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*)	ETS Geotechnical Holdings Pty Ltd c/o Mark Shearer
Contact name *(only applicable for companies)*	Ryan Rackley
Postal address *(P.O. Box or street address)*	130 Buchan St, Cairns QLD 4870
Suburb	Bungalow
State	QLD
Postcode	4870
Country	Australia
Contact number	40478600
Email address *(non-mandatory)*	ryan.rackley@etsgeo.com.au
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

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)

Queensland Government

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
		36	Ocean View Road	Killaloe
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4877	14	RP745097	Douglas Shire
b)	Unit No.	Street No.	Street Name and Type	Suburb
		50	Ocean View Road	Killaloe
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4877	13	RP745097	Douglas Shire

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)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ 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:	N/A

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

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

☐ In a tidal area

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

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

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)*:

Remediation of un-approved earthworks carried out across Lots 13 and 14

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)*:

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:	Remediation of un-approved earthworks	

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

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

$50,000 (estimate only)

PART 4 – ASSESSMENT MANAGER DETAILS

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

Rebecca Taranto

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			
☐ 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			

MARK SHEARER

SLOPE STABILITY ASSESSMENT

36 OCEAN VIEW ROAD

KILLALOE QLD 4877

REPORT NO: ETSP0000073-001R REV 1

APRIL 2026

REVISION 1

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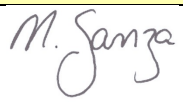
Revision	***Electronic***	***Paper***	***Issued to***
1	1	-	Mark Shearer

Document Status							
Revision No.	***Author***	***Reviewer***	***Reason for Issue***	***Approved for Issue***			
				Name	***Signature***	***Date***	***RPEQ No***
1	M.Avera	R.Rackley	Final	M.Ganza		27/04/2026	4449

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1. INTRODUCTION

ETS Geotechnical (ETS) has conducted a geotechnical investigation for the purpose of providing a slope stability assessment and concept remediation recommendations at 36 (Lot 14) Ocean View Road, Killaloe. It is understood that a landslip occurred to the north-eastern section of the allotment following heavy rainfall during Cyclone Jasper. To remediate the landslip, the client installed cane bins filled with rock and soil material to act as gabion baskets. A section of the upper row of cane bins extends into the neighbouring property (Lot 13). The soil and rock material used to fill the cane bins were sourced from the batter behind the residence. Excavation of the batter resulted in steeper slopes and creation of a track constructed of uncompacted fill placed against the batter. After construction and installation of the cane bins, Douglas Shire Council issued a Stop Work notice to the client due to the risk of damage the bins may cause both the neighbouring property and vehicles along Ocean View Road. This report is to address these concerns and provide options for remediation.

Figure 1 presents a survey of the site that shows the bin locations and excavated rock batter

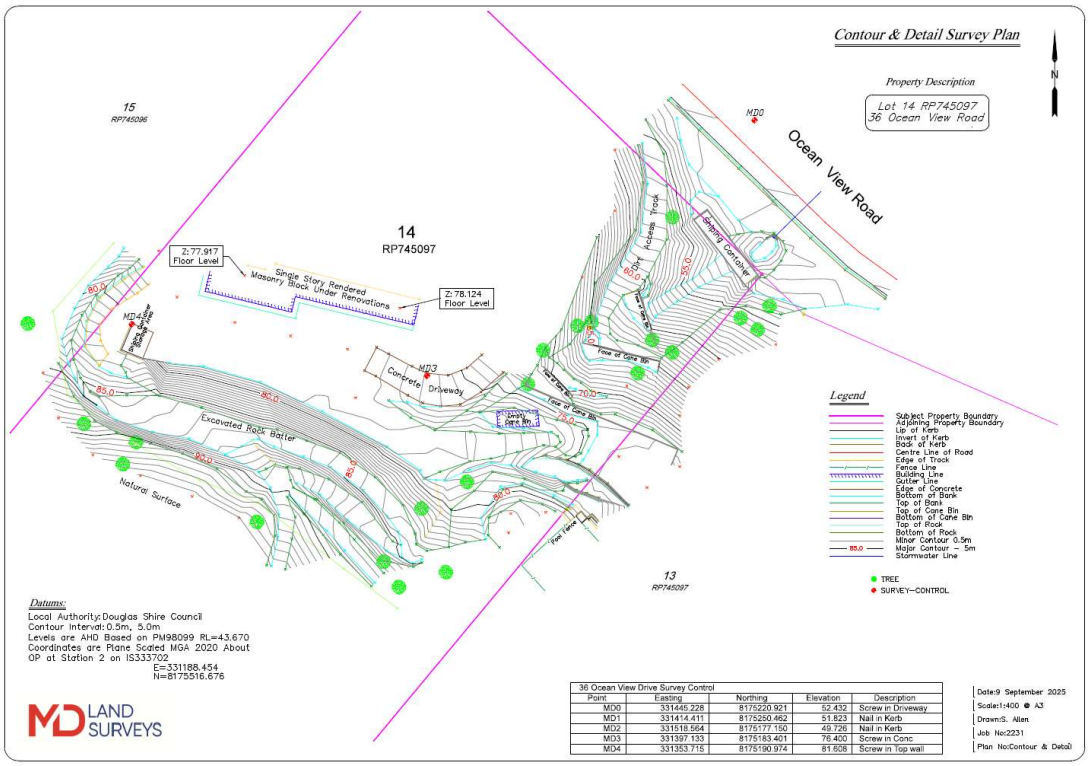


FIGURE 1 – Site Survey

2. OBJECTIVES

The objectives of this assessment include:

- Undertake a walkover assessment of the site
- Describe the current site conditions including any failures.
- Undertake a slope stability analysis.
- Provide recommendations for short and long term remediation

3. PREVIOUS REPORT

RECS have completed a slope and engineering assessment and report in the area (Engineering Assessment Report 73-2025 ER30072025 Final A dated 30/07/2025). The key points from the report are summarized below:

- The site is dominated by a shallow circular slumping failure located at the crest of a natural drainage line, which has extended downslope approximately 60 meters.
- The crest of the failure area encroached within 5 meters of the access driveway to Lot 14, resulting in the loss of embankment support and the formation of a near-vertical back scarp approximately 1.5 meters high.
- The instability was triggered by heavy prolonged rainfall (>1600mm) in December 2023, which caused saturation of near-surface materials and increased groundwater pore pressures within the batter.
- Tension cracking was evident along the crest of the building platform, and subsidence was noted in the paving areas surrounding the elevated terraced pool on Lot 13.
- Previous remedial attempts utilizing steel cane bins as mass retaining structures are considered structurally unsuitable due to potential loss of fines and functionality issues; these require removal or reinforcement.
- Slope remediation is required immediately and should involve cutting the batter to remove overhanging sections, removing loose fill, and installing suitable retaining structures.
- Stormwater management must be implemented, including the installation of catch drains at the crest and table drains at the base of the cutting to divert water away from the slope and existing structures.

- The risk to property is classified as High to Very High (AGS 2007), necessitating detailed remedial designs and specifications by a suitably experienced engineering consultant.

4. SITE CONDITIONS & OBSERVATIONS

4.1 Visual Assessment

Walkover inspections were carried out by ETS on the 4th of November 2025 and 2nd of February 2026. Access into the property was via a steep concrete driveway. View of the batter to the rear of the dwelling indicated the presence of highly weathered bedrock. An intermediate bench was noted approximately midway up the batter that has been used as an access track. A stockpile of spoil was present near the upper end of the driveway, likely as excess material not used to fill the cane bins. The stockpile has been poorly compacted and shaped as a ramp to access the area above the landslip. An empty cane bin has been placed near the crest of landslip. A two-tier, stacked rock wall was noted to a steep embankment located between the landslip area and the neighbour's pool. The construction of the stacked rock wall is understood to provide temporary support to the embankment located below the pool, which sustained damage during Cyclone Jasper. During the second site visit, the empty bin was shifted back from the crest. The upper row of cane bins along the crest of the landslip were noted to have bulged. Anecdotal evidence from the client indicates the bulging was from attempts to compact the material inside the cane bins. Weeds were also noted growing from the material inside the bins. Below the upper bins on the north-western side is a row of two bins with rocks loosely stacked above and below. The stack rocks appear to partially support some of the upper bins and bins immediately below. Cut earthworks into the embankment along the driveway have been carried out for the third row of bins. Four rows of bins in total were present to the landslip area with a shipping container located at the base adjacent to Ocean View Road. The shipping container bridges a drainage channel that flows through a pipe passing underneath Ocean View Road. A stockpile of topsoil had been placed against the shipping container. The stockpile of topsoil was likely created from the construction of an access track through the landslip area. Regrowth of vegetation was noted though the landslip area. The regrowth of vegetation was noted to be thicker during the second site visit by ETS. After the first site visit, an instruction was given by ETS to the client re-divert stormwater away from the landslip area and batter behind the client's dwelling. The stormwater flow behind the landslip area has been redirected to the driveway. Stormwater behind the cut batter was

diverted to the northern gully. During the second site visit carried out by ETS, ground slumping was noted immediately behind the upper row of cane bins. The slumping is likely due to softening of the uncompacted fill that had been placed behind the baskets. A small section of undermining was noted below the corner of the upper row of bins (adjacent Lot 13). The undermining is likely caused by recent rain washing away fill that has been placed to support the bins.

Photographs of the general site conditions are presented in Appendix A.

4.2 Regional Geology

Available regional geology mapping indicates that the site is underlain by Hodgkinson Formation which comprise of dark grey, thin bedded, mudstone, subordinate thin to thick bedded arenite beds, minor chert and basalt. It is also transected by a Late Paleozoic brittle fault. While seismically inactive, it represents geological discontinuity that likely marks a zone of increased rock fracturing, localized weathering, and potential groundwater seepage.

5. LANDSLIDE RISK ASSESSMENT

5.1 Landslide Hazard Assessment for Existing Slopes

A landslide hazard assessment of the existing slopes has been conducted broadly in accordance with the Australian Geomechanics Society Landslide Risk Management Concepts and Guidelines, 2007[1]. A copy of this document can be found at www.australiangeomechanics.org. Appendix C of the document describes the terminology used.

The process involves determining the likelihood of an event occurring and the consequences to persons and / or property. The risk level implications can then be determined. If it is found that the level of risk is greater than "**LOW**", measures need to be determined to reduce the risk to this level.

5.2 Previous Instability

Indicators of instability within the soil/rock at the site can include, but not be limited to:

[1]www.australiangeomechanics.org.

- Creep – observed by tilting of structures including trees, fences or by soil/rock encroaching on roads or over drains, gutters etc.
- Hummocky disturbed ground in or at the base of slopes.
- Tension cracks in or at the top of slopes.
- Sunken ground at the crest of slopes; and
- Rock debris at toe of slope.

As previously stated, a large landslide had occurred at the property due to Cyclone Jasper. To remediate the landslip, the client had carried out un-approved earthworks and construction of a non-engineered retention system. Site visits carried out by ETS revealed the following indicators of instability relating to the cane bins:

- Slumping of fill behind the upper row of bins
- Scour below the south-easter corner of the upper row of bins

From the observed indicators of instability, presence of un-engineered retaining walls (cane bins) and unapproved earthworks, the risk classification of "High to Very High" is applied to both Lots 13 and 14.

5.3 Possible Landslide Hazards

Based on the visual and subsurface assessment, potential landslide hazards considered applicable to the existing slopes are as detailed in Table 1.

TABLE 1 - General Possible Failure Mechanisms for Landslide

Possible Failure Mechanisms	Description of Failure Mechanism
Rotational/Translational landslide on slopes.	This mode of failure is characterised by a curved or relatively flat failure surface. Should rotational/translational failure occur at this site, the plane of failure would likely be on the contact between the soil and weathered rock or wholly within the soil layer.

5.4 Likelihood of Hazard Occurring

The likelihood of failure (landslip) occurring has been assessed in accordance with Appendix C – Qualitative Measures of Likelihood[2]. The anticipated likelihood of these failure mechanisms occurring is based on SLIDE modelling, site observations and laboratory testing.

TABLE 2 - Likelihood of Failure

LIKELIHOOD	
	Indicative Value of Approximate Annual Probability
A – ALMOST CERTAIN	10^{-1}
B - LIKELY	10^{-2}
C - POSSIBLE	10^{-3}
D - UNLIKELY	10^{-4}
E - RARE	10^{-5}
F – BARELY CREDIBLE	10^{-6}

In general terms the Factor of Safety (FOS) is calculated by dividing the forces resisting instability (i.e. the strength of the soil/rock or the strength of discontinuities within the soil/rock) by the forces driving instability (i.e. the weight of the soil/rock, plus groundwater/seepage, plus surcharges/loads on the slope). A calculated FOS of 1.0 indicates the forces are balanced, whereas a calculated factor of safety <1.0 indicates instability will likely occur.

Generally, for normal operating conditions a long-term FOS of 1.5 is considered to be acceptable. For short term "extreme" conditions it may be acceptable to design for a FOS of 1.3.

For a FOS of 1.3 (extreme) it is **UNLIKELY** that a slope failure will occur. For a factor of safety of 1.5 it is **RARE** for a slope failure to occur.

A slope stability analysis has been completed on two (2) inferred cross sections (i.e., cross section A-A' and B-B') using the Limit Equilibrium Analysis software program

[2] Australian Geomechanics Vol 42 No 1 March 2007.

Slide2 and adopting the geotechnical design parameters presented in Table 3. The ground surfaces were determined from drone survey carried out by MD Land Surveys.

TABLE 3 - Geotechnical Design Parameters

Material Description	Consistency	φ' deg	c' kPa	γd kN/m³	UCS kPa
Residual Soil		30	5	18	-
Mudstone	Moderately Weathered	-	-	20	25000

The location of each cross section is shown below in Figure 2.

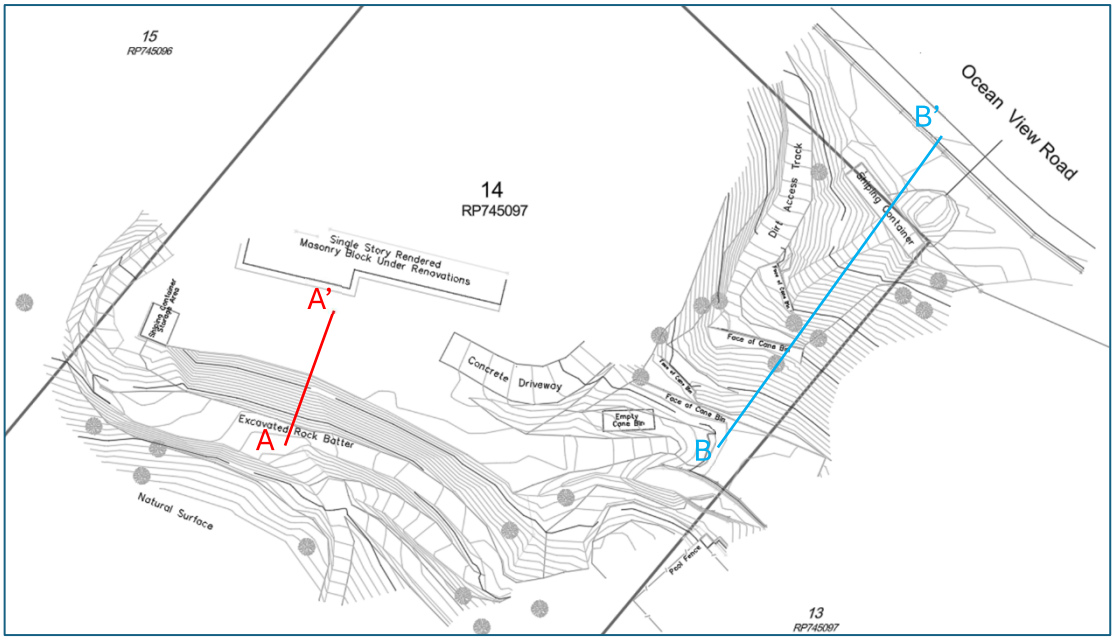


FIGURE 2 – Cross Section Plan

A surcharge load of 20kPa was applied to represent the existing cane bins.

The results of the stability analysis are summarised in Table 4, the SLIDE output images are displayed in Appendix B.

TABLE 4 - Summary of Slope Stability Analysis

Case	Calculated Factor of Safety	
	Dry Conditions	Saturated Conditions
Section A-A' – Current Profile	8.499	N/A
Section B-B' – Current Profile	0.716	0.703
Section B-B' – Developed Profile	1.584	1.333

The global stability analysis results presented in Table 2 indicate that the current profile for Section B achieve **below** acceptable FOS for dry and saturated conditions. Therefore, from Tables 1 and 2, the likelihood of failure is **POSSIBLE**.

5.5 Consequence to Property

The consequence of failure to the property has been assessed in accordance with Appendix C – Qualitative Measures of Likelihood. The anticipated consequence of these failure mechanisms is based on SLIDE modelling, site observations, and local experience.

The consequence of failure for Lots 13 and 14 in its current state has been assessed as **MEDIUM**.

5.6 Risk Level to Property

On this basis and the likelihood of a hazard occurring, the risk level for Lots 13 and 14 has been assessed as **MODERATE.**

6. SLOPE REMEDIATION

To reduce the risk level of Lots 13 and 14 to low, remediation of the existing steep slopes along where the landslip occured must be undertaken. For the cut batter behind the dwelling at Lot 14 (Section A), retention is not required. However, drainage at the crest and toe of the batter should be installed. For the landslip area (Section B),the upper and mid row of cane bins should be removed and replaced by terramesh retaining walls. The spoil material in the bins and along the crest of the landslip area can be re-used as backfill material in the Terramesh walls. The spoil material must be treated and placed under Level 1 supervision. Replacing the cane bins bins with a Green Terramesh system provides a lightweight and flexible mechanically stabilized

earth (MSE) solution that significantly reduces the surcharge on the foundation material. It utilises double-twisted wire mesh tails that extend horizontally to the embankment. The system also incorporates permeable, geosynthetic-lined face that prevents buildup of hydrostatic pressure. Stormwater flow upslope of the landslip area must be re-diverted to prevent further rainfall induced instability along the landslip area. Adequate drainage must be installed along each terramesh wall also. Further details for slope remediation for Section B are shown in Appendix C. Figure 3 shows an image of a terramesh wall constructed for a landslip remediation project that is located on the Captain Cook Highway.

Figure 3 – Terramesh Wall

7. GENERAL SITE MANAGEMENT RECOMMENDATIONS

It is important that proper site management methods be observed for the existing soil conditions by both the designer, builder, at the time of construction, and the owner throughout the life of the proposed the development.

- Incorporate a perimeter drain at the pavement edges to prevent possible deterioration of the subgrade conditions under wet weather.

- It is important the site be well drained. The ground around buildings should slope away at 1 in 20 metres and then fall to the stormwater system to prevent ponding of water adjacent to the buildings.
- Measures should be taken to divert surface water away from the crest of slopes to reduce the seepage of water into these slopes.
- Provision of subsurface drainage behind any retaining walls.
- Provision of kerbing and drainage structures on all driveways.
- Stormwater should be collected and discharged from the site via pipes into designated drainage paths and not allowed to flow on to the ground around founding structures.
- Roof downpipes and garden taps should not be allowed to saturate founding soils.
- The importance of avoiding leakage from underground services and drains near structures is stressed. Any leaking services or blocked drain should be remedied promptly. It is advisable to use flexible joints, allowing horizontal and vertical movement where services pipes pass through the foundation structure (floor and slab). The bases of services trenches should fall away from the building.
- Future shrubs and trees should be planted at a distance at least equivalent to their mature height away from the building to avoid shrinkage movement in expansive founding soils. Existing trees that may encroach this restriction should be removed. It is recommended that tress to be removed as early as possible prior to building construction to enable soil moisture to reach equilibrium.
- Lined surface and subsurface drains should be constructed, and water collected by these drainage systems, together with run-off from gutters, down-pipes, driveways and paved areas should be directed into the stormwater reticulation system.
- Particular attention should be given to drainage and erosion control measures. Areas where surface groundwater seepage currently exists or becomes apparent during or immediately after periods of heavy rainfall may require sub-soil drains.

8. LIMITATIONS

We have prepared this report for the use of **MARK SHEARER** for design purposes in accordance with generally accepted geotechnical engineering practices. No other

warranty, expressed or implied, is made as to the professional advice included in this report. This report has not been prepared for use by parties other than **MARK SHEARER** or their design consultants, i.e., Architect & Civil/Structural Engineers. It may not contain sufficient information for the purposes of other parties or for other uses.

Your attention is drawn to the document - “Understand the Limitations of Your Geotechnical Report”, which is included in Appendix C of this report. This document has been prepared to advise you of what your realistic expectations of this report should be, and to present you with recommendations on how to minimise the risks associated with the ground works for this project. The document is not intended to reduce the level of responsibility accepted by ETS, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

APPENDIX A – PHOTOGRAPHS

PHOTOGRAPH 1: View of landslip shortly after Cyclone Jasper (looking upslope from Ocean View Road)

PHOTOGRAPH 2: View of Landslip Area after placement of cane bins (looking upslope from Ocean View Road)

PHOTOGRAPH 3: View of ground slumping behind upper row of cane bins

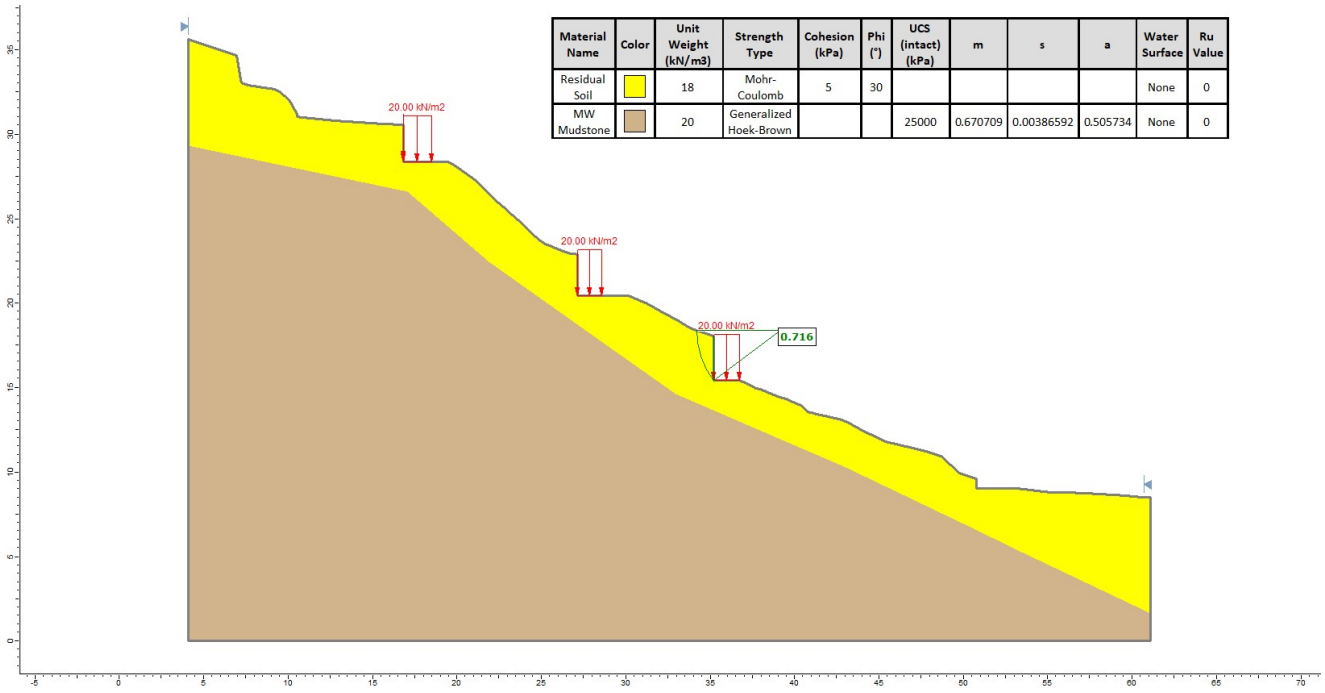
PHOTOGRAPH 4: View of Cut Batter behind Lot 14 dwelling (looking west)

PHOTOGRAPH 5: View of Cut Batter behind Lot 14 dwelling (looking east)

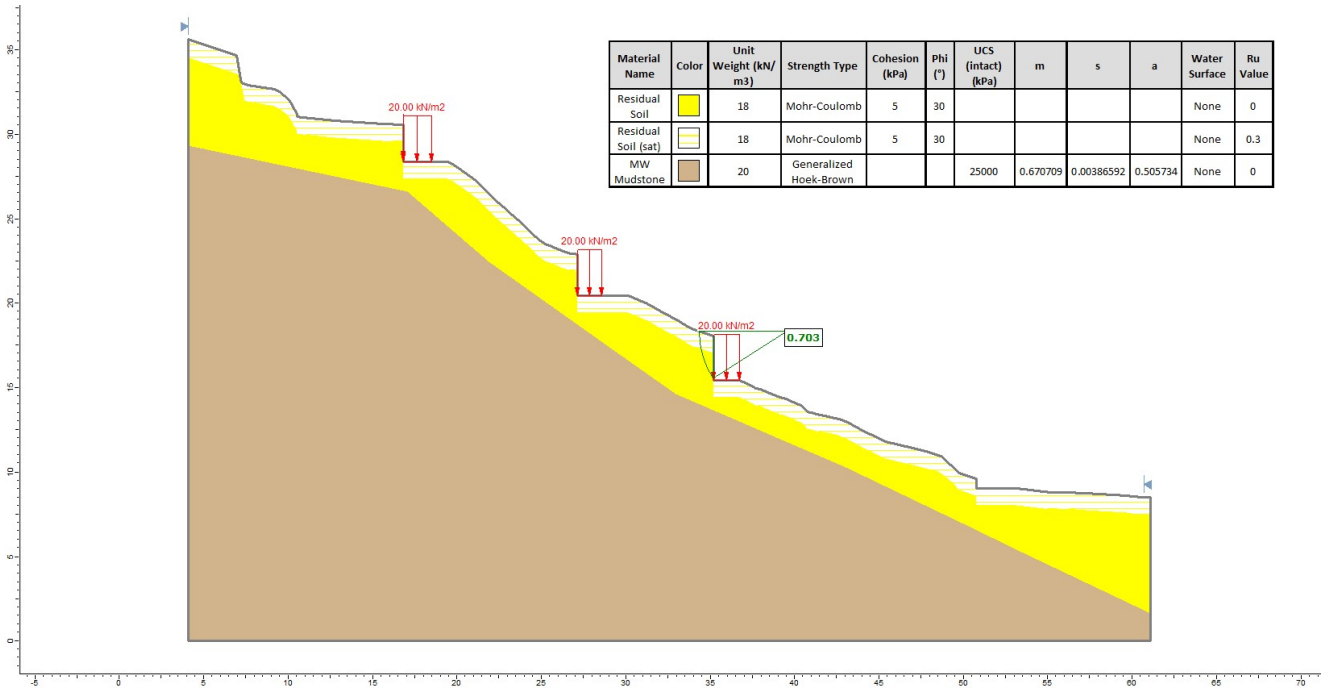
PHOTOGRAPH 6: View of temporary diversion drain and uncontrolled fill

APPENDIX B – SLIDE OUTPUTS

SECTION A: Current Profile

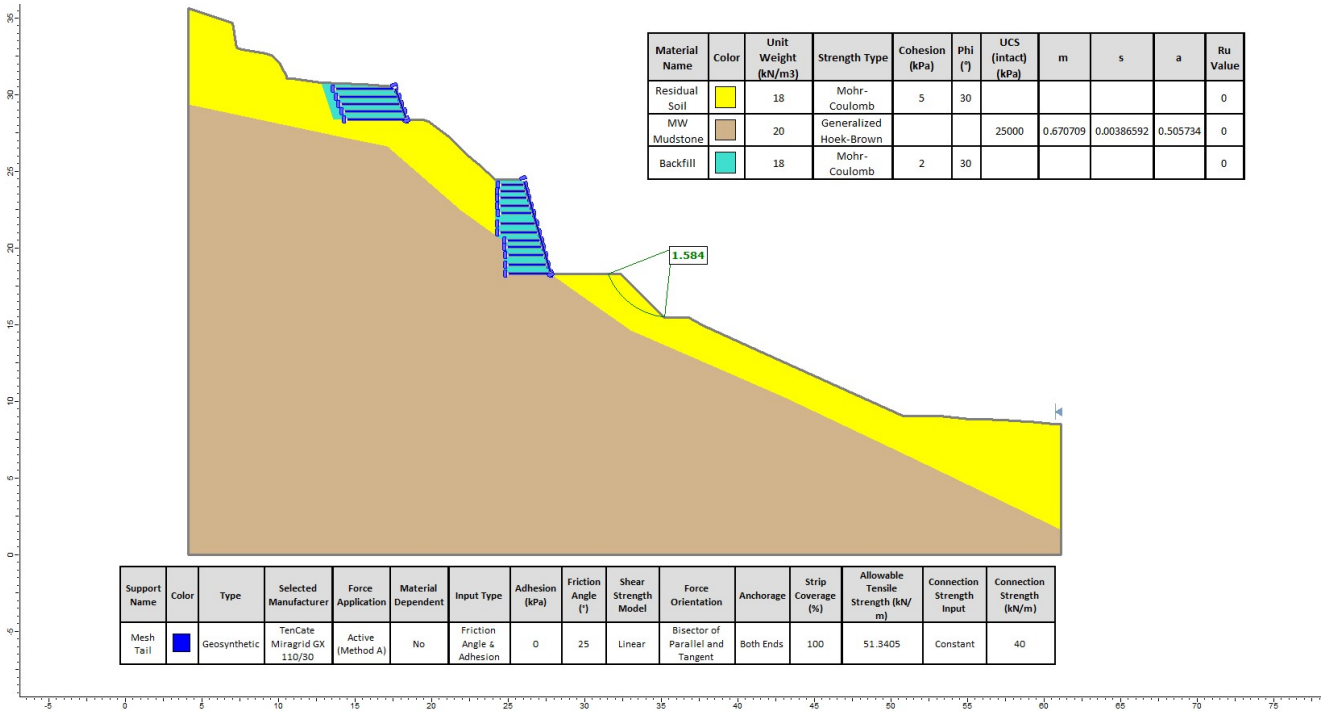


SECTION B: Current Profile – Dry Conditions



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	m	s	a	Water Surface	Ru Value
Residual Soil		18	Mohr-Coulomb	5	30					None	0
Residual Soil (sat)		18	Mohr-Coulomb	5	30					None	0.3
MW Mudstone		20	Generalized Hoek-Brown			25000	0.670709	0.00386592	0.505734	None	0

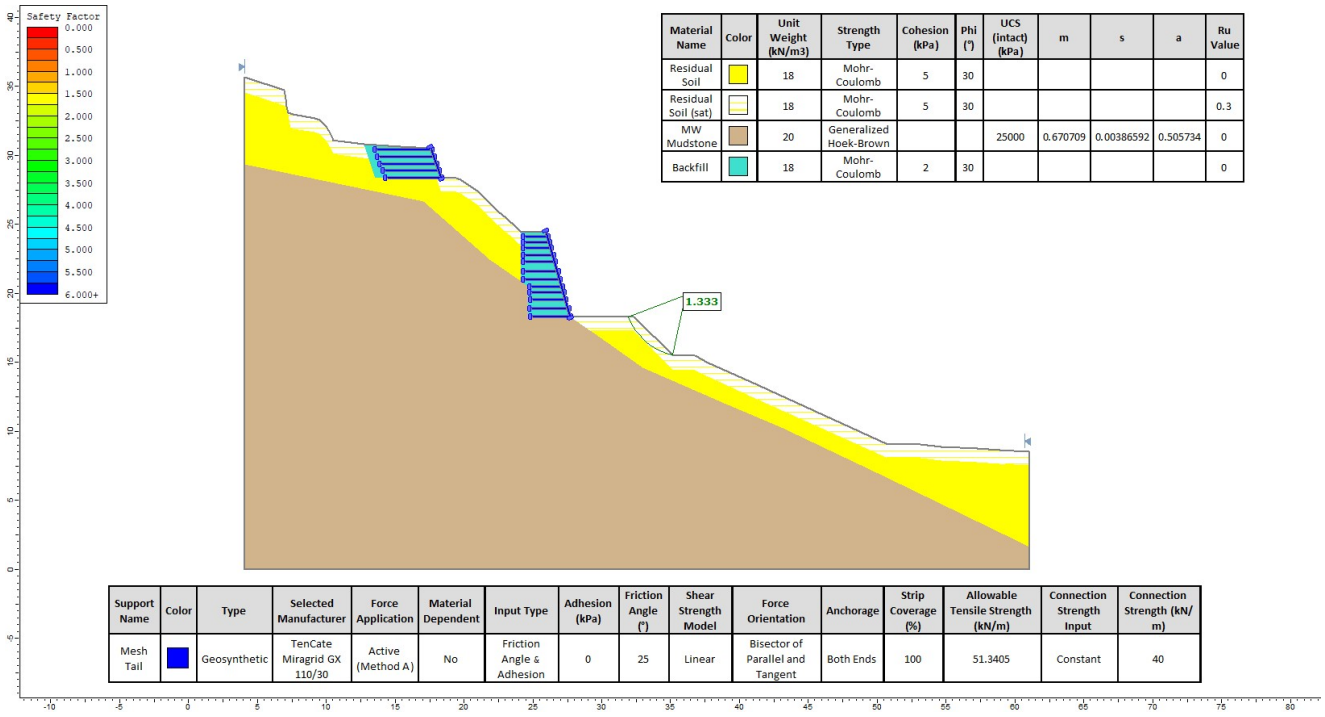
SECTION B: Current Profile – Saturated Conditions



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	m	s	a	Ru Value
Residual Soil		18	Mohr-Coulomb	5	30					0
MW Mudstone		20	Generalized Hoek-Brown			25000	0.670709	0.00386592	0.505734	0
Backfill		18	Mohr-Coulomb	2	30					0

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (kPa)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (kN/m)	Connection Strength Input	Connection Strength (kN/m)
Mesh Tail		Geosynthetic	TenCate Miragrid GX 110/30	Active (Method A)	No	Friction Angle & Adhesion	0	25	Linear	Bisector of Parallel and Tangent	Both Ends	100	51.3405	Constant	40

SECTION B: Developed Profile – Dry Conditions



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	m	s	a	Ru Value
Residual Soil		18	Mohr-Coulomb	5	30					0
Residual Soil (sat)		18	Mohr-Coulomb	5	30					0.3
MW Mudstone		20	Generalized Hoek-Brown			25000	0.670709	0.00386592	0.505734	0
Backfill		18	Mohr-Coulomb	2	30					0

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (kPa)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (kN/m)	Connection Strength Input	Connection Strength (kN/m)
Mesh Tail		Geosynthetic	TenCate Miragrid GX 110/30	Active (Method A)	No	Friction Angle & Adhesion	0	25	Linear	Bisector of Parallel and Tangent	Both Ends	100	51.3405	Constant	40

SECTION B: Developed Profile – Saturated Conditions

APPENDIX C – UNDERSTANDING THE LIMITATIONS OF YOUR GEOTECHNICAL REPORT

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PO Box 587
REDLYNCH QLD 4870

130 Buchan Street
Cairns QLD 4870

UNDERSTAND THE LIMITATIONS OF YOUR GEOTECHNICAL REPORT

This report is based on project details as provided to ETS Geo Pty Ltd at the time of commission. It therefore applies only to the site investigated, and to the specific set of project requirements as understood by ETS Geo Pty Ltd.

If there are changes to the project, you need to advise us in order that the effect of the changes on the report recommendations can be adequately assessed. ETS Geo Pty Ltd cannot take responsibility for problems that may occur due to project changes if we are not consulted.

It is important to remember that the subsurface conditions described in the report represent the state of the site at the time of investigation. Natural processes and the activities of man can result in changes to site conditions. For example, ground water levels can change, or fill can be placed on a site after the investigation is completed. If there is a possibility that conditions may have changed with time, ETS Geo Pty Ltd should be consulted to assess the impact on the recommendations of the report.

The site investigation only identifies the actual subsurface conditions at the location and time when the samples were taken. Geologists and engineers then extrapolate between the investigation points to provide an assumed three-dimensional picture of the site conditions. The report assumes that the site conditions as identified at the investigation locations are representative of the actual conditions throughout an area. This may not be the case and actual conditions may differ from those inferred to exist. This will not be known until construction has commenced. Your geotechnical report and the recommendations contained within it can therefore only be regarded as preliminary.

In the event that conditions encountered during construction differ from those described in the report, ETS Geo Pty Ltd should be consulted immediately. Although little can be done to change the actual site conditions which exist, steps can be taken to ameliorate the impact of unexpected conditions. For this reason, the services of ETS Geo Pty Ltd should be retained throughout the development stage of the project.

Problems can occur when other design professionals misinterpret a report. To help avoid this, ETS Geo Pty Ltd should be retained for liaison with other design professionals to explain the implications of the report.

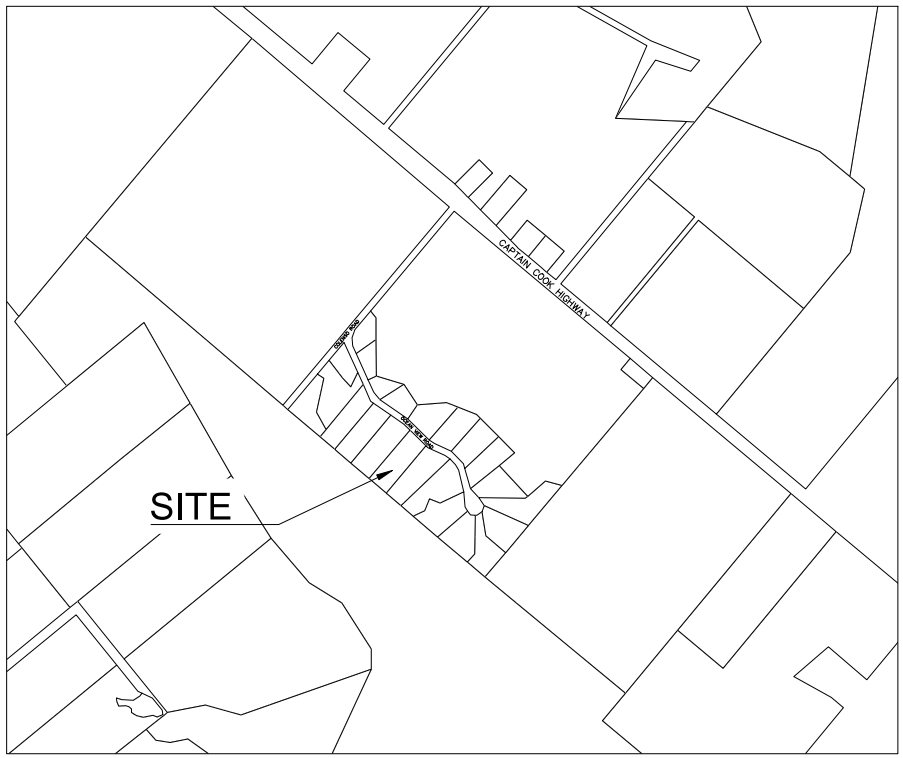
This report should be retained as a complete document and should not be copied in part, divided, or altered in any way.

It is recommended that the services or ETS Geo Pty Ltd are retained during the construction phase to confirm that conditions encountered are consistent with design assumptions. For example, this may involve assessment of bearing capacity for footings, stability of natural slopes or excavations or advice on temporary construction conditions.

This document has been produced to help all parties involved recognise their individual responsibilities.

LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD KILLALOE, QUEENSLAND
FOR
MARK SHEARER

ETS GEOTECHNICAL



LOCALITY PLAN
SCALE NTS

SCHEDULE OF PROJECT DRAWINGS

ETSP0000073–001	36 OCEAN VIEW ROAD GENERAL NOTES
ETSP0000073–002	36 OCEAN VIEW ROAD – UPPER CANE BIN GENERAL ARRANGEMENT PLAN
ETSP0000073–003	36 OCEAN VIEW ROAD – UPPER CANE BIN TYPICAL CROSS SECTION, TERRAMESH AND DRAIN ELEVATION, TERRAMESH DETAIL, TERRAMESH BASE & CATCH DRAIN
ETSP0000073–004	36 OCEAN VIEW ROAD – UPPER CANE BIN CROSS SECTIONS (SHEET 1)
ETSP0000073–005	36 OCEAN VIEW ROAD – UPPER CANE BIN CROSS SECTIONS (SHEET 2)
ETSP0000073–006	36 OCEAN VIEW ROAD – LOWER CANE BIN GENERAL ARRANGEMENT PLAN
ETSP0000073–007	36 OCEAN VIEW ROAD – LOWER CANE BIN TYPICAL CROSS SECTION, TERRAMESH AND DRAIN ELEVATION, CATCH DRAIN & JUNCTION PIT & PIPE CONNECTION DETAIL
ETSP0000073–008	36 OCEAN VIEW ROAD – LOWER CANE BIN CROSS SECTIONS (SHEET 1)
ETSP0000073–009	36 OCEAN VIEW ROAD SITE CONSTRAINT & SETBACK PLAN

A. GENERAL NOTES:

A.1. ALL SET OUT DIMENSIONS AND LEVELS SHOWN ON DRAWINGS TO BE VERIFIED BEFORE CONSTRUCTION.

A.2. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS OTHERWISE STATED.

A.3. TRADE NAMES HAVE BEEN USED FOR A PARTICULAR PRODUCT REQUIREMENT BUT EQUIVALENT PRODUCTS MAY BE SUBMITTED FOR APPROVAL.

A.4. COORDINATES ARE REFERENCED TO MGA ZONE 5 (GDA94).

A.5. ALL PROPRIETARY PRODUCTS (E.G., TERRAMESH, MIRAGRID, HP–TRM) MUST BE FIXED AND INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

B. STANDARDS & DESIGN CRITERIA

B.1. WORKS SHALL COMPLY WITH THE FOLLOWING QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS (TMR) SPECIFICATIONS: MRTS03 (DRAINAGE AND RETAINING STRUCTURES), MRTS04 (GENERAL EARTHWORKS), AND MRTS27 (GEOTEXTILES).

B.2. A CONSEQUENCE CLASS OF 'C3' HAS BEEN CALCULATED IN ACCORDANCE WITH RMS GUIDE TO SLOPE RISK ANALYSIS (2014).

B.3. THE DESIGN LIFE FOR ALL STRUCTURES IS 100 YEARS.

B.4. DOPTED FACTORS OF SAFETY (FOS) ARE 1.5 FOR LONG–TERM STABILITY AND 1.3 FOR SHORT–TERM STABILITY.

C. GEOTECHNICAL PARAMETERS

C.1. DESIGN OF THE MASS GRAVITY STRUCTURE ARE BASED UPON THE FOLLOWING ASSUMED PARAMETERS: (TO BE VERIFIED ON–SITE PRIOR TO CONSTRUCTION)

FOUNDING MATERIAL (HW MUDSTONE)
UNCONFINED COMPRESSIVE STRENGTH = 3MPa
GEOLOGIC STRENGTH INDEX = 24
UNIT WEIGHT = 19 KN/m3

FOUNDING MATERIAL (HW MUDSTONE)
UNCONFINED COMPRESSIVE STRENGTH = 25MPa
GEOLOGIC STRENGTH INDEX = 50
UNIT WEIGHT = 20 KN/m3

RESIDUAL SOIL
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
EFFECTIVE COHESION = 10 KPA
UNIT WEIGHT = 18 KN/m3

BACKFILL
EFFECTIVE INTERNAL FRICTION ANGLE = 35°
EFFECTIVE COHESION = 5 KPA
UNIT WEIGHT = 18 KN/m3

D. EXISTING SERVICES & EARTHWORKS

D.1. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES AND OBSTRUCTIONS PRIOR TO CONSTRUCTION.

D.2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE TO PUBLIC UTILITY PLANT.

D.3. STRIP THE AGREED REMEDIATION ZONE OF ALL VEGETATION AND AGREE UPON THE EXTENTS OF REMEDIATION REQUIRED.

D.4. ALL EXISTING UNCONTROLLED FILL IDENTIFIED AT THE CREST OF THE SLOPE AND WITHIN THE STRUCTURAL FOOTPRINT SHALL BE COMPLETELY EXCAVATED TO EXPOSE COMPETENT, NATURAL FOUNDATION MATERIAL (RESIDUAL SOIL OR HW MUDSTONE) PRIOR TO BENCHING.

D.5. IF THE DESIGN FINISHED GROUND LEVEL (FGL) AT THE CREST REQUIRES FILLING, THE EXCAVATED AREA SHALL BE BACKFILLED WITH APPROVED, GRANULAR ENGINEERED FILL. THE ENGINEERED FILL MUST BE PLACED IN MAXIMUM 200MM LOOSE LAYERS AND COMPACTED TO A MINIMUM OF 98% STANDARD MAXIMUM DRY DENSITY (SMDD) AT +/– 2% OPTIMUM MOISTURE CONTENT (OMC).

E. CONSTRUCTION SEQUENCE: TERRAMESH RETAINING WALL

E.1. IDENTIFY EXISTING PUBLIC UTILITY PLANT (PUP).

E.2. PRIOR TO THE COMMENCEMENT OF EARTHWORKS, THE EXISTING CANE BINS LOCATED WITHIN THE REMEDIATION FOOTPRINT AND THE DESIGNATED GEOTECHNICAL ZONE OF INFLUENCE SHALL BE DISMANTLED AND RELOCATED IN THEIR ENTIRETY TO A DESIGNATED STOCKPILE AREA TO ALLOW FOR SAFE EXCAVATION AND TERRAMESH INSTALLATION.

E.3. STRIP THE AGREED REMEDIATION ZONE OF ANY VEGETATION AND AGREE UPON EXTENTS OF REMEDIATION REQUIRED.

E.4. TRIM THE ENTIRE ALIGNMENT TO THE SPECIFIED CROSS–SECTIONAL PROFILE.

E.5. UNDERTAKE AND SUPPLY RESULTS OF MINIMUM MATERIAL TESTING REQUIREMENTS AS OUTLINED IN THE SPECIFICATIONS.

E.6. ERECT A TEST TERRAMESH UNIT TO BE INSPECTED AND VERIFIED BY THE DESIGN ENGINEER TO CONFIRM THE ERECTION METHODOLOGY.

E.7. EXCAVATION OF FOOTINGS FOR INSTALLATION OF TERRAMESH.

E.8. BEARING CAPACITY ASSESSMENT BY GEOTECHNICAL ENGINEER MINIMUM 1 DCP TEST PER 15 LINEAL METER ALONG THE WALL ALIGNMENT.

E.9. IF THE REQUIRED ALLOWABLE BEARING CAPACITY OF 100 KPA IS NOT ACHIEVED, INCREASE EMBEDMENT OR INSTALL A FOUNDATION IMPROVEMENT LAYER AS DIRECTED.

E.10. FULL CONSTRUCTION OF THE FIRST TERRAMESH BASKET MUST BE OBSERVED BY THE DESIGN ENGINEER TO CONFIRM ADEQUACY.

E.11. INSTALL TERRAMESH BASKETS IN ACCORDANCE WITH MANUFACTURER GUIDELINES.

E.12. LAY BIDIM A44 GEOFABRIC (OR APPROVED EQUIVALENT) BEHIND THE TERRAMESH TAIL AND GEOTEXTILE AS THEY ARE ERECTED.

E.13. REPEAT THE INSTALLATION AND BACKFILLING PROCESS UNTIL THE ENTIRE TERRAMESH ALIGNMENT IS COMPLETED.

E.14. FINAL INSPECTION OF FULLY CONSTRUCTED STRUCTURE TO BE COMPLETED BY A SUITABLY QUALIFIED RPEQ GEOTECHNICAL OR CIVIL ENGINEER. UPON SUCCESSFUL COMPLETION AND VERIFICATION, THE INSPECTING ENGINEER IS TO ISSUE A FORM 12 (INSPECTION CERTIFICATE).

F. DRAINAGE & MATERIALS

F.1. SUBSOIL DRAINAGE CONSISTS OF 150mm DIAMETER PERFORATED PVC PIPE.

F.2. GEOTEXTILE FOR SEPARATION AND FILTRATION SHALL BE STRENGTH CLASS C / FILTRATION CLASS 5 (E.G., BIDIM A44).

F.3. TERRAMESH BACKFILL SHALL BE UNIFORMLY GRADED BETWEEN 100mm AND 250mm.

F.4. GEOGRID REINFORCEMENT (E.G., MIRAGRID 80/30) MUST HAVE A MINIMUM TENSILE STRENGTH OF 80 KN/m.

F.5. ENSURE STORMWATER DRAINAGE BEHIND THE TERRAMESH WALL DOES CONNECT TO THE DRAIN PIT BESIDE THE EXISTING CONCRETE ROAD.

F.6. ALL CONNECTIONS BETWEEN SUBSOIL DRAINAGE PIPES AND JUNCTION PITS MUST BE SECURELY AND CAREFULLY SEALED TO AVOID INTERNAL EROSION.

G. REUSE OF CANE BIN MATERIAL AS BACKFILL

G.1. MATERIAL CURRENTLY STORED WITHIN THE EXISTING CANE BINS MAY BE REUSED AS STRUCTURAL BACKFILL PROVIDED IT STRICTLY MEETS ALL DESIGN SPECIFICATIONS.

G.2. PRIOR TO REUSE, THE CANE BIN MATERIAL MUST BE STOCKPILED, VISUALLY INSPECTED, AND TESTED BY A NATA–ACCREDITED TESTING AUTHORITY TO CONFIRM IT ACHIEVES THE ASSUMED DESIGN PARAMETERS OUTLINED IN SECTION C.1 (EFFECTIVE INTERNAL FRICTION ANGLE = 35°, EFFECTIVE COHESION = 5 KPA).

G.3. THE MATERIAL MUST BE ENTIRELY FREE OF ORGANIC MATTER, TRASH, DELETERIOUS SUBSTANCES, AND CONTAMINANTS.

G.4. IF REUSED WITHIN THE TERRAMESH BASKETS, THE MATERIAL MUST BE SCREENED TO ACHIEVE A UNIFORM GRADATION BETWEEN 100MM AND 250MM AS PER NOTE F.3.

G.5. IF REUSED AS GENERAL ENGINEERED BACKFILL BEHIND THE REINFORCED SOIL BLOCK, IT MUST BE MOISTURE CONDITIONED AND COMPACTED TO A MINIMUM OF 98% STANDARD MAXIMUM DRY DENSITY (SMDD) AT +/– 2% OPTIMUM MOISTURE CONTENT (OMC).

G.6. WRITTEN APPROVAL FROM THE DESIGN RPEQ GEOTECHNICAL ENGINEER MUST BE OBTAINED PRIOR TO INCORPORATING ANY CANE BIN MATERIAL INTO THE PERMANENT WORKS MUST BE SECURELY AND CAREFULLY SEALED TO AVOID INTERNAL EROSION.

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1	APR. 27, 2026	ISSUED FOR APPROVAL	MA	MG
A	APR. 17, 2026	ISSUED FOR APPROVAL	MA	MG

Do Not Scale.
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ETS GEOTECHNICAL

ETS Geotechnical Holdings
130 Buchan Street
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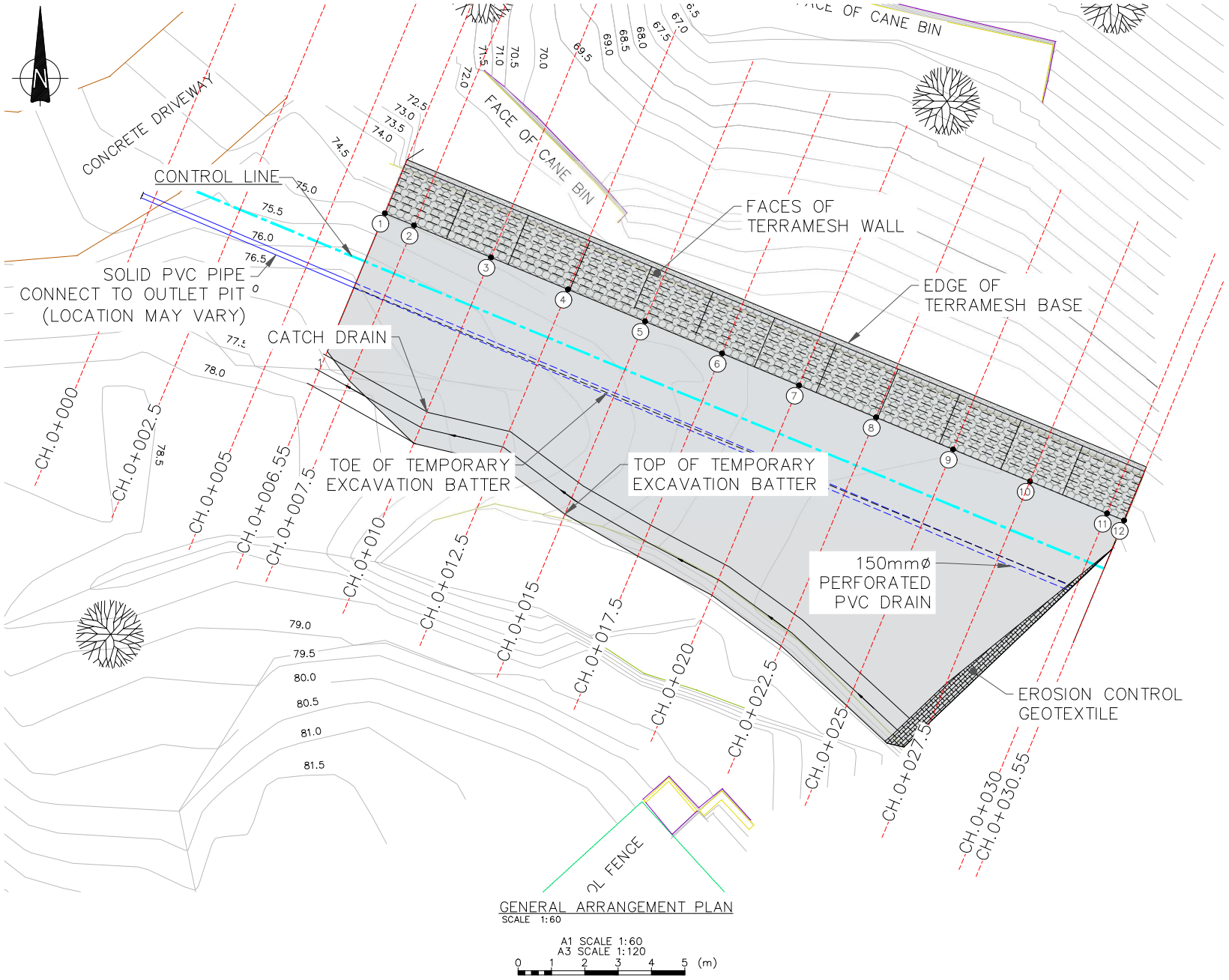
Ph: 07 4047 8600
email: admin@etsgeo.com.au

Client: MARK SHEARER
Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

Title: 36 OCEAN VIEW ROAD
GENERAL NOTES

Scale at A1:
Project No: ETSP0000073
Drawing No: 001
Rev: 1



GENERAL ARRANGEMENT PLAN
SCALE 1:60

A1 SCALE 1:60
A3 SCALE 1:120
0 1 2 3 4 5 (m)

LEGEND

- EXISTING SURFACE CONTOUR (500mm INTERVAL)
- FACE OF TERRAMESH WALL
- CONTROL LINE
- 2000mm WIDE TERRAMESH WALL
- AGGREGATE FILL
- SETOUT POINT (EDGE OF TERRAMESH WALL)

SETOUT POINTS

PT	EASTING	NORTHING	LEVEL
1	331411.199	8175180.426	76.012m
2	331412.074	8175180.063	76.012m
3	331414.420	8175179.103	75.412m
4	331416.729	8175178.144	75.412m
5	331419.038	8175177.184	75.412m
6	331421.346	8175176.225	75.412m
7	331423.655	8175175.265	74.812m
8	331425.963	8175174.306	74.812m
9	331428.272	8175173.346	74.812m
10	331430.580	8175172.387	74.812m
11	331432.889	8175171.427	74.812m
12	331433.399	8175171.215	74.812m

CONTROL LINE DETAILS

CHAIN	EASTING	NORTHING
0+000	331404.586	8175181.497
0+030.55	331432.799	8175169.771

NOTES:
1. ALL DIMENSIONS, ELEVATIONS AND STATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. LOCATION OF EXISTING SERVICES TO BE CONFIRMED ON SITE IN LIAISON WITH RELEVANT SERVICE AUTHORITY PRIOR TO CONSTRUCTION BY CONTRACTOR.
3. COORDINATES ARE MGA ZONE 5 (GDA94)

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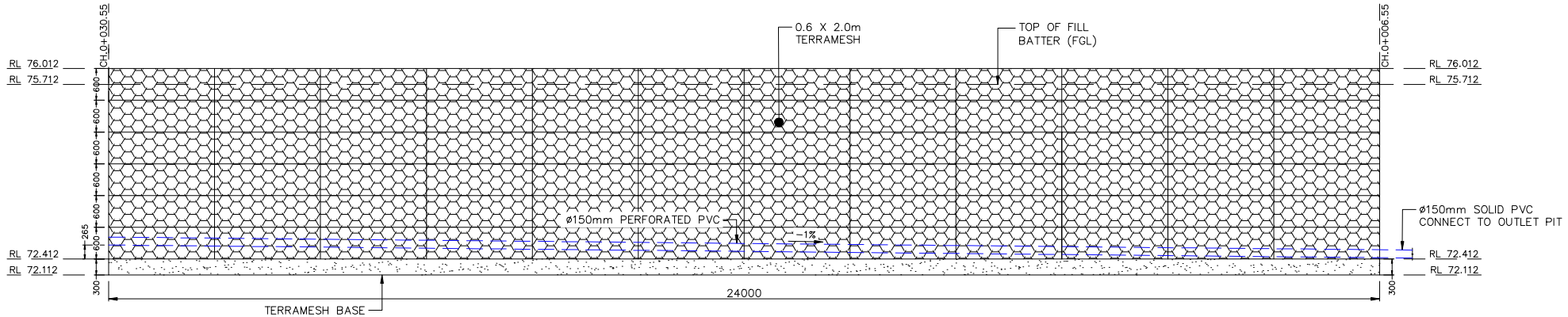
Client: MARK SHEARER
Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

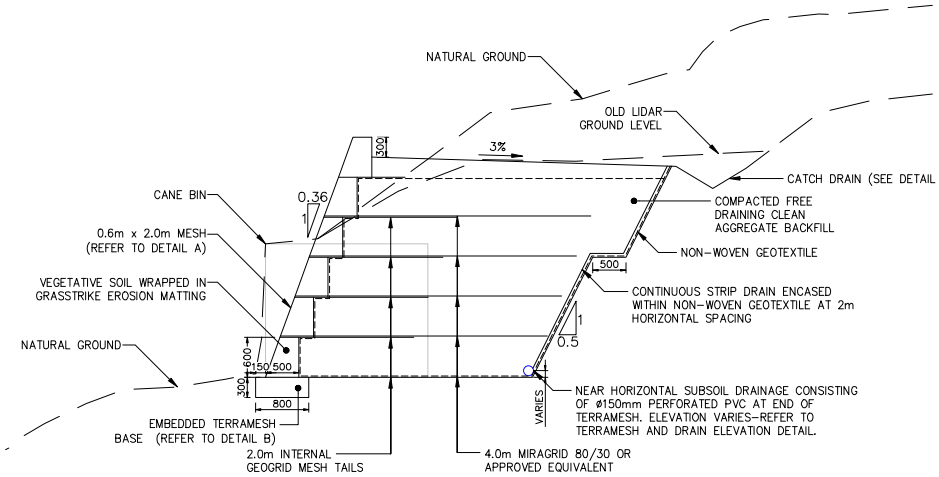
Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

Title: 36 OCEAN VIEW ROAD - UPPER CANE BIN
GENERAL ARRANGEMENT PLAN

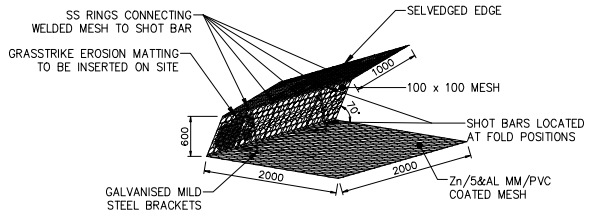
Scale at A1: 1:60
Project No: ETSP0000073
Drawing No: 002
Rev: 1



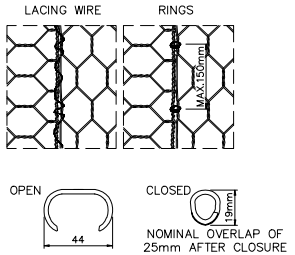
TERRAMESH AND DRAIN ELEVATION
SCALE 1:40



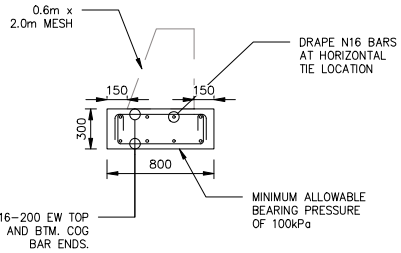
TYPICAL CROSS SECTION DETAIL (TYPE I)
SCALE 1:40



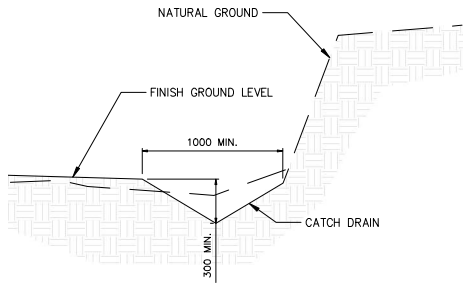
DETAIL A: TERRAMESH DETAIL
SCALE 1:40



LACING OPERATION
SCALE NTS



DETAIL B: TERRAMESH BASE
SCALE 1:20



DETAIL C: CATCH DRAIN
SCALE 1:20

A1 SCALE 1:20
A3 SCALE 1:40
0 0.5 1.0 1.5 2.0 2.5 (m)

A1 SCALE 1:40
A3 SCALE 1:80
0 1.0 2.0 3.0 4.0 5.0 (m)

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Ph: 07 4047 8600
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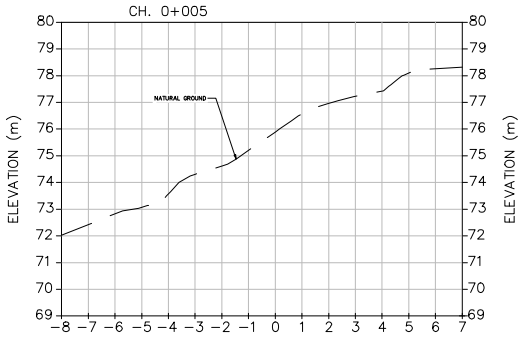
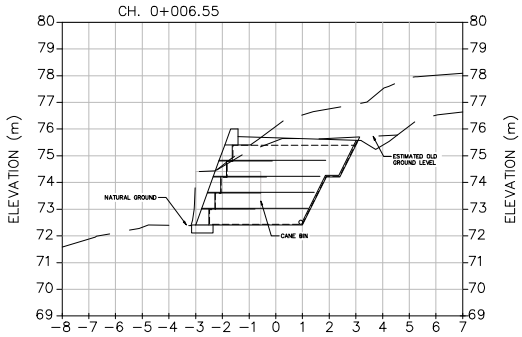
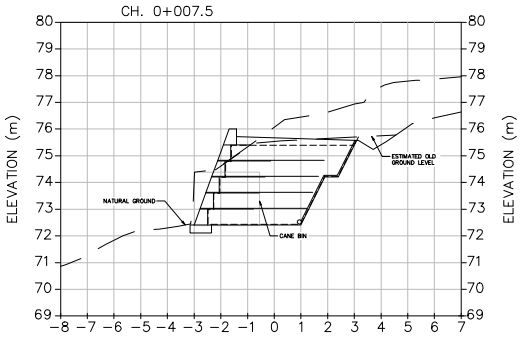
Client: MARK SHEARER
Project: LANDSLIDE REMEDIATION 36 OCEAN VIEW ROAD
Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

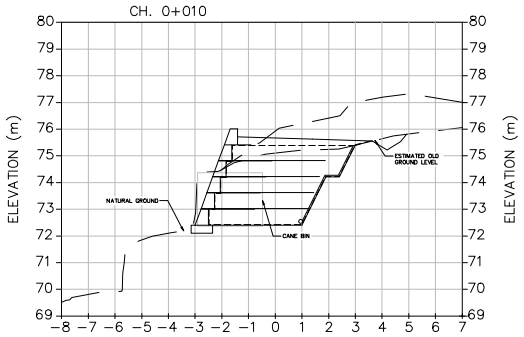
Title: 36 OCEAN VIEW ROAD - UPPER CANE BIN TYPICAL CROSS SECTION, TERRAMESH AND DRAIN ELEVATION, TERRAMESH DETAIL, TERRAMESH BASE & CATCH DRAIN

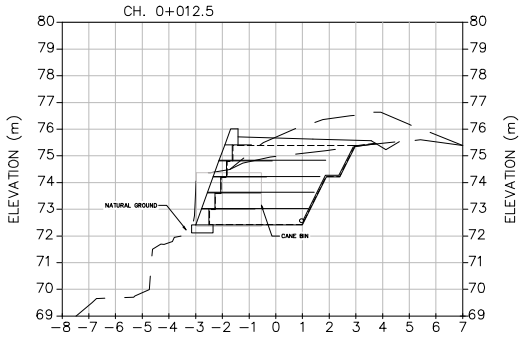
Scale at A1:	Project No:	Drawing No:	Rev:
1:20 1:40	ETSP0000073	003	1

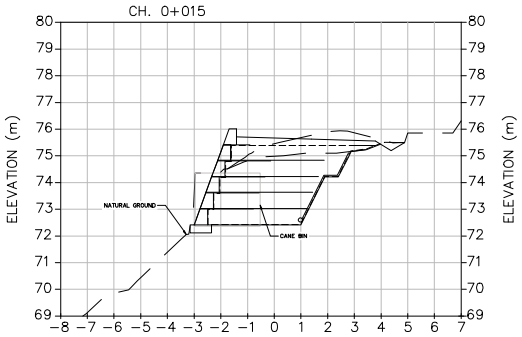


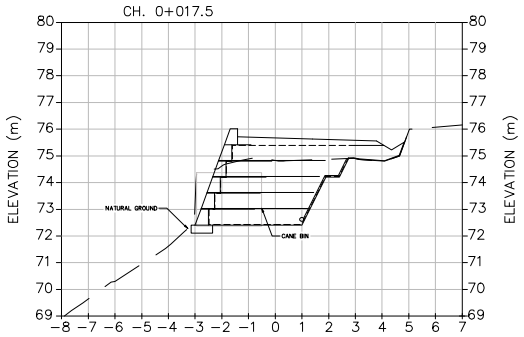


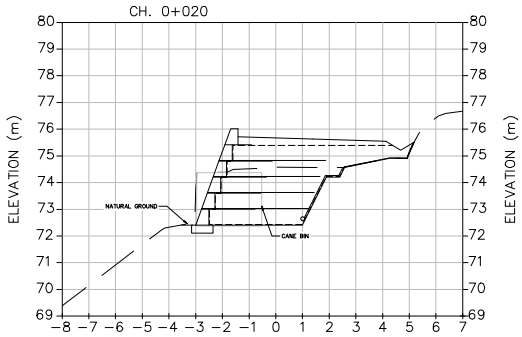


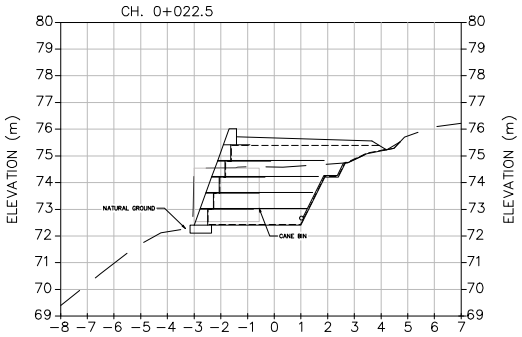












NOTES:

1. ALL DIMENSIONS, ELEVATIONS AND CHAINAGE ARE IN METERS.
2. REFER TO DWG 003 FOR TYPICAL CROSS SECTION DETAILS.

A1 SCALE 1:100
A3 SCALE 1:200

0 1 2 3 4 6 8 10 (m)

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GEOTECHNICAL

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email: admin@etsgeo.com.au

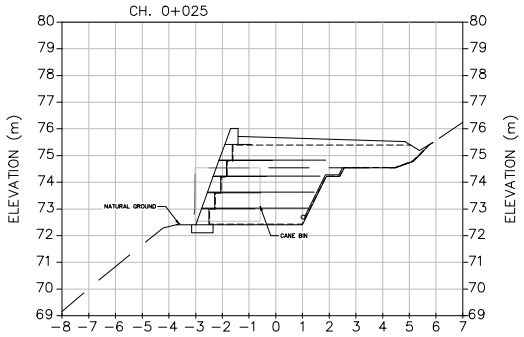
Client: MARK SHEARER

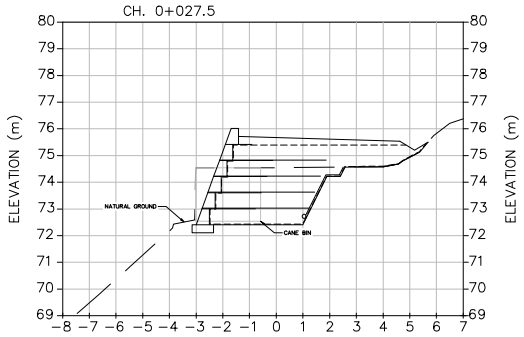
Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

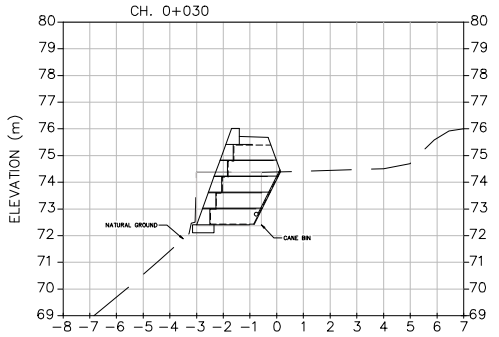
Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

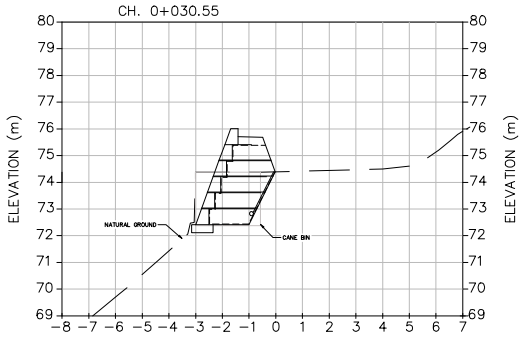
Title: 36 OCEAN VIEW ROAD - UPPER CANE BIN CROSS SECTION (SHEET 1)

Scale at A1: 1:100
Project No: ETSP0000073
Drawing No: 004
Rev: 1









NOTES:

1. ALL DIMENSIONS, ELEVATIONS AND CHAINAGE ARE IN METERS.
2. REFER TO DWG 003 FOR TYPICAL CROSS SECTION DETAILS.

A1 SCALE 1:100
A3 SCALE 1:200

0 1 2 3 4 6 8 10 (m)

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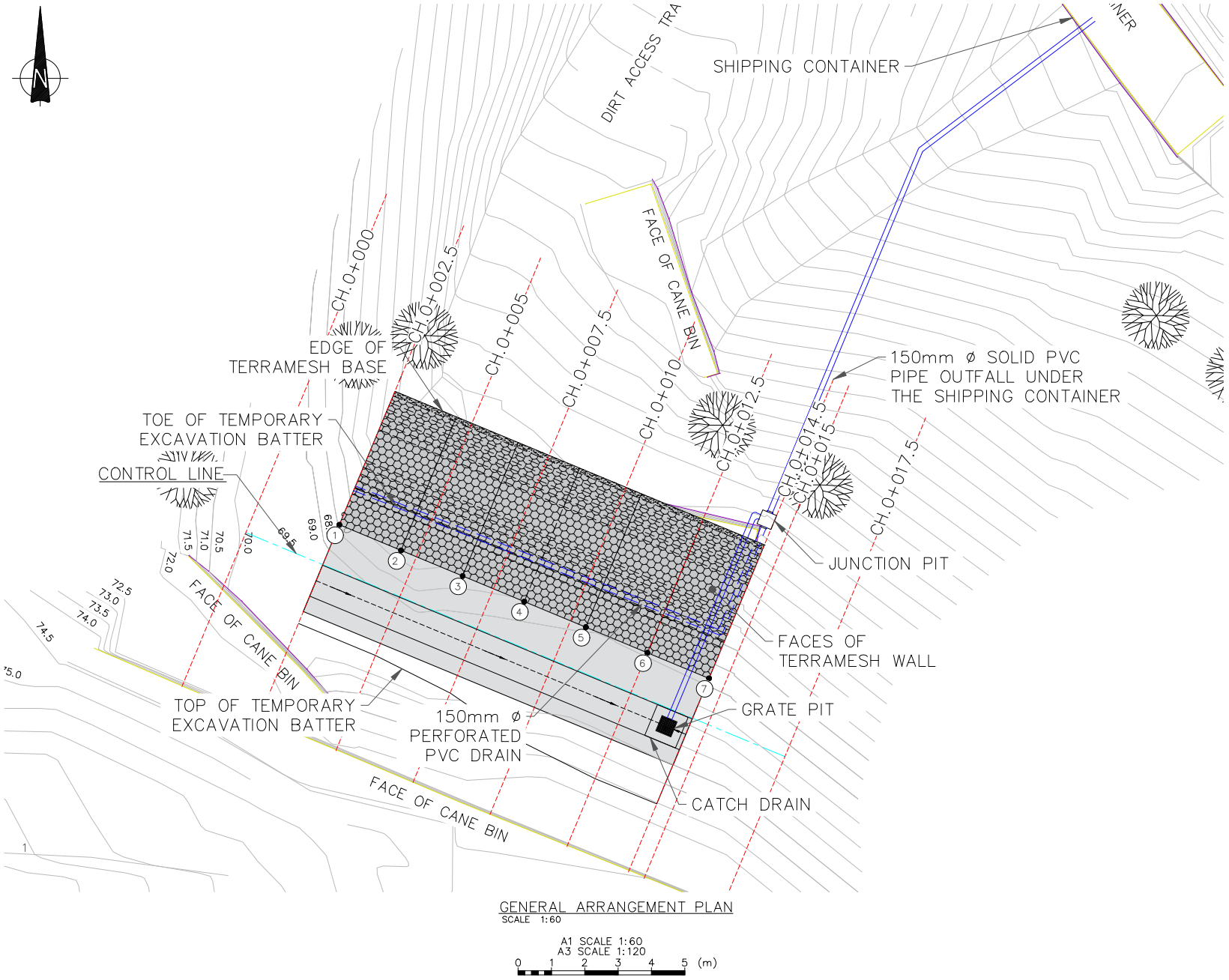
Client: MARK SHEARER

Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

Title: 36 OCEAN VIEW ROAD - UPPER CANE BIN CROSS SECTIONS (SHEET 2)

Scale at A1: 1:100
Project No: ETSP0000073
Drawing No: 005
Rev: 1



GENERAL ARRANGEMENT PLAN
SCALE 1:60

A1 SCALE 1:60
A3 SCALE 1:120
0 1 2 3 4 5 (m)

LEGEND

- EXISTING SURFACE CONTOUR (500mm INTERVAL)
- FACE OF TERRAMESH WALL
- CONTROL LINE
- 2000mm WIDE TERRAMESH WALL
- AGGREGATE FILL
- SETOUT POINT (EDGE OF TERRAMESH WALL)

SETOUT POINTS

PT	EASTING	NORTHING	LEVEL
1	331418.696	8175185.623	69.00m
2	331420.543	8175184.855	69.00m
3	331422.390	8175184.088	69.00m
4	331424.235	8175183.320	69.00m
5	331426.083	8175182.552	69.00m
6	331427.930	8175181.785	69.00m
7	331429.775	8175181.018	69.00m

CONTROL LINE DETAILS

CHAIN	EASTING	NORTHING
0+000	331415.930	8175185.392
0+017.5	331432.090	8175178.675

NOTES:
1. ALL DIMENSIONS, ELEVATIONS AND STATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. LOCATION OF EXISTING SERVICES TO BE CONFIRMED ON SITE IN LIAISON WITH RELEVANT SERVICE AUTHORITY PRIOR TO CONSTRUCTION BY CONTRACTOR.
3. COORDINATES ARE MGA ZONE 5 (GDA94)

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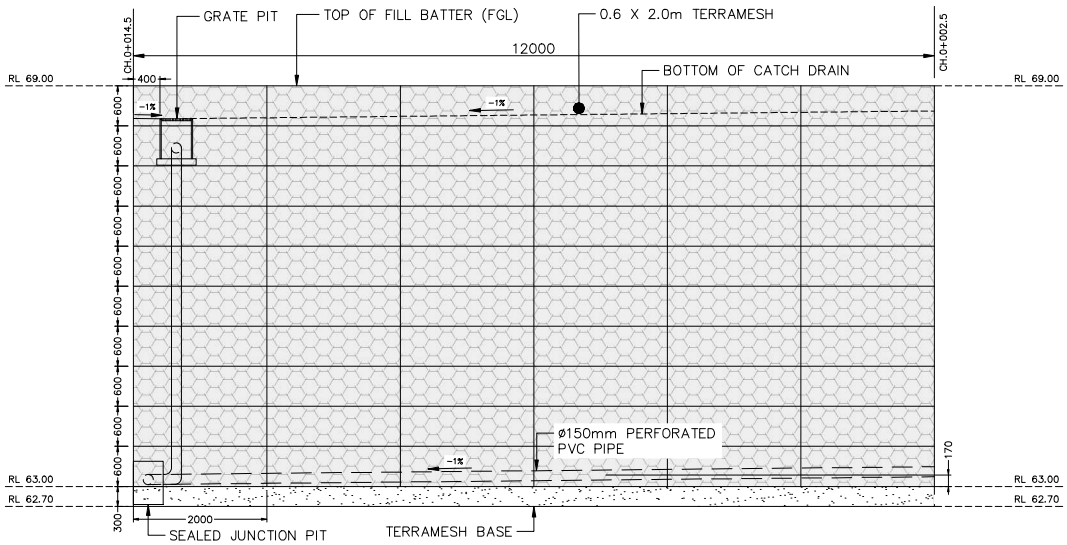
Client: MARK SHEARER
Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

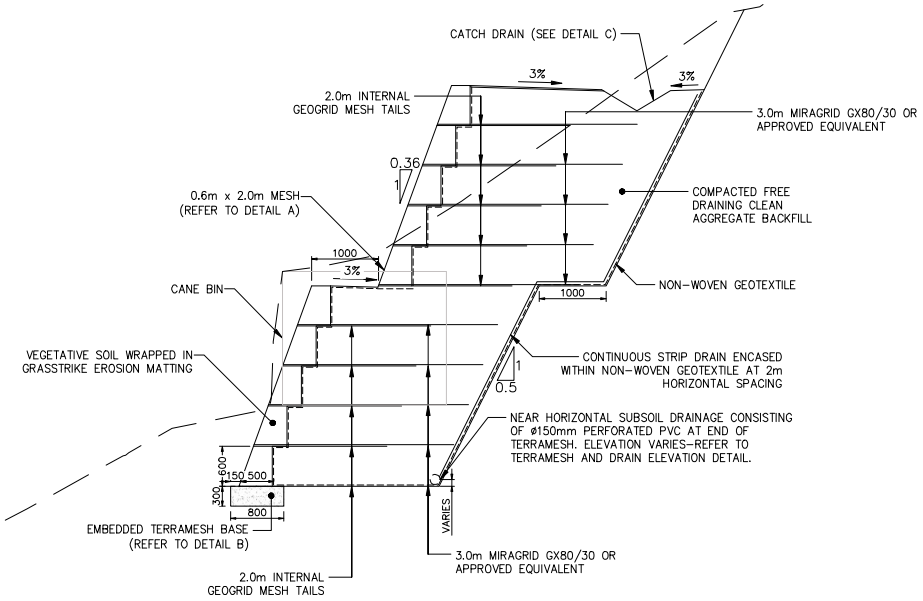
Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

Title: 36 OCEAN VIEW ROAD - LOWER CANE BIN
GENERAL ARRANGEMENT PLAN

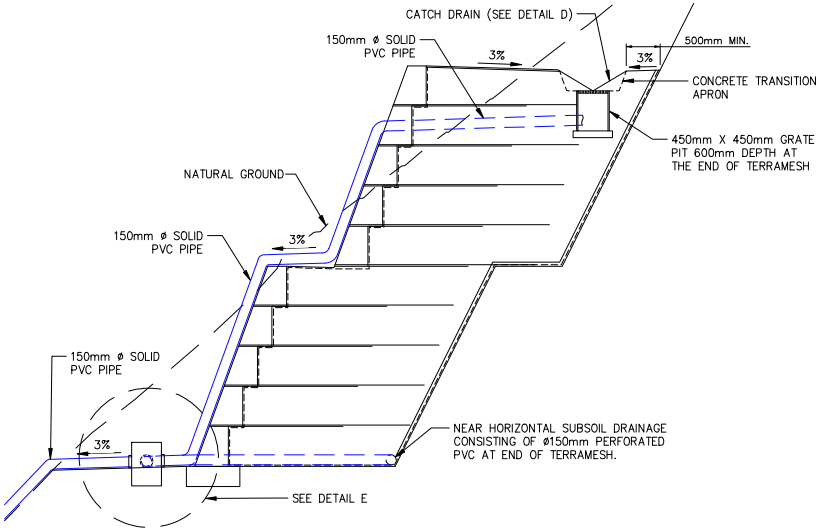
Scale at A1: 1:60
Project No: ETSP0000073
Drawing No: 006
Rev: 1



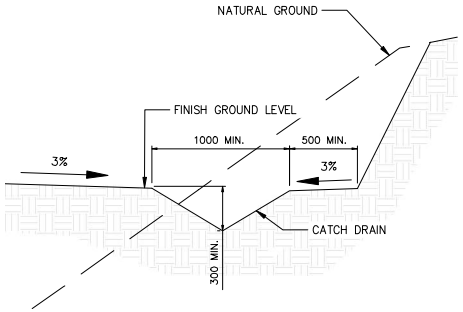
TERRAMESH AND DRAIN ELEVATION
SCALE 1:40



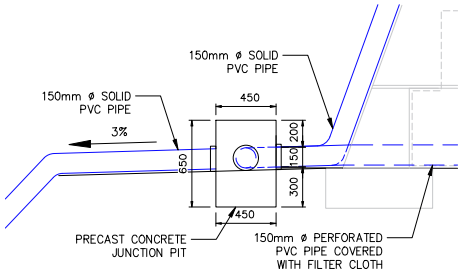
TYPICAL CROSS SECTION DETAIL
SCALE 1:40



DRAINAGE ARRANGEMENT CROSS-SECTION AT THE END OF TERRAMESH
SCALE 1:40



DETAIL D: CATCH DRAIN
SCALE 1:20



DETAIL E: JUNCTION PIT & PIPE CONNECTION DETAIL
SCALE 1:20

A1 SCALE 1:20
A3 SCALE 1:40
0 0.5 1.0 1.5 2.0 2.5 (m)

A1 SCALE 1:40
A3 SCALE 1:80
0 1.0 2.0 3.0 4.0 5.0 (m)

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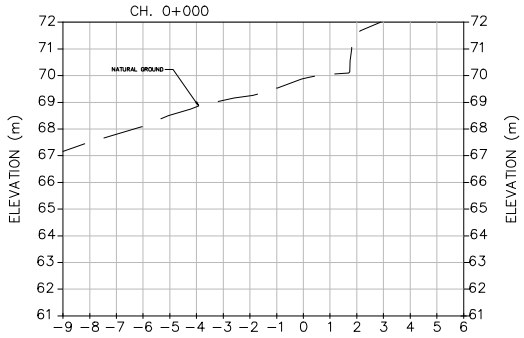
ETS Geotechnical Holdings
130 Buchan Street
Bungalow, Queensland 4870
Ph: 07 4047 8600
email: admin@etsgeo.com.au

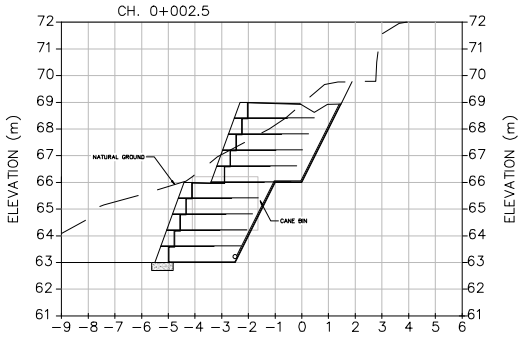
Client: MARK SHEARER
Project: LANDSLIDE REMEDIATION
36 OCEAN VIEW ROAD

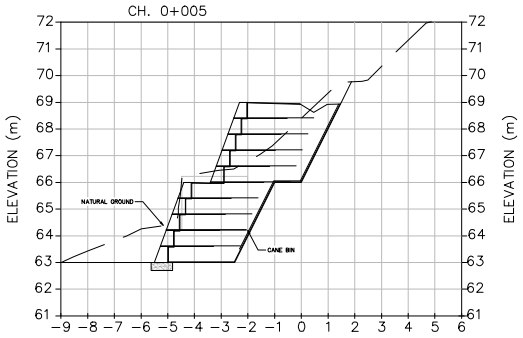
Drawn: MA
Designed: MG
Approved: MG
Signed: M. Sanga
RPEQ NO.: 4449

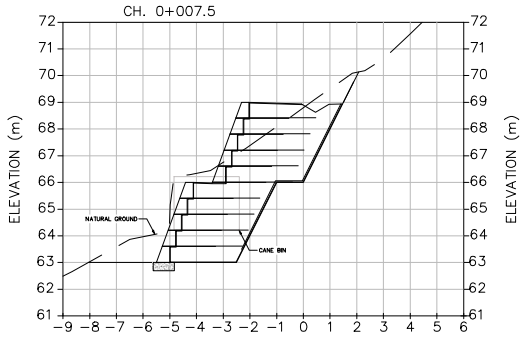
Title: 36 OCEAN VIEW ROAD - LOWER CANE BIN TYPICAL CROSS SECTION, TERRAMESH AND DRAIN ELEVATION, CATCH DRAIN & JUNCTION PIT & PIPE CONNECTION DETAIL

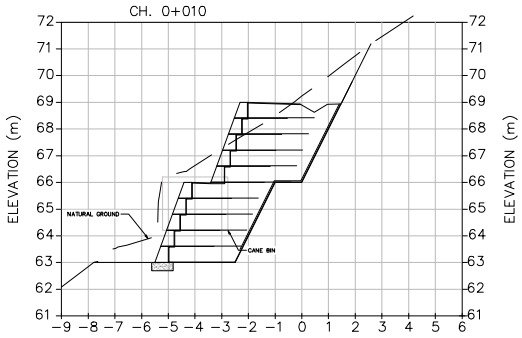
Scale at A1:	Project No:	Drawing No:	Rev:
1:20 1:40	ETSP0000073	007	1

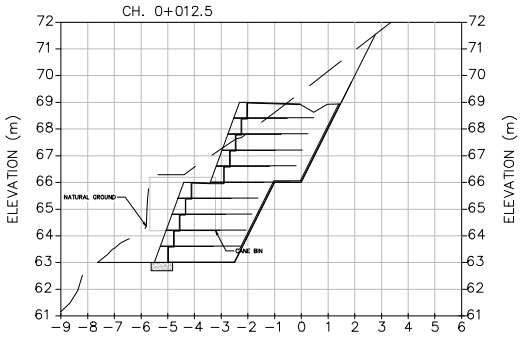


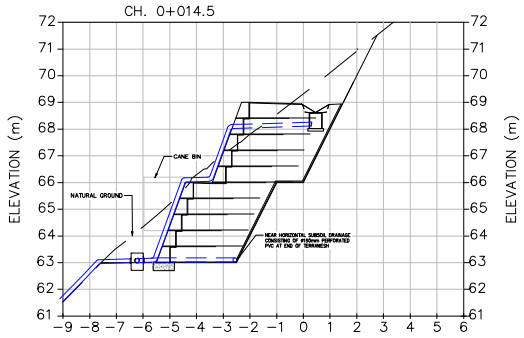


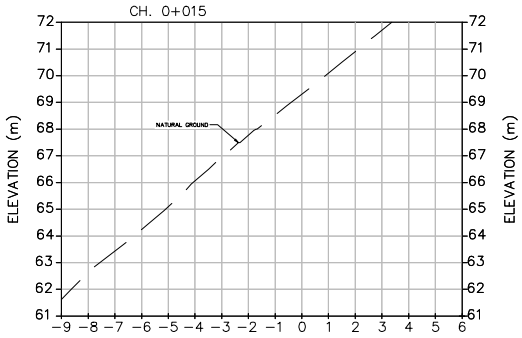


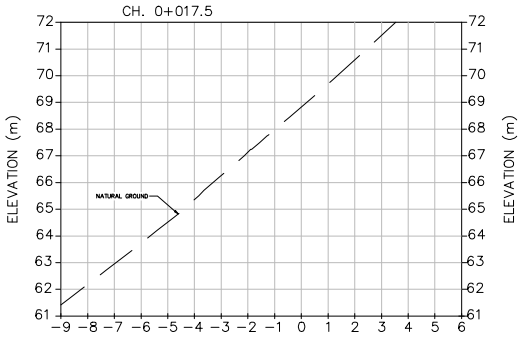












NOTES:

1. ALL DIMENSIONS, ELEVATIONS AND CHAINAGE ARE IN METERS.
2. REFER TO DWG 003 FOR TYPICAL CROSS SECTION DETAILS.

A1 SCALE 1:100
A3 SCALE 1:200

0 1 2 3 4 6 8 10 (m)

ISSUED FOR
APPROVAL
NOT FOR CONSTRUCTION

Rev.	Date.	Description	Drawn	Checked
1	APR. 27, 2026	ISSUED FOR APPROVAL	MA	MG
A	APR. 17, 2026	ISSUED FOR APPROVAL	MA	MG

Do Not Scale.
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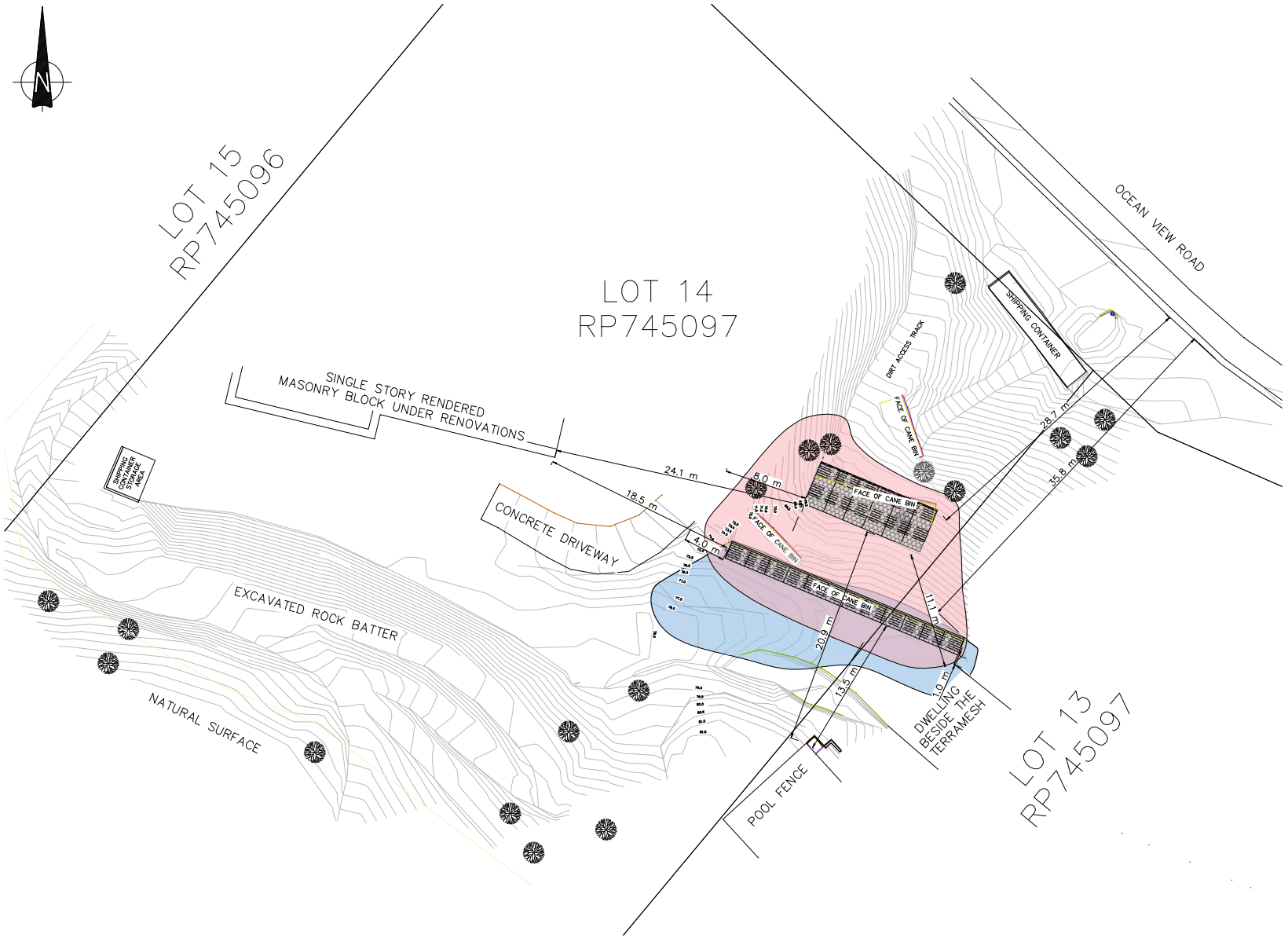
RPEQ NO.: 4449

Title: 36 OCEAN VIEW ROAD - LOWER CANE BIN CROSS SECTION

Scale at A1: 1:100
Project No: ETSP0000073
Drawing No: 008
Rev: 1



LEGEND

- LOT BOUNDARY
- EXISTING SURFACE CONTOUR (500mm INTERVAL)
- FACE OF TERRAMESH WALL
- 2000mm WIDE TERRAMESH WALL
- UPPER CANE BIN ZONE OF INFLUENCE
- LOWER CANE BIN ZONE OF INFLUENCE

SETBACK DISTANCE

STRUCTURE	DISTANCE (m)	
	UPPER CANE BIN	LOWER CANE BIN
POOL UPSLOPE	13.5	20.9
CONCRETE DRIVEWAY	4.0	8.0
SINGLE STOREY	18.5	24.1
SOUTHEAST STRUCTURE	1.0	11.1
OCEAN VIEW ROAD	35.8	28.7

NOTES:
1. ALL DIMENSIONS, ELEVATIONS AND STATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. COORDINATES ARE MGA ZONE 5 (GDA94)
3. THE SHADED REGIONS INDICATE THE THEORETICAL GEOTECHNICAL ZONE OF INFLUENCE. THIS HAS BEEN PROJECTED UPWARDS FROM THE BASE (HEEL) OF THE PROPOSED TERRAMESH EXCAVATION AT A CONSERVATIVE RATIO OF 1V:1H, BASED ON THE STRENGTH PARAMETERS OF THE RESIDUAL SOIL AND HW MUDSTONE FOUNDATION.
4. AS DEMONSTRATED BY THE EXTENTS OF THE ZOI AND THE SETBACK DISTANCE TABLE, ALL EXISTING PERMANENT STRUCTURES (CONCRETE DRIVEWAY, ADJACENT DWELLINGS) AND NEIGHBORING PROPERTY BOUNDARIES (LOT 13 RP745097 AND LOT 15 RP745096) SITUATED BEYOND THE SHADED HATCH FALL OUTSIDE THE CRITICAL ZONE OF ACTIVE EARTH PRESSURE AND POTENTIAL EXCAVATION INSTABILITY.
5. AS IDENTIFIED ON THIS PLAN, THE EXISTING CANE BINS FALL WITHIN THE ZOI AND WILL BE RELOCATED PRIOR TO EARTHWORKS AS OUTLINED IN THE CONSTRUCTION SEQUENCE (DWG NO. 001).
6. THESE SETBACKS MUST BE READ IN CONJUNCTION WITH THE FULL GEOTECHNICAL PARAMETERS, MATERIAL SPECIFICATIONS, AND CONSTRUCTION METHODOLOGY OUTLINED IN THE GENERAL NOTES ON DWG ETSP0000073–001.

SITE CONSTRAINTS AND SETBACK PLAN

SCALE 1:200

A1 SCALE 1:200
A3 SCALE 1:400

0 5 10 15 20 25 (m)

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Title: 36 OCEAN VIEW ROAD
SITE CONSTRAINTS AND SETBACK PLAN

Scale at A1: 1:200
Project No: ETSP0000073
Drawing No: 009
Rev: 1