

40-2015-88-1

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BUILDING SURVEYORS

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PORT DOUGLAS OFFICE

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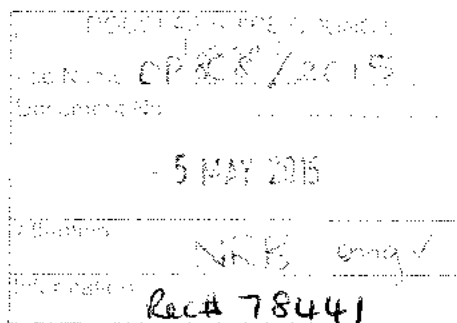
Lot 9 Unit 5
Craigie Business Park
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CRAIGIE QLD 4877

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PORT DOUGLAS QLD 4877

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Web: www.gmacert.com.au

4 May 2015

The Chief Executive Officer
Douglas Shire Council
PO Box 723
MOSSMAN Q 4873



Attention: Development Assessment – Mr Neil Beck

Dear Sir,

**Re: Application for Operational Works
Lot 2 RP742318 Murphy Street, Port Douglas**

The Material Change of Use decision notice issued for the above property (MCUC15/2014) was approved with conditions on 15 December 2014. Specifically, conditions 5, 6 & 13 required the submission of an operational works application to Council for external works, geotechnical confirmation and landscaping work to be carried out as part of the development.

We are advised by the applicant that the landscaping works requirement has been satisfied.

Therefore, please find the attached application for Operational Works including external works and geotechnical confirmation regarding the above development. The application includes:

1. IDAS Forms 1 & 6;
2. 3 x copies of plans; and,
3. Geotechnical Report including email confirmation of specific site issues.

Should you require any further information or wish to discuss the application, please contact me on 4098 5150 or by email jevans@gmacert.com.au

Kind Regards,

GMA Certification Group
Encl.

BUILDING APPROVALS & INSPECTIONS

BUILDING CERTIFICATION

FIRE SAFETY AUDITS

Gold Coast
(07) 5578 1622

Sunshine Coast
(07) 5449 0383

Clonoury
(07) 4742 2022

Chinchilla
(07) 4669 1166

Atherton
(07) 4091 4196

Childers
(07) 4126 3069

IDAS form 1—Application details

(Sustainable Planning Act 2009 version 4.1 effective 4 July 2014)

This form must be used for **ALL** development applications.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete this form (*IDAS form 1—Application details*)
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form and any other IDAS form relevant to your application must be used for development applications 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*. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

PLEASE NOTE: This form is not required to accompany requests for compliance assessment.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

Applicant details (Note: the applicant is the person responsible for making the application and need not be the owner of the land. The applicant is responsible for ensuring the information provided on all IDAS application forms is correct. Any development permit or preliminary approval that may be issued as a consequence of this application will be issued to the applicant.)

Name/s (individual or company name in full)

GMA CERTIFICATION GROUP

For companies, contact name

JEFF EVANS

Postal address

P.O. Box 831

Suburb

PORT DOUGLAS

State

Qld

Postcode

4877

Country

Australia

Contact phone number

(07) 4098 5150

Mobile number (non-mandatory requirement)

Fax number (non-mandatory requirement)

Email address (non-mandatory requirement)

darryl

@ dpa-architects.com

Applicant's reference number (non-mandatory requirement)

1. What is the nature of the development proposed and what type of approval is being sought?

Table A—Aspect 1 of the application (If there are additional aspects to the application please list in Table B—Aspect 2.)

- a) What is the nature of the development? (Please only tick one box.)
- Material change of use ☐ Reconfiguring a lot ☐ Building work ☐ Operational work ☒
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☒ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
- CIVIL WORKS
- d) What is the level of assessment? (Please only tick one box.)
- ☐ Impact assessment ☒ Code assessment

Table B—Aspect 2 of the application (If there are additional aspects to the application please list in Table C—Additional aspects of the application.)

- a) What is the nature of development? (Please only tick one box.)
- ☐ Material change of use ☐ Reconfiguring a lot ☐ Building work ☐ Operational work
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☐ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
- d) What is the level of assessment?
- ☐ Impact assessment ☐ Code assessment

Table C—Additional aspects of the application (If there are additional aspects to the application please list in a separate table on an extra page and attach to this form.)

- ☐ Refer attached schedule ☐ Not required

2. Location of the premises (Complete Table D and/or Table E as applicable. Identify each lot in a separate row.)

Table D—Street address and lot on plan for the premises or street address and lot on plan for the land adjoining or adjacent to the premises (Note: this table is to be used for applications involving taking or interfering with water). (Attach a separate schedule if there is insufficient space in this table.)

- ☒ Street address **and** lot on plan (All lots must be listed.)
☐ Street address **and** lot on plan for the land adjoining or adjacent to the premises (Appropriate for development in water but adjoining or adjacent to land, e.g. jetty, pontoon. All lots must be listed.)

Street address					Lot on plan description		Local government area (e.g. Logan, Cairns)
Lot	Unit no.	Street no.	Street name and official suburb/ locality name	Post-code	Lot no.	Plan type and plan no.	
i)		1	Murphy Street, Port Douglas	4877	2	RP 742318	Port Douglas
ii)							
iii)							

Planning scheme details (If the premises involves multiple zones, clearly identify the relevant zone/s for each lot in a separate row in the below table. Non-mandatory)

Lot	Applicable zone / precinct	Applicable local plan / precinct	Applicable overlay/s
i)			
ii)			
iii)			

Table E—Premises coordinates (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.) (Attach a separate schedule if there is insufficient space in this table.)

Coordinates (Note: place each set of coordinates in a separate row)				Zone reference	Datum	Local government area (if applicable)
Easting	Northing	Latitude	Longitude			
					<input type="checkbox"/> GDA94 <input type="checkbox"/> WGS84 <input type="checkbox"/> other	

3. Total area of the premises on which the development is proposed (indicate square metres)

638

4. Current use/s of the premises (e.g. vacant land, house, apartment building, cane farm etc.)

Vacant land

5. Are there any current approvals (e.g. a preliminary approval) associated with this application? (Non-mandatory requirement)

No ☐ Yes—provide details below ☒

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)
MLUC 15/2014	16 DECEMBER 2014	16 DECEMBER 2018

6. Is owner's consent required for this application? (Refer to notes at the end of this form for more information.)

X No

☐ Yes—complete either Table F, Table G or Table H as applicable

Table F


Name of owner/s of the land	MARY ANNE RUNCIMAN
I/We, the above-mentioned owner/s of the land, consent to the making of this application.	
Signature of owner/s of the land	
Date	1-5-15

Table G

Name of owner/s of the land	
<input type="checkbox"/> The owner's written consent is attached or will be provided separately to the assessment manager.	

Table H

Name of owner/s of the land	
<input type="checkbox"/> By making this application, I, the applicant, declare that the owner has given written consent to the making of the application.	

7. Identify if any of the following apply to the premises (Tick applicable box/es.)

- ☐ Adjacent to a water body, watercourse or aquifer (e.g. creek, river, lake, canal)—complete Table I
- ☐ On strategic port land under the *Transport Infrastructure Act 1994*—complete Table J
- ☐ In a tidal water area—complete Table K
- ☐ On Brisbane core port land under the *Transport Infrastructure Act 1994* (No table requires completion.)
- ☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* (no table requires completion)
- ☐ Listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* (no table requires completion)

Table I

Name of water body, watercourse or aquifer

Table J

Lot on plan description for strategic port land	Port authority for the lot

Table K

Name of local government for the tidal area (if applicable)	Port authority for the tidal area (if applicable)

- 8. Are there any existing easements on the premises?** (e.g. for vehicular access, electricity, overland flow, water etc)

X No ☐ Yes—ensure the type, location and dimension of each easement is included in the plans submitted

- 9. Does the proposal include new building work or operational work on the premises?** (Including any services)

☐ No X Yes—ensure the nature, location and dimension of proposed works are included in plans submitted

- 10. Is the payment of a portable long service leave levy applicable to this application?** (Refer to notes at the end of this form for more information.)

☐ No—go to question 12 X Yes

- 11. Has the portable long service leave levy been paid?** (Refer to notes at the end of this form for more information.)

No

☒ Yes—complete Table L and submit with this application the yellow local government/private certifier's copy of the receipted QLeave form

Table L

Amount paid	Date paid (dd/mm/yy)	QLeave project number (6 digit number starting with A, B, E, L or P)

- 12. Has the local government agreed to apply a superseded planning scheme to this application under section 96 of the Sustainable Planning Act 2009?**

X No

☐ Yes—please provide details below

Name of local government	Date of written notice given by local government (dd/mm/yy)	Reference number of written notice given by local government (if applicable)

- 13. List below all of the forms and supporting information that accompany this application** (Include all IDAS forms, checklists, mandatory supporting information etc. that will be submitted as part of this application. Note: this question does not apply for applications made online using MyDAS)

Description of attachment or title of attachment	Method of lodgement to assessment manager
IDAS Form 1	
IDAS Form 6	
CIVIL PLANS	

14. Applicant's declaration

X By making this application, I declare that all information in this application is true and correct (Note: it is unlawful to provide false or misleading information)

Notes for completing this form

- Section 261 of the *Sustainable Planning Act 2009* prescribes when an application is a properly-made application. Note, the assessment manager has discretion to accept an application as properly made despite any non-compliance with the requirement to provide mandatory supporting information under section 260(1)(c) of the *Sustainable Planning Act 2009*

Applicant details

- Where the applicant is not a natural person, ensure the applicant entity is a real legal entity.

Question 1

- Schedule 3 of the *Sustainable Planning Regulation 2009* identifies assessable development and the type of assessment. Where schedule 3 identifies assessable development as "various aspects of development" the applicant must identify each aspect of the development on Tables A, B and C respectively and as required.

Question 6

- Section 263 of the *Sustainable Planning Act 2009* sets out when the consent of the owner of the land is required for an application. Section 260(1)(e) of the *Sustainable Planning Act 2009* provides that if the owner's consent is required under section 263, then an application must contain, or be accompanied by, the written consent of the owner, or include a declaration by the applicant that the owner has given written consent to the making of the application. If a development application relates to a state resource, the application is not required to be supported by evidence of an allocation or entitlement to a state resource. However, where the state is the owner of the subject land, the written consent of the state, as landowner, may be required. Allocation or entitlement to the state resource is a separate process and will need to be obtained before development commences.

Question 7

- If the premises is listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* it may be necessary to seek compliance assessment. Schedule 18 of the *Sustainable Planning Regulation 2009* identifies where compliance assessment is required.

Question 11

Question 12

- The portable long service leave levy need not be paid when the application is made, but the *Building and Construction Industry (Portable Long Service Leave) Act 1991* requires the levy to be paid before a development permit is issued.
- Building and construction industry notification and payment forms are available from any Queensland post office or agency, on request from QLeave, or can be completed on the QLeave website at www.qleave.qld.gov.au. For further information contact QLeave on 1800 803 481 or visit www.qleave.qld.gov.au.

Privacy—The information collected in this form will be used by the Department of State Development, Infrastructure and Planning (DSDIP), assessment manager, referral agency and/or building certifier in accordance with the processing and assessment of your application. Your personal details should not be disclosed for a purpose outside of the IDAS process or the provisions about public access to planning and development information in the *Sustainable Planning Act 2009*, except where required by legislation (including the *Right to Information Act 2009*) or as required by Parliament. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

OFFICE USE ONLY

Date received

Reference numbers

NOTIFICATION OF ENGAGEMENT OF A PRIVATE CERTIFIER

To Council. I have been engaged as the private certifier for the building work referred to in this application

Date of engagement	Name	BSA Certification license number	Building classification/s
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

QLEAVE NOTIFICATION AND PAYMENT (For completion by assessment manager or private certifier if applicable.)

Description of the work	QLeave project number	Amount paid (\$)	Date paid	Date receipted form sighted by assessment manager	Name of officer who sighted the form
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 6—Building or operational work assessable against a planning scheme

(Sustainable Planning Act 2009 version 3.0 effective 1 July 2013)

This form must be used for development applications for building work or operational work assessable against a planning scheme.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form must be used for building work or operational work relating on 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* that requires assessment against the land use plan for that land. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

1. **What is the nature of the work that requires assessment against a planning scheme?** (Tick all applicable boxes.)

- ☐ Building work—complete Table A ☒ Operational work—complete Table B

Table A

a) What is the nature of the building work (e.g. building, repairing, altering, underpinning, moving or demolishing a building)?

b) Are there any current approvals associated with this application? (e.g. material change of use.)

- ☐ No ☐ Yes— provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)

Table B

a) What is the nature of the operational work? (Tick all applicable boxes.)

- ☐ Road works
 ☒ Stormwater
 ☐ Water infrastructure
☒ Drainage works
 ☒ Earthworks
 ☐ Sewerage infrastructure
☐ Landscaping
 ☐ Signage
 ☐ Clearing vegetation under the planning scheme
☐ Other—provide details

b) Is the operational work necessary to facilitate the creation of new lots? (E.g. subdivision.)

- ☒ No
 ☐ Yes—specify the number of lots being created

c) Are there any current approvals associated with this application? (E.g. material change of use.)

- ☐ No
 ☐ Yes—provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)
MCUL 15/2014	16 DECEMBER 2014	16 DECEMBER 2018

2. What is the dollar value of the proposed building work?
(Inc GST, materials and labour.)

\$

3. What is the dollar value of the proposed operational work?
(Inc GST, materials and labour.)

\$ 38,000

Mandatory supporting information

4. Confirm that the following mandatory supporting information accompanies this application

Mandatory supporting information	Confirmation of lodgement	Method of lodgement
All applications involving building work or operational work		
A site plan drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which shows the following: <ul style="list-style-type: none"> the location and site area of the land to which the application relates (<i>relevant land</i>) the north point the boundaries of the relevant land the allotment layout showing existing lots, any proposed lots (including the dimensions of those lots), existing or proposed road reserves, building envelopes and existing or proposed open space (note: numbering is required for all lots) any existing or proposed easements on the relevant land and their function any access limitation strips all existing and proposed roads and access points on the relevant land. 	<input checked="" type="checkbox"/> Confirmed	

A statement about how the proposed development addresses the local government's planning schemes and any other planning documents relevant to the application.	<input checked="" type="checkbox"/> Confirmed	
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for building work (including extensions and demolition that is assessable development)		
Floor plans drawn to an appropriate scale (1:50, 1:100 or 1:200 are recommended scales) which show the following: <ul style="list-style-type: none"> the north point the intended use of each area on the floor plan (for commercial, industrial or mixed use developments only) the room layout (for residential development only) with all rooms clearly labelled the existing and the proposed built form (for extensions only) the gross floor area of each proposed floor area. 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Elevations drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which show plans of all building elevations and facades, clearly labelled to identify orientation (e.g. north elevation).	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Plans showing the size, location, proposed site cover, proposed maximum number of storeys, and proposed maximum height above natural ground level of the proposed new building work.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Plans showing the extent of any demolition that is assessable development.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving earthworks (filling and excavating)		
Drawings showing: <ul style="list-style-type: none"> existing and proposed contours areas to be cut and filled the location and level of any permanent survey marks or reference stations used as datum for the works the location of any proposed retaining walls on the relevant land and their height the defined flood level (if applicable) the fill level (if applicable). 	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving roadworks		
Drawings showing: <ul style="list-style-type: none"> existing and proposed contours the centreline or construction line showing chainages, bearings, offsets if the construction line is not the centreline of the road and all intersection points information for each curve including tangent point chainages and offsets, curve radii, arc length, tangent length, superelevation (if applicable) and curve widening (if applicable) kerb lines including kerb radii (where not parallel to centreline) and tangent point changes (where not parallel to centreline) edge of pavement where kerb is not constructed position and extent of channelisation location and details of all traffic signs, guideposts, guardrail and other street furniture pavement markings including details on raised pavement markers 	<input type="checkbox"/> Confirmed <input checked="" type="checkbox"/> Not applicable	

<ul style="list-style-type: none"> • catchpit, manhole and pipeline locations • drainage details (if applicable) • cross road drainage culverts (if applicable) • concrete footpaths and cycle paths • location and details for access points, ramps and invert crossings • changes in surfacing material. 		
Applications for operational work involving stormwater drainage		
Drawings showing: <ul style="list-style-type: none"> • existing and proposed contours • drainage locations, diameters and class of pipe, open drains and easements • manhole location, chainage and offset or coordinates and inlet and outlet invert levels • inlet pit locations, chainage and offset or coordinates and invert and kerb levels. 	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving water reticulation		
Drawings showing: <ul style="list-style-type: none"> • kerb lines or edge of pavement where kerb is not constructed • location and levels of other utility services where affected by water reticulation works • pipe diameter, type of pipe and pipe alignment • water main alignments • water supply pump station details (if applicable) • minor reservoir details (if applicable) • conduits • location of valves and fire hydrants • location of house connections (if applicable) • location of bench marks and reference pegs. 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving sewerage reticulation		
Drawings showing: <ul style="list-style-type: none"> • location of all existing and proposed services • location of all existing and proposed sewer lines and manhole locations • location of all house connection branches • kerb lines or edge of pavement where kerb is not constructed • chainages • design sewer invert levels • design top of manhole levels • type of manhole and manhole cover • pipe diameter, type of pipe and pipe alignment • location of house connections (if applicable) • sewer pump station details (if applicable). 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving street lighting		
Drawings showing: <ul style="list-style-type: none"> • location of all light poles and service conduits • location of all other cross road conduits • type of wattage and lighting • any traffic calming devices • additional plans for roundabouts and major roads (if applicable) • details of any variations to normal alignment 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	

<ul style="list-style-type: none"> • details of lighting levels. 		
Applications for operational work involving public utility services		
Drawings showing: <ul style="list-style-type: none"> • any existing light poles and power poles • any existing underground services • details of proposed services • alteration to existing services. 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Applications for operational work involving landscaping works		
Drawings showing: <ul style="list-style-type: none"> • the location of proposed plant species • a plant schedule indicating common and botanical names, pot sizes and numbers of plants • planting bed preparation details including topsoil depth, subgrade preparation, mulch type and depth, type of turf, pebble, paving and garden edge • the location and type of any existing trees to be retained • construction details of planter boxes, retaining walls and fences • the proposed maintenance period • irrigation system details. 	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

OFFICE USE ONLY

Date received

Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

Jeff Evans

From: CACE - Joy Domondon <cace@cofax.net>
Sent: Monday, 4 May 2015 2:53 PM
To: Jeff Evans
Subject: Fw: Doc 435953 130066 Runcimen - 1 Murphy Street, Port Douglas

Hi Jeff,

As per conversation with Bob earlier, see email's below regarding 1 Murphy Street, Port Douglas.

Regards,
Joy

From: Jenny Elphinstone
Sent: Friday, December 12, 2014 9:06 AM
To: 'CACE - Joy Domondon'
Cc: 'Darryl'
Subject: RE: Doc 435953 130066 Runcimen - 1 Murphy Street, Port Douglas

Thanks Joy.

Jenny Elphinstone | Senior Planning Officer

Development & Environment | Douglas Shire Council

P: 07 4099 9482 | F: 07 4098 2902

E: jenny.elphinstone@douglas.qld.gov.au | W: douglas.qld.gov.au

Mail: PO Box 723, Mossman Q 4873 | Office: 64-66 Front St, Mossman Q 4873

From: CACE - Joy Domondon [mailto:cace@cofax.net]
Sent: Wednesday, 10 December 2014 7:25 AM
To: Jenny Elphinstone
Subject: Doc 435953 130066 Runcimen - 1 Murphy Street, Port Douglas

Hi Jenny,

See email below from Golder Associates.

Kind Regards,
Joy

From: Ortega, Ignacio
Sent: Tuesday, December 09, 2014 5:27 PM
To: CACE - Admin 2
Subject: RE: Runcimen - 1 Murphy Street, Port Douglas

Hi Bob and Ash

With regards to your email below, we provide the following comments:

- According to the information provided by you, the proposed building will incorporate a suspended floor slab and will be supported by bored piers and strip footings founded within the recommended founding soils (as per Section 4.6 of Golder report 04672000-1(B)).

- The proposal to adopt piered structures supported below the fill inferred to be present in the western part of the site addresses issues associated with footing performance. Localised slope failures may still occur, however landscape planting to Douglas Shire Council requirements will reduce the potential for this.
- Our report 04672000-1(B) dated January 2004 does not strictly follow the risk assessment approach indicated in AGS 2007. However, the report provides engineering recommendations to achieve an "equivalent" very low to low risk to property in terms of stability issues.

Do not hesitate to contact me should you want to discuss on the above.

Kind regards
Ignacio

Ignacio Ortega (MEng (Civil Engineering), MIEAust, CEng-MSpICE) | Senior Geotechnical Engineer | Golder Associates Pty Ltd
 216 Draper Street, Cairns, Queensland 4870, Australia (PO Box 5823, Cairns QLD 4870)
 T: +61 7 4054 8200 | F: +61 7 4054 8201 | E: IOrtega@golder.com.au | www.golder.com

Winner of 22 BRW Client Choice Awards

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From: CACE - Admin 2 [<mailto:cace@cofax.net>]
Sent: Tuesday, 2 December 2014 1:53 PM
To: Ortega, Ignacio
Subject: Runcimen - 1 Murphy Street, Port Douglas

Hi Ignacio,

Further to your discussions with our office I summarise below my understanding of your comments, and my responses in blue to the issues raised:

- The Golders report 04672000-1(B) of 2004 is compliant with AGS 2007
- If the design follows the guidelines in the Golders report of 2004 then it would be considered as 'low risk' in terms of slope stability issues
- The guideline in the 2004 report of removing and replacing existing fill has not been addressed in the current design - The current design will not be putting any support onto any fill – all structure over the fill is to be suspended with support founded through the fill into sound residual material to a depth that will adequately accept the load without loading the batter.
- The existing batter is not stable in the long term – It is our belief that the batter will be stabilised by the piered structures tied back into the main structure footings on the building platform cut into natural residual foundations.
- If the existing fill is to be left as is, the batter should be retained – No fill batters will be disturbed apart from landscape planting which will be designed to further stabilise the batters (design to be by John Sullivan of 'Hortulus' landscape design to Douglas Shire Council requirements).

Also find attached our proposed footing design and building platform preparation specification.

Given the above comments and our attached design will your office provide us with a fee to review our documentation and advise on any revisions required to enable you to issue a cover letter to your 2004 report for Douglas Shire Council stating that the report as is is compliant with AGS 2007.

Let me know if you need anything further from our office or if you feel my understanding of your comments is in any way inadequate.

Regards
Bob

Colefax Associates Consulting Engineers Pty Ltd
124 Spence Street Cairns
PO Box 1769 Cairns QLD 4870
Tel +61 7 4051 9466
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REPORT ON

**GEOTECHNICAL INVESTIGATION
PROPOSED DEVELOPMENT
LOT 2 MURPHY STREET
PORT DOUGLAS, QUEENSLAND**

Submitted to:

Stephen Ariss
8 Latitude
Murphy Street
Port Douglas QLD 4871

DISTRIBUTION:

- 2 Copies - Stephen Ariss
- 1 Copy - Golder Associates Pty Ltd

January, 2004

04672000-1(B)



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 Appendix C "Important Information About Your Geotechnical Engineering Report"

1.0 INTRODUCTION

Golder Associates has carried out a geotechnical investigation on Lot 2, RP 742318, Murphy Street, Port Douglas. The investigation was carried out at the request of Mr Stephen Ariss and was authorised via facsimile on 15 January 2004.

The aims of the investigation were as follows:

- to evaluate subsurface conditions at the site;
- to comment on the stability of the slopes following proposed development;
- to comment on site preparation and earthworks procedures;
- to comment on the requirement for slope stabilisation/retention and to provide comments on stabilisation/retention options; and
- to comment on footing options and to provide geotechnical design parameters.

This report presents the results of the investigation together with the engineering comments outlined above.

2.0 METHOD OF INVESTIGATION

2.1 Fieldwork

Fieldwork was carried out on 21 January 2004 and comprised a walk over survey of the site, the drilling of two auger holes (HA1 and HA2) and mapping of the existing cutting at two locations (EX1 and EX2).

An engineering geologist from Golder Associates positioned the test holes, logged the materials encountered, recovered samples and carried out field tests. The approximate locations of the field tests are shown in Figure 1. The results of fieldwork are presented in Appendix A.

2.2 Laboratory Testing

Laboratory testing was carried out on one sample of the materials encountered in the test holes and comprised grading and plasticity tests to confirm field classifications. The laboratory test results are presented in Appendix B and are summarised as follows:

Test Pit No.	HA1
Sample Depth (m)	0.1 – 0.5
Moisture Content (%)	14.8
Liquid Limit (%)	30
Plastic Limit (%)	17
Plasticity Index	13
Percentage Fines (%<75µm)	51
Sample Description	Silty Sandy CLAY

3.0 RESULTS OF INVESTIGATION

3.1 Surface Conditions

The site is located on the western side of Murphy Street and occupies a square shaped area measuring about 25 m by 25 m on a hillside allotment (refer attached Site Plan). It is understood that the existing house at the site was constructed in about 1971. There are existing residences to the north, west and south of the site.

Generally, the site slopes down from Murphy Street to the crest of a cut batter, which then slopes down to the west to the existing building platform. The cut batter has an intermediate berm / walkway and varies in height from about 1 m at the northern end of the site, to about 4 m at the southern end of the site. The cut batter slopes vary from about 30° (northern end) to about 45° (southern end).

The batter below the existing building slopes down to the north-west and west from the existing building platform at 45° to 60° and ranges in height from about 5 m to 7 m.

An access driveway starts from Murphy Street and runs diagonally across the slope towards the existing building platform. Below the driveway and part of the building platform to the north there is a concrete wall up to 4 m high located within the adjacent property.

Other observations in relation to the existing residence and the overall stability of the site are summarised as follows:

- Minor cracking was observed at the base of the brickwork on the western side of the existing residence.
- Minor undercutting and erosion was observed in the steeper areas upslope of the existing residence, with one minor slip observed in the cut batter to the north-east of the residence.

- Boulders were observed on/in the cut batter to the east of the residence.
- A sleeper garden wall is located upslope and to the east of the existing residence.
- The slope below the building platform is very steep and heavily overgrown. It is possible that parts of the slope are covered by fill materials.
- The concrete wall to the north-west of the site is intact, and exhibits no visible signs of deterioration. It is not known whether subsurface drainage was installed behind the wall during construction.

Apart from the building platform and access driveway areas, the other relatively level and gently sloping areas of the site are currently covered by garden beds. The surface of the slopes above the existing house are sparsely grassed with a few trees, whilst below the house, the slopes are heavily grassed and are overgrown.

3.2 Subsurface Conditions

The subsurface conditions encountered in test holes and exposed in the cut slope above the existing building indicate that the subsurface conditions at the site generally consist of a layer of stiff silty sandy clay.

The existing building platform was apparently formed by cut and fill earthworks. The foundation conditions on the building platform should comprise primarily residual silty sandy clay with probably silty sandy clay fill material towards the western end of the platform.

Groundwater was not encountered in the test holes to the depths investigated.

4.0 ENGINEERING COMMENTS

4.1 General

It is understood that the proposed development comprises a two level building on the existing building platform. It is further understood that there are no major earth works proposed. Engineering comments regarding stability, cut and fill earthworks, retaining structures and footings are presented in the following sections.

4.2 Stability

No obvious signs of large scale instability was observed within the site during the walkover survey, although some small scale instability was observed in the cut batter to the east of the building platform.

It is considered that with the adoption of sound engineering practices relevant to hillside construction (ie. those outlined in the following sections), the proposed development is feasible from a geotechnical point of view and that the site following development should be stable. As is the case for all hillside developments in the Port Douglas area, some minor instability should be expected. This instability is expected to be in the form of relatively minor slips and slumps on locally steep slopes or unsupported batters during periods of prolonged rainfall.

4.3 Drainage

The stability of the site is highly dependent on the provision and maintenance of adequate drainage. Suggested drainage measures that should be implemented include the following:

- Concrete lined cut-off drains or similar measures to intercept run-off on the uphill side of the proposed building, along the crest of cut and fill batters, above retaining walls and along any access road.
- Provision of subsurface drainage behind retaining walls.

In addition to the above stormwater should be collected and discharged from the site via pipes or lined drains rather than be allowed to flow onto the ground

4.4 Cut and Fill Earthworks

It is understood that only minor cut and fill earthworks will be required on the existing building platform.

Fill materials may exist in the western edge of the existing platform. The quality and quantity of the fill material could not be assessed during the investigation due to the presence of the existing building at the time of the fieldwork. It is recommended that the fill materials be removed and re-compacted in accordance with the following procedures. The new fill batter should be limited to a maximum slope of 1V:2H and a height of 3 m. Batters which are steeper and/or higher than this should be supported by engineer designed retaining walls. Site preparation and earthworks procedures for filling should comprise the following:

- Strip and remove topsoil material greater than 150 mm in size, soil containing significant amounts of organic materials and debris materials resulting from demolition of the existing house;
- Excavate and stockpile existing fill suitable for replacement.
- Compact subgrade areas with a heavy roller to reveal soft or loose zones;
- Soft materials that can not be improved by compaction should be removed and replaced with engineered fill;

- Place fill in uniform horizontal layers not exceeding 200 mm loose thickness and compact to achieve a density ratio of at least 98% using Standard Compaction. Each layer should be keyed into natural ground. Filling should be constructed beyond the design profile and then trimmed to the design profile.

The insitu-natural materials and most of the existing fills are considered to be suitable for use as engineered fill. Compaction levels should be checked by field density testing during filling in accordance with AS3798-1996 – Guidelines on Earthworks for Commercial and Residential Development.

4.5 Retaining Structures

Retaining walls forming part of the buildings structure should be designed using an earth pressure coefficient of 0.6 for soils and engineered fill. For other retaining structures an earth pressure coefficient of 0.4 could be adopted. Due allowances should be made for any surcharge loads imposed on retaining walls. Footings for retaining walls should be founded at least 0.5 m into stiff silty sandy clay and can be designed using allowable bearing pressures up to 150 kPa.

4.6 Footings

Bored pier footings, if proposed, should extend at least 1 m into stiff silty sandy clay and can be designed using an allowable end bearing pressure of up to 200 kPa. If piers are adopted a side adhesion of up to 40 kPa may be adopted for uplift design, neglecting the contribution of the upper 1.0 m of soil.

Pad and strip footings in existing slopes should be keyed into the slope and founded at least 0.5 m into natural silty sandy clay. These footings may be designed for allowable bearing pressures of up to 100 kPa. Beams for slab-on-ground footings founded on cut surfaces and future engineered fill may be designed for allowable bearing pressures of up to 100 kPa.

Total settlement is estimated to be less than 10 mm for structures supported on bored piers and pad/strip footings founded in very stiff clays or stronger founding materials. However, total and differential settlement could be up to 20 mm for structures supported partially on cut and partially on engineered fill.

It is recommended that footing excavations be inspected by Golder Associates to confirm that founding conditions are consistent with those on which the design is based.

5.0 IMPORTANT INFORMATION

Your attention is drawn to the document - "Important Information About Your Geotechnical Engineering Report", which is included in Appendix C of this report. This document has been prepared by the ASFE (*Professional Firms Practicing in the Geosciences*), of which Golder Associates is a member. The statements presented in this document are intended 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 groundworks for this project. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

We would be pleased to answer any questions about this important information from the reader of this report.

GOLDER ASSOCIATES PTY LTD



Kejing Chen
Senior Engineer

KC/MSG/cps
\\GOLDER\CN\SUOBS\2\GEO04\04672000\TASK 1 - LOT 2 MURPHY STREET\72000-1RB.DOC

APPENDIX A

RESULTS OF FIELDWORK



REPORT OF BOREHOLE: HA1

CLIENT: Stephen Ariss
PROJECT: Lot 2 Murphy Street
LOCATION: Port Douglas
JOB NO: 04672000-1

POSITION:
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: mm HOLE DEPTH: 1.50 m

SHEET: 1 OF 1
DRILL RIG:
DRILLER:
LOGGED: SRF DATE: 21/1/04
CHECKED: *KL* DATE: *20/1/04*

Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
HA	L	M	Groundwater Not Encountered	0.0	DS 0.10-0.50m		CL	TOPSOIL:- Silty Sandy CLAY Low plasticity, dark brown.	M	S		
				0.30			CL	Silty Sandy CLAY Low plasticity, orange				
				0.5								
				0.80				Some gravel and coarse sand.				
HA	M	H	Groundwater Not Encountered	1.0	HAND AUGER DISCONTINUED @ 1.5m							
				1.5			1.50					
				2.0								
				2.5								
				3.0								
				3.5								
				4.0								
				4.5								
				5.0								
				5.5								

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL2




REPORT OF BOREHOLE: HA2

CLIENT: Stephen Ariss
PROJECT: Lot 2 Murphy Street
LOCATION: Port Douglas
JOB NO: 04672000-1

POSITION:
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: mm HOLE DEPTH: 1.30 m

SHEET: 1 OF 1
DRILL RIG:
DRILLER:
LOGGED: SRF DATE: 21/1/04
CHECKED: KC DATE: 30/1/04

Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	M	Groundwater Not Encountered	0.0					CL	TOPSOIL:- Silty SAND, fine to medium grain, brown	M	St	
			0.20	CL				Silty Sandy CLAY Low plasticity, orange brown, some gravel				
H			1.30						HAND AUGER DISCONTINUED @ 1.3m Due to Refusal			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL2




REPORT OF BOREHOLE: EX1

CLIENT: Stephen Ariss
PROJECT: Lot 2 Murphy Street
LOCATION: Port Douglas
JOB NO: 04672000-1

POSITION:
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: mm HOLE DEPTH: 2.00 m

SHEET: 1 OF 1
DRILL RIG:
DRILLER:
LOGGED: SRF DATE: 21/1/04
CHECKED: ICC DATE: 30/1/04

Drilling			Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EE		Groundwater Not Encountered	0.0		DS 1.50-1.60m		CL	Silty Sandy CLAY Low plasticity, brown, some cobbles gravel		
			0.5							
			1.0							
			1.5							
			2.0							
			2.5							
			3.0							
			3.5							
			4.0							
			4.5							
			2.00				EXPOSURE DISCONTINUED @ 2.0m			

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL2




REPORT OF BOREHOLE: EX2

CLIENT: Stephen Ariss
PROJECT: Lot 2 Murphy Street
LOCATION: Port Douglas
JOB NO: 04672000-1

POSITION:
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: mm HOLE DEPTH: 4.00 m

SHEET: 1 OF 1
DRILL RIG:
DRILLER:
LOGGED: SRF DATE: 21/1/04
CHECKED: KC DATE: 30/1/04

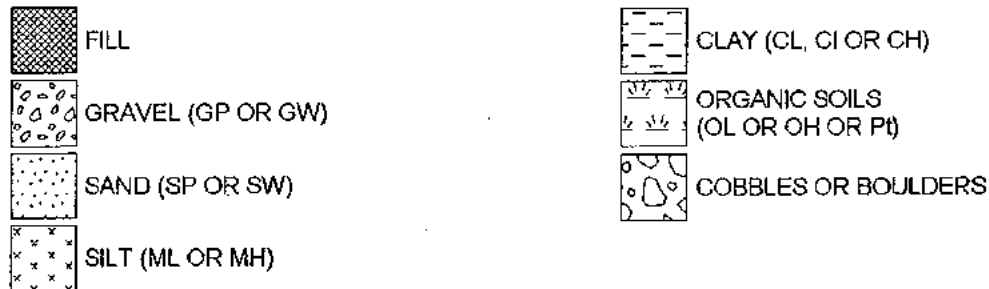
Drilling					Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
EE			0.0				CL	Silly Sandy CLAY Low plasticity, brown	P		
			0.5								
			1.0								
			1.20								
			1.5								
			2.0								
			2.5								
			3.0								
			3.5								
			4.0								
			4.00					EXPOSURE DISCONTINUED @ 4m			
			4.5								

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL2

METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT REPORTS

GRAPHIC LOG - TYPICAL SYMBOLS FOR SOILS



Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay.

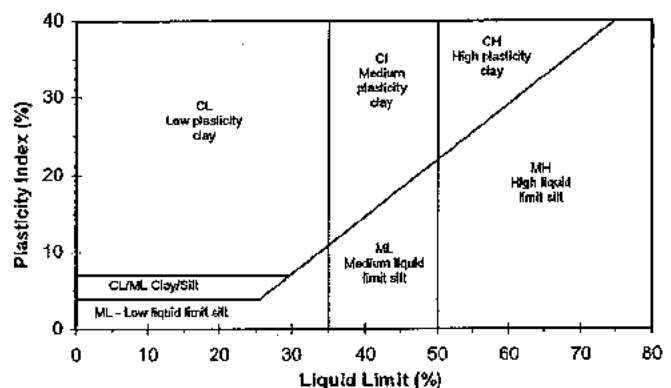
CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil and Rock is classified and described in Reports of Boreholes and Test Pits using the preferred method given in AS1726 - 1993, Appendix A. The material properties are assessed in the field by visual/tactile methods.

Particle Size

Major Division	Sub Division	Particle Size
BOULDERS		> 200 mm
COBBLES		63 to 200 mm
GRAVEL	Coarse	20 to 63 mm
	Medium	6.0 to 20 mm
	Fine	2.0 to 6.0 mm
SAND	Coarse	0.6 to 2.0 mm
	Medium	0.2 to 0.6 mm
	Fine	0.075 to 0.2 mm
SILT		0.002 to 0.075 mm
CLAY		< 0.002 mm

Plasticity Properties



MOISTURE CONDITION

AS1726 - 1993

Symbol	Term	Description
D	Dry	Sands and gravels are free flowing. Clays & Silts may be brittle or friable and powdery.
M	Moist	Soils are darker than in the dry condition & may feel cool. Sands and gravels tend to cohere.
W	Wet	Soils exude free water. Sands and gravels tend to cohere.

CONSISTENCY AND DENSITY

AS1726 - 1993

Symbol	Term	Undrained Shear Strength	Symbol	Term	Density Index %	SPT "N" #
VS	Very Soft	0 to 12 kPa	VL	Very Loose	Less than 15	0 to 4
S	Soft	12 to 25 kPa	L	Loose	15 to 35	4 to 10
F	Firm	25 to 50 kPa	MD	Medium Dense	35 to 65	10 to 30
St	Stiff	50 to 100 kPa	D	Dense	65 to 85	30 to 50
VSt	Very Stiff	100 to 200 kPa	VD	Very Dense	above 85	Above 50
H	Hard	above 200 kPa				

SPT correlations are not stated in AS1726 - 1993, and may be subject to corrections for overburden pressure and equipment type.

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.



EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT REPORTS

DRILLING/EXCAVATION METHOD

AS*	Auger Screwing	RD	Rotary blade or drag bit	HQ	Diamond Core - 63 mm
AD*	Auger Drilling	RT	Rotary Tricone bit	NMLC	Diamond Core - 52 mm
*V	V-Bit	RAB	Rotary Air Blast	NQ	Diamond Core - 47 mm
*T	TC-Bit, e.g. ADT	RC	Reverse Circulation	BH	Tractor Mounted Backhoe
HA	Hand Auger	PT	Push Tube	EX	Tracked Hydraulic Excavator
DTC	Diatube Coring	CT	Cable Tool Rig	EE	Existing Excavation
WB	Washbore or Bailer	JET	Jetting	HAND	Excavated by Hand Methods

PENETRATION/EXCAVATION RESISTANCE

- L** Low resistance. Rapid penetration possible with little effort from the equipment used.
- M** Medium resistance. Excavation/possible at an acceptable rate with moderate effort from the equipment used.
- H** High resistance to penetration/excavation. Further penetration is possible at a slow rate and requires significant effort from the equipment.
- R** Refusal or Practical Refusal. No further progress possible without the risk of damage or unacceptable wear to the digging implement or machine.

These assessments are subjective and are dependent on many factors including the equipment power, weight, condition of excavation or drilling tools, and the experience of the operator.

WATER



Water level at date shown



Partial water loss



Water inflow



Complete water loss

GROUNDWATER NOT OBSERVED

The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.

GROUNDWATER NOT ENCOUNTERED

The borehole/test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit been left open for a longer period.

SAMPLING AND TESTING

SPT	Standard Penetration Test to AS1289.6.3.1-1993
4,7,11 N=18	4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following 150mm seating
30/80mm	Where practical refusal occurs, the blows and penetration for that interval are reported
RW	Penetration occurred under the rod weight only
HW	Penetration occurred under the hammer and rod weight only
HB	Hammer double bouncing on anvil
DS	Disturbed sample
BDS	Bulk disturbed sample
G	Gas Sample
W	Water Sample
FP	Field permeability test over section noted
FV	Field vane shear test expressed as uncorrected shear strength s_v
PID	Photoluminescence Detector reading in ppm
PM	Pressuremeter test over section noted
PP	Pocket penetrometer test expressed as instrument reading in kPa
U63	Thin walled tube sample - number indicates nominal sample diameter in millimetres

Ranking of Visually Observable Contamination and Odour (for specific soil contamination assessment projects)

R = 0	No visible evidence of contamination	R = A	No non-natural odours identified
R = 1	Slight evidence of visible contamination	R = B	Slight non-natural odours identified
R = 2	Visible contamination	R = C	Moderate non-natural odours identified
R = 3	Significant visible contamination	R = D	Strong non-natural odours identified

ROCK CORE RECOVERY

TCR = Total Core Recovery (%)

SCR = Solid Core Recovery (%)

RQD = Rock Quality Designation (%)

$$= \frac{\text{Length of core recovered}}{\text{Length of core run}} \times 100$$

$$= \frac{\sum \text{Length of cylindrical core recovered}}{\text{Length of core run}} \times 100$$

$$= \frac{\sum \text{Axial lengths of core} > 100 \text{ mm}}{\text{Length of core run}} \times 100$$

APPENDIX B

RESULTS OF LABORATORY TESTING

PARTICLE SIZE DISTRIBUTION & CONSISTENCY LIMITS TEST REPORT

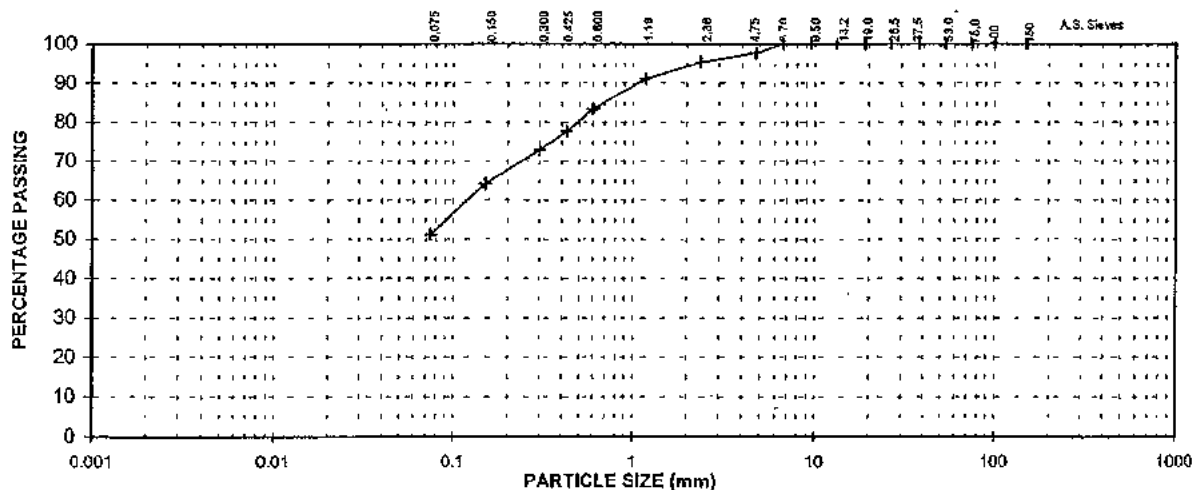
Client	Sira Properties	Job Number	04672000-1
Client Address	8 Latitude, 16 Murphy Street, Port Douglas, Qld 4871	Date	30-Jan-04
Project	Lot Murphy Street	Report Number	NQ-04018
Location	Port Douglas	Page No	1 of 1
Lab Ref No.	04/024	Sampling Method	As Supplied to Laboratory
		Sample Identification	AH1 0.1-0.5m

Laboratory Specimen Description
(AS1726, App A, Sect 2)

CL Silty sandy CLAY, low plasticity, red brown.

PARTICLE SIZE DISTRIBUTION AS1289 3.6.1				CLASSIFICATION LIMITS AND MOISTURE CONTENT				
Sieve Size	% Passing	Spec. Lower	Spec. Upper	Test	Method	Result	Spec. Lower	Spec. Upper
150 mm	100			Liquid Limit	%	AS1289 3.1.2	30	
100 mm	100			Plastic Limit	%	AS1289 3.2.1	17	
75 mm	100			Plasticity Index	%	AS1289 3.3.1	13	
53 mm	100			Linear Shrinkage	%	AS1289 3.4.1	ND	
37.5 mm	100			Moisture Content	%	AS1289 2.1.1	14.8	
26.5 mm	100			Sample History : Air dried Preparation Method : Dry sieved Crumbling / Curling of Linear Shrinkage : - Linear Shrinkage Mould Length : - NP = non-plastic NO = not obtainable ND = not determined				
19.0 mm	100							
13.2 mm	100							
9.5 mm	100							
6.7 mm	100							
4.75 mm	98							
2.36 mm	95							
1.18 mm	91							
0.600mm	83							
0.425mm	78							
0.300mm	73							
0.150mm	64							
0.075mm	51							

PARTICLE SIZE DISTRIBUTION



CLAY	SILT FRACTION			SAND FRACTION			GRAVEL FRACTION			COBBLES	BOULDERS	
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE			
	0.002	0.006	0.02	0.06	0.2	0.6	2	6	20	60	200	600



This laboratory is accredited by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of accreditation.

THIS DOCUMENT SHALL ONLY BE REPRODUCED IN FULL

Darryl Murphy

Laboratory Manager

AUTHORISED SIGNATORY

30-Jan-04

DATE

J:\2004\04672000-1\2000-1_018

APPENDIX C

“IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT”

Important Information About Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays,
cost overruns, claims and disputes.*

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfil the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you* – should apply the report for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report that was:*

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical change that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *Geotechnical Engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions *only* at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an *opinion* about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalise their recommendations only by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognise that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available*

to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognise that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labelled 'limitations', many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognise their own responsibilities and risks. *Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.*

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any *geoenvironmental* findings, conclusions, or recommendations, e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.*

Rely on Your Geotechnical Engineer for Additional Assistance

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE member geotechnical engineer for more information.



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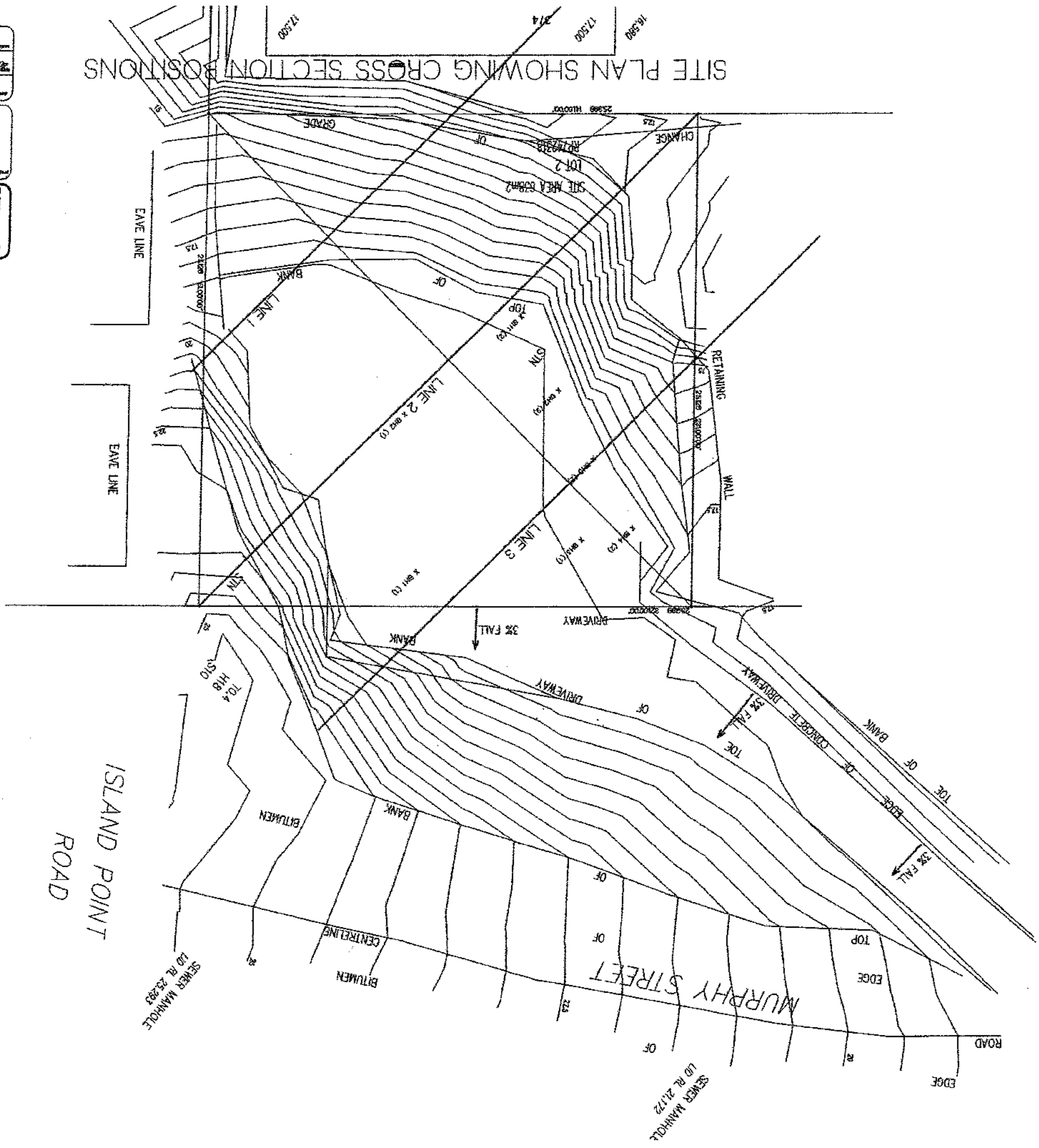
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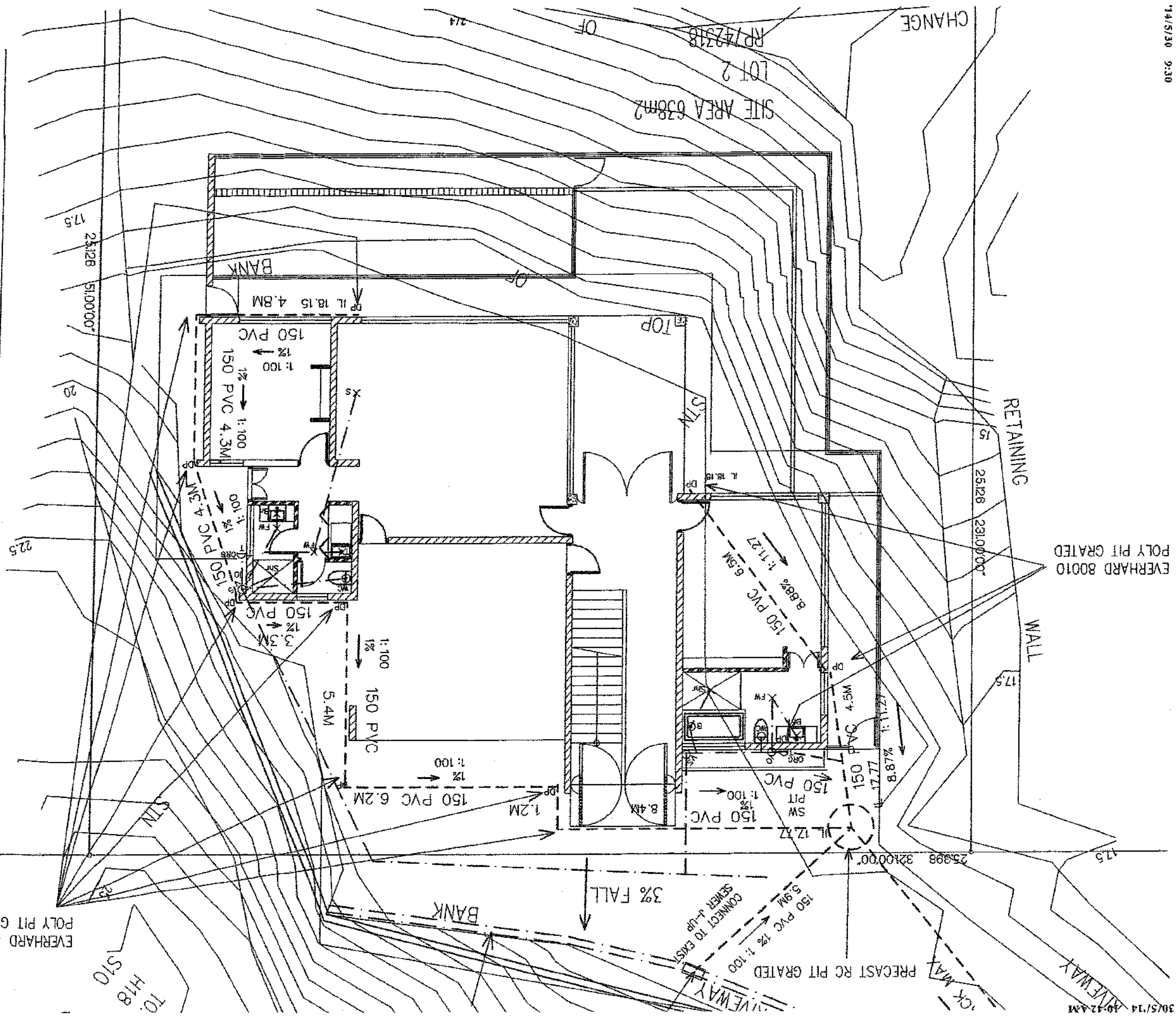


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PORT DOUGLAS

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Approved	<i>[Signature]</i>	JOB NO.	14176	01
Scale	1:200	Date	MAY 14	Proj. No.



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PROJECT: LOT 2 MURPHY STREET PORT DOUGLAS			
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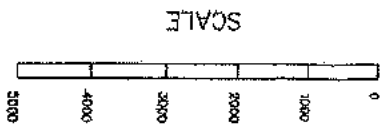
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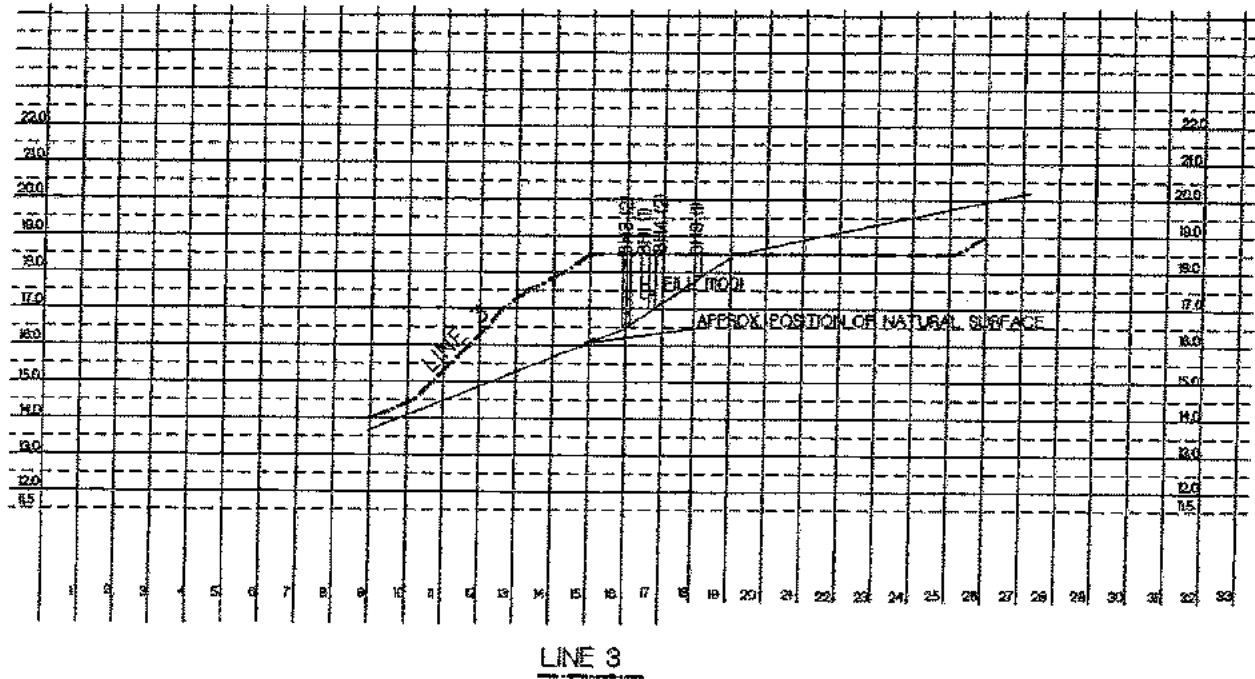
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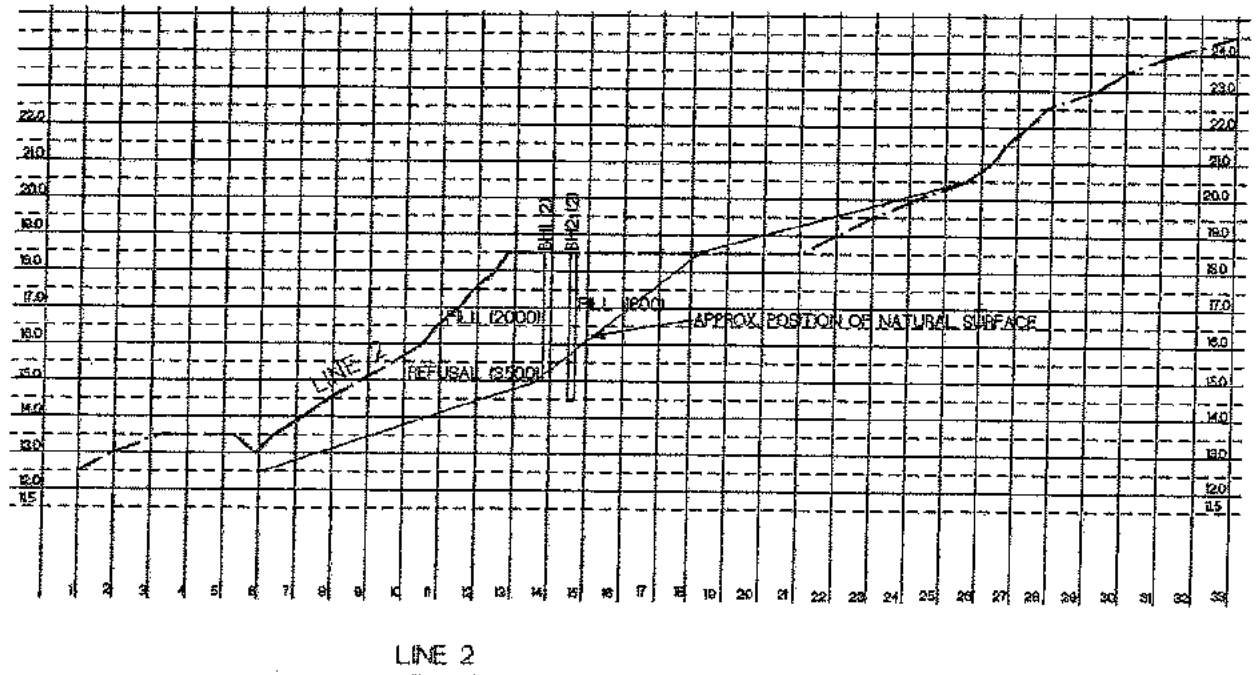
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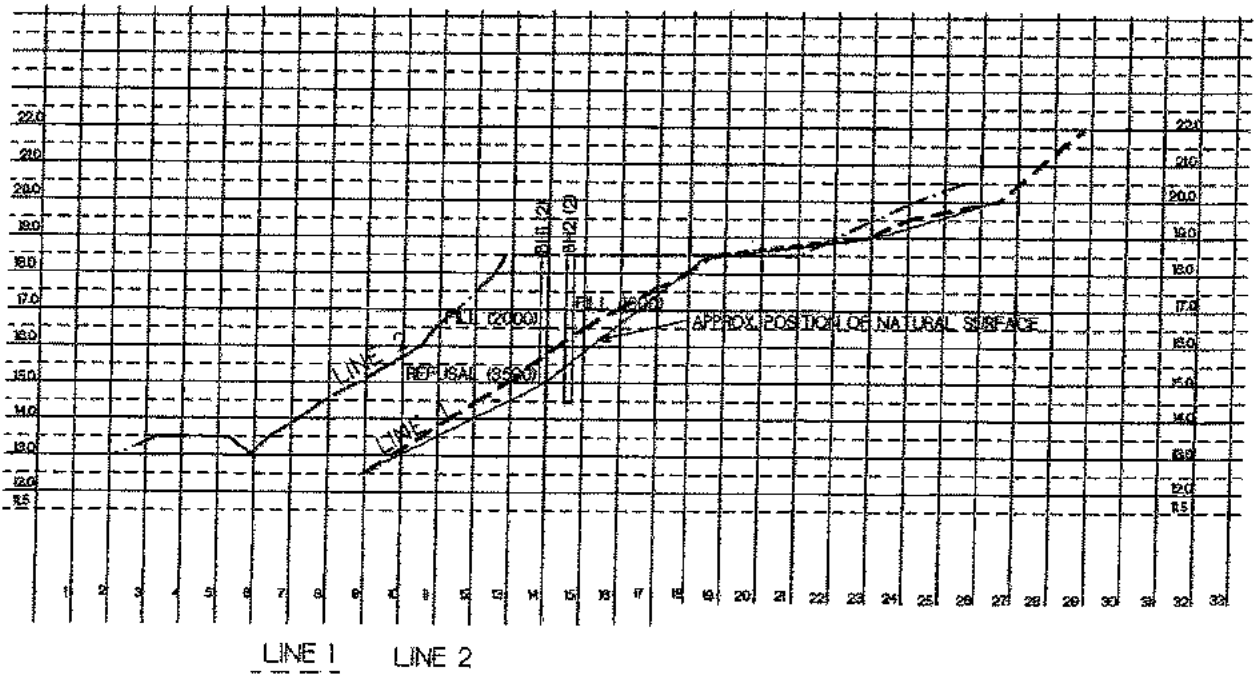




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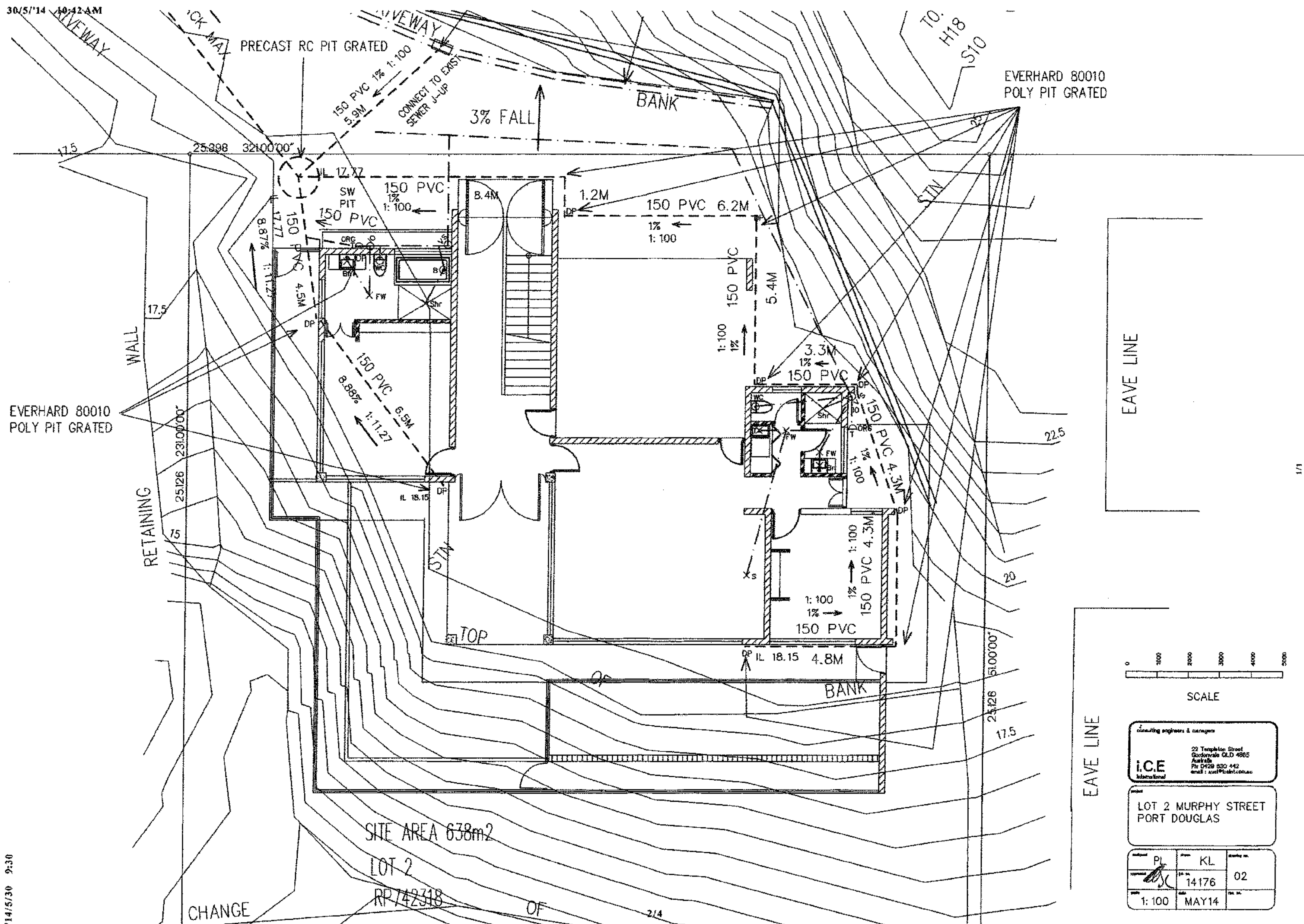
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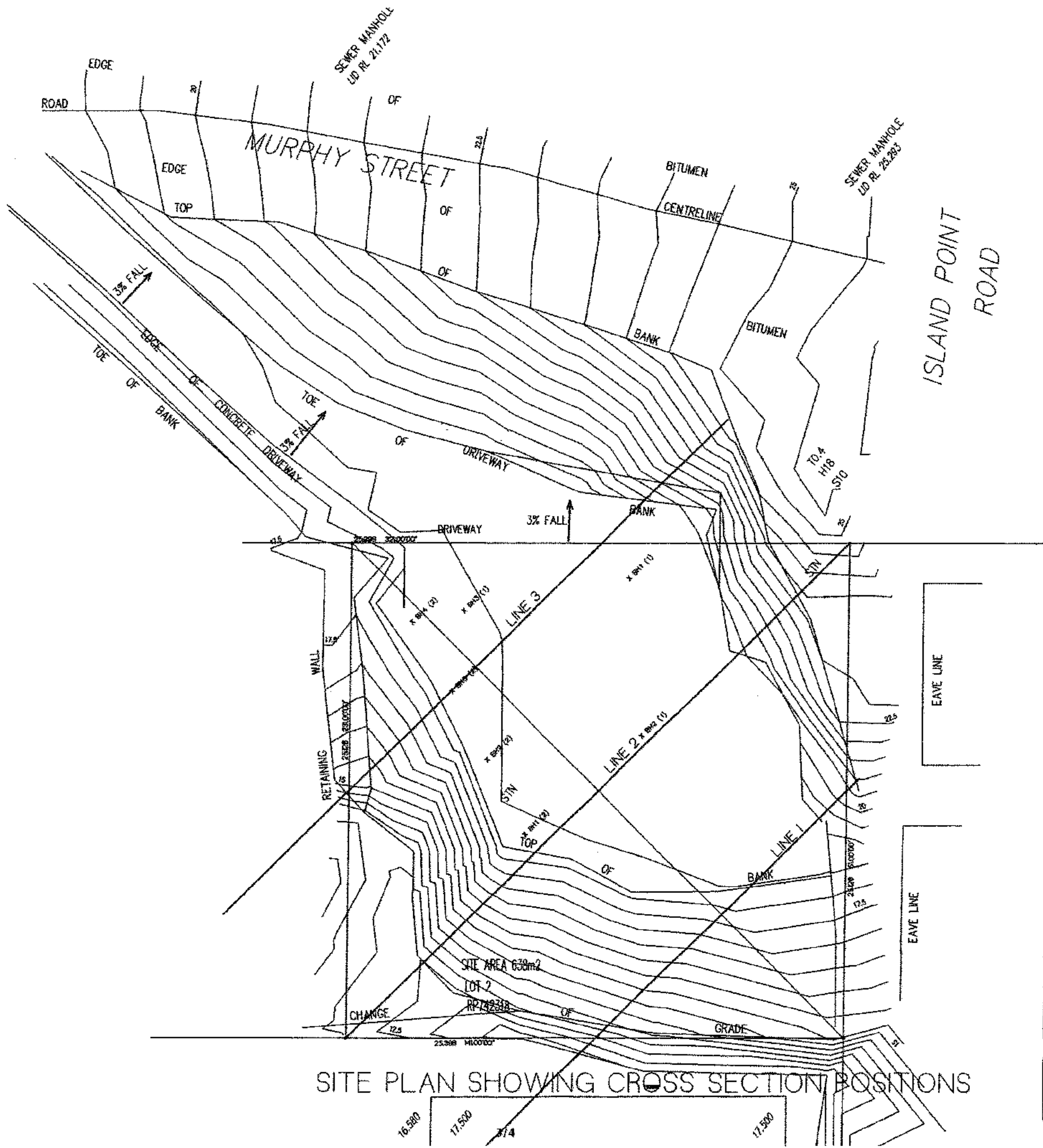
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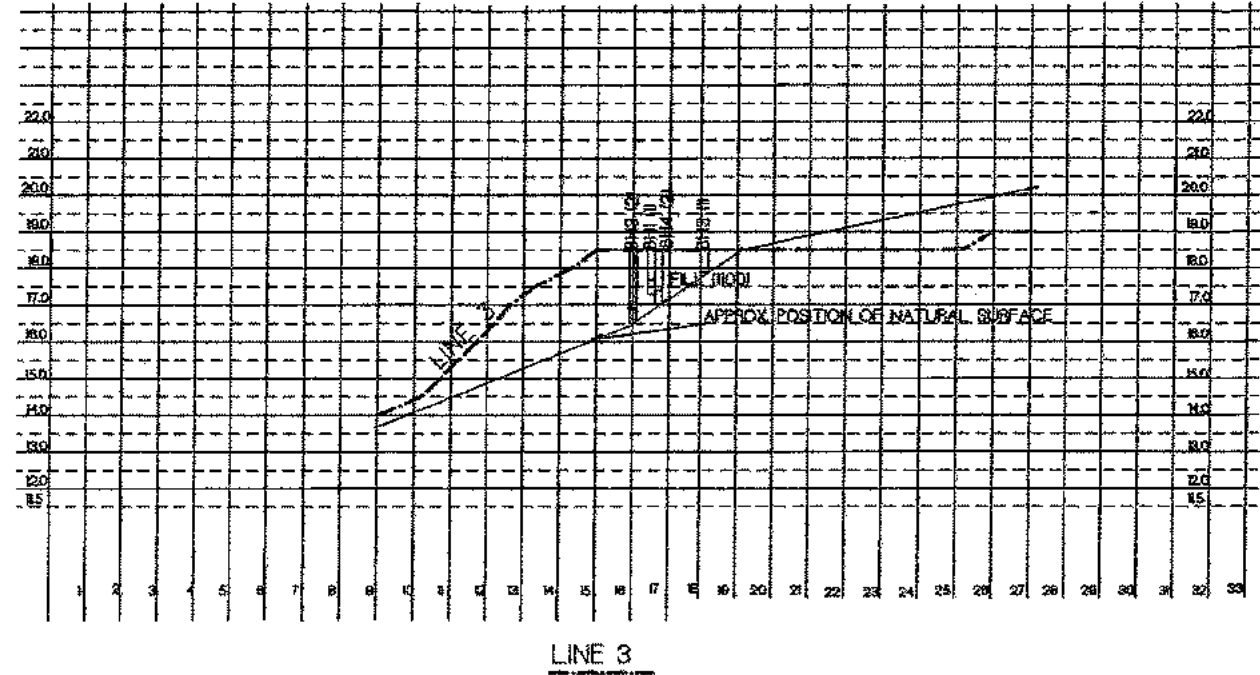
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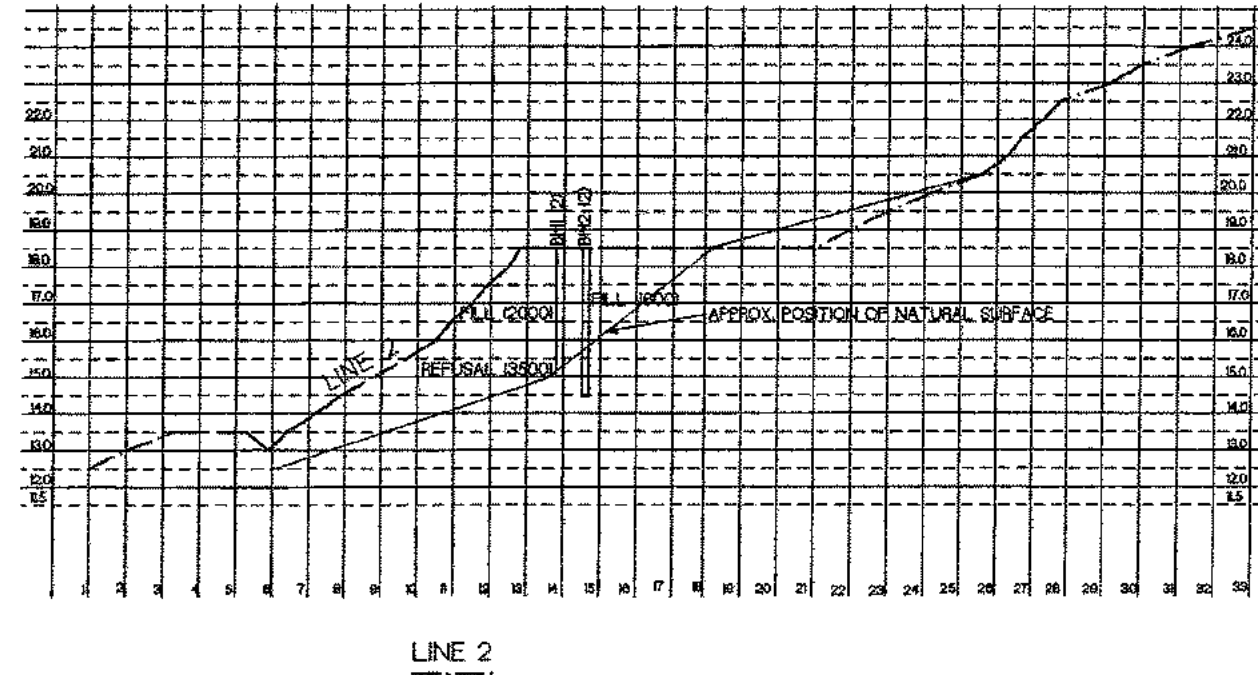
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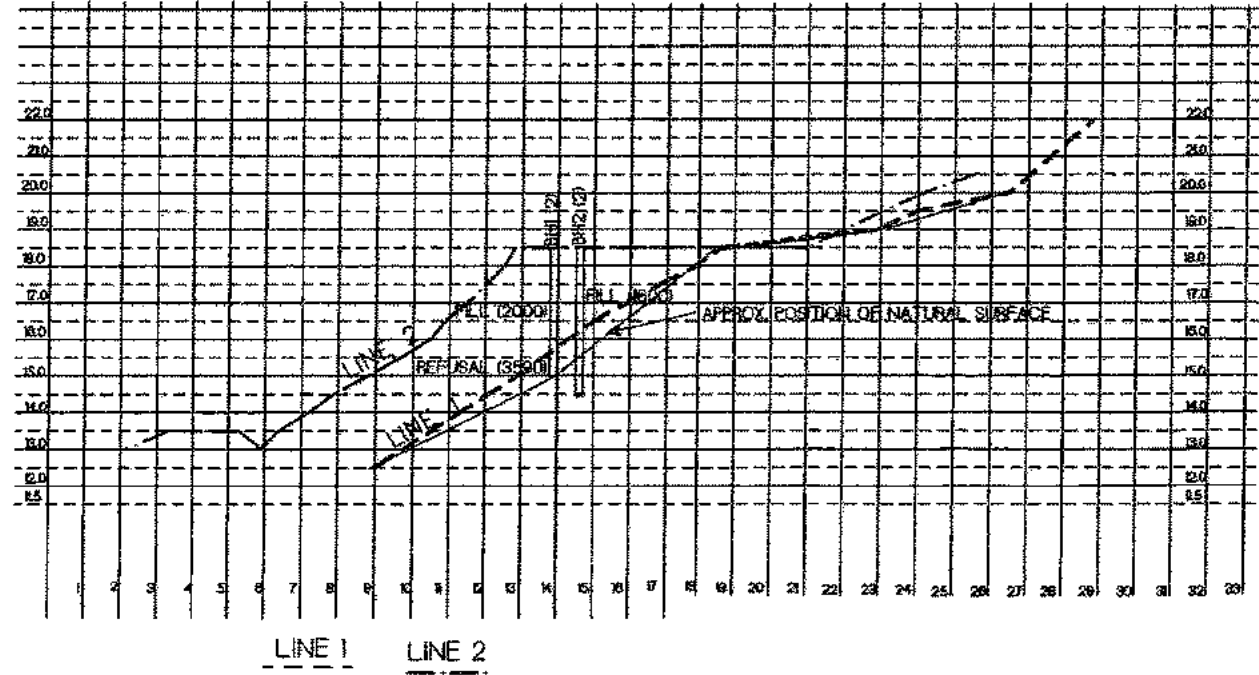


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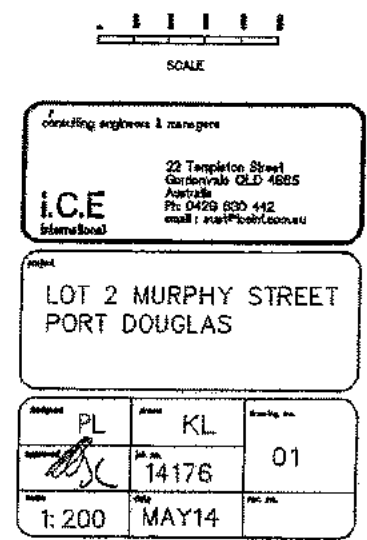


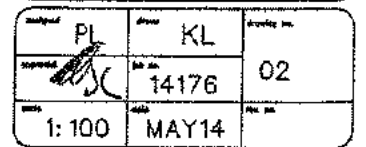
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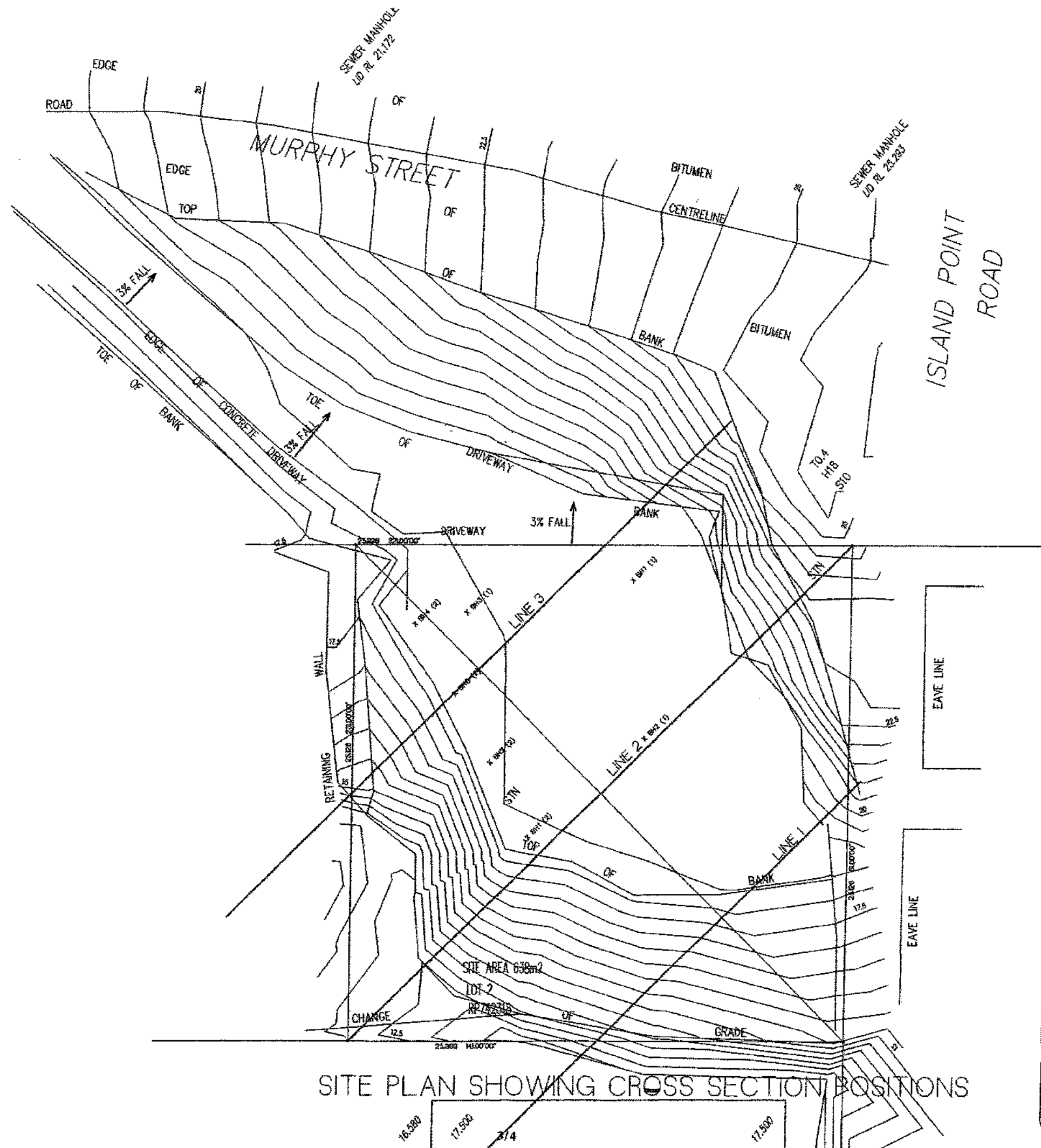
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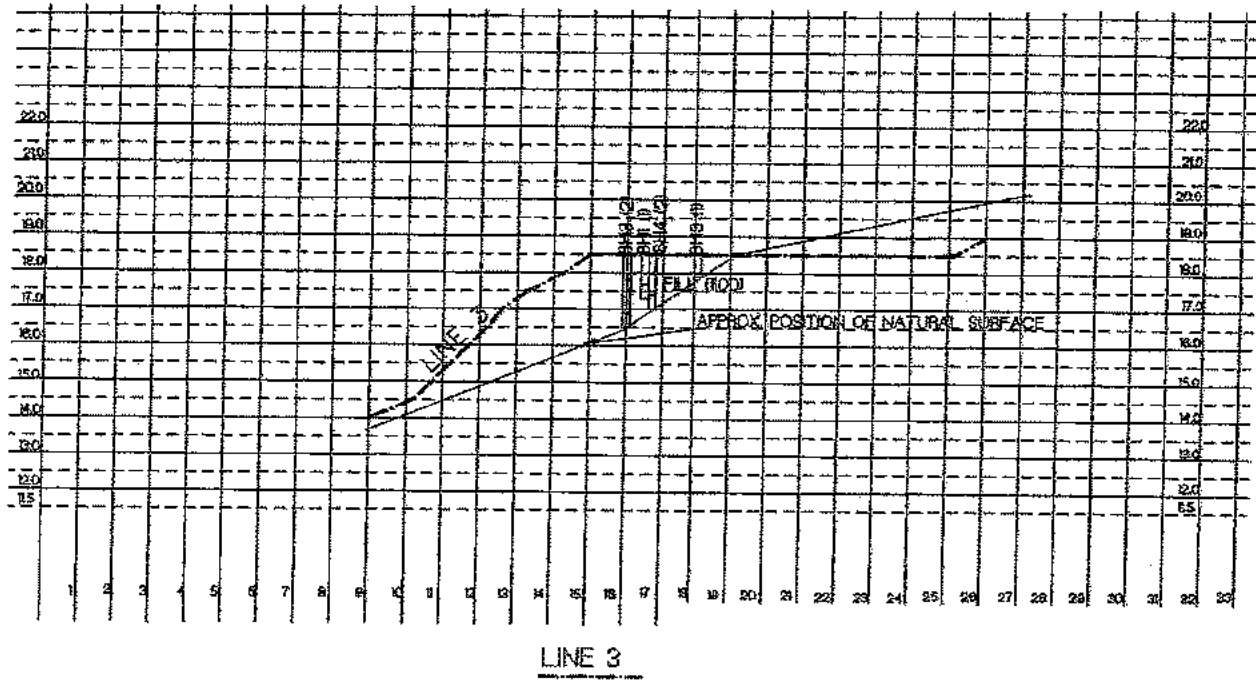
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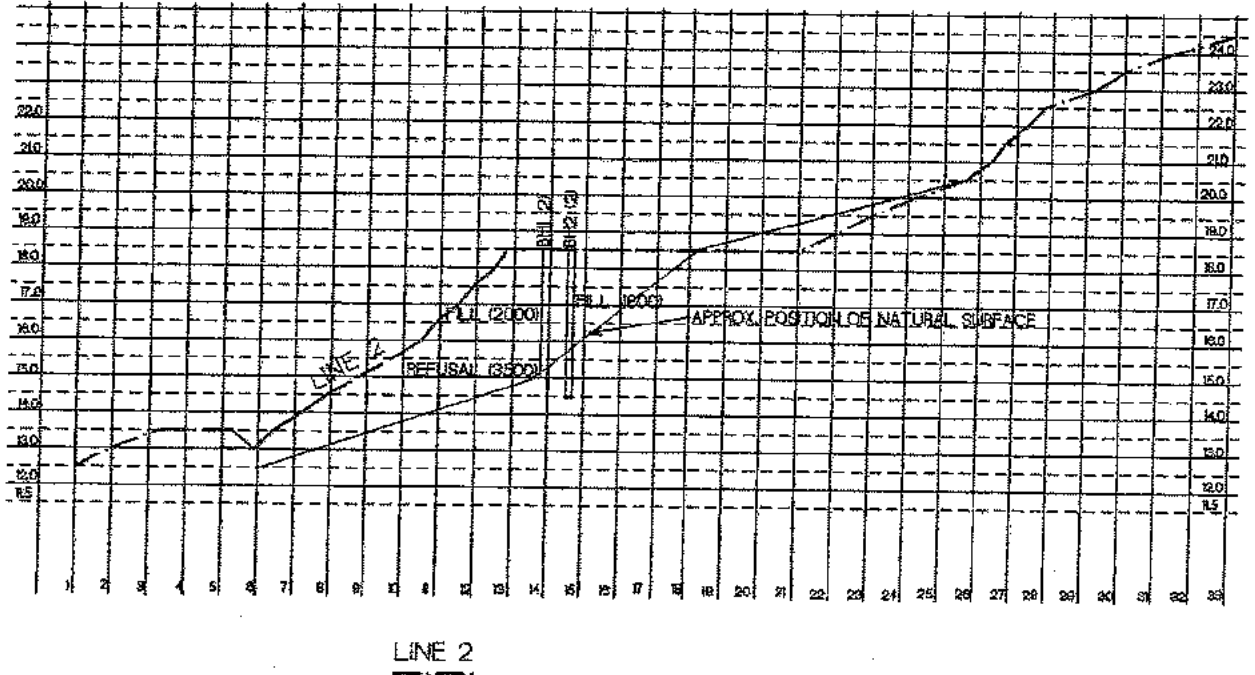




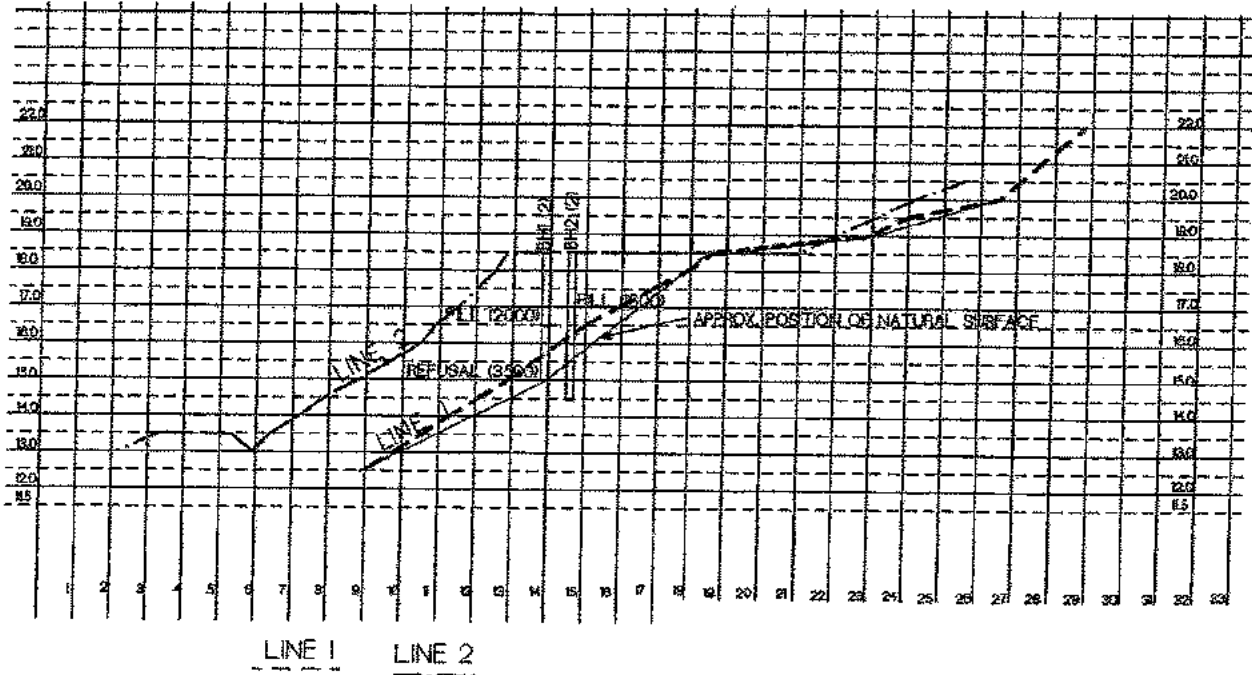
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