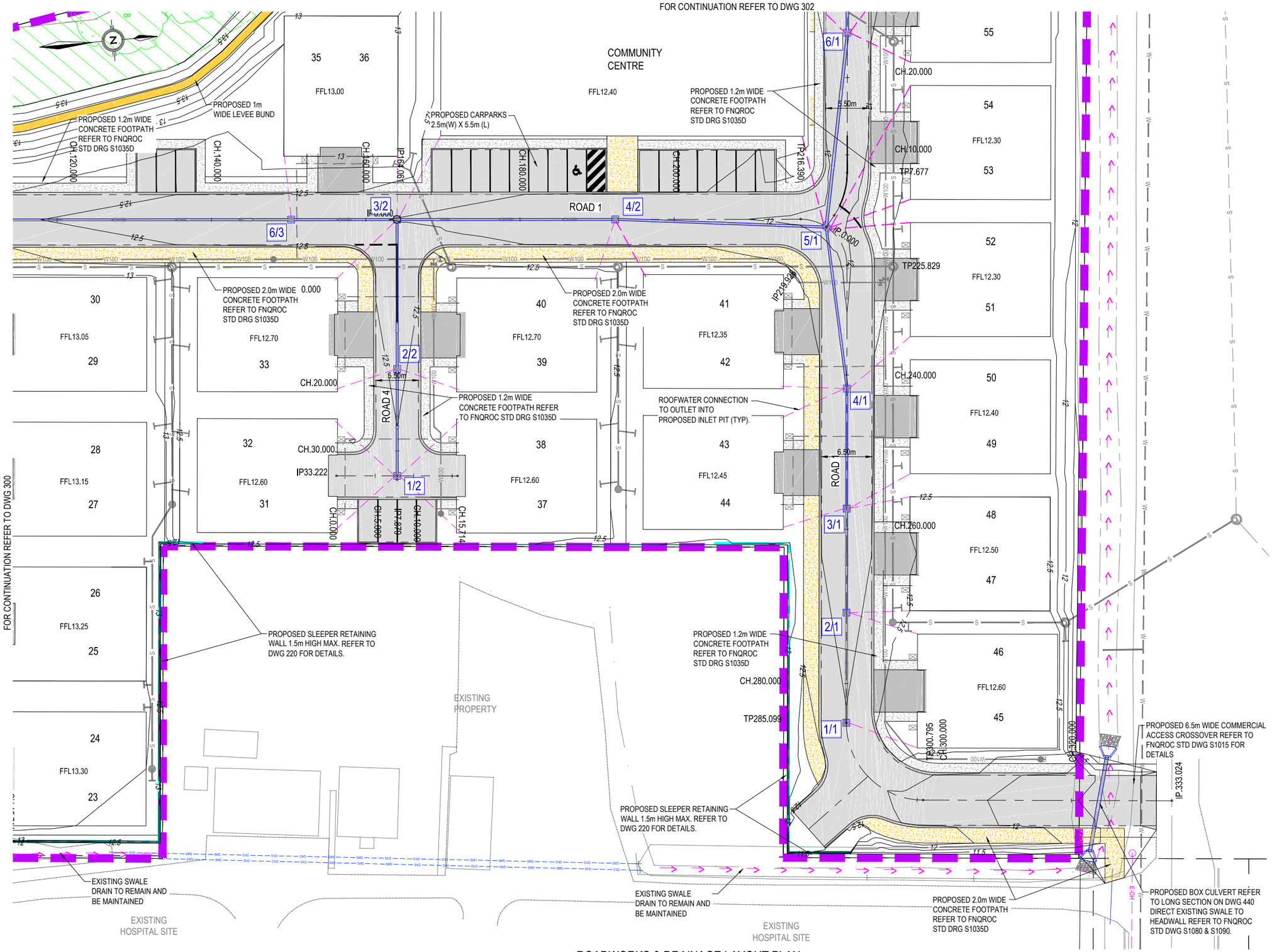
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 7619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROADWORKS AND DRAINAGE LAYOUT PLAN
SHEET 1 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	300-	A



LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- PROPOSED BIO RETENTION BASIN
- 10m CREEK BUFFER
- PROPOSED TYPE F FENCING
- PROPOSED ACCESS CENTRELINE
- PROPOSED KERB EDGE RESTRAINT
- SWD — PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER INLET PIT
- DOWNPIPE CONNECTION TO INLET PIT
- 1/5B — PROPOSED STORMWATER LABEL
- 52 — PROPOSED SURFACE CONTOURS (0.25m INTERVALS)
- SINGLE TIER CONCRETE SLEEPER 0-1.5m HIGH
- PROPOSED SWALE
- SV W FH RD EC — WATER MAIN, SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP
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NOTES

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8. FOR ALL BIKEWAY/PATHWAYS REFER TO FNQROC STD DWG S1035.
9. FOR HEADWALL OUTLETS REFER TO FNQROC STD DWG S1075, S1085 & S1090.
10. FOR SUB SURFACE DRAINS REFER TO FNQROC STD DWG S1095.

ROADWORKS & DRAINAGE LAYOUT PLAN

SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 1 : 250 / 1 : 500 — 5 0 5 10m — A1 A3

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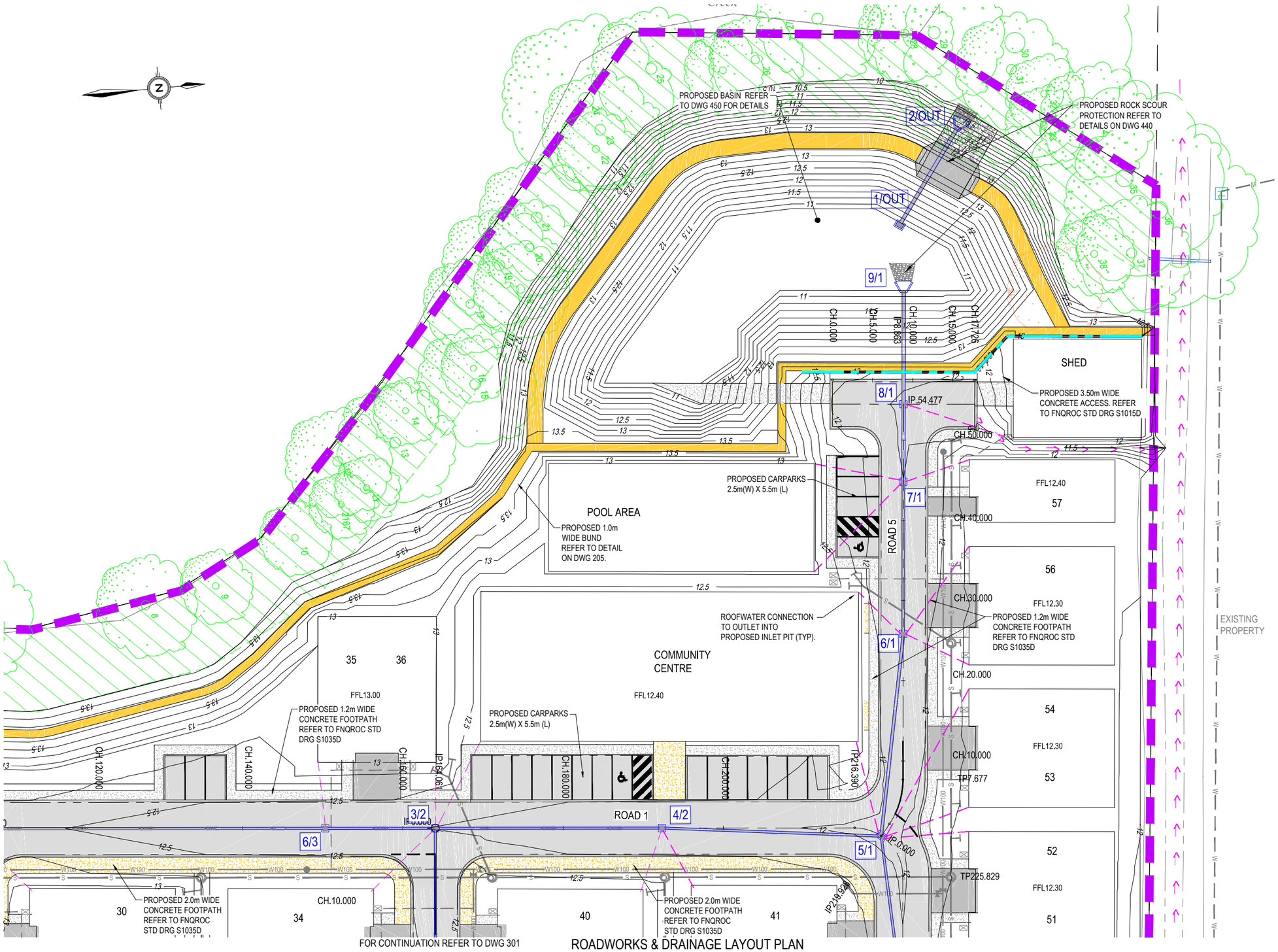
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT: MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE: ROADWORKS AND DRAINAGE LAYOUT PLAN
SHEET 2 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	301-	A



ROADWORKS & DRAINAGE LAYOUT PLAN
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- PROPOSED BIO RETENTION BASIN
- 10m CREEK BUFFER
- PROPOSED ACCESS CENTRELINE
- PROPOSED KERB EDGE RESTRAINT
- SWD — PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER INLET PIT
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REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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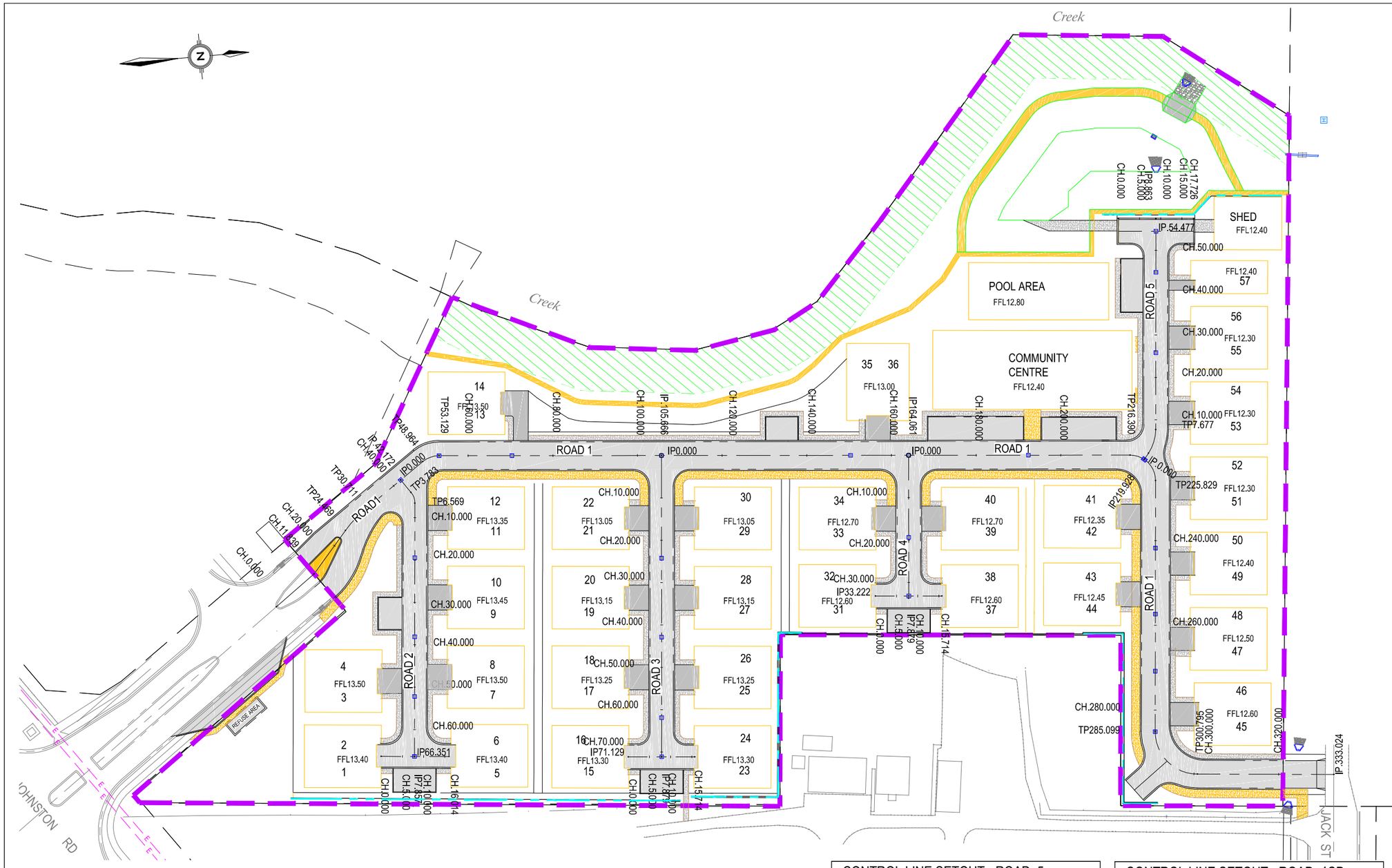
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROADWORKS AND DRAINAGE LAYOUT PLAN
SHEET 3 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	302-	A



CONTROL LINE SETOUT - ROAD 1

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325694.951	8178925.635	
11.839	325687.987	8178935.209	
20.000	325681.830	8178940.566	
24.469	325678.458	8178943.499	25.000
30.711	325674.307	8178948.139	
40.000	325669.023	8178955.778	
42.172	325667.787	8178957.564	
48.964	325663.923	8178963.150	6.000
53.129	325662.881	8178967.097	
60.000	325663.492	8178973.941	
80.000	325665.271	8178993.862	
100.000	325667.049	8179013.783	
105.666	325667.553	8179019.426	
120.000	325668.827	8179033.703	
140.000	325670.605	8179053.624	
160.000	325672.383	8179073.545	
164.061	325672.745	8179077.590	
180.000	325674.162	8179093.466	
200.000	325675.940	8179113.386	
216.390	325677.397	8179129.712	6.000
219.928	325678.703	8179132.944	6.000
225.829	325683.921	8179135.153	
240.000	325698.033	8179133.859	
253.851	325711.827	8179132.595	
260.000	325717.950	8179132.034	
280.000	325737.866	8179130.209	
285.099	325742.944	8179129.743	10.000
300.000	325753.709	8179137.989	10.000
300.795	325753.814	8179138.777	
320.000	325755.590	8179157.900	
333.024	325756.794	8179170.868	

CONTROL LINE SETOUT - ROAD 2

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325667.787	8178957.564	
3.783	325670.898	8178959.717	4.000
6.569	325673.539	8178960.410	
10.000	325676.955	8178960.097	
20.000	325686.914	8178959.184	
30.000	325696.872	8178958.271	
40.000	325706.830	8178957.359	
50.000	325716.788	8178956.446	
60.000	325726.747	8178955.533	
66.351	325733.071	8178954.954	

CONTROL LINE SETOUT - ROAD 2CD

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325732.354	8178947.130	
7.857	325733.071	8178954.954	
10.000	325733.267	8178957.088	
15.000	325733.723	8178962.067	

CONTROL LINE SETOUT - ROAD 3

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325667.553	8179019.426	
10.000	325677.513	8179018.537	
20.000	325687.473	8179017.648	
30.000	325697.434	8179016.759	
40.000	325707.394	8179015.870	
50.000	325717.355	8179014.981	
60.000	325727.315	8179014.092	
70.000	325737.275	8179013.202	
71.129	325738.400	8179013.102	

CONTROL LINE SETOUT - ROAD 3CD

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325737.681	8179005.256	
7.879	325738.400	8179013.102	
10.000	325738.593	8179015.214	
15.714	325739.115	8179020.904	

CONTROL LINE SETOUT - ROAD 4

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325672.745	8179077.590	
10.000	325682.705	8179076.701	
20.000	325692.665	8179075.812	
30.000	325702.626	8179074.922	
33.211	325705.824	8179074.637	

CONTROL LINE SETOUT - ROAD 4CD

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325705.116	8179066.791	
7.879	325705.835	8179074.637	
10.000	325706.029	8179076.749	
15.714	325706.550	8179082.440	

CONTROL LINE SETOUT - ROAD 5

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325678.703	8179132.944	
1.804	325677.299	8179134.077	10.000
7.677	325671.934	8179136.251	
20.000	325659.662	8179137.376	
40.000	325639.746	8179139.201	
54.477	325625.329	8179140.523	

CONTROL LINE SETOUT - ROAD 5CD

CHAINAGE	X COORD	Y COORD	RADIUS
0.000	325626.138	8179149.349	
8.863	325625.329	8179140.523	
10.000	325625.226	8179139.391	
17.726	325624.520	8179131.697	

LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.20m WIDE CONCRETE FOOTPATH
- PROPOSED 2.00m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED ROAD CENTRELINE
- PROPOSED MEDIAN KERB

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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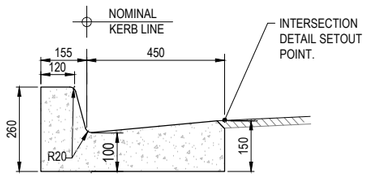
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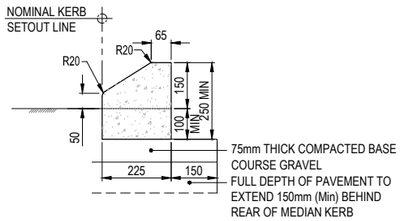
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD CENTRELINE SETOUT DETAILS

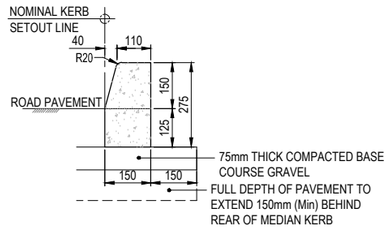
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	304-	A



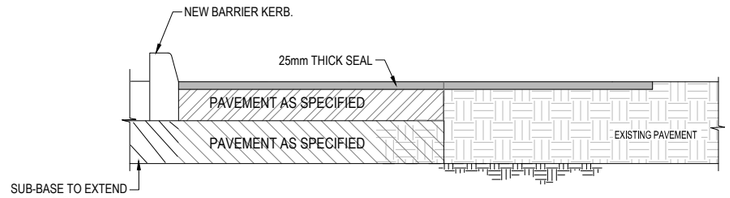
TYPICAL SECTION
BARRIER KERB & CHANNEL TYPE (B1)
IN ACCORDANCE WITH FNQROC STD DRG S1000F
SCALE 1:10



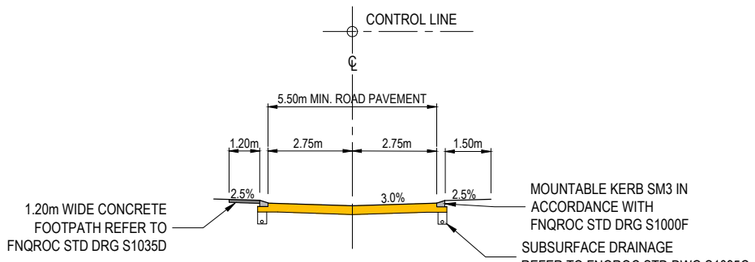
TYPICAL SECTION
SEMI MOUNTABLE KERB - TYPE SM3
IN ACCORDANCE WITH FNQROC STD DRG S1000F
SCALE 1:10



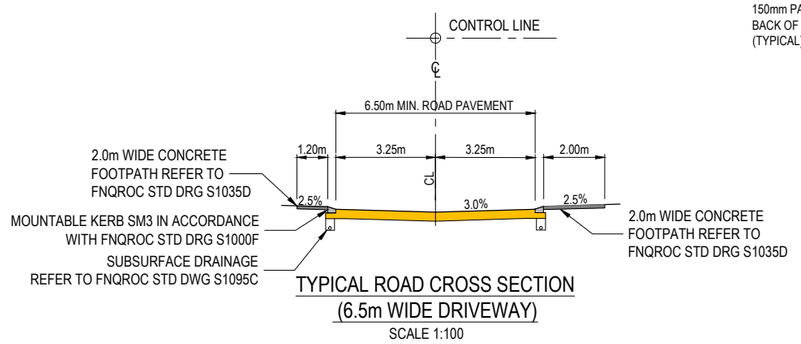
TYPICAL SECTION
BARRIER KERB TYPE B2
IN ACCORDANCE WITH FNQROC STD DRG S1000F
SCALE 1:10



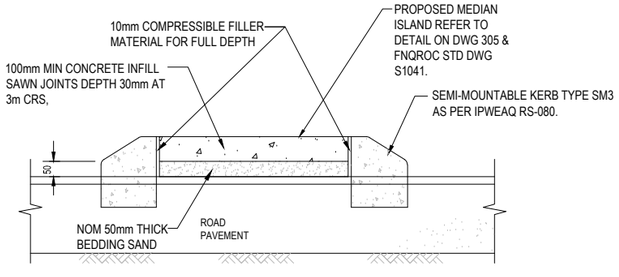
TYPICAL SECTION
CONNECTION TO EXISTING PAVEMENT
SCALE N.T.S.



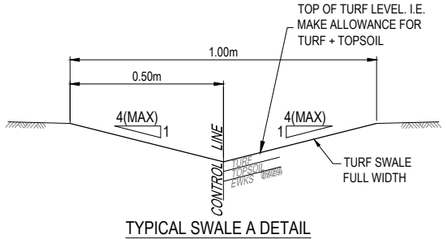
TYPICAL ROAD CROSS SECTION
(5.5m WIDE DRIVEWAY)
SCALE 1:100



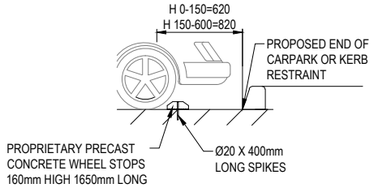
TYPICAL ROAD CROSS SECTION
(6.5m WIDE DRIVEWAY)
SCALE 1:100



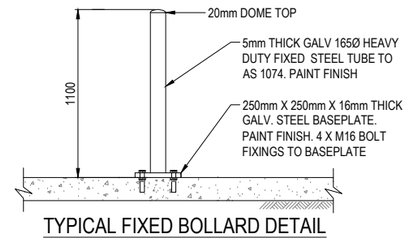
ISLAND DETAIL
NOT TO SCALE



TYPICAL SWALE A DETAIL
SCALE 1:20



WHEEL STOP DETAIL
SCALE N.T.S.



TYPICAL FIXED BOLLARD DETAIL
SCALE 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 10 100 0 100 200 300 400 500mm A1
1 : 20 A3
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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CLIENT:
COOLOOLA WATERS
HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW ONSULTING PTY LTD ABN 77461010305

STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

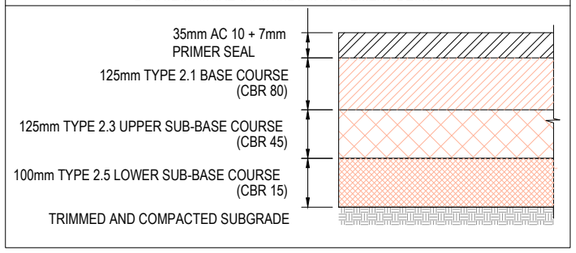
PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
TYPICAL SECTIONS

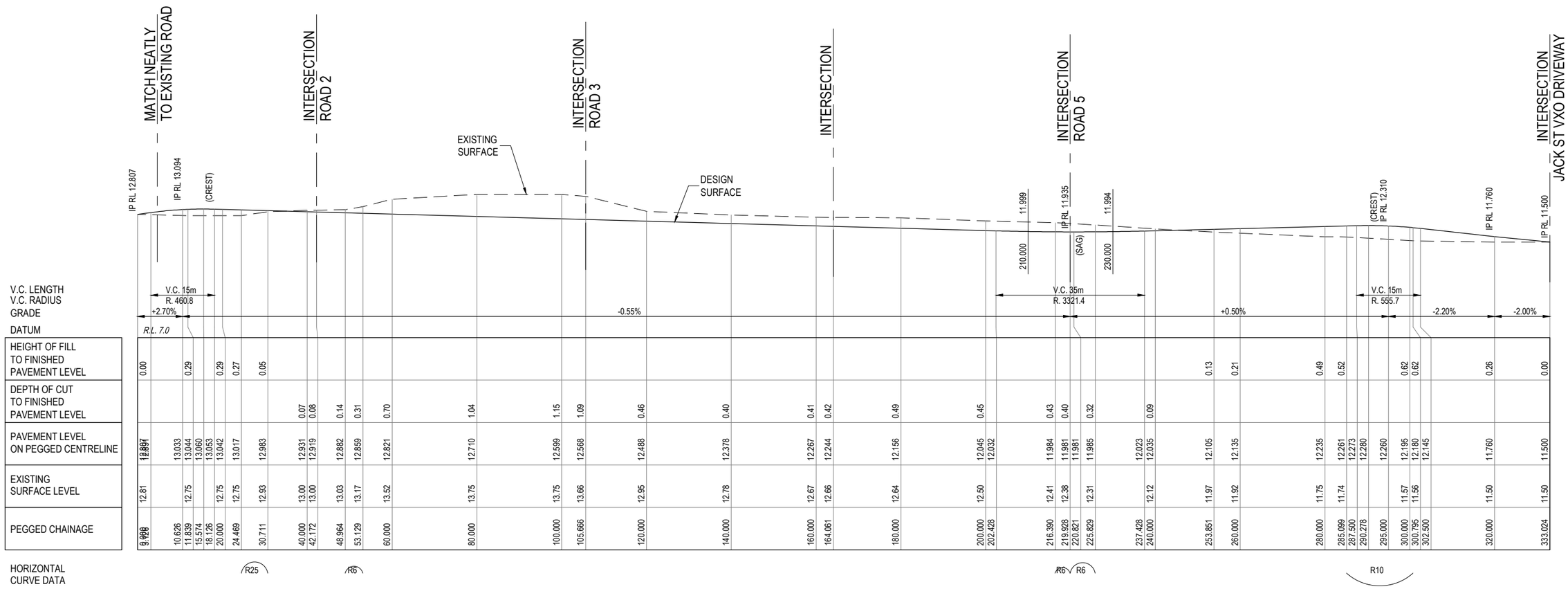
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	305-	A

PAVEMENT DESIGN - ASSUMED CBR 3

DOUGLAS SHIRE COUNCIL PSP PAVEMENT DESIGN



NOTE: ADDITIONAL SUBGRADE STABILISATION TREATMENT MAY BE REQUIRED FOR SUBGRADE IN CLAY LAYERS SUBJECT TO ENGINEERS INSPECTION



ROAD1 LONGITUDINAL SECTION

HORIZ SCALE 1:500 VERT SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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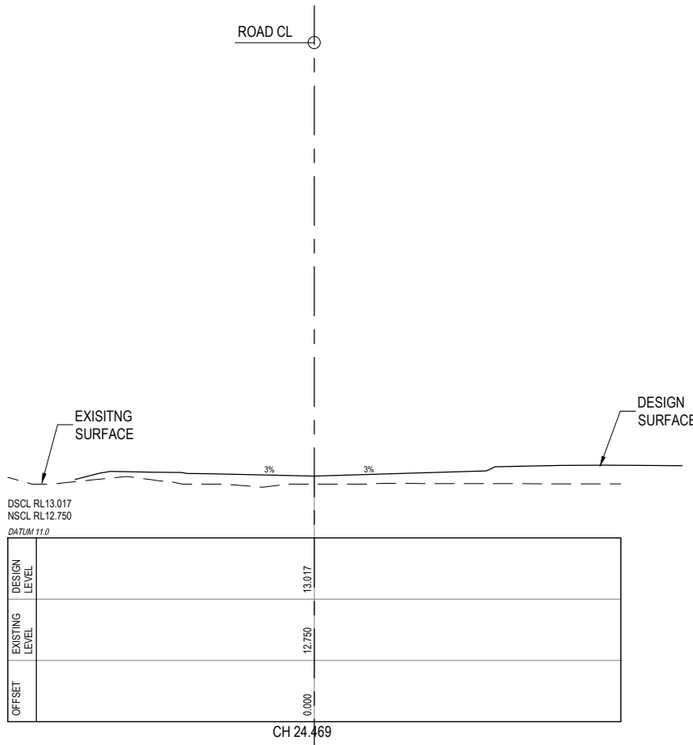
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 07619 KEL HOWARD

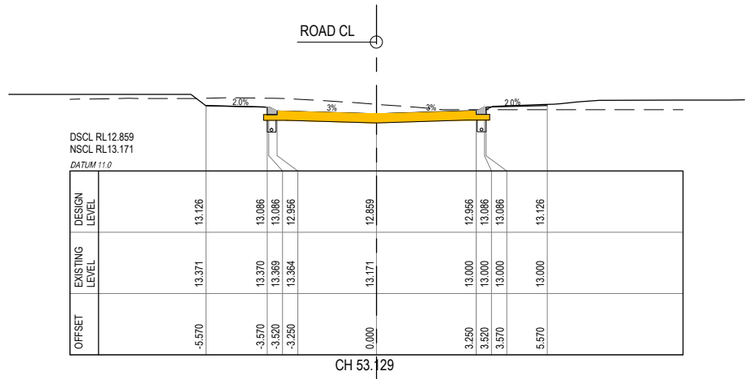
RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

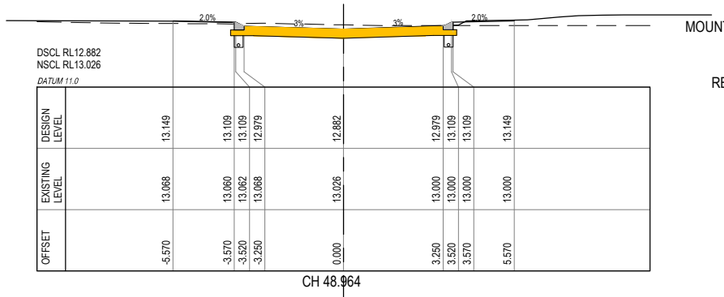
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

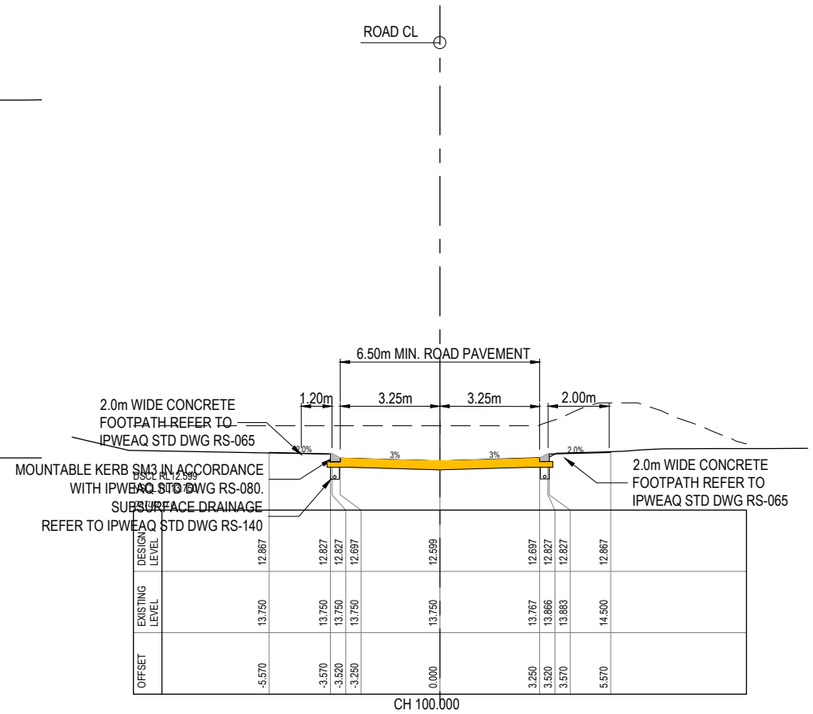
TITLE
ROAD 1 LONGITUDINAL SECTION

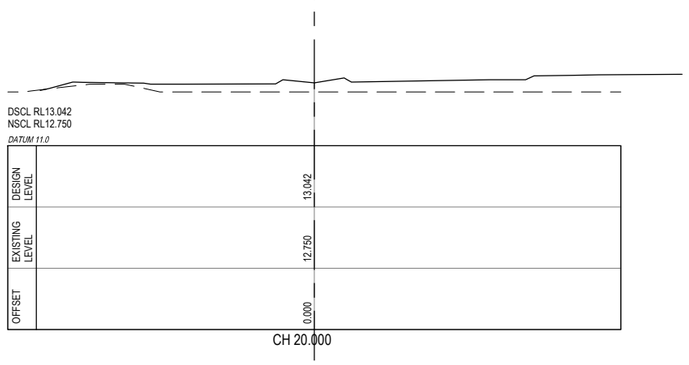
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	310-	A

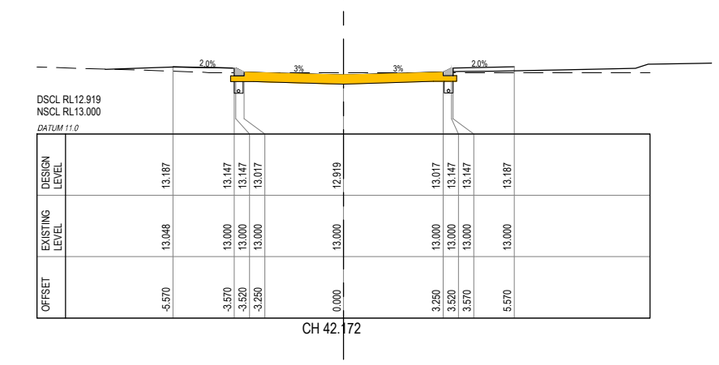


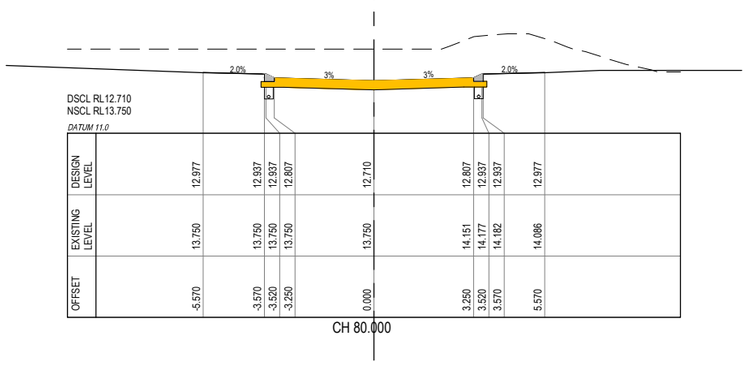


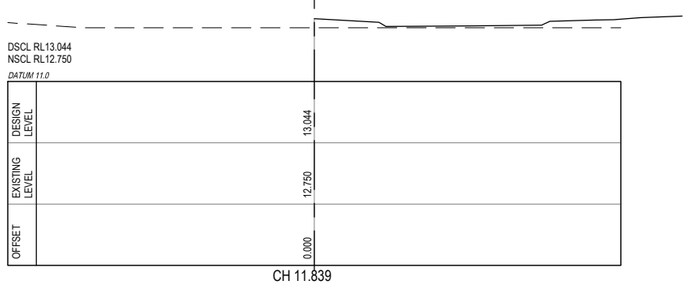


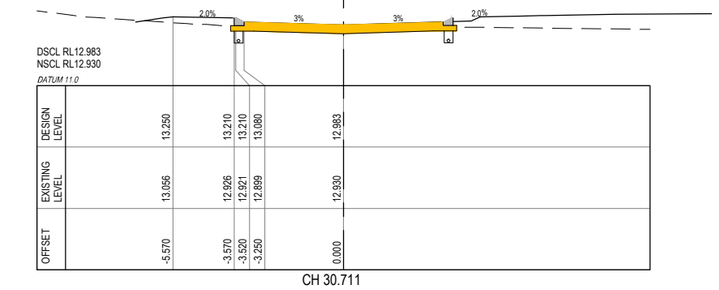


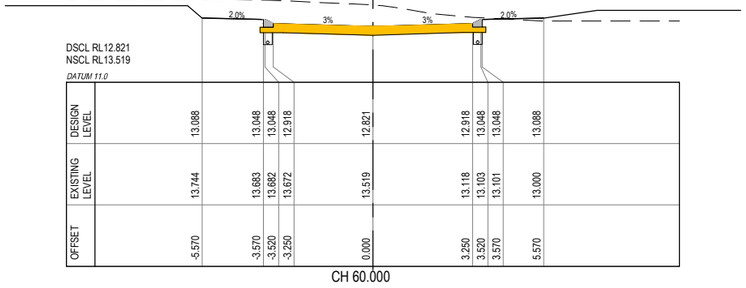












ROAD 1 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:

1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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ABN 77481010305

STATUS: ISSUE FOR APPROVAL

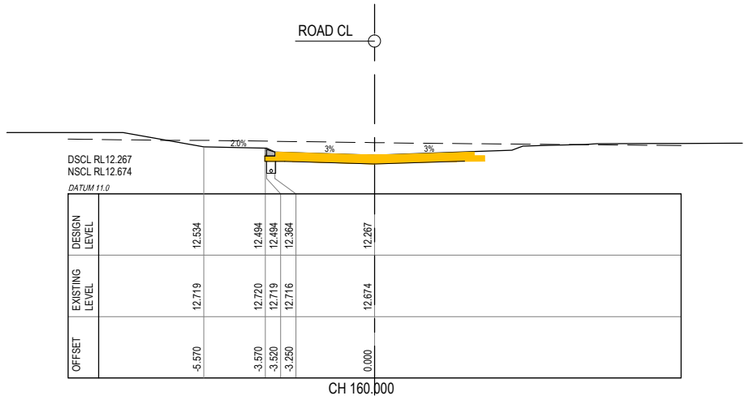
CERTIFIED: RPEQ 07619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
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		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
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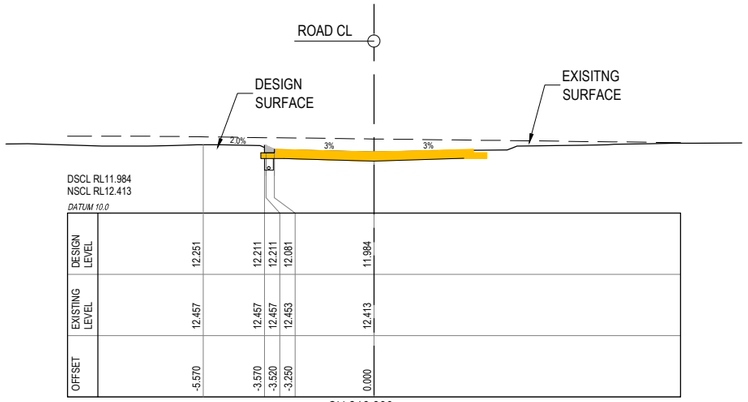
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD 1 CROSS SECTIONS
SHEET 1 OF 2

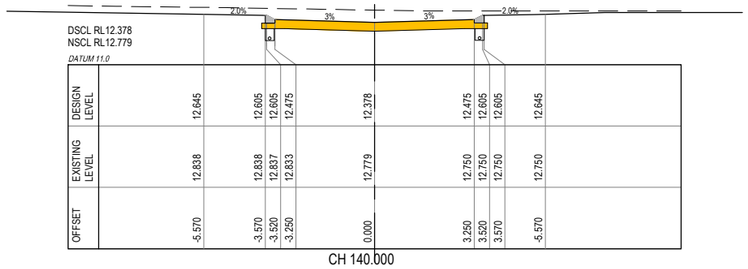
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	311-	A



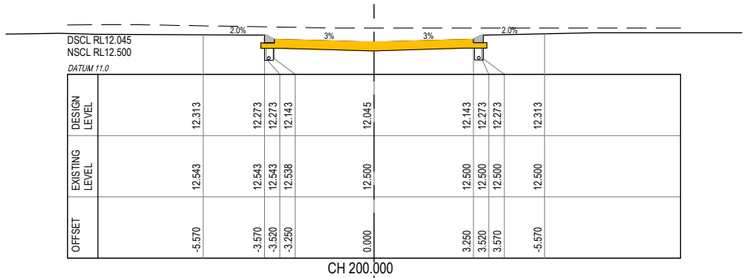
CH 160.000



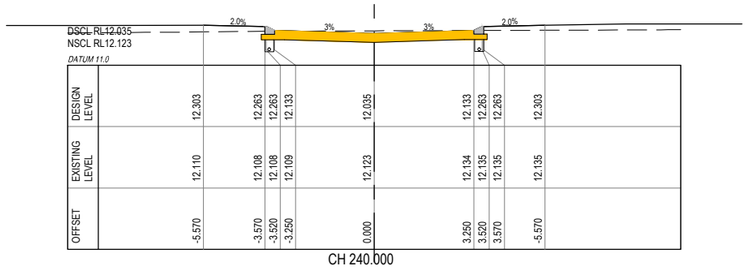
CH 216.390



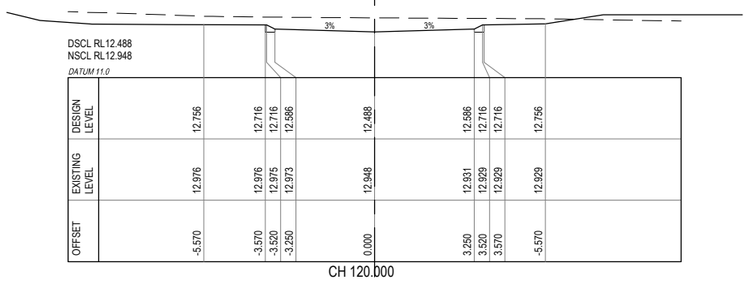
CH 140.000



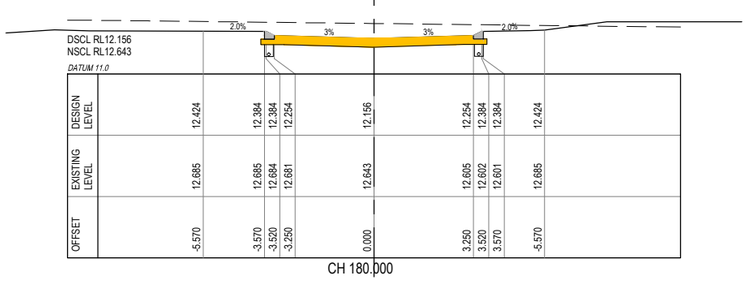
CH 200.000



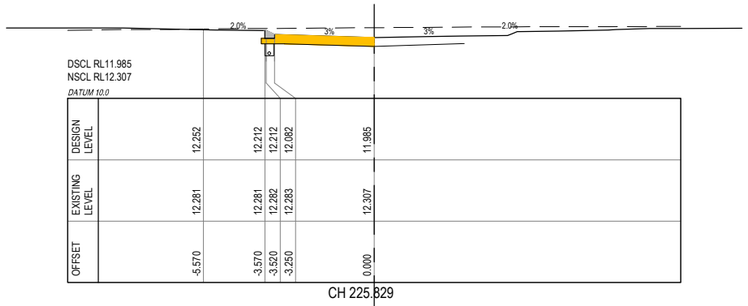
CH 240.000



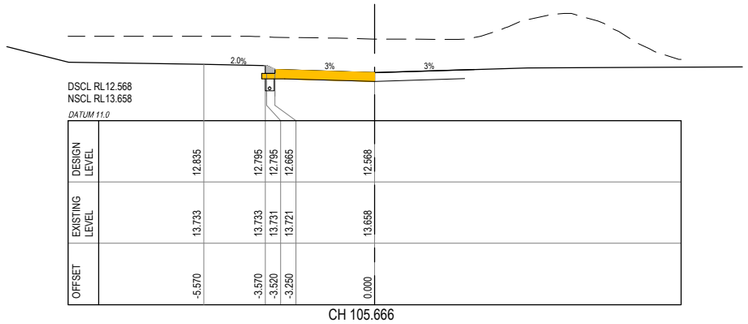
CH 120.000



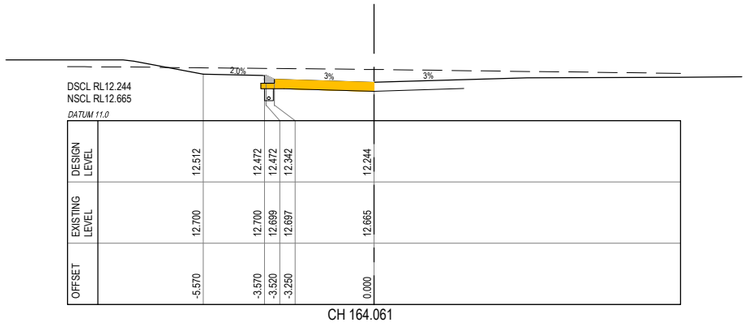
CH 180.000



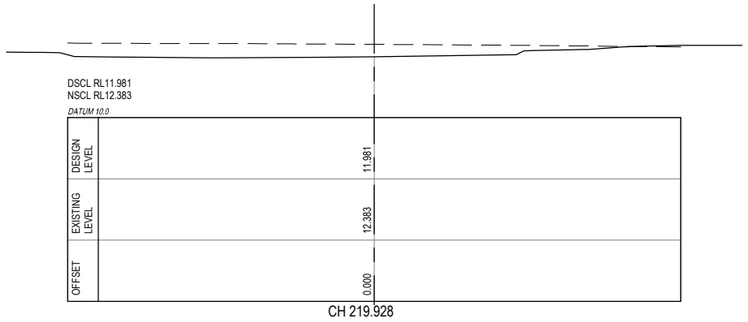
CH 225.829



CH 105.666



CH 164.061



CH 219.928

ROAD 1 CROSS SECTION
SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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C-VIEW CONSULTING PTY LTD
ABN 77461010305

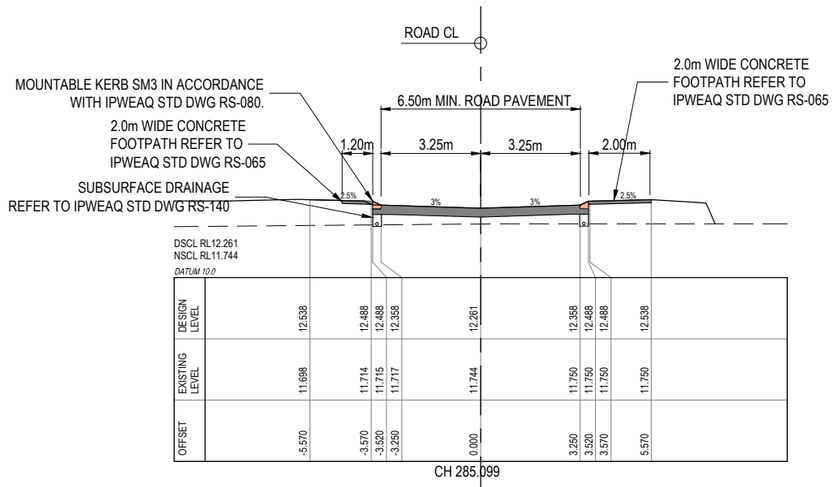
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 7619 KEL HOWARD

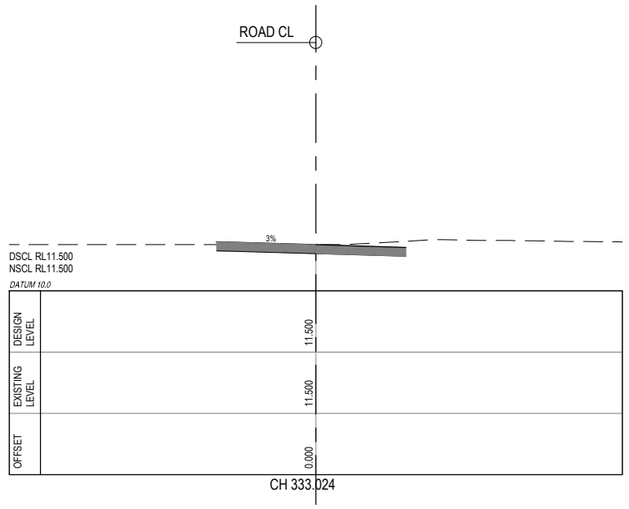
RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
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ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

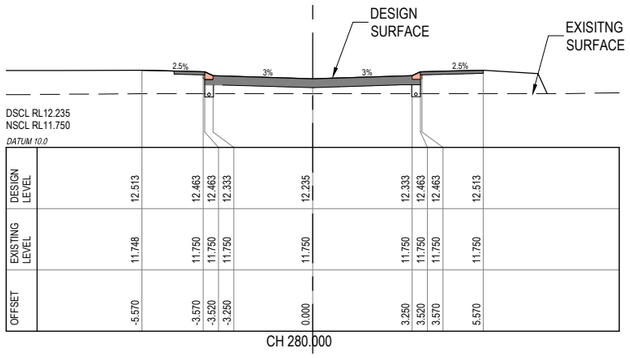
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

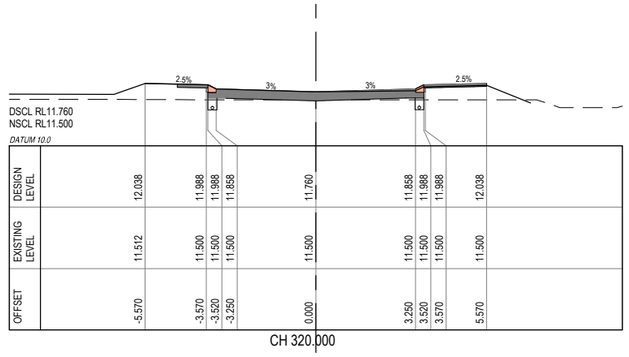
TITLE
ROAD 1 CROSS SECTIONS
SHEET 2 OF 3

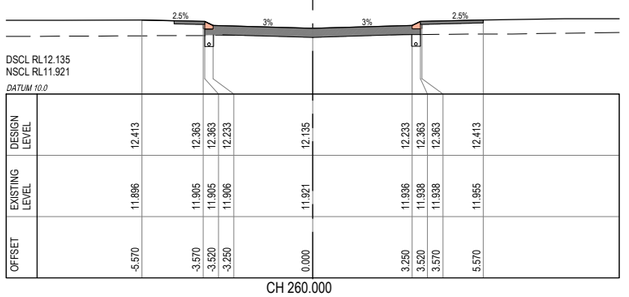
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	312-	A

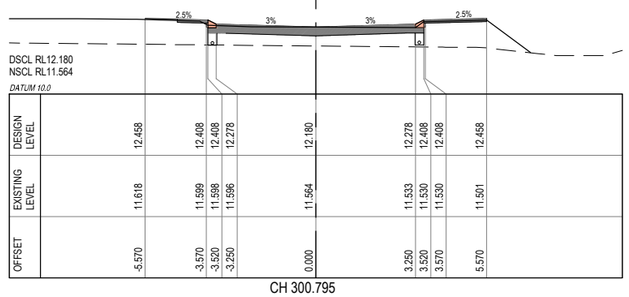












ROAD 1 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:

1 : 100
1 : 200
1 0 1 2 3 4 5m
A1
A3

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STATUS:
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KEL HOWARD
RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
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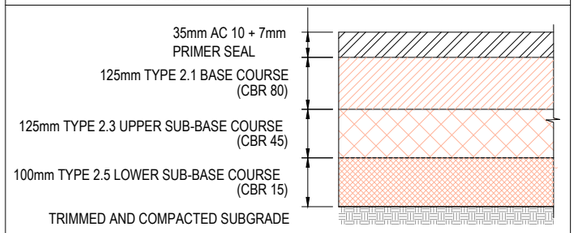
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD 1 CROSS SECTIONS
SHEET 3 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	313-	A

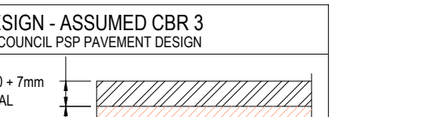
PAVEMENT DESIGN - ASSUMED CBR 3

DOUGLAS SHIRE COUNCIL PSP PAVEMENT DESIGN



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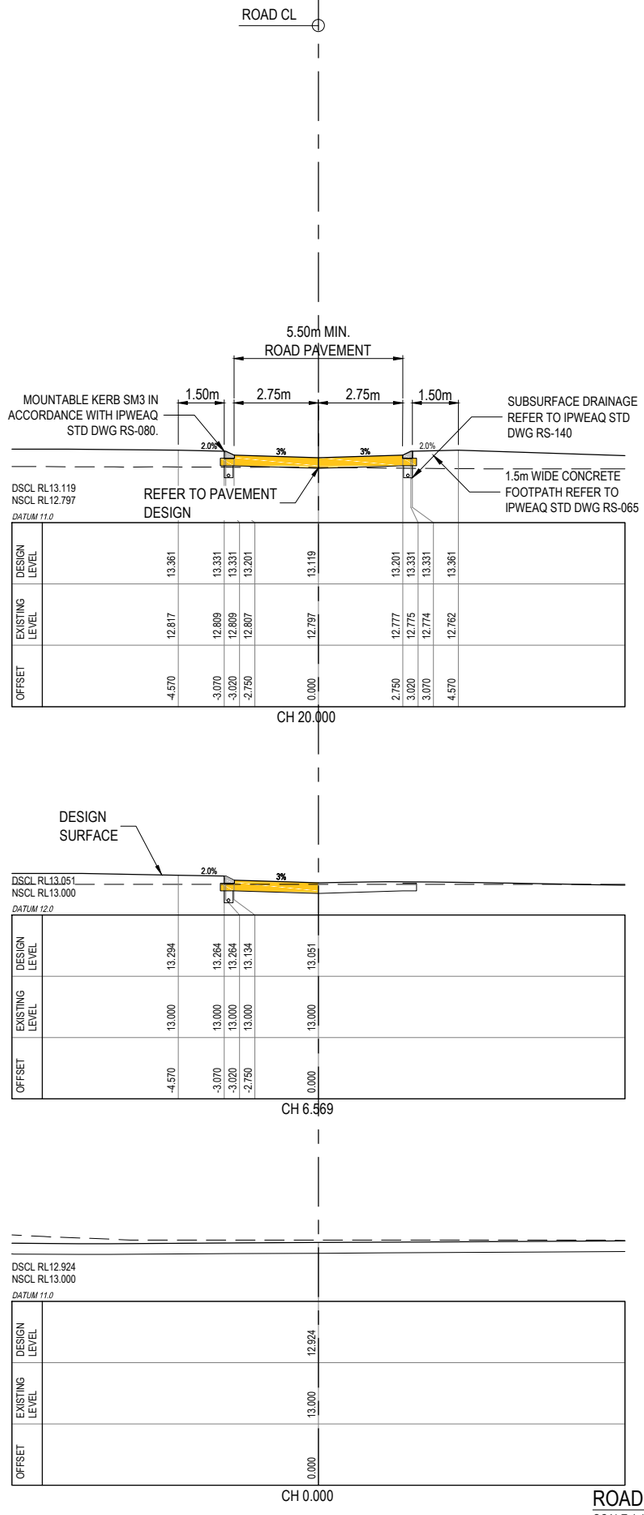
INTERSECTION ROAD 1

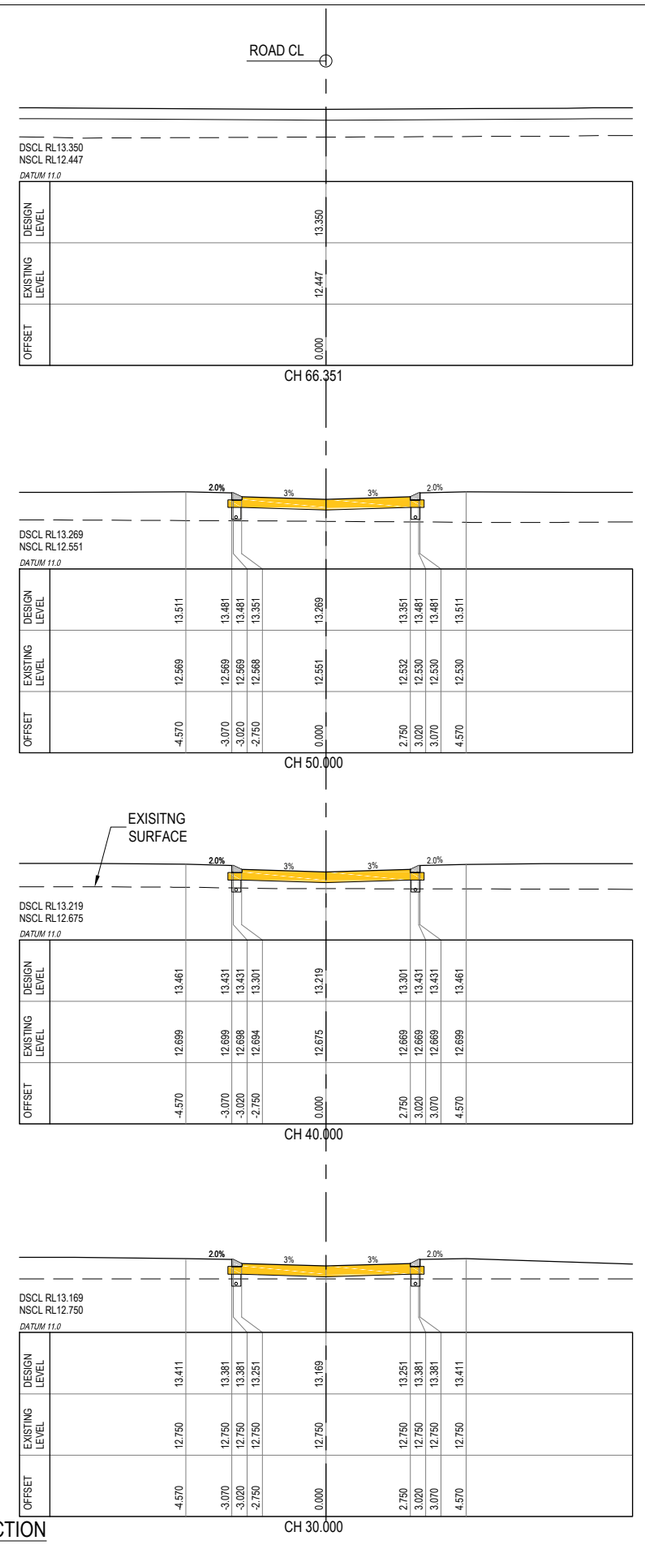


V.C. LENGTH										
V.C. RADIUS										
GRADE										
DATUM	R.L. 8.0									
HEIGHT OF FILL TO FINISHED PAVEMENT LEVEL	0.04	0.05	0.07	0.32	0.42	0.54	0.72	0.82	0.90	
DEPTH OF CUT TO FINISHED PAVEMENT LEVEL	0.08									
PAVEMENT LEVEL ON PEGGED CENTRELINE	12.924	13.037	13.051	13.069	13.119	13.169	13.219	13.269	13.319	13.350
EXISTING SURFACE LEVEL	13.00	13.00	13.00	13.00	12.80	12.75	12.68	12.55	12.50	12.45
PEGGED CHAINAGE	0.000	1.783	6.569	10.000	20.000	30.000	40.000	50.000	60.000	66.351
HORIZONTAL CURVE DATA		R4								

ROAD 2 - LONGITUDINAL SECTION

SCALE 1:500H/1:100V





ROAD 2 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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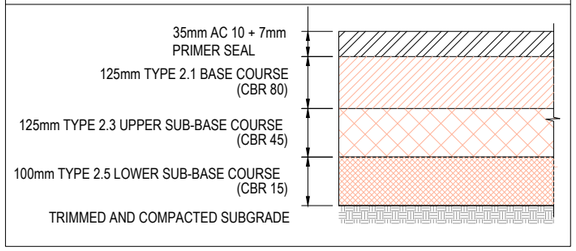
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD 2 LONGITUDINAL & CROSS SECTIONS

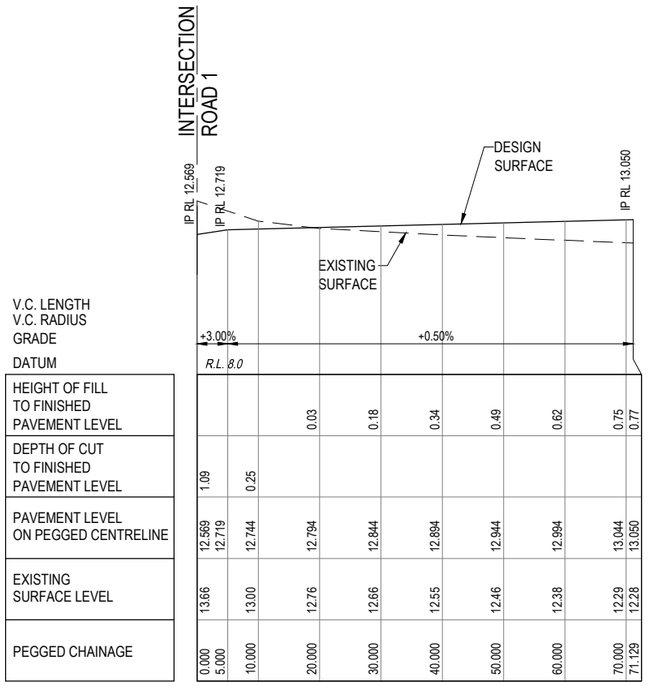
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	314-	A

PAVEMENT DESIGN - ASSUMED CBR 3

DOUGLAS SHIRE COUNCIL PSP PAVEMENT DESIGN

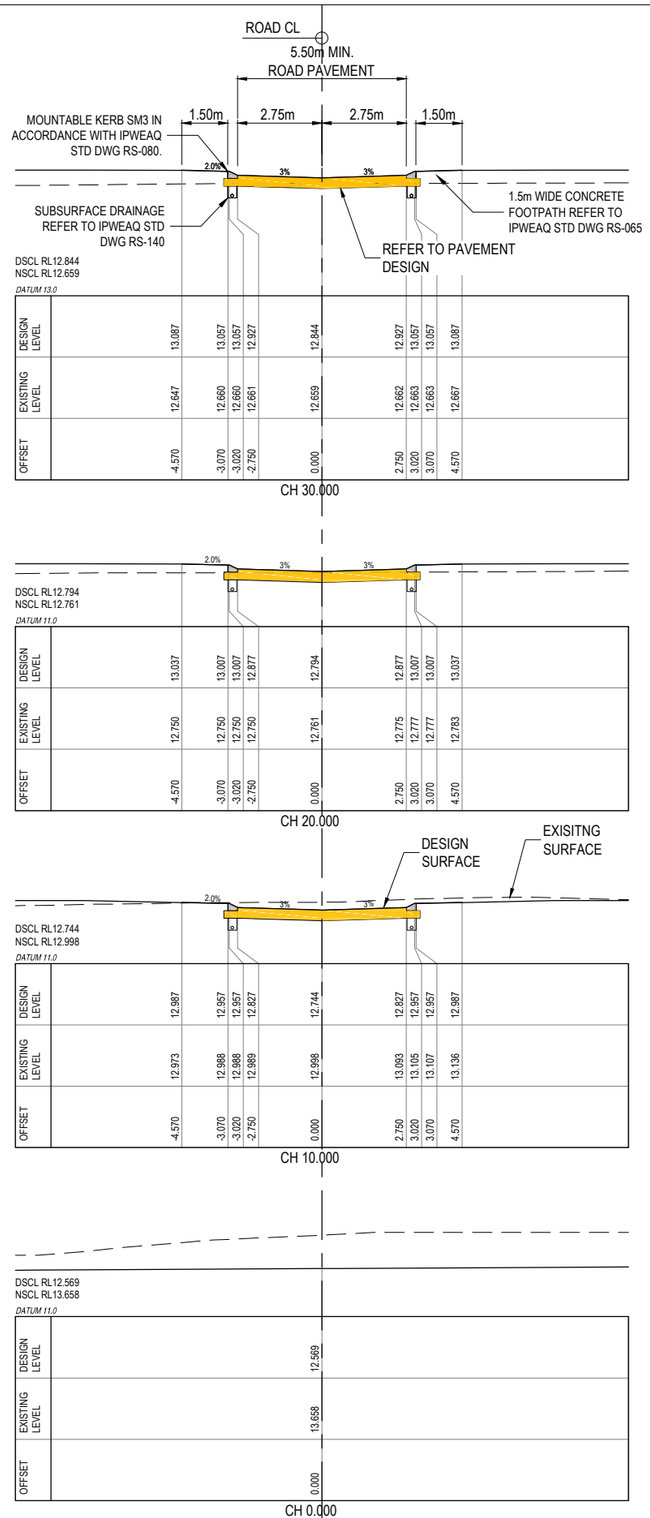


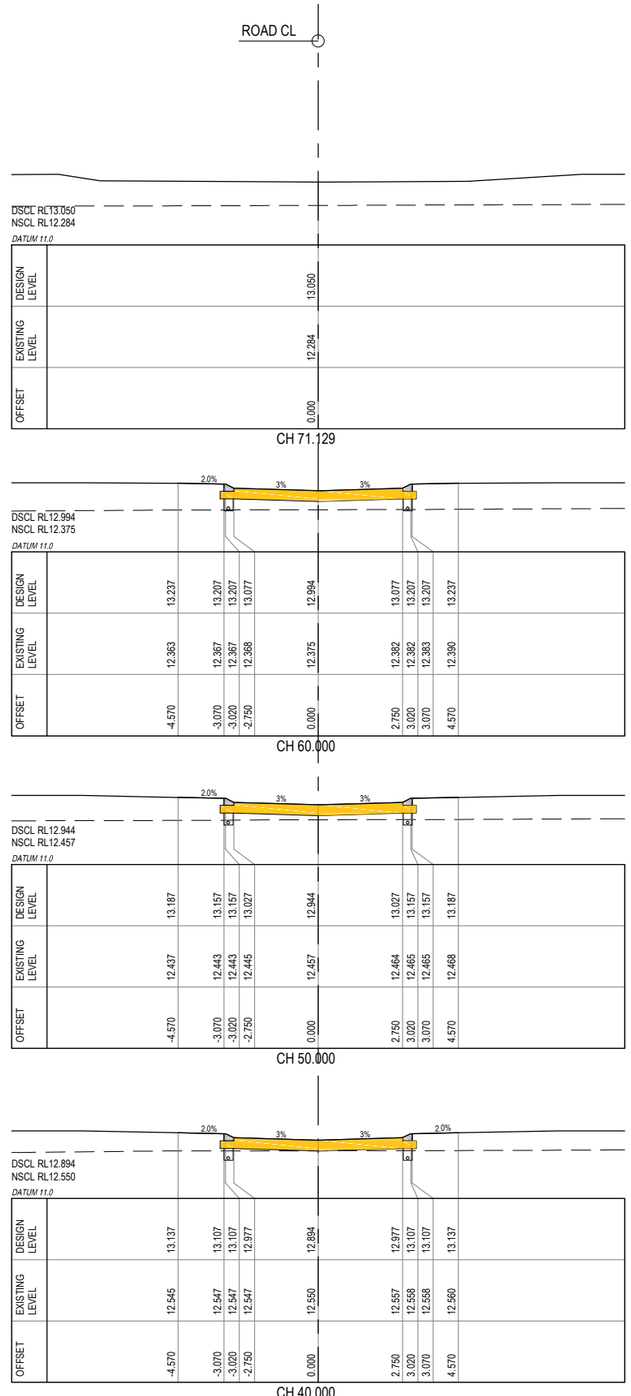
NOTE: ADDITIONAL SUBGRADE STABILISATION TREATMENT MAY BE REQUIRED FOR SUBGRADE IN CLAY LAYERS SUBJECT TO ENGINEERS INSPECTION



ROAD 3 - LONGITUDINAL SECTION

SCALE 1:500H/1:100V





ROAD 3 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW ONSULTING PTY LTD ABN 77461010305

STATUS: ISSUE FOR APPROVAL

CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

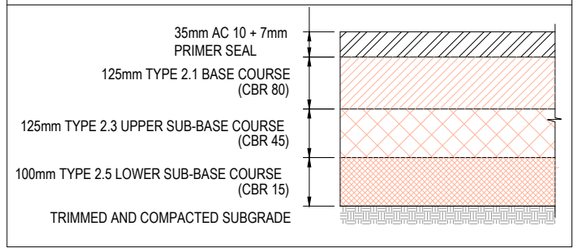
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD 3 LONGITUDINAL & CROSS SECTIONS

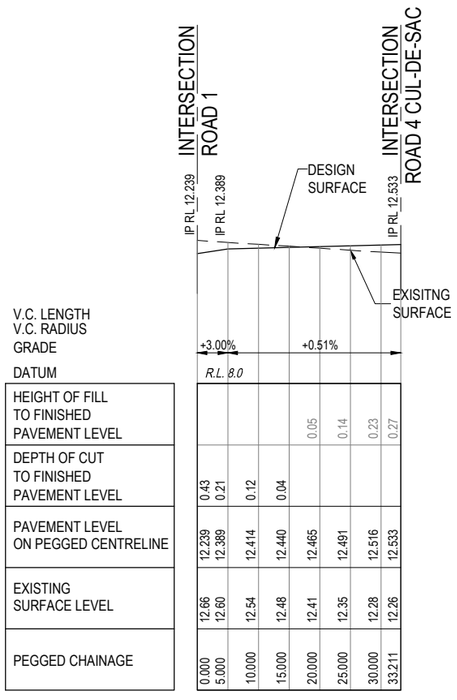
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	315-	A

PAVEMENT DESIGN - ASSUMED CBR 3

DOUGLAS SHIRE COUNCIL PSP PAVEMENT DESIGN

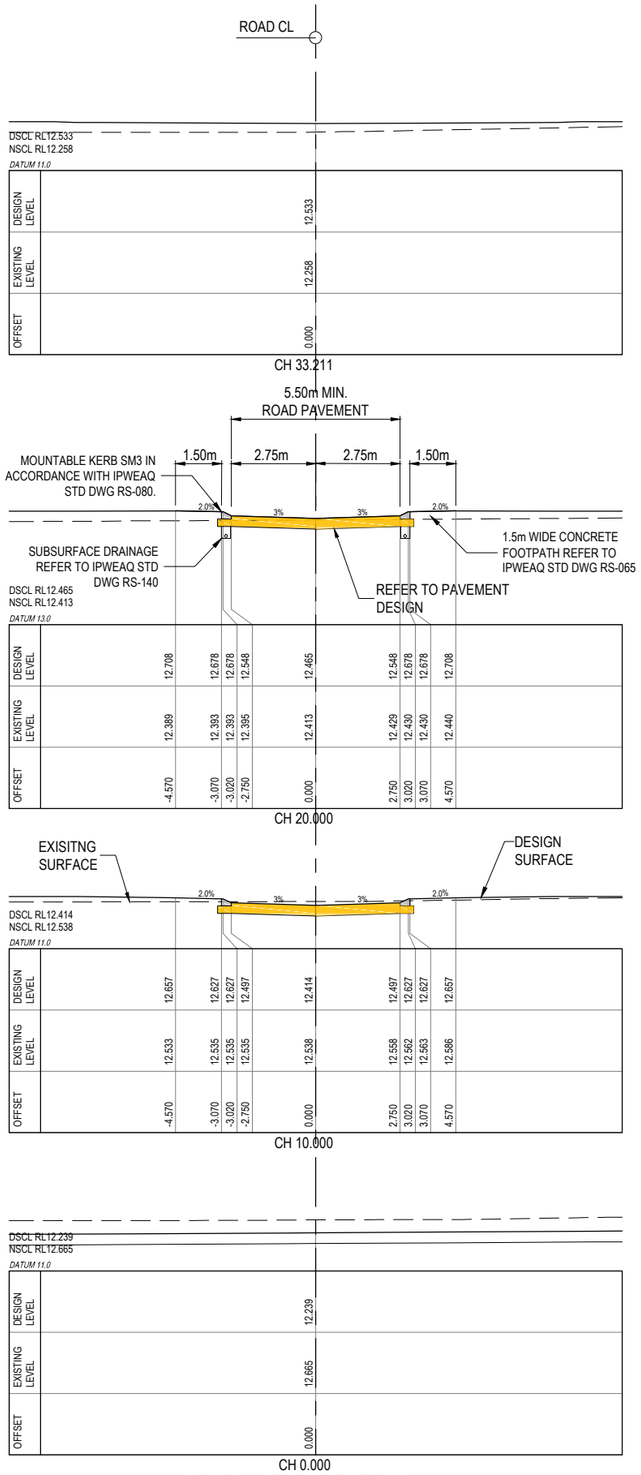


NOTE: ADDITIONAL SUBGRADE STABILISATION TREATMENT MAY BE REQUIRED FOR SUBGRADE IN CLAY LAYERS SUBJECT TO ENGINEERS INSPECTION



ROAD 4 - LONGITUDINAL SECTION

SCALE 1:500H/1:100V



ROAD 4 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW ONSULTING PTY LTD
ABN 77461010305

STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

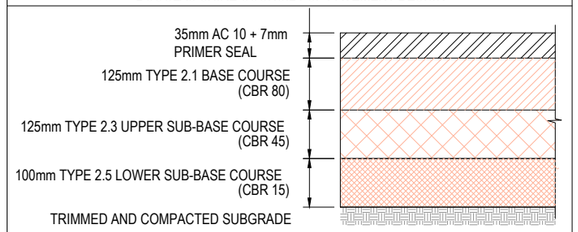
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
ROAD 4 LONGITUDINAL & CROSS SECTIONS

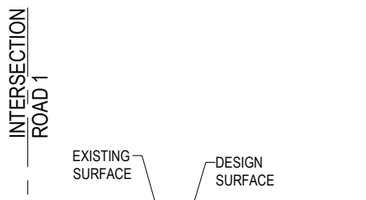
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	316-	A

PAVEMENT DESIGN - ASSUMED CBR 3

DOUGLAS SHIRE COUNCIL PSP PAVEMENT DESIGN



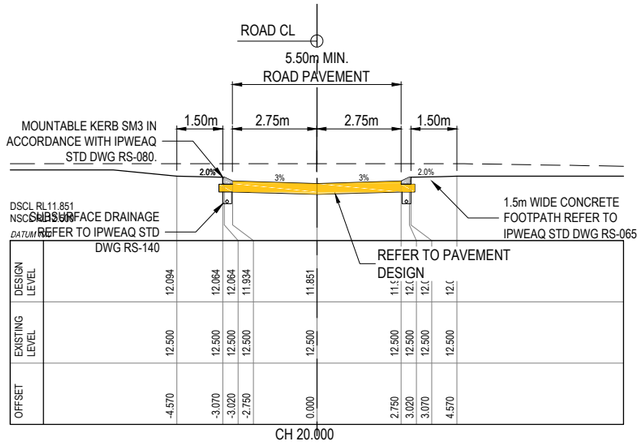
NOTE: ADDITIONAL SUBGRADE STABILISATION TREATMENT MAY BE REQUIRED FOR SUBGRADE IN CLAY LAYERS SUBJECT TO ENGINEERS INSPECTION



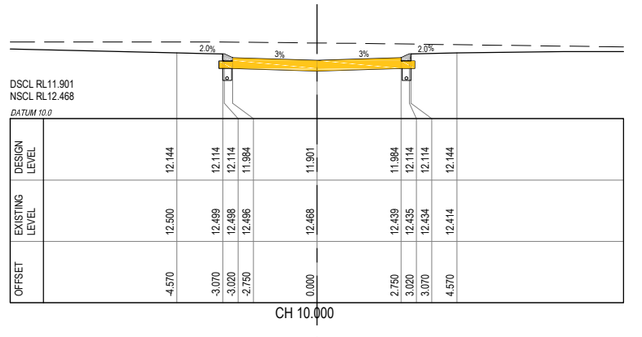
V.C. LENGTH									
V.C. RADIUS									
GRADE									
DATUM									
HEIGHT OF FILL TO FINISHED PAVEMENT LEVEL	0.41	0.43	0.50	0.54	0.62	0.67	0.72	0.58	0.37
DEPTH OF CUT TO FINISHED PAVEMENT LEVEL									
PAVEMENT LEVEL ON PEGGED CENTRELINE	11.976	11.967	11.938	11.926	11.876	11.826	11.776	11.726	11.704
EXISTING SURFACE LEVEL	12.38	12.39	12.44	12.47	12.50	12.50	12.50	12.30	12.07
PEGGED CHAINAGE	0.000	1.804	7.677	10.000	20.000	30.000	40.000	50.000	54.477
HORIZONTAL CURVE DATA			R10						

ROAD 5 - LONGITUDINAL SECTION

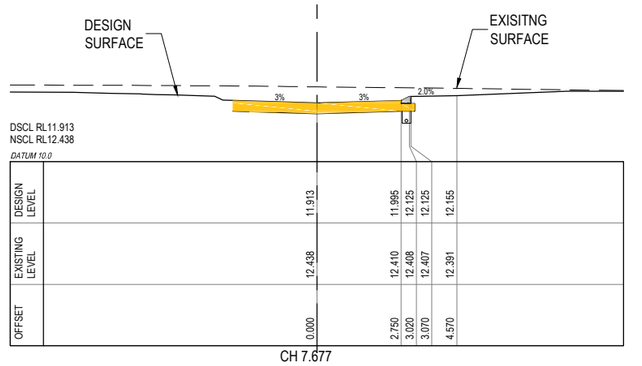
SCALE 1:500H/1:100V



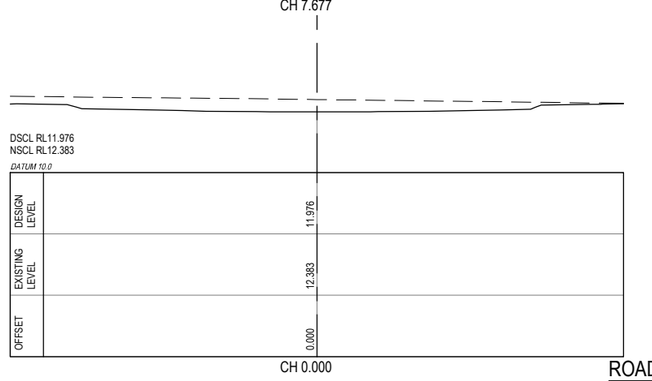
CH 20.000



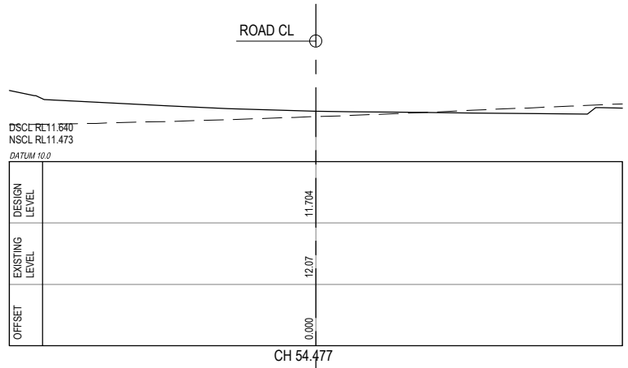
CH 10.000



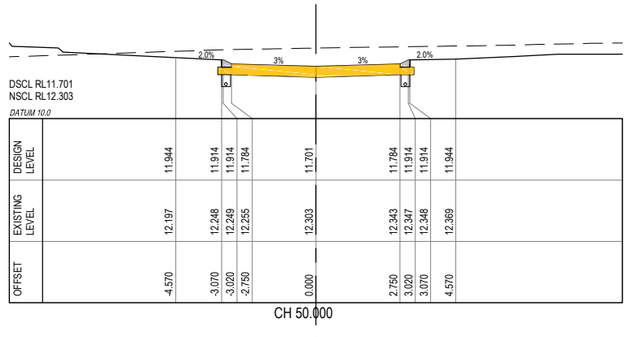
CH 7.677



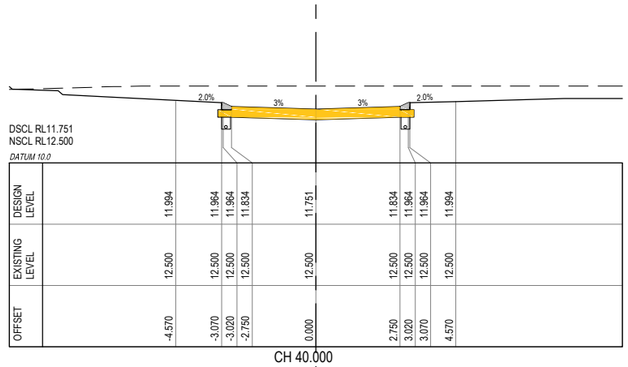
CH 0.000



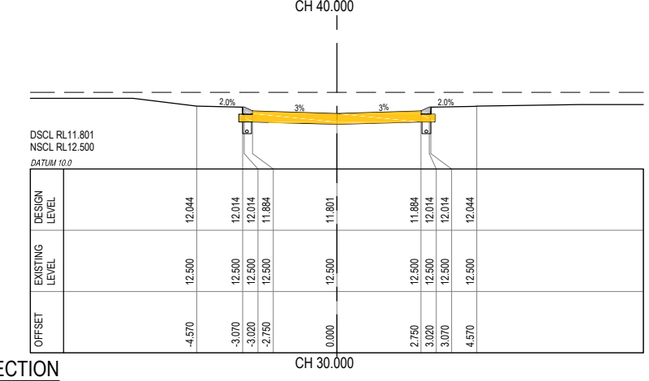
CH 54.477



CH 50.000



CH 40.000



CH 30.000

ROAD 5 CROSS SECTION

SCALE 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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C-VIEW CONSULTING PTY LTD
ABN 77461019305

STATUS: ISSUE FOR APPROVAL

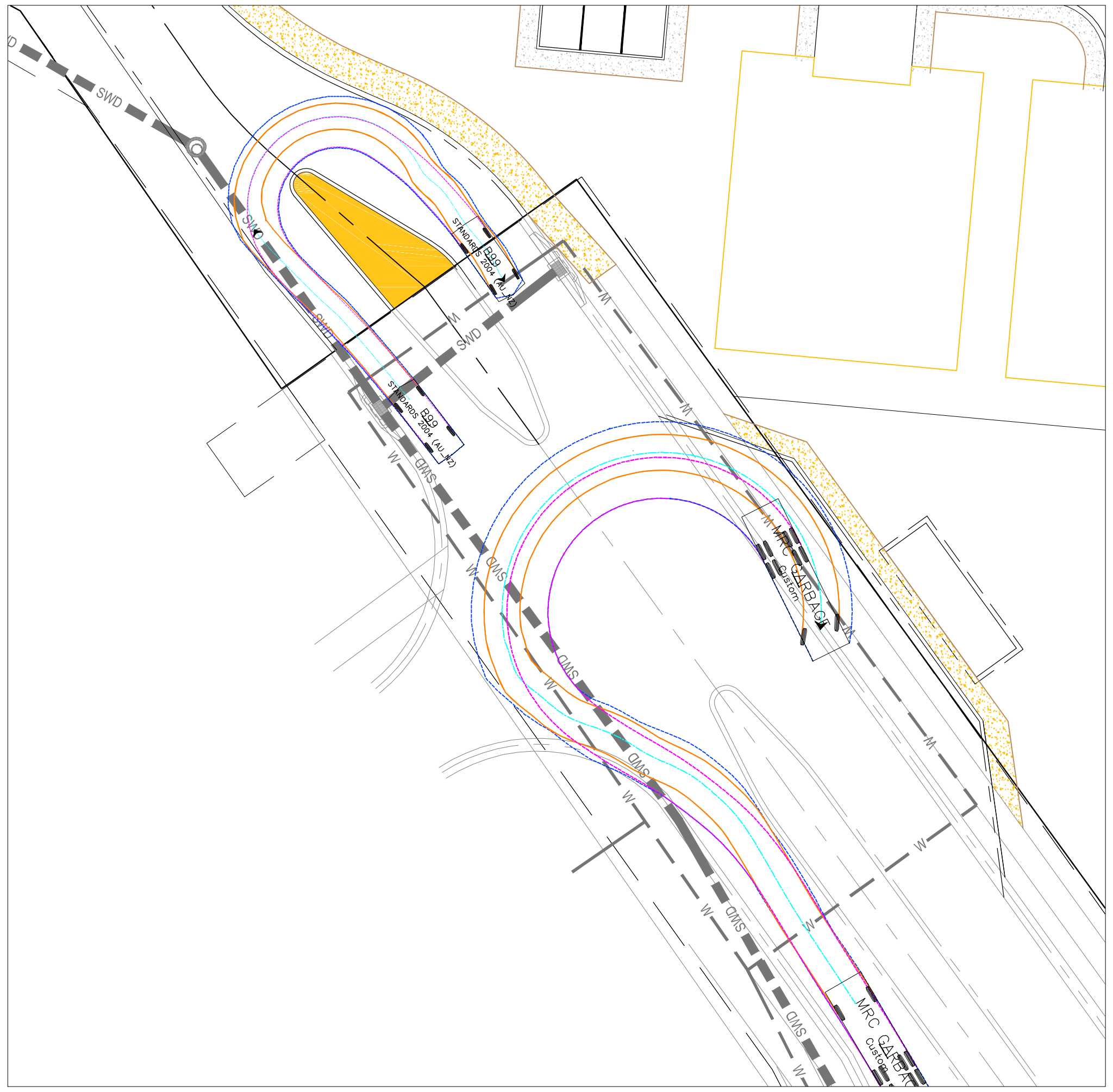
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

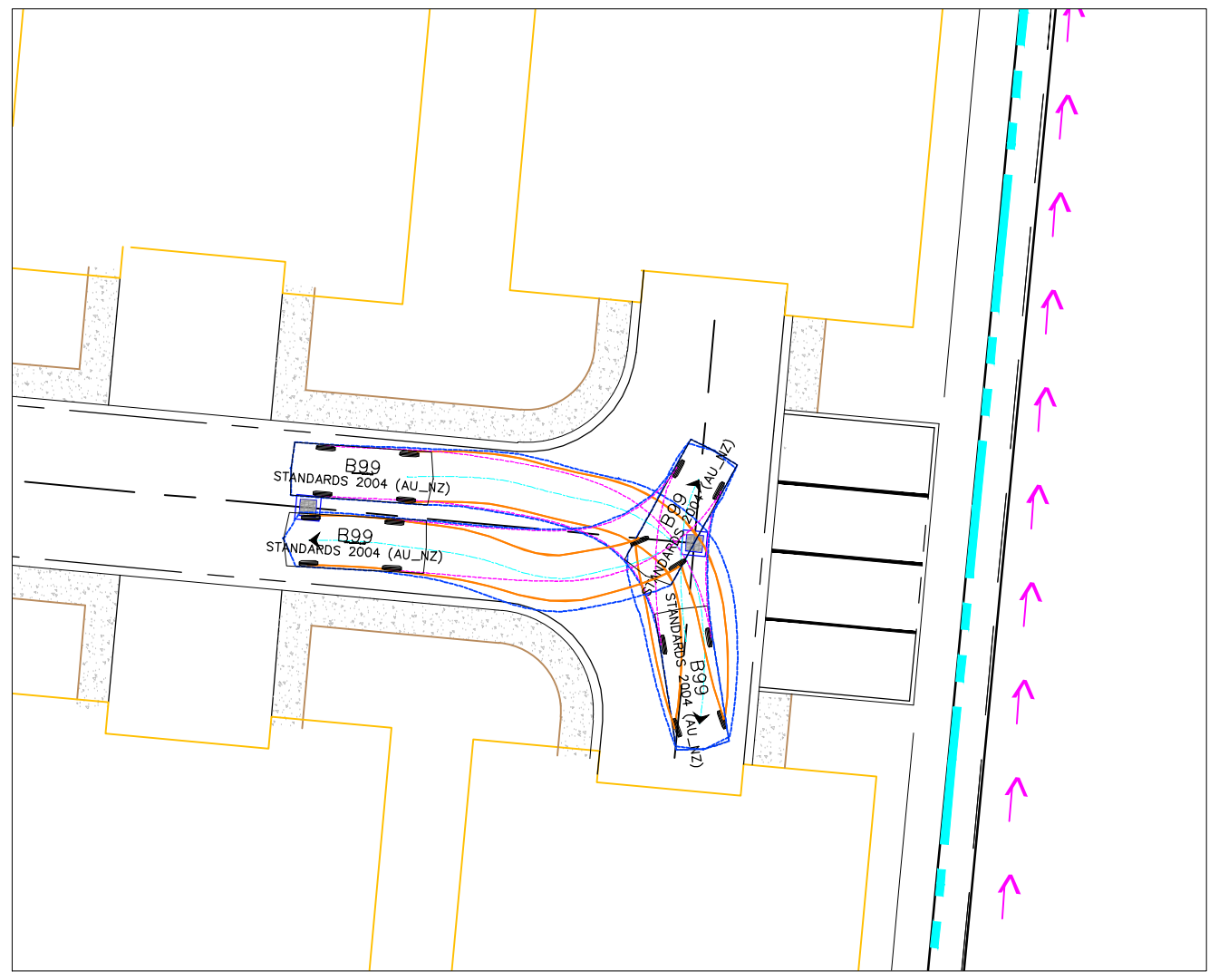
TITLE
ROAD 5 LONGITUDINAL SECTION

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	317-	A



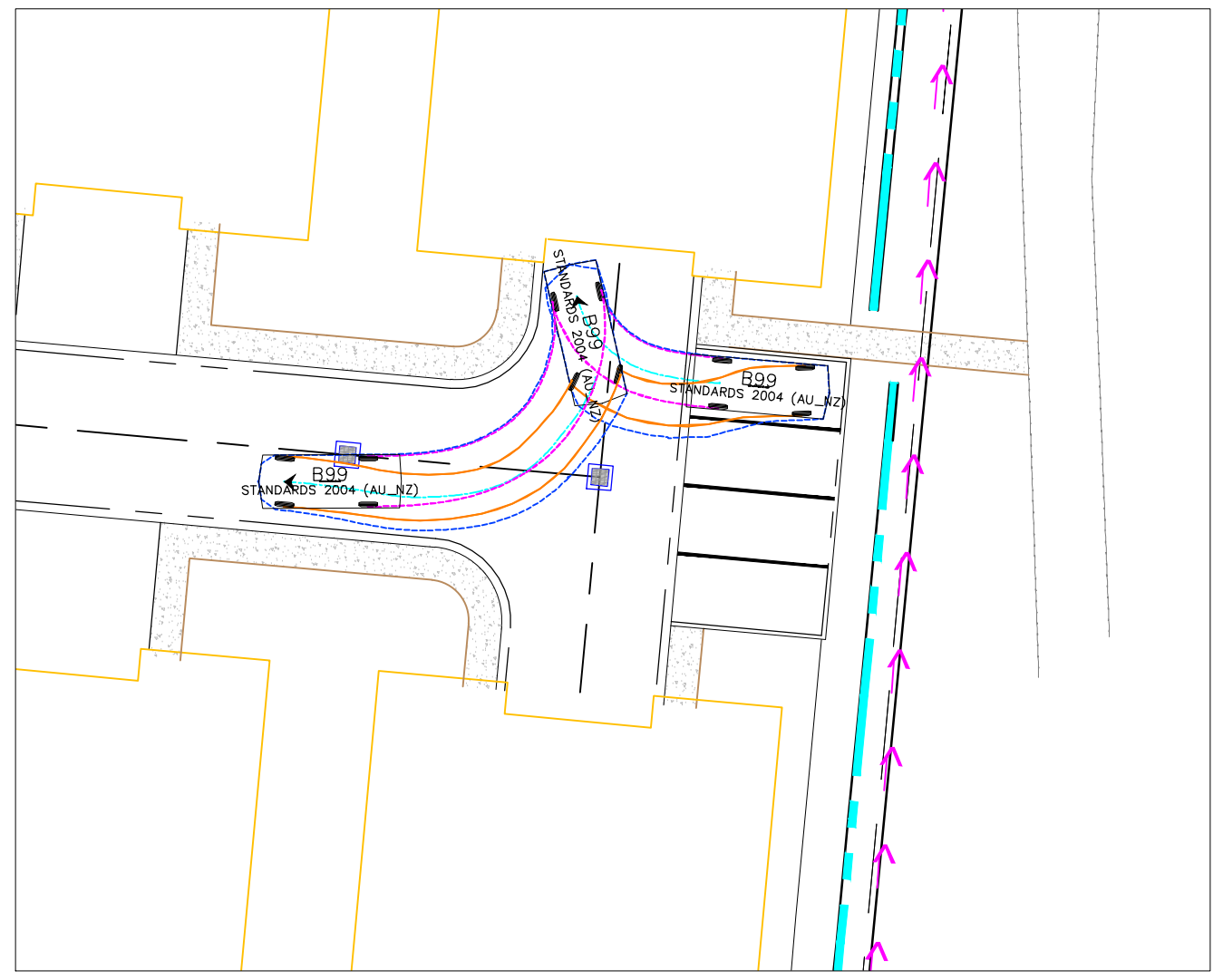
JOHNSTON RD ENTRY TURNPATH PLAN

SCALE 1:250



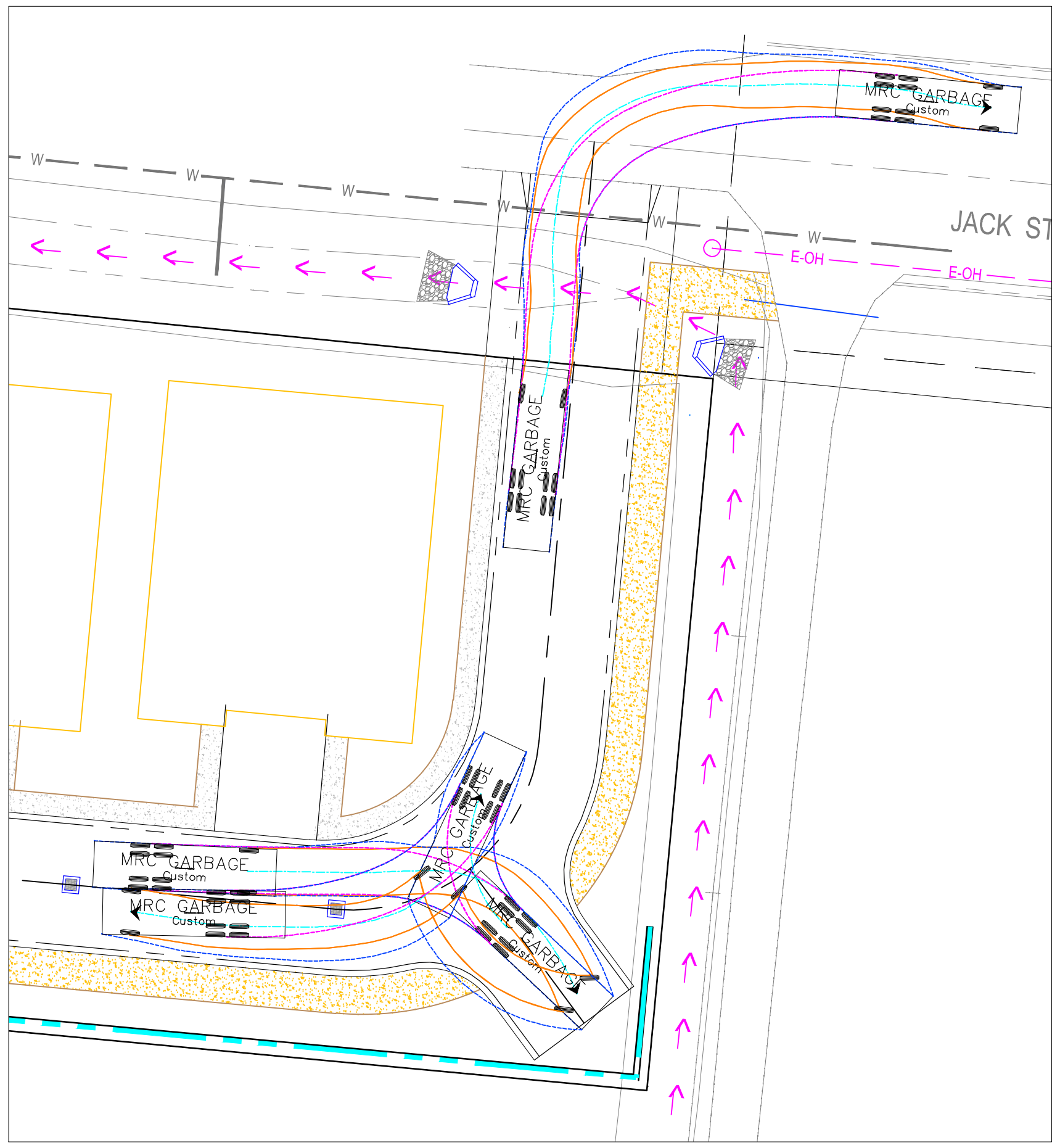
TYPICAL END OF ROAD TURNAROUND TURNPATH PLAN

SCALE 1:250



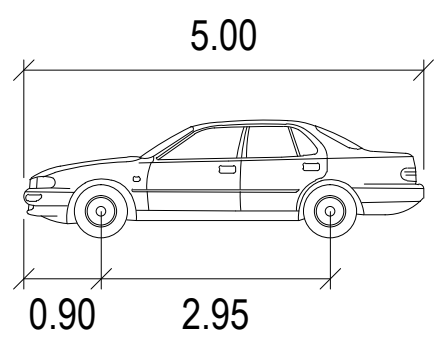
TYPICAL END OF ROAD CARPARK TURNPATH PLAN

SCALE 1:250



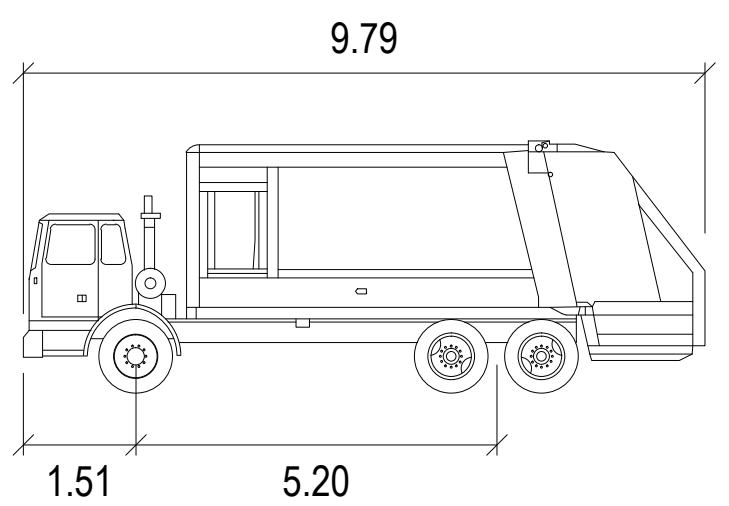
ROAD 1 END OF ROAD TURNPATH PLAN

SCALE 1:250



CAR

	meters
Width	: 1.90
Track	: 1.55
Lock to Lock Time	: 6.0
Steering Angle	: 24.0



mrc 035 garbage truck

	meters
Width	: 2.49
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 32.7

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 A1
1 : 500 A3
5 0 5 10m

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C-VIEW CONSULTING PTY LTD

STATUS:
ISSUE FOR APPROVAL

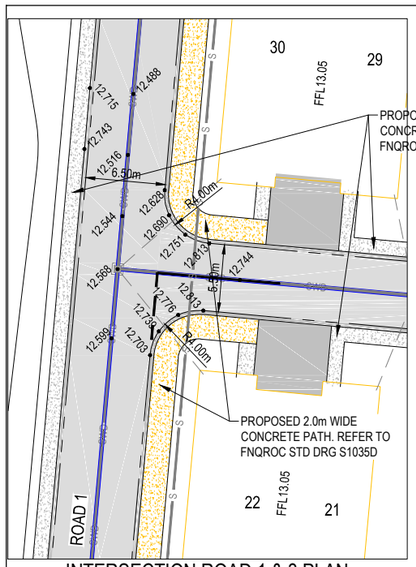
CERTIFIED:
KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

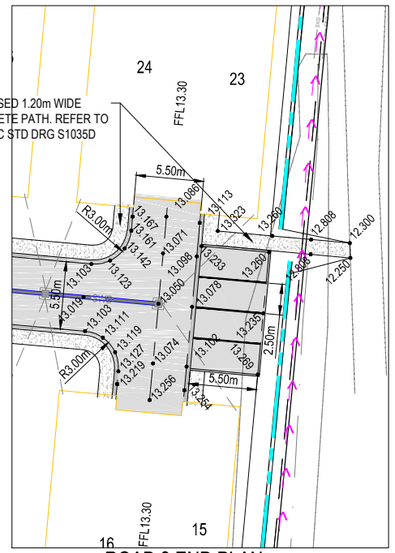
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
VEHICLE TURNPATHS LAYOUT PLAN

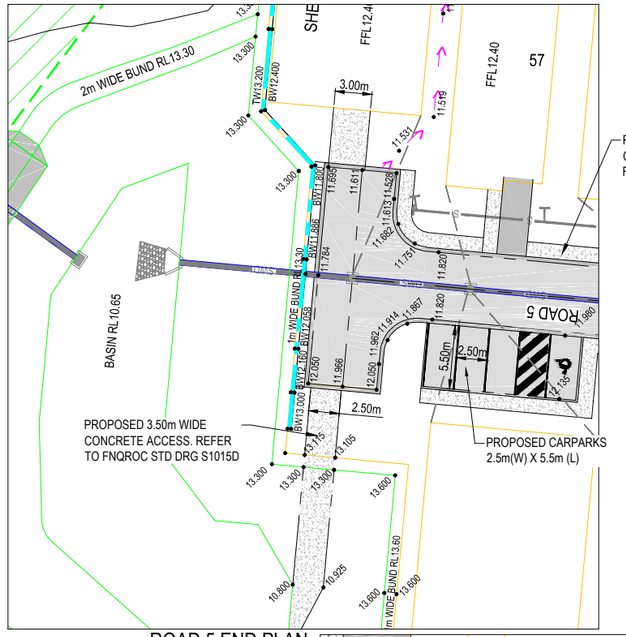
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	360-	A



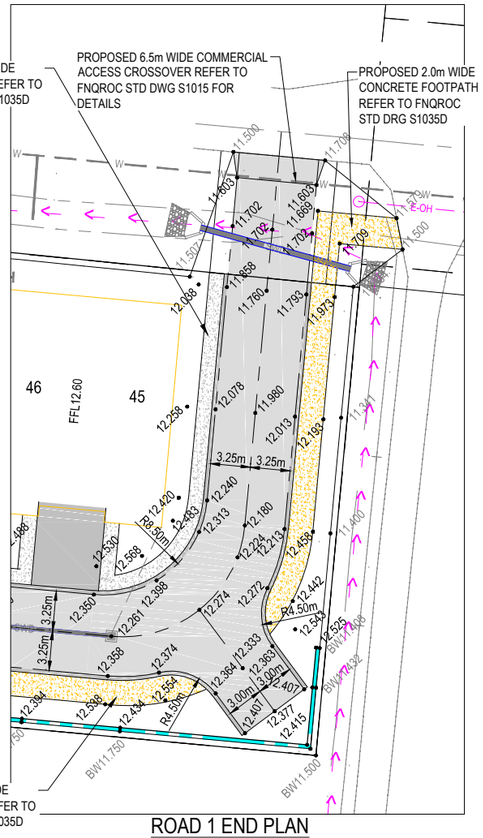
INTERSECTION ROAD 1 & 3 PLAN
SCALE 1:250



ROAD 3 END PLAN
SCALE 1:250



ROAD 5 END PLAN
SCALE 1:250



ROAD 1 END PLAN
SCALE 1:250

LEGEND

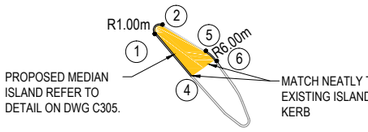
- PROPOSED SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.20m WIDE CONCRETE FOOTPATH
- PROPOSED 2.00m WIDE CONCRETE FOOTPATH
- PROPOSED ROAD CENTRELINE
- B1 — PROPOSED KERB ONLY (B1)
- SM3 — PROPOSED SEMI MOUNTABLE KERB (SM3)
- SWD — PROPOSED STORMWATER LINE
- PROPOSED STORMWATER GRATED INLET PIT LIP IN LINE. REFER ICC STD DRG SD.04. TYPICAL.
- PROPOSED STORMWATER MANHOLE
- 45.58 — LIP LEVEL
- R10.00 — CURVE RADIUS TO LIP
- 52 — PROPOSED SURFACE CONTOURS (0.25m INTERVALS)
- 3 — SETOUT POINT NUMBER

NOTES:

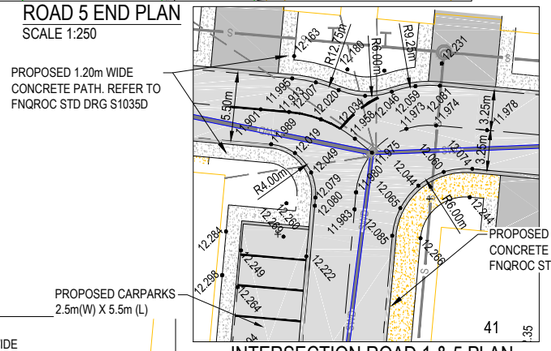
1. NOMINATED LEVELS ARE LIP LEVELS AND ARE EQUAL DISTANT.
2. ALL KERB RADII AND SETOUT ARE TO LIP OF KERB.
3. TRANSITIONS IN CHANNEL PROFILES SHALL OCCUR OVER 1m UNLESS NOTED OTHERWISE.

ISLAND AND REFUSE TURNBAY SETOUT

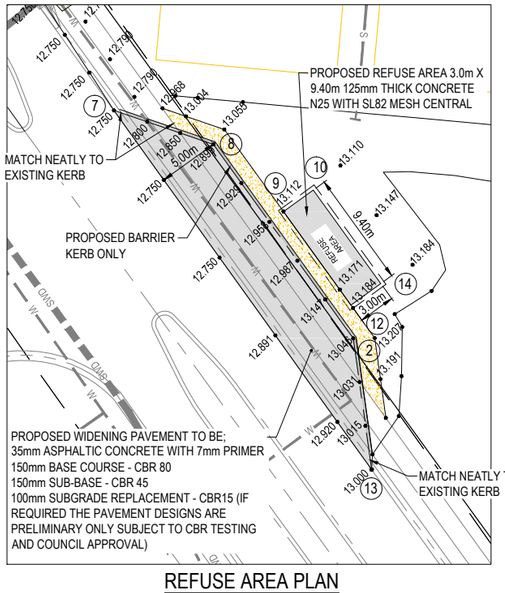
POINT	EASTING	NORTHING	R.L
1	325680.030	8178940.767	13.06
2	325681.308	8178942.269	13.06
3	325682.007	8178938.428	12.96
4	325685.961	8178933.752	12.75
5	325688.393	8178938.011	12.88
6	325690.178	8178936.365	12.75
7	325702.225	8178927.334	12.75
8	325710.345	8178924.565	12.90
9	325715.887	8178919.327	13.11
10	325718.769	8178921.423	13.15
11	325721.738	8178911.218	13.18
12	325721.752	8178908.754	13.05
13	325723.251	8178898.058	13.00
14	325724.650	8178913.335	13.20



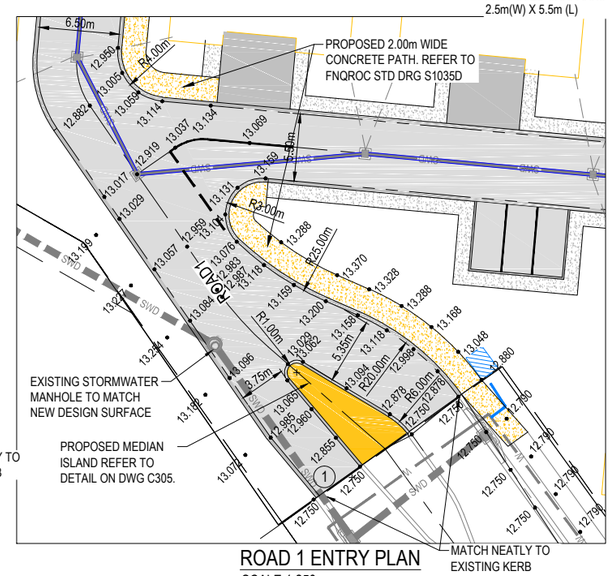
MEDIAN ISLAND SETOUT PLAN
SCALE 1:250



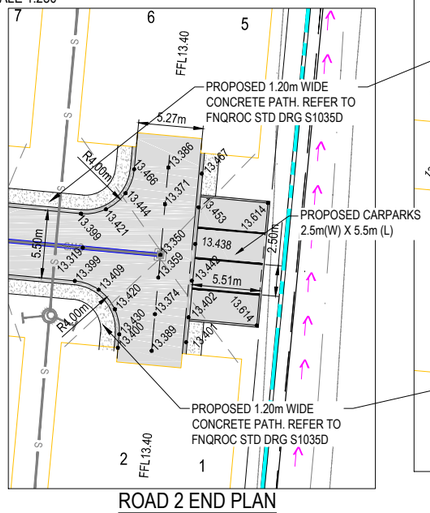
INTERSECTION ROAD 1 & 5 PLAN
SCALE 1:250



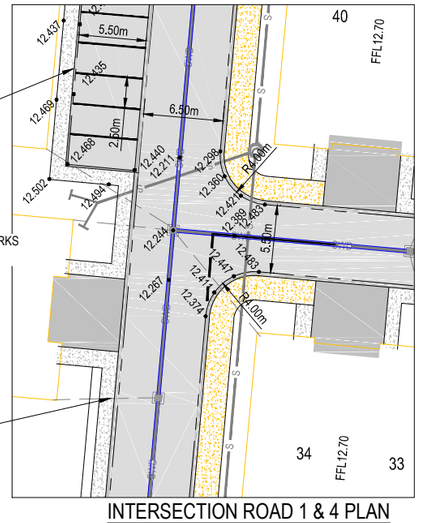
REFUSE AREA PLAN
SCALE 1:250



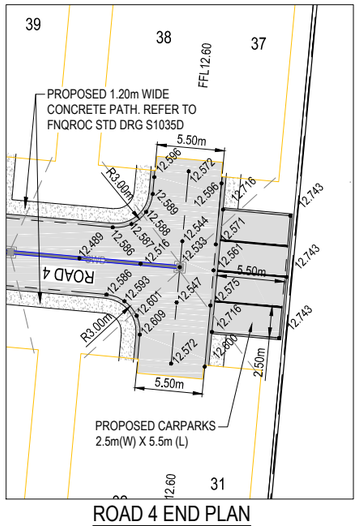
ROAD 1 ENTRY PLAN
SCALE 1:250



ROAD 2 END PLAN
SCALE 1:250



INTERSECTION ROAD 1 & 4 PLAN
SCALE 1:250



ROAD 4 END PLAN
SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 1 : 250 / 1 : 500 — 5 0 5 10m — A1 / A3

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CONSULTANTS:
Karkel Contracting Pty Ltd
ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD
ABN 77461010305

STATUS: ISSUE FOR APPROVAL

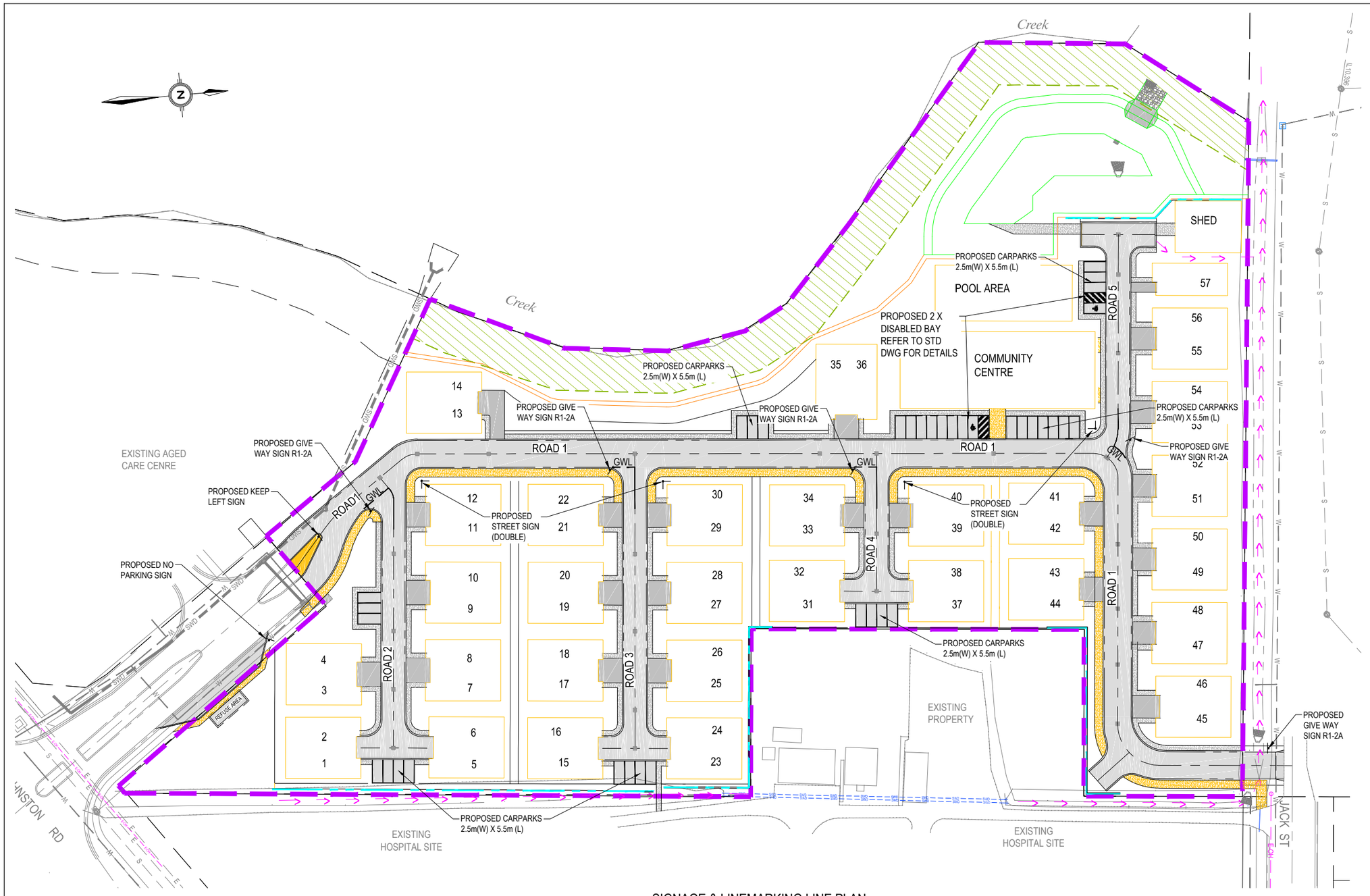
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
INTERSECTION DETAILS

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	380-	A



SIGNAGE & LINEMARKING LINE PLAN

SCALE 1:500



R2-3AL



R1-2A



D4-5

LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.20m WIDE CONCRETE FOOTPATH
- PROPOSED 2.00m WIDE CONCRETE FOOTPATH
- PROPOSED MEDIAN KERB (SM1)
- STREET SIGNS

LINEMARKING LEGEND

- CONTINUITY LINES (CL) — 1000, 3000, 1000, 3000, 1000 / 150
- BARRIER LINES, SINGLE (SBL) — 100
- TURN LINES (TL) — 600, 600 / 100
- EDGE LINE (EL). — 100
- YELLOW EDGE LINE (EL). — 100
- DIVIDING LINES, TWO-LANE ROADS (BDL) — 3000, 9000, 3000, 9000, 3000 / 100
- STOP LINE (SL). — 300
- GIVE WAY LINE (GWL). — 600, 600, 600, 600, 600 / 300
- CROSS WALK LINE (CWL) — 1000, 300 / 150

NOTES

1. ALL LINEMARKING TO BE REFLECTORISED WHITE.
2. FINAL SIGN LOCATIONS TO BE DETERMINED ON SITE BY THE SUPERINTENDENT.
3. EXISTING LINEMARKING SUPERSEDED BY NEW LINEMARKING IS TO BE REMOVED BY ROUTING OR OTHER METHOD APPROVED BY TMR.
4. COLOUR OF ALL REFLECTORISED PAVEMENT MARKERS TO BE IN ACCORDANCE WITH TABLE 5.3 OF MUTCD PART 2: PAVEMENT MARKING USAGE.
5. ALL TRAFFIC SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
6. FOR GUIDE POST INSTALLATION AND DETAILS, REFER TMR STANDARD DRAWING No.1356
7. ALL ROUTE NAMES (e.g. CHRISTINE AVENUE) ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND. REFER TO FNQROC STD DWG S1040.
8. ALL SIGN MATERIAL TO BE CLASS 1.
9. DIRECTION SIGNS ARE SHOWN INDICATIVE ONLY. DETAILED DESIGNS ARE TO BE USED FOR ORDERING.
10. ALL SIGNAGE, LINEMARKING & RRPMs ARE TO BE PREPARED IN ACCORDANCE WITH THE CURRENT TMR 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' (M.U.T.C.D).
11. ALL LINEMARKING TO BE OF SLIP RESISTANT FINISH TO AS4049
12. ALL WHEEL STOPS AND CHANGE OF LEVEL IN PEDESTRIAN ROUTE SHALL BE HIGHLIGHTED TO AS4049
13. CONTINUITY LINES AT BICYCLE LANES TO BE 100mm WIDE.
14. EDGE LINES ARE TO BE 150mm THICK UNLESS CONTINUATION FROM EXISTING 100mm EDGE LINES
15. THERMOPLASTIC IS RECOMMENDED FOR THE TRANSVERSE LINES, TURN LINES RRPM'S TO BE INSTALLED TO DENOTE HYDRANTS AND SERVICES ONLY FOR LOCAL COUNCIL ROADS
16. PROVIDE UNBROKEN CENTRELINE LINEMARKING AROUND ALL 90 DEGREE BENDS IN ACCORDANCE WITH MUTCD.
17. ALL ROAD SIGNS TO BE LOCATED AND CONSTRUCTED IN ACCORDANCE WITH FNQROC STD DWG S1040E & S1041B.
18. LINE-MARKING AND SIGNAGE IS TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)".
19. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SIDE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
20. RETRO-REFLECTIVE RAISED MARKERS INSTALLED IN ACCORDANCE WITH DEPARTMENT OF MAIN ROAD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 1 : 500 / 1 : 1000 — 5 0 5 10 15 20 25m — A1 / A3

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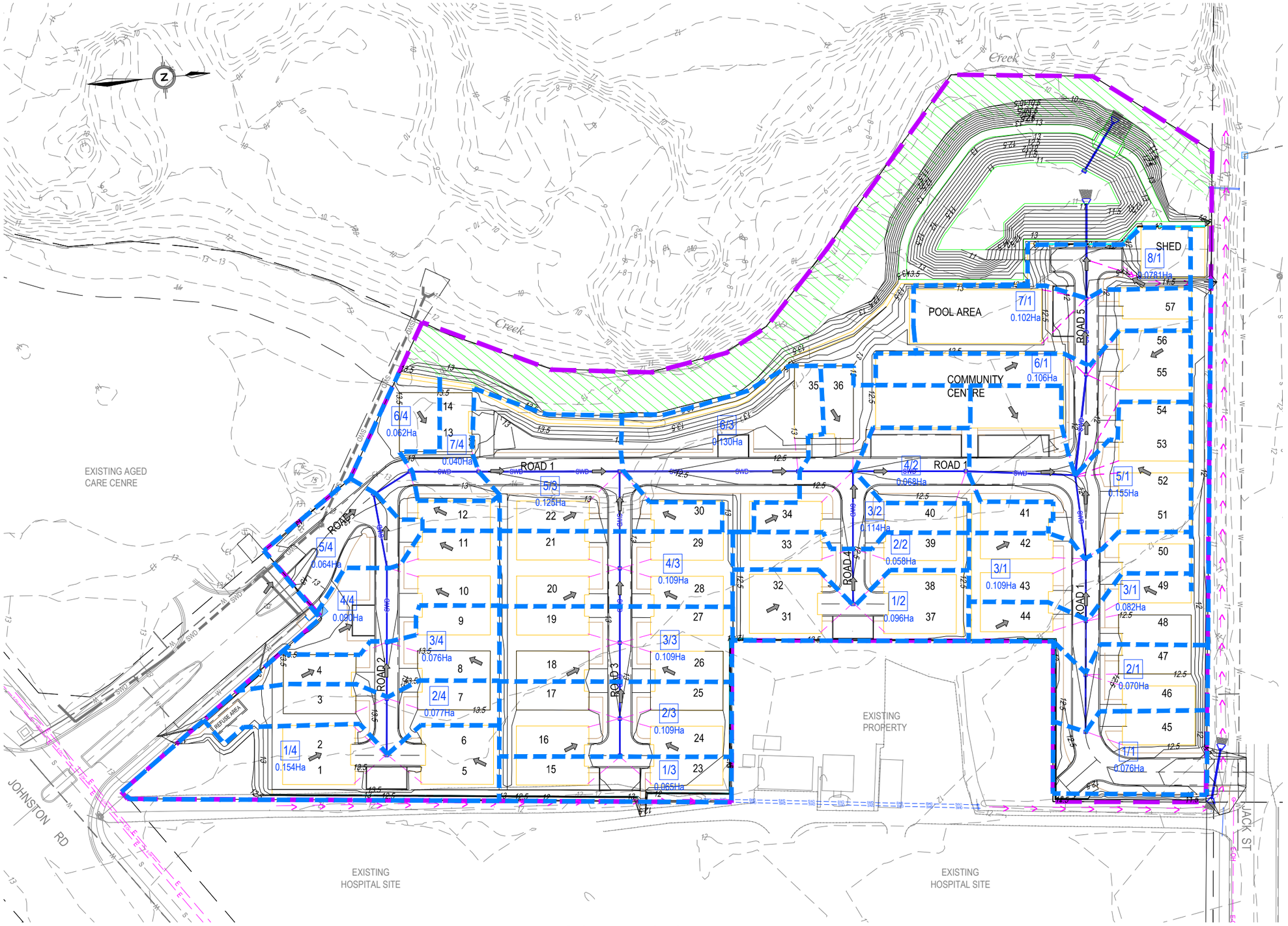
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SIGNAGE AND LINEMARKING LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	390-	A



STORMWATER CATCHMENT PLAN

SCALE 1:500

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER CATCHMENT PLAN

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	400-	A

STRUCTURE NAME	1/OUT	2/OUT	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1
STRUCTURE DESCRIPTION	STD FIELD INLET PIT	600mm X 900mm WITH DOME TOP COVER	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 900mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	PRECAST HEADWALL
PIPE SIZE (CLASS)	375(3)		225(3)	225(3)	225(3)	300(U)	300(3)	300(3)	375(3)	375(3)	
PIPE GRADE %	0.71		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
1 IN	141.77		200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	
PIPE LENGTH	14.18		14.28	13.49	15.55	21.11	25.35	18.99	12.66	11.15	
FULL PIPE FLOW VELOCITY (m/s)	0.50		0.06	0.12	0.18	0.44	0.99	1.01	0.66	0.67	
PART FULL FLOW VELOCITY (m/s)			0.48 (0.43 1y)	0.57 (0.52 1y)					1.17 (1.09 1y)		
WATER LEVEL IN STRUCTURE	11.001		11.571	11.570	11.568	11.561	11.513	11.291	11.169	11.127	
HYDRAULIC GRADELINE	11.001	11.000	11.571	11.570	11.569	11.568	11.561	11.528	11.513	11.423	11.291
PIPE FLOW (Cumecs)		0.007		0.002	0.005	0.008	0.032	0.070	0.071	0.073	0.074
PIPE CAPACITY AT GRADE (Cumecs)		0.147		0.033	0.033	0.033	0.084	0.068	0.068	0.124	0.124
DEPTH TO INVERT	1.400	1.454	0.808	0.808	0.828	0.828	0.848	0.868	0.910	0.930	0.923
INVERT LEVEL	9.700	9.600	11.453	11.382	11.362	11.294	11.274	11.196	11.176	11.071	11.051
FINISHED SURFACE LEVEL	11.100	11.054	12.261	12.189	12.122		12.044		11.981	11.847	
DISTANCE ALONG DRAINLINE	0.000	14.177	0.000	14.282	27.775		43.325		64.431	89.779	
STRUCTURE LOCATION	E325603.037 N8179142.035	E325591.400 N8179150.132	E325742.944 N8179129.743	E325728.722 N8179131.047	E325715.286 N8179132.284		E325699.800 N8179133.697		E325678.709 N8179132.910	E325653.859 N8179137.908	

SEWER LINE S2 IL=10.28, CL=0.75m
SEWER LINE S1A IL=10.50, CL=0.27m
15.960m
4.35m

STRUCTURE NAME	1/2	2/2	3/2	4/2	5/1
STRUCTURE DESCRIPTION	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 900mm WITH FILTER BASKET
PIPE SIZE (CLASS)	225(3)	225(3)	225(3)	300(3)	
PIPE GRADE %	0.50	0.50	0.50	0.50	
1 IN	200.00	200.00	200.00	200.00	
PIPE LENGTH	13.85	19.37	28.28	27.37	
FULL PIPE FLOW VELOCITY (m/s)	0.08	0.13	0.94	0.55	
PART FULL FLOW VELOCITY (m/s)	0.52 (0.48 1y)				
WATER LEVEL IN STRUCTURE	11.797	11.795	11.791	11.560	
HYDRAULIC GRADELINE	11.797	11.796	11.795	11.793	11.791	11.753	11.560	11.557	11.513	11.423
PIPE FLOW (Cumecs)		0.003	0.005	0.039	0.039					
PIPE CAPACITY AT GRADE (Cumecs)		0.033	0.033	0.033	0.068					
DEPTH TO INVERT	0.856	0.854	0.975	0.854	0.875	0.860	0.880		0.910	0.930	
INVERT LEVEL	11.677	11.608	11.487	11.390	11.369	11.228	11.208		11.071	11.051	
FINISHED SURFACE LEVEL	12.533	12.462		12.244		12.088			11.981		
DISTANCE ALONG DRAINLINE	0.000	13.854		33.222		61.505			88.872		
STRUCTURE LOCATION	E325705.835 N8179074.637	E325692.036 N8179075.868		E325672.745 N8179077.590		E325675.259 N8179105.761			E325678.709 N8179132.910		

SEWER LINE S2 IL=10.71, CL=0.56m
SEWER LINE S2A IL=10.87, CL=0.35m
13.240m
4.390m

STRUCTURE NAME	1/3	2/3	3/3	4/3	5/3	6/3	3/2
STRUCTURE DESCRIPTION	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET
PIPE SIZE (CLASS)	225(3)	225(3)	225(3)	225(3)	225(3)	225(3)	
PIPE GRADE %	0.50	0.50	0.50	0.50	0.50	0.50	
1 IN	200.00	200.00	200.00	200.00	200.00	200.00	
PIPE LENGTH	9.24	19.02	18.63	24.24	44.67	13.72	
FULL PIPE FLOW VELOCITY (m/s)	0.05	0.14	0.15	0.24	0.70	0.76	
PART FULL FLOW VELOCITY (m/s)	0.48 (0.37 1y)	0.60 (0.57 1y)	0.62 (0.57 1y)				
WATER LEVEL IN STRUCTURE	12.250	12.212	12.109	12.095	12.079	11.871	
HYDRAULIC GRADELINE	12.250	12.238	12.212	12.193	12.109	12.098	12.095	12.090	12.079	12.041	11.871	11.852	11.791	11.753
PIPE FLOW (Cumecs)		0.002	0.006	0.006	0.010	0.029	0.031				
PIPE CAPACITY AT GRADE (Cumecs)		0.033	0.033	0.033	0.033	0.033	0.033				
DEPTH TO INVERT	0.855	0.854	0.874	0.894	0.894	0.973	0.847	0.867		0.842	0.862	0.855	0.875
INVERT LEVEL	12.195	12.149	12.129	12.034	12.014	11.921	11.842	11.721	11.701		11.478	11.458	11.389	11.369
FINISHED SURFACE LEVEL	13.050	13.003		12.908		12.815		12.568			12.320		12.244	
DISTANCE ALONG DRAINLINE	0.000	9.243		28.259		46.891		71.129			115.800		129.523	
STRUCTURE LOCATION	E325738.400 N8179013.102	E325729.194 N8179013.924		E325710.253 N8179015.615		E325691.695 N8179017.271		E325667.553 N8179019.427			E325671.524 N8179063.921		E325672.745 N8179077.590	

SEWER LINE S4 IL=11.15, CL=0.48m
18.110m

STRUCTURE NAME	1/4	2/4	3/4	4/4	5/4	6/4	7/4	5/3
STRUCTURE DESCRIPTION	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET	STD FIELD INLET PIT 600mm X 600mm WITH FILTER BASKET
PIPE SIZE (CLASS)	225(3)	225(3)	225(3)	225(3)	225(3)	225(3)	225(3)	
PIPE GRADE %	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
1 IN	200.00	200.00	200.00	200.00	200.00	200.00	200.00	
PIPE LENGTH	14.15	14.08	18.66	18.66	10.72	17.22	35.32	
FULL PIPE FLOW VELOCITY (m/s)	0.12	0.18	0.23	0.29	0.34	0.38	0.40	
PART FULL FLOW VELOCITY (m/s)	0.57 (0.52 1y)	0.64 (0.60 1y)	0.71 (0.64 1y)	0.75 (0.69 1y)	0.77 (0.72 1y)	0.80 (0.75 1y)	0.81 (0.76 1y)	
WATER LEVEL IN STRUCTURE	12.570	12.498	12.426	12.316	12.211	12.166	12.131	
HYDRAULIC GRADELINE	12.570	12.553	12.498	12.477	12.426	12.401	12.316	12.287	12.211	12.181	12.166	12.150	12.131	12.127	12.079	12.041
PIPE FLOW (Cumecs)		0.005	0.007	0.010	0.012	0.014	0.016	0.017								
PIPE CAPACITY AT GRADE (Cumecs)		0.033	0.033	0.033	0.033	0.033	0.033	0.033								
DEPTH TO INVERT	0.854	0.855	0.874	0.894	0.894	0.925	0.822	0.842	0.835	0.855	0.845	0.865	0.847	0.867								
INVERT LEVEL	12.496	12.425	12.405	12.335	12.315	12.222	12.191	12.097	12.077	12.024	12.004	11.918	11.898	11.721	11.701							
FINISHED SURFACE LEVEL	13.350	13.280		13.209		13.116		12.919		12.859		12.763		12.568								
DISTANCE ALONG DRAINLINE	0.000	14.154		28.237		46.897		65.555		76.275		93.494		128.813								
STRUCTURE LOCATION	E325733.071 N8178954.954	E325718.976 N8178956.246		E325704.952 N8178957.531		E325688.370 N8178959.234		E325667.787 N8178957.565		E325662.881 N8178967.097		E325664.412 N8178984.248		E325667.553 N8179019.427								

SEWER LINE S4B IL=9.95, CL=0.33m
SEWER LINE S4A IL=11.45, CL=0.34m
8.54m
6.04m

SETOUT POINT CENTRE OF INLET PIT
FIELD INLET SETOUT POINT

SETOUT POINT CENTRE OF PIT
LIP OF CHANNEL
SAG GULLY SETOUT POINT

SETOUT POINT CENTRE OF PIT
LIP OF CHANNEL
ON GRADE GULLY SETOUT POINT

SURFACE LEVEL AT LIP OF KERB
SETOUT POINT CENTRE OF MANHOLE
GULLY PIT SURFACE LEVEL LOCATION
MANHOLE SETOUT POINT

DATUM RL -3.0
DATUM RL -2.0

LINE OUT 1 2 3 4

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 VERT. 1 0 1 2 3 4 5m A1
1 : 200 VERT. A3
1 : 1000 HORIZ. 10 0 10 20 30 40 50m A1
1 : 2000 HORIZ. A3

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PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER LONGITUDINAL SECTIONS

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	410-	A

LOCATION					TIME			SUB-CATCHMENT RUNOFF						INLET DESIGN						DRAIN DESIGN											HEADLOSSES									PART FULL		DESIGN LEVELS						
						tc	I	C10	C	A	C*A	+CA	Q					Qg	Qb		tc	I	+CA	Qt	Qm	Qs	Qp	L	S		V	T			V2/2g	Ku	hu	Kl	hl	Kw	hw	Sf	hf		Vp						
DESIGN AEP	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT	SUB-CATCHMENT TIME OF CONC.	RAINFALL INTENSITY	10yr RUNOFF CO-EFFICIENT	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA	EQUIVALENT AREA	SUM OF (C * A)	SUB-CATCHMENT DISCHARGE	FLOW IN K&C (INC. BYPASS)	ROAD GRADE AT INLET	MINOR FLOW ROAD CAPACITY	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C * A)	MAJOR TOTAL FLOW	MAJOR SURFACE FLOW CAPACITY	MAJOR SURFACE FLOW	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE / BOX DIMENSIONS (CLASS)	FLOW VELOCITY FULL (PIPE GRADE VELOCITY)	TIME OF FLOW IN REACH	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCT. HEADLOSS	LAT. HEADLOSS CO-EFFICIENT	LAT. PIPE STRUCT. HEADLOSS	W.S.E. CO-EFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEADLOSS (L * Sf)	DEPTH	VELOCITY	OBVERT LEVELS	DRAIN SECTION H.G.L	UPSTREAM H.G.L	LAT. H.G.L	W.S.E.	SURFACE OR K&C INVERT LEVEL	STRUCTURE No.
					%	min	mm/h			ha	ha	ha	l/s	l/s	%	l/s		l/s	l/s		min	mm/h	ha	l/s	l/s	l/s	l/s	m	%	mm	m/s	min			m		m		m		m	%	m	m	m/s	m	m	m	m	m	m	
2 100	1/OUT	1/OUT to 2/OUT	1/OUT			5.00 5.00	148 347		0.08 1.00	0.030 0.030	0.002 0.002	0.002 0.030	1 29	1	1.00 FLOW WIDTH 0.046 m	79	31S.1	1	0	LOST	5.00 5.00	148 347	0.002 0.030	29			1 (Pipe flow= Grate flow)	9.764	2.05	375(3) x 2	0.00 (2.27)	0.16		Qg 0.001 Qo 0.001 Do 530	0.000	99.00	0.000			99.00	0.000	0.00	0.000			10.175 9.975	10.800 10.800	10.800		10.800	10.600	1/OUT
													FLOW DEPTH 0.101m																																					
2 100	1/4	1/4 to 2/4	1/4			5.00 5.00	148 347		0.08 1.00	0.154 0.154	0.012 0.154	0.012 0.154	5 148	5	0.50	181	3	5	0	2/4	5.00 5.00	148 347	0.012 0.154	148			5 (Pipe flow= Grate flow)	14.154	0.50	225(3)	0.12 (0.81)	0.24		Qg 0.005 Qo 0.005 Do 225 CHART 32: Vo2/2gDo 0.00 H/Do 0.00 Kg side flow 10.78 end flow 7.53 Part full downstream pipe	0.001	1.00	0.017		Upstream HGL 12.725 pipe obv 12.725 Set Kp to 1	1.00 12.570	0.017 below outlet	0.01	0.002	0.057 (0.050 1y)	0.57 (0.52 1y)	12.725 12.654	12.553 12.498	12.570		12.570	13.350	1/4
2 100	2/4	2/4 to 3/4	1/4;2/4			5.00 5.00	148 347		0.08 1.00	0.077 0.077	0.006 0.077	0.006 0.077	2 74	2	0.50	181	3	2	0	3/4	5.24 5.24	145 342	0.018 0.231	219			7 (Pipe flow= Sum upstr atten flows)	14.083	0.50	225(3)	0.18 (0.81)	0.23		Qg 0.002 Qo 0.007 Do 225 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.33 K 1.17 S/Do 1.01 cor 0.60 Ku 1.77 Kw 1.77	0.002	1.00	0.021		Part full downstream pipe Upstream HGL 12.498 pipe obv 12.634 Set Kp to 1	1.00 below outlet	0.021	0.02	0.003	0.072 (0.064 1y)	0.64 (0.60 1y)	12.634 12.564	12.477 12.426	12.498		12.498	13.280	2/4
2 100	3/4	3/4 to 4/4	1/4;2/4;3/4			5.00 5.00	148 347		0.08 1.00	0.076 0.076	0.006 0.076	0.006 0.076	2 73	2	0.50	181	3	2	0	4/4	5.47 5.47	143 337	0.024 0.307	287			10 (Pipe flow= Sum upstr atten flows)	18.660	0.50	225(3)	0.23 (0.81)	0.31		Qg 0.002 Qo 0.010 Do 225 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.25 K 0.95 S/Do 1.02 cor 0.45 Ku 1.40 Kw 1.40	0.003	1.00	0.025		Part full downstream pipe Upstream HGL 12.426 pipe obv 12.544 Set Kp to 1	1.00 below outlet	0.025	0.04	0.008	0.086 (0.072 1y)	0.71 (0.64 1y)	12.544 12.451	12.401 12.311	12.426		12.426	13.209	3/4
2 100	4/4	4/4 to 5/4	1/4;2/4;3/4;4/4			5.00 5.00	148 347		0.08 1.00	0.090 0.090	0.007 0.090	0.007 0.090	3 87	3	0.50	181	3	3	0	5/4	5.78 5.78	141 331	0.031 0.397	365			12 (Pipe flow= Sum upstr atten flows)	18.658	0.50	225(3)	0.29 (0.81)	0.31		Qg 0.003 Qo 0.012 Do 225 Flow 3/4 made eqv grate flow CHART 32: Vo2/2gDo 0.02 H/Do 0.00 Kg side flow 10.30 end flow 7.28 K vals above for stepped pipes as grate flow grate flow decreased by 0.009 from 3/4 CHART 33 Angle 10 S/Do 2.5	0.004	1.00	0.028		Du/Do 1.00 Qg/Qo 0.23 K 0.88 S/Do 1.02 cor 0.40 Ku 1.28 Kw 1.28 K vals step pipes as pipe flow Ku 1.28 Kw 1.28 Part full downstream pipe Upstream HGL 12.283 pipe obv 12.387 Set Kp to 1	1.00 below outlet	0.028	0.07	0.012	0.097 (0.082 1y)	0.75 (0.69 1y)	12.387 12.294	12.255 12.179	12.283		12.283	13.116	4/4
2 100	5/4	5/4 to 6/4	1/4;2/4;3/4;4/4;5/3			5.00 5.00	148 347		0.08 1.00	0.064 0.064	0.005 0.064	0.005 0.064	2 62	2	0.55	190	3	2	0	6/4	6.09 6.09	139 326	0.036 0.461	417			14 (Pipe flow= Sum upstr atten flows)	10.720	0.50	225(3)	0.34 (0.81)	0.18		Qg 0.002 Qo 0.014 Do 225 Angle 68 Chart 43 S/Do 2.5 chartdeg Du/Do 1.00 K0 1.35 K0.5 1.93 Qu/Qo 0.86 Cg 0.34 K 1.55 S/Do 2.0 K0 1.41 K0.5 2.25 K 1.70 S/Do 1.5 K0 1.58 K0.5 2.53 K 1.90 Interp val for S/Do 1.05 Kw 2.09 CHART 42	0.006	1.00	0.030		S/Do 2.0 K0 1.35 K0.5 2.10 K 1.61 S/Do 1.5 K0 1.53 K0.5 2.17 K 1.75 Interp val for S/Do 1.05 Ku 1.88 Part full downstream pipe Upstream HGL 12.179 pipe obv 12.274 Set Kp to 1	1.00 below outlet	0.030	0.09	0.009	0.104 (0.089 1y)	0.77 (0.72 1y)	12.274 12.220	12.149 12.115	12.179		12.179	12.919	5/4
2 100	6/4	6/4 to 7/4	1/4;2/4;3/4;4/4;5/3; 6/4			5.00 5.00	148 347		0.08 1.00	0.062 0.062	0.005 0.062	0.005 0.062	2 60	2	1.00	256	3	2	0	7/4	6.27 6.27	137 323	0.041 0.523	469			16 (Pipe flow= Sum upstr atten flows)	17.219	0.50	225(3)	0.38 (0.81)	0.29		Qg 0.002 Qo 0.016 Do 225 CHART 34 Angle 32 Case3 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.12 K 0.68 S/Do 1.03 cor 0.22 Ku 0.90 Kw 0.90	0.007	1.00	0.033		Part full downstream pipe Upstream HGL 12.115 pipe obv 12.200 Set Kp to 1	1.00 below outlet	0.033	0.11	0.019	0.111 (0.097 1y)	0.80 (0.75 1y)	12.200 12.114	12.082 12.041	12.115		12.115	12.859	6/4
2 100	7/4	7/4 to 5/3	1/4;2/4;3/4;4/4;5/3; 6/4;7/4			5.00 5.00	148 347		0.08 1.00	0.040 0.040	0.003 0.040	0.003 0.040	1 39	1	0.55	190	3	1	0	5/3	6.56 6.56	135 318	0.044 0.563	497			17 (Pipe flow= Sum upstr atten flows)	35.319	0.50	225(3)	0.40 (0.81)	0.59		Qg 0.001 Qo 0.017 Do 225 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.07 K 0.41 S/Do 1.02 cor 0.12 Ku 0.53 Kw 0.53	0.008	1.00	0.015		Part full downstream pipe Upstream HGL 12.041 pipe obv 12.094 Set Kp to 1	1.00 below outlet	0.015	0.12	0.043	0.115 (0.100 1y)	0.81 (0.76 1y)	12.094 11.918	12.027 11.983	12.041		12.041	12.763	7/4
2 100	1/3	1/3 to 2/3	1/3			5.00 5.00	148 347		0.08 1.00	0.065 0.065	0.005 0.065	0.005 0.065	2 63	2	1.00	256	3	2	0	2/3	5.00 5.00	148 347	0.005 0.065	63			2 (Pipe flow= Grate flow)	9.243	0.50	225(3)	0.05 (0.81)	0.15		Qg 0.002 Qo 0.002 Do 225 CHART 32: Vo2/2gDo 0.00 H/Do 0.00 Kg side flow 10.86 end flow 7.57 Part full downstream pipe	0.000	1.00	0.012		Upstream HGL 12.250 pipe obv 12.424 Set Kp to 1	1.00 below outlet	0.012	0.00	0.000	0.043 (0.029 1y)	0.48 (0.37 1y)	12.424 12.378	12.238 12.212	12.250		12.250	13.050	1/3
2 100	2/3	2/3 to 3/3	1/3;2/3			5.00 5.00	148 347		0.08 1.00	0.109 0.109	0.009 0.109	0.009 0.109	4 105	4	0.50	181	3	4	0	3/3	5.15 5.15	146 343	0.014 0.174	166			6 (Pipe flow= Sum upstr atten flows)	19.016	0.50	225(3)	0.14 (0.81)	0.32		Qg 0.004 Qo 0.006 Do 225 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.64 K 1.77 S/Do 1.01 cor 1.15 Ku 2.92 Kw 2.92	0.001	1.00	0.019		Part full downstream pipe Upstream HGL 12.212 pipe obv 12.358 Set Kp to 1	1.00 below outlet	0.019	0.01	0.003	0.064 (0.057 1y)	0.60 (0.57 1y)	12.358 12.263	12.193 12.102	12.212		12.212	13.003	2/3
2 100	3/3	3/3 to 4/3	1/3;2/3;3/3			5.00 5.00	148 347		0.08 1.00	0.030 0.030	0.002 0.030	0.002 0.030	1 29	1	0.50	181	3	1	0	4/3	5.47 5.47	143 337	0.016 0.204	191			6 (Pipe flow= Sum upstr atten flows)	18.632	0.50	225(3)	0.15 (0.81)	0.31		Qg 0.001 Qo 0.006 Do 225 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.13 K 0.59 S/Do 1.00 cor 0.22 Ku 0.81 Kw 0.81	0.001	1.00	0.020		Part full downstream pipe Upstream HGL 12.102 pipe obv 12.243 Set Kp to 1	1.00 below outlet	0.020	0.02	0.003	0.068 (0.057 1y)	0.62 (0.57 1y)	12.243 12.150	12.082 11.999	12.102		12.102	12.908	3/3
2 100	4/3	4/3 to 5/3	1/3;2/3;3/3;4/3			5.00 5.00	148 347		0.08 1.00	0.109 0.109	0.009 0.109	0.009 0.109	4 105	4	0.50	181	3	4	0	5/3	5.78 5.78	141 331	0.025 0.313	288			10 (Pipe flow= Sum upstr atten flows)	24.238	0.50	225(3)	0.24 (0.81)	0.40		Qg 0.004 Qo 0.010 Do 225 Flow 3/3 made eqv grate flow CHART 32: Vo2/2gDo 0.01 H/Do 0.00 Kg side flow 10.49 end flow 7.37 K vals above for stepped pipes as grate flow grate flow decreased by 0.006 from 3/3 CHART 33 Angle 0 S/Do 2.5	0.003	1.00	0.005		Du/Do 1.00 Qg/Qo 0.36 K 1.23 S/Do 1.02 cor 0.64 Ku 1.87 Kw 1.87 K vals step pipes as pipe flow Ku 1.87 Kw 1.87 Part full downstream pipe Upstream HGL 11.999 pipe obv 12.064 Set Kp to 1	1.00 below outlet	0.005	0.04	0.011	0.086 (0.072 1y)	0.71 (0.64 1y)	12.064 11.943	11.994 11.983	11.999		11.999	12.815	4/3

CALCULATIONS TABLE

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:

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STATUS: ISSUE FOR APPROVAL

CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER CALCULATION TABLE
SHEET 1 OF 2

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	430-	A

		LOCATION				TIME		SUB-CATCHMENT RUNOFF							INLET DESIGN					DRAIN DESIGN											HEADLOSSES						PART FULL			DESIGN LEVELS					
						tc	I	C10	C	A	C*A	+CA	Q				Qg	Qb		tc	I	+CA	Qt	Qm	Qs	Qp	L	S		V	T			V2/2g	Ku	hu	Kl	hl	Kw	hw	Sf	hf		Vp					
DESIGN AEP	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT	SUB-CATCHMENT TIME OF CONC.	RAINFALL INTENSITY	10yr RUNOFF CO-EFFICIENT	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA	EQUIVALENT AREA	SUM OF (C * A)	SUB-CATCHMENT DISCHARGE	FLOW IN K&C (INC. BYPASS)	ROAD GRADE AT INLET	MINOR FLOW ROAD CAPACITY	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C * A)	MAJOR TOTAL FLOW	MAJOR SURFACE FLOW CAPACITY	MAJOR SURFACE FLOW	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE / BOX DIMENSIONS (CLASS)	FLOW VELOCITY FULL (PIPE GRADE VELOCITY)	TIME OF FLOW IN REACH	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCT. HEADLOSS	LAT. HEADLOSS CO-EFFICIENT	LAT. PIPE STRUCT. HEADLOSS	W.S.E CO-EFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEADLOSS (L * Sf)	DEPTH	VELOCITY	OBVERT LEVELS	DRAIN SECTION H.G.L	UPSTREAM H.G.L	LAT. H.G.L	W.S.E.	SURFACE OR K&C INVERT LEVEL	STRUCTURE No.
					%	min	mm/h			ha	ha	ha	l/s	l/s	%	l/s		l/s	l/s		min	mm/h	ha	l/s	l/s	l/s	l/s	m	%	mm	m/s	min		m		m		m	m	%	m	m	m/s	m	m	m	m	m	m	
2 100	5/3	5/3 to 6/3	1/4;2/4;3/4;4/4;5/3; 6/4;7/4;1/3;2/3;3/3; 4/3;5/2			5.00 5.00	148 347		0.08 1.00	0.125 0.125	0.010 0.125	0.010 0.125	4 120	4	0.55	190	3	4	0	6/3	7.15 7.15	132 309	0.079 1.001	859			29 (Pipe flow= Sum	44.671 upstr atten	0.50 flows)	225(3)	0.70 (0.81)	0.74			0.025	1.54	0.038			1.54 7/4 and 4/3 Vel1 0.406 Vel2 0.231 Eq Dia 306 Angle 147 Flow 0.025 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.36 Qg/Qo 0.13 K 0.59	0.038	0.38	0.170			11.898 11.674	11.945 11.775	11.983		11.983	12.568	5/3
2 100	6/3	6/3 to 3/2	1/4;2/4;3/4;4/4;5/3; 6/4;7/4;1/3;2/3;3/3; 4/3;5/2;6/3			5.00 5.00	148 347		0.08 1.00	0.130 0.130	0.010 0.130	0.010 0.130	4 125	4	0.55	190	3	4	0	3/2	7.89 7.89	127 299	0.089 1.131	939			31 (Pipe flow= Sum	13.723 upstr atten	0.50 flows)	225(3)	0.76 (0.81)	0.23			0.029	0.67	0.020			0.67	0.020	0.45	0.061			11.654 11.586	11.755 11.694	11.775		11.775	12.320	6/3
2 100	1/1	1/1 to 2/1	1/1			5.00 5.00	148 347		0.08 1.00	0.076 0.076	0.006 0.076	0.006 0.076	2 73	2	3.00	444	3	2	0	2/1	5.00 5.00	148 347	0.006 0.076	73			2 (Pipe flow= Grate	14.282 flow)	0.50	225(3)	0.06 (0.81)	0.24			0.000	1.00	0.003			1.00 Upstream HGL 11.540 below outlet pipe obv 11.696 Set Kp to 1	0.003	0.00	0.000	0.043 (0.036 1y)	0.48 (0.43 1y)	11.696 11.624	11.537 11.537	11.540		11.540	12.261	1/1
2 100	2/1	2/1 to 3/1	1/1;2/1			5.00 5.00	148 347		0.08 1.00	0.070 0.070	0.006 0.070	0.006 0.070	2 67	3	0.50	181	3	3	0	3/1	5.24 5.24	145 342	0.012 0.146	139			5 (Pipe flow= Sum	13.493 upstr atten	0.50 flows)	225(3)	0.12 (0.81)	0.22			0.001	1.00	0.002			1.00 Part full downstream pipe Upstream HGL 11.537 below outlet pipe obv 11.604 Set Kp to 1	0.002	0.01	0.001	0.057 (0.050 1y)	0.57 (0.52 1y)	11.604 11.537	11.535 11.534	11.537		11.537	12.189	2/1
2 100	3/1	3/1 to 4/1	1/1;2/1;3/1			5.00 5.00	148 347		0.08 1.00	0.082 0.082	0.007 0.082	0.007 0.082	3 79	3	0.50	181	3	3	0	4/1	5.46 5.46	144 337	0.019 0.228	213			8 (Pipe flow= Sum	15.550 upstr atten	0.50 flows)	225(3)	0.18 (0.81)	0.26			0.002	1.88	0.003			1.88	0.003	0.03	0.004			11.517 11.439	11.531 11.527	11.534		11.534	12.122	3/1
2 100	4/1	4/1 to 5/1	1/1;2/1;3/1;4/1			5.00 5.00	148 347		0.80 1.00	0.077 0.077	0.062 0.077	0.062 0.077	25 74	25	0.50	0	3	25	0	5/1	5.72 5.72	141 332	0.081 0.305	281			32 (Pipe flow= Sum	21.106 upstr atten	0.79 flows)	225(U)	0.69 (1.24)	0.35			0.024	2.94	0.071			2.94	0.071	0.25	0.052			11.431 11.264	11.456 11.404	11.527		11.527	12.044	4/1
2 100	1/2	1/2 to 2/2	1/2			5.00 5.00	148 347		0.08 1.00	0.096 0.096	0.008 0.096	0.008 0.096	3 93	3	1.28	290	3	3	0	2/2	5.00 5.00	148 347	0.008 0.096	93			3 (Pipe flow= Grate	13.854 flow)	0.50	225(3)	0.08 (0.81)	0.23			0.000	1.00	0.014			1.00 Upstream HGL 11.741 below outlet pipe obv 11.906 Set Kp to 1	0.014	0.00	0.001	0.050 (0.043 1y)	0.52 (0.48 1y)	11.906 11.837	11.727 11.697	11.741		11.741	12.533	1/2
2 100	2/2	2/2 to 3/2	1/2;2/2			5.00 5.00	148 347		0.08 1.00	0.058 0.058	0.005 0.058	0.005 0.058	2 56	2	0.51	183	3	2	0	3/2	5.23 5.23	145 342	0.013 0.154	146			5 (Pipe flow= Sum	19.368 upstr atten	0.50 flows)	225(3)	0.13 (0.81)	0.32			0.001	1.00	0.001			1.00 Du/Do 1.00 Qg/Qo 0.38 K 1.29 S/Do 1.01 cor 0.69 Ku 1.98 Kw 1.98 K vals step pipes as pipe flow Ku 1.98 Kw 1.98 Part full downstream pipe Upstream HGL 11.697 below outlet pipe obv 11.716 Set Kp to 1	0.001	0.01	0.002	0.061 (0.054 1y)	0.59 (0.54 1y)	11.716 11.619	11.696 11.694	11.697		11.697	12.462	2/2
2 100	3/2	3/2 to 4/2	1/4;2/4;3/4;4/4;5/3; 6/4;7/4;1/3;2/3;3/3; 4/3;5/2;6/3;1/2;2/2; 3/2			5.00 5.00	148 347		0.08 1.00	0.114 0.114	0.009 0.114	0.009 0.114	4 110	4	0.55	190	3	4	0	4/2	8.12 8.12	126 296	0.111 1.399	1150			39 (Pipe flow= Sum	28.283 upstr atten	0.50 flows)	225(3)	0.94 (0.81)	0.47			0.045	0.85	0.038			0.85 6/3 and 2/2 Vel1 0.783 Vel2 0.114 Eq Dia 255 Angle 168 Flow 0.036 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.13 Qg/Qo 0.08 K 0.46 S/Do 1.50 cor 0.09 Ku 0.55 Kw 0.55 Interpolated Ku= 0.85 Kw= 0.85	0.038	0.68	0.193			11.566 11.424	11.656 11.463	11.694		11.694	12.244	3/2
2 100	4/2	4/2 to 5/1	1/4;2/4;3/4;4/4;5/3; 6/4;7/4;1/3;2/3;3/3; 4/3;5/2;6/3;1/2;2/2; 3/2;4/2			5.00 5.00	148 347		0.08 1.00	0.030 0.030	0.002 0.030	0.002 0.030	1 29	1	0.55	190	3	1	0	5/1	8.59 8.59	124 290	0.113 1.429	1151			39 (Pipe flow= Sum	27.367 upstr atten	0.50 flows)	300(3)	0.55 (0.97)	0.46			0.015	0.20	0.003			0.20	0.003	0.16	0.044	0.162 (0.138 1y)	1.00 (0.93 1y)	11.460 11.323	11.460 11.404	11.463		11.463	12.088	4/2
2 100	5/1	5/1 to 6/1	1/1;2/1;3/1;4/1;1/4; 2/4;3/4;4/4;5/3;6/4; 7/4;1/3;2/3;3/3;4/3; 5/2;6/3;1/2;2/2;3/2; 4/2;4/1			5.00 5.00	148 347		0.08 1.00	0.155 0.155	0.012 0.155	0.012 0.155	5 149	5 FLOW WIDTH 0.274 m FLOW DEPTH 0.108m	0.50	79	31S.1	5	0	6/1	9.05 9.05	122 285	0.206 1.889	1495			70 (Pipe flow= Sum	25.348 upstr atten	0.50 flows)	300(3)	0.99 (0.97)	0.42			0.050	1.58	0.079			1.58 Ku=Kw= 1.96 CHART 48 Du/Do 0.75 Qu/Qo 0.39 K 1.49 d/Do 2.0 chrt Qg/Qo 0.06 Kg 0.03 d/Do 1.5 chrt Qg/Qo 0.06 Kg 0.03 d/Do 1.07 Interp value Kg 0.03 Ku=Kw= 1.52 Interpolated Ku= 1.58 Kw= 1.58	0.079	0.52	0.132			11.303 11.176	11.325 11.193	11.404		11.404	11.981	5/1
2 100	6/1	6/1 to 7/1	1/1;2/1;3/1;4/1;1/4; 2/4;3/4;4/4;5/3;6/4; 7/4;1/3;2/3;3/3;4/3; 5/2;6/3;1/2;2/2;3/2; 4/2;4/1;5/1			5.00 5.00	148 347		0.08 1.00	0.106 0.106	0.008 0.106	0.008 0.106	3 102	3	0.50	181	3	3	0	7/1	9.47 9.47	120 281	0.214 1.995	1557			71 (Pipe flow= Sum	18.990 upstr atten	0.50 flows)	300(3)	1.01 (0.97)	0.31			0.052	0.37	0.019			0.37	0.019	0.55	0.104			11.156 11.061	11.174 11.070	11.193		11.193	11.822	6/1
2 100	7/1	7/1 to 8/1	1/1;2/1;3/1;4/1;1/4; 2/4;3/4;4/4;5/3;6/4; 7/4;1/3;2/3;3/3;4/3; 5/2;6/3;1/2;2/2;3/2; 4/2;4/1;5/1;6/1			5.00 5.00	148 347		0.08 1.00	0.102 0.102	0.008 0.102	0.008 0.102	3 98	3	0.50	181	3	3	0	8/1	9.78 9.78	118 277	0.222 2.097	1614			73 (Pipe flow= Sum	12.659 upstr atten	0.50 flows)	300(3)	1.03 (0.97)	0.20			0.054	0.37	0.020			0.37 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.04 K 0.31 S/Do 1.10 cor 0.06 Ku 0.37 Kw 0.37	0.020	0.57	0.072			11.041 10.978	11.050 10.978	11.070		11.070	11.727	7/1
2 100	8/1	8/1 to 9/1	1/1;2/1;3/1;4/1;1/4; 2/4;3/4;4/4;5/3;6/4; 7/4;1/3;2/3;3/3;4/3; 5/2;6/3;1/2;2/2;3/2; 4/2;4/1;5/1;6/1;7/1			5.00 5.00	148 347		0.08 1.00	0.078 0.078	0.006 0.078	0.006 0.078	2 75	2 FLOW WIDTH 0.137 m FLOW DEPTH 0.104m	3.00	79	31S.1	2	0	LOST	9.98 9.98	117 275	0.228 2.175	1661			74 (Pipe flow= Sum	11.576 upstr atten	0.50 flows)	375(3)	0.67 (1.12)	0.19			0.023	1.00	0.041			1.00 Part full downstream pipe Upstream HGL 10.962 below outlet pipe obv 11.033 Set Kp to 1	0.041	0.18	0.021	0.209 (0.179 1y)	1.17 (1.10 1y)	11.033 10.975	10.921 10.900	10.962		10.962	11.664	8/1

CALCULATIONS TABLE

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:

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C-VIEW ONSULTING PTY LTD
ABN 77481512826

STATUS: ISSUE FOR APPROVAL

CERTIFIED: RPEQ 7619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER CALCULATIONS TABLE
SHEET 2 OF 2

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	431-	A

ROCK SCOUR PROTECTION TABLE

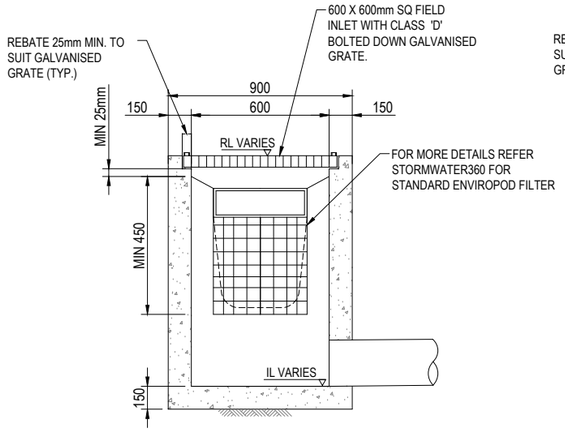
CULVERT I.D.	PIPE Ø	VELOCITY	LENGTH OF PROTECTION	WIDTH OF HEADWALL	WIDTH OF PROTECTION	NOMINAL * ROCK SIZE	THICKNESS OF PROTECTION
	D	V	L	Wc (m)	Wd (m)	d50	t
9/1	375	0.67	1.13	1.37	1.93	100	300
OUT/2	375	0.50	1.13	1.37	1.93	100	300
CULVERT1	1500 X 450	0.60	1.35	1.73	2.40	100	300

* d50 = (150<d<250mm)

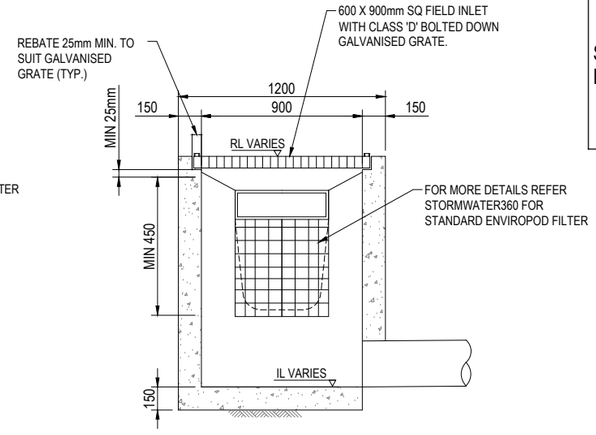
* Wd = Wc + 0.5 TIMES THE LENGTH OF THE ROCK PAD

ROCK GRADING TABLE

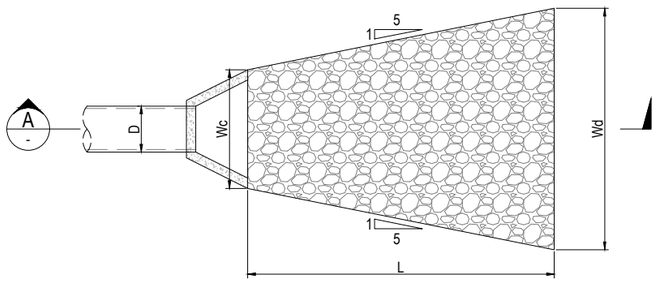
SMALLEST DIMENSIONS IN (mm)					% OF ROCK SMALLER THAN SIZE SHOWN
$200d_{50}$	$300d_{50}$	$400d_{50}$	$500d_{50}$	$600d_{50}$	
380	525	630	750	850	100
300	450	550	650	750	50-70
200	300	400	500	600	35-50
75	100	130	150	175	2-35



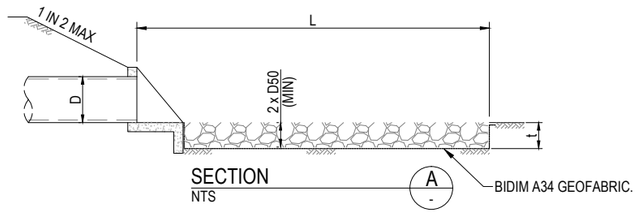
600x600mm FIELD INLET
TYPICAL DETAIL
N.T.S.



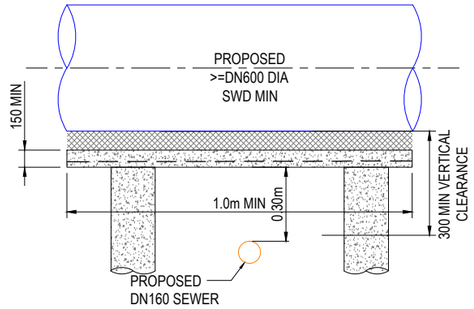
900x600mm FIELD INLET
TYPICAL DETAIL
N.T.S.

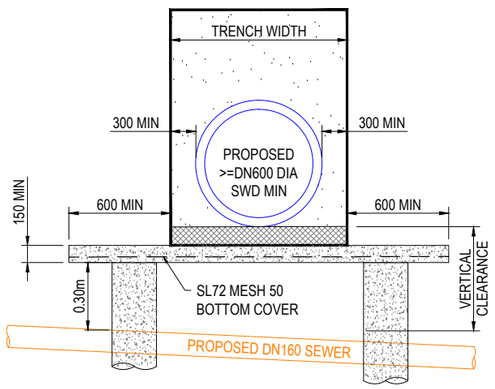


TYPICAL STORMWATER SCOUR PROTECTION PLAN
N.T.S.



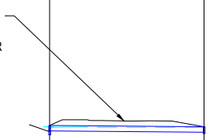
TYPICAL STORMWATER SCOUR PROTECTION SECTION
FOR HEADWALL OUTLETS REFER TO FNQROC STD DWG S1075, S1085 & S1090.
N.T.S.





CONCRETE BRIDGING SLAB DETAIL
SCALE 1:25

STRUCTURE NAME	1/C1	2/C1
STRUCTURE DESCRIPTION	PRECAST HEADWALL	PRECAST HEADWALL



LINE	CULVERT 1
PIPE SIZE (CLASS)	1500 x 450 (RCBC)
PIPE GRADE % 1 IN	0.79 126.01
PIPE LENGTH	12.60
FULL PIPE FLOW VELOCITY (m/s)	0.60
PART FULL FLOW VELOCITY (m/s)	1.75 (1.59 1y)
WATER LEVEL IN STRUCTURE	11.248
HYDRAULIC GRADELINE	11.248 11.208 11.200
PIPE FLOW (Cumecs)	0.407
PIPE CAPACITY AT GRADE (Cumecs)	1.438
DEPTH TO INVERT	0.250 0.200
INVERT LEVEL	10.900 10.800
FINISHED SURFACE LEVEL	11.150 11.000
DISTANCE ALONG DRAINLINE	0.000 12.601
STRUCTURE LOCATION	E325762.364 N8179159.661 E325750.219 N8179163.021

DATUM RL -25.0

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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C-VIEW ONSULTING PTY LTD
ABN 77461010305

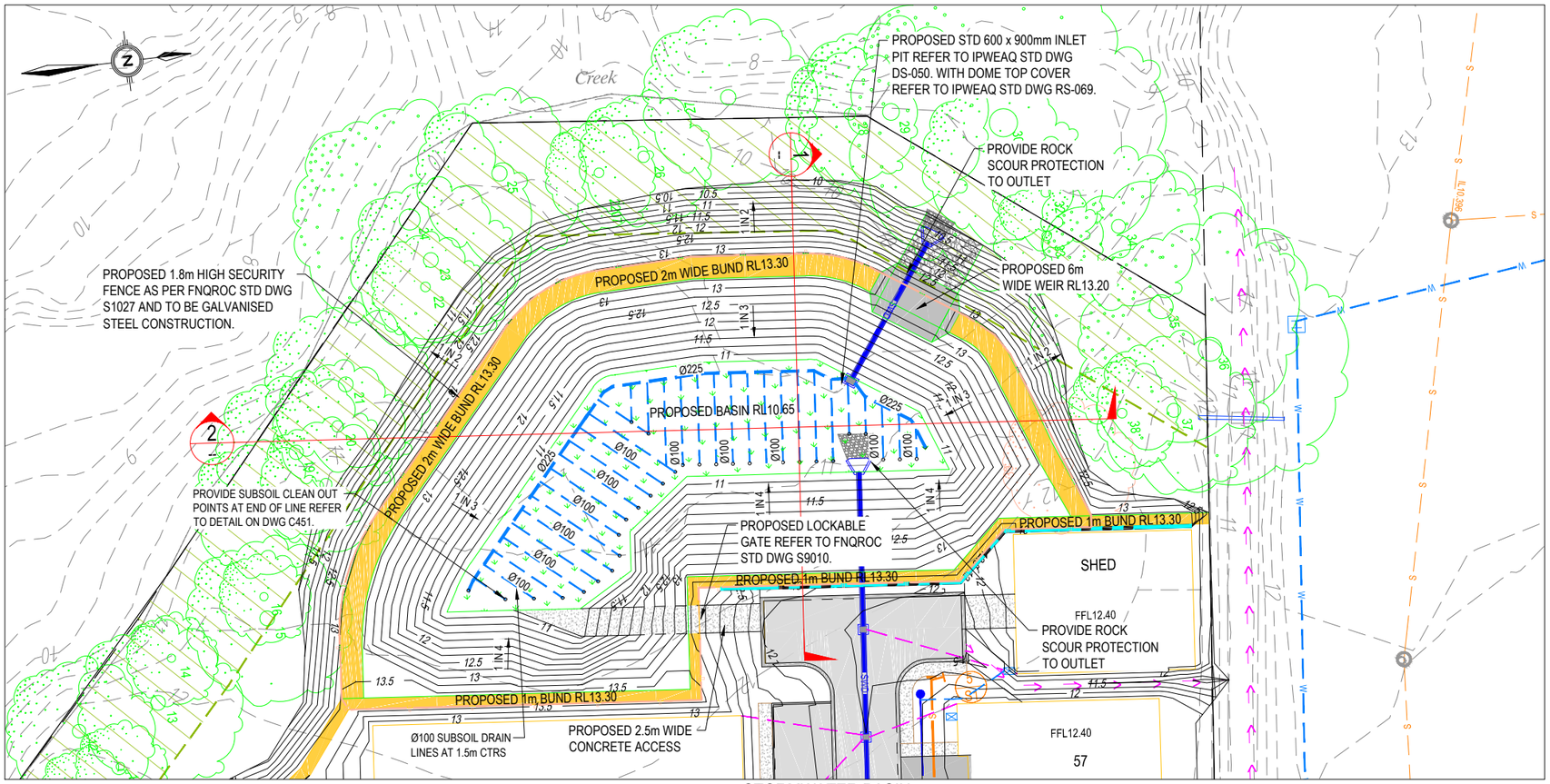
STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

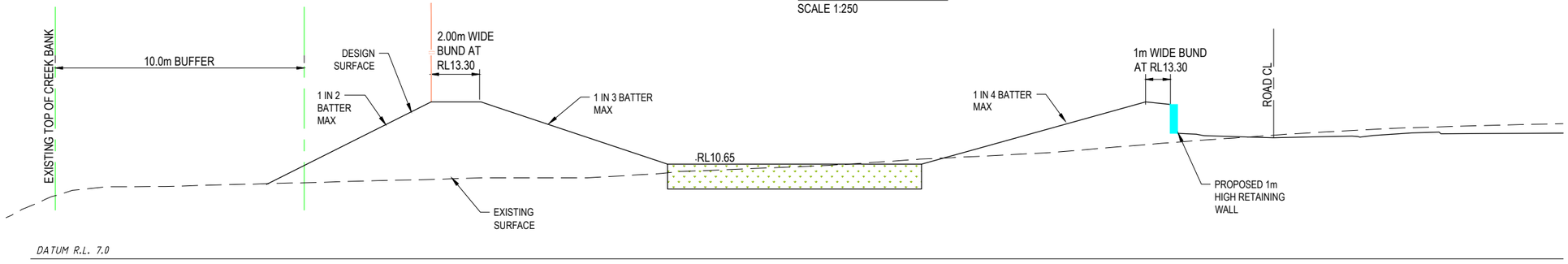
PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER
STRUCTURE DETAILS

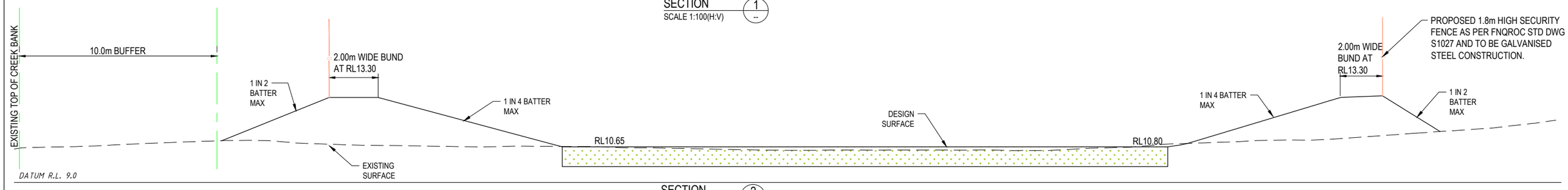
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	440-	A



STORMWATER BASIN
SCALE 1:250



SECTION 1
SCALE 1:100(H:V)



SECTION 2
SCALE 1:100(H:V)

LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- PROPOSED BIO RETENTION BASIN
- 10m CREEK BUFFER
- PROPOSED SECURITY FENCING
- PROPOSED ACCESS CENTRELINE
- PROPOSED KERB EDGE RESTRAINT
- SWD — PROPOSED STORMWATER LINE & MANHOLE
- PROPOSED STORMWATER INLET PIT
- DOWNPIPE CONNECTION TO INLET PIT
- 1/5B — PROPOSED STORMWATER LABEL
- 52 — PROPOSED SURFACE CONTOURS (0.25m INTERVALS)
- SINGLE TIER CONCRETE SLEEPER 0-1.5m HIGH
- PROPOSED SWALE
- W — SV FH RD EC — WATER MAIN, SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP
- W — EXISTING WATER
- SWD — EXISTING STORMWATER
- E-UG — EXISTING UNDERGROUND ELECTRICAL
- FH — EXISTING FIRE HYDRANT
- WM — EXISTING WATER METER
- PP — EXISTING POWER POLE
- LP — EXISTING LIGHT POLE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMOVED

BASIN DESIGN:

1. OUTLET 600mm x 900mm INLET PIT WITH APPROPRIATE GRATE DESIGN.
2. 1 x Ø375mm OUTLET PIPE.
3. 6m WIDE WEIR AT RL13.20.
4. TOTAL FILTRATION AREA = 485m²

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100, 1 : 200 — 1 0 1 2 3 4 5m — A1 A3
1 : 250, 1 : 500 — 5 0 5 10m — A1 A3

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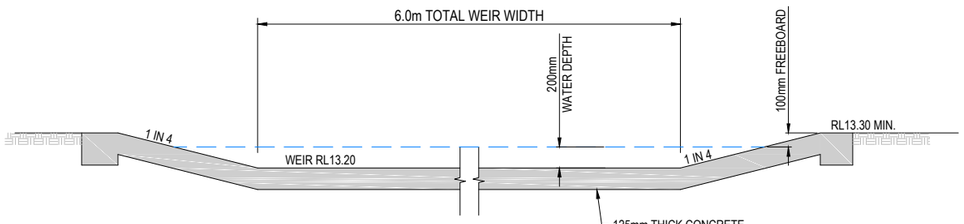
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 07619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER BASIN DETAILS AND PLAN

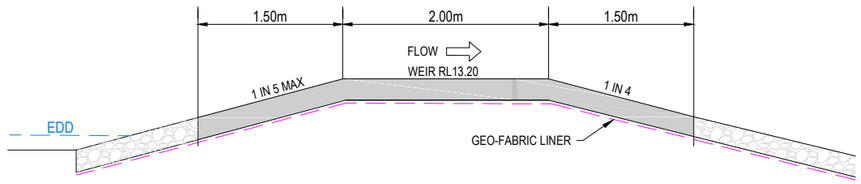
PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	450-	A



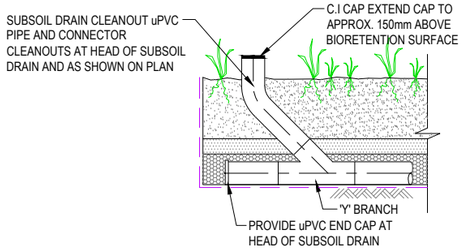
WEIR DETAIL
SCALE NTS

ROCK GRADING TABLE

SMALLEST DIMENSIONS IN (mm)					% OF ROCK SMALLER THAN SIZE SHOWN
$200d_{50}$	$300d_{50}$	$400d_{50}$	$500d_{50}$	$600d_{50}$	
380	525	630	750	850	100
300	450	550	650	750	50-70
200	300	400	500	600	35-50
75	100	130	150	175	2-35



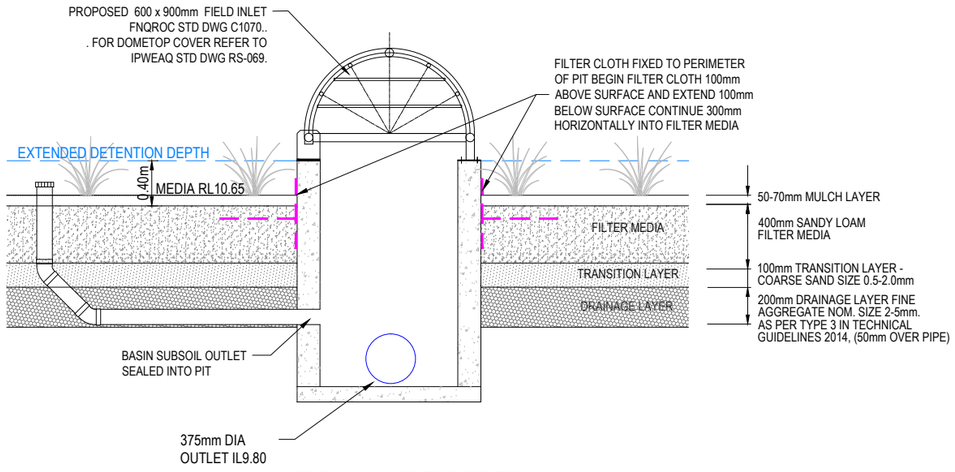
WEIR SECTION
SCALE NTS



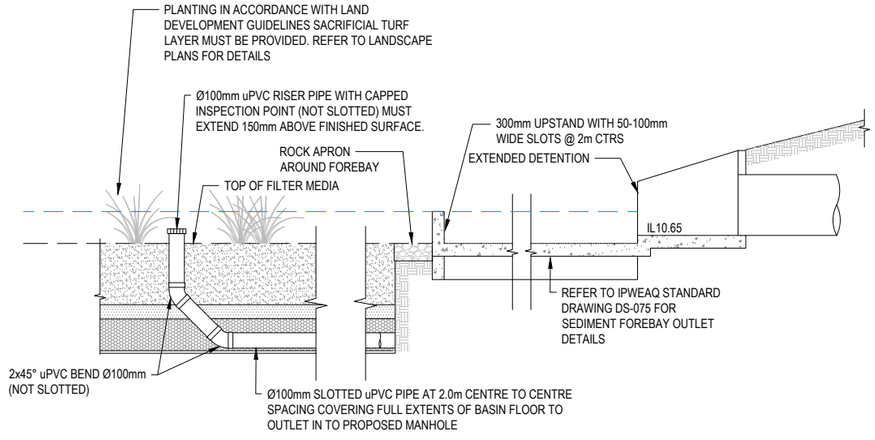
BIORETENTION BASIN - SUBSOIL DRAIN CLEANOUT - TYPICAL DETAIL
SCALE 1:20
UNDERDRAIN CLEAN OUT REFER TO IPWEAQ STD DWG WSUD-003.

NOTES

1. BIORETENTION SYSTEM SURFACE. SURFACE LEVEL IS TOP OF MEDIA. SURFACE TO BE MULCHED AND PLANTED AS PER PROJECT DRAWINGS AND THE 'BIORETENTION DESIGN GUIDELINES' (WATER BY DESIGN)
2. FILTER MEDIA SPECIFICATION SHALL BE IN ACCORDANCE WITH THE 'ADOPTION GUIDELINES FOR STORMWATER BIOFILTRATION SYSTEMS (CRC FOR WATER SENSITIVE CITIES) AND THE BIORETENTION TECHNICAL DESIGN GUIDELINES (WATER BY DESIGN). BIORETENTION HYDRAULIC CONDUCTIVITY SHALL BE IN ACCORDANCE WITH PRACTICE NOTE 1: IN SITU MEASUREMENT OF HYDRAULIC CONDUCTIVITY' (FAWB). THE NUMBER OF SAMPLES TO BE TESTED SHALL BE IN ACCORDANCE WITH THE 'CONSTRUCTION AND ESTABLISHMENT GUIDELINES - SWALES, BIORTENTION SYSTEMS AND WETLANDS' (WATER BY DESIGN).
3. CONSTRUCTION TOLERANCES SHALL BE IN ACCORDANCE WITH THE 'CONSTRUCTION AND ESTABLISHMENT GUIDELINES - SWALES, BIORTENTION SYSTEMS AND WETLANDS' (WATER BY DESIGN).
4. TRANSITION LAYER AND DRAINAGE LAYER DEPTHS VARY WITH DESIGN. DPTHS AND SPECIFICATION TO BE IN ACCORDANCE WITH PROJECT DRAWINGS AND THE 'BIORETENTION DESIGN GUIDELINES' (WATER BY DESIGN)
5. UNDERDRAIN. SLOTTED RIGID PIPE LAID FLAT. REFER TO PROJECT DRAWINGS FOR DIAMETER AND PIPE INVERT. PIPE SHOULD NOT BE INSTALLED WITH A FILTER SOCK SURROUNDING PIPE. UNDERDRAIN PIPES SHALL BE SEALED INTO PITS USING GROUT OR OTHER APPROVED WATERTIGHT SEAL.
6. IMPERMEABLE LINER. COMPACTED CLAY OR SYNTHETIC LINER WITH PERMEABILITY OF NO GREATER THAN 1 x 10^{-9}m/s. IMPERMEABLE LINER TO BE SEALED AROUND ALL PROTRUSIONS. SYNTHETIC LINERS TO BE INSTALLED AND SEALED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS. IMPERMEAB;E LINER AS PER PROJECT DRAWINGS AND 'BIORETENTION DESIGN GUIDELINES' (WATER BY DESIGN)
7. UNDERDRAIN OUTLET RISER ESTABLISHES MAX SATURATED WATER LEVEL. UNDERDRAIN OUTLET RISER AS PER PROJECT DRAWINGS AND 'VEGETATION BATTER. SLOPE AND PLANTING TO BE IN ACCORDANCE WITH PROJECT DRAWINGS AND 'BIORETENTION DESIGN GUIDELINES' (WATER BY DESIGN)
8. INSPECTION/CLEANOUT POINT. VERTICAL SOLID PIPE SECTION ATTACHED TO THE END UNDERDRAIN IN ACCORDANCE WITH PROJECT DRAWINGS AND THE 'BIORETENTION DESIGN GUIDELINES' (WATER BY DESIGN)
9. FILTER CLOTH TO BE FIXED TO PERIMETER OF PIT TO AVOID RUNNELLING OF WATER BETWEEN PIT AND SOIL INTERFACE. BEGIN FILTER CLOTH 100 ABOV SURFACE. EXTENT TO 100 BELOW SURFACE, CONTINUE 300 HORIZONTALLY INTO FILTER MEDIA.
10. PROPOSED PEDESTRIAN FENCE AS PER BCC STD DWG BSD-7004 AND TO BE GALVANISED STEEL CONSTRUCTION.



TYPICAL OUTLET PIT DETAIL
NOT TO SCALE
PIT DETAIL MUST BE IN ACCORDANCE WITH IPWEAQ DS-070 INCLUDING FILTER CLOTH TO PERIMETER



BIO RETENTION + FOREBAY TYPICAL SECTION
SCALE 1:20

1. FOREBAY IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING DS-075
2. UNDERDRAIN CLEAN OUT REFER TO IPWEAQ STD DWG WSUD-003.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

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

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD ABN 77481012805

STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
STORMWATER BASIN DETAILS

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	451-	A

MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
WATER WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

GENERAL
1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND WATER SUPPLY CODE & FNQROC SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN SEQ-WAT-1200-2.ENSURE WATER MAINS MEET CLEARANCES TO OTHER SERVICES IN ACCORDANCE WITH SEQ CODE TABLE 5.5.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWING SEQ-WAT-1107-1 AND IPAM LIST.
6. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE SEQ CODE CL. 5.11.5 & FNQROC STD DWG S2038A.
7. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE FNQROC ACCEPTED PRODUCTS AND MATERIALS LIST .
8. TEST/CHLORINATION POINTS TO BE INSTALLED IN ACCORDANCE WITH STANDARD DRAWING No.SEQ-WAT-1410-1.
9. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
10. ROAD CROSSING BACKFILL TO BE IMPLEMENTED ON ALL ROAD CROSSINGS PER FNQROC STD DWG S2025B.
11. EMBEDMENT TYPE MUST BE IN ACCORDANCE WITH FNQROC STD DWG S2016B.
12. ENSURE WATER METERS AND SERVICES ARE CLEAR OF DRIVEWAYS IN ACCORDANCE WITH SEQ CODE CL.5.11.5.
14. INSTALL FIRE HYDRANTS AND VALVES TO SEQ-WAT-1301-1, 1302-1, 1303-2, 1305-1, 1306-1 AND 1409-1.
15. INSTALL DETECTABLE MARKER TAPE ON ALL WATER MAINS AND PROPERTY SERVICES.
16. ALL VALVES AND HYDRANTS TO BE CLEAR OFF DRIVEWAYS, ANY VALVES AND HYDRANTS LOCATED IN DRIVEWAYS WILL BE REMOVED AT THE DEVELOPERS EXPENSE (PROPERTY OWNERS COST) AT NO COST TO LOCAL COUNCIL.

VEGETATION PROTECTION
1. TREES LOCATED ALONG THE FOOTPATH SHALL BE TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. WHERE TREES ARE IDENTIFIED AS CRITICAL TO REMAIN, TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL
1. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
2. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.

REHABILITATION
1. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
2. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

ENVIRONMENT PROTECTION
ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

CONSTRUCTION APPROVALS
THE CONTRACTOR IS TO BE RESPONSIBLE FOR OBTAINING ALL RELEVANT WORKS APPROVALS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. APPROVALS TO CONSIDER INCLUDE, BUT ARE NOT LIMITED TO:
- LAND ACCESS NOTICE (CARS APPROVAL)
- TRAFFIC PERMITS AND MANAGEMENT PLANS
- QLD POLICE PERMIT
- DRIVEWAY PERMIT/NOTICE TO WORK ON COUNCIL PROPERTY
- WORKS ACROSS A BCC BIKEWAY OR BIKEWAY CLOSURE/DETOUR
- NATURAL ASSETS LOCAL LAW 2003 (NALL)
- VEHICLE ACCESS PERMITS (PARKS PERMIT)

WATER SERVICE PROVIDER APPROVAL
1. ONLY DRAWINGS THAT ARE SIGNED BY AN R.P.E.Q ARE TO BE USED FOR CONSTRUCTION.
2. THE ISSUE OF THESE DRAWINGS FOR TENDER DOES NOT CONSTITUTE APPROVAL TO COMMENCE WORKS.
3. ALL WORKS ARE SUBJECT TO CONDITIONS OF APPROVAL TO BE ISSUED BY LOCAL COUNCIL.
4. THE DEVELOPER IS RESPONSIBLE FOR ALL COSTS AND ACTIONS ASSOCIATED WITH OBTAINING APPROVAL FROM THE WATER SERVICE PROVIDER PRIOR TO THE COMMENCEMENT OF WORKS.

SAFETY
1. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

ALL ENVIRONMENTAL PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.



LOCALITY PLAN
SCALE 1:2000

DRAWING INDEX	
DWG. No.	DESCRIPTION
C500	WATER LOCALITY PLAN AND NOTES
C501	WATER RETICULATION LAYOUT PLAN SHEET 1 OF 2
C502	WATER RETICULATION LAYOUT PLAN SHEET 2 OF 2

MINIMUM COVER OVER WATER	
LOCATION	MINIMUM COVER
PRIVATE PROPERTY & PUBLIC LAND NOT SUBJECT TO VEHICLE LOADING.	0.6m
PRIVATE PROPERTY SUBJECT TO VEHICLE LOADING.	0.75m
FOOTPATHS & ROAD RESERVES.	0.90m
*NEW WORKS MUST HAVE MIN COVER AS PER SEQ TABLE 7.2	

SUBSTITUTIONS & LIVE CONNECTIONS TABLE POTABLE WATER. CONNECTION No.1

STREET JOHNSTON ROAD
EXISTING Ø150 WATER MAIN
LENGTH 3m TYPE OF MAIN 150 PVC-M
DATE COMMENCED _____ DATE COMPLETED _____
SIGNATURE _____

LEGEND
- SITE BOUNDARY
- W — EXISTING WATER MAIN
- DH SV SC W FH RD EC — DUCK FOOT HYDRANT,SLUICE VALVE, SCOUR VALVE, FIRE HYDRANT, REDUCER & END CAP
- DN125 — PROPOSED DN125 PE100 PN16
- DN180 — PROPOSED DN180 PE100 PN16
- DN32 (SINGLE) DN40 (TWIN) PE SERVICE CROSSING INSIDE DN100 MPVC CONDUIT IN ACCORDANCE WITH SEQ IPAM LIST AND SEQ-WAT-1107-1.
- PROP. BDY. X X — DN20 WATER SERVICES (INDICATIVE ONLY) LOCATIONS MUST BE IN ACCORDANCE WITH SEQ-WAT-1107-1

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.
URBAN UTILITIES RECOMMENDS SITE INVESTIGATIONS SUCH AS DETAILED SURVEYING, SERVICE LOCATING AND POTHOLING BE UNDERTAKEN AS PART OF THE DESIGN PROCESS TO AVOID THE NEED FOR DESIGN VARIATIONS DURING CONSTRUCTION.
URBAN UTILITIES TIMEFRAMES APPLY FOR ASSESSMENT OF EVERY DESIGN ITERATION. URBAN UTILITIES ACCEPTS NO LIABILITY FOR ANY DELAYS ASSOCIATED WITH INSUFFICIENT SITE INVESTIGATION AND SERVICES LOCATION BY THE DESIGNER.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' PH.1100 FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE RELEVANT SERVICES PROVIDER.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DOCUMENTATION AND CONSTRUCTION DRAWINGS.

DURING ANY CONSTRUCTION ACTIVITY AT LEAST ONE PERSON ON SITE MUST HAVE COMPLETED A PIPE LAYING TRAINING COURSE APPROVED BY PIPE SUPPLIER OR MANUFACTURER AND APPROPRIATE TO THE PIPELINE UNDER CONSTRUCTION. THE TRAINING COURSE MUST HAVE BEEN COMPLETED WITHIN THE LAST TEN YEARS.
ALL SITE AND FACTORY PE WELDING SHALL BE CARRIED OUT BY A PERSON WHO HAD COMPLETED RELEVANT NATIONALLY ACCREDITED TRAINING COURSE FOR BUTT WELDING/ ELECTROFUSION AND HOLD A VALID WELDING CERTIFICATE IN ACCORDANCE WITH AS/NZS 2033.
THE CONTRACTOR SHALL PROVIDE DOCUMENTED EVIDENCE OF ACCEPTABLE QUALIFICATIONS TO LOCAL COUNCIL REQUIREMENTS.

ALL WATER RETICULATION CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH & SAFETY ACT 2011. CONTACT THE DIVISION OF WORKPLACE HEALTH & SAFETY FOR INFORMATION. PHONE 1300 362 128

ALL ENVIRONMENTAL PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING COMMENCEMENT OF CLEARING

FIRE ANT NOTE:
SITE IS IN FIRE ANT BISECURITY ZONE 2. ALL WORKS TO BE TO DAFF REQUIREMENTS.

CONSULTANT: KARKEL CONTRACTING
CONTACT: KEL HOWARD
TELEPHONE: 0437362417

ASSET REGISTER WATER RETICULATION

ESTATE/STAGE	MOSSMAN RETIREMENT VILLAGE				
SITE ADDRESS	JOHNSTON ROAD, MOSSMAN GORGE				
FILE/APPLICATION	....				
URBAN UTILITIES DELEGATES APP. DATE	.....				
CLIENT	MOSSMAN RETIREMENT				
DRAWING/PLAN No.	C500 TO C502				
MAIN	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	Ø100	PVC-M		528m	
SERVICE	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	DN32	DN32 PE		61m	
SERVICE	DIAMETER	MATERIAL		LENGTH	
		DESIGN	CONST	DESIGN	CONST
	DN40	DN40 PE		238m	
METERS	DIAMETER	NUMBER	CONST		
	DN20	60			

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 2000 1 : 4000 — 20 0 20 40 60 80 100m — A1 A3

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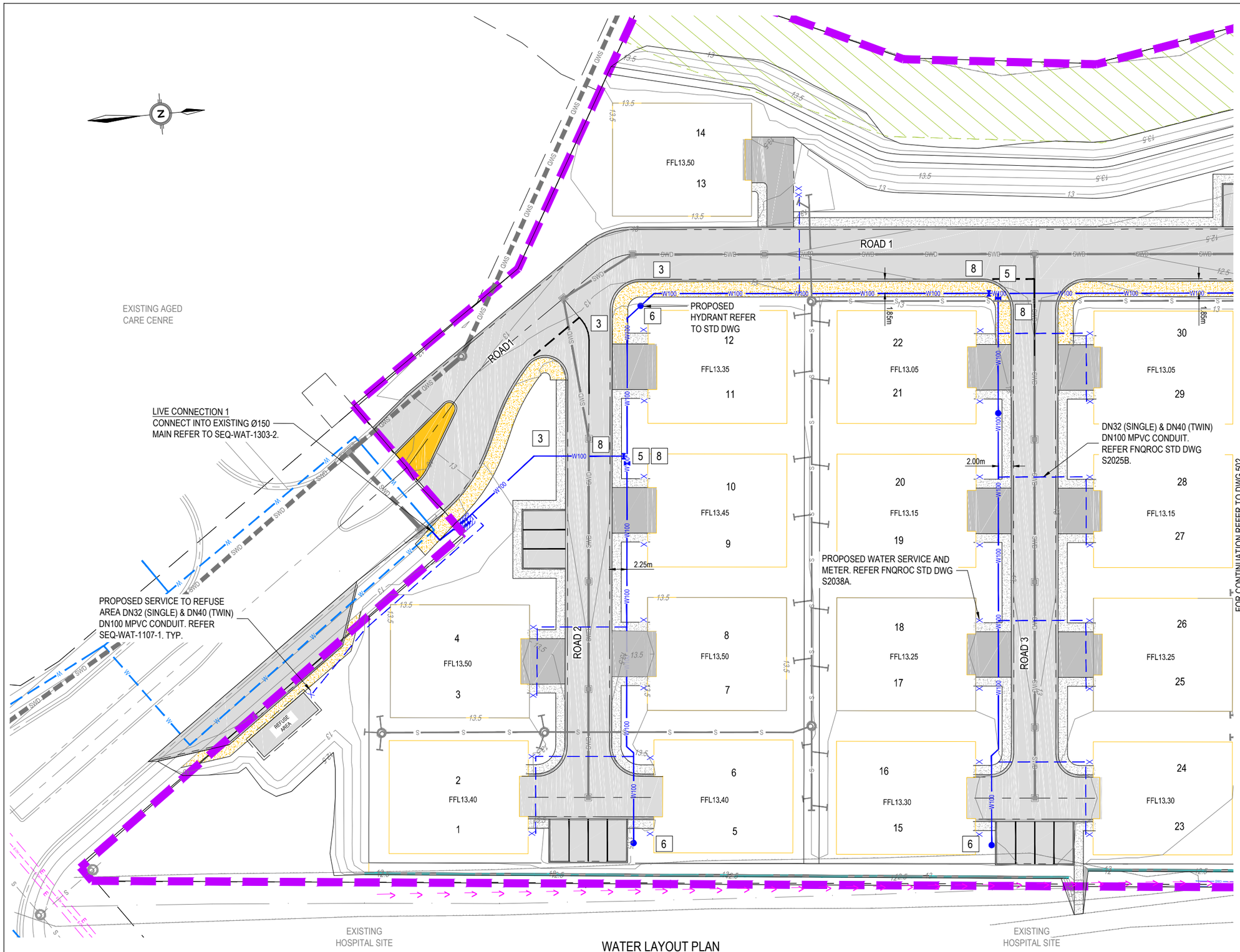
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CERTIFIED: RPEQ 07619 — K HOWARD

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GRID	LOCAL	APPROVER	KH
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PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
WATER LOCALITY LAYOUT PLAN & NOTES

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	500-	A



LEGEND

- SITE BOUNDARY
- PROPOSED MOUNTABLE KERB
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.50m WIDE CONCRETE FOOTPATH
- PROPOSED 3.00m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED Ø100 PVC-M
- DN32 (SINGLE) DN40 (TWIN) PE SERVICE CROSSING INSIDE DN100 MPVC CONDUIT IN ACCORDANCE WITH SEQ IPAM LIST AND SEQ-WAT-1107-1.
- DUCK FOOT HYDRANT,SLUICE VALVE, SCOUR TEE, FIRE HYDRANT, REDUCER & END CAP
- DN20 WATER SERVICES (INDICATIVE ONLY) LOCATIONS MUST BE IN ACCORDANCE WITH SEQ-WAT-1107-1
- HYDRANT SPACING 40m RADIUS
- PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- PROPOSED STORMWATER DRAINAGE
- PROPOSED SEWER LINE AND STRUCTURE LABEL
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER
- WATER FITTING LABEL NO.

FITTINGS SCHEDULE

FITTING NO.	FITTING TYPE - Ø100 PVC-M	THRUST BLOCK DETAILS REFER SEQ-WAT-1205-1 & 1206-1
1	BEND 11.25°	2.7kN
2	BEND 22.5°	5.5KN
3	BEND 45.0°	10.7KN
4	BEND 90.0°	19.8kN
5	TEE Ø100 WITH Ø100 OFFTAKE	14.0kN
6	HYDRANT WITH DN100 RISER	
7	END CAP	14.0kN
8	VALVE DN100	15.8kN

NOTES:

1. REFER TO DWG C500 FOR WATER NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. NOT WITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEQ CODE AND IPSWICH CITY COUNCIL STANDARD SPECIFICATIONS.
4. ALL WATER MAINS TO PE100 CLASS PN16 UNLESS MARKED OTHERWISE.
5. LOCATE END OF LINE MIN 1.0m CLEAR OF ELECTRICAL CROSSING PER SEQ CODE TABLE 5.5
6. END OF LINES MUST BE RESTRAINED AS PER SEQ-WAT-1303-2 & 1205-1 & 1206-1.
7. THRUST RESTRAINTS ARE REQUIRED ON ISOLATION VALVES IN ACCORDANCE WITH URBAN UTILITIES GUIDELINES 6.4-3 & SEQ CODE CL.7.9.6.5 AND SEQ-WAT-1206-1 & FNQROC STD DWG S2016B.
10. WATER MAINS SHALL CROSS ABOVE ELECTRICAL CABLES/CONDUITS AT MINIMUM 500mm VERTICAL CLEARANCE IN ACCORDANCE WITH SEQ CODE TABLE 5.5.
11. ENSURE WATER SERVICE IS AT LEAST 1m CLEAR OF ELECTRICAL SOURCES IN ACCORDANCE WITH SEQ CODE CL.5.11.5.
12. ALL VALVES AND HYDRANTS TO BE CLEAR OFF DRIVEWAYS, ANY VALVES AND HYDRANTS LOCATED IN DRIVEWAYS WILL BE REMOVED AT THE DEVELOPERS EXPENSE (PROPERTY OWNERS COST) AT NO COST TO LOCAL AUTHORITY.

WATER LAYOUT PLAN

SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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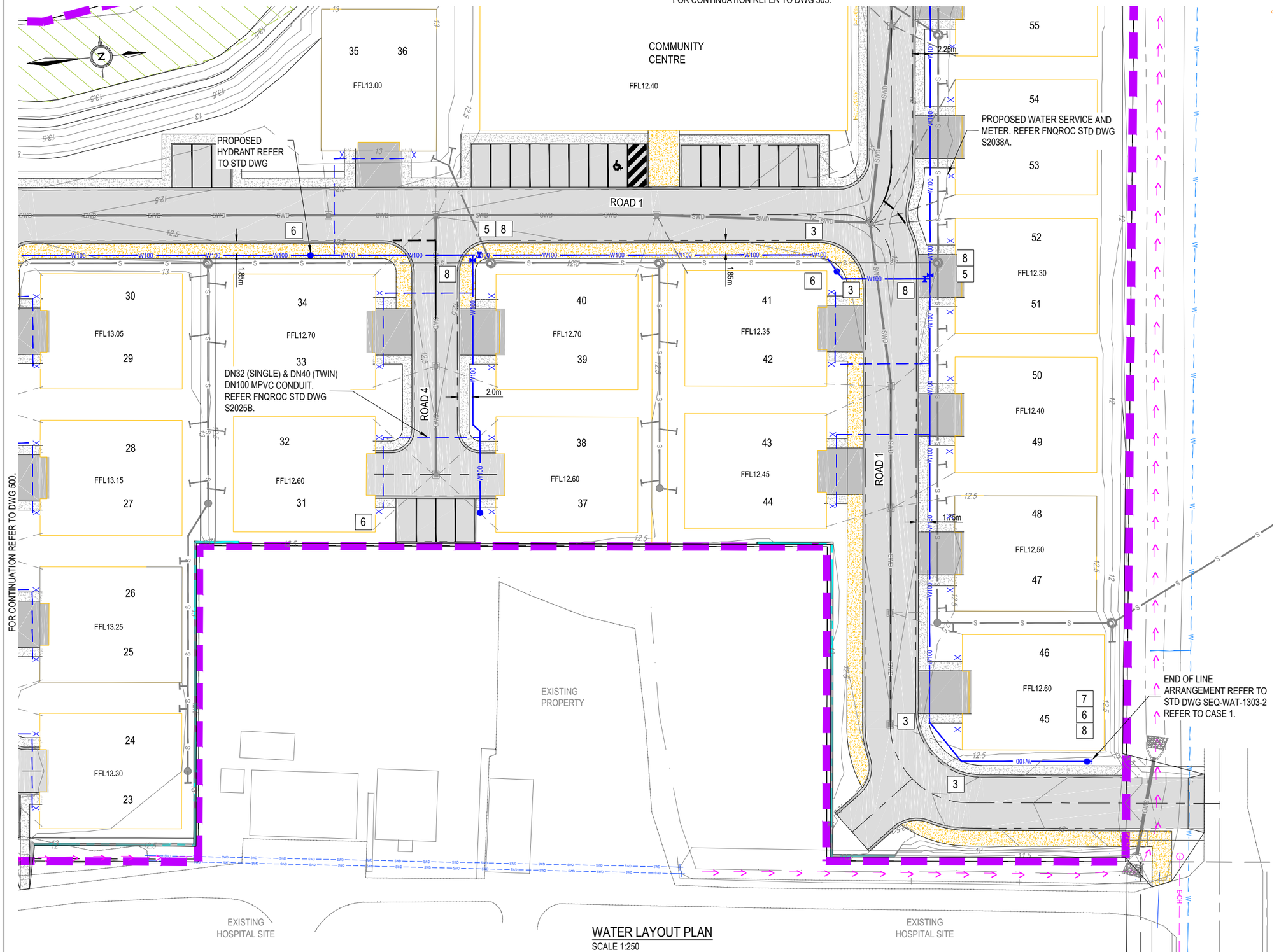
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PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
WATER
LAYOUT PLAN
SHEET 1 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	501-	A



WATER LAYOUT PLAN
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPOSED MOUNTABLE KERB
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.50m WIDE CONCRETE FOOTPATH
- PROPOSED 3.00m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED Ø100 PVC-M
- DN32 (SINGLE) DN40 (TWIN) PE SERVICE CROSSING INSIDE DN100 MPVC CONDUIT IN ACCORDANCE WITH SEQ IPAM LIST AND SEQ-WAT-1107-1.
- DUCK FOOT HYDRANT,SLUICE VALVE, SCOUR TEE, FIRE HYDRANT, REDUCER & END CAP
- DN20 WATER SERVICES (INDICATIVE ONLY) LOCATIONS MUST BE IN ACCORDANCE WITH SEQ-WAT-1107-1
- HYDRANT SPACING 40m RADIUS
- PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- PROPOSED STORMWATER DRAINAGE
- PROPOSED SEWER LINE AND STRUCTURE LABEL
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER
- WATER FITTING LABEL NO.

FITTINGS SCHEDULE

FITTING NO.	FITTING TYPE - Ø100 PVC-M	THRUST BLOCK DETAILS REFER SEQ-WAT-1205-1 & 1206-1
1	BEND 11.25°	2.7kN
2	BEND 22.5°	5.5KN
3	BEND 45.0°	10.7KN
4	BEND 90.0°	19.8kN
5	TEE Ø100 WITH Ø100 OFFTAKE	14.0kN
6	HYDRANT WITH DN100 RISER	
7	END CAP	14.0kN
8	VALVE DN100	15.8kN

NOTES:

1. REFER TO DWG C500 FOR WATER NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. NOT WITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEQ CODE AND IPSWICH CITY COUNCIL STANDARD SPECIFICATIONS.
4. ALL WATER MAINS TO PE100 CLASS PN16 UNLESS MARKED OTHERWISE.
5. LOCATE END OF LINE MIN 1.0m CLEAR OF ELECTRICAL CROSSING PER SEQ CODE TABLE 5.5
6. END OF LINES MUST BE RESTRAINED AS PER SEQ-WAT-1303-2 & 1205-1 & 1206-1.
7. THRUST RESTRAINTS ARE REQUIRED ON ISOLATION VALVES IN ACCORDANCE WITH URBAN UTILITIES GUIDELINES 6.4-3 & SEQ CODE CL.7.9.6.5 AND SEQ-WAT-1206-1 & FNQROC STD DWG S2016B.
10. WATER MAINS SHALL CROSS ABOVE ELECTRICAL CABLES/CONDUITS AT MINIMUM 500mm VERTICAL CLEARANCE IN ACCORDANCE WITH SEQ CODE TABLE 5.5.
11. ENSURE WATER SERVICE IS AT LEAST 1m CLEAR OF ELECTRICAL SOURCES IN ACCORDANCE WITH SEQ CODE CL.5.11.5.
12. ALL VALVES AND HYDRANTS TO BE CLEAR OFF DRIVEWAYS, ANY VALVES AND HYDRANTS LOCATED IN DRIVEWAYS WILL BE REMOVED AT THE DEVELOPERS EXPENSE (PROPERTY OWNERS COST) AT NO COST TO LOCAL AUTHORITY.

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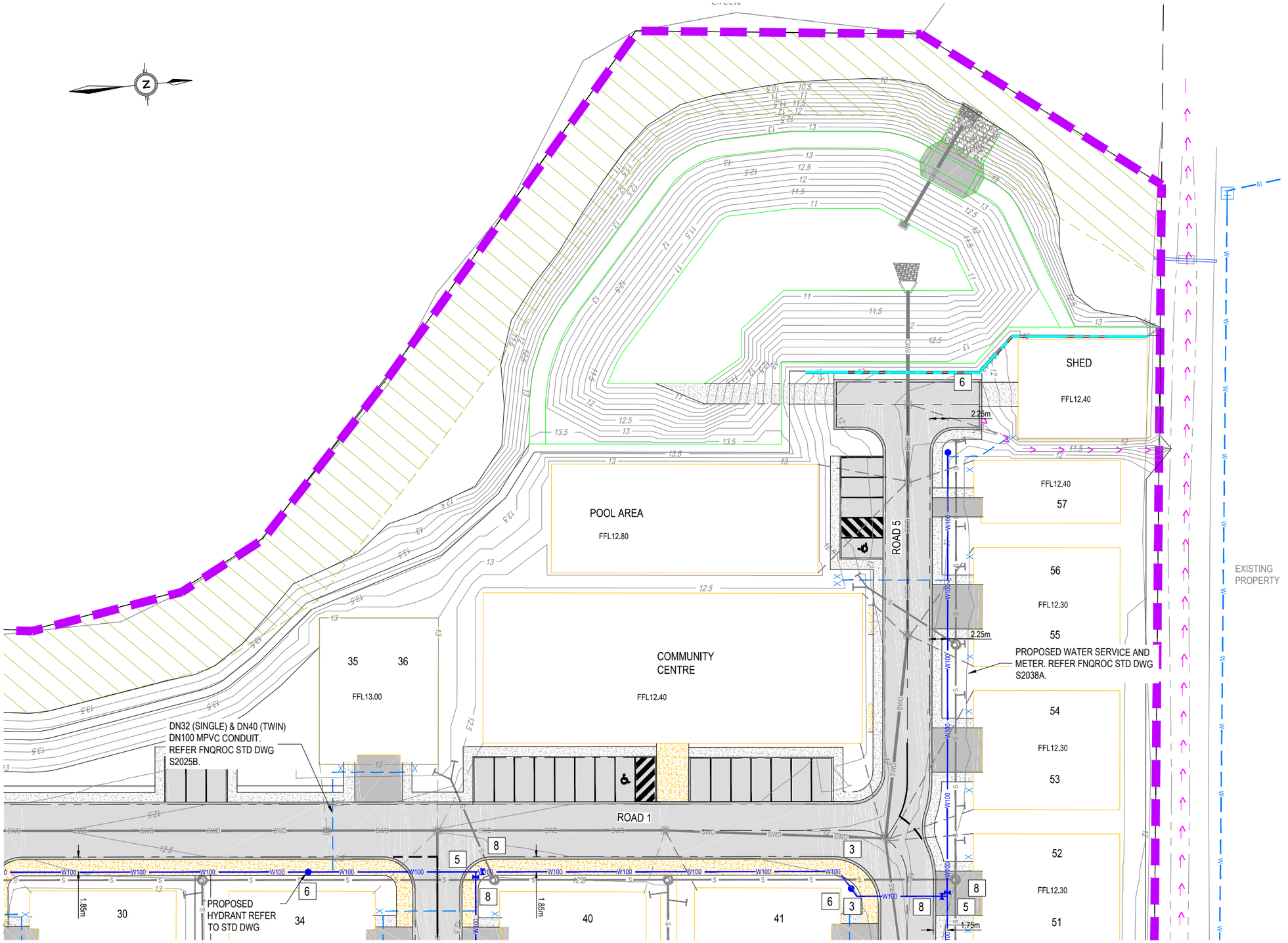
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(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
WATER
LAYOUT PLAN
SHEET 2 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	502-	A



WATER LAYOUT PLAN
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPOSED MOUNTABLE KERB
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 1.50m WIDE CONCRETE FOOTPATH
- PROPOSED 3.00m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED Ø100 PVC-M
- DN32 (SINGLE) DN40 (TWIN) PE SERVICE CROSSING INSIDE DN100 MPVC CONDUIT IN ACCORDANCE WITH SEQ IPAM LIST AND SEQ-WAT-1107-1.
- DUCK FOOT HYDRANT,SLUICE VALVE, SCOUR TEE, FIRE HYDRANT, REDUCER & END CAP
- PROP. BDY. — DN20 WATER SERVICES (INDICATIVE ONLY) LOCATIONS MUST BE IN ACCORDANCE WITH SEQ-WAT-1107-1
- HYDRANT SPACING 40m RADIUS
- 52 — PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- SWD — PROPOSED STORMWATER DRAINAGE
- S — PROPOSED SEWER LINE AND STRUCTURE LABEL
- S — EXISTING SEWER LINE
- W — EXISTING WATER
- SWD — EXISTING STORMWATER
- 24 — WATER FITTING LABEL NO.

FITTINGS SCHEDULE

FITTING NO.	FITTING TYPE - Ø100 PVC-M	THRUST BLOCK DETAILS REFER SEQ-WAT-1205-1 & 1206-1
1	BEND 11.25°	2.7kN
2	BEND 22.5°	5.5KN
3	BEND 45.0°	10.7KN
4	BEND 90.0°	19.8kN
5	TEE Ø100 WITH Ø100 OFFTAKE	14.0kN
6	HYDRANT WITH DN100 RISER	
7	END CAP	14.0kN
8	VALVE DN100	15.8kN

NOTES:

1. REFER TO DWG C500 FOR WATER NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. NOT WITHSTANDING THE DETAILS SHOWN ON THE DRAWINGS ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEQ CODE AND IPSWICH CITY COUNCIL STANDARD SPECIFICATIONS.
4. ALL WATER MAINS TO PE100 CLASS PN16 UNLESS MARKED OTHERWISE.
5. LOCATE END OF LINE MIN 1.0m CLEAR OF ELECTRICAL CROSSING PER SEQ CODE TABLE 5.5
6. END OF LINES MUST BE RESTRAINED AS PER SEQ-WAT-1303-2 & 1205-1 & 1206-1.
7. THRUST RESTRAINTS ARE REQUIRED ON ISOLATION VALVES IN ACCORDANCE WITH URBAN UTILITIES GUIDELINES 6.4-3 & SEQ CODE CL.7.9.6.5 AND SEQ-WAT-1206-1 & FNQROC STD DWG S2016B.
10. WATER MAINS SHALL CROSS ABOVE ELECTRICAL CABLES/CONDUITS AT MINIMUM 500mm VERTICAL CLEARANCE IN ACCORDANCE WITH SEQ CODE TABLE 5.5.
11. ENSURE WATER SERVICE IS AT LEAST 1m CLEAR OF ELECTRICAL SOURCES IN ACCORDANCE WITH SEQ CODE CL.5.11.5.
12. ALL VALVES AND HYDRANTS TO BE CLEAR OFF DRIVEWAYS, ANY VALVES AND HYDRANTS LOCATED IN DRIVEWAYS WILL BE REMOVED AT THE DEVELOPERS EXPENSE (PROPERTY OWNERS COST) AT NO COST TO LOCAL AUTHORITY.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 1 : 250 / 1 : 500 — 5 0 5 10m — A1 / A3

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CLIENT: COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd
ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD
ABN 77481512302

STATUS: ISSUE FOR APPROVAL

CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT: MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE: WATER LAYOUT PLAN
SHEET 3 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	503-	A

MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
SEWER WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098



LOCALITY PLAN
SCALE 1:2000

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT FNQROC & SEQ CODE SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIAL AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARD
3. THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE LOCAL AUTHORITY SEWERAGE SYSTEM.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF LOCAL AUTHORITY (TO BE ARRANGED BY THE CONTRACTOR).
5. ALL PIPES AND MATERIAL SHALL COMPLY WITH THE REQUIREMENTS OF FNQROC OR SEQ CODE "ACCEPTED PRODUCTS AND MATERIALS" LIST
6. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
7. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO ADJOINING PROPERTIES A MINIMUM OF 300mm AND A MAXIMUM OF 750mm.
8. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300mm (LOOSE) IN DEPTH AND SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S. 1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY QUU UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
9. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE CL.9.10. & FNQROC STD DWG S3015C.
10. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
11. SEWER SHALL BE DISUSED OR ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE CL.5.2.9
12. ALL LEVELS ARE IN METRES ON THE AUSTRALIAN HEIGHT DATUM .
13. CONSTRUCT EMBEDMENT AND TRENCHFILL TO FNQROC STD DWG S3015C.
14. DETECTABLE MARKER TAPE SHALL BE PROVIDED EITHER ABOVE THE EMBEDMENT ZONE OR 1000mm BELOW THE F.S.L., WHICHEVER IS CLOSEST TO FINISHED SURFACE LEVEL.
15. ALL SEWER AND MAINTAINANCE STRUCTURES SHALL BE INSPECTED BY CCTV. THE FIRST CCTV INSPECTION SHALL BE MADE PRIOR TO COMISSIONING AFTER ALL BACKFILLING OPERATIONS HAVE BEEN SATISFACTORILY COMPLETED AND ALL JUNCTIONS HAVE BEEN INSTALLED. A SECOND CCTV INSPECTION IS REQUIRED PRIOR TO, BUT NOT MORE THAN TWO WEEKS BEFORE, THE ON-SITE INSPECTION FOR "OFF MAINTAINANCE" CERTIFICATION. CCTV EQUIPMENT IN ACCORDANCE WITH SECTION 21.8 OF THE SEQ CODE AND THE WSAA CONDUIT INSPECTION REPORTING CODE OF AUSTRALIA WSA 05 AND THE RESULTS SUBMITTED TO URBAN UTILITIES FOR COMPLIANCE CHECKING.
16. ALL SEWER PC'S AND MAINTENANCE STRUCTURES TO BE CLEAR OFF DRIVEWAYS WHERE THESE FITTINGS ARE LCOATED IN/UNDER DRIVEWAY. THESE FITTINGS WILL BE MOVED AT DEVELOPERS (PROPERTY OWNERS COST) AT NO RISK/ COST TO LOCAL AUTHORITY. REFER TO FNQROC STD DWG S3005D.
17. THE CONCRETE ACCESS MANHOLES REFER TO FNQROC STD DWG S3000C.

VEGETATION PROTECTION

1. ANY TREES AFFECTED BY THE WORKS SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGE VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

1. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
2. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.

REHABILITATION

1. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
2. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

ENVIRONMENT PROTECTION

ALL ENVIRONMENT PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

CONSTRUCTION APPROVALS

THE CONTRACTOR IS TO BE RESPONSIBLE FOR OBTAINING ALL RELEVANT WORKS APPROVALS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. APPROVALS TO CONSIDER INCLUDE, BUT ARE NOT LIMITED TO:

- LAND ACCESS NOTICE (CARS APPROVAL)
- TRAFFIC PERMITS AND MANAGEMENT PLANS
- QLD POLICE PERMIT
- DRIVEWAY PERMIT/NOTICE TO WORK ON COUNCIL PROPERTY
- WORKS ACROSS A BCC BIKEWAY OR BIKEWAY CLOSURE/DETOUR
- NATURAL ASSETS LOCAL LAW 2003 (NALL)
- VEHICLE ACCESS PERMITS (PARKS PERMIT)

SEWER SERVICE PROVIDER APPROVAL

1. ONLY DRAWINGS THAT ARE SIGNED BY AN R.P.E.Q ARE TO BE USED FOR CONSTRUCTION.
2. THE ISSUE OF THESE DRAWINGS FOR TENDER DOES NOT CONSTITUTE APPROVAL TO COMMENCE WORKS.
3. ALL WORKS ARE SUBJECT TO CONDITIONS OF APPROVAL TO BE ISSUED BY LOAL AUTHORITY.
4. THE DEVELOPER IS RESPONSIBLE FOR ALL COSTS AND ACTIONS ASSOCIATED WITH OBTAINING APPROVAL FROM THE WATER SERVICE PROVIDER PRIOR TO THE COMMENCEMENT OF WORKS.

SAFETY

1. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

ALL ENVIRONMENTAL PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING, COMMENCING.

DRAWING INDEX

DWG. No.	DESCRIPTION
C600	SEWER LOCALITY PLAN AND NOTES
C601	SEWER LAYOUT PLAN SHEET 1 OF 2
C602	SEWER LAYOUT PLAN SHEET 2 OF 2
C610	SEWER LONGITUDINAL SECTIONS SHEET 1 OF 2
C611	SEWER LONGITUDINAL SECTIONS SHEET 2 OF 2

LEGEND

- SITE BOUNDARY
- EXISTING SEWER
- PROPOSED SURFACE CONTOURS (11.00)
- PROPOSED SEWER

FIRE ANT NOTE:
SITE IS IN FIRE ANT BISECURITY ZONE 2. ALL WORKS TO BE TO DAFF REQUIREMENTS.

CONSULTANT: KARKEL CONTRACTING
CONTACT: KEL HOWARD
TELEPHONE: 0437362417

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT 'DIAL BEFORE YOU DIG' PH.1100 FOR THE LOCATION OF EXISTING PUBLIC UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE RELEVANT SERVICES PROVIDER.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DOCUMENTATION AND CONSTRUCTION DRAWINGS.

ALL WATER AND SEWER CONSTRUCTION WORK UNDERTAKEN BY THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE WORKPLACE HEALTH AND SAFETY LEGISLATION.

NAME OF ESTATE		MOSSMAN RETIREMENT VILLAGE
APPLICATION No.		.....
SP DELEGATE APPROVAL DATE		.....
DRAWING/PLAN No.		C600 TO C611
No. OF PROPERTIES		60
AREA IN HECTARES (Ha)		1.50
LENGTH OF SEWER	Ø150 uPVC	552

CONSTRUCTOR LIVE SEWER WORKS

No.	DESCRIPTION	SEWER DIA	MH No.	MH/MS TYPE	COVER TYPE	LOT No.	FSL	ESL	INVERT LEVEL	DEPTH TO INVERT
1 (a)	0.5m FROM STUB END CAP AT STRUCTURE 5/TM, CONSTRUCTOR TO BUILD ALL LINE 1. AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY URBAN UTILITIES FOR INSPECTION	Ø150 uPVC	5/TM (MH574666)	MH-G	D	-	31.10	31.10	28.30	2.80
1 (b)	CONSTRUCTOR TO REMOVE TEMPORARY END CAP ON STUB FOR CONNECTION AT 5/TM AND MAKE LIVE CONNECTION AFTER SUCCESSFUL ON MAINTENANCE INSPECTION (UNDER UU/RPEQ SUPERVISION)									

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 2000 / 1 : 4000 — 20 0 20 40 60 80 100m — A1 / A3

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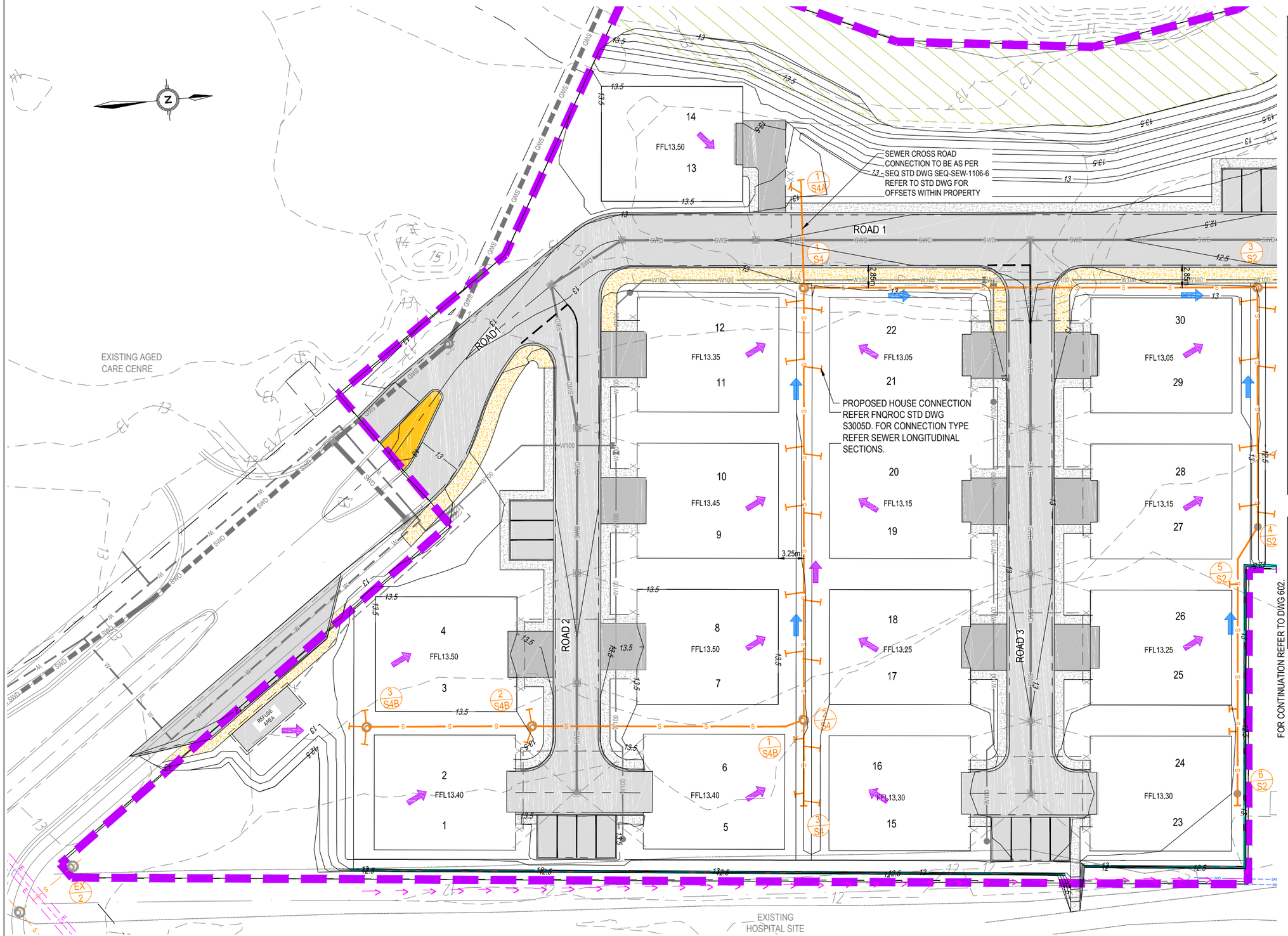
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 7619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LOCALITY
LAYOUT PLAN & NOTES

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	600-	A



LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED MOUNTABLE KERB (SM1)
- PROPOSED SEWER LINE (Ø150 PVC-M PN8) AND STRUCTURE LABEL (STRUCTURE NUMBER ON LINE NUMBER)
- FALL DIRECTION OF LOT
- DIRECTION OF FLOW
- CONCRETE SLEEPER RETAINING WALL 0-1.5m MAX HEIGHT,
- PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- EXISTING SURFACE CONTOURS (0.50m INTERVALS)
- PROPOSED STORMWATER DRAINAGE
- WATER MAIN, DUCK FOOT HYDRANT,SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER

NOTES:

1. REFER TO DWG C600 FOR SEWER NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. ALL PROPOSED SEWER PROPERTY CONNECTIONS TO BE CLEAR OF DRIVEWAYS.
4. UNLESS NOTED OTHERWISE, ALL PROPOSED PROPERTY CONNECTIONS FROM DOWNSTREAM SIDE BOUNDARY ARE TO BE INSTALLED AT AN OFFSET OF 1.2m.

SEWER LAYOUT PLAN

SCALE 1:250

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE: 5 0 5 10 SCALE 1:250

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PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD ABN 77461010305

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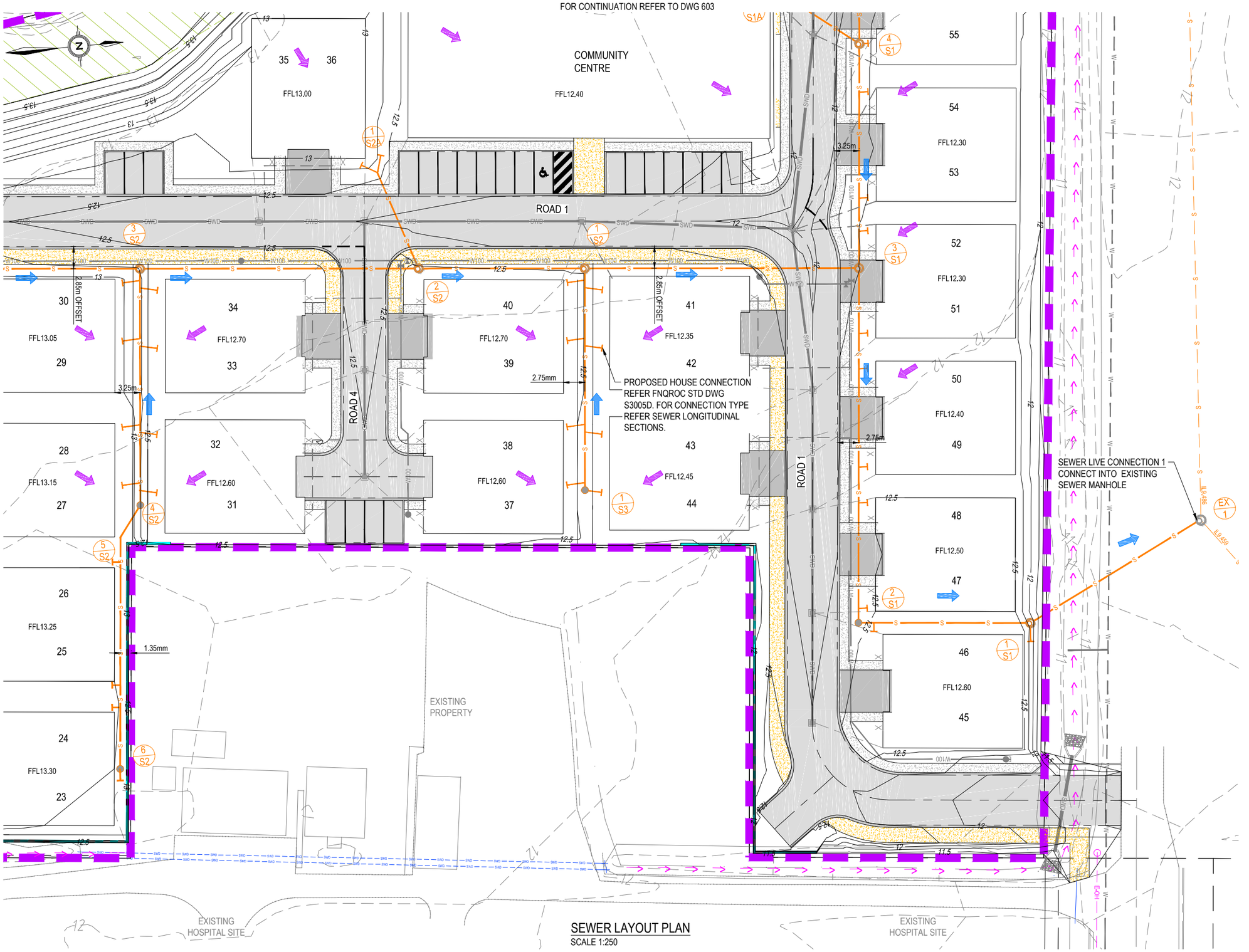
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1	THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE	

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LAYOUT PLAN
SHEET 1 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	601-	A



SEWER LAYOUT PLAN
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED MOUNTABLE KERB (SM1)
- PROPOSED SEWER LINE (Ø150 PVC-M PN8) AND STRUCTURE LABEL (STRUCTURE NUMBER ON LINE NUMBER)
- FALL DIRECTION OF LOT
- DIRECTION OF FLOW
- CONCRETE SLEEPER RETAINING WALL 0-1.5m MAX HEIGHT,
- PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- EXISTING SURFACE CONTOURS (0.50m INTERVALS)
- PROPOSED STORMWATER DRAINAGE
- WATER MAIN, DUCK FOOT HYDRANT,SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER

NOTES:

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2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. ALL PROPOSED SEWER PROPERTY CONNECTIONS TO BE CLEAR OF DRIVEWAYS.
4. UNLESS NOTED OTHERWISE, ALL PROPOSED PROPERTY CONNECTIONS FROM DOWNSTREAM SIDE BOUNDARY ARE TO BE INSTALLED AT AN OFFSET OF 1.2m.

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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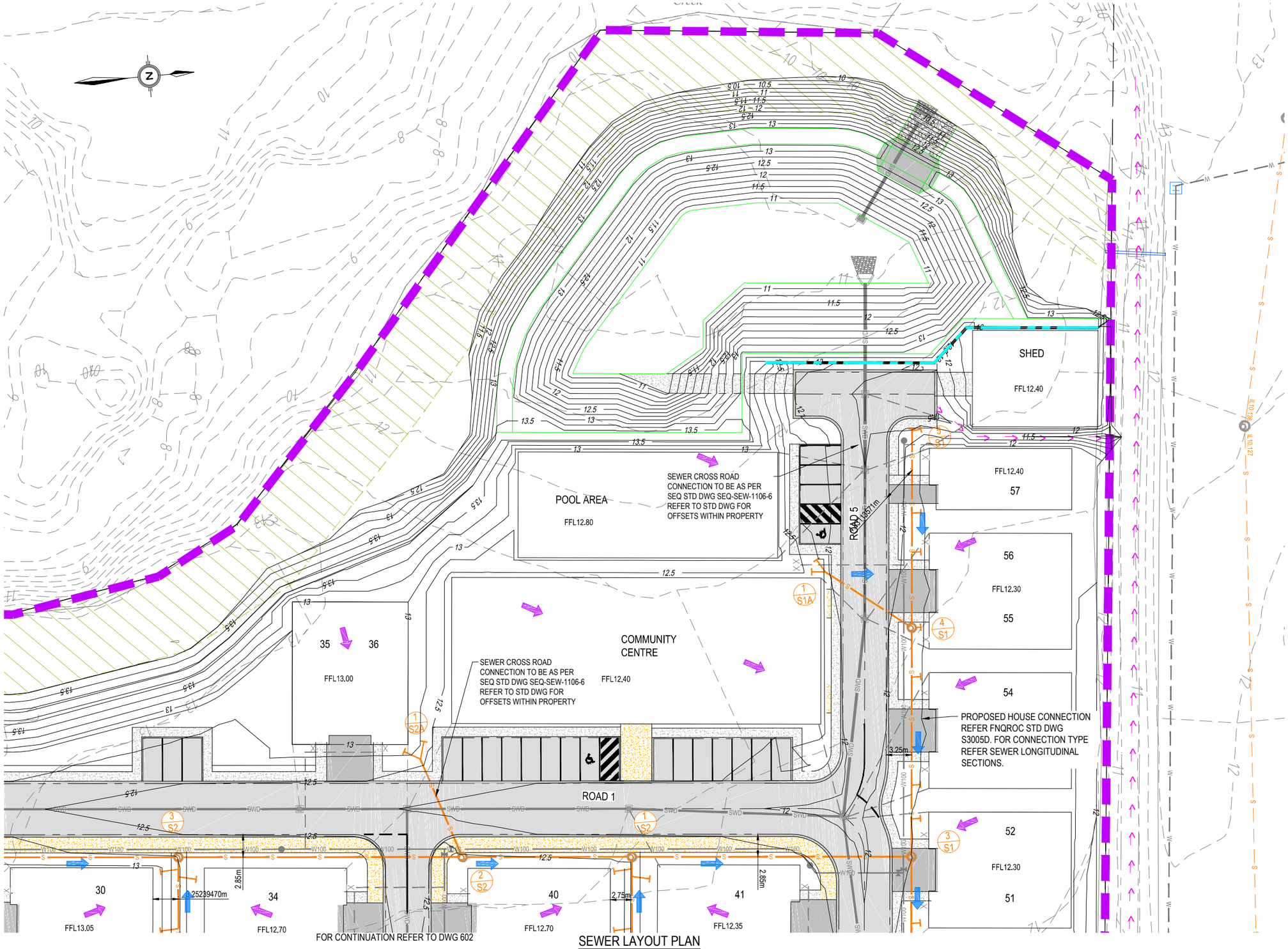
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RPEQ NO.	07619	PROJECT TEAM	
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PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LAYOUT PLAN
SHEET 2 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	602-	A



SEWER LAYOUT PLAN
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPOSED ASPHALT AREA OF ROADWORKS
- PROPOSED 2.0m WIDE CONCRETE FOOTPATH
- PROPOSED 1.2m WIDE CONCRETE FOOTPATH
- 10m CREEK BUFFER
- PROPOSED MOUNTABLE KERB (SM1)
- PROPOSED SEWER LINE (Ø150 PVC-M PN8) AND STRUCTURE LABEL (STRUCTURE NUMBER ON LINE NUMBER)
- FALL DIRECTION OF LOT
- DIRECTION OF FLOW
- CONCRETE SLEEPER RETAINING WALL 0-1.5m MAX HEIGHT,
- PROPOSED SURFACE CONTOURS (0.50m INTERVALS)
- EXISTING SURFACE CONTOURS (0.50m INTERVALS)
- PROPOSED STORMWATER DRAINAGE
- WATER MAIN, DUCK FOOT HYDRANT,SLUICE VALVE, FIRE HYDRANT, REDUCER & END CAP (DH SV FH RD EC)
- EXISTING SEWER LINE
- EXISTING WATER
- EXISTING STORMWATER

NOTES:

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REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 250 5 0 5 10m A1
1 : 500 A3

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ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LAYOUT PLAN
SHEET 3 OF 3

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	603-	A

LEGEND

SEWER STRUCTURE LIDS TYPES

B	DUCTILE IRON NON-TRAFFICABLE LID OR CLASS B CONCRETE INFILL IN ACCORDANCE WITH SEQ CODE CL.7.9.1. REFER STD DWG SEQ-SEW-1308-2 & 3, 5-7 & SEQ-SEW-1316-1
D	DUCTILE IRON TRAFFICABLE LID IN ACCORDANCE WITH STD DWGS SEQ-SEW-1308-8-11 & & SEQ-SEW-1316-1.

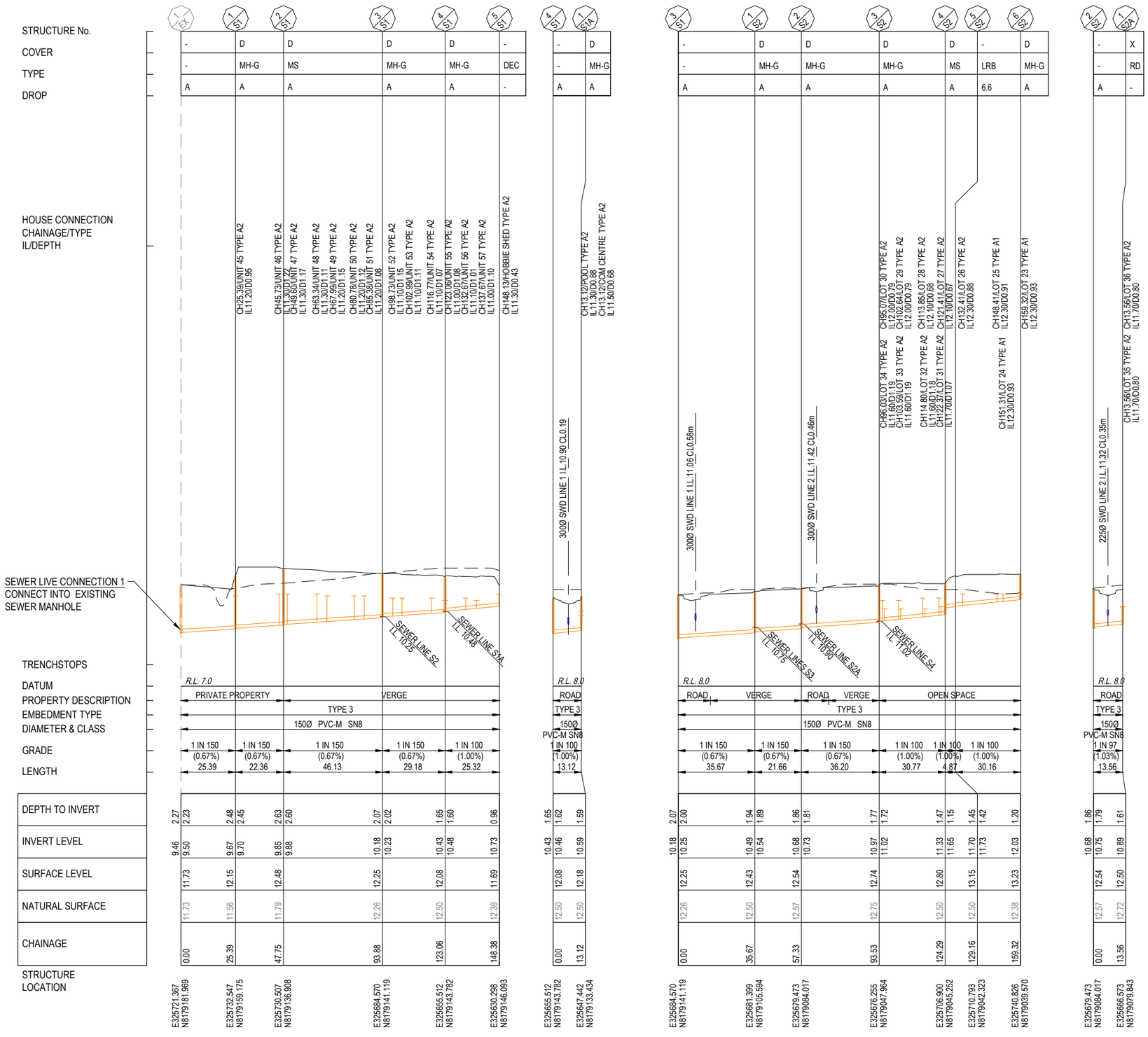
SEWER STRUCTURE TYPES

MH-G	900mm MAINTENANCE HOLE IN ACCORDANCE WITH STD DWGS SEQ-SEW-1301-2, 3, 4 & 5.
MH-F	1200mm MAINTENANCE HOLE IN ACCORDANCE WITH STD DWGS SEQ-SEW-1301-8, 9, 10 & 11.
MS	MAINTENANCE SHAFT 600mm DIA. IN ACCORDANCE WITH STD DWGS SEQ-SEW-1315-1.
BE	LONG RADIUS BEND DN160 (MIN RADIUS 5.6m) IN ACCORDANCE WITH SEQ CODE TABLE 5.3.
XRD	SEWER CROSS ROAD CONNECTION TO BE AS PER SEQ STD DWG SEQ-SEW-1106-6

SEWER STRUCTURE DROPS

A	REFER FNQROC STD DWG S3000C
C	REFER FNQROC STD DWG S3000C
D	MH-G - REFER SEQ-SEW-1301-2

1. FOR PROPERTY CONNECTION DETAILS REFER TO FNQROC STD DWG S3005D.
2. HC LEVELS REFER TO IL AT END OF HC. NOT WITHSTANDING HC LEVELS GIVEN CONTRACTOR TO ENSURE HC I.O LEVEL IS LOCATED BETWEEN 600mm & 1500mm BELOW FSL.
3. MANHOLES GREATER THAN 4.0m DEEP TO BE PE-LINED TO SEQ STANDARD SPECIFICATION FOR MANHOLE DETAILS REFER TO FNQROC STD DWG S3000C.
4. FOR BULKHEADS AND TRENCH STOP DETAILS REFER SEQ-SEW-1206-1.
5. ALL MANHOLE LIDS IN CONCRETE FOOTPATH/DRIVEWAYS TO HAVE CONCRETE INFILL TO MINIMISE TRIP HAZARD.
6. CONSTRUCT EMBEDMENT AND TRENCHFILL FNQROC STD DWG S3015C.
7. SEWER CROSS ROAD CONNECTION TO BE AS PER SEQ STD DWG SEQ-SEW-1106-6



REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 VERT. 1 0 1 2 3 4 5m A1
1 : 200 VERT. A3
1 : 1000 HORIZ. 10 0 10 20 30 40 50m A1
1 : 2000 HORIZ. A3

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd
ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD
ABN 77461610905

STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 7619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	KH
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LONGITUDINAL SECTIONS
SHEET 1 OF 2

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	610-	A

LEGEND

SEWER STRUCTURE LIDS TYPES

B	DUCTILE IRON NON-TRAFFICABLE LID OR CLASS B CONCRETE INFILL IN ACCORDANCE WITH SEQ CODE CL.7.9.1. REFER STD DWG SEQ-SEW-1308-2 & 3, 5-7 & SEQ-SEW-1316-1
D	DUCTILE IRON TRAFFICABLE LID IN ACCORDANCE WITH STD DWGS SEQ-SEW-1308-8-11 & & SEQ-SEW-1316-1.

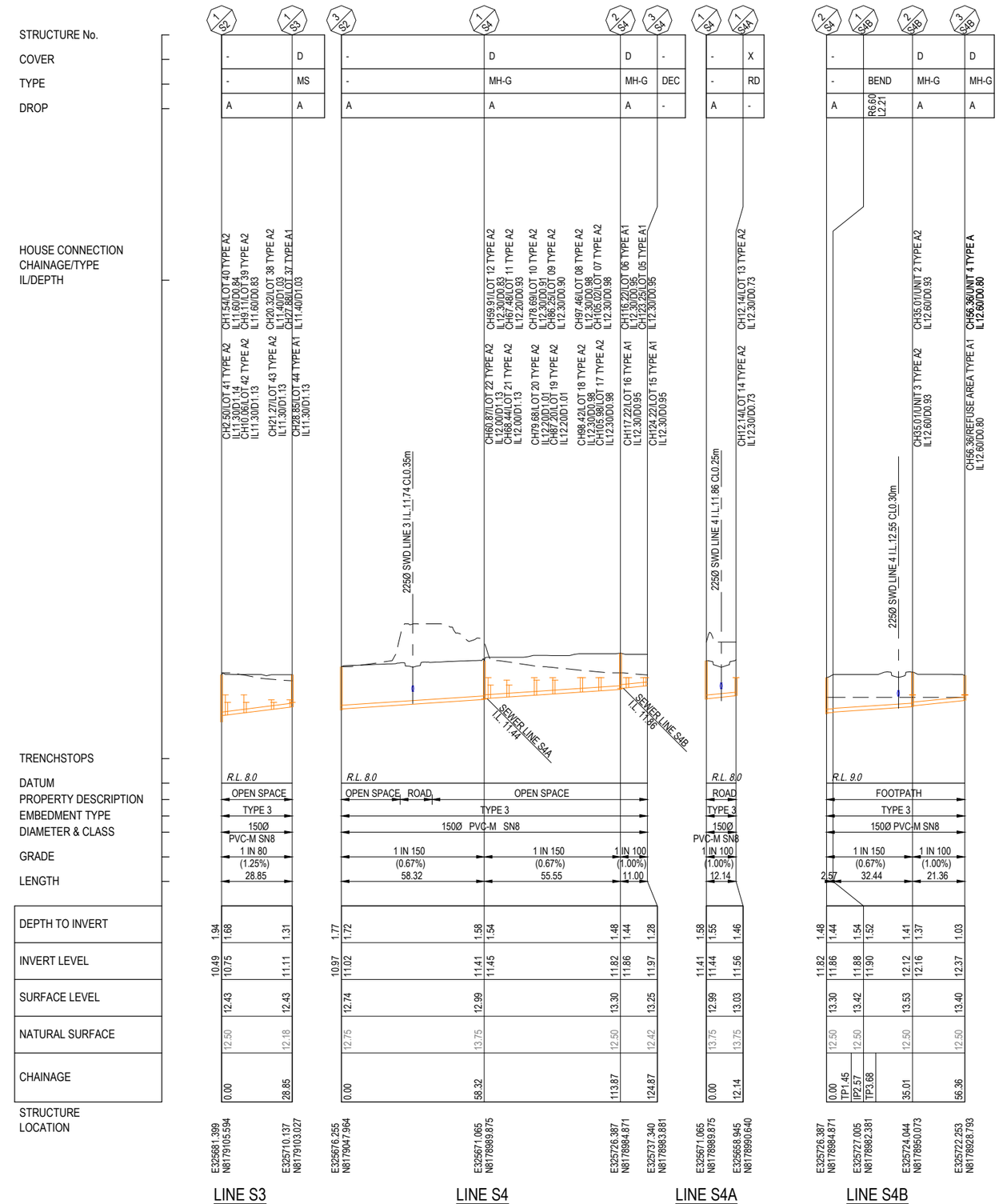
SEWER STRUCTURE TYPES

MH-G	900mm MAINTENANCE HOLE IN ACCORDANCE WITH STD DWGS SEQ-SEW-1301-2, 3, 4 & 5.
MH-F	1200mm MAINTENANCE HOLE IN ACCORDANCE WITH STD DWGS SEQ-SEW-1301-8, 9, 10 & 11.
MS	MAINTENANCE SHAFT 600mm DIA. IN ACCORDANCE WITH STD DWGS SEQ-SEW-1315-1.
BE	LONG RADIUS BEND DN160 (MIN RADIUS 5.6m) IN ACCORDANCE WITH SEQ CODE TABLE 5.3.
XRD	SEWER CROSS ROAD CONNECTION TO BE AS PER SEQ STD DWG SEQ-SEW-1106-6

SEWER STRUCTURE DROPS

A	REFER FNQROC STD DWG S3000C
C	REFER FNQROC STD DWG S3000C
D	MH-G - REFER SEQ-SEW-1301-2

1. FOR PROPERTY CONNECTION DETAILS REFER TO FNQROC STD DWG S3005D.
2. HC LEVELS REFER TO IL AT END OF HC. NOT WITHSTANDING HC LEVELS GIVEN CONTRACTOR TO ENSURE HC I.O LEVEL IS LOCATED BETWEEN 600mm & 1500mm BELOW FSL.
3. MANHOLES GREATER THAN 4.0m DEEP TO BE PE-LINED TO SEQ STANDARD SPECIFICATION FOR MANHOLE DETAILS REFER TO FNQROC STD DWG S3000C.
4. FOR BULKHEADS AND TRENCH STOP DETAILS REFER SEQ-SEW-1206-1.
5. ALL MANHOLE LIDS IN CONCRETE FOOTPATH/DRIVEWAYS TO HAVE CONCRETE INFILL TO MINIMISE TRIP HAZARD.
6. CONSTRUCT EMBEDMENT AND TRENCHFILL FNQROC STD DWG S3015C.
7. SEWER CROSS ROAD CONNECTION TO BE AS PER SEQ STD DWG SEQ-SEW-1106-6



REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	26.06.26

SCALE:
1 : 100 VERT. 1 0 1 2 3 4 5m A1
1 : 200 VERT. A3
1 : 1000 HORIZ. 10 0 10 20 30 40 50m A1
1 : 2000 HORIZ. A3

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MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
OPERATIONAL WORKS APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
SEWER LONGITUDINAL SECTIONS
SHEET 2 OF 2

PROJECT NO.	DRAWING NO.	REVISION
260401-OPW-	611-	A

MULTIPLE DWELLING ACTIVITIES

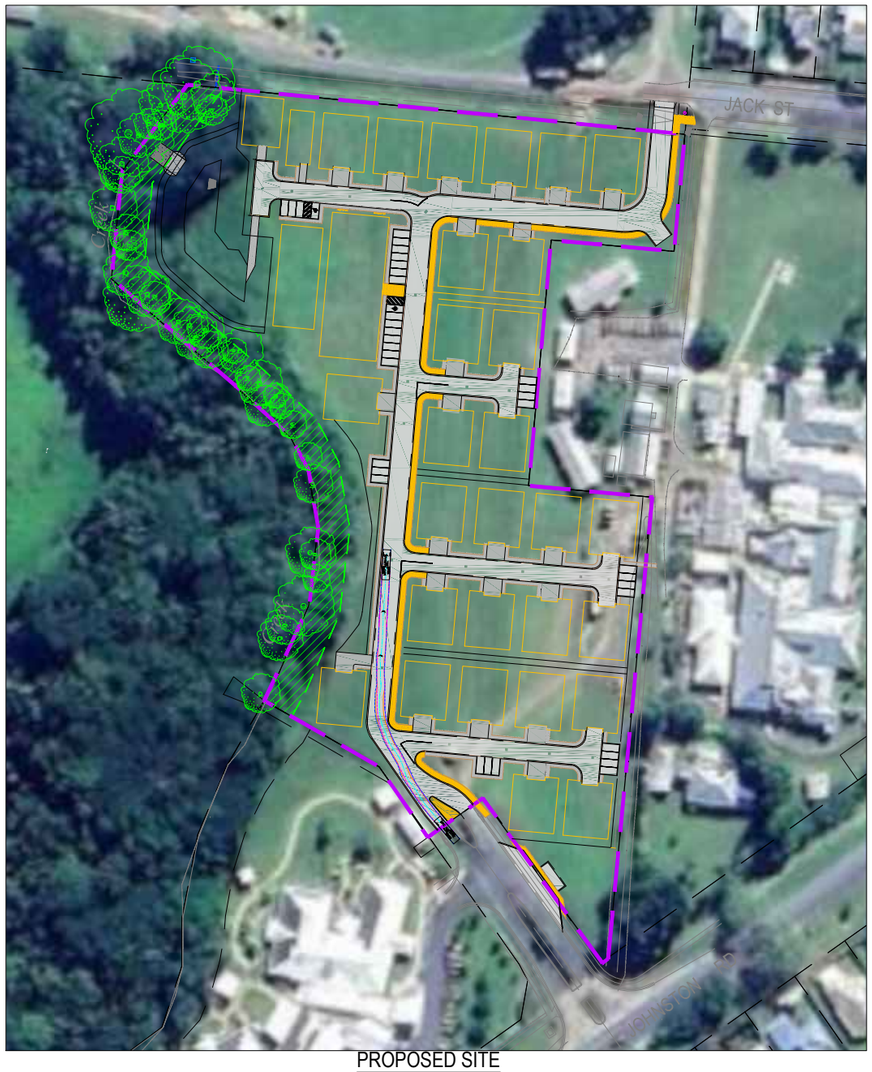
(RETIREMENT FACILITY)

BUILDING APPROVAL

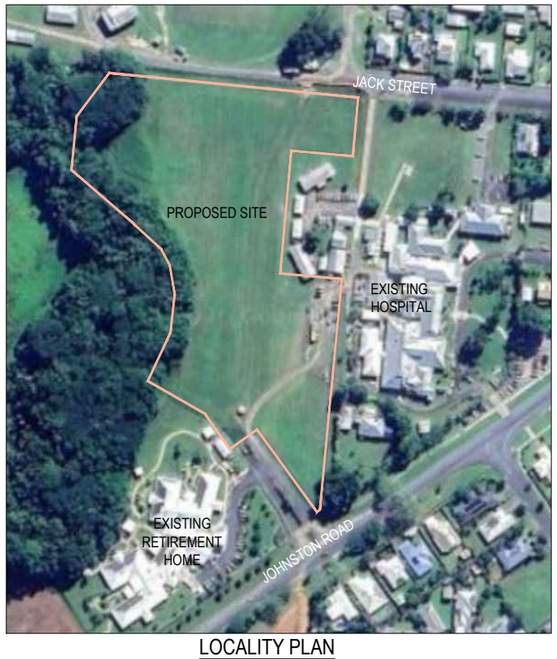
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.

LOT 2 ON SP295098

DRAWING INDEX	
DWG. No.	DESCRIPTION
000	DRAWING INDEX AND LOCALITY PLAN
001	OVERALL LAYOUT PLAN
002	DUPLEX FLOOR PLAN
003	DUPLEX DOOR AND WINDOW PLAN
004	DUPLEX DOOR AND WINDOW SCHEDULE
005	DUPLEX ELEVATIONS
006	DUPLEX WORKING FLOOR PLAN
007	DUPLEX PLUMBING FLOOR PLAN
008	COMMUNITY CENTRE FLOOR PLAN
009	COMMUNITY CENTRE ELEVATIONS - SHEET 1
010	COMMUNITY CENTRE ELEVATIONS - SHEET 2
011	HOBBY SHED FLOOR PLAN
012	HOBBY SHED ELEVATIONS
013	POOL HOUSE FLOOR PLAN
014	POOL HOUSE ELEVATIONS
015	REFUSE BIN SHELTER PLAN & DETAILS



PROPOSED SITE
SCALE 1:1000



LOCALITY PLAN
SCALE 1:2000

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	23.08.26

SCALE:
1 : 1000 10 0 10 20 30 40 50m A1
1 : 2000 A3
1 : 2000 20 0 20 40 60 80 100m A1
1 : 4000 A3

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PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
DEVELOPMENT APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DRAWING INDEX AND LOCALITY PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-DA	000-	A



OVERALL LAYOUT PLAN
SCALE 1:500

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	23.08.26

SCALE:
1 : 500 5 0 5 10 15 20 25m A1
1 : 1000 A3

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ABN 77481010305

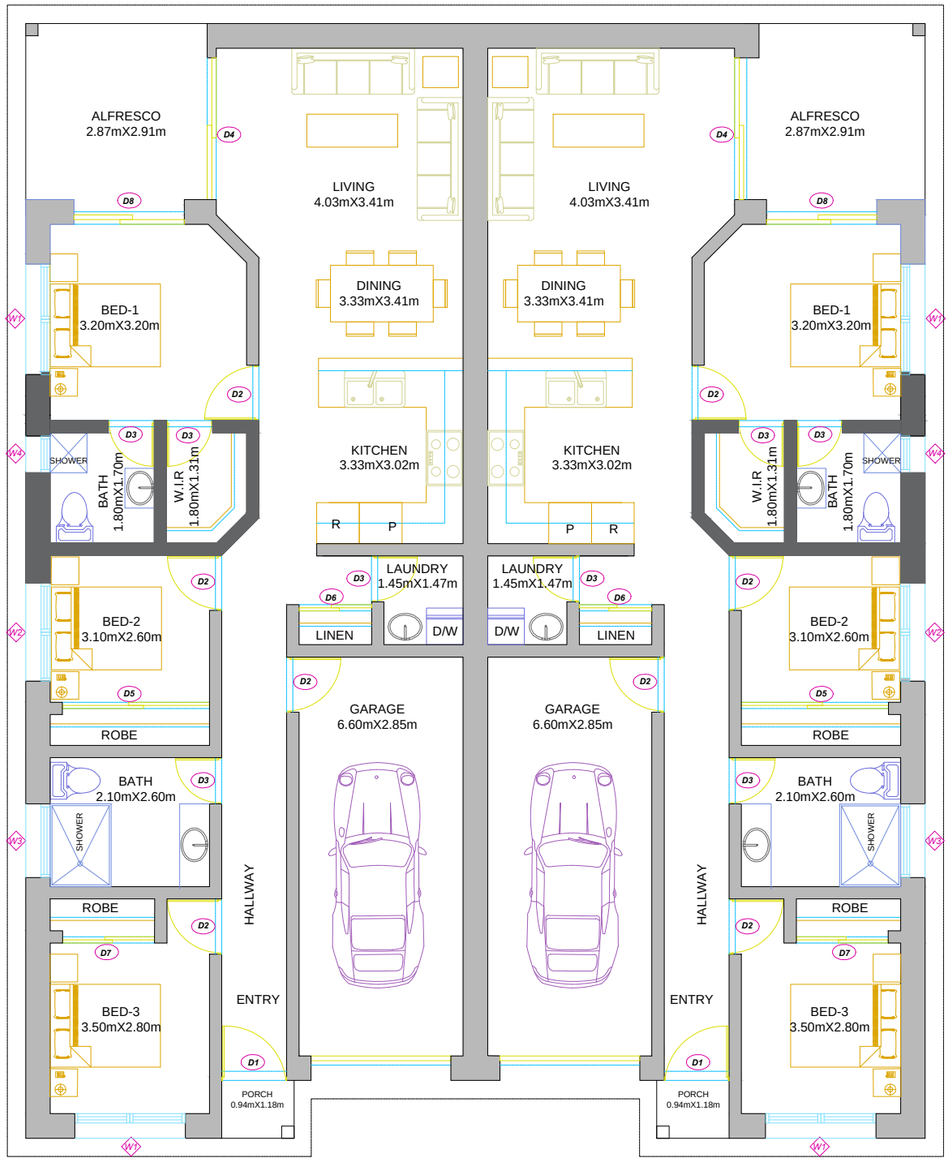
STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
GRID	LOCAL	REVIEWED	KH
		APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
DEVELOPMENT APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
OVERALL LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-DA	001-	A



MAIN FLOOR PLAN

SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 50 / 1 : 100 — 0.5 0 0.5 1.0 1.5 2.0 2.5m — A1 / A3

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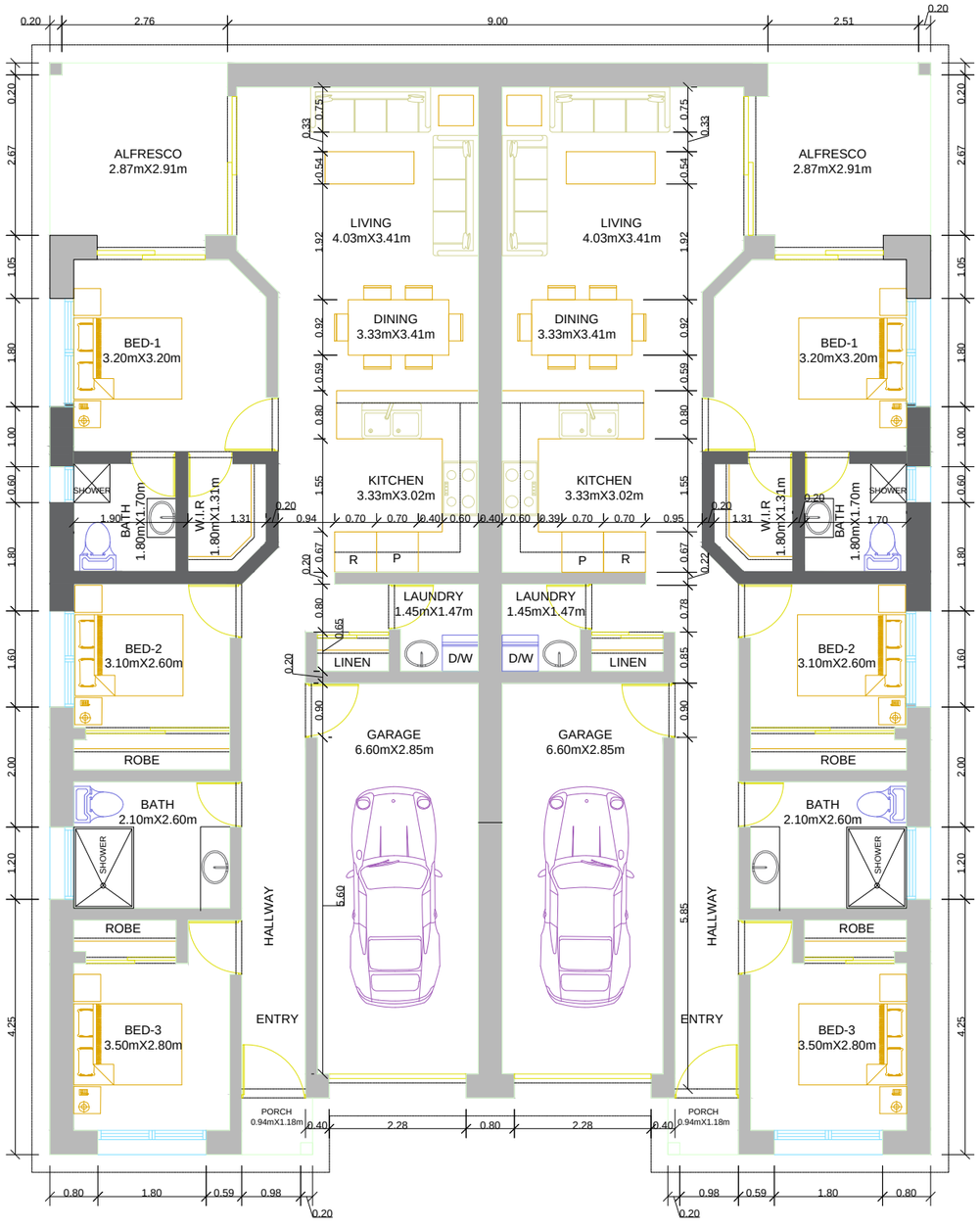
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

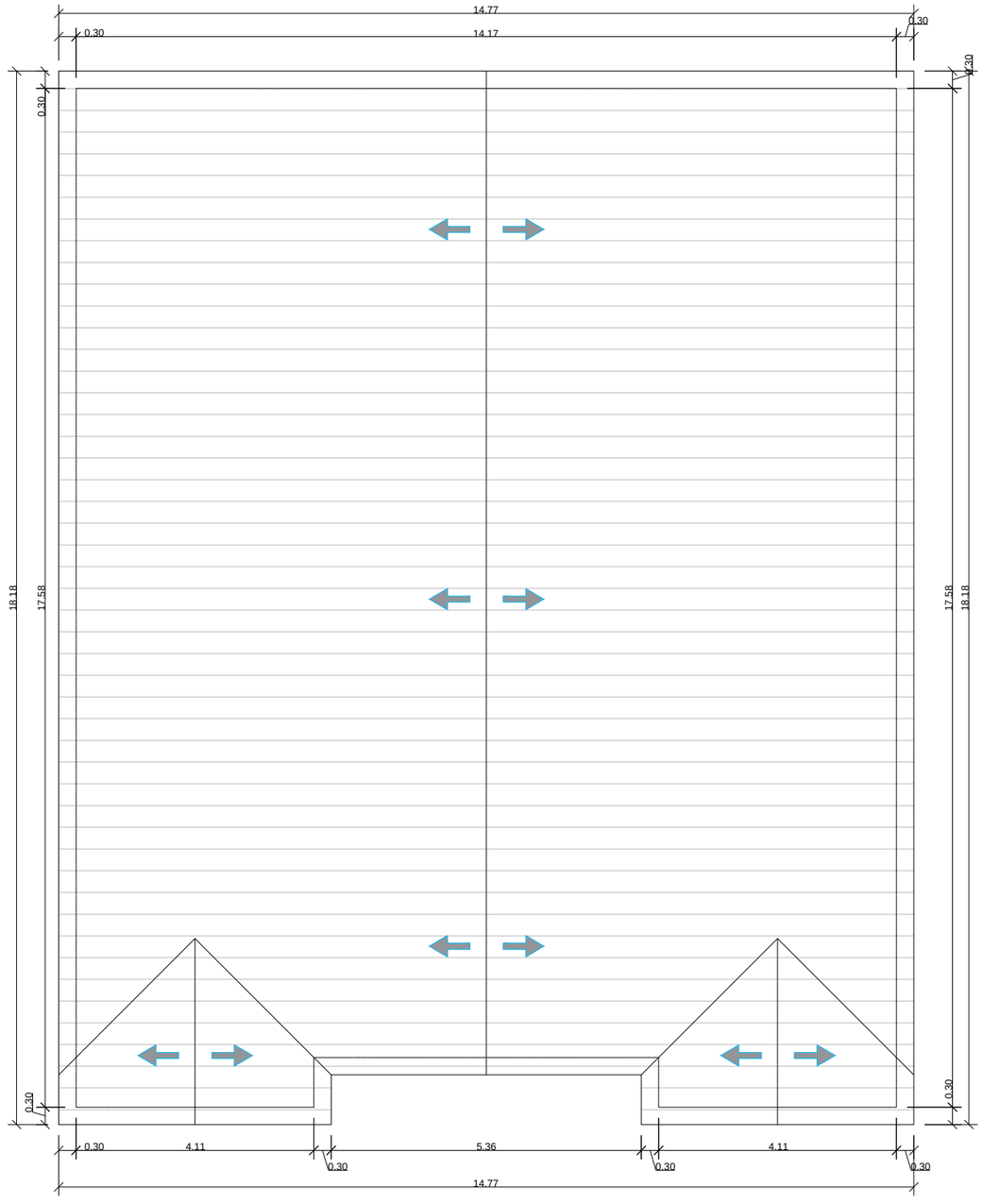
TITLE
DUPLEX DOORS AND WINDOWS SCHEDULE LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	002	A



MAIN FLOOR PLAN

SCALE: 1:50



ROOF PLAN

SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 50 / 1 : 100 — 0.5 0 0.5 1.0 1.5 2.0 2.5m — A1 / A3

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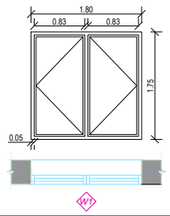
RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

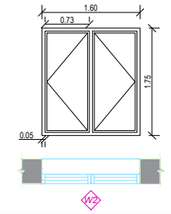
TITLE
DUPLEX FLOOR LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	003	A

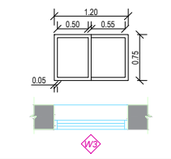
WINDOW SCHEDULE



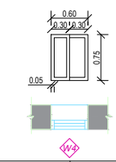
FAMILY NAME	DOUBLE-1 (PIVOT)
FAMILY TYPE	1.80M X 1.75M
HEIGHT	1.75 M
WIDTH	1.80 M
SILL HEIGHT	0.40 M
QUANTITY	4



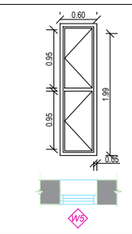
FAMILY NAME	DOUBLE-1 (PIVOT)
FAMILY TYPE	1.60M X 1.75M
HEIGHT	1.75 M
WIDTH	1.60 M
SILL HEIGHT	0.40 M
QUANTITY	2



FAMILY NAME	DOUBLE-1 (SLIDING)
FAMILY TYPE	1.20M X 0.75M
HEIGHT	0.75 M
WIDTH	1.20 M
SILL HEIGHT	1.40 M
QUANTITY	2

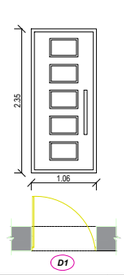


FAMILY NAME	DOUBLE-1 (SLIDING)
FAMILY TYPE	0.60M X 0.75M
HEIGHT	0.75 M
WIDTH	0.60 M
SILL HEIGHT	1.40 M
QUANTITY	2

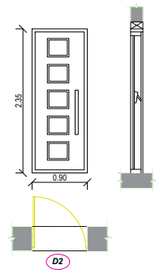


FAMILY NAME	DOUBLE-1 (PIVOT)
FAMILY TYPE	0.60M X 2.15M
HEIGHT	2.15 M
WIDTH	0.60 M
SILL HEIGHT	0.20 M
QUANTITY	2

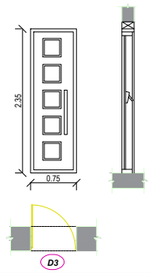
DOOR SCHEDULE



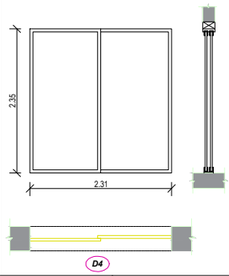
FAMILY NAME	DOUBLE-1 (PIVOT DOOR)
FAMILY TYPE	2.35M X 1.06M
HEIGHT	2.35 M
WIDTH	1.06 M
QUANTITY	2



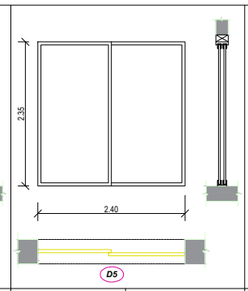
FAMILY NAME	DOUBLE-1 (PIVOT DOOR)
FAMILY TYPE	2.35M X 0.90M
HEIGHT	2.35M
WIDTH	0.90 M
QUANTITY	4



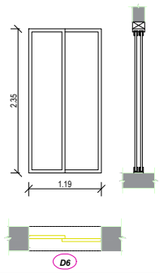
FAMILY NAME	DOUBLE-1 (PIVOT DOOR)
FAMILY TYPE	2.35M X 0.75M
HEIGHT	2.35 M
WIDTH	0.75 M
QUANTITY	8



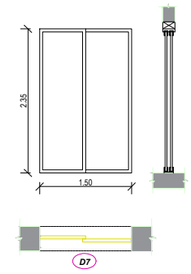
FAMILY NAME	DOUBLE-1 (SLIDING DOOR)
FAMILY TYPE	2.35M X 2.31M
HEIGHT	2.35M
WIDTH	2.31 M
QUANTITY	2



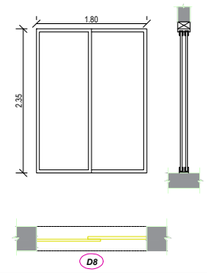
FAMILY NAME	DOUBLE-1 (SLIDING DOOR)
FAMILY TYPE	2.35M X 2.40M
HEIGHT	2.35 M
WIDTH	2.40 M
QUANTITY	2



FAMILY NAME	DOUBLE-1 (PIVOT DOOR)
FAMILY TYPE	2.35M X 1.19M
HEIGHT	2.35 M
WIDTH	1.19 M
QUANTITY	2



FAMILY NAME	DOUBLE-1 (SLIDING DOOR)
FAMILY TYPE	2.35M X 1.50M
HEIGHT	2.35 M
WIDTH	1.50 M
QUANTITY	2



FAMILY NAME	DOUBLE-1 (SLIDING DOOR)
FAMILY TYPE	2.35M X 1.80M
HEIGHT	2.35 M
WIDTH	1.80 M
QUANTITY	1

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

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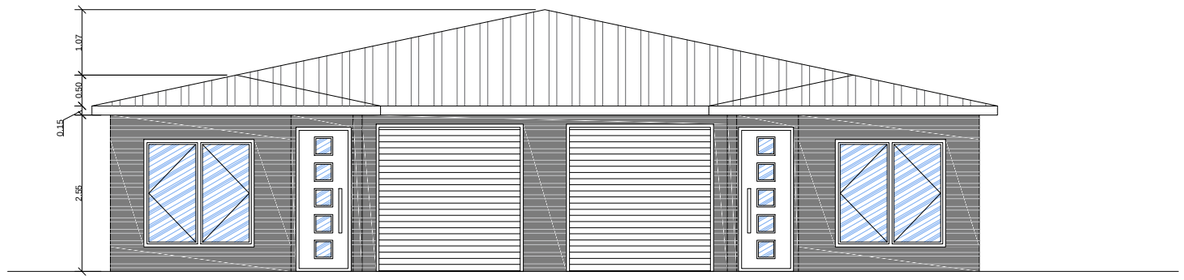
CERTIFIED: KEL HOWARD

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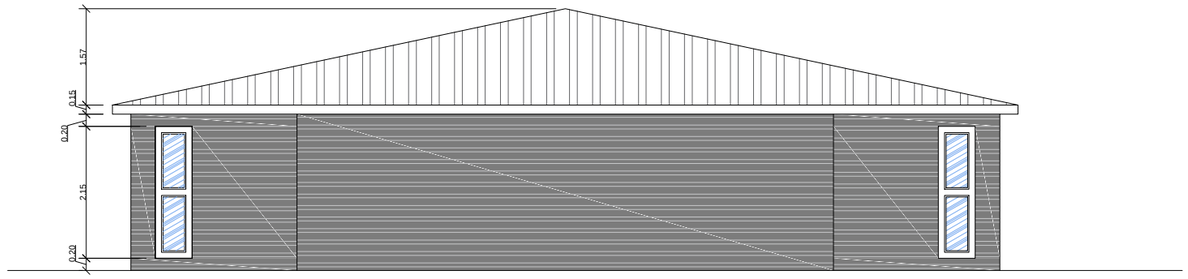
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DUPLEX DOOR AND WINDOWS SCHEDULE

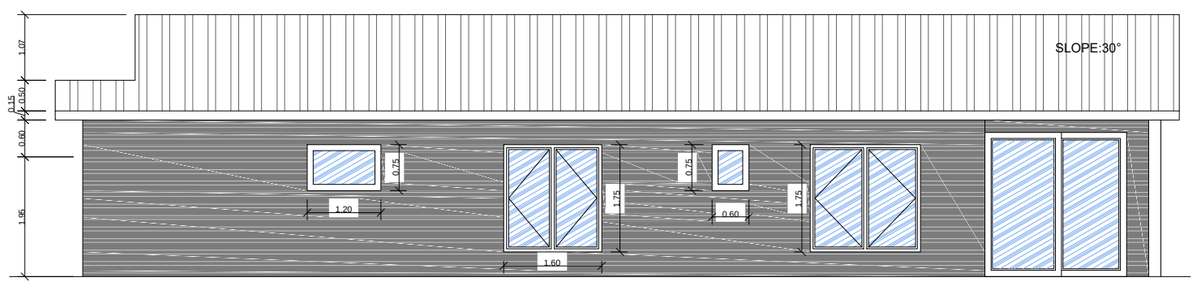
PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	004	A



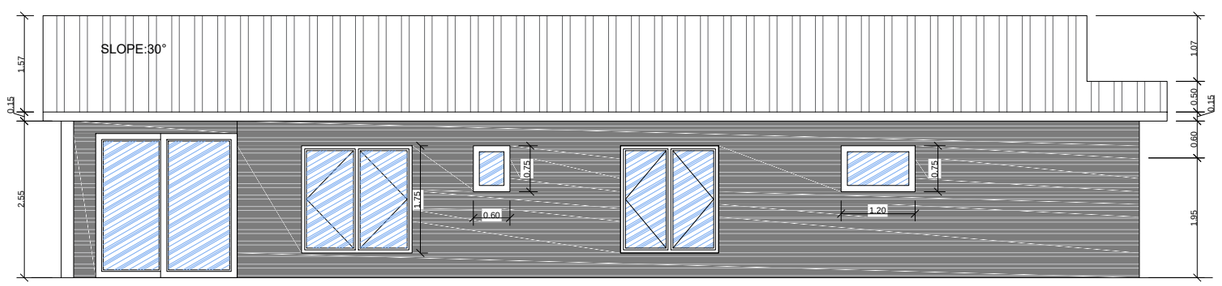
FRONT ELEVATION
SCALE: 1:50



BACK ELEVATION
SCALE: 1:50



RIGHT ELEVATION
SCALE: 1:50



LEFT ELEVATION
SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 50 0.5 0 0.5 1.0 1.5 2.0 2.5m A1
1 : 100 A3

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd
ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD
ABN 77481010305

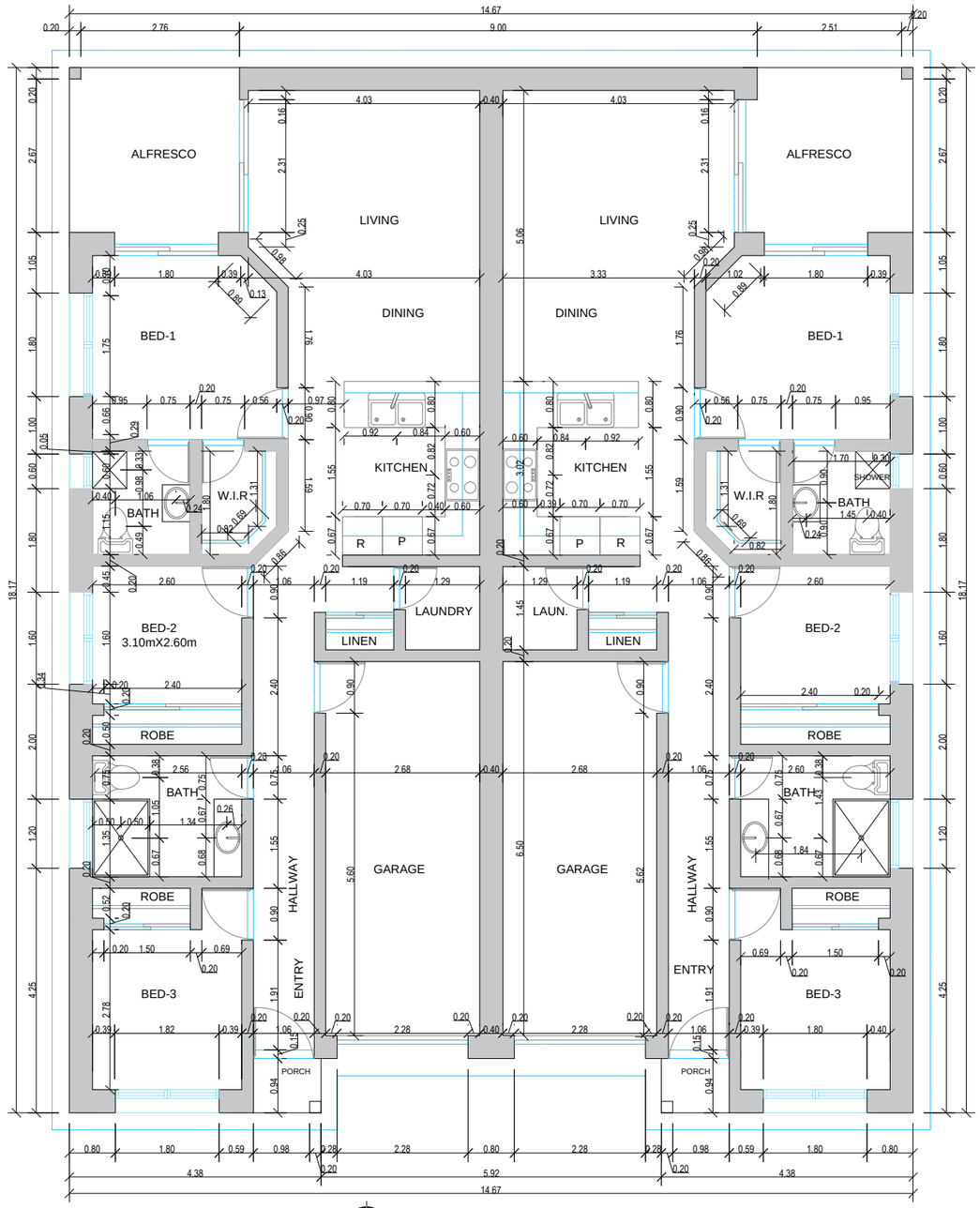
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 07619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DUPLEX ELEVATIONS

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	005	A



MAIN FLOOR WORKING PLAN

SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 50 0.5 0 0.5 1.0 1.5 2.0 2.5m A1
1 : 100 A3

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ABN 77461010305

STATUS: ISSUE FOR APPROVAL

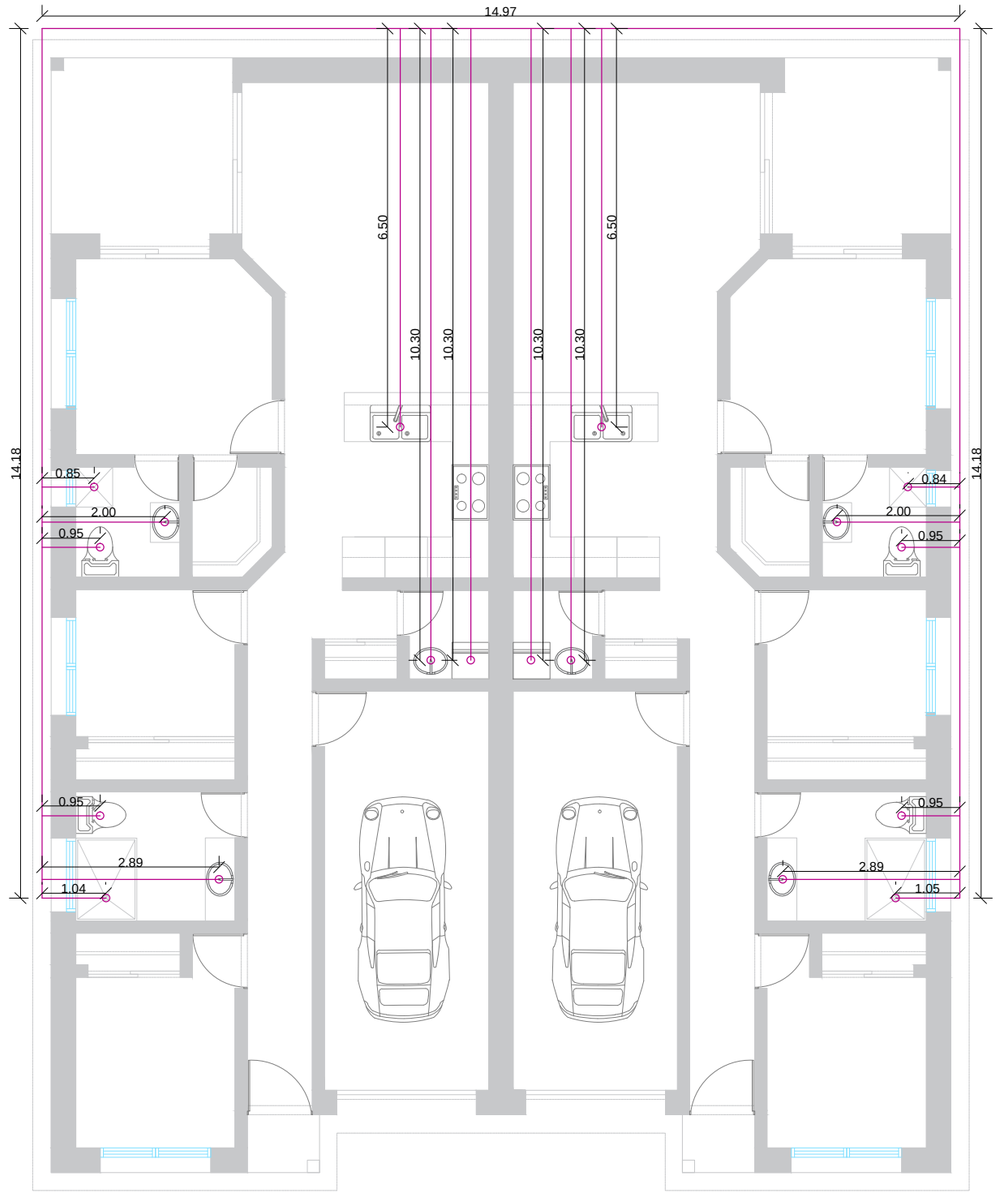
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DUPLEX WORKING LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	006	A



MAIN FLOOR PLAN

SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 50 0.5 0 0.5 1.0 1.5 2.0 2.5m A1
1 : 100 A3

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C-VIEW ONSULTING PTY LTD
ABN 77481012805

STATUS: ISSUE FOR APPROVAL

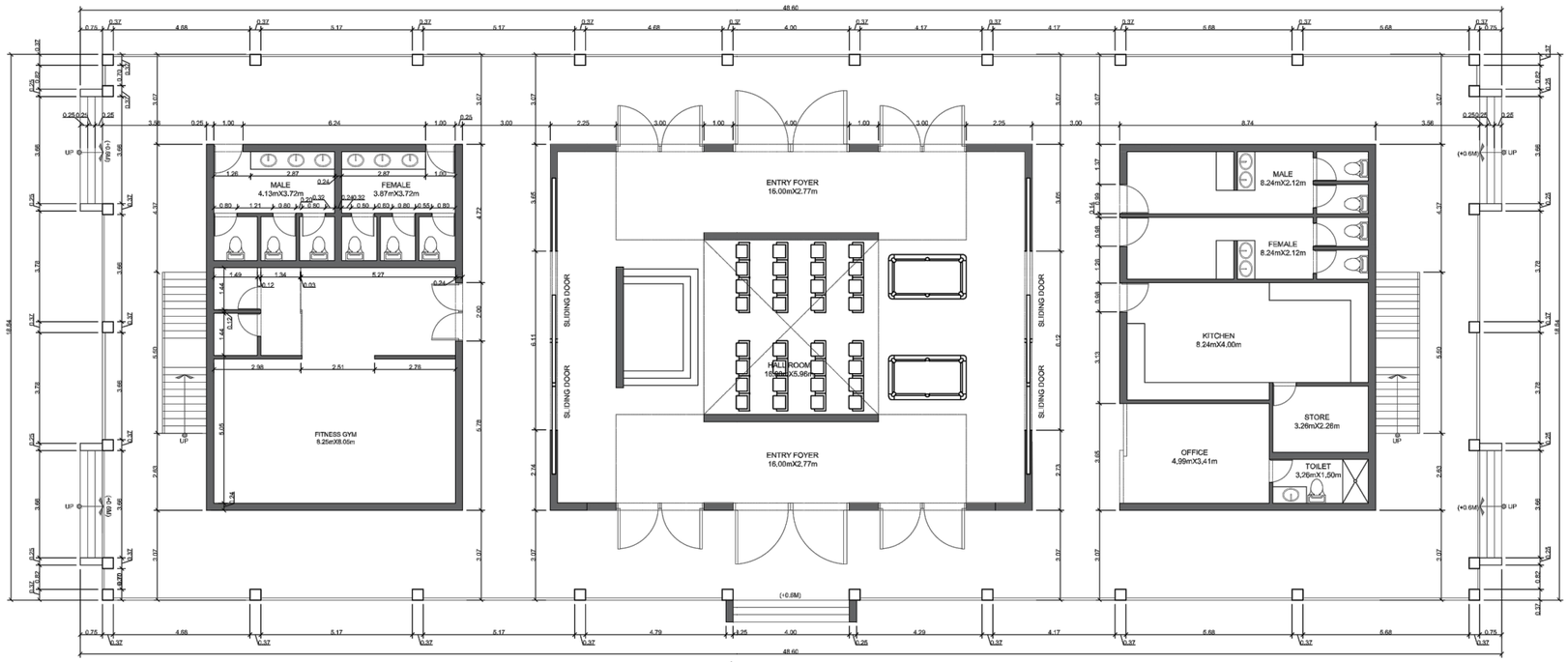
CERTIFIED: KEL HOWARD RPEQ 7619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

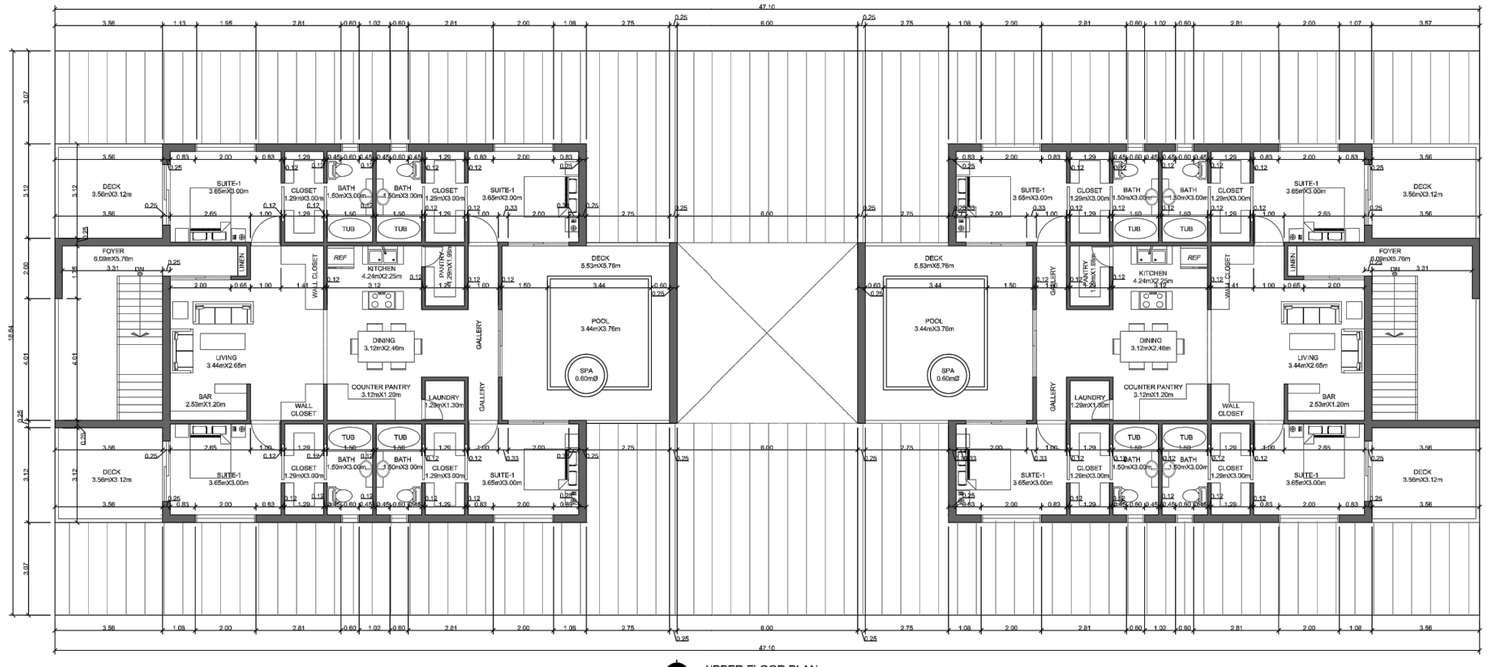
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
DUPLEX PLUMBING LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	007	A



MAIN FLOOR PLAN
SCALE: 1:100



UPPER FLOOR PLAN
SCALE: 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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C-VIEW CONSULTING PTY LTD
ABN 77461610305

STATUS: ISSUE FOR APPROVAL

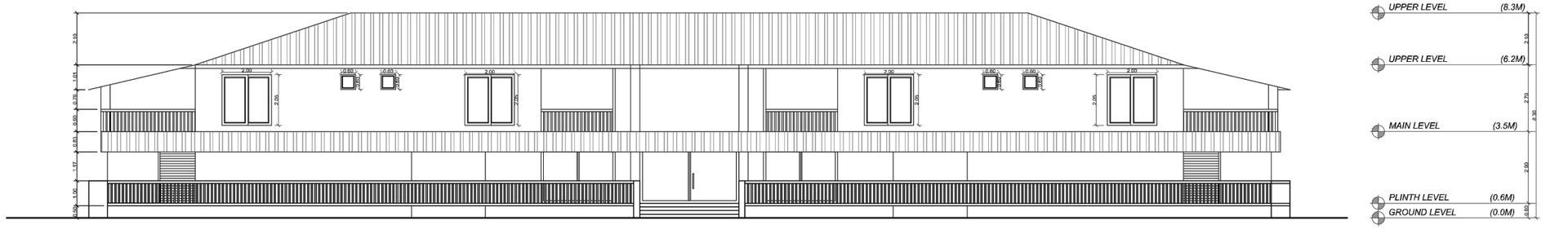
CERTIFIED: KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

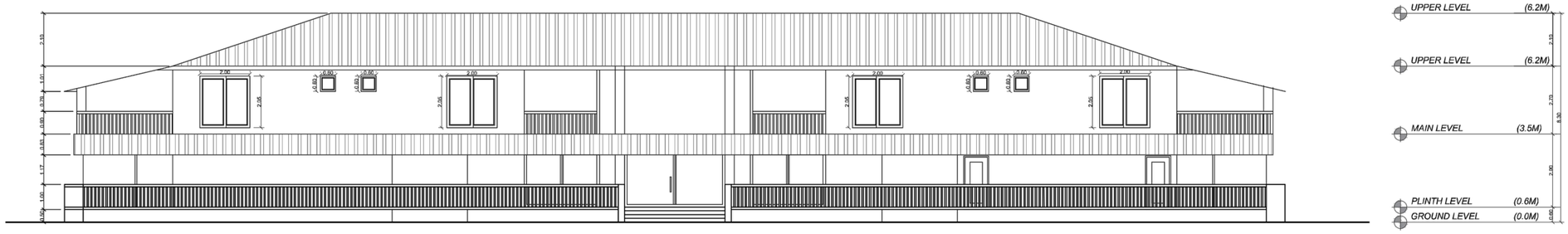
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
COMMUNITY CENTRE LAYOUT PLAN

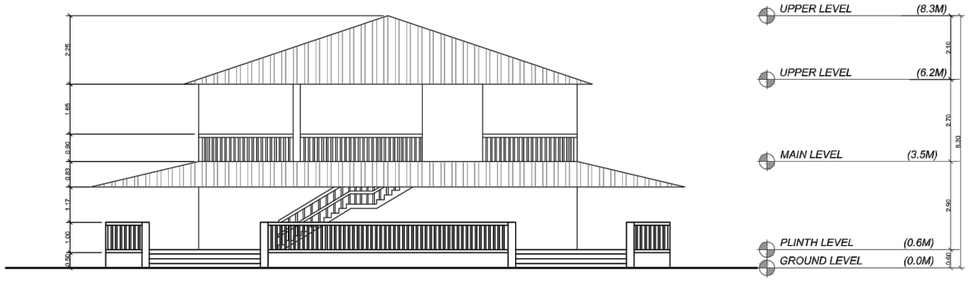
PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	008	A



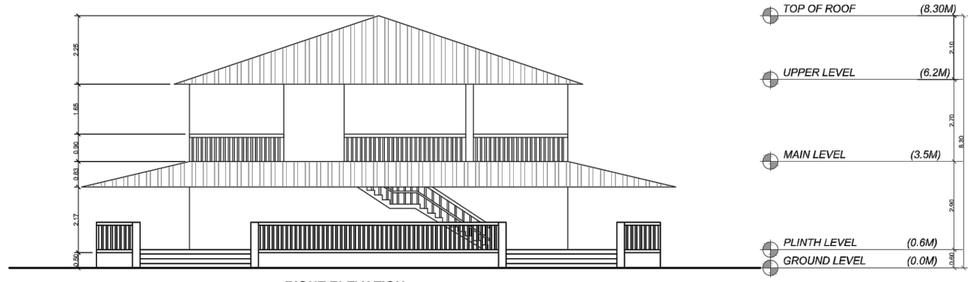
FRONT ELEVATION
SCALE: 1:100



BACK ELEVATION
SCALE: 1:100



LEFT ELEVATION
SCALE: 1:100



RIGHT ELEVATION
SCALE: 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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C-VIEW ONSULTING PTY LTD ABN 77481012805

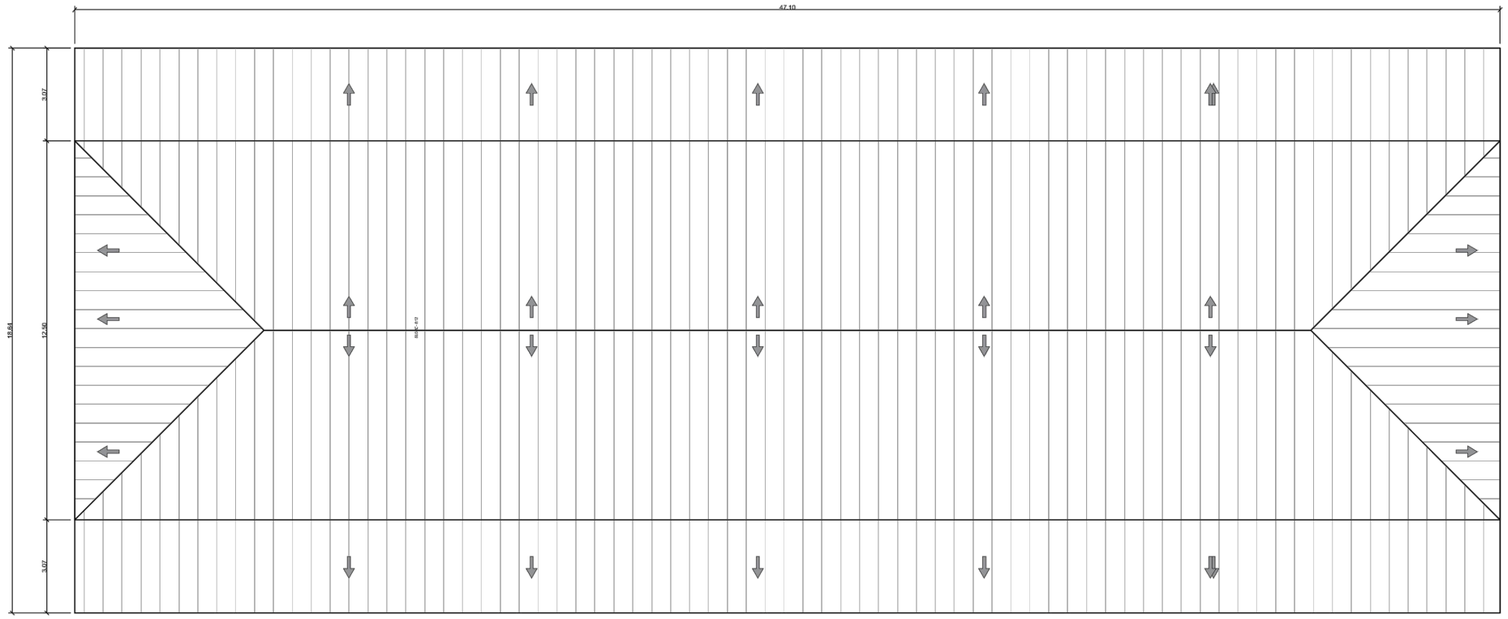
STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
COMMUNITY CENTRE ELEVATIONS SHEET 2

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	009	A



ROOF PLAN
SCALE: 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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C-VIEW ONSULTING PTY LTD ABN 77461010305

STATUS: ISSUE FOR APPROVAL

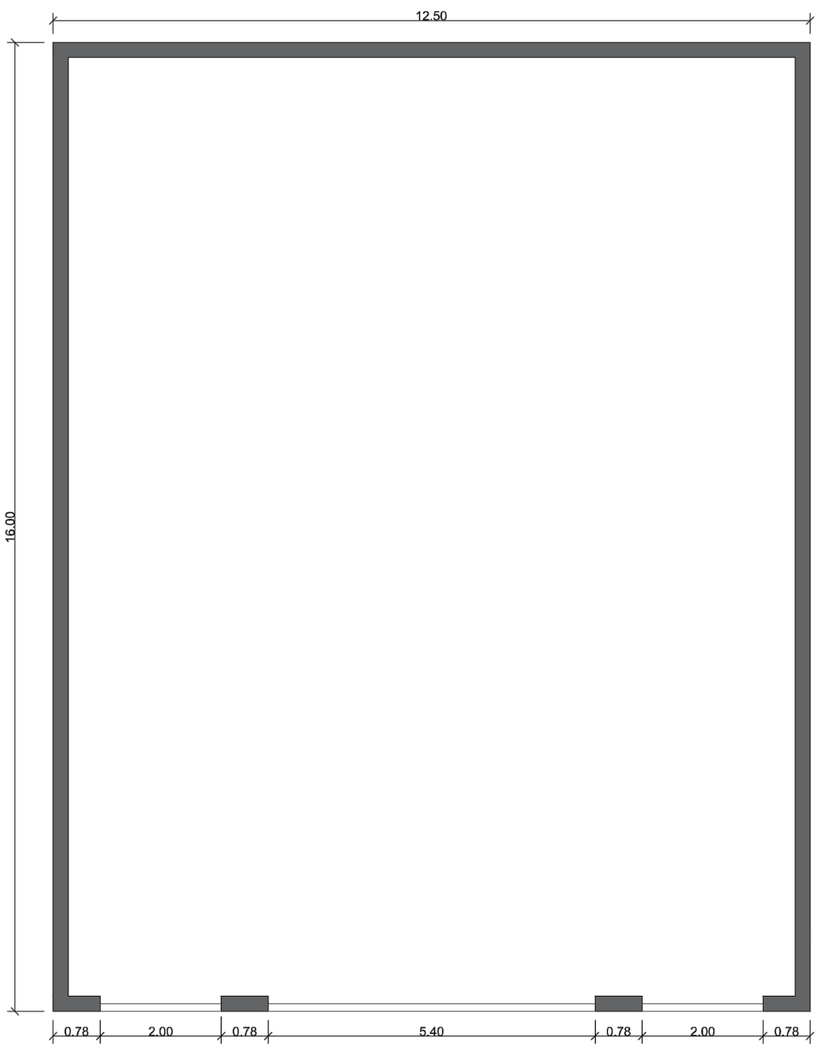
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

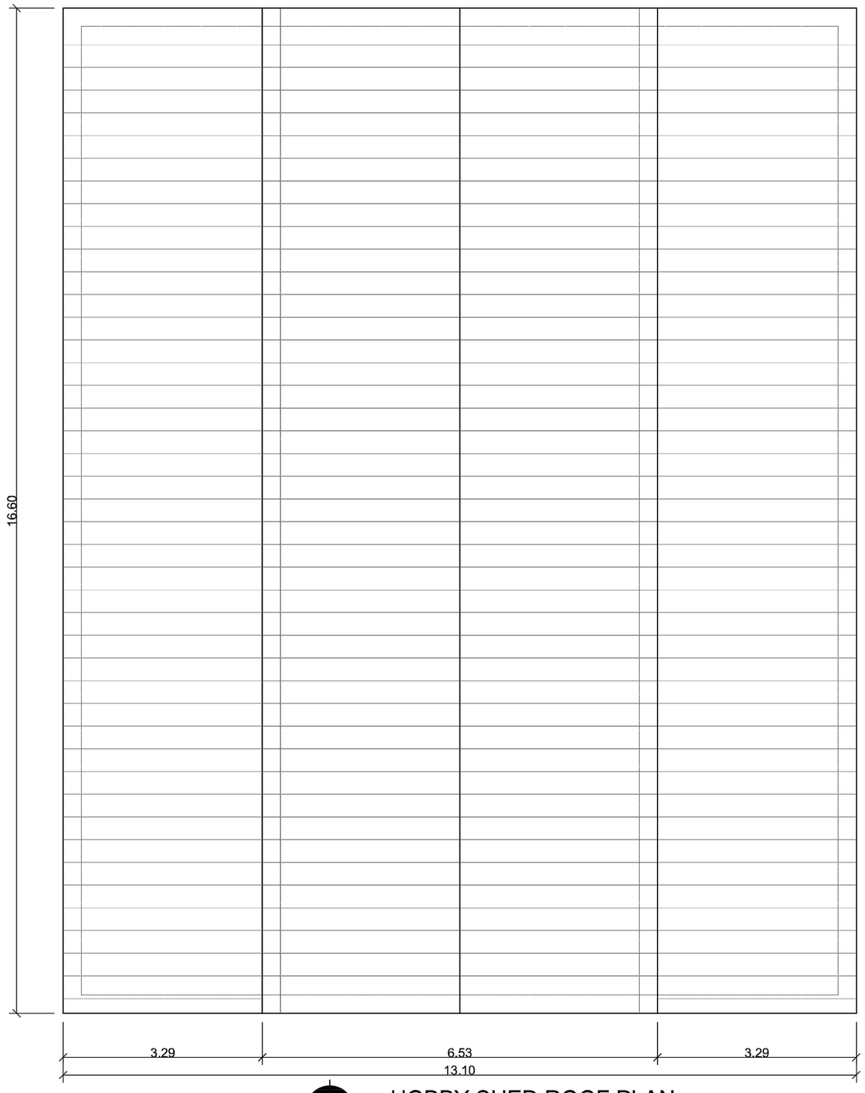
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
COMMUNITY CENTRE ELEVATIONS SHEET 2

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	010	A



HOBBY SHED FLOOR PLAN
SCALE: 1:50



HOBBY SHED ROOF PLAN
SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 50 0.5 0 0.5 1.0 1.5 2.0 2.5m A1
1 : 100 A3

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ABN 42 270 658 306
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C-VIEW ONSULTING PTY LTD
ABN 77461010305

STATUS:
ISSUE FOR APPROVAL

CERTIFIED:
KEL HOWARD
RPEQ NO. 07619

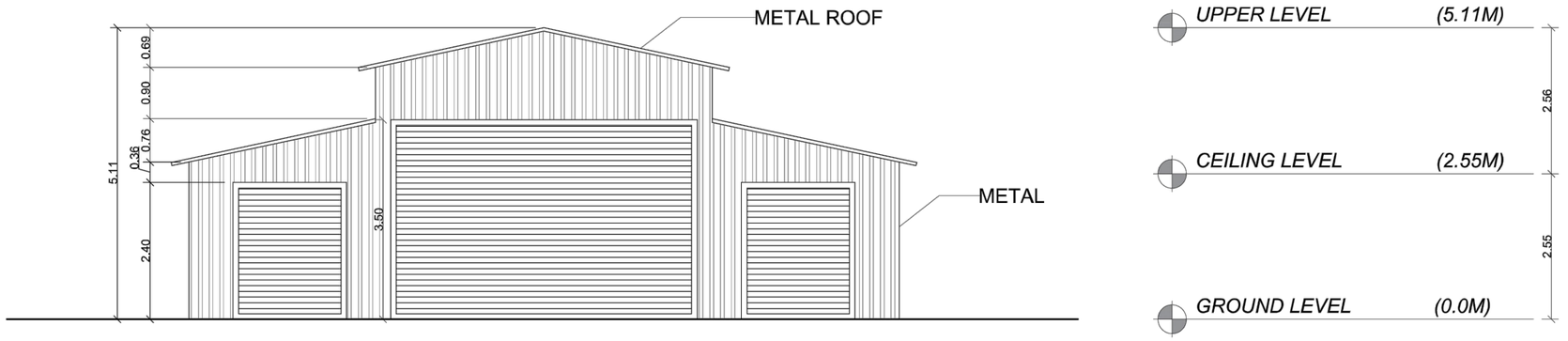
PROJECT TEAM	
DESIGNER	GC
REVIEWED	KH
APPROVER	MC

HEIGHT DATUM	AHD
GRID	LOCAL
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

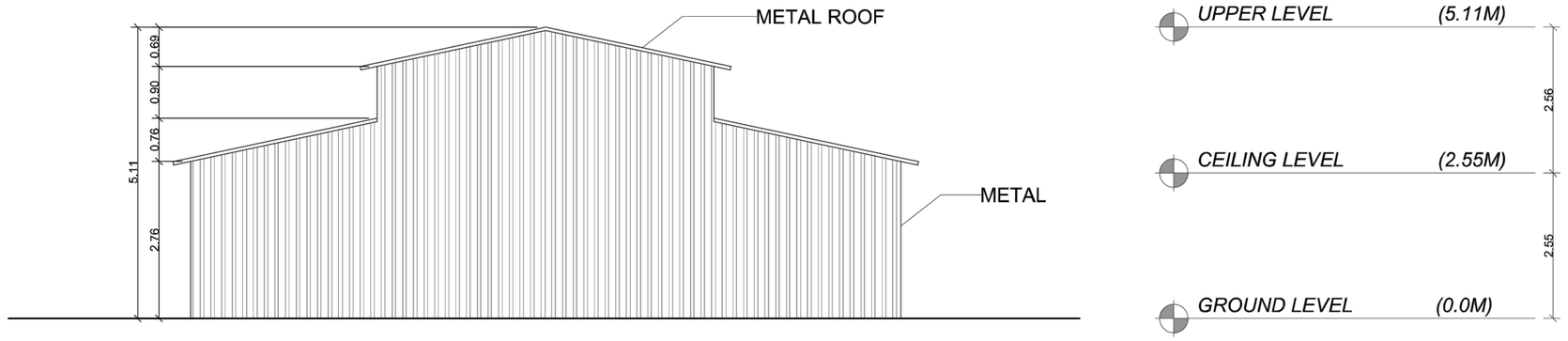
TITLE
HOBBY SHED LAYOUT PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	011	A



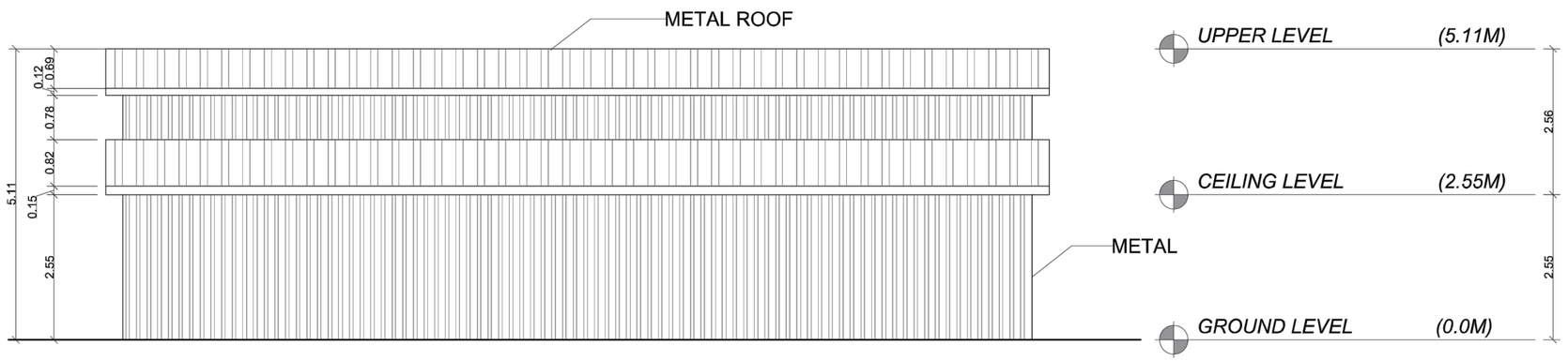
FRONT ELEVATION

SCALE: 1:50



REAR ELEVATION

SCALE: 1:50



LEFT & RIGHT ELEVATION

SCALE: 1:50

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:

1 : 50 0.5 0 0.5 1.0 1.5 2.0 2.5m A1
1 : 100 A3

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ABN 77461010305

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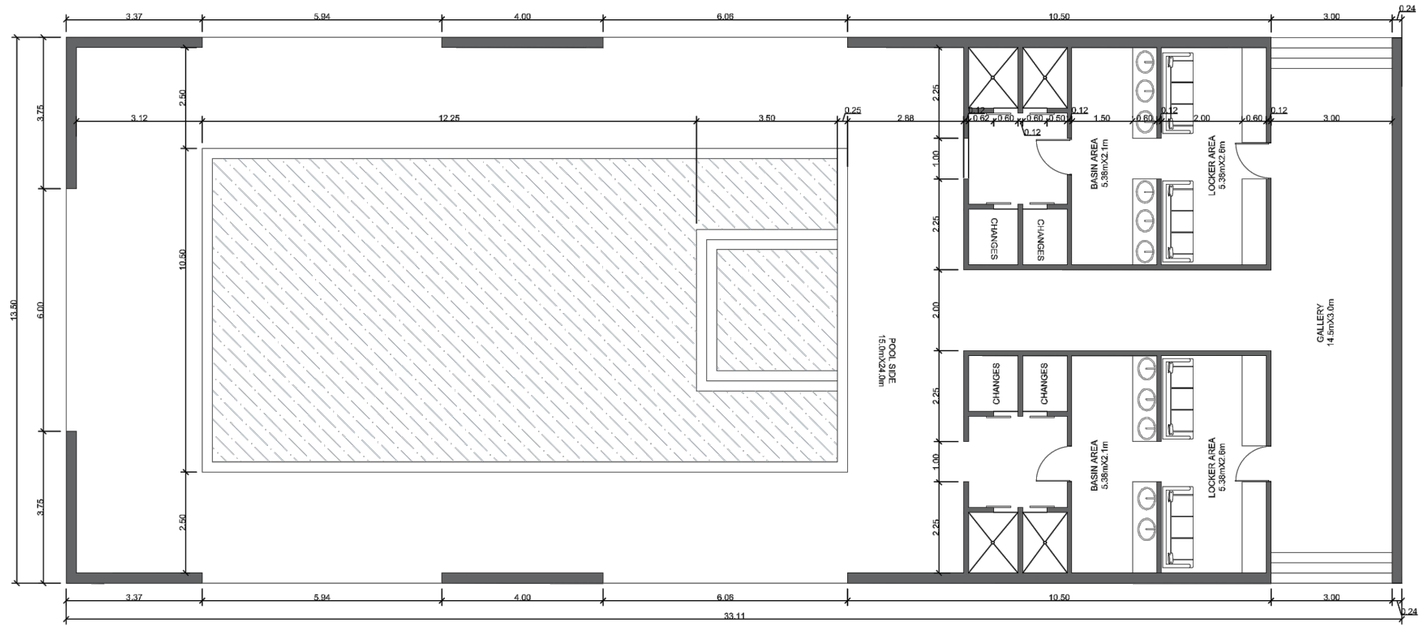
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

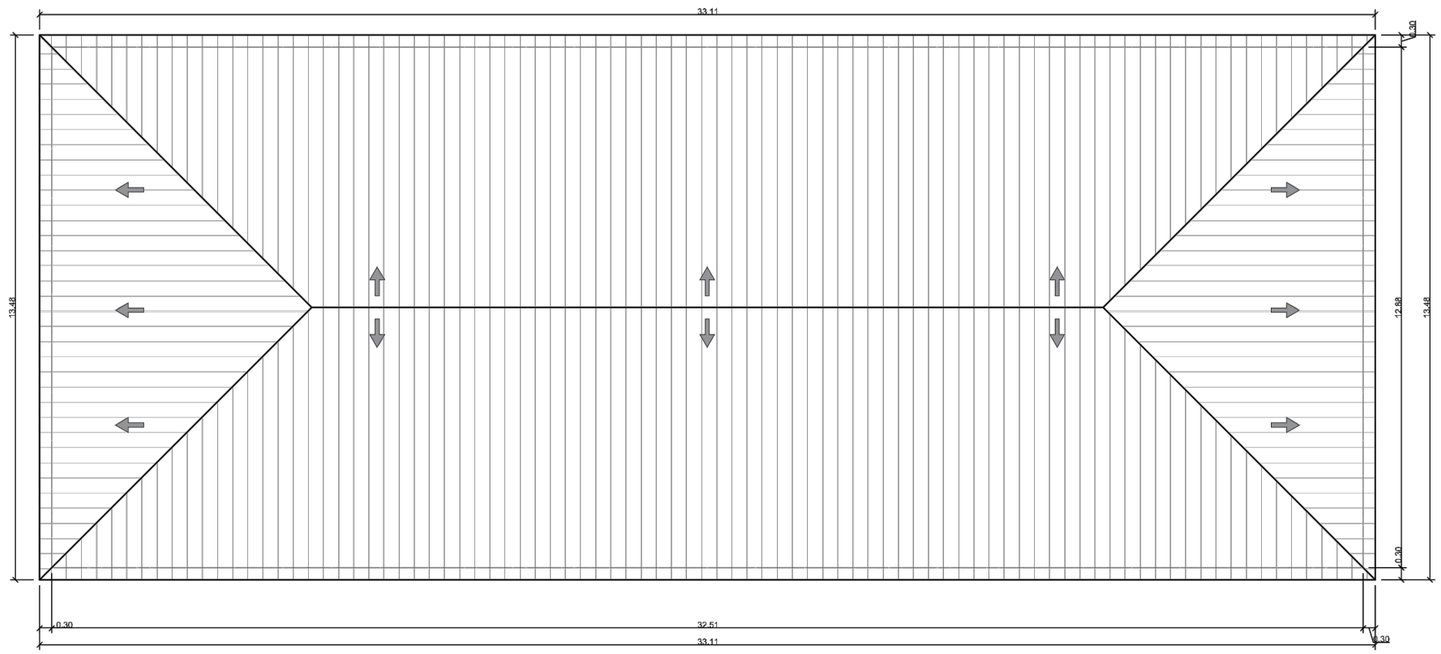
PROJECT
MULTIPLE DWELLING ACTIVITIES
(RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
HOBBY SHED ELEVATIONS

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	012	A



MAIN FLOOR PLAN
SCALE: 1:100



ROOF PLAN
SCALE: 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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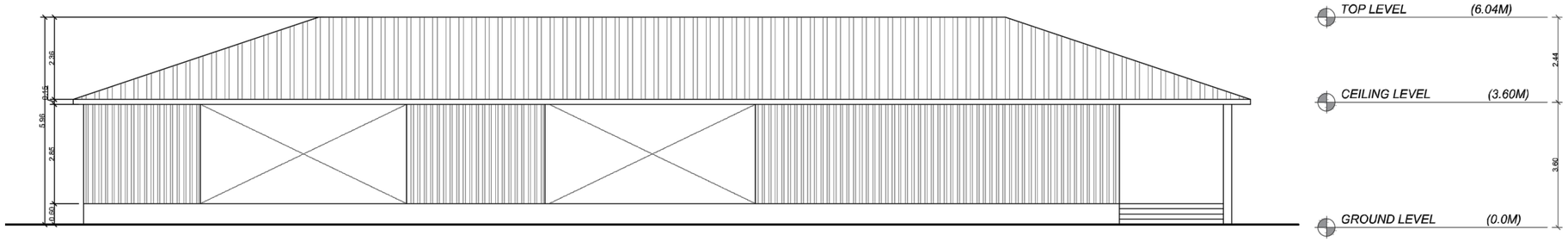
STATUS: ISSUE FOR APPROVAL
CERTIFIED: RPEQ 7619 KEL HOWARD

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

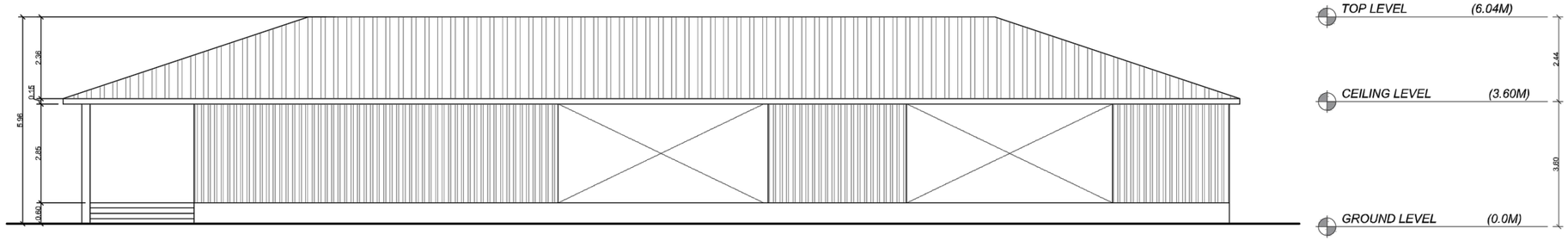
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
POOL HOUSE FLOOR PLAN

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	013	A

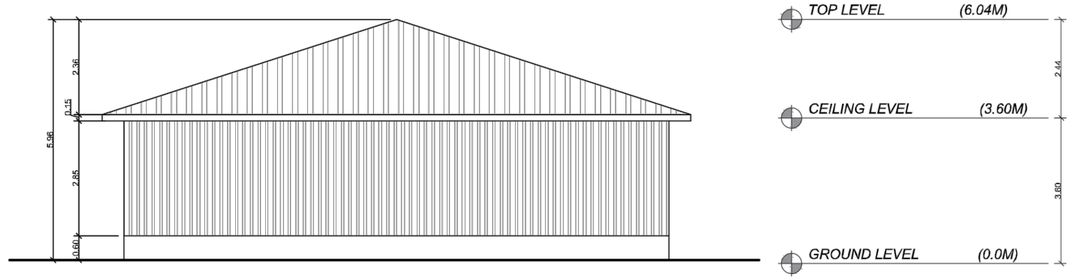


FRONT ELEVATION
SCALE: 1:100



REAR ELEVATION
SCALE: 1:100

LEFT ELEVATION
SCALE: 1:100



RIGHT ELEVATION
SCALE: 1:100

REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

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PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW CONSULTING PTY LTD ABN 77481010305

STATUS:
ISSUE FOR APPROVAL

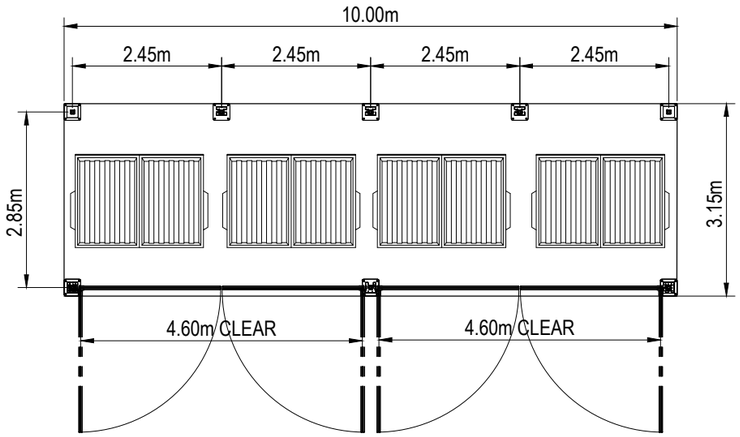
CERTIFIED:
KEL HOWARD

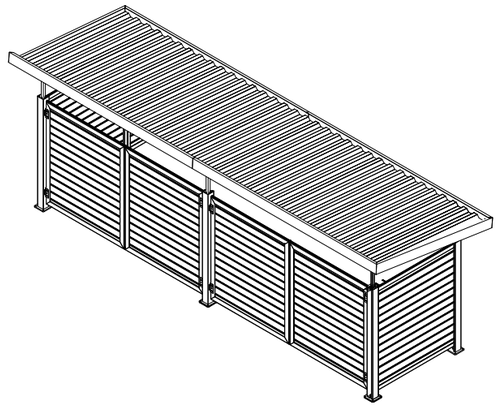
RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

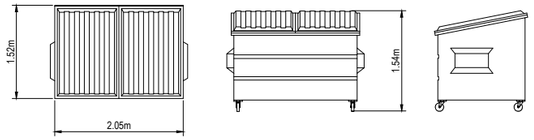
PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
POOL HOUSE ELEVATIONS

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	014	A





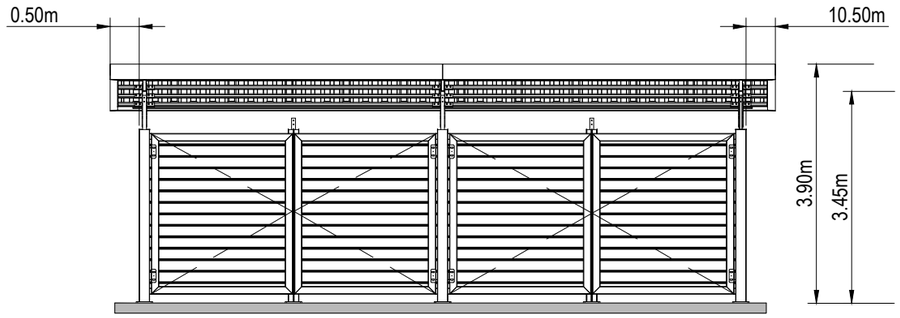


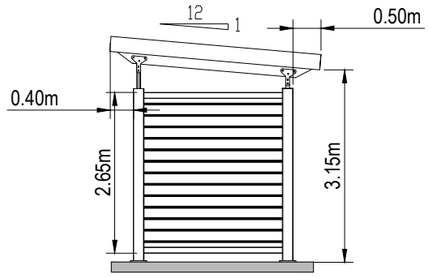
BIN SIZE

3.0m FRONT LIFT
DIMENSIONS = 2060mm X 1520mm X1540mm
VOLUME 4820L

BIN SIZE

57 DUPLEX UNITS + COMMUNTY CENTRE + POOL+ WORK SHED
60 UNITS 14 X 1100 LITRE BINS = 15,400L
NO OF BINS = 15400/ 4820 = 3.2





REV	DESCRIPTION	BY	APP	DATE
A	ISSUE FOR APPROVAL	GC	KH	03.06.26

SCALE:
1 : 100 1 0 1 2 3 4 5m A1
1 : 200 A3

DO NOT SCALE FROM THIS DRAWING - IF IN DOUBT ASK

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CLIENT:
COOLOOLA WATERS HOLDINGS PTY LTD

CONSULTANTS:
Karkel Contracting Pty Ltd
ABN 42 270 658 306
PHONE : 0437362417 EMAIL: karkelcontracting@gmail.com
C-VIEW ONSULTING PTY LTD
ABN 77481012605

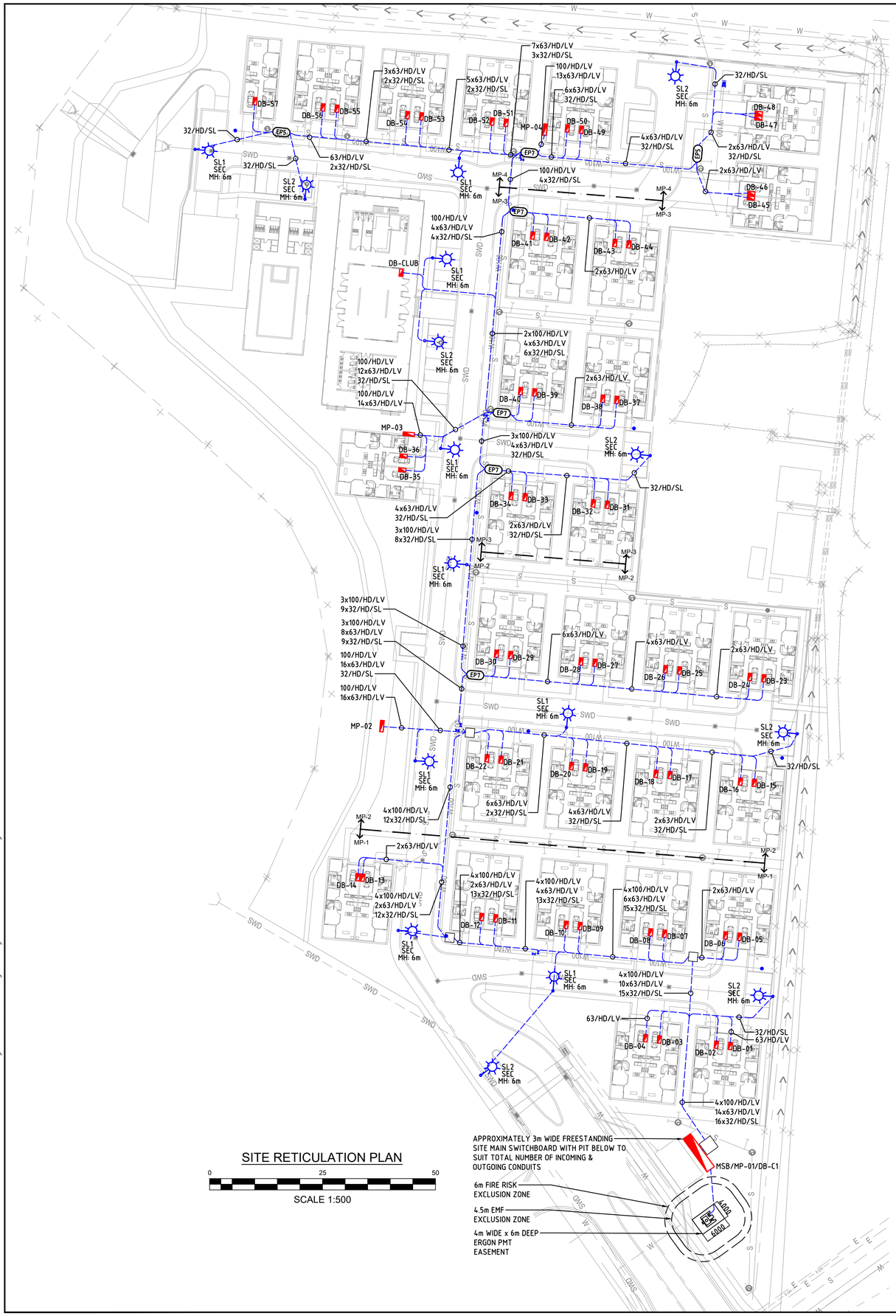
STATUS: ISSUE FOR APPROVAL
CERTIFIED: KEL HOWARD RPEQ 07619

RPEQ NO.	07619	PROJECT TEAM	
HEIGHT DATUM	AHD	DESIGNER	GC
		REVIEWED	KH
GRID	LOCAL	APPROVER	MC
ORIGINAL SIZE	A1 THESE DRAWINGS ARE TO BE PRINTED IN COLOUR AND BEST VIEWED ON A ELECTRONIC DEVICE		

PROJECT
MULTIPLE DWELLING ACTIVITIES (RETIREMENT FACILITY)
BUILDING APPROVAL
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873.
LOT 2 ON SP295098

TITLE
REFUSE AREA DETAILS

PROJECT NO.	DRAWING NO.	REVISION
26040100-BA	015	A



SITE RETICULATION PLAN

0 25 50

SCALE 1:500

TABLE 3.7

MINIMUM SEPARATION OF UNDERGROUND SERVICES

Type of service	Minimum separation to low voltage electrical service identified in accordance with Clause 3.11.4.5 and mechanically protected[1]	Minimum separation to low voltage electrical earthing electrode[1]
	(mm)	(mm)
Water service not greater than DN65[2]	100	500
Water service greater than DN65[2]	300	500
Sanitary drainage	100	500
Stormwater drainage	100	600
Gas	100	500
Telecommunications	100	

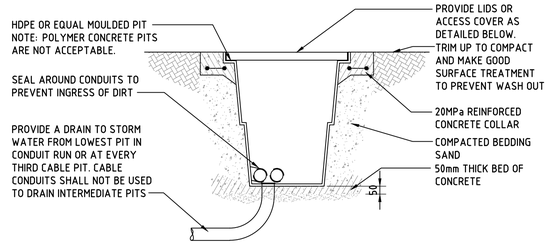
NOTES:

1 Authorities, such as water and gas suppliers and electricity distributors, may require their services to be spaced at a greater distance from underground wirin systems, also see Figure 3.10

2 DN = internal diameter of pipe.

GENERAL NOTE

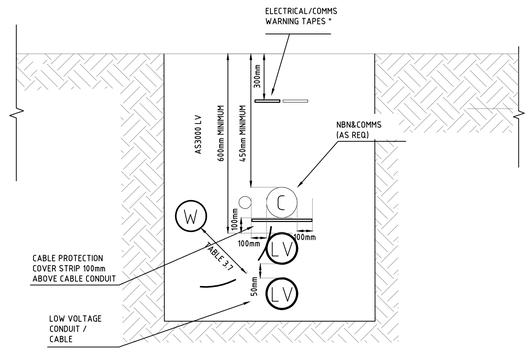
1. REFER TO NBN DRAWING FOR COMMUNICATION CONDUITS & EQUIPMENT RETICULATION.
2. UNIT SWITCHBOARD & NTD LOCATION ARE SHOWN INDICATIVELY. EXACT LOCATION IN THE RESPECTIVE GARAGES TO BE CONFIRMED ON SITE.



LIDS AND ACCESS COVERS NOTES:
REINFORCED CONCRETE LID EMBOSSED ELECT OR COMS IN LANDSCAPED OR LAWN AREAS.
PROVIDE DUCTILE IRON CONCRETE INFILLED ACCESS COVERS IN DRIVEWAYS OR AS NOTED IN PEDESTRIAN CONCRETE PAVED AREAS AND THE LIKE.
VEHICLE DRIVEWAYS- 150kN RATING
PEDESTRIAN PATHWAYS - 80kN RATING
NOTE ! POLYMER CONCRETE LIDS ARE NOT ACCEPTABLE.
PROVIDE PVC CONDUIT BELL MOUTHS ON ALL CONDUIT ENTRIES.
REFER TO MANUFACTURES RECOMMENDATIONS FOR OTHER DUTY INSTALLATION DETAILS.

TYPICAL PRE FABRICATED CABLE PIT INSTALLATION DETAIL TYPE EP5, EP7, CP5, CP7

SCALE 1:20



* WARNING TAPES MIN. 150mm WIDTH FOR EVERY 300mm WIDTH OF TRENCH. DIRECTLY ABOVE CONDUITS
* QUANTITY & SIZE OF SERVICES SHALL BE COORDINATED WITH DRAWING. DETAIL SHOWN FOR SPACING ONLY.

SHARED TRENCHING SPACING REQ. BETWEEN SERVICES GENERAL ARRANGEMENT CROSS SECTION (N.T.S.)

orientation

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PRELIMINARY NOT FOR TENDER OR CONSTRUCTION

issue	amendment	checked	date
P1	PRELIMINARY ISSUE	TI	26/06/26

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architect

proprietor
KARKEL CONTRACTING PTY LTD

project
JOHNSTON ROAD RETIREMENT FACILITY

location
47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873

drawing title
ELECTRICAL SERVICES
SITE RETICULATION

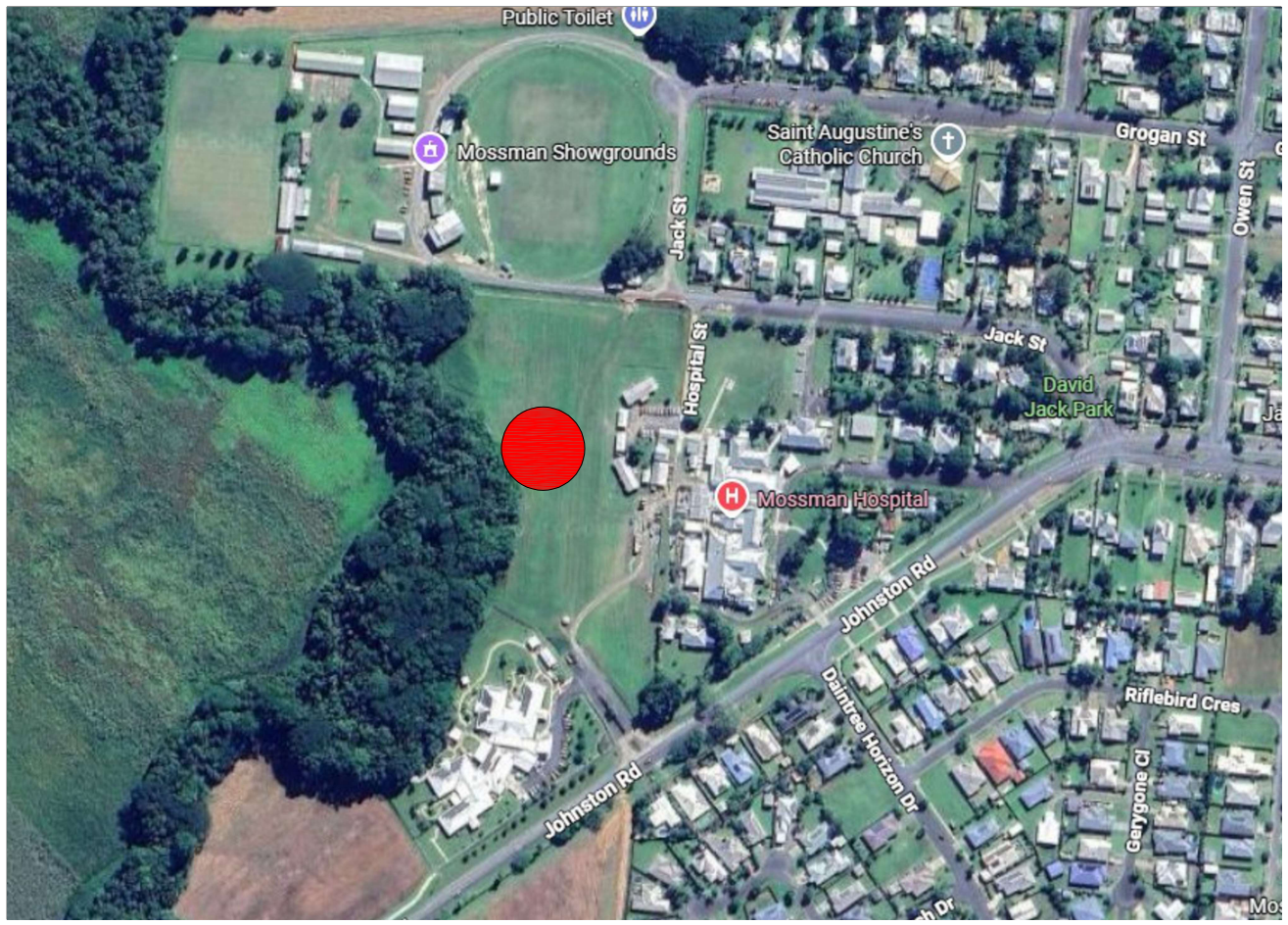
scale	date	design	drawn
1:500 @ A1 SHEET SIZE	JUNE '26	TI	FC

drawing number 26-0273/E003 issue P1

PLOTTED: 26 Jun 2026 F:\2026BS\26-0273 Johnston Road Mossman Gorge\4. Electrical\3 Design Drawings\E003 SITE RETICULATION.dwg

47 Johnston Road, Mossman Gorge

Landscape Operational Works Package



NTS

LOCALITY PLAN

Drawing Index

MRV00-L 001	COVERSHEET
MRV00-L 002	LANDSCAPE SPECIFICATION
MRV00-L 003.1	SURFACE FINISHES
MRV00-L 003.2	SURFACE FINISHES
MRV00-L 003.3	SURFACE FINISHES
MRV00-L 003.4	SURFACE FINISHES
MRV00-L 004.1	PLANTING PLAN
MRV00-L 004.2	PLANTING PLAN
MRV00-L 004.3	PLANTING PLAN
MRV00-L 004.4	PLANTING PLAN
MRV00-L 004.5	PLANTING SCHEDULE
MRV00-L 004.6	PLANTING SCHEDULE
MRV00-L 005	TYPICAL DETAILS

Principal

Cooloola Waters Holdings Pty Ltd

REVISIONS				
NO.	DATE	DESCRIPTION	APPROVED	
A	02/07/26	FOR APPROVAL		RM

CLIENT: -

Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

SIZE A1

RM DRAWN	RM CHECKED	47 Johnston Road, Mossman Gorge
RM DESIGNED	RM CHECKED	COVER SHEET
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L001 / REVISION A

LANDSCAPE SPECIFICATION

GENERAL

All works to be in accordance with Douglas Shire Council Planning Scheme, Policy No 7 Landscaping

All road grades and drainage are to Civil Engineer's drawings. All levels and drainage within street verge to Engineer's drawings. Ensure all grades fall away from buildings. Refer to details for all stair and ramp levels and grades, construct to Engineer's details and in accordance with Australian Standards for Access and Mobility.

FINISHED LEVELS AND GRADES

All ground level kerbs, grades, levels, service alignments and drainage are to Civil Engineer's drawings.

TOPSOIL DEPTHS: ON GRADE

Supply and install 300mm imported topsoil to approved horticultural and current Australian standard to planting areas and 100mm to all turf areas, equal to Envirogreen Black Label Garden Blend. Terracottem soil additive is to be used in all garden and lawn areas, to be installed in accordance with Manufacturers recommendations. Install 80mm Agg. drains within all gardens and connect to stormwater outlets to Hydraulic Engineer's details. Refer to soil tests and engineers reports on existing soil conditions for suitability and soil remediation extents.

FERTILISER

Fertiliser Types

Location	Chemical Type	Type of Application	NPK Analysis
Turfing/Grass Seeding – Establishment (Controlled Release Nitrogen product)	Inorganic	Granular (to manufacturers recommendation)	2:1:1
Turfing/Grass seeding – Maintenance (Controlled Release Nitrogen product	Inorganic	Granular (to manufacturers recommendation)	24:2:9
Tree Planting (Controlled Release Fertiliser)	Organic or Inorganic	Granular, below rootball (to manufacturers recommendation)	N 15 to 25 P 3 to 9 K 5 to 18
Planting Beds (Controlled Release Fertiliser)	Organic or Inorganic	Granular, below rootball (to manufacturers recommendation)	N 18 to 25 P 3 to 7 K 9 to 18

MULCH

Place 100mm thick shredded pine Hoop Bark mulch, or approved equal, medium grade to all planting areas. Mulch shall finish 20mm below adjacent surfaces/ edge of pavements. Ensure mulch is kept 100mm clear of tree trunks and plant stems.

SERVICES

Verify location of services on site prior to commencement of Landscape Works. Refer to Civil drawings and details for service alignments.
If in doubt as to the location of or type of service refer to Civil Works Supervisor.

IRRIGATION

Irrigation design and construct does not form part of this Landscape Documentation submission, may be installed by the Irrigation Sub-contractor, if required.

PLANT MATERIAL

The Contractor is to allow for all plant material to be inspected by the Landscape Architect at a single nursery prior to delivery to site. At this time any plants considered not suitable or not meeting the schedule will be rejected and replaced at no charge to the Client. 48 hrs notice is required for Nursery inspections. Nursery is to be within 25km of site. Generally all shrubs/trees etc. sizes noted on plans and in schedules are overall heights. Palm sizes are clear trunk heights to base of crown.

Street Trees: Retain existing street trees where possible. Any street trees removed or damaged during construction are to be replaced with same species and size. It is recommended Root Control Barrier are installed to all trees within road verges and/or adjacent structures.

Hardening off: All plant stock shall be hardened off in open areas prior to delivery to site. Watering and fertilising procedures shall be reduced for a similar period to aid the hardening off process.

Root control barrier to be Nylex Root Barrier or equal. Install to a minimum depth of 600mm and to Manufacturer's recommendations. Root barriers to be installed to any tree which may cause damage closer than 3m to services, pavement or structures.

STAKING

Use new unpainted 2400mm 38mm x 38mm straight Hardwood embedded 600mm into the soil. Stake all trees supplied in 25L containers and greater. Position two stakes equidistant from the plant centre and in line with the prevailing wind direction. Secure the tree with suitable lengths of non-abrasive, UV resistant webbing looped in figure-8 pattern around the trunk. Secure webbing to the stake to prevent slipping.

GARDEN EDGING

Timber edging to be installed at all garden and turf junctions. Refer to sheet MRV00-L005 for Timber Edge Detail.

LAWN AREA

Install 'A-Grade' Green Couch turf. Roll and top-dress as necessary to remove undulations and the like. Make good any construction related damage and install to existing grades and falls. Ensure all junctions/ transitions with adjoining surfaces are smooth even and flush. Top dress as required to ensure final finish is smooth even and flush.

FENCING

Refer to Surface Finishes plans for fencing extents.

F1: 1800mm high good neighbour internal fence.

F2: 1800mm high solid timber paling boundary fence. Lapped and capped as feature.

WALLS

Retaining walls do not form part of the Landscape works. Refer to Engineering documentation for details.

PAVEMENTS

Concrete Driveways, roadway and paths: All hard stand pavements to clients selection.

Setout, finished levels and construction details to Civil Engineer's details & specifications.

SEATING NODES

Install paved seating nodes to the locations nominated on the plans. Ensure concrete base slab is sized appropriately to suit the intended paver/tile dimensions to ensure a solid foundation with no exposed or undermined edges. Typical pad size shown with overall dimensions of 1800x4200mm. Final paving/tile finish to clients selection with matching coloured grout as required.

Seating: Seats to be 1500mm wide slatted seat with back and armrests. Supplied by Draffin Street Furniture, Bayside Straight Seat with back and Armrest. Battens to be timber look Alpine Ash colour. Frame to be Aluminium, with bolt down fixings. Or approved equal product.

DRAINAGE & STORMWATER TREATMENT DEVICE

All drainage and water treatment to be in accordance with Hydraulic/Civil Engineer's and Architects details.

Planting to bio retention basin directly into the final civil sand layer.

Planting to bio retention internal batters to have thick jute matting installed from proposed water level and above to secure soil and prevent erosion.

ESTABLISHMENT & MAINTENANCE

The Contractor shall Establish and maintain the Softscape areas within the Contract for a period of **12 months** after the date of Practical Completion. This shall include, but not be limited to, tree and shrub replacement as required, checking stakes and guys, pruning, tree surgery, topping up mulched areas, pest and disease control. Not withstanding the **12 month** limit of the Establishment Period, that period will not be deemed to be complete, until such time that all plants are growing in a healthy condition and all defects rectified.

The Contractor is to confirm lead-time and availability for all specified materials. Use specified materials, or equal approved products.

DISCREPANCIES

If during the course of tendering or construction the Contractor becomes aware of discrepancies between contract documents they should seek client clarification. All items noted on plans/details/specifications will be deemed to be included in the contract price.

IF IN DOUBT-ASK.

REVISIONS					
NO.	DATE	DESCRIPTION			APPROVED
A	02/07/26	FOR APPROVAL			RM

CLIENT: -

Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

SIZE A1

RM DRAWN	RM CHECKED	47 Johnston Road, Mossman Gorge
RM DESIGNED	RM CHECKED	LANDSCAPE SPECIFICATION
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L002 / REVISION A

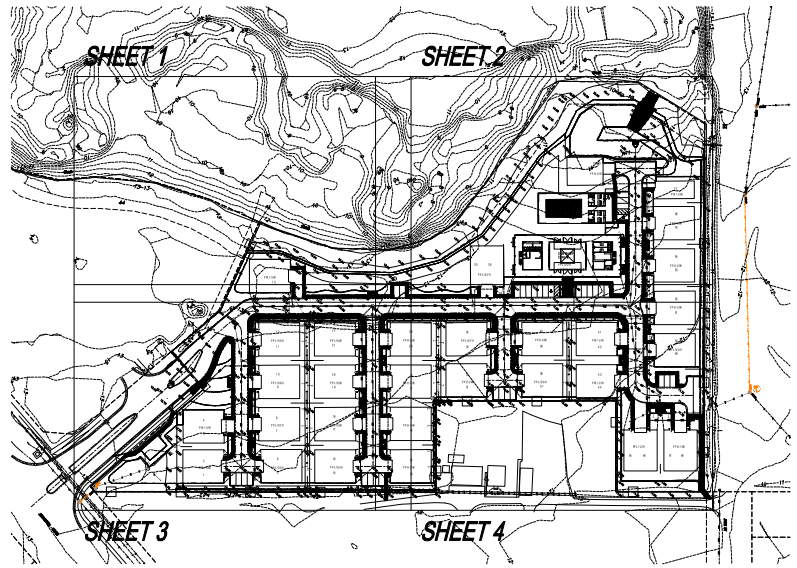
LEGEND

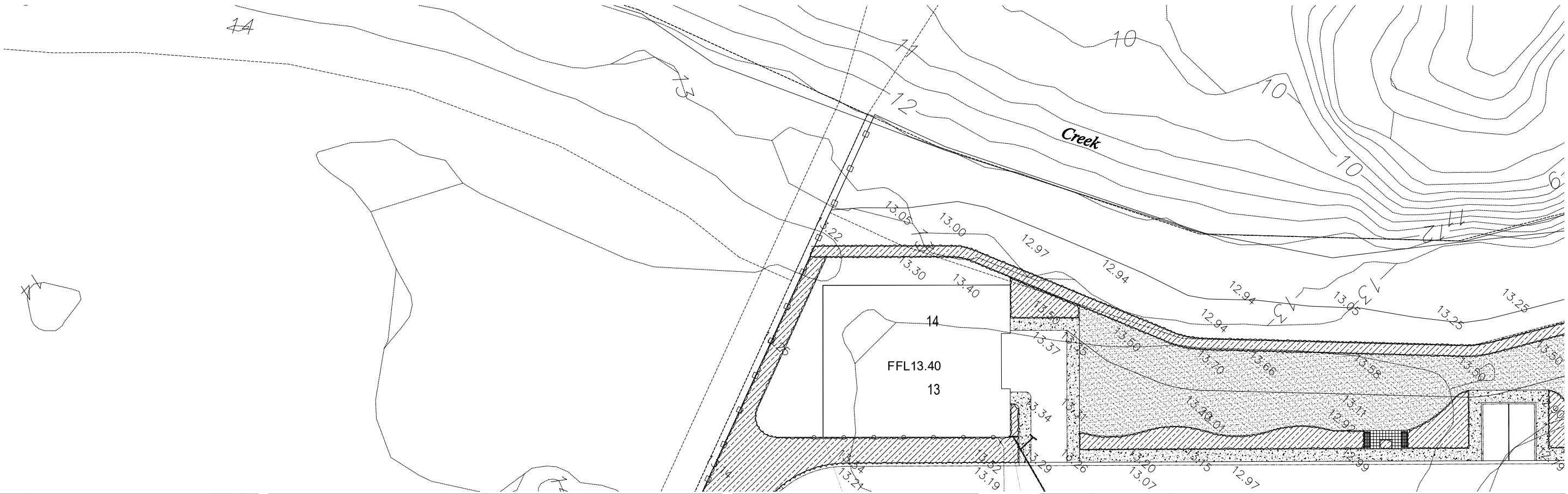
- TURF
- GARDEN BED
  REFER TO DETAIL
- CREEK SIDE PLANTED BUND
  REFER TO PLANT SCHEDULE FOR SPECIES
- BASIN INTERNAL BATTER PLANTING
  REFER TO DETAIL
- BASIN FLOOR PLANTING
  REFER TO DETAIL

F.L. 10.600 REFER TO ARCHITECTURAL PLANS FOR LEVELS DETAILS AND CIVIL FOR ALL SERVICES AND DRAINAGE

FENCING

- F1: 1800MM HIGH GOOD NEIGHBOUR INTERNAL FENCE
- F2: 1800MM SOLID TIMBER PALING BOUNDARY FENCE, LAPPED AND CAPPED





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MCUC 2023-5532/1

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0 4 8 12 16 20
SCALE metres

SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	SURFACE FINISHES PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:	DRAWING NO. MRV00–L003.1	REVISION A

NOTE:
REFER TO SHEET 1 FOR
SURFACE FINISHES LEGEND

SHED
FFL12.10

POOL AREA
FFL12.20

COMMUNITY
CENTRE
FFL12.20

35 36
FFL12.75

57
FFL12.00

56
FFL12.00
55

54
FFL12.00
53

52

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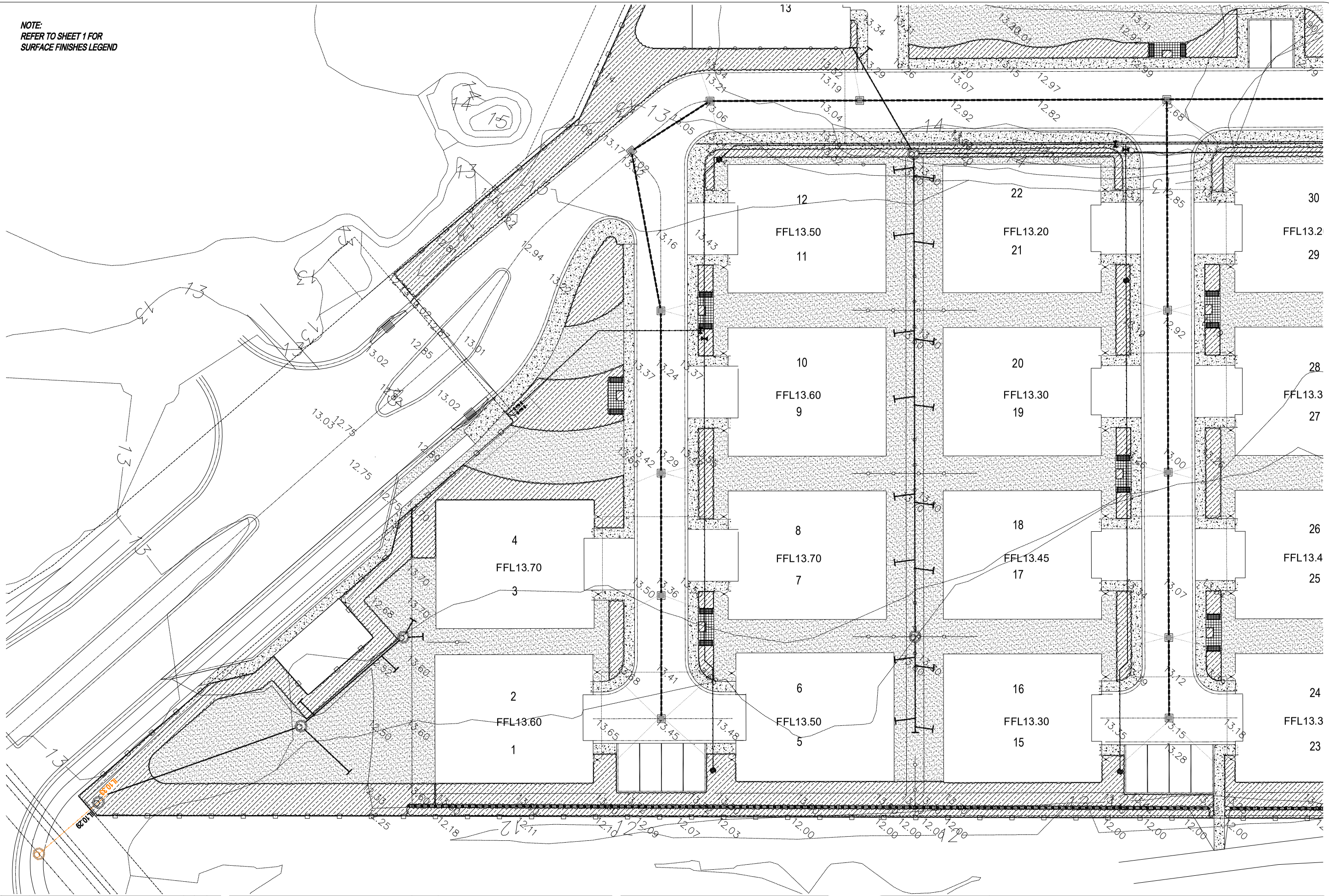
Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

0 4 8 12 16 20
SCALE metres

SIZE A1

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RM DESIGNED	RM CHECKED	SURFACE FINISHES PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L003.2 / REVISION A

NOTE:
REFER TO SHEET 1 FOR
SURFACE FINISHES LEGEND



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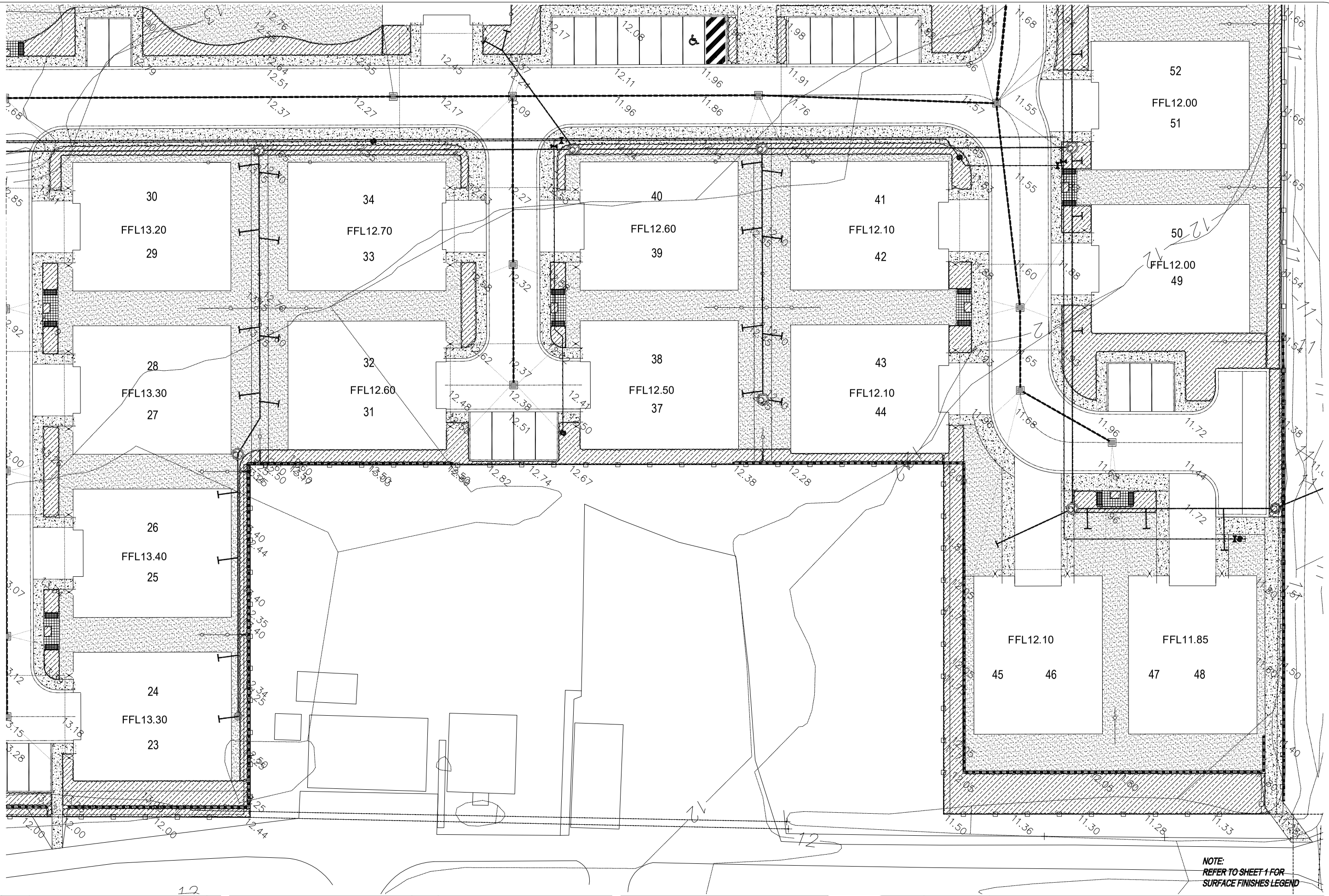
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ABN: 76 942 057 302

0 4 8 12 16 20
SCALE metres

SIZE A1

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RM DESIGNED	RM CHECKED	SURFACE FINISHES PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L003.3 / REVISION A



REVISIONS

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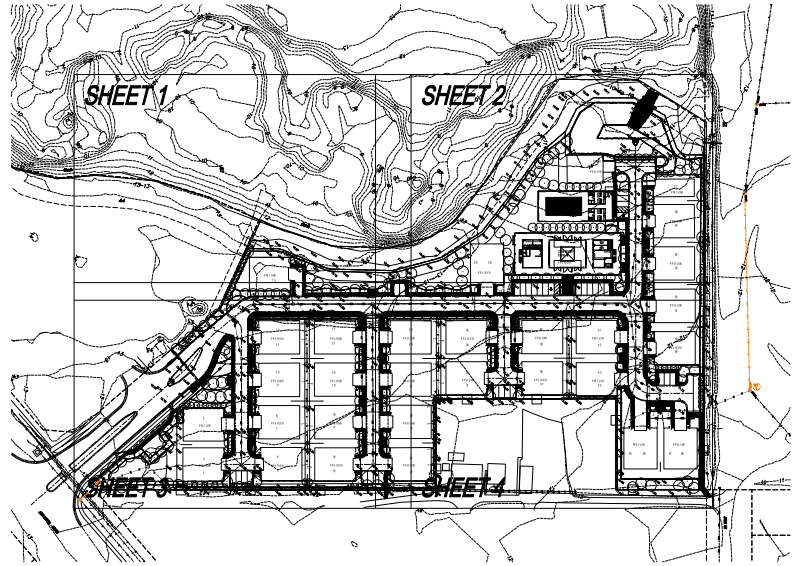
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SCALE metres

SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	SURFACE FINISHES PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
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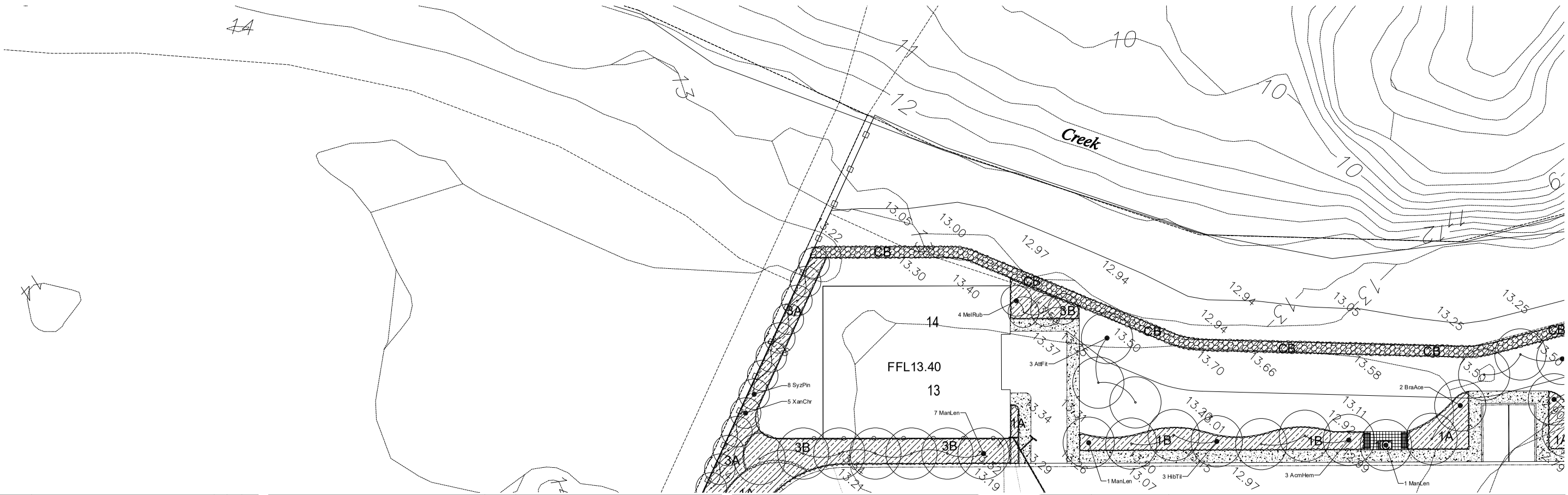
LEGEND - PLANTING

- TREES
- 1A LOW HEIGHT STREETSCAPE PLANTING MIX
- 1B LOW HEIGHT STREETSCAPE PLANTING MIX
- 1C LOW HEIGHT STREETSCAPE PLANTING MIX
- 2A BOUNDARY BUFFER SCREEN PLANTING MIX
- 2B BOUNDARY BUFFER SCREEN PLANTING MIX
- 2C BOUNDARY BUFFER SCREEN PLANTING MIX
- 3A MEDIUM HEIGHT STREETSCAPE PLANTING MIX
- 3B MEDIUM HEIGHT STREETSCAPE PLANTING MIX
- 4A FEATURE ENTRY PLANTING MIX
- 4B FEATURE ENTRY PLANTING MIX
- CB MOUNDED CREEK BUFFER PLANTING MIX (Refer to plant Schedule for Matrix)
- BF BIO-RETENTION BASIN FLOOR PLANTING MIX (Refer to plant Schedule for Matrix)
- BB BIO-RETENTION BASIN INTERNAL BATTER PLANTING MIX (Refer to plant Schedule for Matrix)



SHEET KEY

NOTE:
REFER TO SHEET 4.5 AND 4.6 FOR PLANTING SCHEDULE



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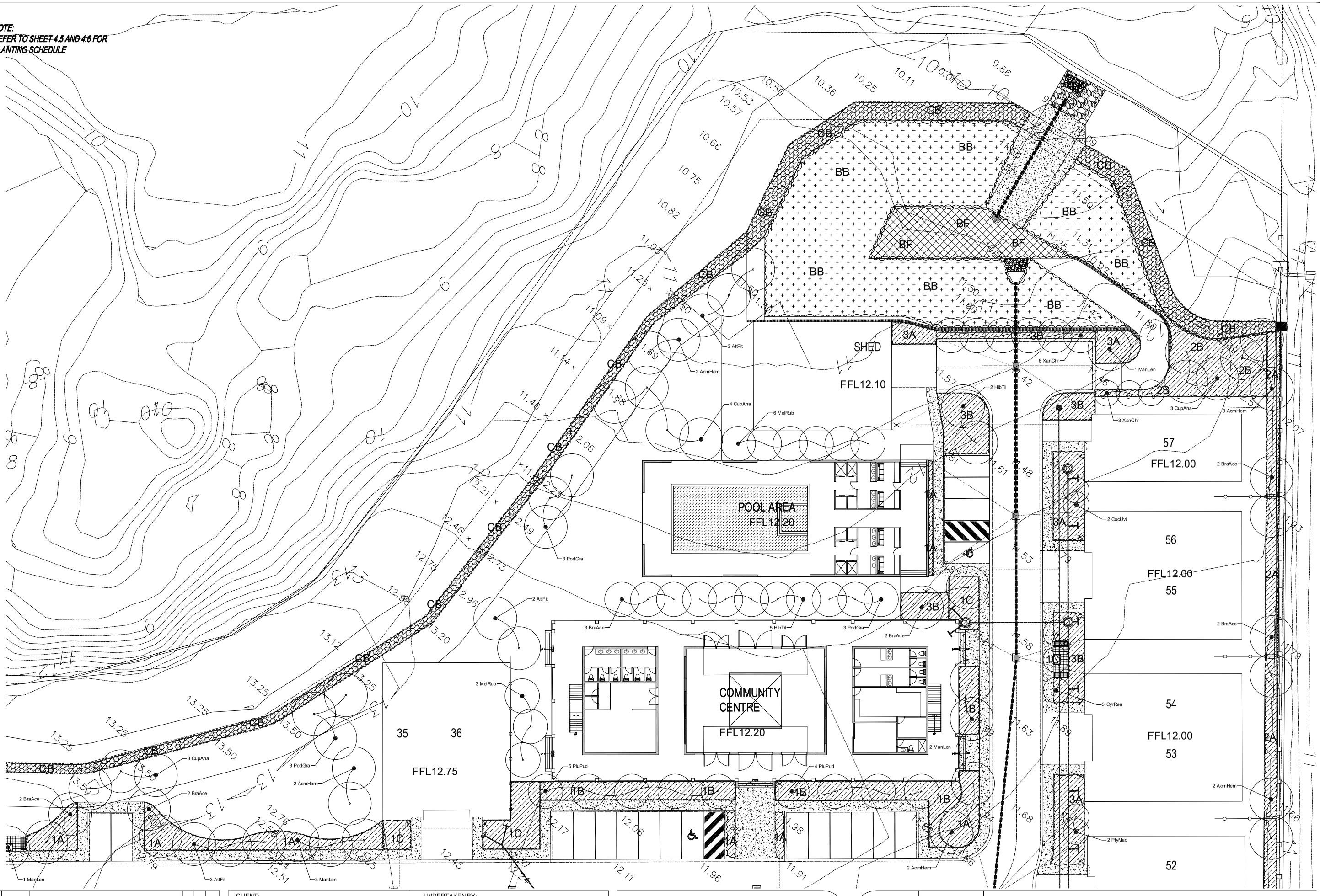
Drafted under
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ABN: 76 942 057 302

0 4 8 12 16 20
SCALE metres

SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	PLANTING PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:	DRAWING NO. MRV00–L004.1	REVISION A

NOTE:
REFER TO SHEET 4.5 AND 4.6 FOR
PLANTING SCHEDULE



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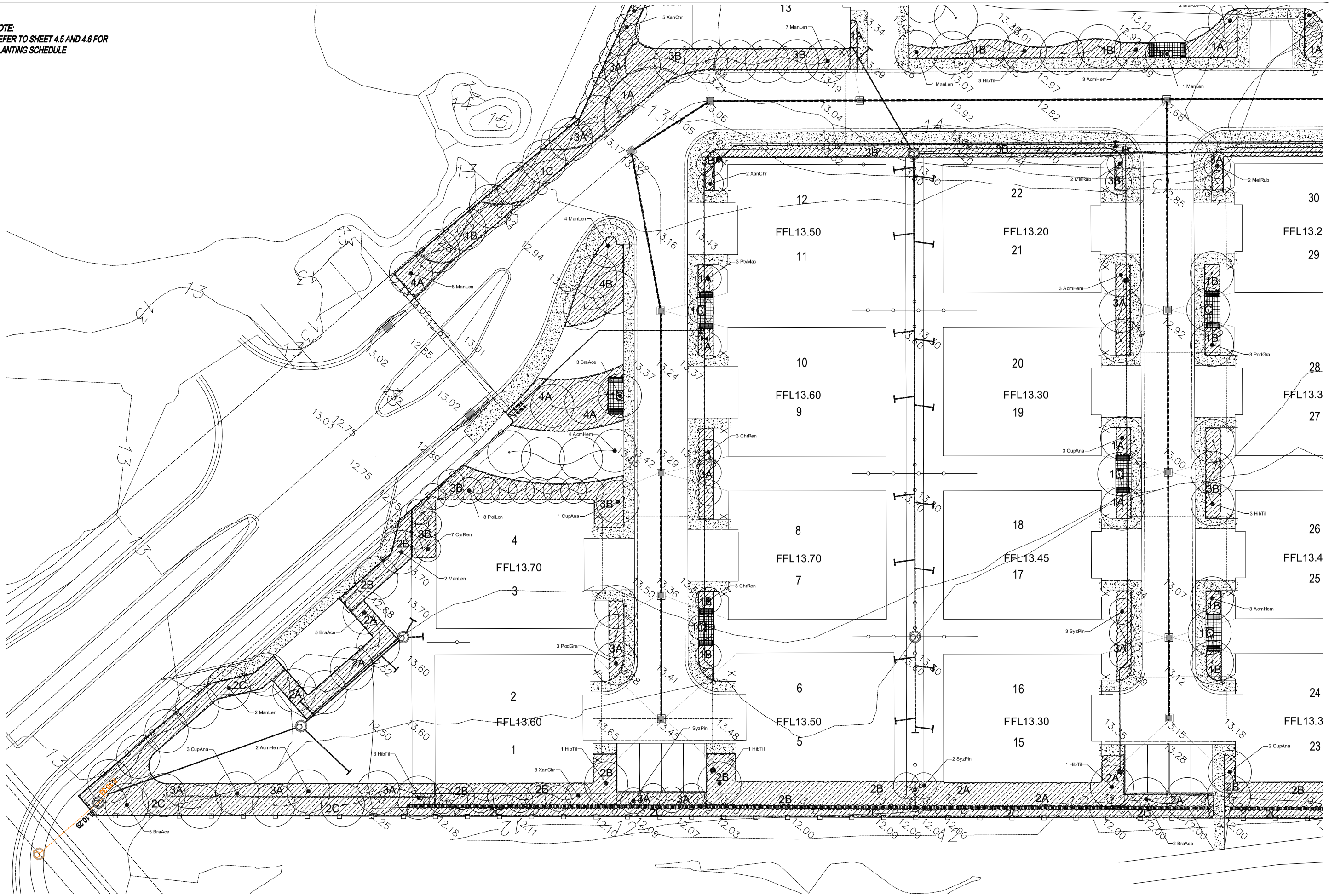
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ABN: 76 942 057 302

0 4 8 12 16 20
SCALE metres

SIZE A1

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RM DESIGNED	RM CHECKED	PLANTING PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L004.2 / REVISION A

NOTE:
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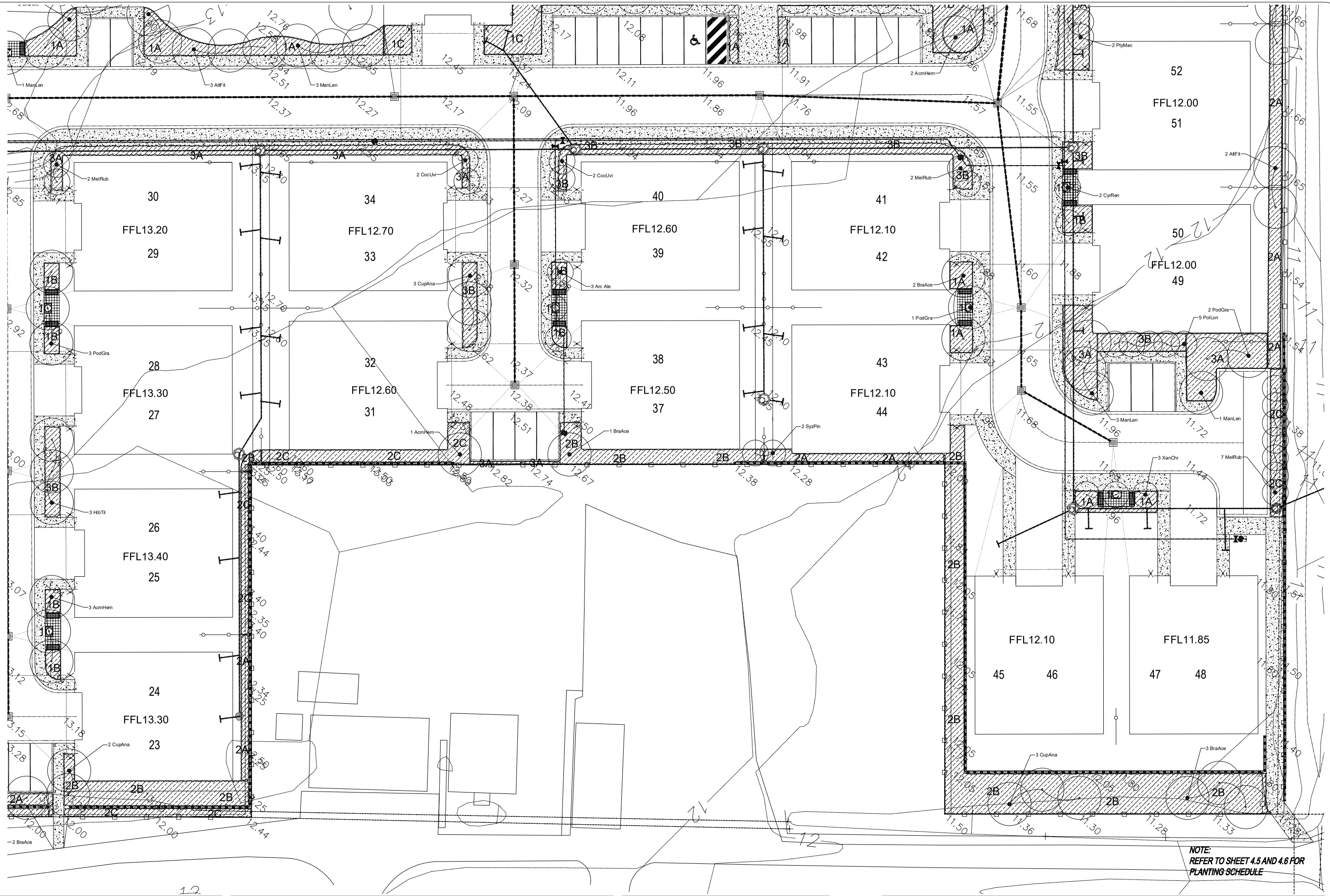
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SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	PLANTING PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L004.3 / REVISION A



NOTE:
REFER TO SHEET 4.5 AND 4.6 FOR PLANTING SCHEDULE

REVISIONS				
NO.	DATE	DESCRIPTION	APPROVED	
A	02/07/26	FOR APPROVAL	RM	

CLIENT: -

Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

0 4 8 12 16 20
SCALE metres

SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	PLANTING PLAN
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L004.4 / REVISION A

PLANTING SCHEDULE

TREES	Site Wide						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
AcmHem	Acmena hemilampra	Blush Satinash	Yes	8–12 m × 4–6 m	45L	as shown	27
ArcAle	Archontophoenix alexandrae	Alexander Palm	Yes	15–20 m × 3–5 m	45L	as shown	3
AttFit	Attractocarpus fitzalanii	Yellow Mangosteen	Yes	6–10 m × 3–5 m	45L	as shown	13
BraAce	Brachychiton acerifolius	Illawarra Flame Tree	Yes	10–20 m × 6–10 m	45L	as shown	34
CocUvi	Coccoloba uvifera	Sea Grape	Exotic	5–8 m × 4–6 m	45L	as shown	6
CupAna	Cupaniopsis anacardioides	Tuckeroo	Yes	6–10 m × 4–6 m	45L	as shown	25
CyrRen	Cyrtostachys renda	Lipstick Palm	Exotic	6–10 m × 3–4 m	45L	as shown	12
HibTil	Hibiscus tiliaceus rubra	Red Cottonwood	Yes	6–10 m × 4–8 m	45L	as shown	19
ManLen	Maniltoa lenticelata	Silk Handkerchief Tree	Yes	6–10 m × 4–6 m	45L	as shown	35
MelRub	Melicope rubra	Little Evodia	Yes	4–8 m × 3–5 m	45L	as shown	26
PluPud	Plumeria pudica	Everlasting Love	Exotic	3–4 m × 2–3 m	45L	as shown	9
PodGra	Podocarpus grayae	Brown Pine	Yes	8–15 m × 3–5 m	45L	as shown	18
PolLon	Polyalthia longifolia pendula	Indian Mast Tree	Exotic	10–18 m × 2–4 m	45L	as shown	13
PtyMac	Ptychosperma macarthurii	Macarthur Palm	Yes	6–10 m × 3–4 m	45L	as shown	5
SyzPin	Syzygium australe 'Pinnacle'	Narrow Lilly Pilly	Yes	6–10 m × 1–2 m	45L	as shown	19
XanChr	Xanthostemon chrysanthus	Golden Penda	Yes	6–10 m × 4–6 m	45L	as shown	27
						Total	**291**

MIX 1A	Streetscape Mix (194m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
LomHys	Lomandra hystrix	Creek Mat-rush	Yes	0.6–1 × 0.6–1 m	140mm	0.7–1 m	44
DieBic	Dietes bicolor	Native Iris	Naturalised	0.6–0.8 × 0.6–0.8 m	140mm	0.7–1 m	58
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	140mm	1–1.2 m	29
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	19
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	39
MicCil	Micromyrtus ciliata	Fringed Heath Myrtle	Yes	0.3–0.6 × 0.6–1 m	140mm	0.5–0.7 m	44
						Total	**233**

MIX 1B	Streetscape Mix (242m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
LomHys	Lomandra hystrix	Creek Mat-rush	Yes	0.6–1 × 0.6–1 m	140mm	0.7–1 m	54
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	200mm	1–1.2 m	36
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	48
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	36
BaeFru	Baeckea frutescens	Heath Myrtle	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	36
VioHed	Viola hederacea	Native Violet	Yes	0.1–0.2 × 0.5–1 m	140mm	0.4–0.6 m	77
						Total	**289**

MIX 1C	Streetscape Mix (106m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
LomHys	Lomandra hystrix	Creek Mat-rush	Yes	0.6–1 × 0.6–1 m	140mm	0.7–1 m	32
DieBic	Dietes bicolor	Native Iris	Naturalised	0.6–0.8 × 0.6–0.8 m	140mm	0.7–1 m	32
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	200mm	1–1.2 m	21
MicCil	Micromyrtus ciliata	Fringed Heath Myrtle	Yes	0.3–0.6 × 0.6–1 m	200mm	0.5–0.7 m	32
HibSca	Hibbertia scandens	Snake Vine	Yes	0.3–0.6 × 1–2 m	140mm	0.7–1 m	32
						Total	**148**

MIX 2A	Boundary Screening Mix (289m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
SyzWil	Syzygium wilsonii	Powderpuff Lilly Pilly	Yes	2–4 × 2–3 m	200mm	1.5–2 m	39
CroIns	Croton insularis	Croton	Yes	2–4 × 1.5–3 m	200mm	1.5–2 m	29
XanVer	Xanthostemon verticillatus	Bloomfield Penda	Yes	3–6 × 2–4 m	200mm	2–3 m	22
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	43
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	140mm	1–1.5 m	43
LepPol	Leptospermum polygalifolium	Tantoon	Yes	1–3 × 1–2 m	140mm	1–1.5 m	58
						Total	**234**

MIX 2B	Boundary Screening Mix (606m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
XanVer	Xanthostemon verticillatus	Bloomfield Penda	Yes	3–6 × 2–4 m	200mm	2–3 m	61
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	81
CroIns	Croton insularis	Croton	Yes	2–4 × 1.5–3 m	200mm	1.5–2 m	81
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	121
HibSca	Hibbertia scandens	Snake Vine	Yes	0.3–0.6 × 1–2 m	140mm	0.7–1 m	182
						Total	**526**

MIX 2C	Boundary Screening Mix (319m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	64
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	43
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	64
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	140mm	1–1.2 m	64
MicCil	Micromyrtus ciliata	Fringed Heath Myrtle	Yes	0.3–0.6 × 0.6–1 m	140mm	0.5–0.7 m	96
						Total	**330**

MIX 3A	Medium Height Mix (426m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	57
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	85
CroIns	Croton insularis	Croton	Yes	2–4 × 1.5–3 m	200mm	1.5–2 m	57
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	85
BaeFru	Baeckea frutescens	Heath Myrtle	Yes	1–2 × 1–1.5 m	200mm	1–1.5 m	85
						Total	**370**

MIX 3B	Medium Height Mix (442m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
XanVer	Xanthostemon verticillatus	Bloomfield Penda	Yes	3–6 × 2–4 m	200mm	2–3 m	44
SyzWil	Syzygium wilsonii	Powderpuff Lilly Pilly	Yes	2–4 × 2–3 m	200mm	1.5–2 m	59
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	140mm	1.5–2 m	59
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	88
HibSca	Hibbertia scandens	Snake Vine	Yes	0.3–0.6 × 1–2 m	140mm	0.7–1 m	133
						Total	**384**

MIX 4A	Entry Mix (78m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
SyzWil	Syzygium wilsonii	Powderpuff Lilly Pilly	Yes	2–4 × 2–3 m	200mm	1.5–2 m	10
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	10
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	16
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	140mm	1–1.2 m	16
MicCil	Micromyrtus ciliata	Fringed Heath Myrtle	Yes	0.3–0.6 × 0.6–1 m	140mm	0.5–0.7 m	23
						Total	**76**

MIX 4B	Entry Mix (40m2)						
Code	**Botanical Name**	**Common Name**	**Native**	**Size (H×W)**	**Install Size**	**Spacing**	**Quantity**
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 × 1.5–2 m	200mm	1.5–2 m	12
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 × 1–1.5 m	200mm	1–1.5 m	12
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 × 1–1.5 m	140mm	1–1.5 m	12
MelRep	Melastoma malabathricum	Native Lasiandra	Yes	0.5–1 × 1–1.5 m	140mm	1–1.2 m	10
VioHed	Viola hederacea	Native Violet	Yes	0.1–0.2 × 0.5–1 m	140mm	0.4–0.6 m	13
						Total	**58**

REVISIONS

NO.	DATE	DESCRIPTION	APPROVED
A	02/07/26	FOR APPROVAL	RM

CLIENT: -

Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

SIZE A1

RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	PLANTING SCHEDULE
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:		DRAWING NO. MRV00–L004.5 / REVISION A

PLANTING SCHEDULE

CREEK BUFFER REVEGETATION PLANTING (357m2)

TREES

Code	Botanical Name	Common Name	Native	Size (H×W)	Install Size	Spacing	Qty.
AttFit	Attractocarpus fitzalanii	Yellow Mangosteen	Yes	6–10 m × 3–5 m	tubestock	5m ctrs	24
MelRub	Melicope rubra	Little Evodia	Yes	4–8 m × 3–5 m	tubestock	5m ctrs	24
XanChr	Xanthostemon chrysanthus	Golden Penda	Yes	6–10 m × 4–6 m	tubestock	5m ctrs	24
						Total	**71**

SHRUBS

Code	Botanical Name	Common Name	Native	Size (H×W)	Install Size	Spacing	Qty.
AlpCae	Alpinia caerulea	Native Ginger	Yes	1.5–2 m × 1–1.5 m	tubestock	5m ctrs	14
CroIns	Croton insularis	Croton	Yes	2–4 m × 1.5–3 m	tubestock	5m ctrs	7
GarSca	Gardenia scabrella	Native Gardenia	Yes	1.5–3 m × 1.5–2 m	tubestock	2m ctrs	27
PhyCus	Phyllanthus cuscutiflorus	Pink Phyllanthus	Yes	1–2 m × 1–1.5 m	tubestock	2m ctrs	45
SyzWil	Syzygium wilsonii ssp. wilsonii	Powderpuff Lilly Pilly	Yes	2–4 m × 2–3 m	tubestock	2m ctrs	54
						Total	**146**

GROUNDCOVERS

Code	Botanical Name	Common Name	Native	Size (H×W)	Install Size	Spacing	Qty.
LomHys	Lomandra hystrix	Creek Mat-rush	Yes	0.6–1 m × 0.6–1 m	tubestock	2m ctrs	59
DieBic	Dietes bicolor	Native Iris	Naturalised	0.6–0.8 m × 0.6–0.8 m	tubestock	2m ctrs	59
MelRep	Melastoma malabathricum var.	Native Lasiandra	Yes	0.5–1 m × 1–1.5 m	tubestock	3m ctrs	40
						Total	**158**

BIO-RETENTION BASIN MIX (Detention Zone) Floor Mix (95m2)

Shallow Marsh to Ephemeral Marsh Plants

Code	Botanical Name	Common Name	Native	Size (H×W)	Install size	Spacing	Qty.
BauArt	Baumea articulata	Jointed Twig-rush	Yes	1.5 x 0.5m	tubestock	4/m2	57
BauPhy	Baumea arthrophylla	Fine Twig-sedge	Yes	1.3 x 0.5m	tubestock	4/m2	38
CarFas	Carex fascicularis	Tassel Sedge	Yes	0.75 x 1m	tubestock	4/m2	38
FicNod	Ficinia nodosa syn. Isolepis noc	Knobby Club-rush	Yes	1 x 0.5m	tubestock	4/m2	57
IsoInu	Isolepsis inundata	Swamp Club-rush	Yes	0.5 x 0.4m	tubestock	4/m2	38
JunFla	Juncus flavidus	Yellow Rush	Yes	1.2 x 1m	tubestock	4/m2	53
JunSub	Juncus subsecundus	Finger Rush	Yes	1 x 1m	tubestock	4/m2	53
JunUsi	Juncus usitatus	Billabong Rush	Yes	1.2 x 1.0m	tubestock	4/m2	46
Note: Plant species in clumps of 20-30 at nominated centres						**Total**	**380**

BIO-RETENTION INTERNAL BATTER MIX (649m2)

Groundcovers and Tufted Plants

Code	Botanical Name	Common Name	Native	Size (H×W)	Install size	Spacing	Qty.
CarPum	Carex pumila	Coastal sedge	Yes	0.25 x 0.3m	tubestock	4/m2	286
FicNod	Ficinia nodosa syn. Isolepis noc	Knobby Club-rush	Yes	1 x 0.5m	tubestock	4/m2	337
GahSib	Gahnia sieberiana	Red-fruited Sword Sedge	Yes	1.5 x 1m	tubestock	2/m2	156
GooOva	Goodenia ovata	Hop Goodenia	Yes	2 x 1m	tubestock	2/m2	169
JunUsi	Juncus usitatus	Common Rush	Yes	1.2 x 0.7m	tubestock	4/m2	312
LomHys	Lomandra hystrix	Green Mat-rush	Yes	1 x 1m	tubestock	4/m2	675
MyoPar	Myoporum parvifolium	Creeping Boobialla	Yes	0.3 x 2m	tubestock	2/m2	169
Note: Plant species in clumps of 20-30 at nominated centres						**Total**	**2,103**

REVISIONS

NO.	DATE	DESCRIPTION	APPROVED
A	02/07/26	FOR APPROVAL	RM

CLIENT: -

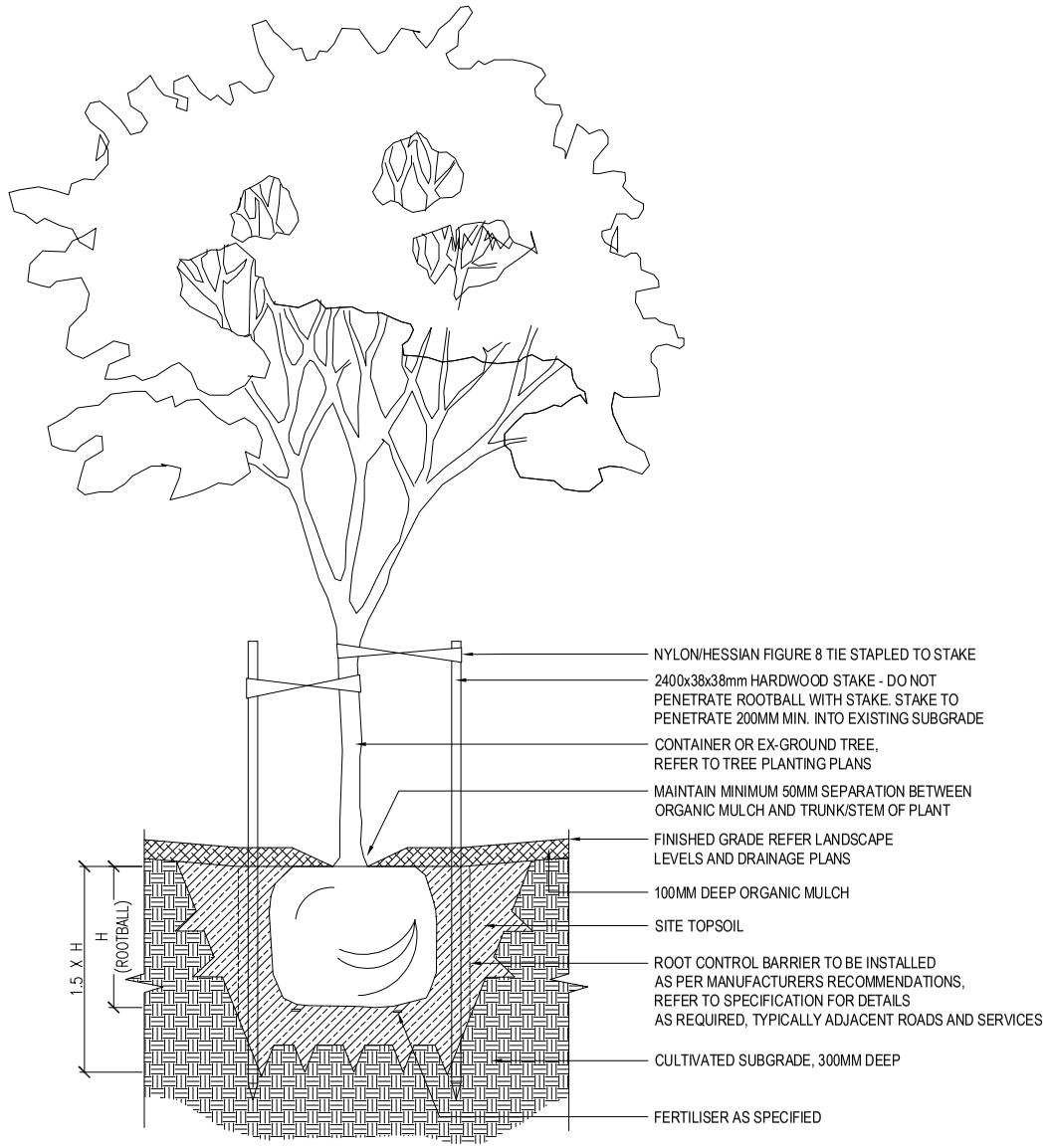
Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

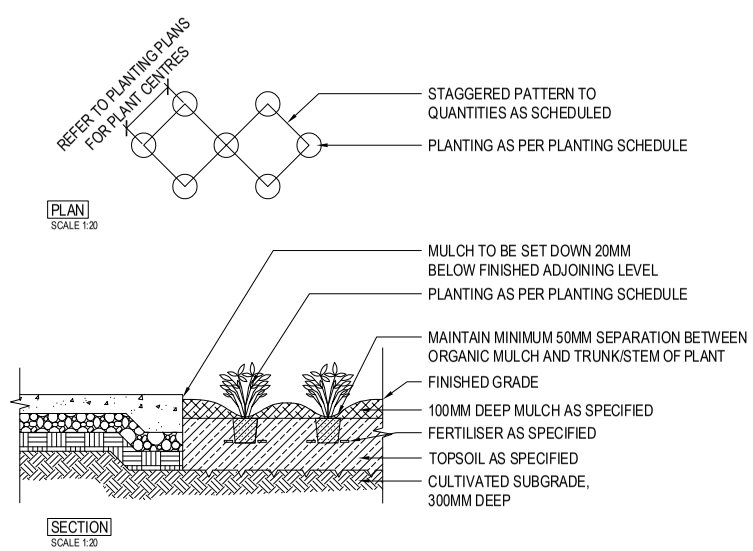
Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

SIZE A1

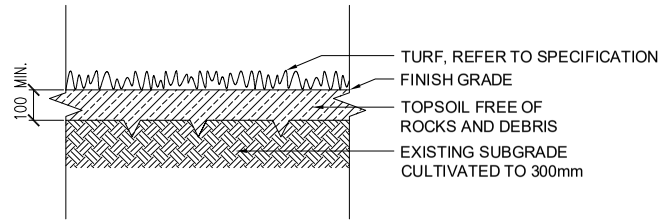
RM DRAWN	RM CHECKED	47 JOHNSTON ROAD, MOSSMAN GORGE
RM DESIGNED	RM CHECKED	PLANTING SCHEDULE
MRV00-L001 CAD REF.	JULY 2026 DATE	
REGISTERED LANDSCAPE ARCHITECT:	DRAWING NO. MRV00–L004.6	REVISION A



1 TYPICAL TREE PLANTING DETAIL
Scale 1:20

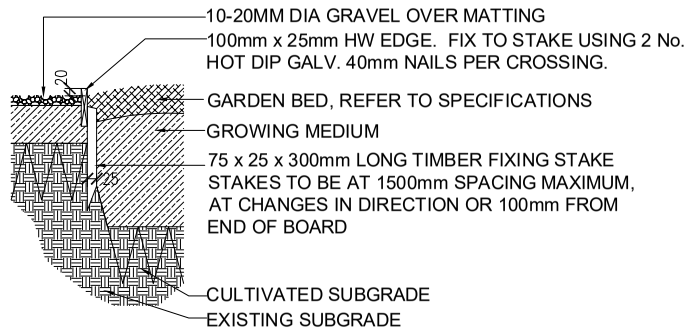


2 TYPICAL SHRUB PLANTING DETAIL
Scale 1:20

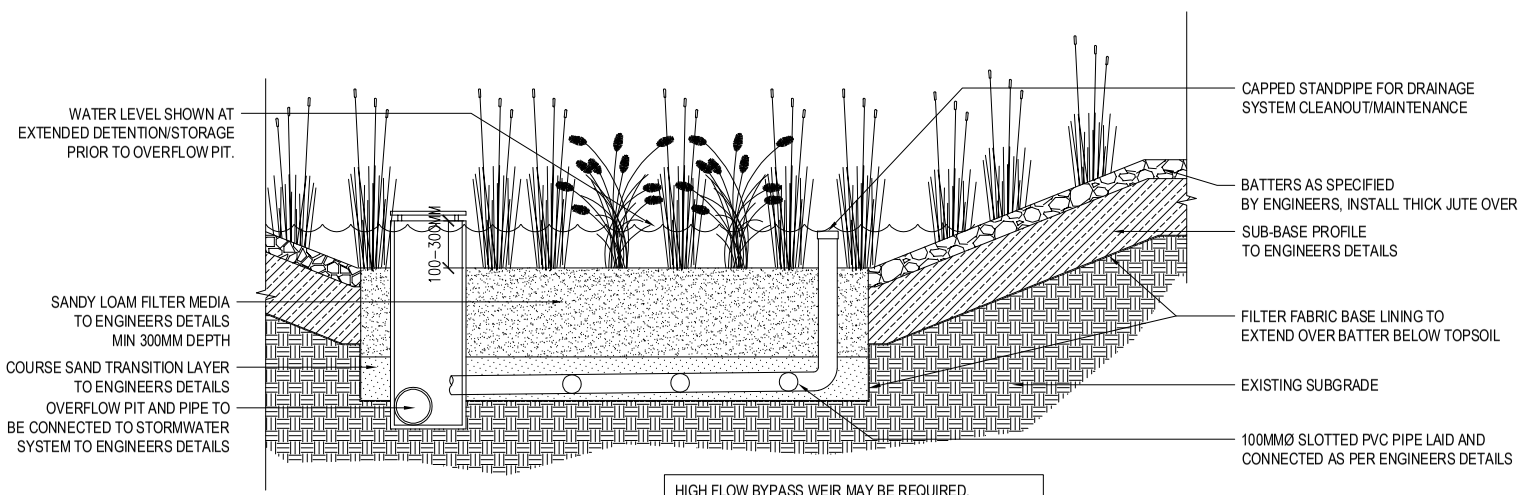


3 TYPICAL TURF DETAIL
Scale 1:20

NOTE: TIMBER GARDEN EDGE TO BE INSTALLED TO ALL JUNCTIONS BETWEEN PLANTED AREAS AND TURF



4 TIMBER EDGING DETAIL
Scale 1:10



HIGH FLOW BYPASS WEIR MAY BE REQUIRED.
REFER TO ENGINEERING DRAWINGS FOR DETAILS.
BYPASS WEIR TYPICALLY 300MM ABOVE OVERFLOW PIT

5 TYPICAL BIORETENTION DETAIL
Scale 1:20

REVISIONS

NO.	DATE	DESCRIPTION	APPROVED
A	02/07/26	FOR APPROVAL	RM

CLIENT: -

Cooloola Waters Holdings Pty Ltd
Lot 2 on SP295098
MCUC 2023-5532/1

UNDERTAKEN BY: -

Drafted under
Karkel Projects Pty Ltd
ABN: 76 942 057 302

SIZE A1

RM DRAWN	RM CHECKED
RM DESIGNED	RM CHECKED
MRV00-L001 CAD REF.	JULY 2026 DATE

REGISTERED LANDSCAPE ARCHITECT:

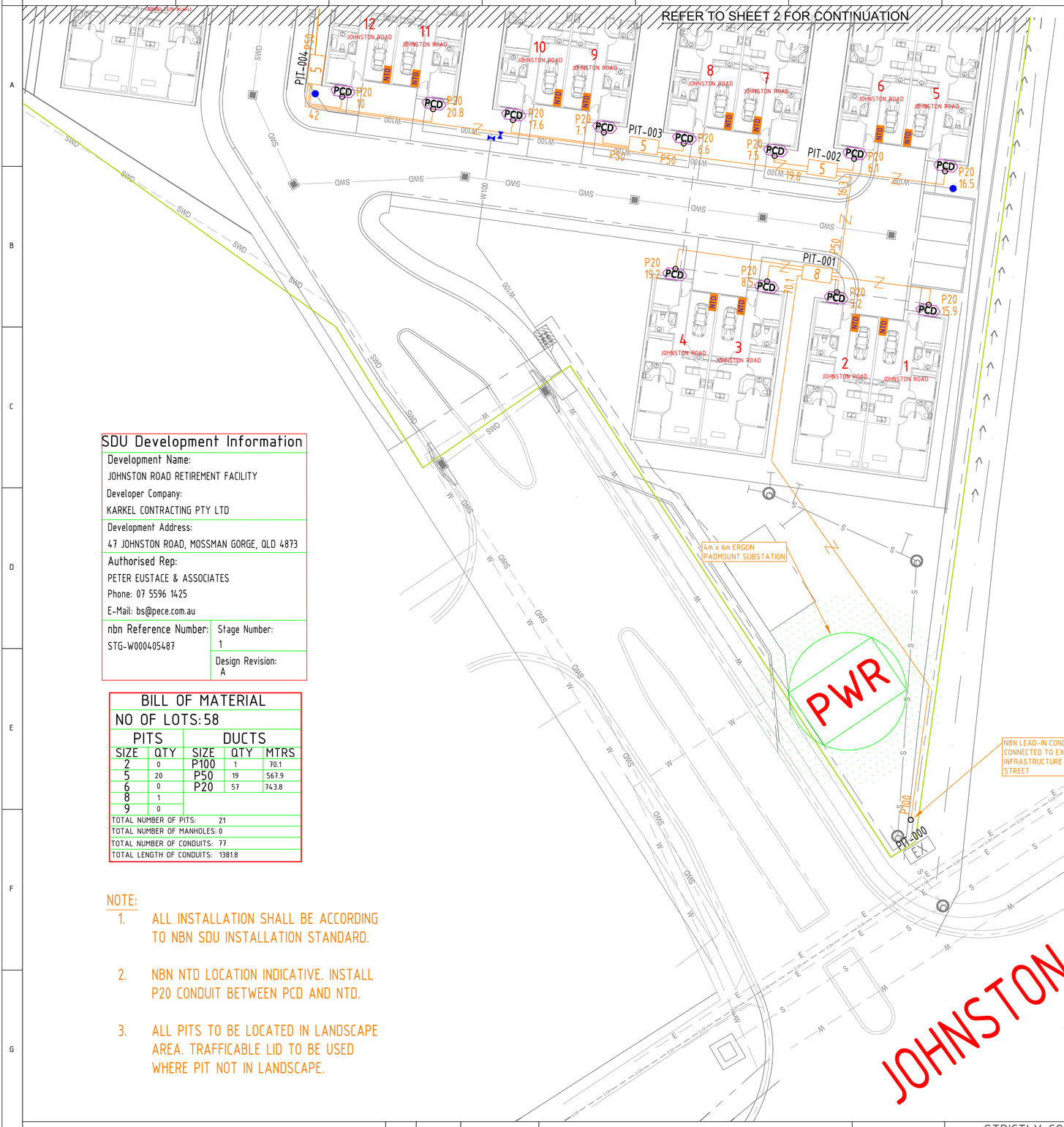
47 JOHNSTON ROAD, MOSSMAN GORGE

DETAILS

DRAWING NO. MRV00–L005

REVISION A

REFER TO SHEET 2 FOR CONTINUATION



SDU Development Information

Development Name: JOHNSTON ROAD RETIREMENT FACILITY	
Developer Company: KARKEL CONTRACTING PTY LTD	
Development Address: 47 JOHNSTON ROAD, MOSSMAN GORGE, QLD 4873	
Authorised Rep: PETER EUSTACE & ASSOCIATES Phone: 07 5596 1425 E-Mail: bs@pece.com.au	
nbn Reference Number: STG-W000405487	Stage Number: 1 Design Revision: A

BILL OF MATERIAL

NO OF LOTS: 58

PITS		DUCTS		
SIZE	QTY	SIZE	QTY	MTRS
2	0	P100	1	70.1
5	20	P50	19	567.9
6	0	P20	57	743.8
8	1			
9	0			

TOTAL NUMBER OF PITS: 21
TOTAL NUMBER OF MANHOLES: 0
TOTAL NUMBER OF CONDUITS: 77
TOTAL LENGTH OF CONDUITS: 1381.8

NOTE:

1. ALL INSTALLATION SHALL BE ACCORDING TO NBN SDU INSTALLATION STANDARD.
2. NBN NTD LOCATION INDICATIVE. INSTALL P20 CONDUIT BETWEEN PCD AND NTD.
3. ALL PITS TO BE LOCATED IN LANDSCAPE AREA. TRAFFICABLE LID TO BE USED WHERE PIT NOT IN LANDSCAPE.

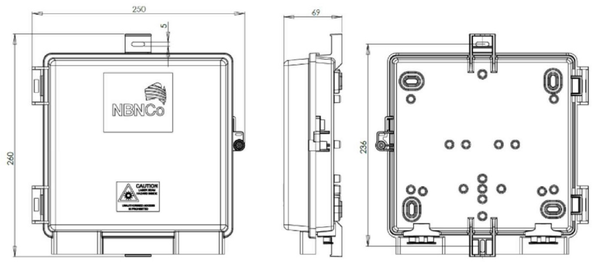
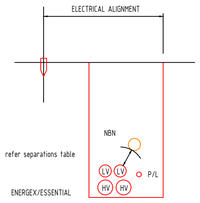


Figure 5. PCD – Dimensions

NBN SYMBOL LEGEND

- Transformer / Kiosk / Pad Mount Sub-station / Pole Mount Transformer
- PIT-ID 5 — Network Boundary/Local Network Pit (Single Lid) (700mmX450mmX650mm)
- PIT-ID 8 — Distribution/Local Network Connection Pit (1360mmX555mmX860mm)
- PIT-ID 9 — Fibre Distribution Hub (FDH) Pit (2000mmX555mmX900mm)
- Shared Trench Symbol
- Energex Pillar

TRENCH SECTION



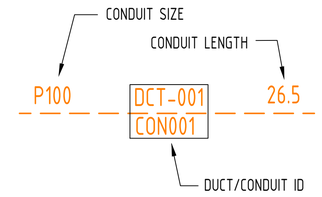
SEPARATION FROM NBN CONDUITS CROSSING

DIMENSION	RADIAL
LV	100mm Min
HV	100mm Min

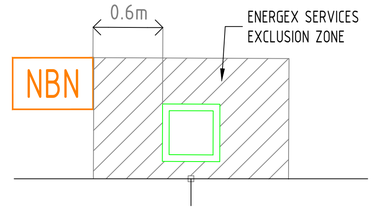
SEPARATION FROM NBN CONDUITS PARALLEL

DIMENSION	VERTICAL
LV	150mm Min
HV	300mm Min

CONDUIT CONFIGURATION



STANDARD NBN PIT OFFSET TO ENERGEX PILLAR



WHERE PITS ARE NOT LOCATED BESIDE PILLARS, OFFSETS WILL BE SHOWN ON THE LAYOUT TO THE NEAREST TRUNCATION. IF NO OFFSET DISTANCE IS SHOWN, PLEASE CONTACT DESIGN CONSULTANT PRIOR TO INSTALLATION.

SITE PLAN - SHEET 1
4:1 @A1 SHEET SIZE

DIAL BEFORE YOU DIG www.1100.com.au

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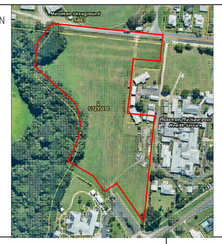
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Australia's broadband network

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EMAIL mail@pece.com.au
WEB pece.com.au

N KEY PLAN



DRAWING TITLE:
STG-W000405487
PIT & PIPE LAYOUT
47 JOHNSTON ROAD
MOSSMAN GORGE, QLD 4873

ENABLE#: 279323		
STATE: QLD	REGION: 56	
FSA:	SAM:	ADA:
PROJECT No: STG-W000405487		
CADREF No: 26-0273		
SCALE 4:1@A1	SHEET No. 3 OF 4	REV. A



NBN SYMBOL LEGEND

Transformer / Kiosk / Pad Mount Sub-station / Pole Mount Transformer

PIT-ID 5 — Network Boundary/Local Network Pit (Single Lid) (700mmX450mmX650mm)

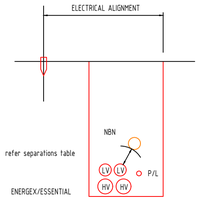
PIT-ID 8 — Distribution/Local Network Connection Pit (1360mmX555mmX860mm)

PIT-ID 9 — Fibre Distribution Hub (FDH) Pit (2000mmX555mmX900mm)

Shared Trench Symbol

Energex Pillar

TRENCH SECTION



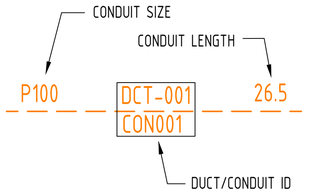
SEPARATION FROM NBN CONDUITS CROSSING

DIMENSION	RADIAL
LV	100mm Min
HV	100mm Min

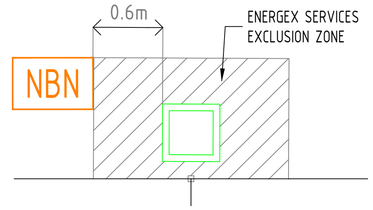
SEPARATION FROM NBN CONDUITS PARALLEL

DIMENSION	VERTICAL
LV	150mm Min
HV	300mm Min

CONDUIT CONFIGURATION



STANDARD NBN PIT OFFSET TO ENERGEX PILLAR



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SITE PLAN - SHEET 2
4:1 @A1 SHEET SIZE

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N KEY PLAN



DRAWING TITLE:
STG-W000405487
PIT & PIPE LAYOUT
47 JOHNSTON ROAD
MOSSMAN GORGE, QLD 4873

ENABLE#:	279323		
STATE:	QLD	REGION:	56
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PROJECT No:	STG-W000405487		
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SCALE	4:1@A1	SHEET No.	2 OF 4
REV.	A		

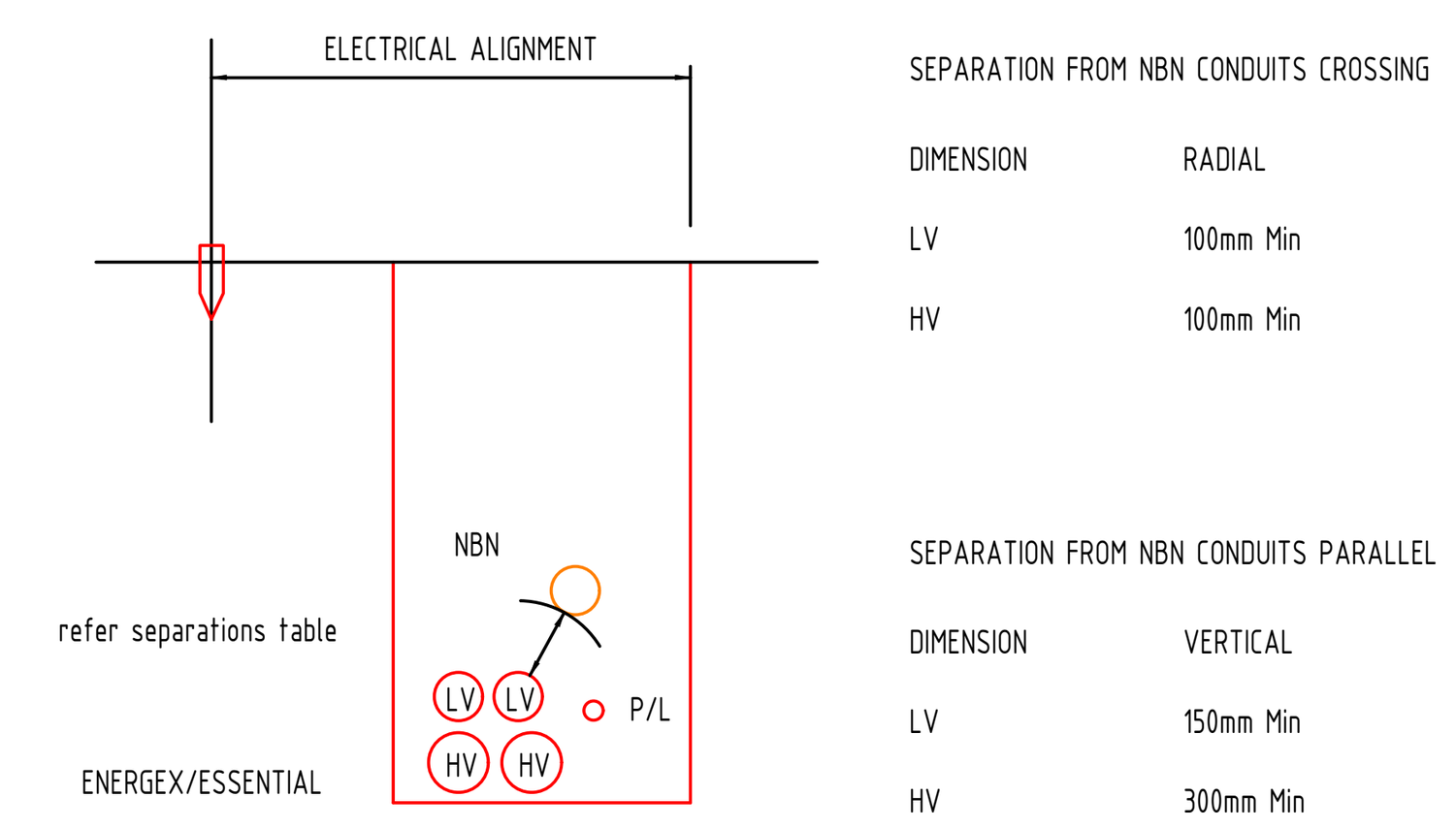


SITE PLAN - SHEET 1
4:1 @A1 SHEET SIZE

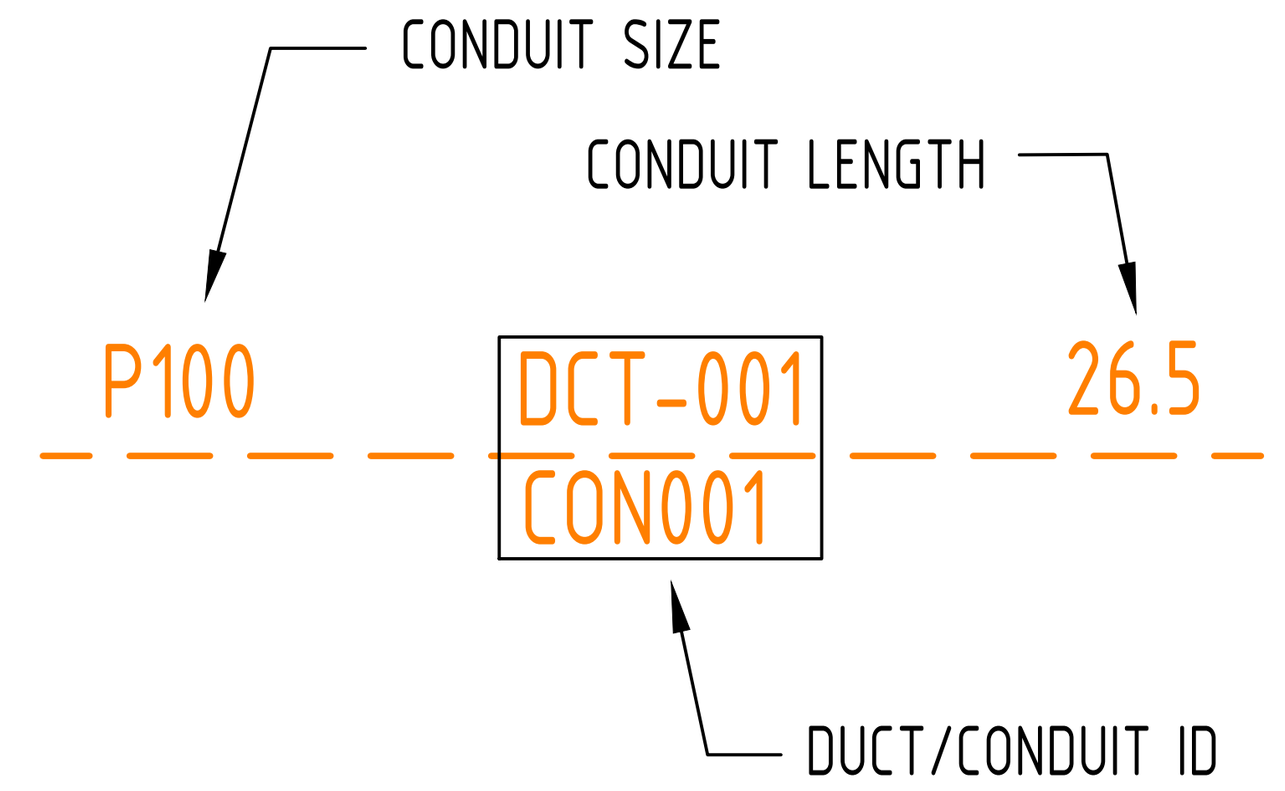
NBN SYMBOL LEGEND

Symbol	Description
PWR	Transformer / Kiosk / Pad Mount Sub-station / Pole Mount Transformer
PIT-ID 5	Network Boundary/Local Network Pit (Single Lid) (700mmX450mmX650mm)
PIT-ID 8	Distribution/Local Network Connection Pit (1360mmX555mmX860mm)
PIT-ID 9	Fibre Distribution Hub (FDH) Pit (2000mmX555mmX900mm)
Z	Shared Trench Symbol
□	Energex Pillar

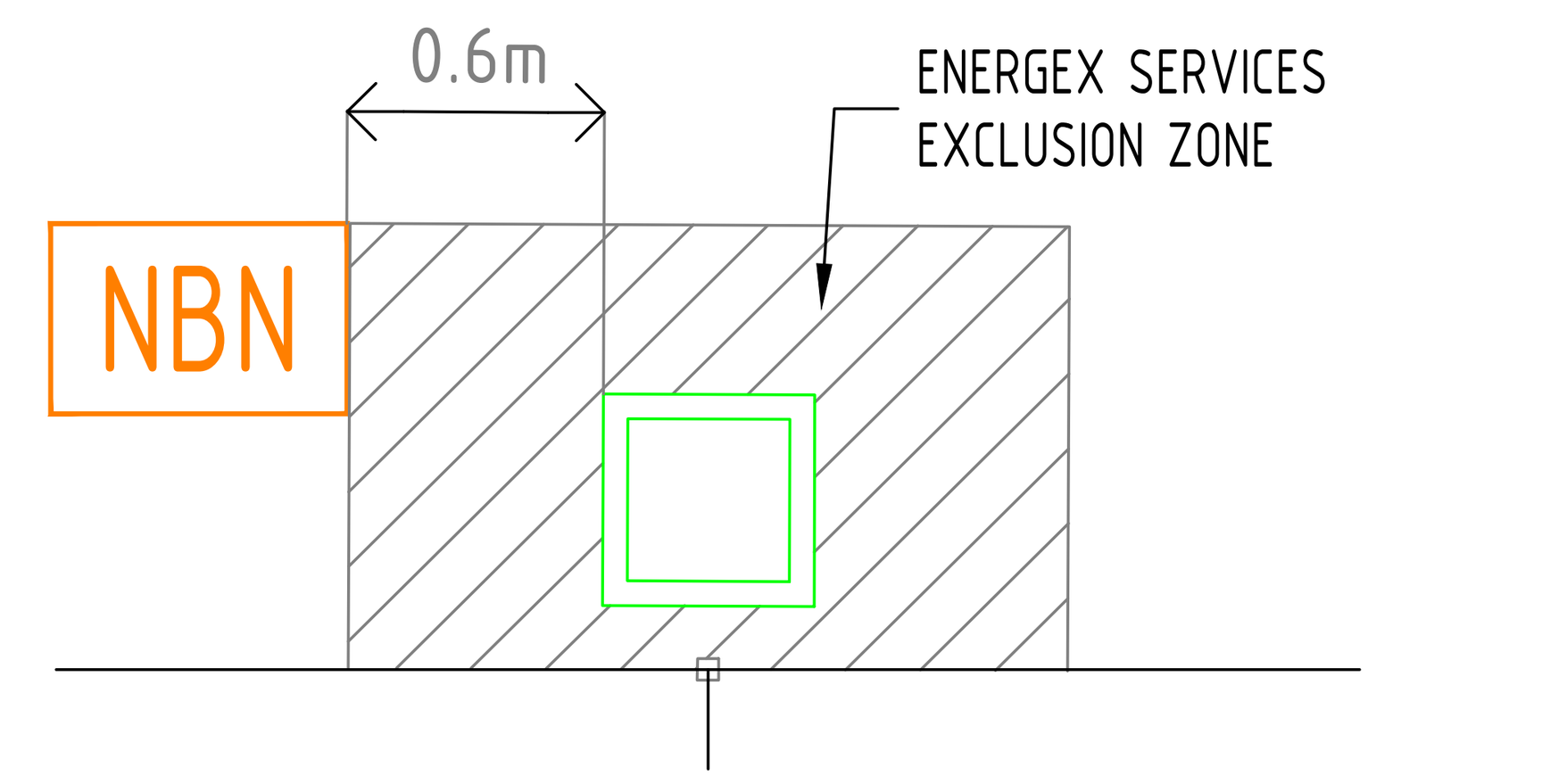
TRENCH SECTION



CONDUIT CONFIGURATION



STANDARD NBN PIT OFFSET TO ENERGEX PILLAR



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WEB: pece.com.au

N KEY PLAN



DRAWING TITLE:
STG-W000405487
PIT & PIPE LAYOUT
47 JOHNSTON ROAD
MOSSMAN GORGE, QLD 4873

ENABLER#: 279323		
STATE: QLD	REGION: 56	
FSA:	SAM:	ADA:
PROJECT No: STG-W000405487		
CADREF No: 26-0273		
SCALE 4:1@A1	SHEET No. 1 OF 4	REV. A

POP — PRIVATELY OPERATED PAYPHONES

APS — ASSISTANCE TELEPHONES (EG ELEVATOR AND ROADSIDE PHONES)

MET — APPLY TO OTHER TYPE OF METERING POINT (any service)

ATM — ATM

PRK — BANDSTAND / ROTUNDA / SPORTS FIELD STANDS / OTHER PARK BUILDING

PSD — POINT OF SALE DEVICE (vending machine, ticket machine)

TRF — Traffic Lights / Traffic Light Controller / Variable Speed Sign / Traffic Signal

PBT — Public Transport (bus stop, tram stop, railway station, taxi rank, ferry wharf)

SWT — Links / Link Pole / MV / HV Links / ABC Links / Dynamic Switch / Airbrake Switch / Isolator

WAT — Water Infrastructure (storage, pumps, valves water supply, waste water, sewerage stations)

GAS — Natural Gas Infrastructure

CAM — Camera (security / traffic)

CTL — Bridge control, swing bridge, traffic control gates, railway boom gates)

MOB — Mobile Phone Tower / radio antenna

LIT — Street Lighting Pole / street light controller

CAR — Unmanned (council) car park

PWR — Transformer / Kiosk / Pad Mount Sub-station / Pole Mount Transformer

NAP-ID (N) — Network Access Point (NAP)

MPT-ID (N) — Multiport (MPT)
n is the number of ports (eg 4,6,8,12)

Penetration

CABLE TRAY:

TJL-ID — Splice Joint on a Transit Cable (TJL)

DJL-ID — Splice Joint on a Distribution Cable (DJL)

LJL-ID — Splice Joint on a Local Cable (LJL)

MJL-ID — Splice Joint on a Tether Cable (MJL)

AJL-ID — Zone Terminal / Splice Joint (AJL)

FDH-ID — Fibre Distribution Hub-FDH Cabinet with Cabinet ID shown

PIT-ID 2 — Service Drop Access Pit (650mmX280mmX565mm)

PIT-ID 5 — Network Boundary/Local Network Pit (Single Lid) (700mmX450mmX650mm)

PIT-ID 6 — Distribution/Local Network Connection Pit (Dual Lid) (1360mmX555mmX650mm)

PIT-ID 8 — Distribution/Local Network Connection Pit (1360mmX555mmX860mm)

PIT-ID 9 — Fibre Distribution Hub (FDH) Pit (2000mmX555mmX900mm)

Shared Trench

NTD — nbn NTD

OBBU — NBN Optional Battery Backup Unit

PDH — nbn Premises Distribution Hub

CTL — nbn Cable Transition Location

FDT — nbn Fibre Distribution Terminal

FIP — nbn NTD Fire Indicator Panel

Riser — Riser

LIFT — nbn NTD LIFT

AP — Access Panel

SEC — nbn NTD Security

CET — nbn Communications Earth Terminal

DES / QTY — Example of descriptor box that will show the type of work and the quantity involved

nbn manhole

Existing Telstra manhole

FAN AAAA — Fan Access Node site (FAN)

138A RX CX — Multi Dwelling Unit (MDU)

DEPTH —
ALIGN — DEPTH OVER ALIGNMENT SYMBOL TO BE USED WITH EVERY MARKER POST

Symbol to be used when replacing/removing existing network

PCD — Premise Connection Device (PCD)

POLE-ID — Pole (showing pole identity)

5 — Existing Telstra Pit (2,3,4,5,6,7,8,9)
Telstra exchange

T — Example of Telstra Major Conduit Layout with Proposed duct marked to be used by NBN

M < _ > — NBN MARKER POST
MARKER POST TO BE NUMBERED

CONDUIT CONFIGURATION

CONDUITS AND DUCTS ARE IN LAYER :
< L460 NBN Support - Underground >
AND TERMINOLOGY CATEGORIZED INTO TWO GROUPS IN THE DRAWING AS PER BELOW:
1- DUCT USED WITH LOCAL NETWORK

2-CONDUIT USED WITH LEAD-IN DROPS
ATTRIBUTES ATTACHED ARE AS SHOWN

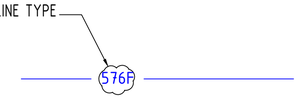


CABLE CONFIGURATION

CABLE TYPE:
CABLES DIVIDE INTO FOLLOWING CATEGORIES AND ARE COLOUR CODED:

TRANSIT CABLES	COLOUR NO: 1	312F
DISTRIBUTION CABLES	COLOUR NO: 190	288F
LOCAL CABLES	COLOUR NO: 4	144F
TETHER CABLES	COLOUR NO: 3	12F
LEAD IN (DROP) CABLES	COLOUR NO: 5	1F

CABLE SIZE:
CABLE SIZE IS THE TOTAL NUMBER OF OPTIC FIBRES IN THE CABLE AND IS DETERMINED BY A NUMBER FOLLOWED BY F (FIBRE) OR R (RIBBON) IN THE MIDDLE OF THE LINE TYPE



CABLE LOCATION:
CABLE LOCATIONS DETERMINES WHERE THE CABLE IS USED AS PER BELOW:

IN-CONDUIT	288F
AERIAL	144F
BURIED	96F

LINE TYPES ARE CATEGORIZED INTO 3 TYPES:
1- IN-CONDUIT: (XXXF) 312F , ...
2- AERIAL: (XXXF_A) 144_A , ...
3- BURIED: (XXXF_B) 12_B , ...

EXAMPLE:

144 FIBRE AERIAL LOCAL CABLE	144F
1 FIBRE BURIED DROP CABLE	1F 1F
432 FIBRE IN-CONDUIT TRANSIT CABLE	48F

FSA Boundary
FSAM Boundary
FDA Boundary

STAFF WORKING ON THIS ESTIMATE PLEASE NOTE:
The location of other authorities services which may affect this work have not been obtained by the estimator. Constructor to obtain service information before commencing.

DANGER
LASER BEAM
EYE PROTECTION MUST BE WORN

SAFETY FIRST
SAFETY STARTS WITH YOU

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N KEY PLAN



DRAWING TITLE:
STG-W000405487
LEGEND
47 JOHNSTON ROAD
MOSSMAN GORGE, QLD 4873

ENABLE#:	279323		
STATE:	QLD	REGION:	56
FSA:		SAM:	ADA:
PROJECT No:	26-0273		
CADREF No:	STG-W000405487		
SCALE	N.T.S	SHEET No.	4 OF 4
REV.	A		

FNQROC DEVELOPMENT MANUAL

Council Douglas Shire Council
(INSERT COUNCIL NAME)

STATEMENT OF COMPLIANCE
OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of Development Mossman Retirement village

Location of Development 47 JOHNSTON ROAD MOSSMAN GORGE

Applicant Cooloola waters holdings pty ltd

Designer Karkel Contracting

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, **except** as noted below.

Compliance with the requirements of the Operational Works Design Guidelines	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	
Geotechnical requirements	
Geometric Road Design	
Pavements	
Structures / Bridges	na
Subsurface Drainage	
Stormwater Drainage	
Site Re-grading	
Erosion Control and Stormwater Management	
Pest Plant Management	
Cycleway / Pathways	

Landscaping	refer to karkel projects landscape dwgs
Water Source and Disinfection/Treatment Infrastructure (if applicable)	
Water Reticulation, Pump Stations and water storages	na
Sewer Reticulation and Pump Stations	
Electrical Reticulation and Street Lighting	
Public Transport	
Associated Documentation/ Specification	
Priced Schedule of Quantities	
Referral Agency Conditions	
Supporting Information (AP1.08)	
Other	

Conscientiously believing the above statements to be true and correct, signed on behalf of:

Designer Kel Howard ..... **RPEQ No** 07619

Name in Full kelvin howard .....

Signature ..... RPEQ 7619 ..... **Date** 03/07/26

Mossman Gorge and Childers MUSIC

Two retirement-facility operational works packages, both modelled in MUSICX 1.50 on locally sourced six-minute rainfall. Both now meet every load reduction objective — but one passes with room and the other by 0.07 of a point. This sets out where each stands and what has to be settled before either is reported.

Mossman Gorge

47 Johnston Road · Lot 2 SP295098
Douglas Shire · SPP Wet Tropics
260401-OPW rev A · 26.06.26

All four objectives met, TSS +5.1 pts

Childers

Hendle Street · Lot 101 SP271530
Bundaberg Regional · SPP region unconfirmed
26040200-OPW rev A · 17.08.26

Meets 85% TSS by 0.07 pts — no usable margin

1 Mossman Gorge

Lot 2 on SP295098 · Douglas Shire Council · FNQROC D5 (11/19 Issue 8)

Compliance position

OBJECTIVE	ACHIEVED	SPP WET TROPICS	STATUS
Total suspended solids	85.09%	80%	PASS, +5.1 PTS
Total phosphorus	77.36%	60%	PASS
Total nitrogen	55.59%	40%	PASS
Gross pollutants	100%	90%	IMPLAUSIBLE
Flow	**69.88 ML/yr**	**1.84% reduction**	volume-limited

A workable margin, but not yet a defended one. TSS has moved from 70.47% to 85.09% on the corrected 2.851 ha catchment and an enlarged filter. Residual TSS is 1,871 kg/yr against 2,510 allowable, so the model can absorb a 34% **increase in residual load** before it drops under 80%. Against that, four bioretention parameters are still set more generously than both the drawings and the Water by Design guidance — extended detention 0.4 m against 0.3 m, overflow weir 2 m against the 6 m drawn, hydraulic conductivity 220 mm/h against 200, filter depth 0.5 m against the 400 mm of media specified — and the mandatory 50 mm/h sensitivity run is outstanding. The pass has to be shown to survive the as-drawn condition.

Climate data

Station	WMIP 108008A Whyanbeel Creek u/s Little Falls Ck — the nearest gauge, about 9 km from site
Period	1 Jan 2013 – 31 Dec 2022, six-minute, 876,480 intervals
Mean annual	3,183 mm — 2.7% below the gauge's 22-year mean
Validation	BOM 31062 Whyanbeel Valley, 1.3 km away: +3.1% on the 10-year mean, r = 0.963 daily; the period sits +2.1% above BOM's 80-year mean of 3,014 mm
Repair	18 monsoon days in early 2019 carried end-of-day accumulations, peaking at a physically impossible 143 mm in six minutes. Redistributed using the Daintree gauge's profile; annual totals preserved to 0.14%, peak now 15.0 mm
PET	Cairns monthly areal pattern (Climate Atlas of Australia)

Catchment

SURFACE	M²	HA	SHARE
Roof — building pads	9,057	0.906	31.8%
Road and other impervious	8,554	0.855	30.0%
Landscape	10,895	1.090	38.2%
Total catchment, per C400	**28,507**	**2.851**	**0.618 imp.**

Roof here is the earthworks *pad*, not the roof — the DXF holds nothing finer. At a 70% roof-to-pad ratio the impervious fraction falls from 0.618 to 0.522, which is enough to change the load result.

Treatment

Filter area	435 m^2 per the designer — 1.53% of catchment, just above the 1.5% default (428 m^2)
Drawn footprint	280.7 m^2 outer, 65.9 m^2 floor. **435 m^2 does not fit inside it**
Inflow	375 mm pipe at 0.67% — 74 L/s design, about 144 L/s full capacity, no diversion structure
Outflow	600 × 900 inlet pit (IPWEAQ DS-050), 1 × Ø375 mm outlet, weir RL 11.80
Levels	floor RL 10.60, weir RL 11.80, bund RL 12.00, levee RL 13.30

Findings

01 **Runoff coefficient is an order of magnitude low.** C10 reads 0.08 on 25 of the 26 calculation rows and 0.80 on one. Every pipe size in the set follows from it.

02 **The basin is not specified.** C450 states no filter area, media profile, underdrain, extended detention or forebay, and nothing in the other 47 sheets fills the gap. The 435 m^2 the model relies on has to be reconciled with a drawn basin smaller than that.

03 **Catchment totals disagree three ways.** Calculation tables 2.205 ha, sum of C400 labels 2.324 ha, stated total 2.851 ha. Three pits differ between plan and table and 0.527 ha is unlabelled.

04 **Contradictions on C450.** A 10 m weir in the notes against 9.0 m in the detail; 1 × Ø375 outlet against 375 × 2 in the tables; an outlet level of IL 90.00 that is impossible against a floor at RL 10.60 — a leftover from another project.

05 **Gross pollutant removal of 100%** — as at Childers, total capture is not achievable and will draw a query. Set the node to a manufacturer's performance curve.

06 **Construction sediment basin is unsized** — a symbol, no dimensions, "the contractor is to assess the final location", and a detail headed "if ordered". SPP Table A wants 80% hydrologic effectiveness to 50 mg/L lodged with the application.

2 Childers

Lot 101 on SP271530 · Bundaberg Regional Council · basin sheets 260402-DA, 20.04.26

Compliance position

OBJECTIVE	ACHIEVED	IF SEQ	IF CQ SOUTH	STATUS
Total suspended solids	85.07%	80%	85%	CLEARS BY 0.07 PTS
Total phosphorus	76.14%	60%	60%	PASS
Total nitrogen	54.70%	45%	45%	PASS
Gross pollutants	100%	90%	90%	IMPLAUSIBLE
Flow	**17.76 ML/yr**		**4.73% reduction**	scale confirmed

0.07 of a point is not a margin. TSS at 85.07% clears the Central Queensland (south) target of 85%, but residual TSS is 385 kg/yr against 387 allowable — **1.9 kg/yr of headroom, half of one per cent.** The 50 mm/h sensitivity run, the unresolved filter area (274 m^2 measured against 365 m^2 stated) or any parameter correction will each break it on their own. Under an SEQ reading of 80% it passes with room, so confirming the climatic region on the SPP Interactive Mapping System remains the first task — but on the more likely reading this needs more treatment area before it can be reported.

Climate data

Station	WMIP 137103A Gregory River at Leesons, 14.7 km from site — also the station Water by Design nominates for Bundaberg
Period	1 Jan 2013 – 31 Dec 2022, six-minute — the period the guideline specifies
Completeness	100%, zero infill, no end-of-day artefacts, peak 17.0 mm per six minutes
Mean annual	906 mm
Validation	BOM 39303 Childers South, 2.6 km from site: −1.9% on the 10-year mean; the period sits +0.4% above BOM's 19-year mean of 862 mm. Daily r = 0.825, lower than Mossman because the gauges are 15 km apart in a convective climate
PET	Bundaberg monthly areal pattern

Catchment — treated and untreated

SURFACE	TREATED (HA)	UNTREATED (HA)
Roof — 45 building footprints	1.307	0.000
Road, kerb and footpath	0.769	0.000
Landscape	1.217	0.550
Total 3.842 ha	**3.292**	**0.550**

The network was traced from the calculation tables: lines /1 to /5 all converge at 5/1, then 6/1 and 7/1 into the basin. Only the external catchment (0.500 ha) and the basin surrounds (0.050 ha) bypass it, and both are entirely pervious. Roof outlines here are articulated 12–27 vertex footprints, not rectangles, so they can be used directly.

Treatment

Filter area	365 m^2 stated on C450 — 1.11% of the treated catchment
Measured	309 m^2 of flat pad at RL 91.00 in the design surface, of which 35 m^2 is forebay — so about 274 m^2 of filter, 25% under the stated figure
Sediment forebay	57 m^2 measured, 11.45 × 9.31 m. Not dimensioned anywhere; specified only as IPWEAQ DS-075, and drawn level with the filter rather than depressed
Levels	media RL 91.00, extended detention 0.30 m to RL 91.30, weir RL 91.80 (6.0 m), bund RL 92.00
Detention volume	left blank on C450

Findings

01 **Gross pollutant removal of 100%** — a residual of 0.001 kg/yr against 364 kg of source load. No real device achieves total capture; a node is almost certainly set to trap everything rather than to a manufacturer's curve. Assessors notice a clean 100.

02 **Which filter area was modelled?** The stated 365 m^2 and the built 274 m^2 will not give the same TSS, and on a 0.07-point margin that difference decides compliance.

03 **C400 states a total catchment of 17,754 m^2** which contradicts the sum of its own labels and the tables — 33,420 m^2 internal. The stated total is out by roughly a factor of two.

04 **The calculation tables carry the wrong title block.** C430–C432 are labelled Mossman Gorge but their data matches the Childers C400 labels exactly. Correct before issue.

05 **Basin sheets are DA stage.** C450 and C451 are 260402-DA dated 20 April, against the OPW set's 17 August — which may be why the drawn basin is 25% smaller than the note claims.

06 **Driveways and carparks are missing from the DXF.** Both are in the legend, neither has closed geometry, and all of it would land in the treated column and push imperviousness up.

What has to happen next

Mossman Gorge

01 Set the bioretention to the as-drawn condition — extended detention 0.30 m, weir 6.0 m, K_{sat} 200 mm/h, filter depth 0.40 m, high flow bypass 0.144 m^3/s — and rerun. The 5.1-point margin should absorb it, but that has to be demonstrated rather than assumed.

02 Run the 50 mm/h hydraulic conductivity sensitivity the guideline requires, and present the result whatever it shows.

03 Reconcile the 435 m² filter against a basin drawn at 280.7 m². The model and the drawing have to describe the same object.

04 Put the C10, weir width, outlet level and catchment-total discrepancies to the designer as a single list.

Childers

01 Confirm the SPP climatic region. At 85.07% the answer decides whether this is a comfortable pass or a 0.07-point one.

02 Settle the filter area — 274 m² measured against 365 m² stated. On a margin this thin the difference decides compliance.

03 Run the 50 mm/h sensitivity. On present numbers it will fail, and it is a required output.

04 Add treatment area. A margin of half a per cent leaves nothing for the assessor to question.

05 Add driveways and carparks to the DXF so the impervious area is complete.

Both

01 Confirm which Water by Design guideline version each council accepts. The April 2026 document is a working draft and its own transition clause forbids hybridising it with the 2010 version.

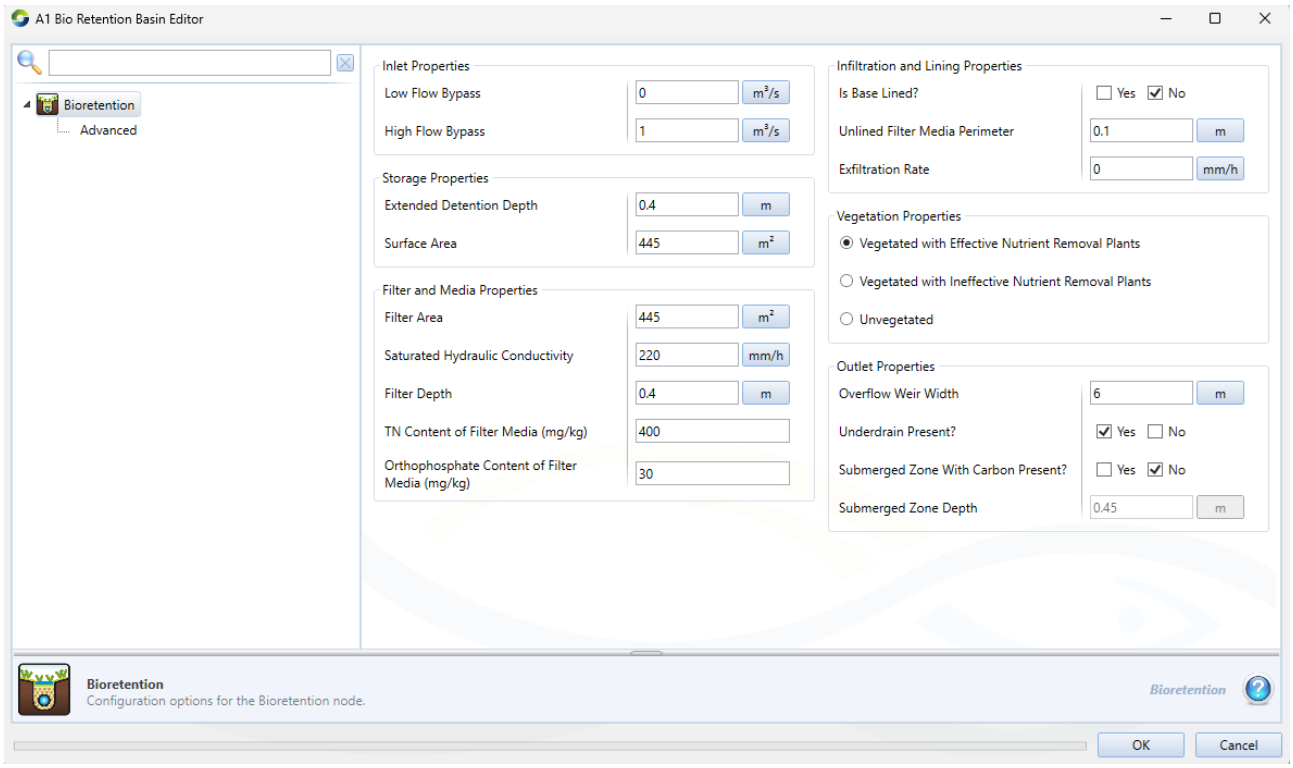
02 Neither construction-phase sediment basin is sized. SPP Table A requires 80% hydrologic effectiveness to 50 mg/L for exposed areas over 2,500 m², lodged with the application — it cannot be left to the contractor.

Rainfall built from Queensland Water Monitoring Information Portal data (CC-BY) and cross-checked against BOM daily product IDCJAC0009 · Objectives from SPP 2017 Appendix 2 Table B and FNQROC Development Manual D5 (11/19) · Node parameters against Water by Design MUSIC Modelling Guidelines, April 2026 Working Draft V4.0 · Surfaces measured from the supplied DXF models · Modelled in MUSICX 1.50.0.13577

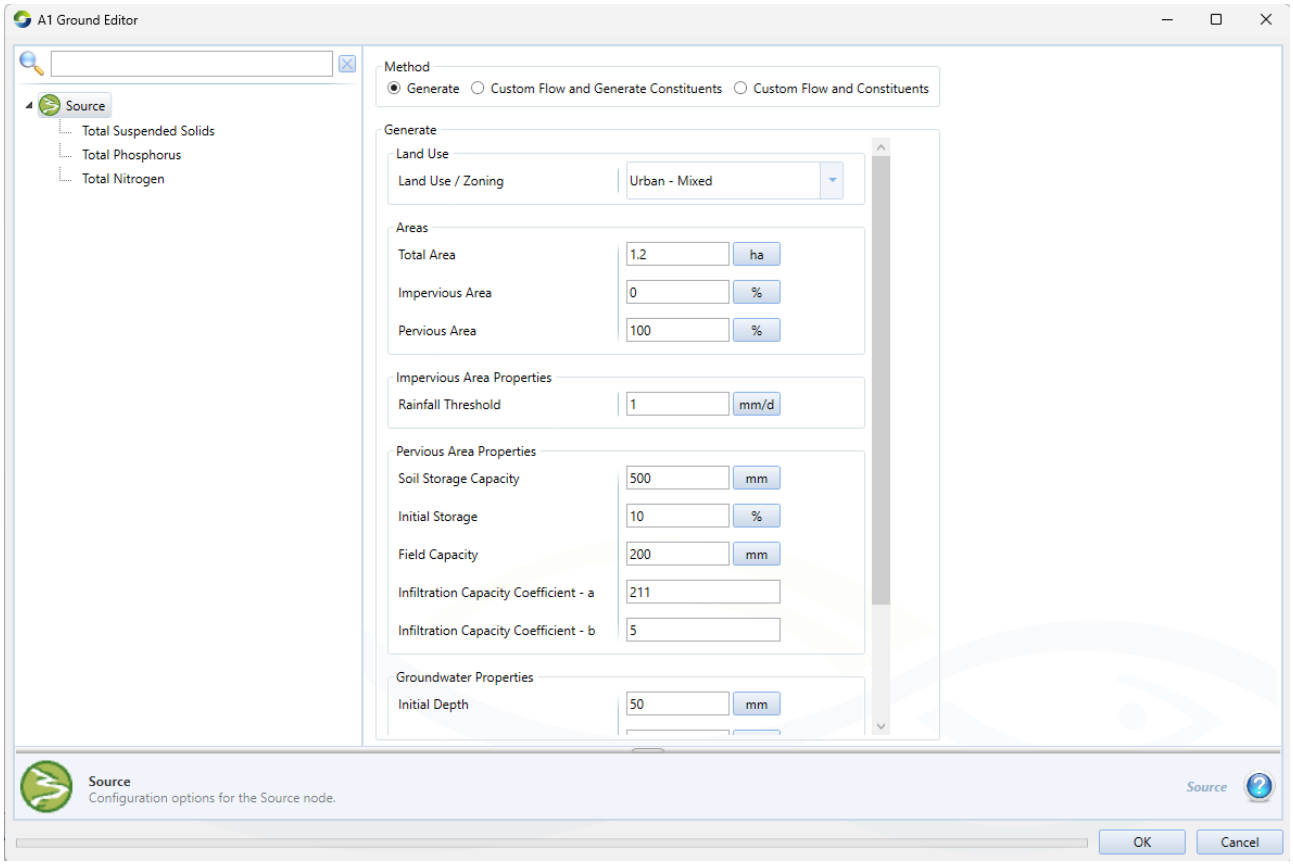
Figures marked as measured were taken from the design models, not stated on the drawings. Where drawings and models disagree, both values are given.

SWDMUSIC MODEL link – downloaded files

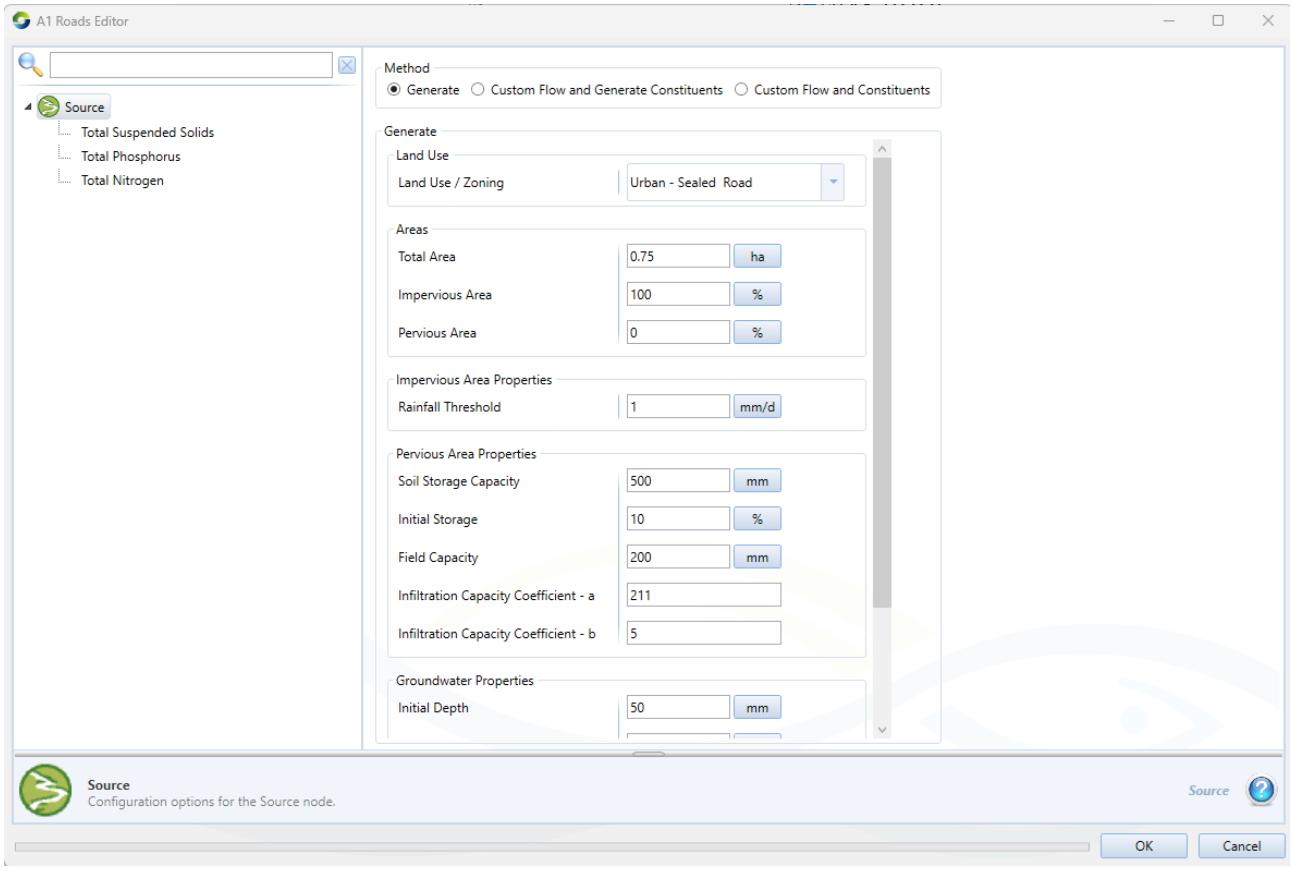
Mos Bio Basin Details



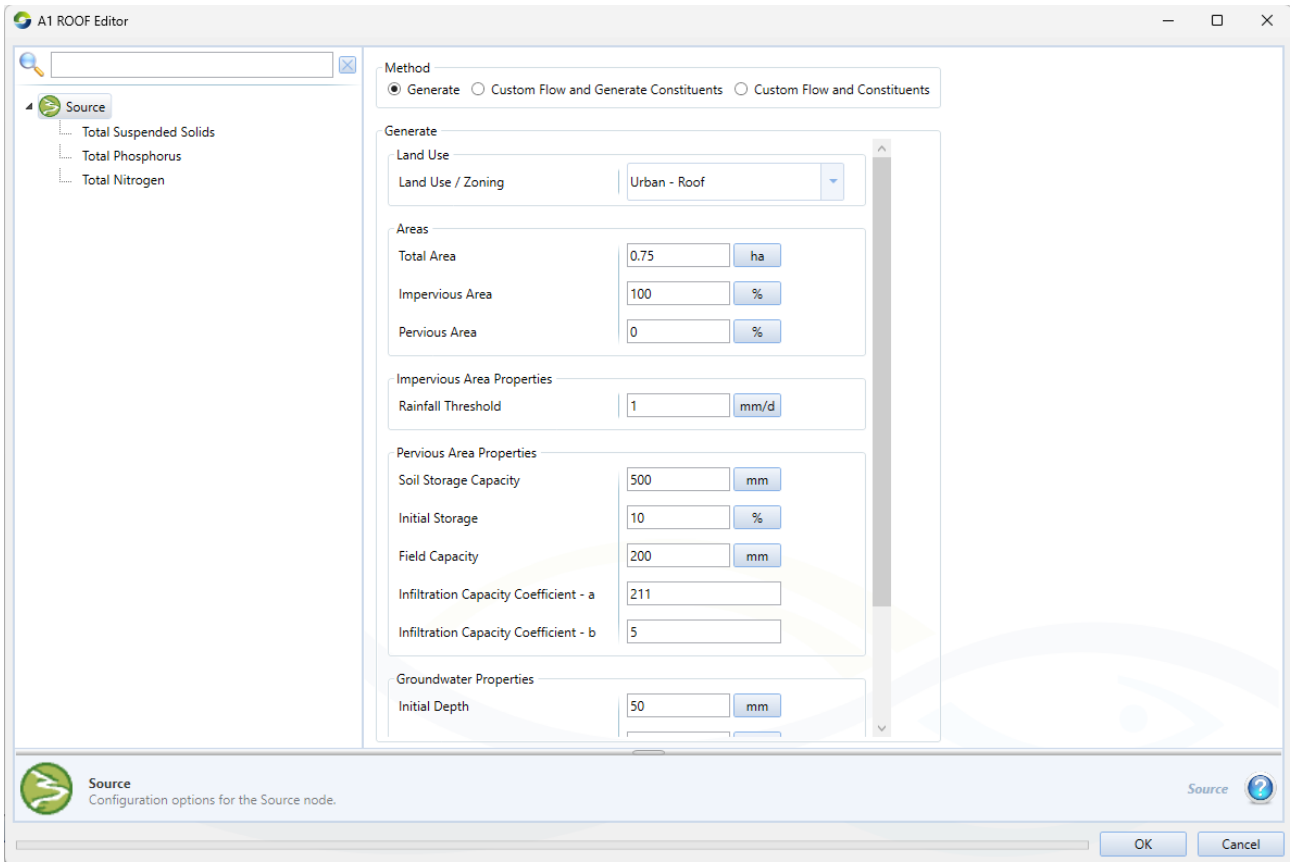
Mos Landscape Catchment



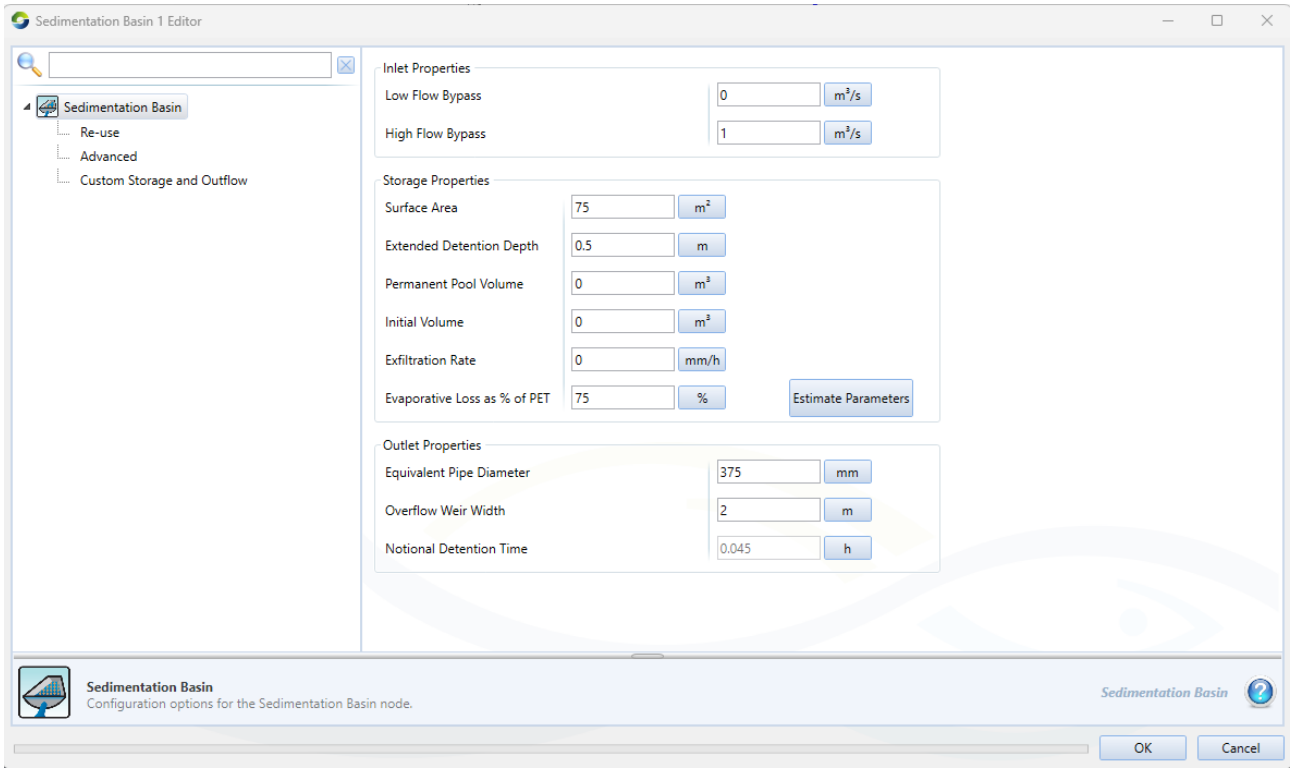
Mos Road Catchment



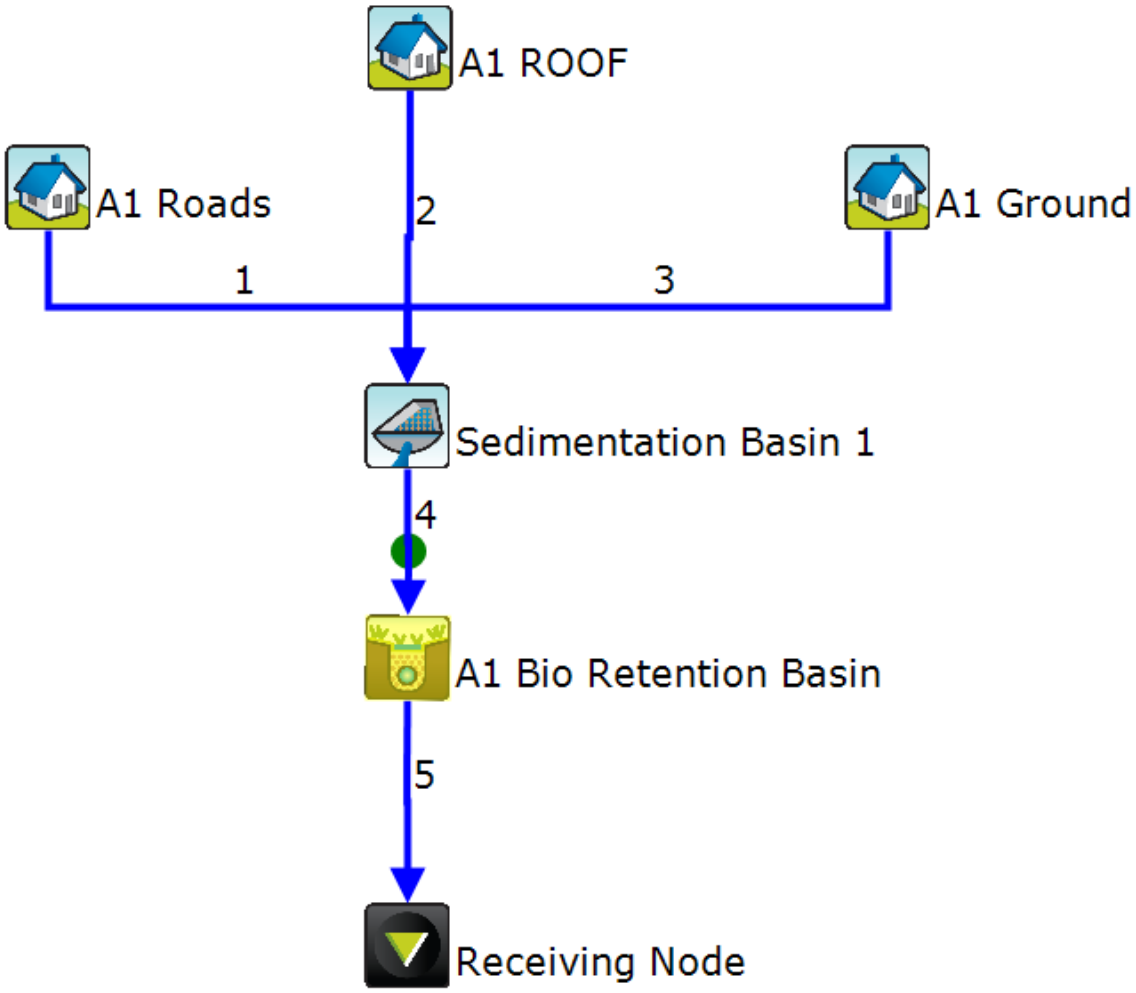
Mos Roof Catchment



Mos Sediment Basin



Mos Treatment Scenario



Mos Treatment Trail Effectiveness

(9) Scenario 1 : Treatment Train Effectiveness : Receiving Node

	Sources	Residual Load	% Reduction
Flow (ML/yr)	69.88	68.59	1.843
Total Suspended Solids (kg/yr)	1.255E+04	1871	85.09
Total Phosphorus (kg/yr)	25.39	5.749	77.36
Total Nitrogen (kg/yr)	153.3	68.09	55.59
Gross Pollutants (kg/yr)	767	0.001486	100