Te Kaunihera o Te Hiku o te Ika
Far North District Council

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? ◯ **Yes** ✔ **No**

2. Type of Consent being applied for

(more than one circle can be ticked):

- ◯ **Land Use**
- ◯ **Fast Track Land Use***
- ✔ **Subdivision**
- ◯ **Consent under National Environmental Standard** (e.g. Assessing and Managing Contaminants in Soil)
- ◯ **Discharge**
- ◯ **Change of Consent Notice (s.221(3))**
- ◯ **Extension of time (s.125)**
- ◯ **Other (please specify)** _____

** The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

3. Would you like to opt out of the Fast Track Process?

✔ **Yes** ◯ **No**

4. Consultation

Have you consulted with Iwi/Hapū? ◯ **Yes** ✔ **No**

If yes, which groups have you consulted with?	
Who else have you consulted with?	Top Energy, Chorus.

For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council tehonosupport@fndc.govt.nz

5. Applicant Details

Name/s: Simon David McLeavey

Email: [redacted]

Phone number:

Postal address:
(or alternative method of service under section 352 of the act)

6. Address for Correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s: Wendy Wickens

Email: [redacted]

Phone number:

Postal address:
(or alternative method of service under section 352 of the act)

**** All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.***

7. Details of Property Owner/s and Occupier/s

Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s: Simon David McLeavey

Property Address/ Location:
10 Arkles Way
Taipa

Postcode 0483

8. Application Site Details

Location and/or property street address of the proposed activity:

Name/s: Simon David McLeavey

Site Address/ Location:
10 Arkles Way
Taipa

Postcode 0483

Legal Description: Lot 12 DP 323635 plus more **Val Number:** 00085-18135

Certificate of title: 95163

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site visit requirements:

Is there a locked gate or security system restricting access by Council staff? ◯ **Yes** ✔ **No**

Is there a dog on the property? ◯ **Yes** ✔ **No**

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

Please phone applicant before undertaking site visit.

9. Description of the Proposal:

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

See attached report.

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

11. Other Consent required/being applied for under different legislation

(more than one circle can be ticked):

- ◯ **Building Consent** Enter BC ref # here (if known)
- ◯ **Regional Council Consent (ref # if known)** Ref # here (if known)
- ◯ **National Environmental Standard consent** Consent here (if known)
- ◯ **Other (please specify)** Specify 'other' here

12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL) ◯ **Yes** ✔ **No** ◯ **Don't know**

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result. ✔ **Yes** ◯ **No** ◯ **Don't know**

- ✔ **Subdividing land**
- ◯ **Changing the use of a piece of land**
- ◯ **Disturbing, removing or sampling soil**
- ◯ **Removing or replacing a fuel storage system**

13. Assessment of Environmental Effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as Written Approvals from adjoining property owners, or affected parties.

Your AEE is attached to this application ✔ **Yes**

13. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ● **Yes** ◯ **No**

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? ◯ **Yes** ✔ **No**

14. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full) Simon David McLeavey

Email: [redacted]

Phone number:

Postal address:
(or alternative method o
service under section 35
of the act)

Fees Information
An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

Declaration concerning Payment of Fees
I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full) Simon David McLeavey

Signature: [redacted] Date 01-Nov-2024
(signature of bill payer) MANDATORY

15. Important Information:

Note to applicant
You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.
You may apply for 2 or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application
Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement. A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:
Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

15. Important information continued...

Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

Name: (please write in full) Wendy Wickens

Signature:

Date 01-Nov-2024

A signature is not required if the application is made by electronic means

Checklist (please tick if information is provided)

- [x] Payment (cheques payable to Far North District Council)
- [x] A current Certificate of Title (Search Copy not more than 6 months old)
- [ ] Details of your consultation with Iwi and hapū
- [x] Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- [x] Applicant / Agent / Property Owner / Bill Payer details provided
- [x] Location of property and description of proposal
- [x] Assessment of Environmental Effects
- [x] Written Approvals / correspondence from consulted parties
- [x] Reports from technical experts (if required)
- [ ] Copies of other relevant consents associated with this application
- [ ] Location and Site plans (land use) AND/OR
- [x] Location and Scheme Plan (subdivision)
- [ ] Elevations / Floor plans
- [ ] Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

PROPOSED SUBDIVISION

Simon David McLeavey

10 Arkles Way, Taipa

PLANNING REPORT &
ASSESSMENT OF ENVIRONMENTAL EFFECTS
to Far North District Council

Sapphire Surveyors Ltd
Surveyors and Land Development Specialists
PO Box 318, Mangonui 0442
Phone (09) 406-0001
Email: wendy@sapphiresurveyors.co.nz

Sapphire Surveyors
PUSHING THE BOUNDARIES IN DOUBTLESS BAY

1. Summary

Applicant:	Simon David McLeavey
Location:	10 Arkles Way, Taipa
Consent for:	Subdivision
Legal Description:	RT 95163 – Lot 12 DP 323635, 2/155 share of Lots 31-32 DP 195263, 1/5 share Lot 15 DP 323635.
Zone:	Rural Living (ODP) Rural Production (PDP)
Resources/Overlays:	None (ODP) River Flood Zones (10 & 100 year) over Lots 31&32 DP 195263 (PDP)
Activity Status:	Controlled activity (ODP) Controlled activity (PDP)
Consultation:	Chorus NZ Top Energy
Supporting Reports:	Letter from Archaeologist (Sunrise Archaeology) Engineering Assessment (Haigh Workman) Geotechnical Assessment (Haigh Workman)
Pre-lodgment Discussions:	None
Other Resource Consents:	None required
Address for Service:	Wendy Wickens Sapphire Surveyors Ltd PO Box 318 Mangonui 0442 Ph. 09-406-0001 wendy@sapphiresurveyors.co.nz

This assessment accompanies the Resource Consent Application made by our clients, and is provided in accordance to Section 88 of the Resource Management Act 1991.

It is intended to provide the necessary information for an understanding of the proposal and any actual or potential effects the proposed activity may have on the environment.

2. Overview of Proposal

2.1 Purpose of the Proposal

The purpose of the proposal is to divide off a 4277sqm empty section (Lot 1) from the front of the application site, leaving the existing house on a 5168sqm section (Lot 2).

See *Scheme Plan* in **Appendix 1**. All areas and dimensions are subject to final survey.

2.2 Activity Status

FNDC Operative District Plan

Subdivision as a Controlled Activity.

FNDC Proposed District Plan

Whilst the relevant rules of the Proposed District Plan ("PDP") do not yet have legal effect, we note for completeness, the application for subdivision constitutes a Controlled activity under the PDP.

Overall, the proposal is classified as a controlled activity.

2.3 Encumbrances on Titles

The two new titles to be created are each to have a half share in the existing shares of Lots 31&32 DP 195263 and Lot 15 DP 323635 (access lot). Council will have to get the amalgamation condition, as shown on the *Scheme Plan*, approved by Land Information NZ.

There are a variety of existing encumbrances (easements, covenants and consent notices), some of which only apply to the access lot and shared farm lots. The two water pipeline rights are no longer relevant to the application site, and it will be suggested to the applicant's lawyer that these be relinquished, if practical, but do not require Council consent to do so.

3. Site Description

3.1 Location & Site History

The application site is located off the end of the access lot that comes off the end of Arkles Way. *See Figure 1 (below).*

The site has road frontage to Arkles Way, via the shared access lot.

Figure 1: Location Map

3.2 Legal Description

Title 1:	RT 95163 Lot 12 DP 323635, 2/155 share of Lots 31-32 DP 195263, 1/5 share Lot 15 DP 323635 (see *Figure 2* on next page). Issued 18 March 2004.
Amalgamations:	The title is subject to Section 241(2) of the RMA Act 1991 due to the inclusion of shares in other lots.
Easements:	Transfers A388218 and A397039 are water pipeline easements that have come down onto the title from the old parent title and are no longer relevant or physically connected to the application site. Transfer D4098863.4 provides a stormwater drainage right in gross over the access lot in favour of FNDC. Transfer 5937866.5 provides an electricity transmission easement in gross for Top Energy Ltd over the access lot.

	Transfer 5983862.1 provides services easements over the access lot and over the application site for neighbouring lots.
Covenants:	The Land Covenant in Transfer D425236.1 relates to view preservation (not applicable to this site) and house/building restrictions. The Land Covenant in Transfer 6040170.2 prohibits subdivision of the application site, but expires 31 December 2010, so no longer applies.
Consent Notices (CN):	CN 5937866.3 relates to wastewater and stormwater requirements, including the requirement for the application site's surface flow to be directed to the cul-de-sac swale drain.

*There are no other relevant encumbrances. See **Appendix 2** for Records of Title (RTs) and relevant encumbrances.*

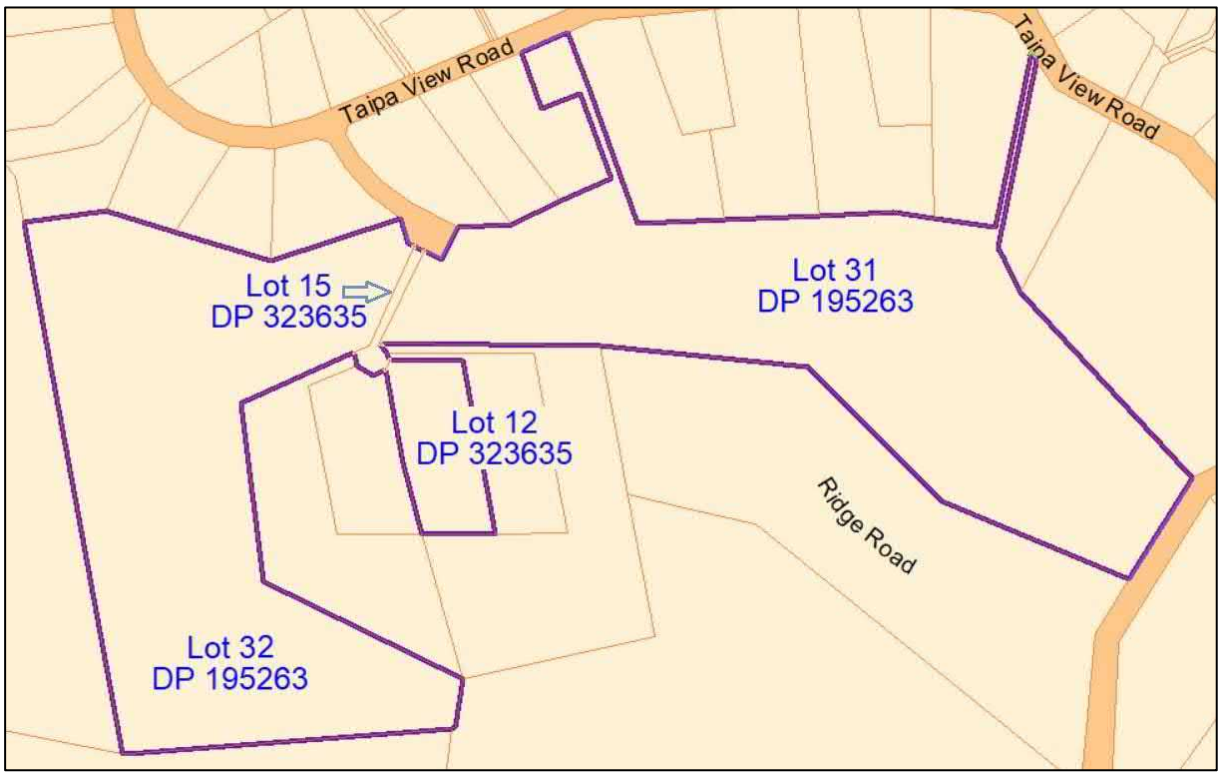


Figure 2: Diagram of Lots contained in title (in whole and in part)

3.3 Existing Uses, Structures & Topography

Dwellings:	Existing dwelling at the southern end of the site.
Other Buildings:	Two sheds at the southern end of the site.
Topography	Flat at the southern end with trees and the existing house, then an area of pasture starts to slope down north of the dwelling to the access lot.

3.4 Access

Roading:	Arkles Road and the access lot are metalled.

Vehicle Crossings (VC):	The existing house has access off the Arkles way access lot via a concreted driveway.

3.5 Services

Reticulated Water	No – water supply is from roof catchment and the water tank on the site.
Reticulated Wastewater:	No – wastewater system to the north of the existing house.
Reticulated Stormwater:	No
Electricity:	Yes
Telecommunications:	Yes

3.6 Natural & Recorded Features

NATURAL RESOURCES:	
Natural Resource Features (ODP):	None.
Protected Natural Areas:	On the property: none. In the vicinity (500m): none.
Natural Environments Overlays (PDP)	None.
Significant Natural Areas (PDP):	On the property: none. In the vicinity (500m): none.
Kiwi:	Present (*only outer edges of Lots 31 & 32 DP 195263*).
CULTURAL RESOURCES:	
Cultural Resource Features (ODP):	None.
NZAA Registered Sites:	On the property: none. In the vicinity: various.
Historical & Cultural Values Overlays (PDP):	None.
HAZARDS:	
Coastal Hazards & Flooding (ODP):	None.
NRC Natural Hazards:	River Flood Hazard Zone (50 Year extent) River Flood Hazard Zone (100 Year extent) *Only over Lots 31&32 DP 195263.*
NRC Proposed Regional Plan:	Not Erosion Prone Land

Natural Hazards and Risks Overlays (PDP):	River Flood Hazard Zone (100 Year ARI Event) River Flood Hazard Zone (10 Year ARI Event) *Only over Lots 31&32 DP 195263.*
OTHER:	
Versatile soils:	No – soils classes are 6e7 and 6s5.
Other Overlays/Designations (PDP):	None
Energy Infrastructure and Transport Overlays (PDP):	None
Coastal Environment (ODP/NRC RPS):	No

4. Details of Proposal & AEE

4.1 New Titles, Allotments & Boundaries

The subdivision creates one additional title. All lots can contain the necessary 30x30m shape factor. The new boundary does not follow any topographical features, but has been placed to be clear of the existing effluent field on Lot 2, which is confirmed in the *Engineering Assessment* (see **Appendix 5**) during which the field was located.

Both proposed lots will have a 1/155th share in Lots 31 & 31 DP 195263 and 1/10th share in Lot 15 DP 323635 (access lot).

4.2 Traffic & Property Access

Additional Traffic Movements:	10
Lot 1 Access:	Existing shared concreted ROW off main shared access lot.
Lot 2 Access:	Existing shared concreted ROW off main access lot, and then up existing concreted driveway.
Right of Ways:	The existing shared access lot off the end of Arkles Way is compliant but in need of maintenance. The proposed ROW Area A formation is compliant with Council Standards.

Refer to Section 6 of the *Engineering Assessment*.

It is considered that the proposed subdivision provides safe and efficient vehicle access to each lot, and that the effects on the environment will be less than minor.

4.3 Hazards

The two new proposed lots are not known to be affected by any flooding or natural hazards, and geotechnical issues have been addressed in the *Geotechnical Assessment* in **Appendix 6** to identify a suitable building platform on Lot 1. There are flooding areas on the shared farm lots, but this does not affect the subdivision. Refer to Section 4 of the *Engineering Assessment*.

No natural or other hazards will adversely affect any future development of either lot, and nor will the development exacerbate any natural hazards in the vicinity.

4.4 Water Supply

Rainwater tanks can be used on both lots to collect and store water from roof surfaces.

Lot 1 already has a rainwater tank for its water supply.

We propose that a consent notice be placed on the Lot 1 title requiring that a NZFS assessment be carried out at the time of building consent to ensure adequate water supply is available for firefighting.

4.5 Stormwater Disposal

It is proposed that excess rainwater be removed from the site via the outlet at the NW corner of the site, as per the existing consent notice.

It is recommended that Lot 1 be subject to a new consent notice requiring attenuation at the time of a building consent application. To maintain the geotechnical stability of the building platform on Lot 1, it is recommended that the drain at the eastern side of the existing Lot 2 concrete driveway be upgraded. Refer to Section 8 of the *Engineering Assessment.*

A crossing can be constructed over this drain to Lot 1 at the time of subdivision, including a 300mm diameter culvert.

Overall, it is considered that the effect of the proposal resulting from the disposal of stormwater will be less than minor, and will not result in any significant off-site environmental effects or effects on water quality.

4.6 Wastewater Disposal

Lot 1:	Lot is of sufficient size to accommodate a compliant wastewater disposal system within the new lot boundaries and required offsets.
Lot 2:	Wastewater from the existing building is currently disposed of via a functioning wastewater disposal system contained within the new lot boundaries and meets the required offsets.

Refer to Section 10 of the *Engineering Assessment.*

Overall, it is considered that the effects of the proposal resulting from the disposal of wastewater will be less than minor, and will not result in any significant off-site environmental effects or effects on water quality.

4.7 Power & Telecommunications

Lot 1:	Requires new power and telecommunications connections.
Lot 2:	Already connected to power and telecommunications.

As the subdivision is in the Rural Living zone in the ODP, service connections are required to carry out the subdivision. Chorus and Top Energy have been consulted in the preparation of this consent application (*see* ***Appendix 3***).

Given other options available for telecommunications, it seems unreasonable to require a fibre connection (at considerable cost) for Lot 1 as a condition of consent, so we request that only a power connection be required and a consent notice be placed on Lot 1's title informing them that provision of telecommunication services are their responsibility.

4.8 Easements

Existing Easements:	There is one existing easement for services over the application site, which will remain. Other easements over the access lot and other shared lots will remain.
New Private Easements:	One new easement is required for right of way, drainage of stormwater and conveying services over Lot 1 hereon (Areas A & B) in favour of Lot 2 hereon.
New Easements in Gross:	No new easements in gross are required to carry out the subdivision.
Cancellation of Easements:	No easements are to cancelled as part of the subdivision. The only easements that we will suggest to the applicant's lawyer for cancellation are the water pipeline easements mentioned in Section 3.2 of this report, which are not subject to s243a of the RMA 1991.

4.9 Heritage

There are no recorded heritage sites within the application site. This does not necessarily mean that such sites do not exist on the property, and we suggest that the standard advice note is applied to the resource consent decision, outlining the procedures to be followed should there be any archaeological find, or suspected find. Refer to the *Archaeologist's Letter* in **Appendix 4**.

4.10 Ecology

Vegetation Clearance:	None required.
Kiwi:	There are no Kiwi present on the area being subdivided, constituting proposed Lots 1 and 2, but the outer edges of Lots 31 & 32 DP 195263 do have kiwi present. The placement of a simple informative Consent Notice on both titles requiring cats and dogs to be kept inside or tied up at night would seem sufficient to avoid any animals wandering off into any Kiwi habitat.
Protection of Areas of National Significance (Biodiversity):	N/A

With the proposed Kiwi protection consent notices, we consider the adverse effect on ecological values as less than minor.

4.11 Earthworks

Minimal earthworks are required to create drainage in the driveway area. Refer to Section 7 of the *Engineering Assessment.*

The effect of this work will be less than minor.

4.12 Land Use Compatibility

The surrounding environment mainly consists of a variety of rural, rural residential and residential allotments, some of which have been developed and others that are vacant. It is considered that the lots created by the proposal, and their anticipated rural residential use will be consistent with the existing pattern of subdivision and land uses present in the area. No incompatibility or reverse sensitivity issues are anticipated.

4.13 Visual Landscape, Character and Amenity

The application site is located within a rural environment that contains a number of lifestyle / rural residential sites, with associated development including houses, accessory buildings, fencing, driveways and other infrastructure. The new lot can be developed in a way that is complementary to the existing landscape and settlement pattern in this area.

Overall, it is considered that the visual effects of the proposal, including effects on landscape, natural character and amenity values, will be less than minor.

4.14 Other Effects

Positive effects: The proposal allows for the applicant to provide for his economic and social wellbeing by allowing him to sell the front of his section which is otherwise not being utilised. The creation and availability of small lifestyle lots close to town provides an attractive option for all family types, from retired couples through to young families.

There are no cumulative effects or precedent effects of the proposal.

4.15 Summary of Environmental Effects

As discussed in Sections 4.1 - 4.14 above, the actual and potential adverse effects of the proposal have been minimised by the use of consent notices and covenants, by creating large lots, and by utilising existing access.

The necessary supporting engineering reports have been prepared and submitted that support this assessment.

Overall, the adverse effects of the proposal are less than minor.

5. Activity Status

5.1 FNDC Operative District Plan (ODP)

5.1.1 Zone & Resources

The application site is zoned **Rural Living** and is not subject to any Resource Features in the Operative District Plan.

5.1.2 Subdivision

Table 13.7.2.1 sets out minimum area requirements for subdivisions in the Rural Living Zone, and the application is a **controlled** activity according to this table, as shown here:

CONTROLLED ACTIVITY
The minimum lot size is 4000spm.

Rule	Comment
13.6.2 Relevant Sections of Act	Sections of the RMA relevant to this proposal are discussed in Sections 6.6-10 of this report.
13.6.3 Relevant Sections of the District Plan	Other relevant chapters of the District Plan are discussed below in Sections 5.1.3-5.
13.6.4 Other Legislation	Other relevant legislation is discussed in Section 6.4&5.
13.6.5 Legal Road Frontage	All new allotments will be provided with frontage to a private road or right of way.
13.6.7 Consent Notices	See *Section 6.10* of this report.
13.6.8 Subdivision Consent before Work Commences	N/A
13.7.2.2 Allotment Dimensions	A shape factor of 30m by 30m that does not encroach into the permitted activity setbacks for the Rural Living Zone (3 metres) can be accommodated by each proposed allotment (see *Scheme Plan*), notwithstanding the location of the existing buildings.
13.7.2.8 Proximity to Top Energy Transmission Lines & 13.7.2.9 Proximity to the National Grid	N/A – there are no Top Energy Transmission lines (of 110kV or more) or National Grid transmission lines in the vicinity.
13.7.3.1 to 13.7.3.12	The application must make provision (where relevant) for these matters, and these matters are applicable to Council's consideration of this proposal. Where relevant, have been addressed in Section 4 of this report.

5.1.3 Rural Living Zone

Lots 2 is already developed in a manner generally consistent with the permitted standards of the zone.

Lot 1 will be vacant and can be developed consistent with the permitted standards of the zone.

5.1.4 Natural and physical resources

Relevant sections of Chapter 12 [Natural and Physical Resources] have been considered.

Section	Comment
12.1 Landscapes & Natural Features	N/A – The site does not contain an outstanding landscape feature.
12.2 Indigenous Flora and Fauna	N/A – No indigenous vegetation clearance is required.
12.3 Soils and Minerals	Can be complied with, as the volume and depth of any earthworks required will be within the permitted activity limits.
12.4 Natural Hazards	N/A – The site is not identified as a Coastal Hazard.
12.5 Heritage	N/A – The site contains no heritage features.
12.7 Lakes, Rivers, Wetlands and the Coastline	N/A – The site is not in the vicinity of notable water areas.

Therefore, the proposal complies with the permitted rules of Chapter 12.

5.1.5 Transportation

Access has been assessed in Section 6 the *Engineering Assessment*.

Rule	Performance
15.1.6A Traffic	All lots will contain standard residential units and will theoretically generate 10 daily one-way vehicle movements, which will comply with the permitted activity standards.
15.1.6B Parking	The lots are of sufficient size and proportions to accommodate the required parking and maneuvering at building consent stage.
15.1.6C.1.1 Private Accessway in All Zones	a) ROW A has a legal width of 5m and a min. 3m wide formation. Stormwater drains are to be upgraded. b) The concreted accessway can meet the requirements of the table in this rule. c) ROW A serves 2 HEs. d) N/A – private accessway does not serve over 8 sites. e) Access is existing.
15.1.6C.1.3 Passing Bays on Private Accessways in All Zones	N/A – No passing bays required.
15.1.6C.1.4 Access over Footpaths	N/A – there is no vehicle access over footpaths.
15.1.6C.1.5 Vehicle Crossing Standards in Rural & Coastal Zones	a) Access off Arkles Way is via the shared access lot which is compliant with Council standards. b) N/A – access is not off a sealed road. c) N/A – access off Arkles Way is via the existing access lot.
15.1.6C.1.7 General Access Standards	a) Vehicle maneuvering within Lot 1 will be addressed when the site is developed with a residential dwelling and there is adequate area within the sites for this. Lot 2 already has provision for turning. b) N/A – there are no bends in the private access. c) The sides of the driveway will can be grassed.

	d) Stormwater will be captured in rock-armoured drains next to the driveway and discharged to existing culverts.
15.1.6C.1.8 Frontage to Existing Roads	a) Arkles Way is already of the required legal width, so no widening is required. b) Arkles Way is already constructed to Council standards. c) The site does not have more than one road frontage. d) Looking at aerial photography, the boundaries of Lots 31 & 32 DP 195263 are suitably far enough away from the Arkles Way formation.
15.1.6C.1.9 New Roads	N/A – No new roads are to be laid out, constructed or vested.

5.1.6 Overall Activity Status

Under the ODP, the proposal is a **controlled activity** in accordance with Table 13.7.2.1(iv).

5.2 FNDC Proposed District Plan (PDP)

The Proposed District Plan is not yet fully operative. Within the Proposed District Plan, the site is zoned Rural Production. Under s86B of the Resource Management Act 1991 a rule in a Proposed District Plan has legal effect only once a decision on submissions have been made, unless the criteria under s.86B(3)(a) to (e) apply. An assessment of the relevant matters relating to the Proposed District Plan that have immediate legal effect has been undertaken below: There are no zone rules in the PDP with immediate legal effect that affect the proposal's activity status.

Rules/Standards	Performance
Natural Hazards	
No rules have legal effect.	
Heritage Area Overlays	
All rules have immediate legal effect (HA-R1 to HA-R14). *All standards have immediate legal effect (HA-S1 to HA-S3).*	N/A as the site is not located within a Heritage Area Overlay.
Historic Heritage	
All rules have immediate legal effect (HH-R1 to HH-R10). *Schedule 2 has immediate legal effect.*	N/A as the site does not contain any areas of historic heritage.
Notable Trees	
All rules have immediate legal effect (NT-R1 to NT-R9). *All standards have legal effect (NT-S1 to NT-S2).* *Schedule 1 has immediate legal effect.*	N/A as the site does not contain any notable trees.
Sites and Areas of Significance to Maori	
All rules have immediate legal effect (SASM-R1 to SASM-R7).	N/A as the site does not contain any sites or areas of significance to Maori.

Schedule 3 has immediate legal effect.	
Ecosystems and Indigenous Biodiversity	
All rules have immediate legal effect (IB-R1 to IB-R5).	N/A as the site does not contain any SNAs or areas of indigenous vegetation, no indigenous vegetation removal is proposed.
Natural Character	
No rules have legal effect.	
Natural Features & Landscapes	
No rules have legal effect.	
Public Access	
No rules have legal effect.	
Subdivision	
The following rules have immediate legal effect: SUB-R6, SUB-R13, SUB-R14, SUB-R15, SUB-R17.	N/A as the subdivision is not an Environmental Benefit Subdivision (SUB-R6), Subdivision of a site with heritage area overlay (SUB-R13), Subdivision of site that contains a scheduled heritage resource (SUB-R14), Subdivision of a site containing a scheduled site and area of significance to Maori (SUB-R15) or Subdivision of a site containing a scheduled SNA (SUB-R17).
Coastal Environment	
No rules have legal effect.	
Earthworks	
The following rules have immediate legal effect: EW-R12, EW-R13. *The following standards have immediate legal effect: EW-S3, EW-S5.*	Permitted. Earthworks as part of this proposal will be minor. Any earthworks will proceed under the guidance of an ADP and will be in accordance with the Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region 2016, in accordance with Rules EW-12, EW-R13, EW-S3 and EW-S5.
Treaty Settlement Land	
No rules have legal effect.	
Mineral Extraction	
No rules have legal effect.	

5.3 Other Consents Required

5.3.1 Northland Regional Council

An Earthworks Permit is not required from the Northland Regional Council (NRC).

5.3.2 Other Consents

No other consents are required for this proposal.

6. Statutory Assessment

6.1 Weighting of District Plans

Whilst hearings on the PDP have commenced, no decisions have yet been issued by the Hearings Commissioners. The only matters of relevance that have been considered by the Hearings Commissioners are those submissions on the Coastal Environment. Under s86B of the Resource Management Act 1991 a rule in a Proposed District Plan has legal effect only once a decision on submissions have been made, unless the criteria under s.86B(3)(a) to (e) apply.

A review of the Proposed District Plan shows that there are no provisions that relate to water, air or soil, significant indigenous vegetation, significant indigenous habitats of fauna, historic heritage or aquaculture activities that are relevant to this application and/or require resource consent.

Due to the fact that hearings are only just underway on the PDP, and no PDP rules are operative that would affect the activity status of this proposal, the ODP will hold the most weight in relation to this application.

6.2 Operative District Plan Objectives and Policies

The relevant Objectives and Policies of the Operative District Plan can be found in the Rural Environment, Rural Production zone and Subdivision Chapters. As a controlled activity, the proposal is generally consistent with the relevant Objectives and Policies. The site is already in rural production/residential use which will remain unchanged as a result of the proposal. The rural character of the site with therefore not be eroded by the proposed subdivision.

6.3 Proposed District Plan Objectives and Policies

Given Section 6.1 above, and until such time as the PDP advances further through the statutory process, the objectives and policies within the PDP have only peripheral relevance for the purposes of a s104 assessment, and as a consequence are unlikely to be determinative. For the sake of completeness these are set out below.

6.3.1 Subdivision

SUB-01
Subdivision results in the efficient use of land, which: *a. achieves the objectives of each relevant zone, overlays and district wide provisions;* *b. contributes to the local character and sense of place;* *c. avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;* *d. avoids land use patterns which would prevent land from achieving the objectives and policies of the zone in which it is located;* *e. does not increase risk from natural hazards or risks are mitigates and existing risks reduced; and* *f. manages adverse effects on the environment.*
Comments: The subdivision achieves the objective of the rural production zone. Providing properties for people wanting to live in the rural areas is anticipated within the PDP, and lifestyle blocks are not

unusual in the area. The risk from flooding is away from building platforms and the building platform has been assessed for geotechnical design.

SUB-O2

Subdivision provides for the:

a. Protection of highly productive land; and

b. Protection, restoration or enhancement of Outstanding Natural Features, Outstanding Natural Landscapes, Natural Character of the Coastal Environment, Areas of High Natural Character, Outstanding Natural Character, wetland, lake and river margins, Significant Natural Areas, Sites and Areas of Significance to Māori, and Historic Heritage.

Comments:

The site is not highly productive land and does not contain any ecological, heritage or natural character features.

SUB-O3

Infrastructure is planned to service the proposed subdivision and development where:

a. there is existing infrastructure connection, infrastructure should provided in an integrated, efficient, coordinated and future-proofed manner at the time of subdivision; and

b. where no existing connection is available infrastructure should be planned and consideration be given to connections with the wider infrastructure network.

Comments:

Power and telecommunications are available in the area and can be connected to when Lot 1 is developed.

SUB-P3

Provide for subdivision where it results in allotments that:

a. are consistent with the purpose, characteristics and qualities of the zone;

b. comply with the minimum allotment sizes for each zone;

c. have an adequate size and appropriate shape to contain a building platform; and

d. have legal and physical access.

Comments:

Minimum allotment sizes have been achieved, with a shape factor provided and a compliant vehicle access point.

SUB-P4

Manage subdivision of land as detailed in the district wide, natural environment values, historical and cultural values and hazard and risks sections of the plan.

Comments:

Land stability hazards have been addressed in the *Geotechnical Assessment*.

SUB-P6

Require infrastructure to be provided in an integrated and comprehensive manner by:

a. demonstrating that the subdivision will be appropriately serviced and integrated with existing and planned infrastructure if available; and

b. ensuring that the infrastructure is provided is in accordance the purpose, characteristics and qualities of the zone.

Comments:

Power and telecommunications can be provided to the new lot.

SUB-P8
Avoid rural lifestyle subdivision in the Rural Production zone unless the subdivision: *a. will protect a qualifying SNA in perpetuity and result in the SNA being added to the District Plan SNA schedule; and* *b. will not result in the loss of versatile soils for primary production activities.*
Comments: The site does not contain a qualifying SNA so it is not feasible for the proposed subdivision to align with this policy. The subdivision is taking place around existing consented development on Class 6 soils.
SUB-P9
Avoid subdivision rural lifestyle subdivision in the Rural Production zone and Rural residential subdivision in the Rural Lifestyle zone unless the development achieves the environmental outcomes required in the management plan subdivision rule.
Comments: The proposed subdivision is not reliant on the management plan subdivision provisions.
SUB-P10
To protect amenity and character by avoiding the subdivision of minor residential units from principal residential units where resultant allotments do not comply with minimum allotment size and residential density.
Comments: The subdivision does not involve the separation of a minor household unit.
SUB-P11
Manage subdivision to address the effects of the activity requiring resource consent including (but not limited to) consideration of the following matters where relevant to the application: *a. consistency with the scale, density, design and character of the environment and purpose of the zone;* *b. the location, scale and design of buildings and structures;* *c. the adequacy and capacity of available or programmed development infrastructure to accommodate the proposed activity; or the capacity of the site to cater for on-site infrastructure associated with the proposed activity;* *d. managing natural hazards;* *e. Any adverse effects on areas with historic heritage and cultural values, natural features and landscapes, natural character or indigenous biodiversity values; and* *f. any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.*
Comments: Scale and design are consistent with other properties in the area. Lot sizes are sufficient to accommodate dwellings and on-site wastewater disposal.

6.3.2 Rural Production Zone

RPROZ-O1
The Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations.
Comments: The underlying lot is not of a productive size, so creating another lifestyle block makes no change to the productive value of the land.
RPROZ-O3
Land use and subdivision in the Rural Production zone: *a. protects highly productive land from sterilisation and enables it to be used for more productive forms of primary production;* *b. protects primary production activities from reverse sensitivity effects that may constrain their effective and efficient operation;* *c. does not compromise the use of land for farming activities, particularly on highly productive land;* *d. does not exacerbate any natural hazards; and* *e. is able to be serviced by on-site infrastructure.*
Comments: The land is not highly productive. No reverse sensitivity is expected. There is no effect from or on the flooding hazard, and land instability issues have been mitigated. The new lot can be provided with power and telecommunications.
RPROZ-O4
The rural character and amenity associated with a rural working environment is maintained.
Comments: The resulting lots are still of a size and character consistent with others in the area and typical for the rural production zone.
RPROZ-P4
Land use and subdivision activities are undertaken in a manner that maintains or enhances the rural character and amenity of the Rural Production zone, which includes: *a. a predominance of primary production activities;* *b. low density development with generally low site coverage of buildings or structures;* *c. typical adverse effects such as odour, noise and dust associated with a rural working environment; and* *d. a diverse range of rural environments, rural character and amenity values throughout the District.*
Comments: The new lot is surrounded by other lifestyle blocks, so character and amenity will be maintained.
RPROZ-P6
Avoid subdivision that: *a. results in the loss of highly productive land for use by farming activities;* *b. fragments land into parcel sizes that are no longer able to support farming activities, taking into account:* *1. the type of farming proposed; and* *2. whether smaller land parcels can support more productive forms of farming due to the presence of highly productive land.* *c. provides for rural lifestyle living unless there is an environmental benefit.*

Comments:

The subdivision is taking place around existing consented development that is located on Class 6 soils. The existing underlying title is already unable to support farming activities, so the proposal creates no loss of productive land.

RPROZ-P7

Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:

a. whether the proposal will increase production potential in the zone;

b. whether the activity relies on the productive nature of the soil;

c. consistency with the scale and character of the rural environment;

d. location, scale and design of buildings or structures;

e. for subdivision or non-primary production activities:

i. scale and compatibility with rural activities;

ii. potential reverse sensitivity effects on primary production activities and existing infrastructure;

iii. the potential for loss of highly productive land, land sterilisation or fragmentation

f. at zone interfaces:

i. any setbacks, fencing, screening or landscaping required to address potential conflicts;

ii. the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable;

g. the capacity of the site to cater for on-site infrastructure associated with the proposed activity, including whether the site has access to a water source such as an irrigation network supply, dam or aquifer;

h. the adequacy of roading infrastructure to service the proposed activity;

i. Any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity;

j. Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.

Comments:

The proposal will make no change to the productivity of the land which consists Class 6 soils. The lots will have a similar use to lots surrounding them, which also means that there will be no reverse sensitivity. Domestic water can be sourced by storing rain water. Roads and access are up to standard to support the development. There are no features associated with the land that will be affected.

6.3.3 Natural Hazards

NH-O1

The risks from natural hazards to people, infrastructure and property are managed, including taking into account the likely long-term effects of climate change, to ensure the health, safety and resilience of communities.

Comments:

Building platforms have been subject to geotechnical investigations and are clear of the flood susceptible areas.

NH-02

Land use and subdivision does not increase the risk from natural hazards or risks are mitigated, and existing risks are reduced where there are practicable opportunities to do so.

Comments:

The proposed subdivision does not increase any flood or instability risks in the area.

NH-03

New infrastructure is located outside of identified natural hazard areas unless:

a. it has a functional or operational need to be located in that area;

b. it is designed to maintain its integrity and function, as far as practicable during a natural hazard event; and

c. adverse effects resulting from that location on other people, property and the environment are mitigated

Comments:

Infrastructure for the subdivision can be located outside of the flood susceptible area

NH-P2

Manage land use and subdivision so that natural hazard risk is not increased or is mitigated, giving consideration to the following:

a. the nature, frequency and scale of the natural hazard;

b. not increasing natural hazard risk to other people, property, infrastructure and the environment beyond the site;

c. the location of building platforms and vehicle access;

d. the use of the site, including by vulnerable activities;

e. the location and types of buildings or structures, their design to mitigate the effects and risks of natural hazards, and the ability to adapt to long term changes in natural hazards;

f. earthworks, including excavation and fill;

g. location and design of infrastructure;

h. activities that involve the use and storage of hazardous substances;

i. aligning with emergency management approaches and requirements;

j. whether mitigation results in transference of natural hazard risk to other locations or exacerbates the natural hazard; and

k. reduction of risk relating to existing activities.

Comments:

The natural hazard risk is not increased by the proposed subdivision. Additional impermeable surfaces can be mitigated through attenuation. Building platforms have been investigated and a consent notice requiring specific design mitigates instability hazards. Earthworks can be managed through standard practices.

NH-P3

Take a precautionary approach to the management of natural hazard risk associated with land use and subdivision

Comments:

The natural hazard risk is not increased by the proposed subdivision. Additional impermeable surfaces can be mitigated through attenuation and unstable land can be avoided or suitable foundations provided.

NH-P5

Require an assessment of risk prior to land use and subdivision in areas that are subject to identified natural hazards, including consideration of the following:

a. the nature, frequency and scale of the natural hazard;

b. the temporary or permanent nature of any adverse effect;

c. the type of activity being undertaken and its vulnerability to an event, including the effects of climate change;

d. the consequences of a natural hazard event in relation to the activity;

e. any potential to increase existing risk or creation of a new risk to people, property, infrastructure and the environment within and beyond the site and how this will be mitigated;

f. the design, location and construction of buildings, structures and infrastructure to manage and mitigate the effects and risk of natural hazards including the ability to respond and adapt to changing hazards;

g. the subdivision/site layout and management, including ability to access and exit the site during a natural hazard event; and .

h. the use of natural features and natural buffers to manage adverse effects.

Comments:

The natural hazard risk is not increased by the proposed subdivision. Geotechnical and stormwater assessments have been provided.

NH-P6

Manage land use and subdivision in river flood hazard areas to protect the subject site and its development, and other property, by requiring:

a. subdivision applications to identify building platforms that will not be subject to inundation and material damage (including erosion) in a 1 in 100 year flood event;

b. a minimum freeboard for all buildings designed to accommodate vulnerable activities of at least 500mm above the 1 in 100 year flood event and at least 300mm above the 1 in 100 year flood event for other new buildings;

c. commercial and industrial buildings to be constructed so they will not be subject to material damage in a 1 in 100 year flood event;

d. buildings within a 1 in 10 Year River Flood Hazard Area to be designed to avoid material damage in a 1 in 100 year flood event;

e. storage and containment of hazardous substances so that the integrity of the storage method will not be compromised in a 1 in 100 year flood event;

f. earthworks (other than earthworks associated with flood control works) do not divert flood flow onto surrounding properties and do not reduce flood plain storage capacity within a 1 in 10 Year River Flood Hazard area;

g. the capacity and function of overland flow paths to convey stormwater flows safely and without causing damage to property or the environment is retained, unless sufficient capacity is provided by an alternative method; and

h. the provision of safe vehicle access within the site.

Comments:

Building areas are clear of flood hazard areas and stormwater is to be managed onsite.

NH-P8
Locate and design subdivision and land use to avoid land susceptible to land instability, or if this is not practicable, mitigate risks and effects to people, buildings, structures, property and the environment
Comments: Mitigation of land instability has been assessed in the *Geotechnical Assessment* to
NH-P9
Manage land use and subdivision that may be susceptible to wildfire risk by requiring: *a. setbacks from any contiguous scrub or shrubland, woodlot or forestry;* *b. access for emergency vehicles; and* *c. sufficient accessible water supply for firefighting purposes.*
Comments: Requirements for firefighting supply can be addressed at building consent stage via a consent notice.

6.3.4 Earthworks

EW-O1
Earthworks are enabled where they are required to facilitate the efficient subdivision and development of land, while managing adverse effects on waterbodies, coastal marine area, public safety, surrounding land and infrastructure.
Comments: Earthworks are required for management of stormwater and land stability, and can be carried out under acceptable practices to protect waterways and control sediment and erosion.
EW-02
Earthworks are appropriately designed, located and managed to protect historical and cultural values, natural environmental values, preserve amenity and safeguard the life-supporting capacity of soils.
Comments: Earthworks are not in the vicinity of any historic/cultural features, high environmental value areas or high quality soils.
EW-03
Earthworks are undertaken in a manner which does not compromise the stability of land, infrastructure and public safety.
Comments: Earthworks are intended to increase the land stability.
EW-P1
Enable earthworks necessary to provide for the District's social, economic and cultural well-being, and their health and safety where they provide for: *a. urban land uses and development within urban zones;* *b. rural land uses and development including, farm tracks, land drainage, and other farming activities within the Rural zones;* *c. conservation and recreation activities;* *d. land drainage and flood control works; and* *e. installation, upgrade and maintenance of infrastructure*

Comments:

Proposed earthworks are intended to facilitate land drainage.

EW-P2

Ensure earthworks are managed, when it has the potential to:

a. create new or exacerbate existing natural hazards, including but not limited to flooding, instability, and coastal hazards;

b. result in adverse effects on the amenity, characteristics and qualities of outstanding natural landscapes, outstanding natural features, historic heritage, cultural values, indigenous biodiversity and significant natural areas and features; and

c. adversely affect waterbodies and the coastal marine area due to inadequate setbacks.

Comments:

Proposed earthworks are intended to facilitate land drainage and increase land stability.

EW-P3

Ensure earthworks are located and designed appropriately to manage the effects of the activity by:

a. controlling maximum depth and height and maximum area or volume of earthworks;

b. requiring appropriate setbacks are maintained from adjoining property boundaries, waterbodies and the coastal environment;

c. managing the location and design of infrastructure;

d. managing impacts on natural drainage patterns and overland flow paths; and

e. controlling the movement of dust and sediment beyond the area of development to avoid:

i. nuisance effects and/or amenity effects on surrounding sites, or

ii. silt and sediment entering stormwater systems or waterbodies and the coastal marine area.

Comments:

Earthworks can be carried out under acceptable practices to protect waterways and control sediment and erosion.

EW-P4

Require earthworks to be of a type, scale and form that is appropriate for the location having regards to the effects of the activity, and:

a. existing site constraints, opportunities and specific engineering requirements;

b. the impact on existing natural landforms, features, historic heritage and indigenous biodiversity;

c. compatibility with the visual amenity and character values of the area;

d. changes in the natural landform that will lead to instability, erosion and scarring;

e. impacts on natural drainage patterns and overland flow paths;

f. using materials for retaining structures that are compatible with the visual amenity and the characteristics and qualities of the surrounding area;

g. minimising adverse visual effects associated with any exposed cut faces or retaining structures, including with the use of screening, landscaping and/or planting; and

h. loss of flood storage within flood hazard areas

Comments:

Earthworks are minimal and designed to enhance site drainage.

EW-P6
Require that all earthworks are designed and undertaken in a manner that ensures the stability and safety of surrounding land, buildings or structures
Comments: The earthworks are minimal and designed to increase stability of the adjacent land.
EW-P7
Ensure all earthworks associated with land development are designed and assessed in a coordinated and integrated manner at the time of subdivision, by: *a. controlling earthworks associated with subdivision, including for the purpose of site preparation, creating roads or access to/within the subdivision, and for the provision of infrastructure; and* *b. considering the appropriateness of earthworks in conjunction with site design and layout of future subdivision and/or development of land, particularly for future infill or greenfield subdivision.*
Comments: The earthworks are minimal and do not require coordination or integration.
EW-P8
Manage earthworks to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application: *a. the location, scale and volume;* *b. depth and height of cut and fill;* *c. the nature of filling material and whether it is compacted;* *d. the extent of exposed surfaces or stockpiling of fill;* *e. erosion, dust and sediment controls;* *f. the risks of natural hazards, particularly flood events;* *g. stormwater controls;* *h. flood storage, overland flow paths and drainage patterns;* *i. impacts on natural coastal processes;* *j. the stability of land, buildings and infrastructure;* *k. visual amenity, natural character and landscape values,* *l. historic heritage values, and whether any assessment or advice from a suitably qualified and experienced heritage expert is required;* *m. any historical, spritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6;* *n. the life-supporting capacity of soils;* *o. the extent of indigenous biodiversity clearance and its effect on biodiversity values;* *p. outstanding natural character, outstanding natural landscapes and outstanding natural features;* *q. riparian margins;* *r. the location, operational and functional needs and use of infrastructure;* *s. temporary or permanent nature of any adverse effect; and* *t. traffic and noise effects.*
Comments: Earthworks are minimal and not in the vicinity of any historical features, high environmental value areas or high quality soils. They can be carried out under acceptable practices to protect waterways and control sediment and erosion.

6.4 Regional Planning Documents

6.4.1 Regional Policy Statement for Northland

The Regional Policy Statement for Northland ("RPS") covers the management of natural and physical resources in the Northland region. The provisions within the RPS give guidance at a higher planning level in terms of significant regional issues, therefore providing guidance to consent applications and the development of District Plans on a regional level. Its policies have been used to help form the Operative and Proposed District Plans, of which the Objectives, Policies and Rules have been discussed in this application.

Given the nature and scale of the proposed subdivision, being a controlled activity, it is considered that this level of development is compatible with the intent of the RPS.

6.4.2 Proposed Regional Plan (NRC)

The property is not recorded as Erosion Prone or as being subject to any hazards by the Northland Regional Council.

6.4.3 Regional Water & Soil Plan

The attached *Engineering Assessment* confirms that Lots 2's existing wastewater disposal system is contained within the required offsets and is functioning well, and Lot 1 can accommodate a compliant wastewater disposal system when building consent is applied for. Refer to Section 10 of the *Engineering Assessment*.

We therefore believe that on-site wastewater disposal is sustainable in compliance with the permitted activity rules of the RWSP.

6.5 Other National Standards & Policy Documents

6.5.1 National Environmental Standard for Contaminants in Soil

In regard to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011, we have been advised by the applicant that to the best of their knowledge, the application site is not currently, or has not historically been, used for an activity on the Hazardous Activities and Industries List (HAIL).

The property is not recorded as a HAIL site as on the Northland Regional Council Selected Land-use Register.

6.5.2 National Environmental Standard for Freshwater Management

The National Environmental Standard for Freshwater Management (NES-FM) addresses natural wetlands. There are no wetland areas within Lots 1 & 2.

6.5.3 National Policy Standard for Highly Productive Land (Sept 2022)

The National Policy Standard for Highly Productive Land (NPS-HPL) addresses the protection of highly productive land for use in land-based primary production.

The application site does not contain any mapped highly productive land, so this NPS does not apply.

6.6 Part II Matters

6.6.1 Sustainable Management (Section 5)

The purpose of the RMA is the sustainable management of natural and physical resources by managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety.

The proposal achieves this purpose by allowing the owner to sell off the front of his land that is otherwise not being utilised, which in turn provides a desirable lifestyle block for the community.

6.6.2 Matters of National Importance (Section 6)

The matters of national importance relevant to this application are:

(f) the protection of historic heritage from inappropriate subdivision, use, and development

These matters should be recognised and provided for in the consideration of this application.

The proposal achieves this by having consulted an archaeologist in relation to the proposal.

6.6.3 Other Matters (Section 7)

Other matters relevant to this application are:

(b) the efficient use and development of natural and physical resources
(c) the maintenance and enhancement of amenity values
(f) maintenance and enhancement of the quality of the environment
(i) the effects of climate change
(j) the benefits to be derived from the use and development of renewable energy

Particular regard is to be given to these matters in the consideration of this application.

The proposal achieves these aims by creating a new lot that is in keeping with surrounding properties which is orientated north so that it is optimal for solar power. Climate change has been accounted for in stormwater calculations.

6.6.4 Treaty of Waitangi (Section 8)

The principles of the Treaty of Waitangi are to be taken into account in the consideration of this application.

These principles are integrated into the other planning documents that have been discussed in this application in relation to the proposal, the District Plan in particular. The site does not contain any Maori heritage sites.

6.6.5 Part II Considerations Summary

It is considered that the proposal has given due consideration to the Purpose and Principles in Part II of the RMA.

6.7 RMA Section 104 – Consideration of Applications

In terms of sections 104 and 104A of the Act, we consider that:

- Sufficient information has been provided for Council to assess the application.
- The effects of the proposal are considered to be less than minor.

6.8 RMA Section 106 – Refusal of consent

Irrespective of consent activity status, a consent authority may refuse subdivision consent in certain circumstances. These circumstances are set out in s.106 of the Act.

> *(1) A consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that—*
>
> *(a) there is a significant risk from natural hazards; or*
>
> *(b)* [Repealed]
>
> *(c) sufficient provision has not been made for legal and physical access to each allotment to be created by the subdivision.*

Land stability has been addressed in the *Geotechnical Assessment* and all lots have been provided with legal and physical access. No conflict with s.106 of the Act is anticipated.

6.9 RMA Section 95 - Notification and Consultation

No other parties require notification of this proposal.

Consent is sought on a non-notified basis as the sequential statutory tests within s.95 of the RMA are satisfied and no special circumstances are present.

6.10 RMA Section 220 Conditions of Consent

In addition to standard conditions of consent and advice notes, we suggest the following conditions for the subdivision consent are also included (some wording abridged):

(1) Prior to issue of s223 certificate:

(a) title plan granting easements in memorandum.

(2) Prior to issue of s224c certificate:

(a) Construction of drain in accordance with design and plans in *Haigh Workman Engineering Assessment*, including construction of crossing to Lot 1 off Area A. The access should be constructed using a 300mm culvert, then a minimum of 150mm bedding material over the top of the pipe, then a concrete slab.

(b) Requirement for a new power connection to Lot 1.

(c) secure s221 consent notices:

- Requirement for specific foundation design and/or ground stabilization works at time of BC, based on *Haigh Workman Geotechnical Assessment*. [Lot 1]

- Building Restriction Line 38.5m back from northern boundary of Lot 1 – if building north of this line, then further geotechnical assessment and modelling shall be required. [Lot 1]
- Informative Kiwi covenant. [Lots 1 & 2]
- "In conjunction with a building consent application, a stormwater neutrality design shall be provided by a Chartered Professional Engineer which attenuates run-off back to predevelopment levels for the 10 % AEP." [Lot 1]
- "Ensure any new water collection systems allow for sufficient supply for firefighting purposes and are positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509:2008, otherwise by written approval from the New Zealand Fire Service. [Lots 1 and 2]"
- Informing owner that a connection to telecommunications has not been provided and is the owners responsibility. [Lot 1]

It would be greatly appreciated if draft conditions of consent could be forwarded to wendy@sapphiresurveyors.co.nz prior to confirming the final resource consent wording.

7. Conclusion

The proposal is of a nature anticipated by the ODP. The proposal aligns with the relevant objectives and policies of the Operative District Plan and Proposed District Plan, and the relevant objectives and policies of the National and Regional Policy Statements. The proposal also aligns with Part 2 of the Resource Management Act. There is no District Plan rule or National Environmental Standard that requires the proposal to be publicly notified.

It is requested that the Council give favourable consideration to this application and grant consent on a non-notified basis.

8. Appendices

APPENDIX 1 SCHEME PLAN

APPENDIX 2 RECORDS OF TITLE

APPENDIX 3 CHORUS & TOP ENERGY CORRESPONDENCE

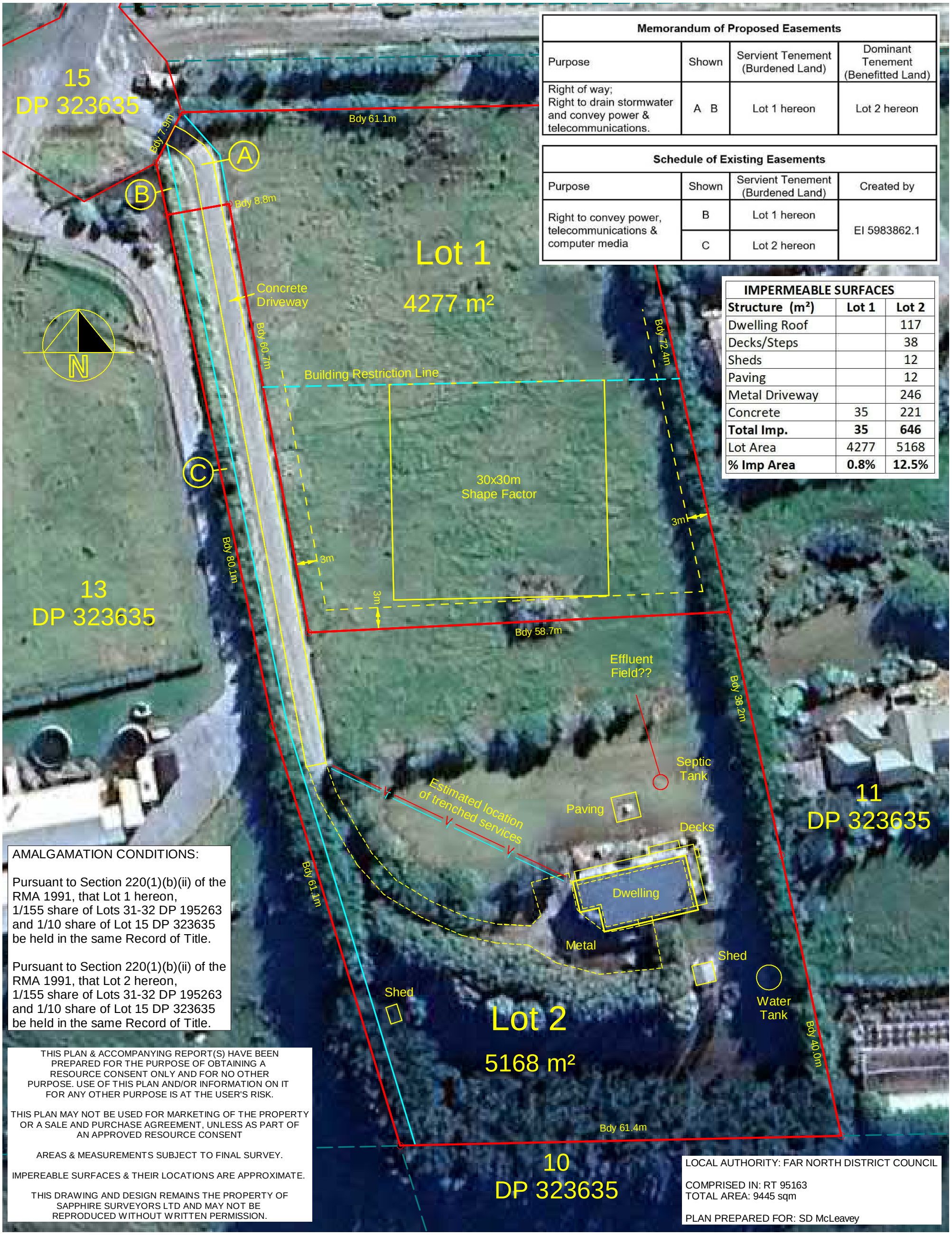
APPENDIX 4 ARCHAEOLOGIST'S LETTER

APPENDIX 5 ENGINEERING ASSESSMENT

APPENDIX 6 GEOTECHNICAL ASSESSMENT

Appendix 1

Scheme Plan



Memorandum of Proposed Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Dominant Tenement (Benefitted Land)
Right of way; Right to drain stormwater and convey power & telecommunications.	A B	Lot 1 hereon	Lot 2 hereon

Schedule of Existing Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Created by
Right to convey power, telecommunications & computer media	B	Lot 1 hereon	EI 5983862.1
	C	Lot 2 hereon	

IMPERMEABLE SURFACES		
Structure (m²)	**Lot 1**	**Lot 2**
Dwelling Roof		117
Decks/Steps		38
Sheds		12
Paving		12
Metal Driveway		246
Concrete	35	221
Total Imp.	**35**	**646**
Lot Area	4277	5168
% Imp Area	**0.8%**	**12.5%**

AMALGAMATION CONDITIONS:

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 1 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 2 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

LOCAL AUTHORITY: FAR NORTH DISTRICT COUNCIL

COMPRISED IN: RT 95163
TOTAL AREA: 9445 sqm

PLAN PREPARED FOR: SD McLeavey

Sapphire Surveyors Ltd

Surveyors &
Land Development Specialists

Doubtless Bay, NZ
Ph. 09-406-0001
info@sapphiresurveyors.co.nz

Lots 1 & 2 being a Proposed Subdivision of Lot 12 DP 323635

Job Ref	0117S	
A3	1:500	
Surveyed:		
Drawn:	WW	29/04/2024
Version:	A	
Status:	Final	1/11/2024
Sheet:	1 of 1	

Appendix 2

Record of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **95163**

Land Registration District **North Auckland**

Date Issued 18 March 2004

Prior References

NA123B/616	NA123B/617	NA123B/618
NA123B/633	NA123B/637	NA123B/638

Estate Fee Simple
Area 9445 square metres more or less
Legal Description Lot 12 Deposited Plan 323635
Registered Owners
Simon David McLeavey

Estate Fee Simple - 2/155 share
Area 19.1140 hectares more or less
Legal Description Lot 31-32 Deposited Plan 195263
Registered Owners
Simon David McLeavey

Estate Fee Simple - 1/5 share
Area 1242 square metres more or less
Legal Description Lot 15 Deposited Plan 323635
Registered Owners
Simon David McLeavey

Interests

Appurtenant hereto is a water pipeline right created by Transfer A388217

Appurtenant hereto is a water pipeline right created by Transfer A397039

D409886.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 15.7.1999 at 9.00 am

Subject to a stormwater drainage right (in gross) over part marked G on DP 195263 in favour of Far North District Council created by Transfer D409886.4 - 15.7.1999 at 9.00 am (affects Lot 31 DP 195263)

The easements created by Transfer D409886.4 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Transfer D425236.1 - 31.8.1999 at 9.00 am

5937866.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 18.3.2004 at 9:00 am

Subject to Section 241(2) Resource Management Act 1991 (affects DP 323635)

Subject to an electricity transmission easement (in gross) over part marked A on DP 323635 in favour of Top Energy Limited created by Transfer 5937866.5 - 18.3.2004 at 9:00 am (affects Lot 15 DP 323635)

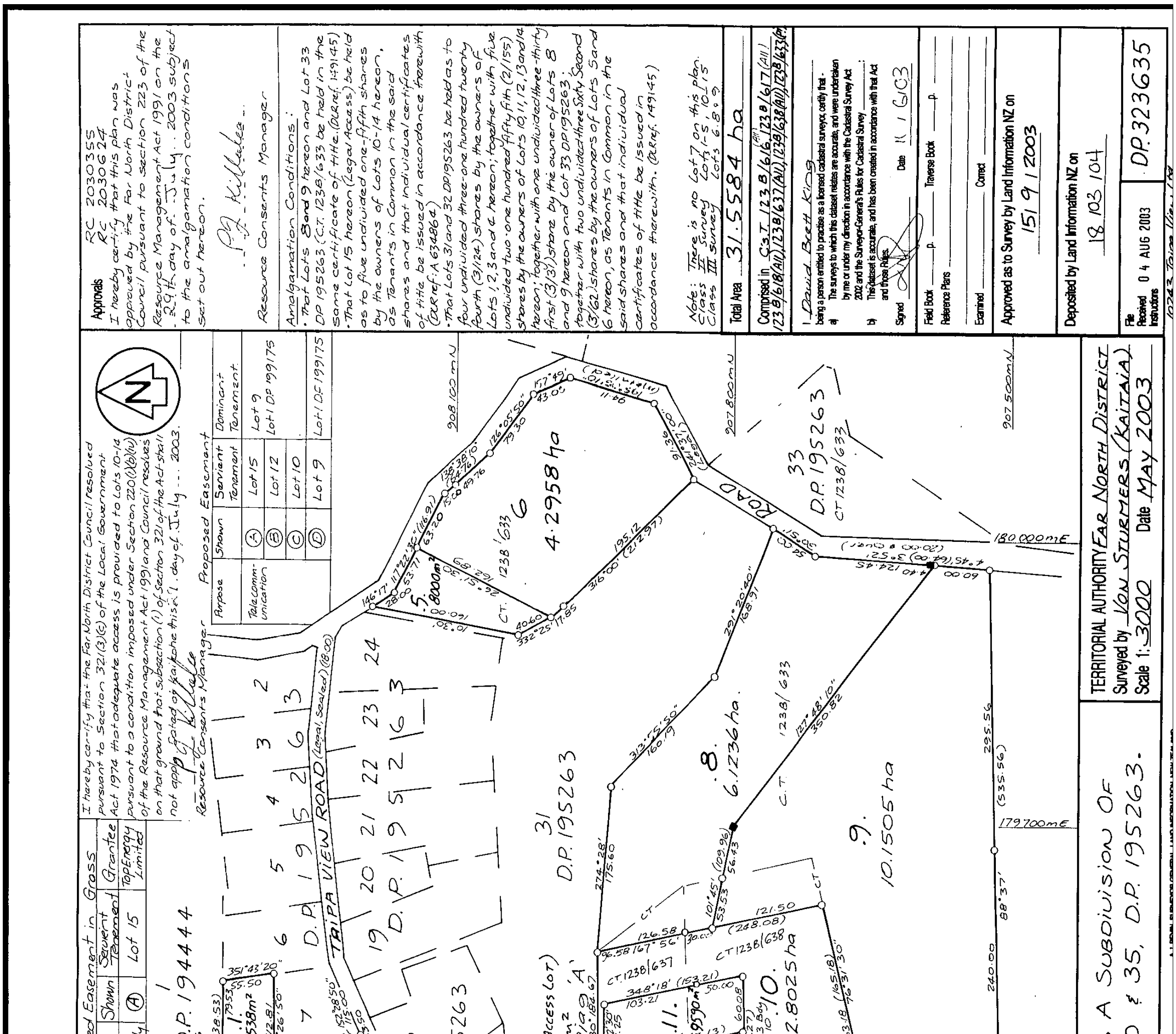
Subject to rights to convey electricity, telecommunications & computer media easements over part marked A on DP 323635 created by Easement Instrument 5983862.1 - 28.4.2004 at 9:00 am

Subject to rights to convey electricity, telecommunications & computer media easements over part marked B on DP 323635 created by Easement Instrument 5983862.1 - 28.4.2004 at 9:00 am

Land Covenant in Transfer 6040170.2 - 14.6.2004 at 9:00 am

Fencing Covenant in Transfer 6040170.2 - 14.6.2004 at 9:00 am

12153354.3 Mortgage to Peter Herbert McLeavey, Simon David McLeavey, Diane Frances Bussey and C R Trustees Limited - 25.6.2021 at 3:17 pm


LT 323635 (Title Plan)
DIAGRAM 'A' (Not to scale)
LAND DISTRICT NORTH AUCKLAND
LOTS 1-6 & 8-15 BEING A SUBDIVISION OF LOTS 8-10, 25-30 & 35, D.P. 195263.
TERRITORIAL AUTHORITY FAR NORTH DISTRICT
Surveyed by VON STURMERS (KAITAIA)
Scale 1:3000
Date MAY 2003
Total Area 31.5584 ha
DP 323635
TAIPA VIEW ROAD (Legal, Sealed) (18.00)
S.H. No 10 (Legal, metalled) (20.12)
D.P. 195263
D.P. 199175
D.P. 194444
Amalgamation Conditions:
Approvals
Resource Consents Manager

(3) A388217TE

MEMORANDUM OF TRANSFER

WHEREAS IAN JAMES MUIR of Taipa, farmer (hereinafter referred to as "the transferor") is registered as proprietor of an estate of leasehold subject however to such encumbrances, liens and interests as are notified by memoranda underwritten or endorsed hereon in all that piece of land situated in the Land District of North Auckland containing three hundred and seventy-six acres one rood thirty-four perches (376 : 1 : 34) more or less being Allotments 54, 55 and 56 Taipa Parish and being the whole of the land comprised in Renewable Lease registered in Volume 16A folio 277 of the Register Book at Auckland (hereinafter referred to as the "servient tenement") subject to Memorandum of Mortgage Number A 387350 [redacted] AND WHEREAS Her Majesty the Queen (hereinafter with her successors and assigns referred to as "the transferee") is the owner of all that piece of land situated in the Land District of North Auckland containing six hundred and fifty-nine acres two roods thirty perches (659 : 2 : 30) being Allotment 57 Taipa Parish and Section 33 Block IV Mangonui Survey District (hereinafter referred to as "the dominant tenement") AND WHEREAS the dominant tenement adjoins the servient tenement and whereas the transferor has agreed to grant to the transferee an easement over the servient tenement for the purpose of conveying water by means of pipes not less than twelve (12) inches below the surface of the soil of the said servient tenement to the dominant tenement NOW THEREFORE in pursuance of the premises the transferor doth hereby transfer and grant unto the transferee the full and free right to convey water by means of pipes through and under that portion of the servient tenement shown on the diagram endorsed hereon and enclosed by broken black lines and marked "pipeline easement" thereon (hereinafter referred to as "the said land") and for that purposes to lay pipes in and under the said land at the minimum depth aforesaid stated in order to permit the full free and uninterrupted right of drawing water therefrom and also doth further grant unto the transferee her tenants agents servants workmen invitees and licensees the right to enter upon the said land for the purpose of examining repairing relaying removing or otherwise altering or removing any such pipes or for maintaining the same in good and satisfactory order PROVIDED ALWAYS that the transferee will exercise the rights hereby granted without unnecessary interference with any fencing cultivation or other improvements effected by the transferor but without liability for damage or loss which may result to the transferor or to the said land abovedescribed AND IT IS HEREBY DECLARED and the transferor admits and acknowledges that the aforesaid pipes are the absolute property of the transferee and that the transferor has no interest either legal or equitable therein and the transferee shall be at liberty at any time to enter upon the said land abovedescribed and to remove all or any of the said pipes AND IT IS HEREBY DECLARED that the easement hereby granted shall be for ever appurtenant to the said dominant tenement

IN WITNESS WHEREOF these presents have been executed this 22nd day of April one thousand nine hundred and sixty-nine.

SIGNED by the abovenamed IAN JAMES MUIR as transferor in the presence of:

Witness:

Occupation: Field Officer Land Survey Dept

Address: P.O. Box 114 Kaitaia

SIGNED by DOUGLAS JOHN MITCHELL, Assistant Commissioner of Crown Lands for the North Auckland Land District for and on behalf of Her Majesty the Queen in the presence of:

Asst Commissioner of Crown Lands

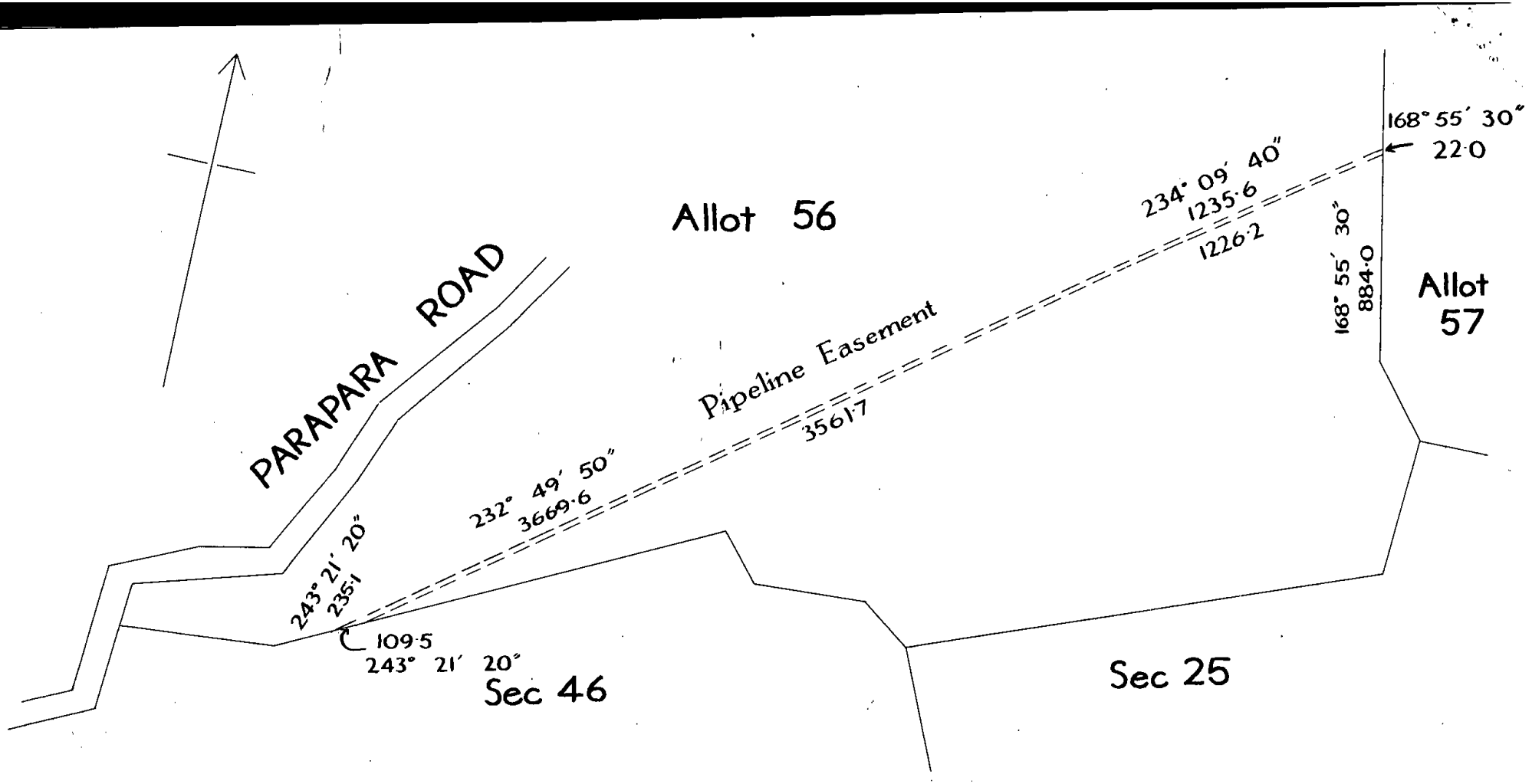
Witness:

Occupation: Draughting Clerk

Address: Lands and Survey Dept Auckland.

Correct for the purposes of the Land Transfer Act

Solicitor for Her Majesty the Queen



Scale: 5 chains to an inch

MR AV.

A388217 4

PARTICULARS ENTERED IN THE REGISTER-BOOK
VOL. 16A FOLIO 277

THE 7th DAY OF MAY 1969
AT 9.00 O'CLOCK.

Assistant Land Registrar
NORTH AUCKLAND

3

LAND & DEEDS
Nature: Deed of Grant
Firm: G.G.R.
27 MAY 1969
Time: 9.00
Fee: —
Abstract No. 1765

A388217

PARTICULARS ENTERED IN THE REGISTER-BOOK
VOL. 16A FOLIO 277

THE 7th DAY OF MAY 1969
AT 9.00 O'CLOCK.

L.A. Lumbridge
Assistant Land Registrar
NORTH AUCKLAND

A700/22901
12FA2-5

3

LAND & DEEDS
Nature: Deed of Grant
Firm: C.C.L.
7 MAY 1969
Time: 9.00
Fee: —
Abstract No. 1765

PAH

A397039 TE

MEMORANDUM OF TRANSFER

WHEREAS PURIRI STATION LIMITED A DULY INCORPORATED COMPANY HAVING ITS REGISTERED OFFICE AT KAITAIA (hereinafter referred to as "the transferor") is registered as proprietor of an estate of leasehold subject however to such encumbrances, liens and interests as are notified by memoranda underwritten or endorsed hereon in all that piece of land situated in the Land District of North Auckland containing one thousand and eighty seven acres one rood nineteen perches (1087 : 1 : 19) more or less being Sections 44, 45 and 46 Block XIII Rangaunu Survey District and being the whole of the land comprised in Renewable Lease registered in Volume 130 folio 41 of the Register Books of the District of Auckland (hereinafter referred to as "the servient tenement") subject to Memorandum of Mortgage Number A259127 and Memorandum of Mortgage Number A259128, both to Her Majesty the Queen AND WHEREAS Her Majesty the Queen (hereinafter with her successors and assigns referred to as "the transferee") is the owner of all that piece of land situated in the Land District of North Auckland containing six hundred and fifty nine acres two roods thirty perches (659 : 2 : 30) being Allotment 57 Taipa Parish and Section 33 Block IV Mangonui Survey District (hereinafter referred to as "the dominant tenement") AND WHEREAS the transferor has agreed to transfer and grant to the transferee the right to draw water as hereinafter set out NOW THEREFORE in pursuance of the premises the transferor doth hereby transfer and grant unto the transferee

(a) The full free and uninterrupted right liberty and privilege to take water that is reasonably required for the domestic needs of the transferee and the needs of any animals for which she has responsibility and for or in connection with fire fighting purposes in free and unimpeded flow from the bore on that portion of the servient tenement shown on the diagram endorsed hereon and enclosed by broken black lines and marked "pipeline easement" thereon (hereinafter referred to as the said land) by means of a water pump and electric motor situated on the said land and to carry and convey water through the pipeline or pipelines from such pump upon in through and over the said land to the land of the transferee.

(b) The full and free right and liberty for the transferee to maintain the said bore, water pump electric motor, and pipeline or pipelines for the transferee her tenants agents servants workmen invitees and licensees to enter at all times upon the said land for the purpose of inspecting cleansing regulating replacing repairing or renewing the said bore pump and electric motor or any or either of them and the said pipeline or pipelines with the right to open up the soil for the said purpose or to lay or place the said pipes at any varying depth below the surface of the soil as the transferee may

think fit but so as to cause as little damage as need be to the said surface consistent with a fair user of the said pipeline or pipelines together with the right to the transferee at all times to use and maintain the existing electric power line to the said motor and to renew the same whenever necessary without liability for damage or loss which may result to the transferor or its servants agents invitees or visitors or to its land or property from such powerline or otherwise AND the transferor admits and acknowledges that the aforesaid bore water pump electric motor and piping are the absolute property of the transferee and that the transferor has no interest either legal or equitable therein and the transferee shall be at liberty at any time to enter upon the said land and to remove all or any of the said chattels and the transferor covenants at all times to permit the full and unimpeded flow of water from the said bore to the land of the transferee and shall not itself be entitled to draw any water therefrom for any purpose whatsoever and the transferee covenants that she will pay the cost of all electric power consumed in the exercise of her rights hereunder AND IT IS FURTHER DECLARED that the easement hereby granted shall be for ever appurtenant to the said dominant tenement.

IN WITNESS WHEREOF these presents have been executed this 22nd day of April one thousand nine hundred and sixty-

THE COMMON SEAL of PURIRI STATION LIMITED was hereunto affixed in the presence of:

PURIRI STATION LIMITED THE COMMON SEAL OF

D. A. Robson DIRECTOR

SECRETARY

SIGNED by DOUGLAS JOHN MITCHELL, Assistant Commissioner of Crown Lands for the North Auckland Land District for and on behalf of Her Majesty the Queen in the presence of:

Assistant Commissioner of Crown Lands

Witness:

Occupation: Police Clerk

Address: Lands and Survey Dept Auckland

Correct for the purposes of the Land Transfer Act

Solicitor for Her Majesty the Queen

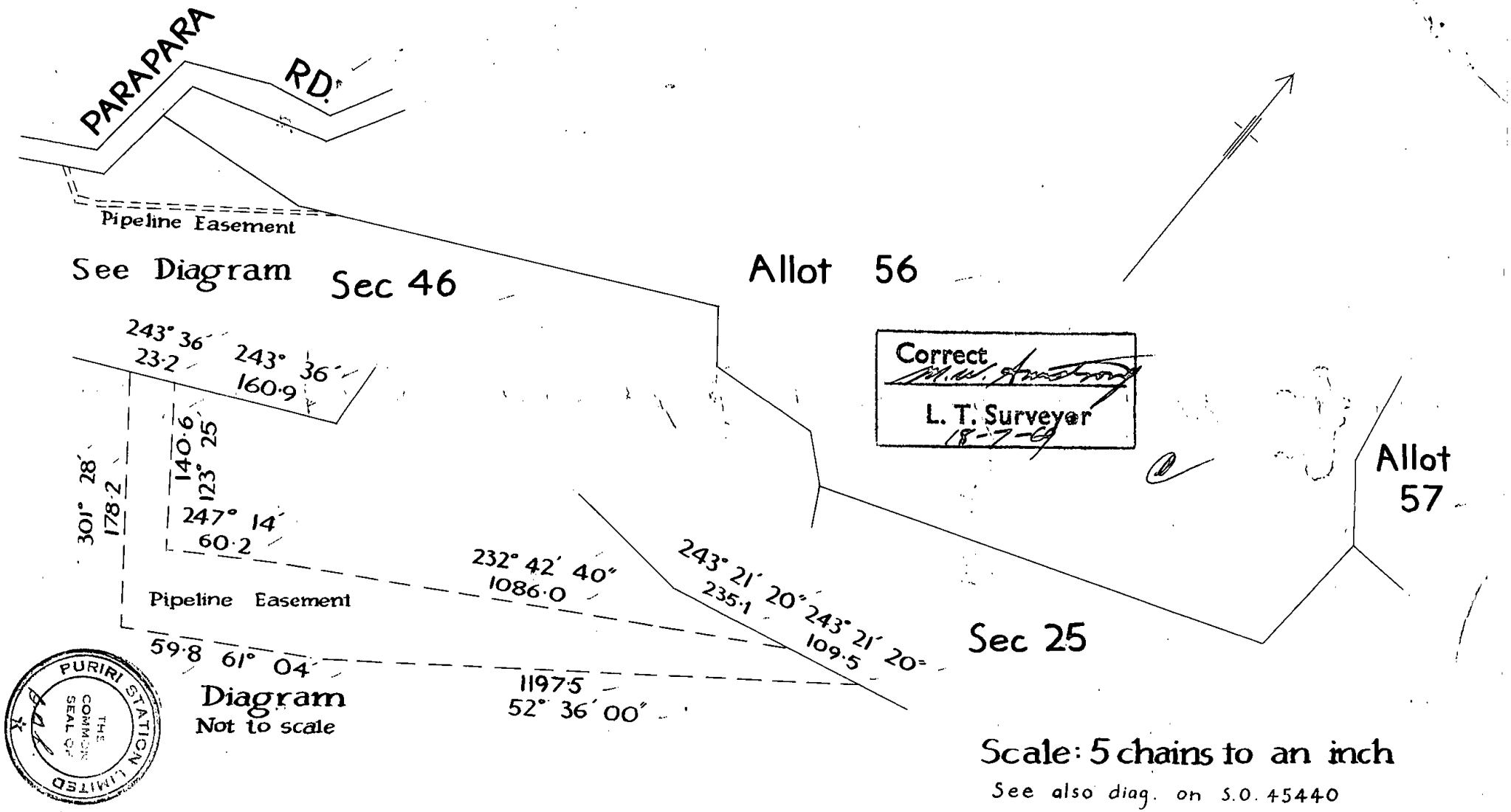


Diagram
Not to scale

Scale: 5 chains to an inch

See also diag. on S.O. 45440

MR .N

A397039

~~61/1317~~

REGISTERED AS SINGLE COPY ONLY.

PARTICULARS ENTERED IN THE REGISTER-BOOK
VOL. 13C FOLIO 41

THE 7 DAY OF May 1969
AT 9.00 O'CLOCK.

R. Lumsden
Assistant Land Registrar,
N.T. AUCKLAND

DISTRICT LAND REGISTRAR AUCKLAND, N.Z.

Have noted

1. Grant deposit
2. Restrictive covenant? Why?

16A/278

A 388217

All 33 Block V Mangonui SD

All 57 Tauhara

LAND & DEEDS
Nature: Deed of Grant
Fee: 6.6.2
7 MAY 1969
Time: 9.00
Fee: $
Abstract No. 1765

A 388217
A 387351

D409886.2

CONO

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221 : CONSENT NOTICE

REGARDING:
The Subdivision of
Pt Allot 57 Taipa Parish
Blk IV Mangonui SD
North Auckland Registry

PURSUANT to Section 221 and for the purposes of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in Schedule 1 below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and this Notice is to be registered on the new titles, as set out in Schedule 2 herein.

SCHEDULE 1

(1) Any buildings situated on Lots 14 or 15 are to have foundations and floor levels designed in accordance with the floodability report from Brown and Thomson Consulting Engineers submitted on 12 February 1999.

(2) No building which requires effluent disposal shall be erected on any of the subdivision allotments without the prior approval of the council to specific design for such effluent disposal, including an indication of compliance with Regional Council rules.

Such design may be in accordance with the Brown and Thomson report dated 19 September 1997, or to such similar professional design standard and detail as the circumstances dictate. Similar maintenance matters as set out in the September 1997 report should be included as required.

(3) Prior to the expiry of one year after the issue of the new titles, satisfy the Council that no less than $ 7000 value of landscaping work (planting, earthworks, access, riparian enhancement or park furniture) has been completed, in accordance with Stage B of the landscaping plan submitted by Trees Company Nursery, dated 8 February 1999. **Note** that the cost of the deferred pedestrian walkway [varied Condition (3)(a)(v) of the 29 January 1999 consent], which is to be completed in conjunction with this condition, is *not* to be deducted from the landscaping value of $ 7000 specified herein.

This condition applies only to Lots 31 and 32, and is to be registered on the titles of Lots 2 - 24, 29 and 30.

(4) Prior to the expiry of two years after the issue of the new titles, satisfy the Council that no less than $ 14,000 (inclusive of the previous $ 7000 contribution) value landscaping work (planting, earthworks, access, riparian enhancement or park furniture) has been completed, in accordance with Stage B of the landscaping plan submitted by Trees Company Nursery, dated 8 February 1999.

This condition applies only to Lots 31 and 32, and is to be registered on the titles of Lots 2 - 24, 29 and 30.

(5) Within six months of the issue of a Code Compliance Certificate for any building on a subject allotment, or within six months of its occupation or utilisation (whichever comes first) provide, to Council's satisfaction, landscaping on the subject allotment in accordance with Stage C of the landscaping plan submitted by Trees Company Nursery, dated 15 April 1999.

This condition applies to Lots 13, 14, 19 - 24 (inclusive) being the allotments affected by Stage C of the landscape plan.

SCHEDULE 2

(1) Condition (1) in Schedule 1 refers to Lots 14 and 15 DP 195263 being contained in CsT 123B/622 and /623.

(2) Condition (2) in Schedule 1 refers to Lots 2 to 24 (inclusive), 29 - 32 (inclusive), and the amalgamated title for Lots 25 - 28, 33 and 35 DP 195263, being contained in CsT 123B/610 to /632, 123B/637 to /640 and 123B/633 and also refers to the balance area allotment of Pt Allot 57 Taipa Parish, being contained in residue CT 112A/389.

(3) Condition (3) in Schedule 1 refers to Lots 31 and 32 DP 195263 being contained in CsT 123B/639 and /640

(4) Condition (4) in Schedule 1 refers to Lots 31 and 32 DP 195263 being contained in CsT 123B/639 and /640

(5) Condition (5) in Schedule 1 refers to Lots 13 and 14, and Lots 19 to 24 (inclusive) on DP 195263 being contained in CsT 123B/621, /622 and /627 to /632.

SIGNED: _____

ENVIRONMENTAL SERVICES MANAGER for the Far North District Council

DATE: 28th MAY 1999

SIGNED by

TAIPA VIEW LIMITED

_____

as registered proprietor(s)

by its Director

Per Fridlew Lugnet :-

in the presence of:

_____

Name

RICHARD N. MARTIN
Solicitor
Wellington

Occupation

P\3CN81205 .DOC

9.00 15.JUL99 D 409886

PARTICULARS ENTERED IN REGISTER
LAND REGISTRY NORTH AUCKLAND
FOR REGISTRAR - GENERAL OF LAND

9.00 15 JUL 99 D409886.2

(in application for residue title

on part cancellation CT. in brackets 8 221
note in principle also affects residue CT.

↓

bring down on all new CT 4

D409886.4 TE

TRANSFER

Land Transfer Act 1952

This page does not form part of the Transfer.

TRANSFER
Land Transfer Act 1952

If there is not enough space in any of the panels below, cross reference to and use the approved annexure schedule: no other format will be received

Land Registration District

North Auckland

Certificate of Title No.	All or Part?	Area and legal description - ***Insert only when part or Stratum, CT***
See Annexure Schedule		

Transferor *Surnames must be underlined*

Taipa View Limited

Transferee *Surnames must be underlined*

The Far North District Council

Estate or Interest or Easement to be created: *Insert e.g. Fee simple; Leasehold in Lease No ...; Right of way etc*

Stormwater drainage easement in gross (Continued on Page 2 Annexure Schedule)

Consideration

$1.00

Operative Clause

For the above consideration (receipt of which is acknowledged) the TRANSFEROR TRANSFERS to the TRANSFEREE all the transferor's estate and interest described above in the land in the above Certificate(s) of Title and if an easement is described above such is granted or created

Dated this 28th **day of** July **1999**

Attestation

Taipa View Limited by its Director Per Fridlew Lugnet:	Signed in my presence by the Transferor Signature of Witness
Signature or common seal of Transferor	**Witness to complete in BLOCK letters** *(unless typewritten or legibly stamped)* Witness name RICHARD N. MARTIN Occupation Solicitor Address Wellington

Certified correct for the purposes of the Land Transfer Act 1952

Certified that no conveyance duty is payable by virtue of Section 24(1) of the Stamp and Cheque Duties Act 1971.

Solicitor for the Transferee

Annexure Schedule

TRANSFER Dated 28/7/99. Page 2 of 3 Pages

Section A Titles:- Certificate of Title No.		All or Part?
123B	611	All
123B	612	All
123B	619	All
123B	620	All
123B	621	All
123B	610	All
~~123B~~	~~638~~	~~All~~
123B	622	All

Section B Titles:- Certificate of Title No.	All or Part
123B/610 to 123B/638 inclusive 123B/641 123B/642	Part, being share of Lot 31 on DP 195263

Continuation of "Estate or Interest or Easement to be created"

Grant of easement to drain water

Easement rights

1. The Transferee will have the right to drain water:-

(i) over that part of the land in CT 123B/611 marked A on DP 195263
(ii) over that part of the land in CT 123B/612 marked B on DP 195263
(iii) over that part of the land in CT 123B/619 marked C on DP 195263
(iv) over that part of the land in CT 123B/620 marked D on DP 195263
(v) over that part of the land in CT 123B/621 marked E on DP 195263
(vi) over that part of the land in CT 123B/610 marked F on DP 195263
(vii) over that part of the land in ~~CT 123B/638~~ marked G on DP 195263 in the Section B Titles above
(viii) over that part of the land in CT 123B/622 marked H on DP 195263

2. Under clause 1 "water" means stormwater, spring, or seepage water.

3. This right is together with the rights to:-

(a) Enter the land by the most practicable route to do the following work:

- dig and construct open drainage channels on the servient land;
- inspect and maintain (including re-digging) the said drainage channels;
- dig, construct and lay a pipe or pipes under the surface of the servient land;
- inspect, maintain, dig up, alter or replace the said pipe or pipes.

(b) Do anything for the full exercise of the rights granted by this instrument. The Transferee may do this with or without agents, contractors and employees and with or without tools, plant, equipment and vehicles.

Covenants

4. The Transferee, when exercising its rights, will do all the following:

(a) Give reasonable notice to the transferor before exercising its rights, unless in an emergency. Whether or not the emergency exists will be decided by the Transferee.

(b) Cause as little damage and inconvenience as possible to the servient land.

(c) Restore the servient land as near as reasonably possible to its previous condition.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

Approved by Registrar-General of Land under No. 1995/5004

Annexure Schedule

Insert below:-
"Mortgage", "Transfer", "Lease" etc

Transfer	dated	28 | 7 | 99	page	3	of	3	pages

5. The Transferor will not do anything to:

   (a) Prevent or interfere with the free passage of water through the open drainage channels or any pipes that may be laid under the surface of the servient land.

   (b) Interfere with the full use and enjoyment by the Transferee of the rights created by this instrument.

6. The above rights constitute an easement in gross.

7. If any dispute arises between the Transferor and the Transferee concerning the rights created by this transfer, the parties will:

   - Enter into negotiations in good faith to resolve the dispute.
   - If the dispute is not resolved within 1 month of the date on which the parties begin their negotiations, submit the dispute to the arbitration of an independent arbitrator appointed jointly by the parties.
   - If the parties cannot agree on that appointment within 14 days then the arbitration shall be carried out by an independent arbitrator appointed by the President of the Auckland District Law Society.
   - Such arbitration will be determined in accordance with the Arbitration Act 1996.

   The execution of this transfer is a submission to arbitration.

THE COMMON SEAL of)
THE FAR NORTH DISTRICT)
COUNCIL was hereunto)
affixed in the presence of:)

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

Approved by Registrar-General of Land under No. 1996/1011

TRANSFER

Land Transfer Act 1952

The ~~claim~~ within ~~easements when created will be~~ is subject to Section 243(a) Resource Management Act 1991

~~for DLR~~
RGC.

LINZ COPY
9.00 15 JUN 99 D 409886.4F

12358/610 GISBORNE

for Registrar-General of Land

This page is for Land Registry Office Use Only.

D 425236.1 T

TRANSFER

Land Transfer Act 1952

This page does not form part of the Transfer.

TRANSFER
Land Transfer Act 1952

If there is not enough space in any of the panels below, cross reference to and use the approved annexure schedule: no other format will be received

Land Registration District

North Auckland

Certificate of Title No.		All or Part?	~~Area and legal description — Insert only when part or Stratum, CT~~
123B	610 to 633 (inclusive)	All	
123B	637	All	
123B	638	All	

Transferor *Surnames must be underlined*

Taipa View Limited

Transferee *Surnames must be underlined*

Taipa View Limited

Estate or Interest or Easement to be created: *Insert e.g. Fee simple; Leasehold in Lease No ...; Right of way etc*

Fee simple subject to land covenants (continued on page 2 Annexure Schedule)

Consideration

$1.00

Operative Clause

For the above consideration (receipt of which is acknowledged) the TRANSFEROR TRANSFERS to the TRANSFEREE all the transferor's estate and interest described above in the land in the above Certificate(s) of Title and if an easement is described above such is granted or created

Dated this 23rd **day of** August 1999

Attestation

Taipa View Limited by its sole Director Per Fridlew Lugnet Signature or common seal of Transferor	Signed in my presence by the Transferor and the Transferee Signature of Witness **Witness to complete in BLOCK letters** *(unless typewritten or legibly stamped)* Witness name RICHARD N. MARTIN Occupation Solicitor Address Wellington

Certified correct for the purposes of the Land Transfer Act 1952

Certified that no conveyance duty is payable by virtue of Section 24(1) of the Stamp and Cheque Duties Act 1971.

Solicitor for the Transferee

Approved by Registrar-General of Land under No. 1995/5004

Annexure Schedule

Insert below:-
"Mortgage", "Transfer", "Lease" etc

Transfer	dated	23/8/1999	page	2	of	6	pages

Continuation of "Estate or Interest or Easement to be created"

WHEREAS

1. The Transferor when registered as proprietor of the land formerly contained in Certificate of Title 112A/389 subdivided part of the land therein into Lots pursuant to a rural/residential scheme of subdivision in the manner shown and defined on Deposited Plan 195263 ("the Subdivision").

2. It is the Transferor's intention to create by way of land covenants certain restrictions and stipulations over certain titles contained in the Subdivision in favour of other titles contained in the Subdivision such that the owners of the titles having the benefit of the land covenants shall be able to enforce the observance of the stipulations and restrictions against the owners of the titles expressed to be subject to the land covenants.

NOW THEREFORE

1.0 **Preservation of View Covenants**

1.1 As incidental to the transfer of the certificates of title in Column B of Schedule I ("the Schedule I Servient Titles") the Transferee so as to bind each such title for the benefit of the certificate of title which appears in the same row of Column A of Schedule I ("the Schedule I Dominant Titles") does hereby covenant and agree so as to bind itself and its successors in title:-

Not to plant construct or erect or permit to be planted constructed or erected on the land in any of the Schedule I Servient Titles any tree, shrub or plant, or building or structure, or any combination of these which obstructs more than 20% of the view

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

over the land in the Schedule I Servient Titles along a horizontal sight plane taken from ground level at the highest point of the ridge on the Schedule I Dominant Title, which ridge runs east-west across the land in the Schedule I Dominant Title approximately 40 metres south of the northern (roadway) boundary.

1.2 As incidental to the transfer of the certificates of title in Column B of Schedule II (the Schedule II Servient Titles) the Transferee so as to bind each such title for the benefit of the certificates of title which appear in Column A of Schedule II does hereby covenant and agree so as to bind itself and its successors in title:-

Not to grow or permit to be grown any tree plant or shrub on any part of the land in any of the Schedule II Servient Titles to a height which exceeds by any more than 6 metres the highest point of the ridge on the respective Schedule II Servient Title, which ridge runs east-west across the land in the Schedule II Servient Title approximately 40 metres south of the northern (roadway) boundary.

1.3 As incidental to the transfer of the certificates of title in column B of Schedule III (the Schedule III Servient Titles) the Transferee so as to bind each such title for the benefit of the certificate of title which appears in the same row of column A of Schedule III (the Schedule III Dominant Titles) does hereby covenant and agree so as to bind itself and its successors in title:-

Not to plant or permit to be planted or grow or permit to be grown within 2 metres of and along more than 20% of the boundary which is common to the Schedule III Servient Title and the Schedule III Dominant Title any tree plant or shrub which, when fully grown, exceeds by more than 2 metres the height of the ridge-line at the point of the said common boundary such ridge-line running east-west across the land in the Schedule III Servient Title and Dominant Title approximately 40 metres south of the northern (roadway) boundary.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

GAULT MITCHELL
LAWYERS

PARTNERS
JOHN CLAYTON MEO, LL.B.
ALLAN ROSS MARSHALL, LL.B. (HONS.)
RICHARD NORMAN MARTIN, LL.B.
ANDREW KINLEY ORMOND HENDERSON, LL.B.

CONSULTANT
JOHN ADAM WILSON, LL.B., QSO

LEVEL 4
NATURAL GAS CORPORATION HOUSE
22 THE TERRACE
WELLINGTON, NEW ZEALAND

P.O. BOX 645, WELLINGTON
DX SP26507
TELEPHONE: (04) 472-5074
FAX: (04) 471-0835

E-MAIL: rnm@gaultmitchell.co.nz

PLEASE REFER TO: Mr R N Martin

OUR REF: 30567/6

17 August 1999

URGENT please.

BY COURIER

The District Land Registrar
LINZ Auckland Regional Office
Price Waterhouse Building
41-43 Federal Street
AUCKLAND

ATTENTION: Nanu

Dear Sir

TAIPA VIEW LIMITED – REGISTRATION
PLAN REFERENCE: DP 195263
DEALING: 409886

We now **enclose** the Transfer creating the stormwater drainage easement in gross, having clarified the servient tenement details regarding the area marked "G" on Lot 31, taking into account that Lot 31 will be divided into shares and ownership vested in the other titles.

We apologise for the inconvenience, and would be grateful if the issue of the titles could now be expedited.

Thank you in anticipation.

Yours faithfully
GAULT MITCHELL

Richard Martin
Partner

Enc

2.0 **Building Covenants**

2.1 As incidental to the transfer of each of the certificates of title herein the Transferee so as to bind each title individually for the joint and several benefit of all the other titles transferred herein does hereby covenant and agree so as to bind itself and its successors in title:-

2.1.1 (i) Only to erect a new dwelling on the land or else meet the terms of clause 2.1.3;

(ii) When constructing a new dwelling only to use high quality building materials with the roof having a pre-painted finish or constructed from permanent materials;

(iii) To fully enclose and cover in the dwelling within 18 months of the laying of the foundations for the dwelling;

(iv) Not to occupy or use as a residence the dwelling until it has been substantially completed.

2.1.2 The Transferee shall not erect or place or permit to be erected or placed upon the land any caravan, hut, tent or shed to be used as a dwelling except such as may be used in conjunction with the construction of a permanent dwelling and which will be removed from the land upon completion of the construction work for the permanent dwelling.

2.1.3 The Transferee shall not erect or place nor permit to be erected or placed upon the land any secondhand building of any kind whether a dwelling house,

garage, flat, carport or any other structure unless the prior written consent of the Transferor has been given. The Transferor shall have complete discretion in granting or declining approval and its primary objective in reviewing applications will be to ensure that an overall high standard of buildings is established and maintained.

2.1.4 The Transferee shall not permit to be brought on to or remain on the land any materials, debris, rubbish, trade vehicles, trade equipment or trade signs other than may be reasonably necessary during the time building is in progress on the land.

Annexure Schedule

Insert below:-
"Mortgage", "Transfer", "Lease" etc

Transfer dated 23 8 1999 page 6 of 6 pages

SCHEDULE I

Column A Title reference of land receiving benefit of land covenant in clause 1.1 (the Schedule I Dominant Titles)	Column B Title reference of land subject to land covenant in clause 1.1 (the Schedule I Servient Titles)
123B/624	123B/620 123B/621 123B/622 123B/623
123B/625	123B/617 123B/619 123B/620 123B/621
123B/626	123B/616 123B/617 123B/618
123B/627	123B/614 123B/615 123B/616 123B/617
123B/628	123B/613 123B/614 123B/615 123B/616
123B/629	123B/611 123B/612 123B/613 123B/614
123B/630	123B/610 123B/611 123B/612
123B/631	123B/610 123B/611 123B/612
123B/632	123B/610 123B/611 123B/612

SCHEDULE II

Column A Title reference of land receiving benefit of land covenant in clause 1.2 (the Schedule II Dominant Titles)	Column B Title reference of land subject to land covenant in clause 1.2 (the Schedule II Servient Titles)
All the titles in the Subdivision, being 123B/610 to 123B/638 (inclusive), 123B/641 and 123B/642 .	123B/624 to 123B/632 (inclusive)

SCHEDULE III

Column A Title reference of land receiving benefit of land covenant in clause 1.3 (the Schedule III Dominant Titles)	Column B Title reference of land subject to land covenant in clause 1.3 (the Schedule III Servient Titles)	
123B/627	123B/628	
123B/628	123B/627	123B/629
123B/629	123B/628	123B/630
123B/630	123B/629	

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

Annexure Schedule

TRANSFER Dated _____ Page ____ of ____ Pages

BLANK

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or their solicitors must put their signatures or initials here.

Approved by Registrar-General of Land under No. 1996/1011

TRANSFER

Land Transfer Act 1952

Gault Mitchell
Lawyers
WELLINGTON
(R N Martin)

This page is for Land Registry Office Use Only.

FAR NORTH DISTRICT COUNCIL

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221 : CONSENT NOTICE

REGARDING RC2030355
The subdivision Lot 8-10 29 30 26-27 DP 1958263
North Auckland Registry.

PURSUANT to Section 221 for the purposes of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by the FAR NORTH DISTRICT COUNCIL to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and is to be registered on the title of Lots 1-6 8-15 DP 323635

SCHEDULE

i. No building that requires effluent disposal shall be erected on any of the subdivision allotments without the prior approval of the Council to specific design for such effluent disposal, including an indication of compliance with regional Council rules.

Such design may be in accordance with the Brown and Thomson report dated 19 September 1997 (but specific to the particular site under consideration), or to such similar professional design, standard and detail as the circumstances and the site dictate. Similar maintenance matters as set out in the 1997 report should be included as required and/or appropriate.

ii. At the time of development of either Lot 1 or Lot 2 on the plan, provide and complete to the satisfaction of the Council, a retention trench along the northern boundaries of the two lots and falling to the existing discharge across Lot 1 DP 194444 to the highway drain. Provide and register easement over this drain in favour of both titles. The costs of the drainage work and the easement creation are to be equally shared between the registered proprietors of the two lots and these matters are to be completed prior to the commencement of any built development on either lot.

iii. At the time of development of Lot 11 on the plan the registered proprietor of Lot 11 is provide and complete to the satisfaction of the Council a 300mm diameter culvert under the Lot 10 entrance strip. This work is to be completed prior to the commencement of any built development on Lot 11.

iv. Surface flow (stormwater) from Lots 12 & 13 (including water tank overflow) is to be directed to the swale drain around the cul-de-sac head.

SIGNED: _____

by the FAR NORTH DISTRICT COUNCIL
under delegated authority:
RESOURCE CONSENTS MANAGER

DATED at **KAIKOHE** this 24th day of February 2004

RC2030355
SRM\CERT\3221

Approved by Registrar-General of Land under No. 2002/1026

Transfer instrument

Section 90, Land Transfer Act 1952

E 5937866.5 Grant of Ea:
Cpy – 01/01, Pgs – 008, 18/03/04, 08:38
DocID: 311329143

Registrar-General of Land Approval 02/1026EF A.D.L.S.

Land registration district

NORTH AUCKLAND

Unique identifier(s) or C/T(s)	All/part	Area/description of part or stratum
(1) 95161	All	hereinafter referred to as "the first described land") (continued on Annexure Schedule page 1)

Transferor *Surname(s) must be underlined or in CAPITALS.*

TAIPA VIEW LIMITED (hereinafter referred to as "the Grantor")

Transferee *Surname(s) must be underlined or in CAPITALS.*

TOP ENERGY LIMITED at Kaikohe (hereinafter referred to as "the Grantee")

Estate or interest to be transferred, or easement(s) or *profit(s) à prendre* to be created
State if fencing covenant imposed.

Electricity Transmission Easement in gross (continued Annexure Schedule pages 2, 3, 4, 5, 6 & 7)

Operative clause

The Transferor transfers to the Transferee the above estate or interest in the land in the above certificate(s) of title or computer register(s) and, if an easement or *profit à prendre* is described above, that easement or *profit à prendre* is granted or created.

Dated this 3rd day of February 2003

Attestation *(If the transferee or grantee is to execute this transfer, include the attestation in an Annexure Schedule).*

Signed by the Transferor TAIPA VIEW LIMITED by its Director: ..... **Director**	**Signed in my presence by the Transferor** ..... *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** R A MANNING **Occupation** SOLICITOR **Address** KAITAIA
Signature [common seal] of Transferor	

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Transferee

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Transfer	Dated	3rd February 2009	Page	1	of	7	Pages

(Continue in additional Annexure Schedule, if required.)

Certificate of Title No. (continued)

Certificate of Title No	All or Part?	Area and legal description
(2) 95162	All	(hereinafter referred to as "the secondly described land")
(3) 95163	All	(hereinafter referred to as "the thirdly described land")
(4) 95164	All	(hereinafter referred to as "the fourthly described land")
(5) 95165	All	(hereinafter referred to as "the fifthly described land")

Continuation of "Attestation"

Signed by the Transferee TOP ENERGY LIMITED by:	Signed in my presence by the Transferee
TOP ENERGY LIMITED Common Seal of the Company CEO	Signature of Witness **Witness to completed in BLOCK letters** *(unless typewritten or legibly stamped)* Witness name STEVEN RICHARD JAMES Occupation ACCOUNTANT Address KERIKERI
Signature of Transferor	

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of Instrument
"Mortgage", "Transfer", "Lease" etc

Transfer	Dated	3rd February 2004	Page	2	of	7	Pages

(Continue in additional Annexure Schedule, if required.)

Estate or interest to be transferred, or easement(s) or *profit(s) à prendre* to be created (continued)

1. **TRANSFER AND GRANT OF TRANSMISSION EASEMENT**

1.1 In consideration of the covenants on the part of the Grantee contained in this Transfer, the Grantor TRANSFERS AND GRANTS to the Grantee and any other persons authorised (expressly or impliedly) by the Grantee the following rights and interests as an easement in gross ("the Transmission Easement").

1.1.1 The right to survey and investigate in respect of, and to lay, construct, operate, inspect, use, cleanse, maintain, repair, renew, upgrade, change the size of and remove, the Transmission Line in, under and through those parts of the first described land, the secondly described land, the thirdly described land, the fourthly described land and the fifthly described land comprising Lot 15 on Deposited Plan 323635 shown marked "A" on Deposited Plan 323635 ("the Servient Land").

1.1.2 The right to convey, send, transmit or transport electricity and telecommunications signals, waves or impulses under and through the Servient Land by underground Transmission Line.

1.1.3 The right with any vehicles, equipment, aircraft, and materials of any kind, to enter on the Servient Land for any and all purposes necessary or convenient for the Grantee to exercise its rights and interests granted under this Transfer (including the right to extinguish fires), but subject to the conditions that as little disturbance as is reasonably possible is caused to the Grantor, the Servient Land and adjoining land of the Grantor, and the Grantor's stock and other property in doing so and that, where applicable, all gates on the land are left as the Grantee and those other authorised persons find them and subject also as provided in clause 2.3.1 hereof.

1.1.4 The right to keep the Servient Land cleared of all buildings or structures (including any buildings or structures which overhang the Servient Land) by any means reasonably necessary but subject as hereinafter provided.

1.1.5 The right to keep the Servient Land cleared of any fences or vegetation, both natural and cultivated, including trees and shrubs (including any fences, or vegetation which overhang the Servient Land) by any means reasonably necessary where such fences or vegetation:

(a) breach any statutory or regulatory requirements or standards or codes of practice or otherwise breach generally accepted engineering standards as to the minimum depth or clearance of the Transmission Line;

(b) unreasonably impede the Grantee's access over the Servient Land; or

(c) inhibits the safe and efficient operation of the Transmission Line.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

2. **COVENANTS**

2.1 **Ownership of the Transmission Line**

2.1.1 The Transmission Line will become and remain the property of the Grantee.

2.2 **Buildings, Structures, Fences and Vegetation**

2.2.1 The Grantee may consent in writing to certain existing buildings, structures, fences or vegetation upon or overhanging the Servient Land at the date of this Transfer remaining there. If the existence of those buildings, structures, fences or vegetation so consented to, or any additional buildings, structures, fences or vegetation consented to pursuant to clause 2.2.3, subsequently results in a situation described in clause 1.1.5(a) - (c) then such consent may be revoked by the Grantee but without compensation. If such consent is revoked the cost of removal of any buildings, structures, fences or vegetation shall be borne by the Grantee. Before removing any buildings, structures, fences or vegetation pursuant to this clause the Grantee shall consult with the Grantor so the Grantor is given a reasonable opportunity to attend to the removal himself should the Grantor so wish or to take steps to prevent the situations described in clause 1.1.5(a) - (c) or to co-ordinate the erection of any necessary replacement fence. The erection of any such replacement fence and the cost of it will be the Grantor's responsibility.

2.2.2 The Grantee shall be responsible for the removal of any building, structures, fences or vegetation on or overhanging the Servient Land at the date of this Transfer in respect of which no consent in writing has been sought or obtained pursuant to clause 2.2.1 and to which any of the situations described in clause 1.1.5(a) - (c) apply but before removing any buildings, structures, fences or vegetation pursuant to this clause the Grantee shall consult with the Grantor so the Grantor is given a reasonable opportunity to attend to the removal himself should the Grantor so wish or to take steps to prevent the situations described in clause 1.1.5(a) - (c) or to co-ordinate the erection of any necessary replacement fence. The erection of any such replacement fence and the cost of it will be the Grantor's responsibility.

2.2.3 The Grantee may consent in writing to the construction after the date of this Transfer of any buildings, structures, fences, or the planting or cultivation of vegetation including trees and shrubs on the Servient Land, or on the adjoining land of the Grantor to the extent any buildings, structures, fences or vegetation overhangs the Servient Land.

2.2.4 The Grantee shall not be responsible for or be liable to contribute to the cost of removing any buildings, structures, fences or vegetation, built or cultivated on or overhanging the Servient Land after the date of this Transfer in respect of which no consent in writing has been sought or obtained pursuant to clause 2.2.3.

2.3 **Restoration of Land**

2.3.1 The Grantee will be responsible for restoring any part of the Servient Land and/or adjoining land of the Grantor affected by the Grantee exercising any of its rights under this Transfer to a

condition equivalent, as far as is reasonably practicable, to that existing before the Grantee exercised those rights.

2.4 **Grantor's Continued Use of Servient Land**

2.4.1 The Grantor may use the Servient Land so long as that use does not unreasonably interfere with the enjoyment of the Grantee's rights and interests granted under this Transfer.

2.5 **Restrictions on Grantor's Use**

2.5.1 The Grantor must not at any time after the date of this Transfer, do permit or suffer to be done any act whereby the rights, powers, licences and liberties granted to the Grantee under this Transfer may be unreasonably interfered with or unreasonably affected in any way and, in particular, the Grantor must not, without the consent in writing of the Grantee:

(a) make, or permit to be made, any alterations or additions to any buildings or structures existing on the Servient Land at the date of this Transfer which affect the overall dimensions of those buildings or structures;

(b) erect or permit the erection, of any buildings or structures on the Servient Land;

(c) stockpile or fill with, or permit the stockpiling of or filling with, any soil, sand, gravel or other substance or materials, or construct, or permit the construction of, any roads, dam walls or other earthworks on the Servient Land or remove or permit the removal of any soil sand gravel or other substance from the Servient Land, which would in any way reduce the depth of the Transmission Line below the ground level to less than the minimum depth that may exist, from time to time, in statute, regulations, code of practice or otherwise;

(d) burn off crops, trees or undergrowth within the Servient Land;

(e) disturb any survey pegs or markers placed on the Servient Land by the Grantee; or

(f) do anything on or in the Servient Land which would or could damage or endanger the Transmission Line.

2.5.2 The consent of the Grantee required under clause 2.5.1. will not be unreasonably withheld, but may be given subject to reasonable conditions (including the power to revoke without compensation where the exercise of that power is reasonably necessary).

2.6 **Restrictions on Grantee's Use of Land**

2.6.1 The Grantee will install and maintain the Transmission Line underground.so as not to unreasonably interfere with the ordinary cultivation of the land or with any formed carriageway or other improvements on the Servient Land and in so doing, or in laying, constructing, operating, inspecting, using, cleansing, maintaining, repairing, renewing,

upgrading, replacing, changing the size of or removing the Transmission Line, will cause as little damage as is reasonably possible to the surface of the Servient Land.

2.7 **Statutes and Regulations**

2.7.1 It is acknowledged by the Grantee that its rights under the Transmission Easement are subject to the provisions of all applicable statutes, ordinances, regulations and by-laws.

2.7.2 The Grantee covenants with the Grantor that it will comply with the provisions of all statutes, ordinances, regulations and by-laws in any way relating to or affecting the Transmission Easement, the Transmission Line or the exercise, or the attempted or intended exercise, by it of any of its rights under this Transfer, and will also comply with the provisions of all licences, requisitions and notices issued, made or given by any competent authority in respect of the Transmission Easement, the Transmission Line or the exercise, or attempted or intended exercise, by the Grantee of any of its rights under this Transfer.

2.8 **Indemnity Against Third Party Claims**

2.8.1 Each party will indemnify the other against all claims or demand from third parties for any loss, damage or liability in respect of, or arising out of, the use of the Servient Land by that party (or any person authorised, whether expressly or impliedly by it) EXCEPT THAT it will not be liable to indemnify the other party in respect of claims or demands from third parties for any loss, damage or liability caused by the actions of the other party. Where the actions of the other party contribute to that loss, damage or liability, the indemnity given by the party to that other party in respect of that loss, damage and liability will be correspondingly reduced in proportion to that contribution.

2.8.2 The quantum of damages payable by either party pursuant to clause 2.8.1 where the actions of the other party have contributed to the loss, damage or liability will be determined by agreement between them or, if they fail to agree, then they will submit the matter to arbitration in accordance with clause 2.11.

2.9 **Licence and Assignment**

2.9.1 The Grantee may grant any licence or right of all or any part of any estate or interest conferred by this Transfer and may assign all or any part of that estate or interest but subject always to the terms covenants and conditions set out herein.

2.10 **Perpetual Easement**

2.10.1 No power is implied for the Grantor to determine the Transmission Easement for any breach of covenant (express or implied) or for any causes whatever. It is the intention of the parties that the Transmission Easement will subsist forever or until duly surrendered.

2.11 **Arbitration**

2.11.1 All disputes and differences which may arise between the parties in relation to this Transfer, or as to any matter arising under this Transfer or in relation to the parties' rights or obligations under this Transfer, will be referred to arbitration in accordance with the Arbitration Act 1996.

2.11.2 The arbitration will be commenced by either party giving to the other notice in writing stating the subject matter and details of the dispute or difference and that party's desire to have the matter referred to arbitration.

2.11.3 The arbitration will be by one arbitrator, if the parties can agree upon one, and, if not, then by two arbitrators, one to be appointed by each party, and their umpire to be appointed by the arbitrators before they begin to consider the dispute or difference.

2.11.4 The award in the arbitration will be final and binding on the parties.

2.12 **Interpretation**

2.12.1 For the purpose of interpretation or construction of this Transfer, unless the context otherwise requires:

(a) the term "Transmission Line" means a wire or wires or a conductor of any other kind (including a fibre optic or coaxial cable) used or intended to be used for the transmission of electricity and/or telecommunication signals, waves or impulses; and includes any insulator, casing, tube, tunnel, minor fixture or other item, equipment or material used or intended to be used for supporting, securing, enclosing, surrounding and protecting an underground Transmission Line; and also includes any transformers, fuses, fuse holder, automatic switches, voltage regulators, capacitors or other instrument, apparatus or device used in association with an underground Transmission Line for the purpose of protecting and facilitating the transmission of electricity and telecommunication signals, waves or impulses through the Transmission Line;

(b) references to clauses or a Schedule are references to clauses of, and a Schedule to, this Transfer;

(c) words importing the masculine or feminine or neuter gender include each of such genders respectively;

(d) words importing the singular or plural number include the plural and singular number respectively;

(e) headings are inserted for the sake of convenience of reference only and do not affect the interpretation of this Transfer;

(f) reference to the parties include their respective successors and assigns; and

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Transfer	Dated	3rd February 2004	Page	7	of	7	Pages

(Continue in additional Annexure Schedule, if required.)

(g) references to a statute or statutory provisions includes references to that statute or statutory provision (as the case may be) and to any regulations made pursuant to that statute or statutory provision (as the case may be), as from time to time modified, codified or re-enacted, whether before or after the date of this Transfer, so far as that modification, codification or re-enactment applies, or is capable of applying, to this Transfer and the transfer and grant of the Transmission Easement under it.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2002/6055

Easement instrument to grant easement or *profit à prendre*, or create land covenant

Sections 90A and 90F, Land Transfer Act 195

EI 5983862.1 Easement I

Cpy – 01/03, Pgs – 005, 28/04/04, 08:53

Registrar-General of Land Approval 02/6055EF A.D.L.S.

DocID: 311387147

Land registration district

NORTH AUCKLAND

Grantor *Surname(s) must be underlined or in CAPITALS.*

TAIPA VIEW LIMITED

Grantee *Surname(s) must be underlined or in CAPITALS.*

TAIPA VIEW LIMITED for the Dominant Tenement 95160 and Per Fridlew LUGNET, Clara Ah Hoi LUGNET and Jack SUTTON for the Dominant Tenement NA125B/753

Grant* of easement or *profit à prendre* or creation or covenant

The Grantor, being the registered proprietor of the servient tenement(s) set out in Schedule A, **grants to the Grantee** (and, if so stated, in gross) the easement(s) or *profit(s) à prendre* set out in Schedule A, **or creates** the covenant(s) **set out** in Schedule A, with the rights and powers or provisions set out in the Annexure Schedule(s).

Dated this 17th day of March 2004

Attestation

Signed by the Grantor Taipa View Limited by its sole Director: ..... Director **Signature [common seal] of Grantor**	**Signed in my presence by the Grantor** *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** R W MANNING **Occupation** SOLICITOR **Address** KAMO
Signed by the Grantee Taipa View Limited by its sole Director: ..... Director **Signed by the Grantees Per Fridlew Lugnet, Clara Ah Hoi Lugnet and Jack Sutton:** .... **Signature [common seal] of Grantee**	**Signed in my presence by the Grantee** *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** R W MANNING **Occupation** SOLICITOR **Address** KAMO

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Grantee

*If the consent of any person is required for the grant, the specified consent form must be used.

Approved by Registrar-General of Land under No. 2002/6055

Annexure Schedule 1

Registrar-General of Land Approval 02/6055EF A.D.L.S.

Easement instrument Dated 17th March 2004 Page 1 of 1 pages

Schedule A *(Continue in additional Annexure Schedule if required.)*

Purpose (nature and extent) of easement, *profit,* or covenant	Shown (plan reference)	Servient tenement (Identifier/CT)	Dominant tenement (Identifier/CT *or* in gross)
Easements of right to convey electricity and right to convey telecommunications and computer media	Shown marked "A" on Deposited Plan 323635	Certificates of title 95161, 95162, 95163, 95164 and 95165	Certificates of title 95160 and NA125B/753
	Shown marked "B" on Deposited Plan 323635	Certificate of title 95163	Certificates of title 95160 and NA125B/753
	Shown marked "C" on Deposited Plan 323635	Certificate of title 95161	Certificates of title 95160 and NA125B/753
	Shown marked "D" on Deposited Plan 323635	Certificate of title 95160	Certificate of title NA125B/753

Easements or *profits à prendre* rights and powers (including terms, covenants, and conditions)

Delete phrases in [ ] and insert memorandum number as required.
Continue in additional Annexure Schedule if required.

Unless otherwise provided below, the rights and powers implied in specific classes of easement are those prescribed by the Land Transfer Regulations 2002 and/or the Ninth Schedule of the Property Law Act 1952.

~~The implied rights and powers are **[varied] [negatived] [added to]** or **[substituted]** by:~~

~~[Memorandum number , registered under section 155A of the Land Transfer Act 1952]~~

~~[the provisions set out in Annexure Schedule 2]~~

~~Covenant provisions~~

~~*Delete phrases in [ ] and insert memorandum number as required.*~~
~~*Continue in additional Annexure Schedule if required.*~~

~~The provisions applying to the specified covenants are those set out in:~~

~~[Memorandum number , registered under section 155A of the Land Transfer Act 1952]~~

~~[Annexure Schedule 2]~~

All signing parties and either their witnesses or solicitors must sign or initial in this box

IN THE MATTER of certificates of title 95160, 95161, 96162, 95163, 95164, 95165 and NA125B/753 (North Auckland Registry)

AND

IN THE MATTER of Land Transfer Plan 323635

MORTGAGEE'S CONSENT TO CREATION OF EASEMENTS OF RIGHT TO CONVEY ELECTRICITY AND RIGHT TO CONVEY TELECOMMUNICATIONS AND COMPUTER MEDIA

ASB BANK LIMITED as mortgagee of **Taipa View Limited** against the above certificates of title 95160, 95161, 96162, 95163, 95164, 95165 and as mortgagee of **Per Fridlew Lugnet, Clara Ah Hoi Lugnet and Jack Sutton** against the above certificate of title NA125B/753 **HEREBY CONSENTS** to the registration of the attached easement instrument to grant easements of right to convey electricity and right to convey telecommunications and computer media over those parts of the land in certificates of title 95160, 95161, 96162, 95163, 95164, 95165 shown marked "A" on Deposited Plan 323635, over that part of the land in certificate of title 95163 shown marked "B" Deposited Plan 323635, over that part of the land in certificate of title 95161 shown marked "C" on Deposited Plan 323635, and over that part of the land in certificate of title 95160 shown marked "D" on Deposited Plan 323635, but otherwise without prejudice to the rights remedies and powers of the Bank as mortgagee.

DATED at Auckland this 16th day of APRIL 2004

SIGNED by **ASB BANK LIMITED**)
by its Attorney)
) BRENDA ANNE WATERS
) ..... (signature of Attorney)
)
in the presence of:)

Witness: ..... JEFF EVANS

Occupation: Bank Officer

Address: Auckland

Bakker Trust 4405130

ASB BANK LIMITED
CERTIFICATE OF NON-REVOCATION OF POWER OF ATTORNEY

I Brenda Anne Waters of Auckland, New Zealand, hereby certify:

1 THAT by a Deed dated **3 February 2004** and deposited in the Land Information New Zealand office as **No. 5911838** ASB Bank Limited appointed the persons holding, or from time to time acting in, the following ASB Bank offices as its attorneys on the terms and subject to the conditions set out in the said Deed:

Senior Manager Business and Rural Documentation
Senior Manager Group Retail Loan Documentation
Senior Manager Loan Security Maintenance
Manager Business and Rural Loan Documentation
Legal Executive, Lending Services
Manager Administration
Manager Security Alterations and Settlements
Manager Inward Documents and Security Filing
Manager Evening Processing Team
Manager BankDirect
Chief Manager Lending Services
Manager Debt Assessment and Recoveries
Manager Business Credit

2. THAT I hold the appointment of Manager Security Alterations and Settlements, Lending Services, with ASB Bank Limited

3. THAT at the date of signing I have not received any notice of or information of the revocation of that appointment by the winding up of the said company or otherwise.

SIGNED at Auckland this 16th day of April 2004

Landonline User ID: ctauaalo001

LODGING FIRM: de Graaf & Company Limited

Address: DX BP65004
NORTHCOTE

Uplifting Box Number: N/A

ASSOCIATED FIRM: MANNING HOUNSELL

Client Code / Ref: TAIPA VIEW LTD:4316

HEREWITH

Survey Plan (#)	
Title Plan (#)	
Traverse Sheets (#)	
Field Notes (#)	
Calc Sheets (#)	
Survey Report	

Other (state)

Dealing / SUD Number:
(LINZ Use only)

5983862

Priority Barcode/Date Stamp
(LINZ use only)

Plan Number Pre-Allocated or
to be Deposited: _____

Rejected Dealing Number: _____

Priority Order	CT Ref.	Type of Instrument	Names of Parties	DOCUMENT OR SURVEY FEES	MULTI-TITLE FEES	NOTICES	ADVERTISING	NEW TITLES	OTHER	RE-SUBMISSION & PRIORITY FEE	FEES $ GST INCLUSIVE
1		EI	TAIPA VIEW LTD - TAIPA VIEW LTD, PF & CAH LUGNET & J SUTTON							$2	$20.0
2											
3											
4											
5											
6											

Land Information New Zealand Lodgement Form

Fees Receipt and Tax Invoice

GST Registered Number 17-022-895

LINZ Form P005

Annotations (LINZ use only)

Original Signatures? _____

Subtotal (for this page)	$20.00
Total for this dealing	$20.00
Less Fees paid on Dealing #	
Cash/Cheque enclosed for	**$20.00**

Approved by Registrar-General of Land under No. 2002/1026

Transfer instrument

Section 90, Land Transfer Act 1952

T 6040170.2 Transfer
Cpy – 01/01, Pgs – 003, 11/06/04, 13:13
DocID: 311468150

Registrar-General of Land Approval 02/1026EF A.D.L.S.

Land registration district

NORTH AUCKLAND

Unique identifier(s) or C/T(s)	All/part	Area/description of part or stratum
95163	All	

Transferor *Surname(s) must be underlined or in CAPITALS.*

TAIPA VIEW LIMITED

Transferee *Surname(s) must be underlined or in CAPITALS.*

Daniel Kevin SMITH and Tina Maree NATTRASS

Estate or interest to be transferred, or easement(s) or *profit(s) à prendre* to be created
State if fencing covenant imposed.

Fee simple subject to a Land Covenant (cont. page 2 & 3 Annexure Schedule) and Transferee shall be bound by a fencing covenant as defined in S.2 Fencing Act 1978 in favour of Transferor

Operative clause

The Transferor transfers to the Transferee the above estate or interest in the land in the above certificate(s) of title or computer register(s) and, if an easement or *profit à prendre* is described above, that easement or *profit à prendre* is granted or created.

Dated this 13th day of May 2004

Attestation *(If the transferee or grantee is to execute this transfer, include the attestation in an Annexure Schedule).*

Signed by Taipa View Limited as transferor by its Director, Per Fridlew Lugnet: ..... **(Director)**	**Signed in my presence by the Transferor** *Signature of witness* *Witness to complete in BLOCK letters (unless legibly printed)* **Witness name** R H MANNING **Occupation** SOLICITOR **Address** KAITAIA
Signature [common seal] of Transferor	

Certified correct for the purposes of the Land Transfer Act 1952.

[Solicitor for] the Transferee

REF: 7002 – AUCKLAND DISTRICT LAW SOCIETY

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument "Mortgage", "Transfer", "Lease" etc

Transfer	Dated	13- May 2004	Page	1	of	2	Pages

(Continue in additional Annexure Schedule, if required.)

Continuation of "Estate or Interest or Easement to be Created":

The Transferor when registered as proprietor of the land formerly contained in certificates of title NA123B/616 and other titles subdivided the land into residential lots in the manner shown and defined on Deposited Plan 323635

AND WHEREAS it is the Transferor's intention to create for the benefit of the land in the certificates of title set out in Schedule A (hereinafter referred to as "the Dominant Lots") the land covenant set out in Schedule B over the land in certificate of title **95163** (hereinafter referred to as "the Servient Lot") **TO THE INTENT** that the Servient Lot shall be bound by the stipulations and restrictions set out in Schedule B hereto and that the owners or occupiers for the time being of the Dominant Lots or any of them may enforce the observance of such stipulations against the owner/s for the time being of the Servient Lot

AND AS INCIDENTAL to the transfer of the fee simple so as to bind the Servient Lot and for the benefit of the respective Dominant Lots the Transferee **DOTH HEREBY COVENANT AND AGREE** in the manner set out in Schedule B hereto so that the covenants run with the Servient Lot for the benefit of the respective Dominant Lots as described in Schedule A.

SCHEDULE A

Certificates of Title **95154, 95155, 95156, 95157, 95158, 95159, 95160, 95161, 95162, 95164 and 95165**

SCHEDULE B

The Transferee shall not subdivide the Servient Lot which shall be retained in one certificate of title PROVIDED HOWEVER that this covenant shall cease to have any effect after 31 December 2010.

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

Approved by Registrar-General of Land under No. 2002/5032

Annexure Schedule

Registrar-General of Land Approval 02/5032EF A.D.L.S.

Insert type of instrument
"Mortgage", "Transfer", "Lease" etc

Transfer	Dated 13th May 2004	Page 2 of 2 Pages

(Continue in additional Annexure Schedule, if required.)

Continuation of "Attestation"

Daniel Kevin Smith Tina Maree Nattrass Signature of Transferee	Signed in my presence by the Transferee Signature of Witness **Witness to completed in BLOCK letters** *(unless typewritten or legibly stamped)* Witness name Serena Garmonsway Occupation Legal Executive Address Auckland

If this Annexure Schedule is used as an expansion of an instrument, all signing parties and either their witnesses or solicitors must sign or initial in this box.

DS TN

Appendix 3

Chorus & Top Energy Correspondence

Wendy Wickens

From:	Chorus Property Development Do Not Reply <npdnoreply@chorus.co.nz>
Sent:	Tuesday, 1 October 2024 1:07 PM
To:	npdnoreply@chorus.co.nz
Subject:	Chorus 11002968 : We can service your development
Follow Up Flag:	Follow up
Flag Status:	Flagged

Hi

Your reference: 0117S McLeavey
Development address: 10 Arkles Way , Taipa, Far North District, 0483

This email is to confirm that Chorus can provide our fibre network to your development. An indicative cost for the work we would need to do (noting that this excludes costs for any work you may be required to do inside the site boundary) is presented in the below notes:

A high level estimate to extend our fibre network to your development is $92,000 Incl. GST, as this would need to come approx. 560m from SH 10.

Please note: The communications technology available to serve customers in our rural areas is rapidly changing. Copper is no longer the only option for customers, and is in some cases, not the best option. New Zealand runs on fibre, and the UFB roll-out has gone past 87 per cent of Kiwis. We would like to extend fibre further to enable more Kiwis to receive the best technology available. We will not be investing in extending the copper network further.

If you would like this formalised into a quote, then please log in to your account and let us know. If you need to amend the connection numbers or provide updated plans, you can also do that via your account.

Chorus New Property Development Team

Please do not reply to this email as this inbox is not monitored. For any follow up queries please visit www.chorus.co.nz/develop-with-chorus or log in to your

Top Energy Limited
Level 2, John Butler Centre
60 Kerikeri Road
P O Box 43
Kerikeri 0245
New Zealand
PH +64 (0)9 401 5440
FAX +64 (0)9 407 0611

1 October 2024

Sapphire Surveyors Ltd

Email: wendy@sapphiresurveyors.co.nz

To Whom It May Concern:

RE: PROPOSED SUBDIVISION
David McLeavey – 10 Arkles Way, Taipa. Lot 12 DP 323635.

Thank you for your recent correspondence with attached revised subdivision scheme plans.

Top Energy's requirement is that power be made available for the additional lots. Costs to make power available to proposed Lot 1 would be provided after application and an on-site survey have been completed.
Link to application: Top Energy | Top Energy.

In order to get a letter from Top Energy upon completion of your subdivision, a copy of the resource consent decision must be provided.

If you have any further queries, please do not hesitate to contact the writer.

Yours sincerely

Aaron Birt
Planning and Design
T: 09 407 0685
E: aaron.birt@topenergy.co.nz

Appendix 4

Archaeologist's Letter

SUNRISE ARCHAEOLOGY
www.sunarc.co.nz
jj@sunarc.co.nz

21 May 2024

David McLeavey
10 Arkles Way
Taipa
davidmcleavey@gmail.com

RE: Proposed Subdivision of Lot 12 DP 323635

This brief letter report describes the fieldwork results from our site visit to 10 Arkles Way, Taipa (legal description: Lot 12 DP 323635). Archaeological services were requested ahead of a proposed subdivision as there is a recorded archaeological site in the vicinity of the property (Figure 2).

The earthworks proposed for this location would occur on the shared accessway and at the entrance (Areas A & B in Figure 1) to widen the right-of-way and add a vehicle crossing into proposed Lot 1. A suggested building platform for Lot 1 is also shown in this plan.

I visited the site on 14 May 2024 and conducted an inspection of the proposed building platform (Figure 3Figure 4), which included subsurface probing and shovel tests. The proposed subdivision does not have identifiable archaeological features on it, and subsurface testing suggests that it is unlikely that subsurface archaeological material or features are present here. Overall, the likelihood of encountering archaeological remains here is deemed to be low.

This survey was conducted specifically to locate and record archaeological remains. The survey and report does not necessarily include the location and/or assessment of wāhi tapu or sites of cultural or spiritual significance to the local Māori community, who may be approached independently for any information or concerns they may have.

If you have any queries or require further information, please do not hesitate to contact us.

Sincerely,

Dr. Justin J. Maxwell
Sunrise Archaeology
66 Waterfront Drive, Mangonui 0420
021 088 31418

Figure 1. Proposed subdivision plan reviewed (dated 01/05/2024).

Figure 2. Archaeological sites closest to property (blue dot).

Figure 3. proposed Lot 2 is from burn pile down.

Figure 4. Proposed Lot 2, Facing north.

Appendix 5

Engineering Assessment

Engineering Assessment for Proposed Subdivision

10 Arkles Way, Taipa

Lot 12 DP 323635

for

David McLeavey

Supporting report for RC Applications to Far North District Council

Haigh Workman reference 24 099

13 August 2024

Phone: +64 9 407 8327 • Fax: +64 9 407 8378 • info@haighworkman.co.nz • www.haighworkman.co.nz

PO Box 89 • 6 Fairway Drive • Kerikeri 0245 • New Zealand

Revision History

Revision Nº	Issued By	Description	Date
A	Lidija Plantev	Issued for Resource Consent	13 August 2024

Prepared by	Checked by	Approved by
Lidija Plantev	**Tom Adcock**	**John Papesch**
Civil Engineer	Senior Civil Engineer	Senior Civil Engineer
BE Civil	BEng Civil, MEngNZ	BE (Civil Engineering), CMEngNZ CPEng

TABLE OF CONTENTS

TABLES

FIGURES

1 Executive Summary

Haigh Workman Ltd was commissioned by David McLeavey to undertake an Engineering Assessment of land at 10 Arkles Way, Taipa for the purpose of a proposed 2-lot subdivision of Lot 12 DP 323635 and 1/5 share of access Lot 15 DP 323635 and 2/155 share of farm lot 31-32 DP 195263. It is understood that the client intends to subdivide the property for rural living end-use. The two proposed lots comprise areas of 4,277m2 and 5,168m2 and a share of access and farm lots. Access to the lots will be via an existing right of way.

A proposed subdivision plan was provided by Sapphire Surveyors Limited, ref 0117S, dated 01/05/2024.

The site is zoned 'Rural Living' under the Far North District Council District Plan.

Natural Hazards

The proposed building sites do not contain any natural hazards that would warrant action under Section 71(1) of the Building Act 2004. There is no significant risk from natural hazards that would cause Section 106 of the Resource Management Act to apply.

Access and Parking

The site is accessed via an existing access (lot 15 DP 323635) off the end of Arkles Way. The access has a 5m carriageway width which meets the District Plan standard for 6 lots and a total of 7 Household Equivalents.

Arkles Way and the access are both in need of maintenance to restore the cambered shape and to cleanse the water table drains.

Lots 1 and 2 both have adequate room onsite for parking and manoeuvring for two cars

Earthworks

No earthworks as defined under the Operative District Plan are required at the time of subdivision. However, the proposed drainage works on lot 2 are defined as Earthworks under the Proposed District Plan and shall comply with the Proposed District Plan Rules EW-R12 and R13, and Standards EW-S3 and EW-S5. Likewise, PDP EW-R12 requires archaeological Accidental Discovery Protocol during earthworks.

Stormwater

The existing impermeable surfaces on lot 2 and estimated impermeable surfaces for lot 1 following development for residential occupation are expected to be comply with the permitted activity rule.

<u>Lot 1</u>

All concentrated stormwater shall be piped to the existing outfall in the northwest corner of the lot.

We recommend a consent notice for lot 1 that states "I*n conjunction with a building consent application, a stormwater neutrality design shall be provided by a Chartered Professional Engineer which attenuates run-off back to predevelopment levels for the 10 % AEP*".

<u>Lot 2</u>

The existing stormwater controls for the house and yarding are adequate.

Stormwater runoff from the existing lot 2 driveway discharges onto lot 1 at three locations spaced along the length of the driveway. To safeguard the stability of the lot 1 building platform, the driveway runoff shall be channelled in a water table to the existing outlet at the northwestern corner of lot 1.

Water Supply

Domestic water supply may be provided using roof runoff collected in storage tanks.

Firefighting Supply

Council Engineering Standards and Fire and Emergency NZ require a water supply that is adequate for firefighting purposes. There is no reticulated water supply, so each lot will be responsible for providing an on-site firefighting supply.

Wastewater Disposal

For the vacant lot 1 a suitable area of 267m2 has been identified for secondary treated effluent disposal plus reserve area a 100% reserve area. The soils were classified as AS/NZS 1547:2012 Category 5, light clays, poorly draining. These and can be expected to sustain a loading rate of 3 mm/day for surface or subsurface laid dripper irrigation.

2 Introduction

2.1 Project Brief and Scope

Haigh Workman Ltd (Haigh Workman) was commissioned by David McLeavey (the client) to undertake a Site Suitability Engineering Assessment of land at 10 Arkles Way, Taipa (the site) for the purpose of a proposed 2-lot subdivision. It is understood that the client intends to subdivide the property into two lots for rural residential end-use. Proposed two Lots comprise 4,277 and 5,168m^2 area. The site is accessed from Arkles Way via a metalled access (Lot 15 DP323635).

A proposed subdivision plan by Sapphire Surveyors Limited, ref 0117S, dated 01/05/2024 is included in Appendix A of this report.

The scope of this report includes an assessment of:

- Review of pertinent rules and policies
- Natural hazards
- Site access and parking
- Stormwater management
- Earthworks
- Water supply, firefighting, and
- Wastewater disposal

For building platform suitability refer to Haigh Workman Geotechnical Assessment Report ref. 24 099.

2.2 Limitations

This report has been prepared for our Client, David McLeavey with respect to the particular brief outlined to us. This report is to be used by our Client and Consultants and may be relied upon by the Far North District Council (FNDC) when considering the application for the proposed subdivision and development. The information and opinions contained within this report shall not be used in any other context for any other purpose without prior review and agreement by Haigh Workman Ltd.

It has been assumed in the production of this report that the site is to be subdivided and subsequently redeveloped for low-rise rural living end-use. At the time of writing there was no information available for proposed future developments following subdivision. If any of these assumptions are incorrect, then amendments to the recommendations made in this report may be required.

The comments and opinions presented in this report are based on the findings of the desk study and ground conditions encountered during an intrusive site visit performed by Haigh Workman. There may be other conditions prevailing on the site which have not been revealed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of strata or other spatially variable features between or beyond investigation positions is conjectural and given for guidance only.

3 Site Description and Proposed Development

3.1 Site Identification

Site Address: 10 Arkles Way, Taipa

Legal Description: Lot 12 DP 323635 including 1/5 share of Lot 15 DP 323635 and 2/155 share of Lot 31-32 DP 195263

Area: 9,445m^2 plus 1/5 share of 1,242 m^2 and 2/155 share of 191,140 m^2

Figure 1 below indicates the location of the subdivision site.

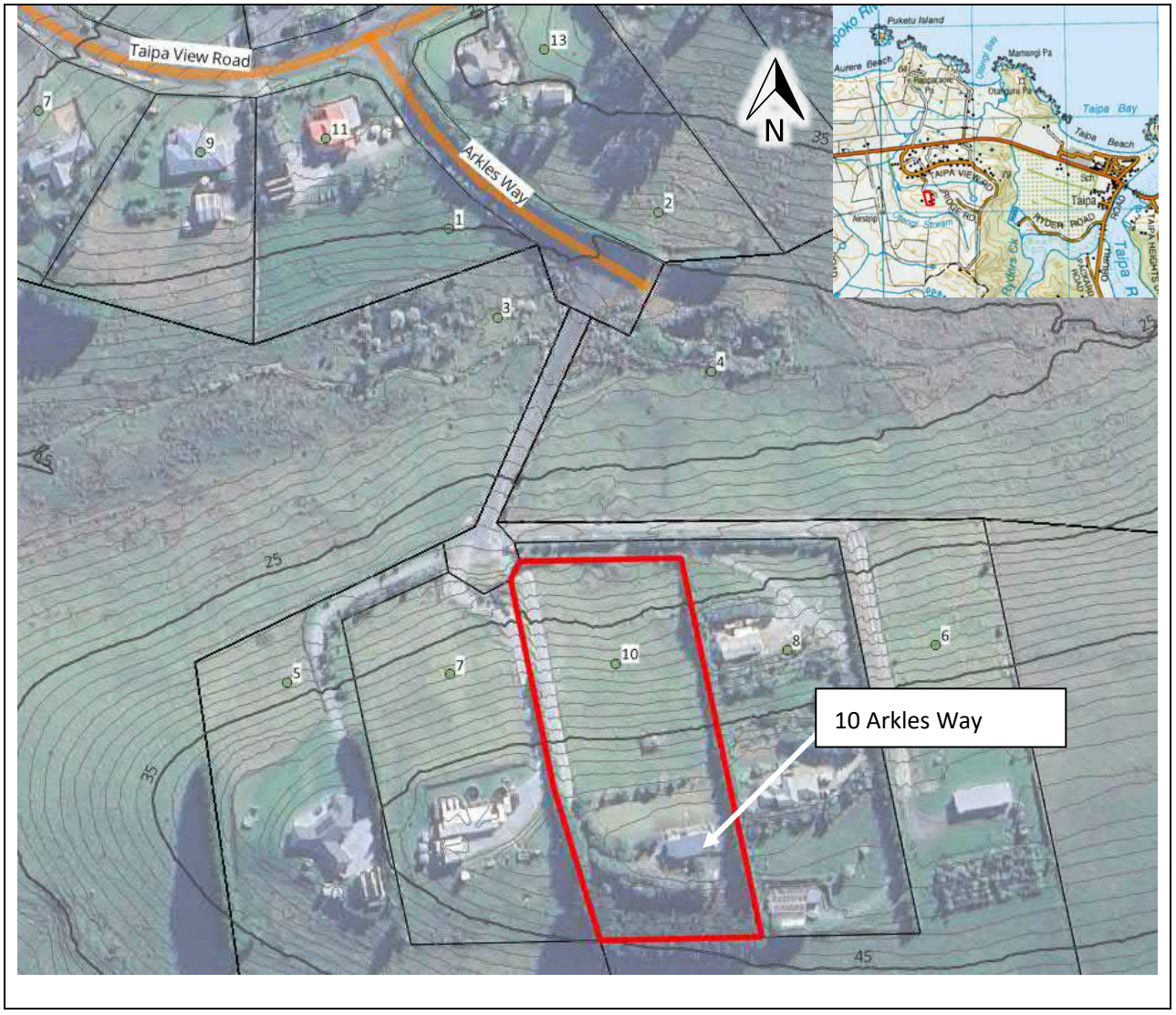


Figure 1 Location Plan (Source: Google Earth)

3.2 Site Description

The Site comprises Lot 12 DP 323635, 1/5 share of access Lot 15 and 2/155 share of farm Lots 21-32 and is bounded by rural lots in all directions.

The site contains a residential dwelling with associative driveway and parking area located in the southern portion of the property. The site is covered in grass with some mature trees and shelterbelts along the boundaries.

Access is via a metalled access from the most northwestern corner. The shared access is accessed from the end of Arkles Way, refer Figure 1.

The site is moderately sloping in the north to northwestern direction. Elevations noted to fall from RL 47.5 m to RL 30.5 m at the site's lowest elevation in the northwestern corner.

3.3 Proposed Subdivision

It is proposed to subdivide the site into 2 rural lifestyle end-use lots, as per Table 1.

Table 1 Proposed Lots

Proposed Lot	Area (Gross) m^2	1/10 share of Access Lot m^2	1/155 share of farm lot m^2	Area (Total) m^2	End-use
Lot 1	4,277	124.20	1,233.16	5,634.36	Rural Living
Lot 2	5,168	124.20	1,233.16	6,525.36	Rural Living
Total	**9,445**	**248.40**	**2,466.32**		

3.4 District Plan Zoning

The site is zoned '*Rural Living*' under the Operative District Plan with a permitted impermeable surface coverage of 12.5 %.

It is our understanding that the proposed subdivision is a controlled activity. We have assessed stormwater activities as per the permitted rules.

4 Environmental Setting

4.1 Published Geology

Refer to Haigh Workman Geotechnical Assessment Report ref. 24 099. The assessment identified a potential building platform on lot 1 subject to a building restriction line as indicated on Site Features and Investigation Plan Ref. 24 099 - G02 appended.

The geotechnical assessment identified that the stability of the platform is dependent on achieving the following:

- Stormwater discharges from the existing driveway shall be directed away from the lot 1 building platform as part of subdivision works.
- Concentrated stormwater flows from impermeable surfaces must be collected, conveyed in sealed pipes and discharged in a manner that will not affect the stability of the ground. This can be achieved by piping stormwater directly to the outlet at the northwestern corner of the site.

The natural ground within the specified building platform on Lot 1 is considered generally suitable for the development of a residential building, subject to the following conditions which are to be addressed at building consent stage:

- Site-specific geotechnical investigations and foundation design by a Chartered Professional Engineer.
- A building restriction line 38.5m from the northern boundary. Refer to Site Features and Investigation Plan Ref. 24 099 – G02 appended. If a future building is proposed within 38.5m of the northern boundary, then additional slope stability analysis will be required.
- Remediate expected shallow soil creep across the site with specific foundation design and/or retaining structures.
- Filling should be avoided across the site unless demonstrated through additional stability modelling and settlement analysis.
- All cuts should be supported by engineered retaining walls designed by a Chartered Professional Engineer with relevant experience in soil mechanics.

4.2 Surface Water Features and Flooding

Published environmental data relating to the site has been reviewed. An examination of Far North District Council (FNDC) and Northland Regional Council (NRC) online GIS databases is included below.

A summary of available information pertaining to hydrology and hydrogeology is presented in the table below.

Table 2 Surface Water Features & Flooding

	Presence/Location	Comments
Groundwater sources including springs/wells (within 500 m)	There are no groundwater bores noted on the site	The closest active bore well is located 900m northeast of the site
Surface Water Features (Ponds, Lakes, etc.)	No	The unnamed watercourse is just over 160m to the north of site
Watercourses (within 500 m)	None	The site drains overland in the northern direction ultimately into a tributary which flows in an east to western direction into Otengi Stream
Flood Risk Status	No	The site is outside of mapped flood hazards
Flood Susceptibility	No	The site is outside of mapped flood hazards and is well elevated.

4.3 Natural Hazards

Under Section 2 of the Resource management Act 1991, **natural hazard** means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.

Natural hazards listed in Section 71(3) of the Building Act 2004 include: erosion, falling debris, subsidence, inundation or slippage. We assess the susceptibility of this site to these potential hazards as;

Table 3 Natural Hazards

Natural Hazard	Risk
Erosion (including coastal erosion, bank erosion, and sheet erosion)	No, provided adequate vegetation cover is maintained
Falling debris (including soil, rock, snow, and ice)	No
Subsidence (vertical settlement)	No subject to recommendations given in Geotechnical Report Ref. 24 099
Inundation (including flooding, overland flow, storm surge, tidal effects, and ponding)	No
Slippage	No subject to recommendations given in Geotechnical Report Ref. 24 099

The proposed building sites do not contain any natural hazards that would warrant action under Section 71(1) of the Building Act 2004. There is no significant risk from natural hazards that would cause Section 106 of the Resource Management Act to apply.

4.4 Flood Hazard

The site is not at risk of river or coastal flooding. Mapped flood zones are shown in Figure 2. The mapped flood extents are very minor and representative of localised ponding affecting low lying swamp areas of the valley bottom.

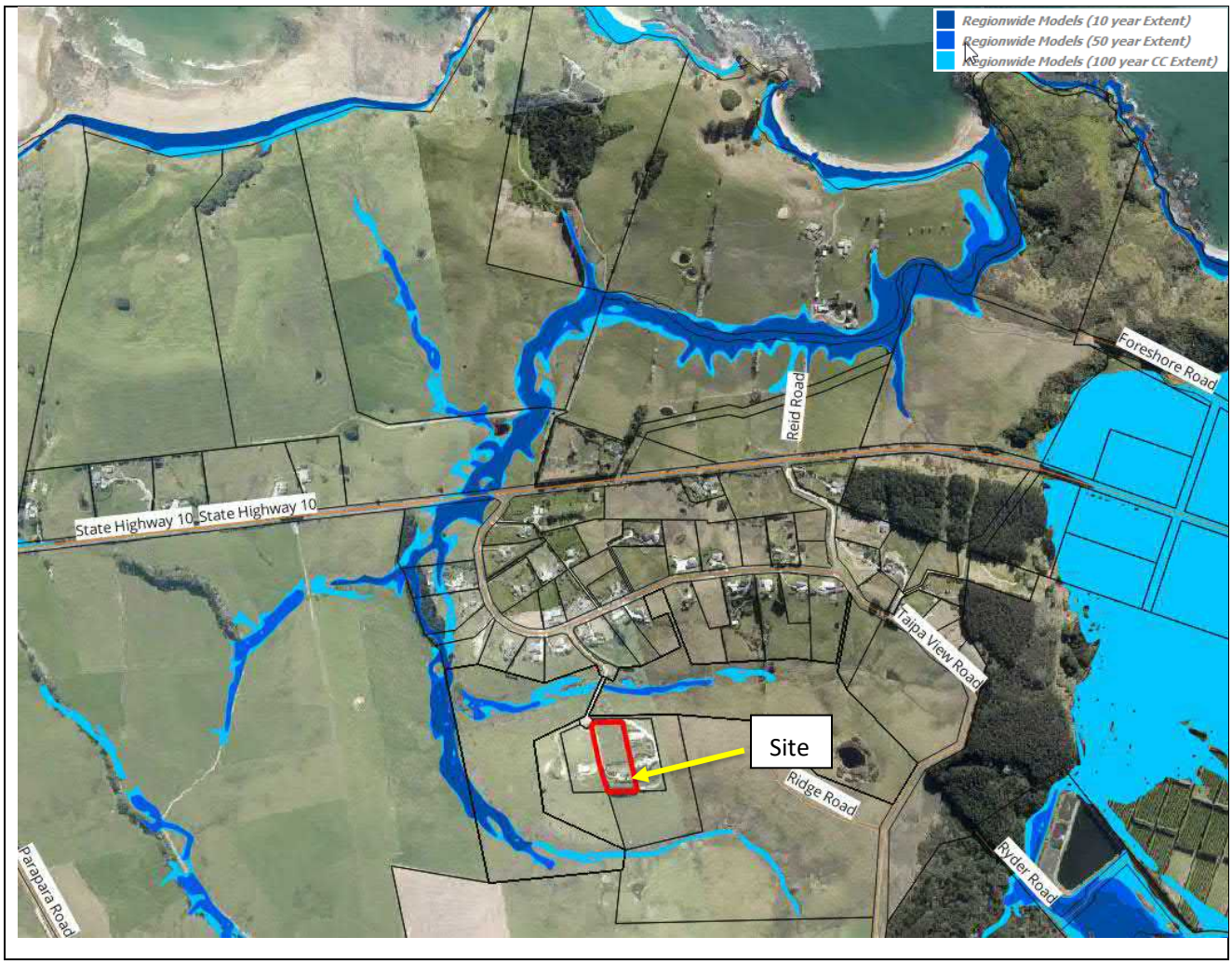


Figure 2 Mapped Flood Zones - NRC

6 Access

6.1 Site Access

The site is accessed from the end of Arkles Way via an existing Right of Way. The proposed subdivision will create one additional residential lot.

6.2 Arkles Way

Arkles Way is classified as an access road according to the One Network Road Classification. Engineering Standards Table 3.3 requires a 6m carriageway width for a design ADT of 50-200 i.e. up to 20 lots. Arkles Way has a rural cross-section comprising an approximate 6m wide metalled carriageway with water table and culvert drainage. No upgrade is required, however the carriageway has suffered scour damage due to the cambered shape and water tables not being maintained which has resulted in water running down the road. See Figure 3 below. Although poorly formed there is adequate manoeuvring space for vehicles to turn around at the end of the road.

The proposed subdivision does not propose any new vehicle crossings onto Arkles Way.

Figure 3: Arkles Way scour damage

6.3 Existing Access Lot 15 DP 323635

The existing right of way has a 5m wide metalled carriageway with water table drainage on both sides. Following subdivision, the access will serve 6 lots with 7 H.E.s. District Plan Appendix 3B-1, for the Rural Living zone requires a carriageway width for 5 – 8 H.E.s of 5m and a legal width 7.5m, all of which are achieved.

As with Arkles Way, the access carriageway is in need of maintenance to restore the cambered shape and cleanse the water table drains. Refer photographs below.

The access has a 600mm culvert crossing at the low point which was completely submerged at the time of our inspection. The culvert appears to be unnecessarily deep requiring deep upstream and downstream drains which require cleansing and ongoing regular maintenance.

Figure 4 access looking north

Figure 5 access looking south

Figure 6: access showing culvert markers and carriageway in better condition (Google Street View September 2019)

6.4 ROW A

ROW A has a recently constructed concrete carriageway and crossing off access Lot 15 DP 323635, both the crossing and carriageway are adequately sized to provide access for proposed lots 1 and 2. A new crossing shall be constructed for lot 1 off the ROW at time of subdivision. The crossing shall include a culvert for the newly form open drain running alongside the driveway (refer Section 8.4.2). The culvert shall be 300mm diameter.

6.5 Parking and Manoeuvring

Parking and associated manoeuvring can be accommodated within the proposed lots. Standard Residential Units require 2 car parking spaces per unit, as per the District Plan Appendix 3C.

7 Earthworks

7.1 Proposed Earthworks

No earthworks are required at the time of subdivision. Works to improve the drainage for the existing driveway on Lot 2 are not defined as earthworks under the Operative District Plan.

7.2 Framework

As per Operative District Plan Rule 12.3.6.1.2 excavation and/or filling in the Rural Living Zone is permitted, provided it does not exceed 300 m^3 in any 12-month period per site; and does not involve a continuous cut or filled face exceeding an average of 1.5 m in height over the length of the face i.e. the maximum permitted average cut and fill height may be 3m.

The Operative Regional Water and Soil Plan allows as a permitted activity volume moved or disturbed not exceeding 5,000 m^3 in any 12-month period.

The Proposed Far North District Plan was notified on 27 July 2022.

The Proposed Plan defines earthworks as:

The alteration or disturbance of land, including by moving, removing, placing, blading, cutting, contouring, filling or excavation of earth (or any matter constituting the land including soil, clay, sand and rock); but excludes gardening, cultivation, and disturbance of land for the installation of fence posts.

The following Proposed Plan rules and standards have legal effect and will be complied with:

- Earthworks Rule EW-R12 (Earthworks and the discovery of suspected sensitive material)
- Earthworks Rule EW-R13 (Earthworks and erosion and sediment control
- Standard EW-S3 Accidental Discovery Protocol
- Standard EW-S5 Erosion and sediment control

8 Stormwater Management

8.1 Regulatory Framework

8.1.1 Far North District Plan Provisions

The Site is zoned as Rural Living. The relevant permitted activity rule for impermeable surfaces is as follows:

> **8.7.5.1.5 STORMWATER MANAGEMENT**
> The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 12.5 % or 3,000 m², whichever is the lesser.
>
> Note: It is recommended that the Low Impact Design principles are used where appropriate to promote the on-site percolation of stormwater to reduce runoff volumes and to protect receiving environments from the adverse effects of stormwater discharges.

The relevant controlled activity rule for impermeable surfaces is as follows:

> **8.7.5.2.2 STORMWATER MANAGEMENT**
> The maximum proportion or amount of the gross site area covered by buildings and other Impermeable Surfaces shall be 20 % or 3,300 m², whichever is the lesser.
>
> In order for an activity to be regarded as a controlled activity a report must be prepared to demonstrate the likely effects of the activity on stormwater run-off and the means of mitigating run-off to no more than the levels that would result from the permitted threshold of buildings and other impermeable surface coverage in Rule 8.7.5.1.5. Any report required by this rule shall be prepared by a Chartered Professional Engineer or other suitably qualified person and must be provided to Council with an application for resource consent.

8.1.2 Regional Plan for Northland

Rule C.6.4.2 provides for the diversion and discharge of stormwater from outside a public stormwater network provided (amongst other conditions); the diversion and discharge does not cause or increase flooding of land on another property in a storm event of up to and including a 10 percent annual exceedance probability, or flooding of buildings on another property in a storm event of up to and including a one percent annual exceedance probability.

8.1.3 Council Engineering Standards 2023

The FNDC Engineering Standards have recently been updated and Council is encouraging their use. The pertinent sections relating to stormwater management are:

> **Chapter 4: Stormwater and Drainage**
> **4.1.3 Performance Standards**
> e. The primary stormwater system shall be capable of conveying 10% AEP design storm events without surcharge (see Section 4.3.9 Hydrological Design Criteria).
>
> **4.1.6. Managing Effects of Land Use on Receiving Environments**

Hydrological balance can be partly maintained by limiting the maximum rate of discharge and peak flood levels for post-development to that at pre-development levels and enabling infiltration to minimise impacts on base flow and ground water recharge.

Peak flow management can be achieved using detention storage, utilising extended duration, for the duration of a limited peak flow event. Therefore, in the absence of more detailed assessment of stream stability, the discharges from detention devices into a stormwater network shall be constrained to 80% of pre-development peak flow rate. These constraints may be relaxed, subject to detailed assessments and hydrological/hydraulic modelling of the catchment being provided.

4.2.1. Discharge into a Stream or Watercourse

All new and existing discharges to an existing FNDC owned and / or maintained watercourse(s) located within approximately 500m require specific approval from the Stormwater Manager before proceeding with design details and, if approved, FNDC shall apply appropriate conditions to the discharge.

4.3.8. System Design

Table 4-1: Minimum Design Summary

Current rainfall (i.e. not climate change adjusted) shall be used for the following:

• Determining pre-development stormwater runoff flows and volumes for use in combination with calculated post development flows to determine stormwater treatment (quantity and quality) requirements.

Climate change adjusted rainfall shall be used for the following:

• Determining post-development stormwater runoff flows and volumes for stormwater infrastructure design.

Flood Control (1% AEP event). Detention required, limiting the post-development 1% AEP event flow rates to 80% of the pre-development 1% AEP event flow rates.

Flow attenuation (Attenuation of the 50% and 20% AEP events). Limit the post-development 50% and 20% AEP event flow rates to 80% of the pre-development flows through controlled attenuation and release. Typically, always required in the upper catchment and sometimes not required where development site is located in proximity to the catchment outlet, discharging to a watercourse with sufficient network capacity, and where flow attenuation may worsen flooding hazards due to relative timing of peak flows. This is subject to assessment demonstrating no negative impacts would occur. If the proposed stormwater discharge is into a tidal zone, then no attenuation is required.

8.1.4 Discussion

The existing impermeable surfaces on lot 2 and estimated impermeable surfaces for lot 1 following development for residential occupation are expected to be comply with the permitted activity rule. Refer Table 5 below.

The proposed stormwater management has been designed to comply with the permitted activity rules of the District Plan and Regional Plan for Northland, and in compliance with FNDC Engineering Standards 2023. The site is less than 2ha detailed reporting addressing stormwater disposal has been provided.

The site lies 2.5km upstream of Otengi Bay in the upper catchment of the Otengi Stream. NRC flood mapping indicates the stream to be tidal for the first 1.25km. The mapping indicates what can be considered a normal flood pattern

with flood waters for the 100yr. event climate change generally confined to a relatively narrow strip 20 to 30m either side of the channel. Refer Figure 4 above. No properties are indicated as being at risk from the mapped flooding.

To comply with the District Plan and Regional Plan for Northland, the appropriate return event to design stormwater attenuation back to predevelopment levels is the 10-year. This would apply to vacant lot 1. Lot 2 contains existing consented development with no further development is anticipated.

The new FNDC Engineering Standards 2023 Table 4.1 requires:

Limit the post-development 50% and 20% AEP flow rates to 80% of the pre-development flows through controlled attenuation and release. Typically, always required in the upper catchment and sometimes not required where development site is located in proximity to the catchment outlet, discharging to a watercourse with sufficient network capacity, and where flow attenuation may worsen flooding hazards due to relative timing of peak flows. This is subject to assessment demonstrating no negative impacts would occur. If the proposed stormwater discharge is into a tidal zone, then no attenuation is required.

The site drains into a small natural stream with a gentle gradient (30m over 1.2km) that is tidal over half of its length. The stream flows through mostly rural properties with no Council infrastructure other than the State Highway 1 culvert crossing. The watercourse can be expected to have sufficient network capacity without the need for 50% and 20% AEP flow attenuation.

Residential development is not generally considered to create a long-term impact on water quality. For this development, the nominated building platforms will be surrounded by grass surfaces providing a buffer to run-off, trapping contaminants and sediments. Stormwater run-off from roof tank overflow will be clean rainwater and runoff from driveways will drain via open drains and flow paths.

8.1.5 Existing and Proposed Development

In relation to existing development, we interpret the requirements of the District Plan given at the end of Subdivision Rule 13.7.2.1 which states;

'Provided that any existing development on any new lot in the subdivision must comply with all of the relevant zone rules and the rules in Part 3 of the Plan - District Wide Provisions for permitted or controlled activities.'

Accordingly, if existing development within a new lot area breaches any permitted or controlled activity rule, land-use consent will be required for that breach as part of the subdivision consent application.

Similarly, building coverage and driveways/yarding of any existing development on a particular lot for which building consent has been granted may also be considered approved and exempted from the stormwater neutrality calculations.

8.2 Existing Site Drainage

The site is moderately sloping towards the south at approximately 13 degrees. The site drains overland to the existing roadside water table into an unnamed tributary of Otengi Stream.

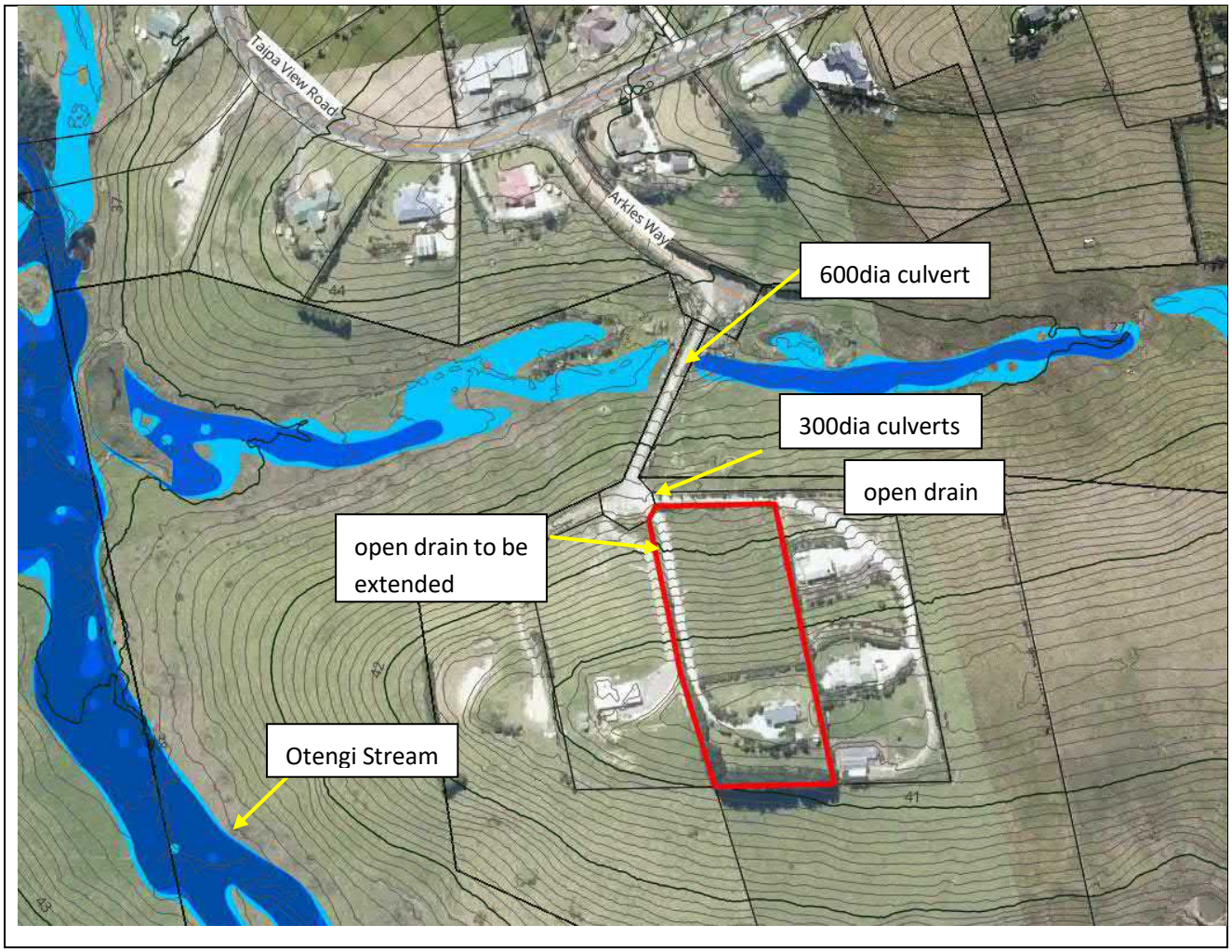


Figure 7 Offsite drainage

8.3 Impermeable Surfaces Coverage

Anticipated impermeable surfaces on the proposed lots once developed are estimated, as follows:

Table 4 Estimated Post Development Impermeable Surfaces

Surface	Lot 1	Lot 2
Roof area	120*	117
Decks/steps	-	38
Sheds	42*	12
Paving	-	12
Metal driveway	185*	246
Concrete driveway	150*	221
1/10 shared access	88.4	88.4
Lot area (Total)	5,634.36	6,525.36
Total impermeable surfaces	435.4 (7.73%)	734.4 (11.25%)
Activity Status	Permitted	Permitted

**Future development-estimated*

Anticipated impermeable surface coverage is expected not to exceed the 12.5% permitted activity on both lots and is therefore a permitted activity.

8.4 Proposed Stormwater Management

District Plan and Regional Plan policies and rules require the avoidance or mitigation of adverse effects of stormwater runoff on receiving environments, including downstream properties. Stormwater management proposals for the site are based on Proposed Regional Plan for Northland Rule C.6.4.2.

8.4.1 Proposed Lot 1

It is proposed that peak stormwater run-off for proposed lot 1 be attenuated to pre-development i.e. vacant condition for the 10yr. event + climate change. This can be achieved by detaining roof runoff (including yard runoff if necessary), in a stormwater detention tank or detention basin. The soils on site are not considered suitable for soakage trenches.

We recommend a consent notice for lot 1 that states "I*n conjunction with a building consent application, a stormwater neutrality design shall be provided by a Chartered Professional Engineer which attenuates run-off back to predevelopment levels for the 10 % AEP*".

The geotechnical assessment identified that the stability of the building platform on lot 1 is dependent on concentrated stormwater flows from impermeable surfaces being collected and conveyed in sealed pipes and discharged in a suitable manner. This can be achieved by piping stormwater directly to the existing outlet at the northwestern corner of lot.

8.4.2 Proposed Lot 2

The geotechnical assessment identified that the stability of the building platform on lot 1 is dependent on directing stormwater discharges from the existing lot 2 driveway, away from the lot 1 building platform.

Currently stormwater runoff from the driveway discharges onto lot 1 at three locations spaced along the length of the driveway. This will be rectified by channelling all the water table flow to the existing outlet at the northwestern corner of lot 1. The water table shall be shaped to achieve the following minimum trapezoidal dimensions; base width

0.2m, side slope 1:1 and depth 0.3m. The slope angle is steep requiring the rock armouring throughout using 100 to 150mm rip rap. A 300mm culvert shall be installed where the new lot vehicle crossing is formed off ROW A (refer Section 6.4)

Stormwater from the roof water collection tank overflow and yarding discharge to ground on the southern side of the lot which slopes southward towards neighbouring farmland. No visible signs were observed of nuisance caused by the run off, requiring no changes to the existing arrangements.

8.4.3 Rule 13.7.3.4 Stormwater for Controlled Activities

In considering a controlled (subdivision) activity application under Rule 13.7.3.4 the Council will restrict the exercise of its control (*stormwater*) to the following matters:

Table 5 Far North District Plan Rule 13.7.3.4 Subdivision Matters for Control

Criteria	Comment
(i) control of water-borne contaminants, litter and sediments	Residential development is not generally considered to create a long-term impact on water quality. For this development, the nominated building platforms will be surrounded by grass surfaces providing a buffer to run-off, trapping contaminants and sediments. Stormwater run-off from roof tank overflow will be clean rainwater and runoff from driveways will drain via open drains and flow paths.
(ii) the capacity of existing and proposed stormwater disposal systems (refer also to the Council's various urban stormwater management plans and any relevant Northland Regional Council stormwater discharge consents)	Stormwater attenuation is proposed to limit runoff to no more than existing consented/pre-development.
(iii) the effectiveness and environmental impacts of any measures proposed for avoiding or mitigating the effects of stormwater runoff, including low impact design principles;	The proposed stormwater attenuation is a form of low impact design and will limit environmental impacts downstream of the site
(iv) the location, scale and construction of stormwater infrastructure;	The proposed stormwater attenuation will be contained within the lot boundaries and will be of a moderate scale i.e. no larger than a 25,000L tank.
(v) measures that are necessary in order to give effect to any drainage or catchment management plan that has been prepared for the area.	N/A

9 Water Supply

9.1 Potable Water Supply

There is no public water supply available at the site. Domestic water supply may be provided by roof runoff collected in storage tanks.

9.2 Fire Fighting

Council Engineering Standards and Fire and Emergency NZ require a water supply that is adequate for firefighting purposes. Where there is no reticulated water supply, then each residential lot will be responsible for providing adequate on-site firefighting supply.

For a single-family home without a sprinkler system in a non-reticulated supply area, the New Zealand Fire Service (NZFS) Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008 recommends a minimum firefighting water storage capacity of 45 m^3 within 90 m of the dwelling, fitted with an adequate means for extracting the water from the tank.

9.3 Alternative to Fire Fighting Supply

The Code (SNZ PAS 4509:2008) specifically allows for alternative methods to be used in meeting the Code requirements, as long as there is approval from an appropriate person nominated by the NZFS National Commander. Clause 4.4 of the Code states that:

- Fire engineers or similar competent persons may use alternative methods to determine firefighting water supplies. To comply with this code of practice, such alternatives must be submitted for approval to the person(s) nominated by the National Commander. The person(s) so nominated will approve these cases on confirmation that the method and calculations used are correctly applied.
- Alternative methods will need to show that the calculated firefighting water supply makes allowances for tactical flow rates (that is, the amount needed above a theoretical amount to absorb the released heat for operational effectiveness).

The procedure to be followed in the case of an alternative fire-fighting supply is as follows:

- The competent person should submit a firefighting facilities checklist (FFFC), with a scale site map showing contours and proposed alternatives to Table 2 with rationale for assessment to NZFS.

If the proposed supply is approved by a nominated NZFS person, Council will accept the FFFC and compliance with the Code will be achieved.

NZFS considers that a 'one size fits all' volume is not appropriate in all circumstances. There are alternatives to firefighting couplings but firefighters are not expected to lift pumps or hoses onto the top of water tanks.

10 Wastewater

10.1 Summary of Regulatory Framework

10.1.1 District Plan

The Far North District Plan contains an additional rule relating to wastewater discharges to land:

District Plan Rule 12.7.6.1.4 specifies that effluent fields shall be located no closer than 30 m from any river, lake, wetland or the Coastal Marine Area.

10.1.2 Regional Plan

The discharge of sewage effluent on to land is controlled by the permitted activity rules C.6.1.3 of the Regional Plan for Northland. Table 9 of the plan specifies exclusion areas and set-back distances as follows:

Table 9: Exclusion areas and setback distances for on-site domestic wastewater systems

Feature	Primary treated domestic type wastewater	Secondary and tertiary treated domestic type wastewater	Greywater
Exclusion areas			
Floodplain	5 percent annual exceedance probability	5 percent annual exceedance probability	5 percent annual exceedance probability
Horizontal setback distances			
Identified stormwater flow path (including a formed road with kerb and channel, and water-table drain) that is down-slope of the disposal area	5 metres	5 metres	5 metres
River, lake, stream, pond, dam or natural wetland	20 metres	15 metres	15 metres
Coastal marine area	20 metres	15 metres	15 metres
Existing water supply bore	20 metres	20 metres	20 metres
Property boundary	1.5 metres	1.5 metres	1.5 metres
Vertical setback distances			
Winter groundwater table	1.2 metres	0.6 metres	0.6 metres

10.2 Proposed Lot 1 Wastewater Assessment

10.2.1 Design Occupancy Rating

We have allowed for a three-bedroom dwelling having a design occupancy of up to 5 people.

10.2.2 Source of Water Supply

The water supply is roof water. We have allowed for water saving fixtures (Type C), to be installed.

10.2.3 Design Flows

In accordance with TP58 Section 6.2. we have allowed 160 litres/person/day of wastewater generation for reticulated water supply.

For three-bedroom dwelling and a design occupancy of 5 persons the design household wastewater flow is 5 x 160 = **800 litres per day**.

10.3 Design for Land Application System

10.3.1 Design Loading Rate

The borehole from the site investigation indicated the site to be underlain by silty clay and clayey silt to a depth of 4m. No evidence of groundwater seepage or static groundwater level was observed at the soil investigation location.

Our borehole indicates that the soil type in the area of the proposed disposal fields can be described as AS/NZS 1547:2012 Category 5, light clays, poorly draining.

This soil type can be expected to sustain an aerial loading rate of 3mm/day for drip irrigation. The topsoil depth was recorded as 200 mm. The ground slope at the effluent field is moderate.

On this basis, a wastewater system generating 800 litres/day will require 800/3 = **267m²** of disposal area.

An effluent field and 100% reserve area can be located on Lot 1 in compliance with the current rules. Possible effluent disposal field locations are shown on WWP01 appended. The design of wastewater disposal fields will need to comply with rules for set-back distances and slopes that are operative at the time of building consent.

10.1 Existing Wastewater System – Proposed Lot 2

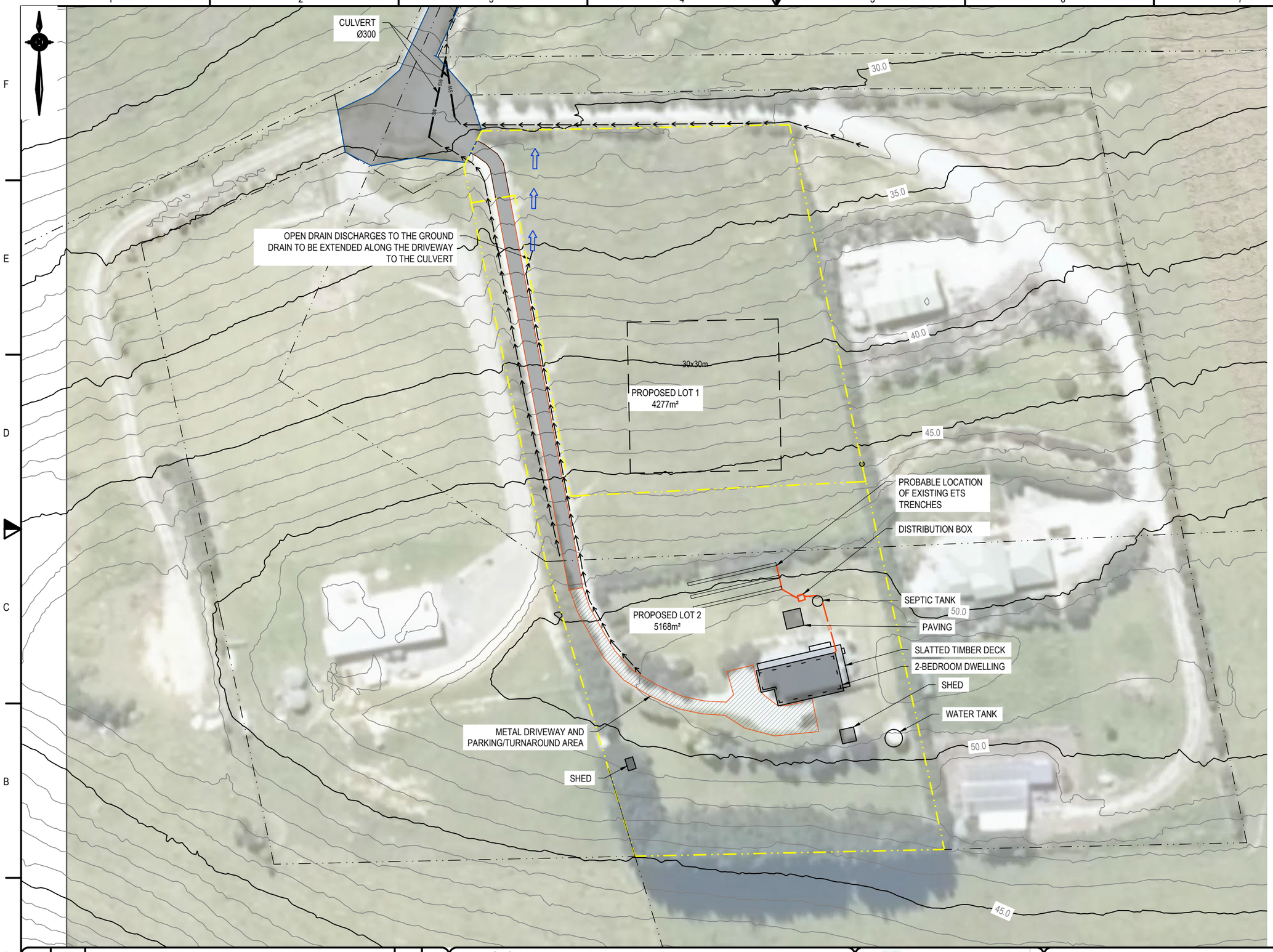
The existing wastewater system on proposed Lot 2 comprises a conventional septic tank discharging to soakage trenches and is currently operational with no visible or olfactory signs of malfunction observed during our site visit.

The existing septic tank, and distribution box were located and together with the 3 soakage trenches match the as-built plan contained in the property file for BC-2002-138. The existing soakage trenches have at least 10m setback from the proposed lot 2 northern boundary.

There is adequate suitable area available within the proposed lot 2 boundaries including setback for a 100% reserve area for either replacement soakage trenches or a larger secondary dripper field.

Appendix A – Drawings

Drawing No.	Title
SWP01	Stormwater Plan, Rev A
SWP02	Stormwater Plan (overall), Rev A
WWP01	Wastewater Plan, Rev A
G02	Site Features and Investigation Plan
SK01	Concept Scheme Plan, Sapphire Surveyors Limited, ref 0117S, dated 01/05/2024.
-	Building Consent Plan BC-2002-138



GENERAL NOTES:

1. All features taken from Scheme plan by Sapphire Surveyors Ltd, dated 01/05/2024, ref 0117S
2. Aerial image courtesy of Linz Basemap.
3. 1m Lidar contours (NZVD 2016, Mt Eden)

LEGEND

- Boundaries
- Adjaceny boundaries
- Wastewater Pipe
- Stormwater Pipe
- Existing Flowpath
- Open drain

SITE INFORMATION:

Legal Description:	Lot 12 DP 323635 (9,445m²) ½ share Lot 15 DP 323635 (1/5x1,242m²) 2/155 Lot 31-32 DP195263 (2/55x191,140m²)
Zone:	Rural Living (permitted activity: 12% or 3,000m²)

EXISTING IMPERMEABLE SURFACES (m²)		
COVER	LOT 1	LOT 2
DWELLING ROOF AREA		117
DECKS/STEPS		38
SHEDS		12
PAVING		12
METAL DRIVEWAY		246
CONCRETE	35	221
TOTAL IMPERMEABLE AREA:	35	646
LOT AREA (TOTAL)	5634.36	6525.36
% IMPERMEABLE AREA	0.60%	9.90%

For RC

Rev	Date	Description	By	Checked
A	09/08/2024	ISSUED FOR RC	LP	TMA

DWG STORMWATER PLAN

A3 Scale 1: 750 (0 15 38) Date 09/08/2024

Drawn LP Checked TMA Approved JP

File T:\CLIENTS\DAVID MCLEAVEY\JOBS\24 099 - 10 ARKLES WAY, TAIPA\LOT 12 DP 323635\ENGINEERING\DRAWINGS\01_CIVIL\24 099_20240604_SSR PLAN.DWG

HAIGH WORKMAN Ltd
Civil & Structural Engineers
6 Fairway Drive
Kerikeri, BOI
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F: 09 407 8378
E: info@haighworkman.co.nz

Project PROPOSED SUBDIVISION
10 ARKLES WAY, TAIPA (LOT 12 DP323635)

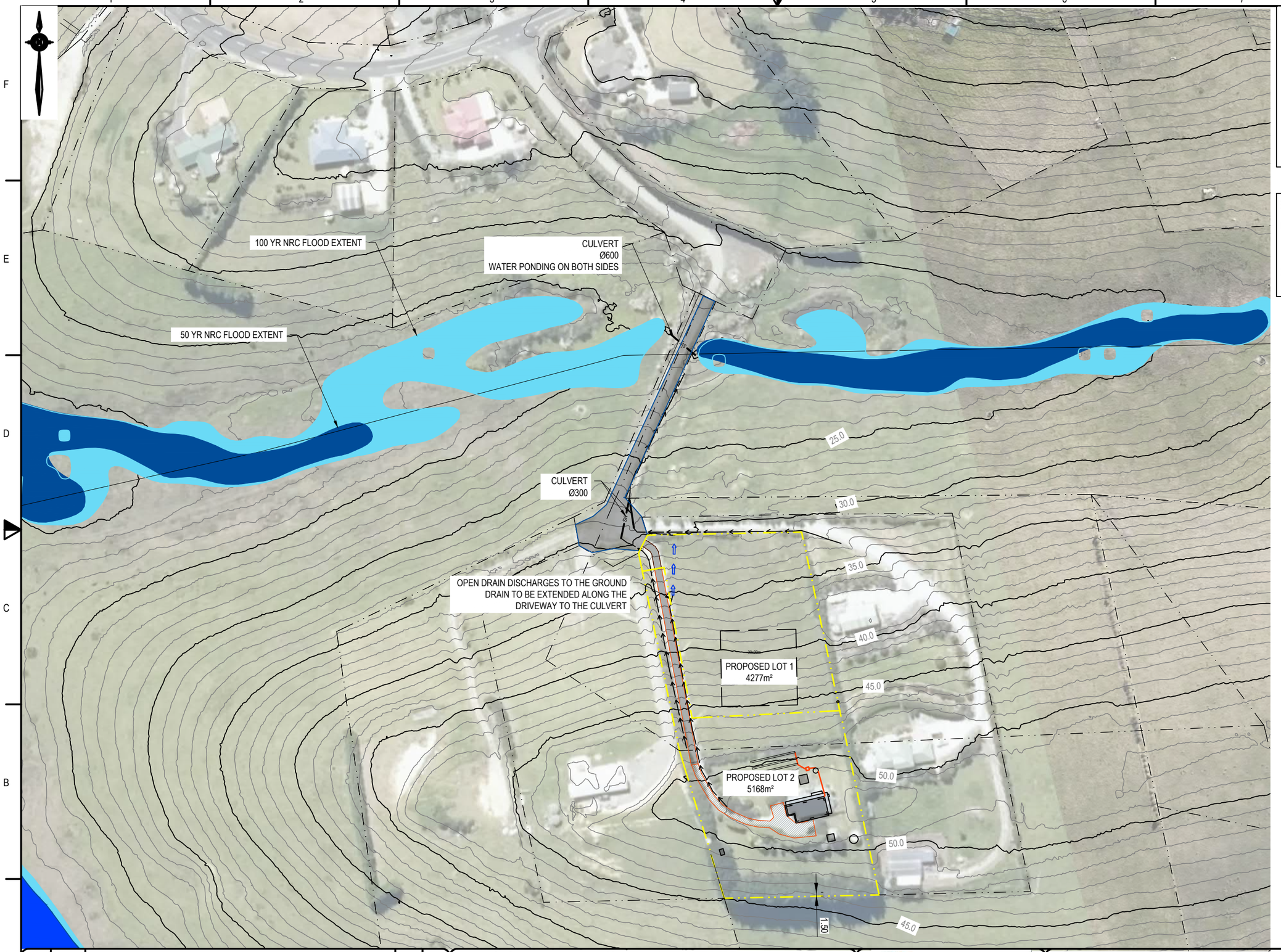
Client David McLeavey

Project No. 24 099 RC no.

Stage 00

Dwg No. SWP01

Sheet No. 1 of 2



GENERAL NOTES:

1. All features taken from Scheme plan by Sapphire Surveyors Ltd, dated 01/05/2024, ref 0117S
2. Aerial image courtesy of Linz Basemap.
3. 1m Lidar contours (NZVD 2016, Mt Eden)

LEGEND

- Boundaries
- Adjaceny boundaries
- Wastewater Pipe
- Stormwater Pipe
- Existing Flowpath
- Open drain

SITE INFORMATION:

Legal Description:	Lot 12 DP 323635 (9,445m²) ½ share Lot 15 DP 323635 (1/5x1,242m²) 2/155 Lot 31-32 DP195263 (2/55x191,140m²)
Zone:	Rural Living (permitted activity: 12% or 3,000m²)

For RC

Rev	Date	Description	By	Checked
A	09/08/2024	Issued for RC	LP	TMA

DWG STORMWATER PLAN (OVERALL)

A3 Scale 1: 1500 0 30 75 Date 09/08/2024

Drawn LP Checked TMA Approved JP

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Project PROPOSED SUBDIVISION
10 ARKLES WAY, TAIPA (LOT 12 DP323635)

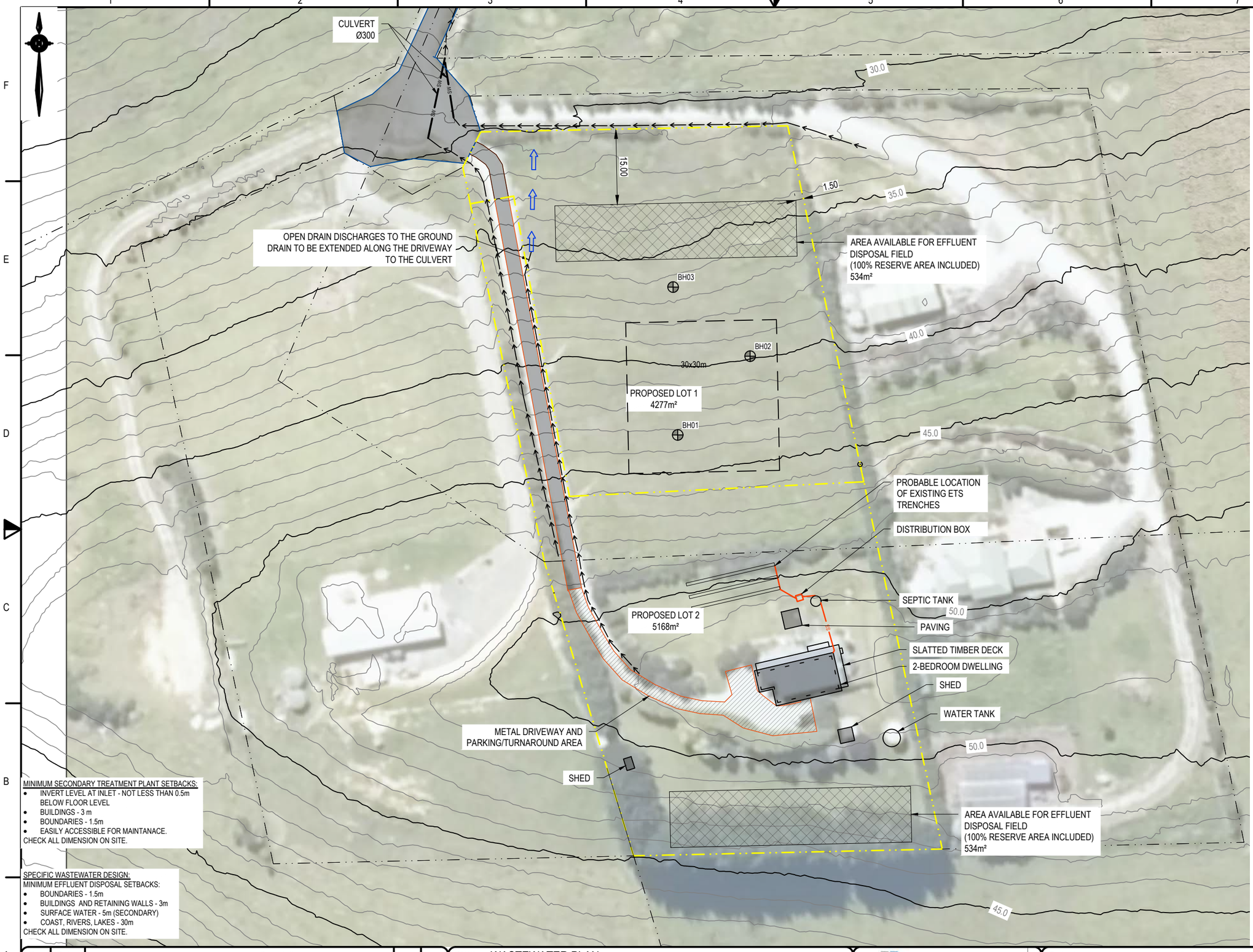
Client David McLeavey

Project No. 24 099 RC no.

Stage 00

Dwg No. SWP02

Sheet No. 2 of 2



GENERAL NOTES:

1. All features taken from Scheme plan by Sapphire Surveyors Ltd, dated 01/05/2024, ref 0117S
2. Aerial image courtesy of Google.
3. 0.5m Lidar contours (NZVD 2016, Mt Eden)

LEGEND

- Proposed Boundaries
- Boundaries
- Proposed Wastewater Pipe
- Existing Flowpath
- Open drain
- BH1 Borehole

SITE INFORMATION:

Legal Description: Lot 12 DP 323635 (9,445m²)
1/5 share Lot 15 DP 323635 (1/5x1,242m²)
2/155 Lot 31-32 DP195263 (2/55x191,140m²)

Zone: Rural Living

MINIMUM SECONDARY TREATMENT PLANT SETBACKS:

- INVERT LEVEL AT INLET - NOT LESS THAN 0.5m BELOW FLOOR LEVEL
- BUILDINGS - 3 m
- BOUNDARIES - 1.5m
- EASILY ACCESSIBLE FOR MAINTANACE.

CHECK ALL DIMENSION ON SITE.

SPECIFIC WASTEWATER DESIGN:
MINIMUM EFFLUENT DISPOSAL SETBACKS:

- BOUNDARIES - 1.5m
- BUILDINGS AND RETAINING WALLS - 3m
- SURFACE WATER - 5m (SECONDARY)
- COAST, RIVERS, LAKES - 30m

CHECK ALL DIMENSION ON SITE.

For RC

Rev	Date	Description	By	Checked
A	09/08/2024	ISSUED FOR RC	LP	TMA
B	04/11/2024	Changed proposed boundaries and Location of exist effluent field	LP	TMA

DWG WASTEWATER PLAN

A3 Scale 1: 750 (0 15 38) Date 09/08/2024

Drawn LP Checked TMA Approved JP

File T:\CLIENTS\DAVID MCLEAVEY\JOBS\24 099 - 10 ARKLES WAY, TAIPA\LOT 12 DP 323635\ENGINEERING\DRAWINGS\01_CIVIL\24 099_20240604_SSR PLAN.DWG

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Project PROPOSED SUBDIVISION
10 ARKLES WAY, TAIPA (LOT 12 DP323635)

Client David McLeavey

Project No. 24 099

RC no.

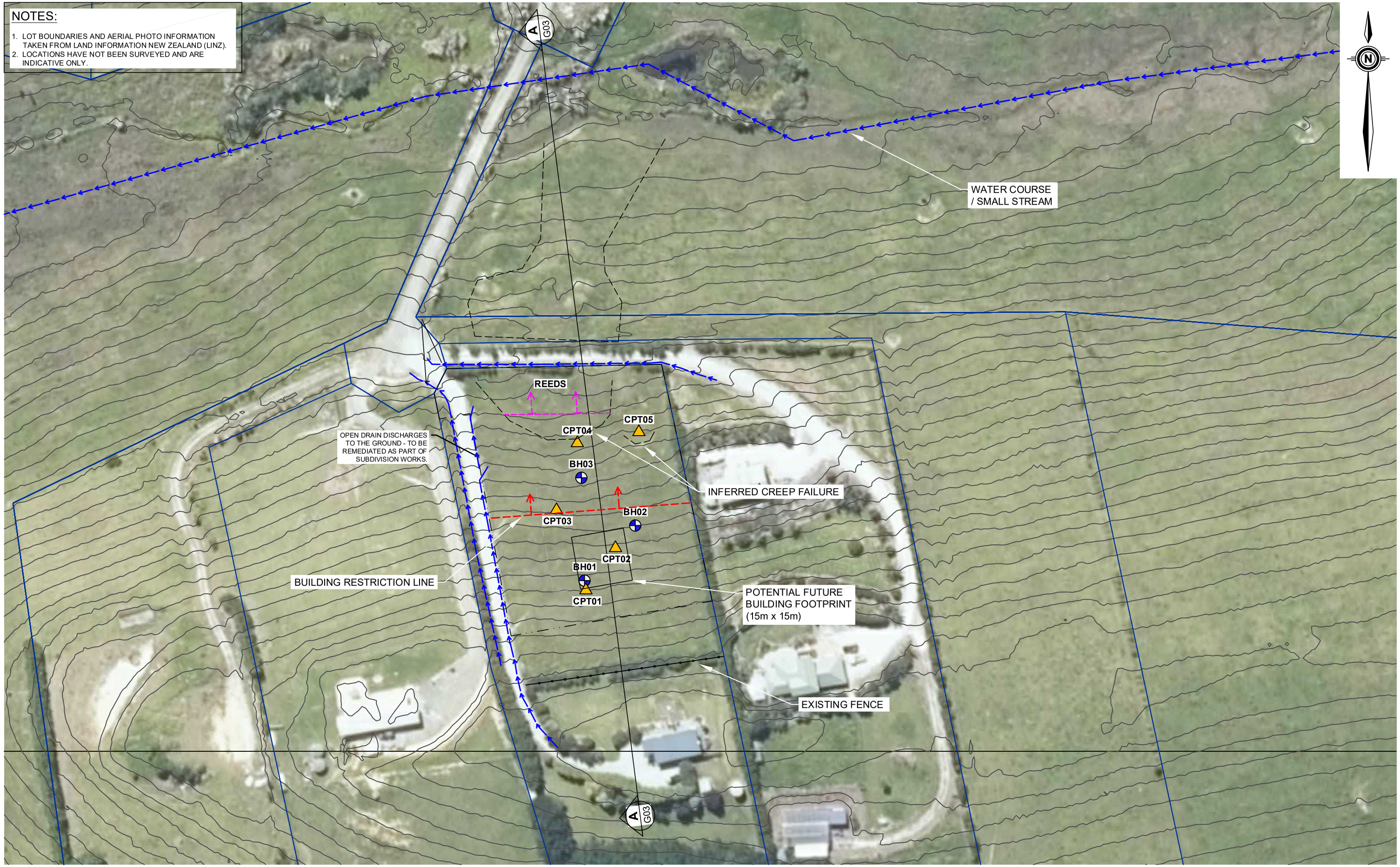
Stage 00

Dwg No. WWP01

Sheet No. 1 of 1

NOTES:

1. LOT BOUNDARIES AND AERIAL PHOTO INFORMATION TAKEN FROM LAND INFORMATION NEW ZEALAND (LINZ).
2. LOCATIONS HAVE NOT BEEN SURVEYED AND ARE INDICATIVE ONLY.



Issue	Date	Revision
A	15/07/2024	FIRST ISSUE

DWG: Site Features & Investigation Plan
contour intervals: 1.0m

Scale 1: 1000 @A3 | Date July 2023
Drawn CN | Checked WT | Approved WT
File T:\CLIENTS\DAVID MCLEAVEY\JOBS\24 099 - 10 ARKLES WAY, TAIPA\(LOT 12 DP 323635)\ENGINEERING\02 GEOTECH\DRAWINGS\24 099 GEOTECH DRAWINGS.DWG

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Project: Geotechnical Investigation
10 Arkles Way, Taipa (Lot 12, DP 323635)

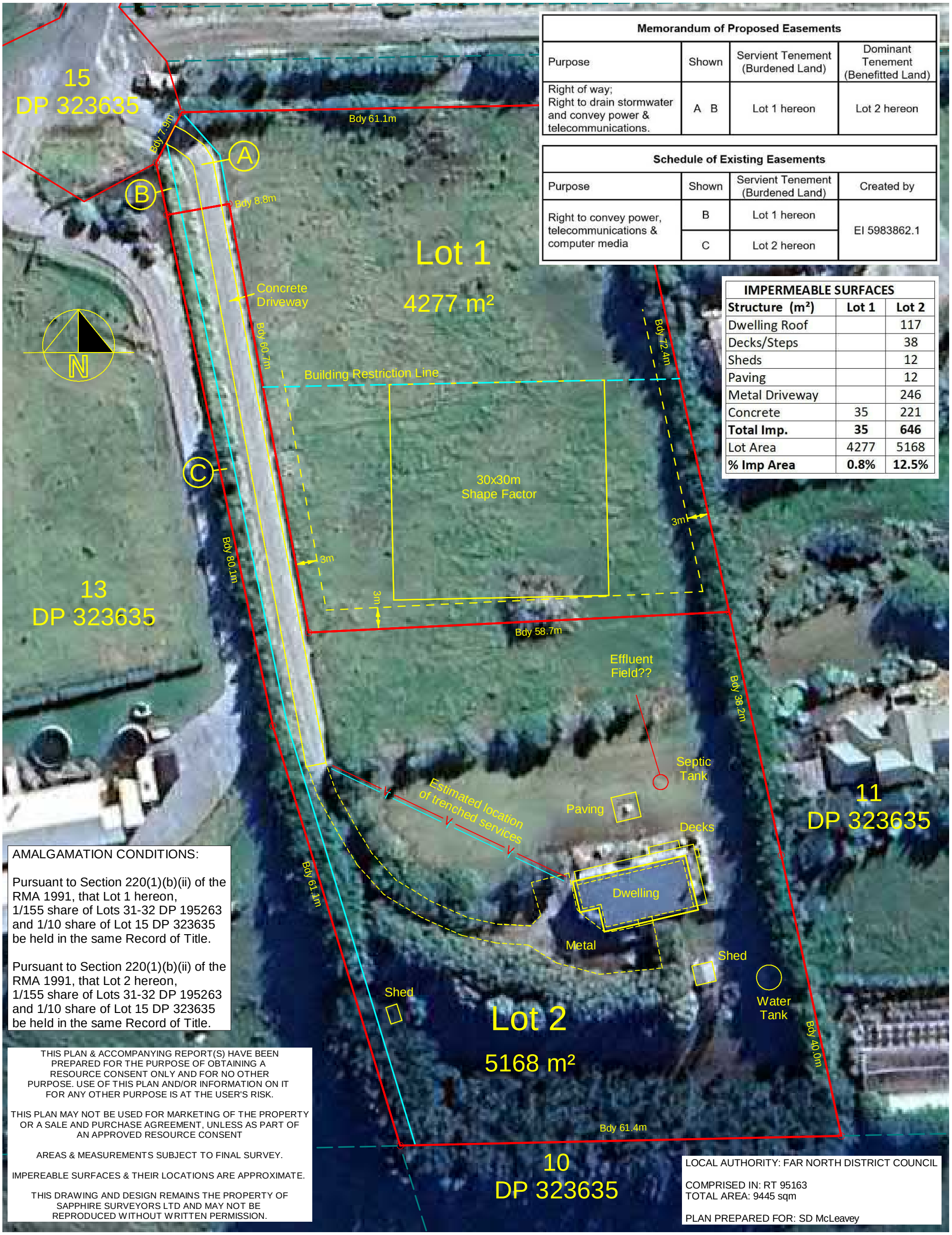
Client: David Mcleavy

Project No. 24 099 | RC no. N/A

DWG No. **G02**

Sheet No. **2** of **3**

Plotted By Craig Nelder at 24/07/2024 10:52:17 AM



Memorandum of Proposed Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Dominant Tenement (Benefitted Land)
Right of way; Right to drain stormwater and convey power & telecommunications.	A B	Lot 1 hereon	Lot 2 hereon

Schedule of Existing Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Created by
Right to convey power, telecommunications & computer media	B	Lot 1 hereon	EI 5983862.1
	C	Lot 2 hereon	

IMPERMEABLE SURFACES		
Structure (m²)	**Lot 1**	**Lot 2**
Dwelling Roof		117
Decks/Steps		38
Sheds		12
Paving		12
Metal Driveway		246
Concrete	35	221
Total Imp.	**35**	**646**
Lot Area	4277	5168
% Imp Area	**0.8%**	**12.5%**

AMALGAMATION CONDITIONS:

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 1 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 2 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

LOCAL AUTHORITY: FAR NORTH DISTRICT COUNCIL

COMPRISED IN: RT 95163
TOTAL AREA: 9445 sqm

PLAN PREPARED FOR: SD McLeavey

Sapphire Surveyors Ltd

Surveyors &
Land Development Specialists

Doubtless Bay, NZ
Ph. 09-406-0001
info@sapphiresurveyors.co.nz

Lots 1 & 2 being a Proposed Subdivision of Lot 12 DP 323635

Job Ref	0117S	
A3	1:500	
Surveyed:		
Drawn:	WW	29/04/2024
Version:	A	
Status:	Final	1/11/2024
Sheet:	1 of 1	

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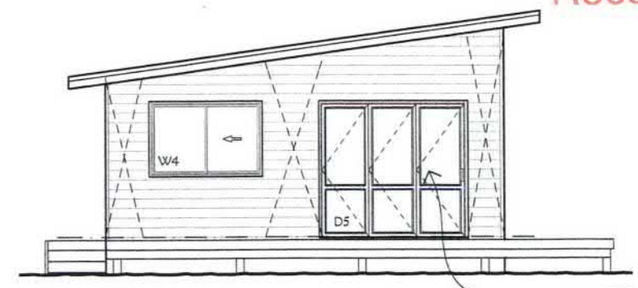

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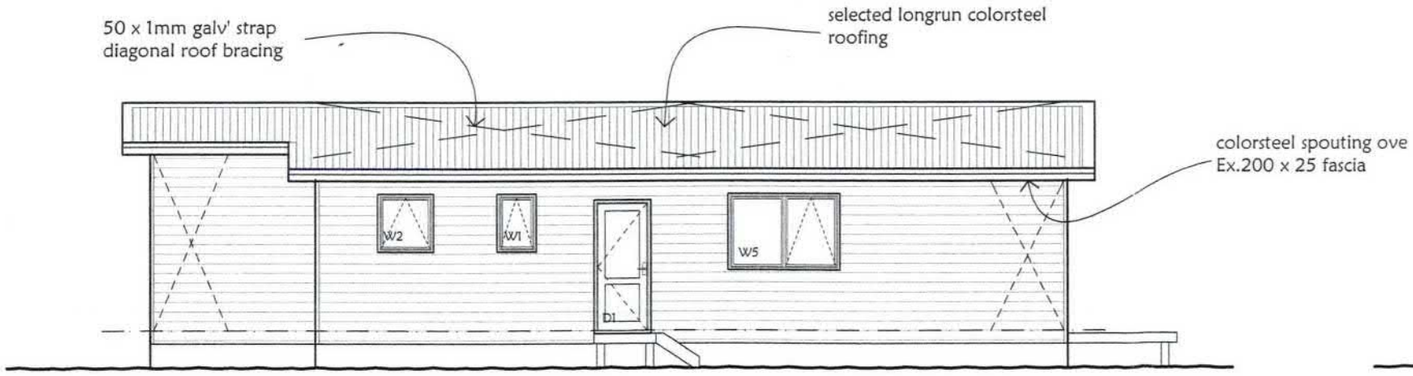


3

4

D Smith
J Morrow

SMITH

Jennian HOMES

PROPOSED NEW HOUSE
FOR MR. D. SMITH AT TAIPA VIEW ROAD, TAIPA

A.MORROW
ARCHITECTURAL
SERVICES
P.O.Box 1006
Kerikeri
Bay of Islands
Mobile 021-283 7466
Ph./Fax. 09 407 5999
Email a.morrow@xtra.co.nz

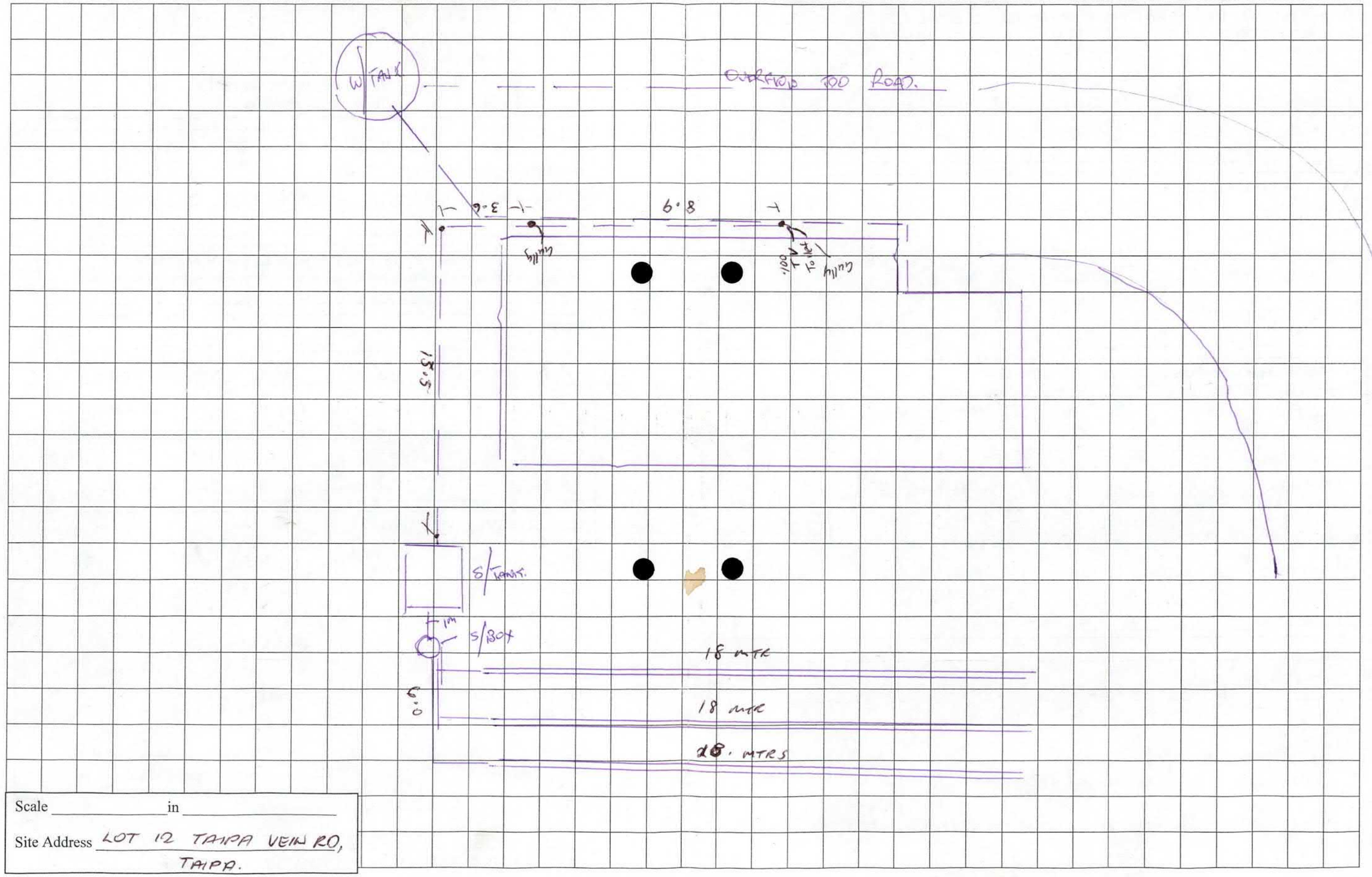
ELEVATIONS

Drawing Status	Date
CONSENT DRAWINGS	21/05/2005
Drawing Number 117 - 06	Revision

CHECK ALL DIMENSIONS ON SITE BEFORE CONSTRUCTION. USE FIGURED DIMENSIONS IN PREFERENCE TO SCALING ALL CONSTRUCTION TO COMPLY WITH NZS 3604: 1999

PART C: AS-BUILT SERVICES PLAN

(To be completed in all cases. If details are already noted on separate drawings then provide copies in duplicate as appropriate and attach to this sheet. Ensure that drawing numbers, etc, is noted below.)

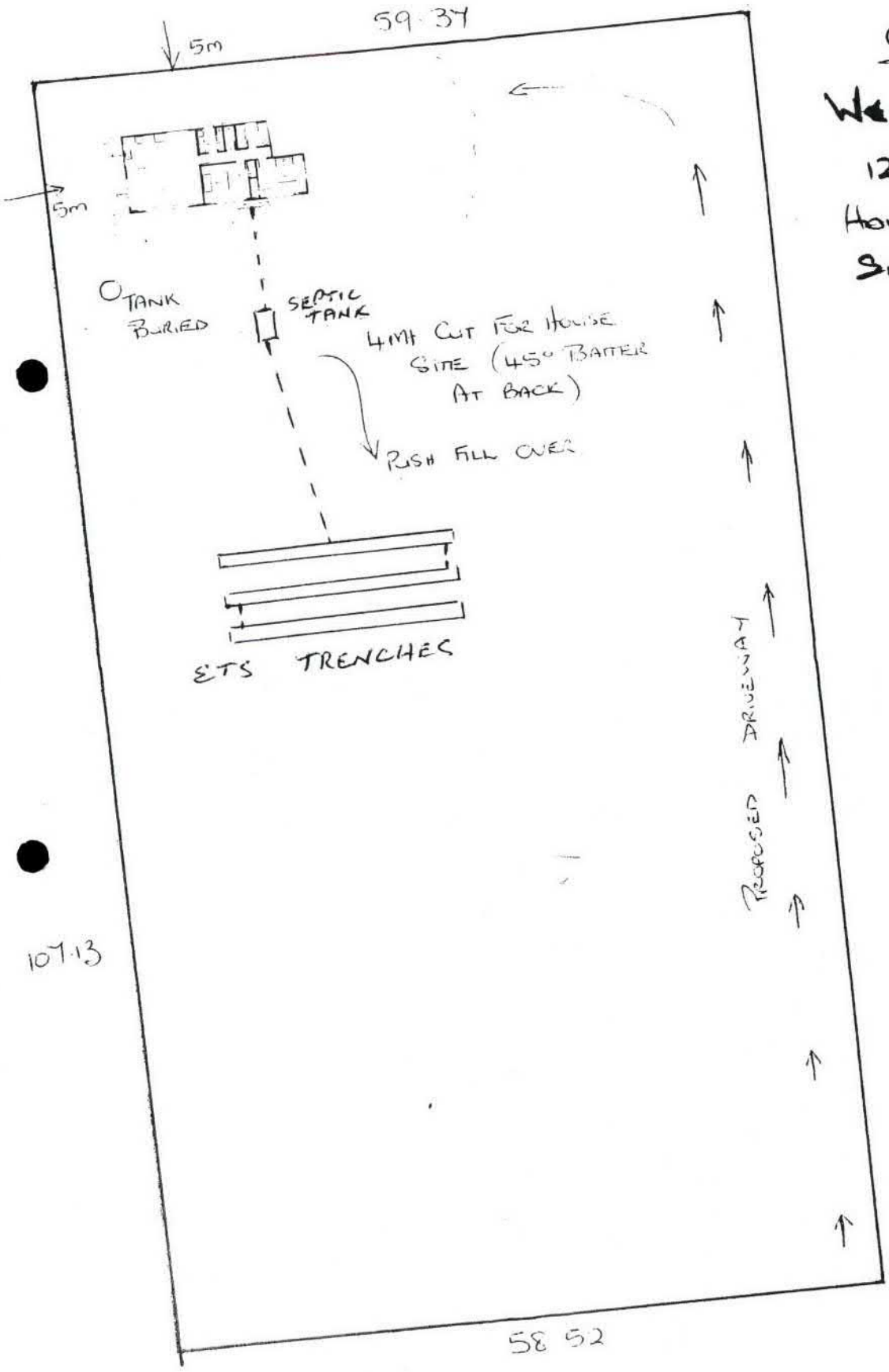


Scale _____ in _____

Site Address LOT 12 TAIPA VEIN RD, TAIPA.

SMITH D LOT 12 TAIPA VIEW HEIGHTS

SCALE 1:50.



CHRIS.

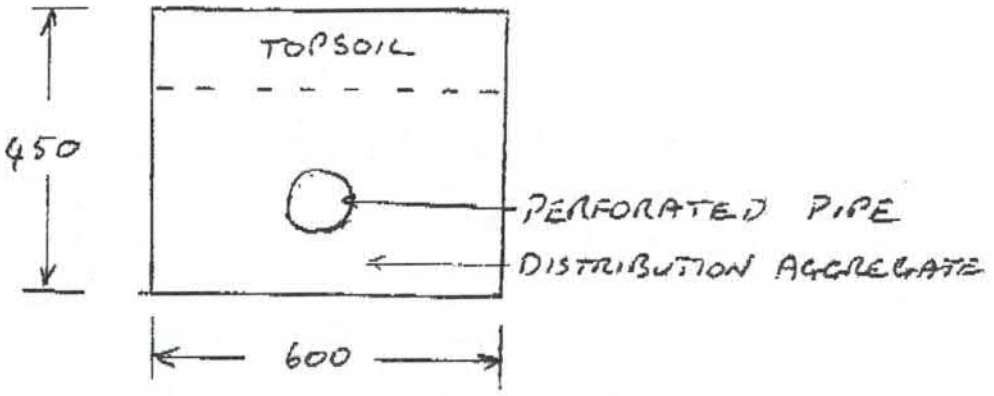
WE HAVE ALLOWED 12m FROM HOUSE FOR SEPTIC CONNECTI

C12

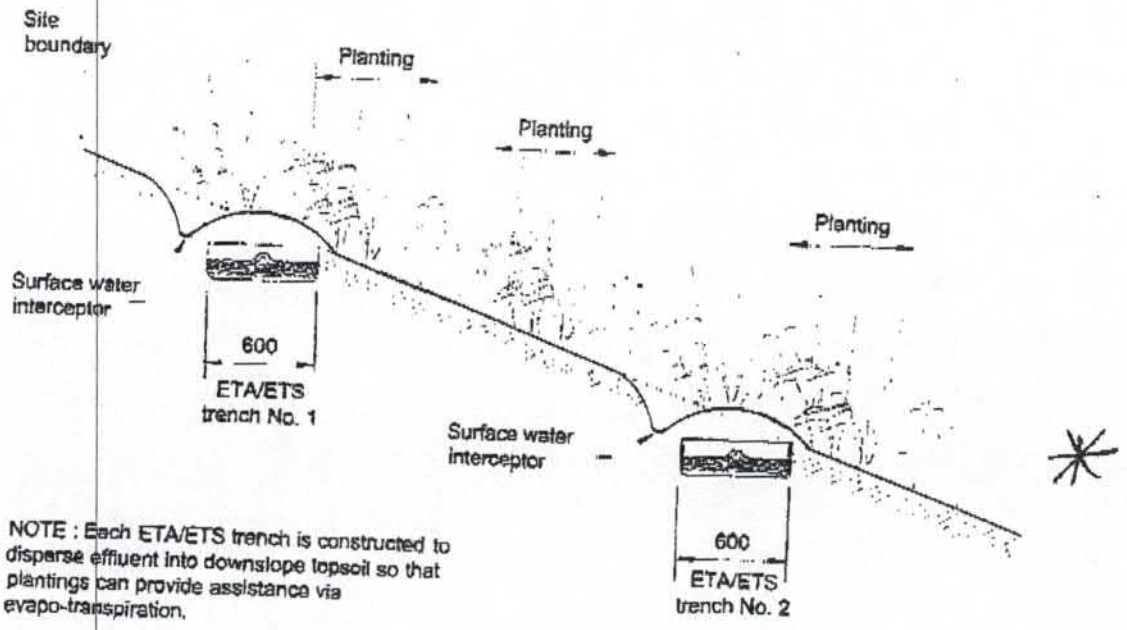
POWER POLE AT DRIVEWAY

MR D SMITH
LOT 12 TAIRA VIEW RD

VERNON PLUMBING
99 CABLE BAY BLOCK RD.
Coopers Beach
Mangonui
Ph: 09 406-1733 Fax: 09 406-1131



ETS TRENCHES

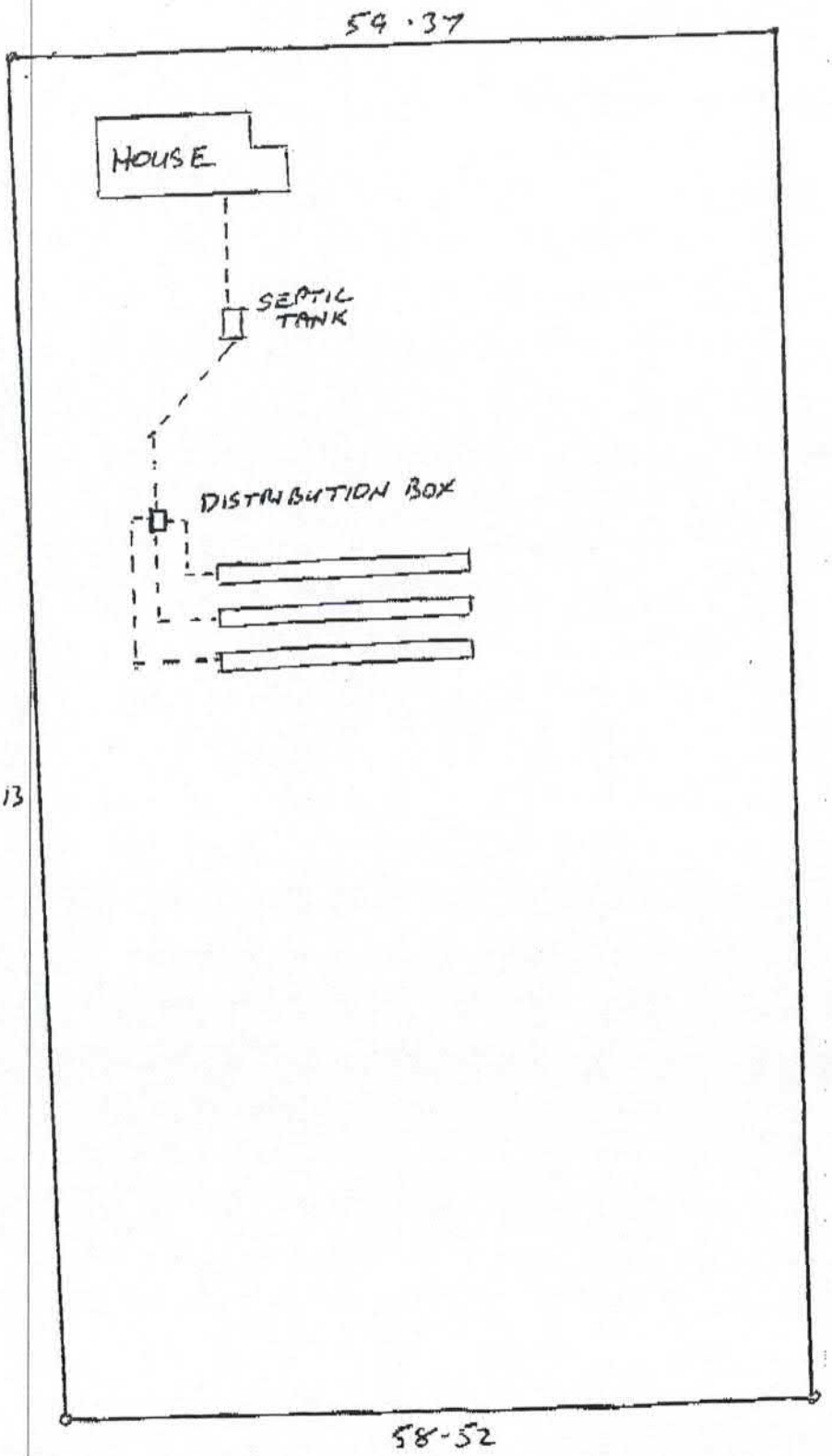


NOTE : Each ETA/ETS trench is constructed to disperse effluent into downslope topsoil so that plantings can provide assistance via evapo-transpiration.

ETS TRENCHES

VERNON PLUMBING
99 CABLE BAY BLOCK RD.
Coopers Beach
Mangonui
Ph: 09 406-1733 Fax: 09 406-1131

D. SMITH
LOT 12 TAIPA VIEW Rd.



Appendix B – Borehole log

PO Box 89, 0245
6 Fairway Drive
Kerikeri, 0230
New Zealand

HAIGH WORKMAN LTD
Civil & Structural Engineers

Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

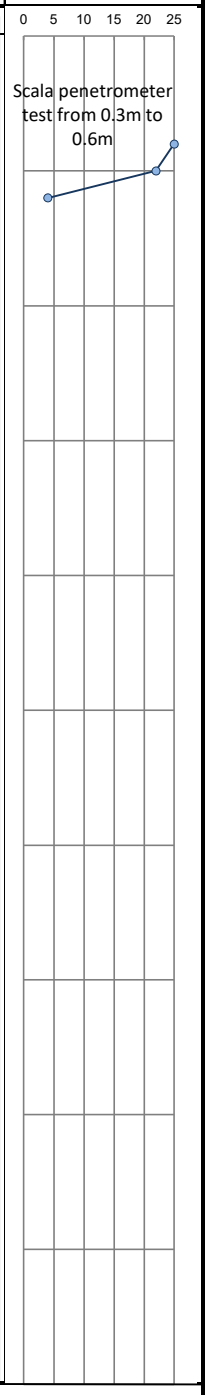
Borehole Log - BH01

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavy	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
SILT; brown. Firm, moist to wet, low plasticity. Rootlets. *[TOPSOIL]*	0.0	T.S.		Groundwater Not Encountered			
SILT; light grey to white, mottled grey. Hard, moist, no plasticity. Hardpan. *[TAIPA MUDSTONE]*		TAIPA MUDSTONE					
0.45m: Clayey **SILT**; light brown to light greyish brown, mottled dark brown. Very stiff, moist, medium plasticity.	0.5				5	163 / 32	
From 1.0m: Becomes mottled brown to orangish brown.	1.0				1 1	90 / 8	
Silty **CLAY**; brownish orange to light orange, mottled light grey. Very stiff, moist, medium to high plasticity. From 1.4m: Becomes light grey to white, mottled light orange.	1.5				3	185 / 64	
					4	165 / 46	
	2.0				2	174 / 72	
Clayey **SILT**; light grey, trace mottled light orange. Stiff, moist, medium plasticity.	2.5				3	117 / 42	
					3	109 / 35	
Silty **CLAY**; orange, mottled light grey. Stiff, moist to wet, high plasticity. From 2.9m: Becomes wet, firm to stiff.	3.0				3	80 / 26	
					3	70 / 26	
Clayey **SILT**; brown to orangish brown, mottled grey. Stiff, wet, medium plasticity. From 3.5m: Becomes grey to brownish grey, trace mottled brownish orange.	3.5				4	110 / 27	
End of hole at 4.0m (Target Depth)	4.0				5	85 / 16	
	4.5						



LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing undertaken through hardpan. Groundwater not encountered.

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New Zealand

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info@haighworkman.co.nz

Borehole Log - BH02

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavy	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
SILT; dark greyish brown. Firm, moist to wet, low plasticity. *[TOPSOIL]*	0.0	T.S.		Groundwater Not Encountered			0 5 10 15 20
0.15m: Clayey **SILT**; orangish brown, mottled greyish brown. Very stiff, moist, medium plasticity. Topsoil dessication. *[TAIPA MUDSTONE]*		TAIPA MUDSTONE					
Silty **CLAY**; orange to brownish orange, mottled light brownish grey. Very stiff, moist, high plasticity. From 0.6m: Becomes light orange and light grey to brownish grey.	0.5				3	120 / 35	
Clayey **SILT**; light grey to white, mottled light orange. Very stiff, moist, medium to high plasticity. From 1.2m: No orange.	1.0				4	123 / 30	
From 1.5m: Becomes trace rootlets. From 1.7m: No rootlets. Becomes trace mottled orange. Moist to wet.	1.5				4	149 / 34	
	2.0				3	154 / 53	
	2.5				2	138 / 62	
Clayey **SILT**; orange, mottled grey to light grey. Stiff, moist to wet, medium plasticity.	3.0				3	109 / 35	
SILT, some clay, trace fine to medium sand; brownish orange to dark orange, mottled grey. Very stiff, moist to wet, low plasticity. From 3.6m: Becomes grey to brownish grey, mottled dark orange. From 3.9m: Trace sand; brownish orange to dark orange, mottled dark grey.	3.5				5	182 / 38	
End of hole at 4.0m (Target Depth)	4.0					224	
	4.5						

LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing not undertaken. Groundwater not encountered.

PO Box 89, 0245
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Kerikeri, 0230
New Zealand

HAIGH WORKMAN LTD
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info@haighworkman.co.nz

Borehole Log - BH03

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavy	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
SILT; dark brown. Firm, moist to wet, no plasticity. *[TOPSOIL]*	0.0	TS					
SILT, some fine sand; light grey. Firm, moist to wet, no plasticity.							
SILT; brown. Very stiff, moist, no to low plasticity. *[TAIPA MUDSTONE]*							
Clayey **SILT**; greyish brown to light greyish brown. Very stiff, moist, low plasticity.	0.5				4	160 / 43	
Silty **CLAY**; brownish orange to orange, mottled light greyish brown. Very stiff, moist, medium to high plasticity. Trace rootlets.							
From 0.9m: Becomes light grey, mottled orange. High plasticity.	1.0				5	70 / 14	
From 1.1m: Becomes light grey.							
	1.5	TAIPA MUDSTONE		Groundwater Not Encountered	8	106 / 13	
From 1.7m: Becomes trace mottled orange. Moist to wet.							
	2.0				4	86 / 24	
	2.5				2	106 / 48	
Clayey **SILT**; orange and brownish grey, trace mottled brownish orange. Stiff, moist to wet, low plasticity.	3.0				3	109 / 32	
SILT, some clay; dark grey, mottled brownish orange. Very stiff, moist to wet, no to low plasticity.							
	3.5					224	
Clayey **SILT**; brownish orange, mottled dark brown. Stiff, moist to wet, low plasticity.					5	142 / 27	
SILT, some clay; dark grey, mottled brownish orange. Very stiff, moist to wet, no to low plasticity.							
End of hole at 4.0m (Target Depth)	4.0				5	224 / 48	
	4.5						

Vane Shear and Remoulded Vane Shear Strengths (kPa): 0 5 10 15 20

LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing not undertaken. Groundwater not encountered.

Appendix 6

Geotechnical Assessment

HAIGH WORKMAN LTD
Civil & Structural Engineers

Geotechnical Assessment Report
Proposed Subdivision
10 Arkles Way, Taipa
Lot 12, Deposited Plan 323635
For
David McLeavey

Haigh Workman reference 24 099

July 2024

Phone: +64 9 407 8327 • Fax: +64 9 407 8378 • info@haighworkman.co.nz • www.haighworkman.co.nz

PO Box 89 • 6 Fairway Drive • Kerikeri 0245 • New Zealand

Revision History

Revision Nº	Issued By	Description	Date
A	Craig Nelder	First Issue	July 24

Prepared By

Craig Nelder

Geotechnical Engineer
BE(Hons)

Reviewed By

Wayne Thorburn

Senior Geotechnical Engineer
CPEng, CMEngNZ

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TABLES

FIGURES

Executive Summary

Haigh Workman Limited (Haigh Workman) were engaged by David McLeavey (the Client) to undertake a geotechnical investigation to identify a suitable building platform on Lot 1 of a proposed two-lot subdivision at 10 Arkles Way, Taipa.

The subsoil investigations encountered fine grained Taipa Mudstone soils, with the upper 4.0m typically comprising firm or stiff soils (Su < 100kPa). CPT testing across the site indicated a generally consistent soil profile across the site. A geological ground model is presented in Appendix A.

Based on the results of our investigations and stability analysis, a suitable stable building platform can be made available in the area shown on the attached site plan, however the site is subject to soil creep and will need to be mitigated through specific foundation design and/or ground stabilisation works.

We recommend any future dwelling be located nearer the southern boundary where groundwater levels are expected to be lower and where our preliminary stability analysis indicates that the design factors of safety presented in Table 6 are met accordingly. If building to the north of the building restriction line (BLR) set out in Appendix is intended, then further assessment and modelling will be required.

Filling across the future build platform or down-slope of the future building may be detrimental to the stability of the site and should be avoided. All cuts and fills will be subject to further analysis, with permanent excavations likely to need retaining walls and subject to further analysis.

Concentrated stormwater flows must not be allowed to discharge onto the north facing slopes below the dwelling as this would also be detrimental to foundation conditions and site stability. A stormwater drain along the eastern extent of the existing concrete driveway disperses onto the site at two locations. This must be remediated as part of subdivision works.

The subsoils beneath the subject fall outside the definition of 'good ground' as contained in NZS3604:2011 due to the presence of weaker soils that cannot adopt an ultimate bearing capacity of 300 kPa. Furthermore, the site is subject to expansive soils and sloping ground. Foundation depths must consider the highly expansive nature of the soils and effects of any sloping ground, including lateral loading due to surface soil creep and/or a reduction of passive support due to sloping ground. Subject to site-specific testing at building consent stage, we recommend foundations be designed for an ultimate bearing capacity of 200 kPa and be subject to specific engineered design (SED).

We recommend foundations on sloping ground consist of round timber poles encased in concrete. We recommend foundations on sloping ground be designed as follows:

- On slopes exceeding 8° (i.e. the existing site contours), foundations should be subject to specific engineered design. Design should consider soil creep, with piles designed to tolerate 1.0m of lateral earth pressure at its at-rest state (K_0), across a width of three times the pile diameter
- On sloping ground not exceeding 8°, pile foundation can be designed using the parameters in Table 8. We recommend the embedment depth is increased to 1.5m due to the geometric loss of passive support from the sloping ground.

Alternatively, shallow foundations can be used on a level building platform and can adopt the design parameters in Table 8. Where a level building platform is intended, the earthworks recommendations outlined in Section 5.1 should be followed.

Future specific geotechnical investigations will be required to confirm the subsoil conditions, confirm the soil expansivity, and provide site specific geotechnical assessment for the subject site.

1 Introduction

1.1 Project Brief and Scope

Haigh Workman Ltd (Haigh Workman) has been commissioned by David McLeavey (the Client) to undertake a geotechnical investigation to identify a suitable building platform for the proposed subdivision of Lot 12, DP 323635 (10 Arkles Way, Taipa). This report presents the information gathered during the site investigation, interpretation of data obtained, site-specific geotechnical recommendations relevant to the site.

The scope of this report encompasses the geotechnical suitability in the context of a potential future build on the proposed subdivision as defined in the Short Form Agreement dated 22 June 2023. This appraisal has been designed to assess the subsoil conditions to identify a suitable building platform and/or provide recommendations required to form the suitable building platform.

This report provides the following:

- A summary of the published geology with reference to the geotechnical investigations undertaken;
- Analysis of the data obtained from site investigations, providing a geotechnical ground model;
- Slope stability analysis;
- Preliminary foundation recommendations;
- Identification of any additional geotechnical risks and/or hazards.

1.2 Site Description

The site is legally described as Lot 12, DP 323635 with a total land area of 9445m^2. The site is located on a east to west facing spur, with the site comprising generally moderate (12° to 14°), north-facing slopes. The southern portion of the site (Proposed Lot 2) comprises a dwelling located on generally flat to gentle sloping ground at the crest of the spur.

Stormwater flow paths / small streams are located at the lower edges of the spur, which gently fall towards the east where they adjoin to form a tributary to the Otengi Stream.

The potential future build site identified within this assessment is situated within the southern portion of proposed Lot 1. To the north (down-slope) of the potential build site, patches of reed grasses were present, indicative of higher surface moisture content.

A recently concreted driveway extends along the western boundary of the property, which will form the right of way for the existing dwelling on Lot 2. Stormwater runoff on the eastern side of the driveway currently has two spill points where stormwater is channelled onto the surface of the moderate north-facing slopes across proposed Lot 1.

The site location and proposed subdivision boundaries are shown in Figure 1 below.

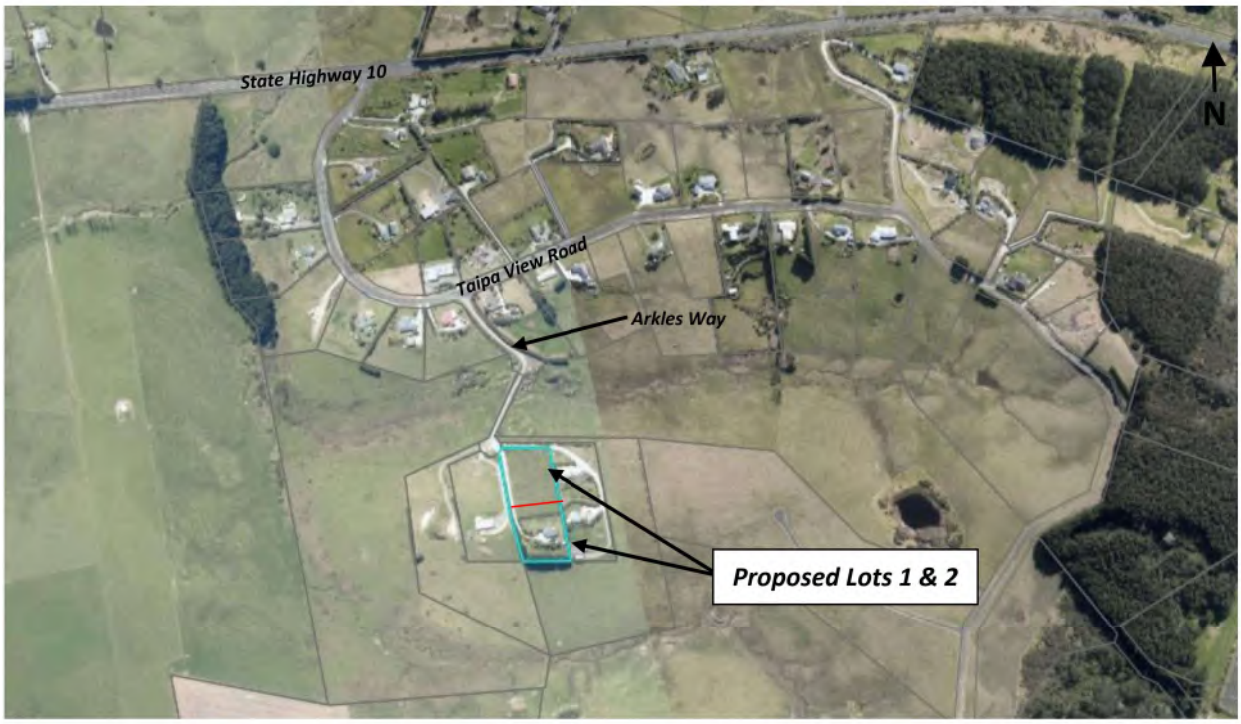


Figure 1: Site Location & Proposed Subdivision

A scheme plan by Sapphire Surveyors Ltd has been provided, which identifies the intent to subdivide the property into two lots (proposed Lot 1 – 4277m^2 & proposed Lot 2 – 5168m^2). This report focuses on proposed Lot 1 as an existing dwelling is located on Lot 2.

2 Desktop Study

2.1 Published Geology

The site is within the bounds of the GNS Geological Map 1 "Geology of the Kaitaia area", 1:250,000 scale*. The published geology shows the site to be underlain by Taipa Mudstone that is of Paleocene to Eocene age.

An extract of the geological map is shown in Figure 2 below, with geological units presented in Table 1 below.

* Edbrooke, S.W; Brook, F.J. (compilers) 2009. Geology of the Kaitaia area.

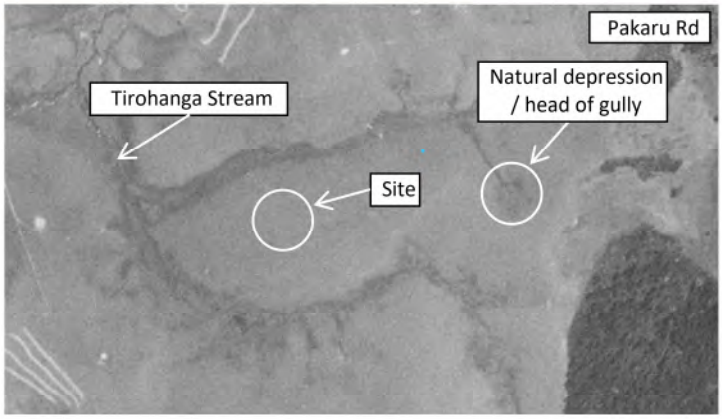
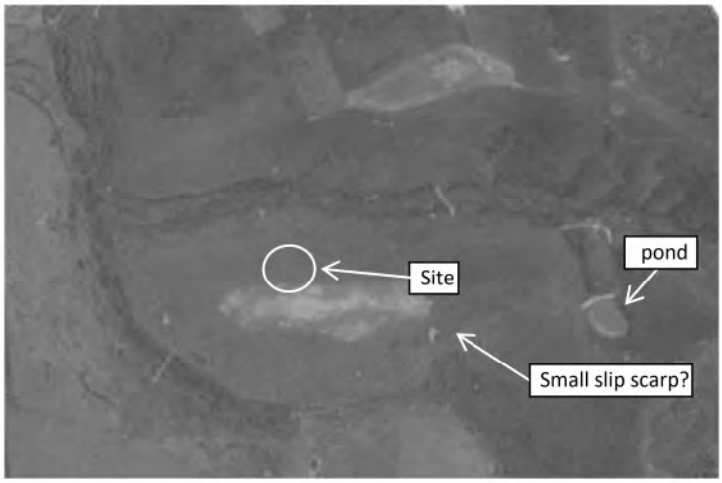
Figure 2: Geological Map 1 (1:250,000, Kaitaia Map)

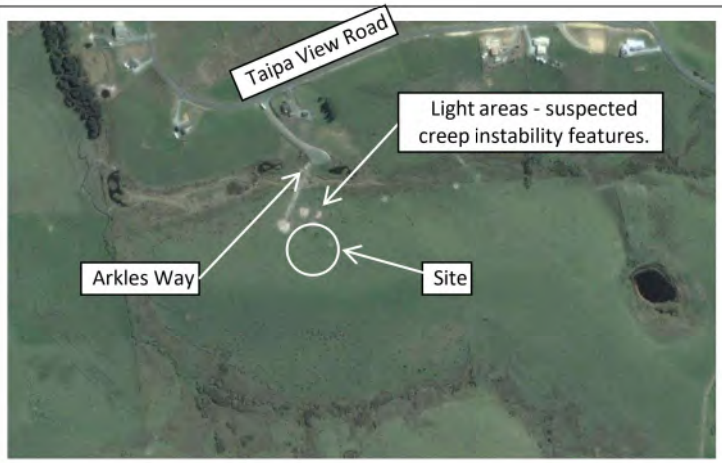
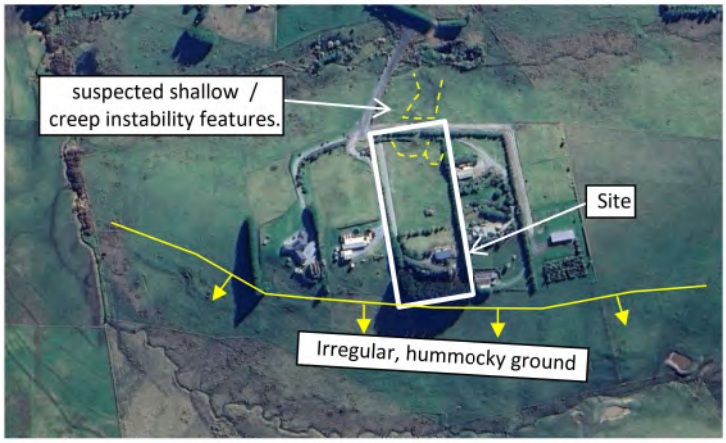
Table 1: Geological Legend

Symbol	Unit Name	Description
Emt	Taipa Mudstaone *(Motatau Complex – Northland Allochthon)*	Weakly to moderately indurated grey to blue-grey calcareous mudstone, commonly with redeposited glauconitic beds. *Early Eocene age to Early Oligocene age.*
Kkw	Whangai Formation *(Mangakahia Complex – Northland Allochthon)*	Dark grey, white-weathering, siliceous and calcareous mudstone. Minor thin-bedded micritic limestone. Minor black carbonaceous shale. *Late Cretaceous to Paleocene age.*
Kkp	Punakitere Sandstone *(Mangakahia Complex – Northland Allochthon)*	Weakly to moderately indurated, massive to well bedded quartzofeldspathic sandstone with minor roundstone conglomerate. *Middle to late Cretaceous age.*
Ktg	Tangihua Complex *(Northland Allochthon)*	Basaltic pillow lava, with minor intercalated mudstone and limestone, intruded by sills of gabbro and dolerite. *Early Cretaceous to Paleocene age.*

2.2 Historical Aerial Photography

Table 2: Summary of Historical Aerial Photographs

Year	Aerial Photograph	Summary
1970		Historical aerial shows the site and surrounding area to be largely undeveloped. The pond at the head of the flow path has not been formed yet. The surrounding area is in grassland. Instability feature to the west of the narrow ridge is clearly visible. *(Aerial from Retrolens)*
1977		The pond to the east of the site has been created. An inferred small instability feature is located to the southeast of the site on the south-facing slopes. Surrounding area has remained largely undeveloped. *(Aerial from Retrolens)*
1981		Same as 1977 *(Aerial from Retrolens)*

April 2003		Taipa View Road & Arkles Way has been constructed since 1981, with several residential developments along Taipa View Road. Suspected creep instability features are located slightly north of the property boundary, which corresponds with the non-uniform ground contours. *(Aerial from Google Earth)*
July 2022		Irregular ground contours can be observed more clearly due to better aerial image quality. The southern side of the ridge spur is steeper and obvious signs of instability and soil creep can be seen. *(Aerial from Google Earth)*

2.3 Geomorphology

A series of mapped inactive overthrust sheets (faults) separate three geological units (Kkw, Kkp & Emt) within 400m north of the site. Small blocks of Tangihua Complex are also located roughly 1km north of the site along the coastal margin - to the west of Taipa Beach. The subject site lies within the northern extent of the Taipa Mudstone. The overthrusts have resulted in the older units (KKw & Kkp) being thrust over the Taipa Mudstone rocks within close proximity to the site.

Signs of slope instability observed within the vicinity of the site are typical for creep behaviour, with irregular ground surfaces observed across large areas of moderate slopes with no obvious escarpment. Deeper-seated instability features are more evident across the steeper south-facing slopes, with several small to moderate escarpments located generally within the lower half of the southern slopes.

Based on visual observations on site and a review of the LIDAR data, deeper-seated slope stability across the proposed house site is categorised as stable (FOS > 1.0), however areas of the southern slopes would tend to be at, or near equilibrium (factor of safety ≈ 1.0). Based off a review of the LIDAR data, slope angles across the

deeper-seated instability features are generally in the order of 17° to 20°, with the northern slopes generally ranging between 10° to 15°.

Units within the Mangakahia Complex of the Northland Allochthon, which is located to the north of the site, typically comprises a more sheared and chaotic fabric than that of the Motatau Complex, and typically form unstable, 7° to 15° hummocky slopes. The Motatau Complex is generally considered less problematic in comparison; however, some geotechnical problems are still associated with these rocks[†]. The nearby watercourses and historic faults are also likely to have effect on the nature of the stability of the area.

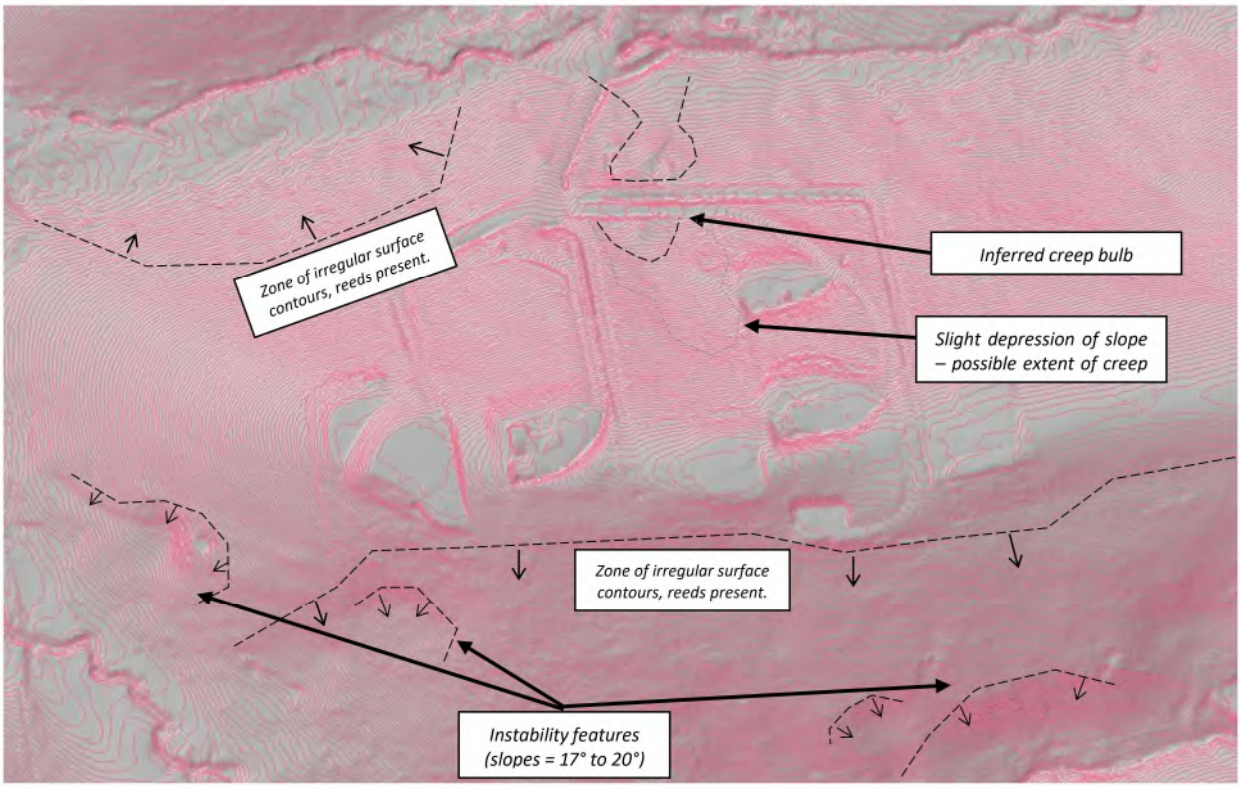


Figure 3: Site Features (LiDAR DEM & 0.25m contours)

3 Ground Investigations

3.1 Subsurface Investigations

Haigh Workman undertook geotechnical investigations on 12 June 2024. The investigations comprised the drilling of three hand auger boreholes (BH01 to BH03) to a depth of 4.0 metres below ground level (mbgl), and the mark-up of 5 cone penetrometer tests (CPT01 to CPT05). Cone penetrometer tests were then undertaken later by Underground Investigation Ltd, on 20 June 2024.

[†] G E Winkler – *'Geotechnical Engineering of the Northland Allochthon'*

3.1.1 *Hand Auger Boreholes*

Hand augers were advanced to a maximum depth of 4.0 metres below ground level (mbgl). Vane shear tests were undertaken at regular intervals during the advancement of the hand augers. Investigation hand auger logs are included in Appendix B.

Investigations were logged in accordance with The New Zealand Geotechnical Society, "Guidelines for the Field Classification and Description of Soil and Rock for Engineering Purposes" (2005). Investigation locations are shown on the drawings in Appendix A. All shear strengths shown on the appended logs are Vane Shear Strengths in accordance with the NZGS; "Test Method for determining the Vane Shear Strength of a Cohesive Soil using a Hand-held Shear Vane", 2001.

3.1.2 *Cone Penetrometer Tests (CPTs)*

Five cone penetration tests (CPTs) were undertaken by Underground Investigation Ltd. Testing was undertaken to refusal (anchors pulling out of the ground). A maximum depth of 12.4 m was achieved within CPT01. CPT soundings are presented in Appendix C.

3.2 Ground Conditions

Based on the results of the geotechnical investigation conducted by Haigh Workman and review of published geological maps, it is considered that the soils directly underlying the site comprise residual Taipa Mudstone. Subsoil conditions on the site have been interpolated between the boreholes and some variation between borehole positions are likely. The ground surface across the development area and nearby slopes were drawn from LIDAR data and by a tape and clinometer measurements taken on site. A ground model has been developed based on the investigation results. Refer Appendix A for geological cross sections.

CPT soundings across and nearby the potential building platform indicate a generally consistent soil profile across the site, with the upper 4.0m (approximately) comprising firm to stiff soils, which increases to very stiff or hard below 4.0mbgl. Detailed hand auger logs are presented within Appendix B. The tables below summarise the materials encountered in both the hand auger boreholes and CPT's.

Table 3: Hand Auger Borehole Summary

Geological Unit	Test I.D.		
	BH01	BH02	BH03
Topsoil	0.0 – 0.2 m	0.0 to 0.15 m	0.0 to 0.1 m
Residual Taipa Mudstone	0.2 to > 4.0	0.0 to > 4.0 m	0.3 to > 4.0 m
Groundwater Level & soil moisture comments	NE Moist to wet from 2.8mbgl, wet from 3.4mbgl.	NE Moist to wet from 1.7mbgl.	NE Moist to wet from 1.7mbgl.

**NE = Not Encountered.*

The estimated undrained shear strength has been assessed using the in-situ CPT data and vane shear strength. Vane shear strengths have been corrected for plasticity using Bjerrum's correction factor to estimate undrained shear strength. Estimated undrained shear strengths are presented in Figure 4 below:

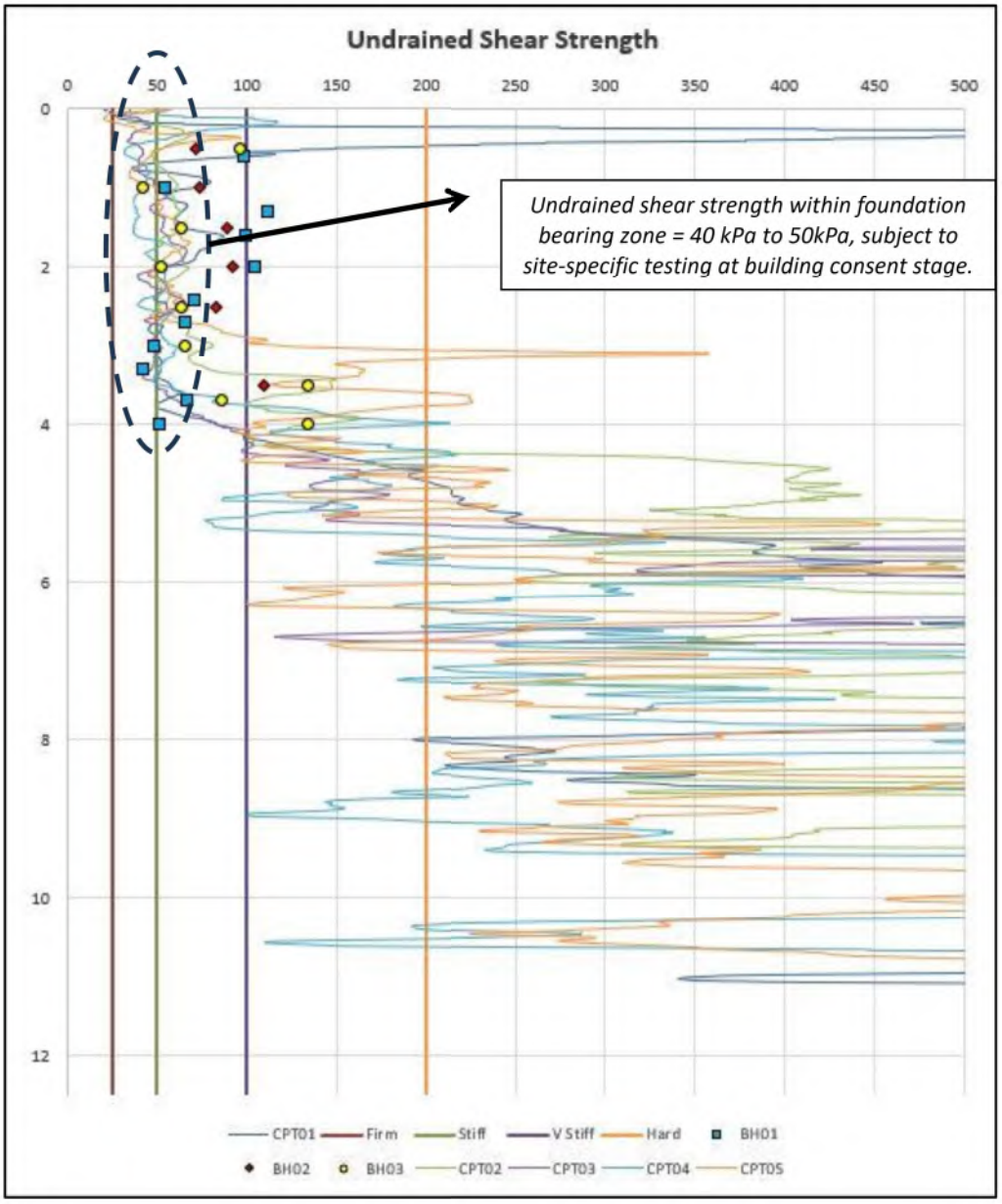


Figure 4: Estimated Undrained Shear Strength Plots

Table 4: CPT Results Summary

Inferred Geological Unit		Test I.D.				
		CPT01	CPT02	CPT03	CPT04	CPT05
Taipa Mudstone	**Firm** *(Su 30 to 45 kPa)*	NE	NE	0.0 – 0.8	0.0 – 1.6	0.0 – 1.0
	Firm to Stiff *(Su 45 to 100 kPa)*	0.0 – 4.0	0.0 – 3.4	0.8 – 4.1	1.6 – 3.5	1.0 – 2.9
	Very stiff soils *(Su >100 kPa)*	4.0 – 4.8	3.4 – 4.4	4.1 – 5.3	3.5 – 5.4	2.9 – 5.2
	Hard soils *(Su > 200 kPa)*	> 4.8	> 4.4	> 5.3	> 5.4	> 5.2
Groundwater Level		4.2m	NE	NE	NE	NE

NE = Not Encountered.

3.2.1 *Groundwater Conditions*

Groundwater was encountered within CPT01 only during the investigations. Groundwater standpipes were not installed in the hand auger boreholes or CPTs and no further groundwater monitoring has been undertaken. Soil moisture conditions were observed to become moist to wet or wet within all hand auger boreholes. Groundwater levels can and do fluctuate and higher groundwater levels may be encountered following periods of prolonged or heavy rainfall.

4 Geotechnical Assessment

4.1 Geotechnical Design Parameters

Geotechnical design parameters recommended in this report are based on in-situ test results, empirical relationships, and observations of nearby slopes. Refer Table 5 below for soil parameters adopted within this report. Depths for the units are shown in Table 4 and on the appended drawings (Appendix A).

Table 5: Geotechnical Design Parameters

Soil Unit	Bulk Unit Weight γ kN/m^3)	Peak Undrained Shear Strength S_u (kPa)	Effective Cohesion c' (kPa)	Effective Friction Angle φ' (degrees)
Firm residual Taipa Mudstone	18	30 - 45	0.5	20
Firm to stiff residual Taipa Mudstone	18	45 - 100	3	20
Very stiff residual Taipa Mudstone	18	100 - 200	10	20
Hard / completely weathered Taipa Mudstone	18	>200	50	20

Note: Cohesion to be ignored within the upper 1.0m for foundation design

4.2 Geological Ground Model

A geological ground model has been developed based on the site investigation data. The location of the potential building platform is shown on the drawings in Appendix A. The ground surface has been drawn using LINZ Data Service LiDAR information in conjunction with tape and clinometer measurements taken on site.

4.3 Slope Stability Assessment

4.3.1 *Modelling Philosophy*

Slope stability analyses were undertaken along our geological cross section A-A' using computer software by Rocscience, Slide (Version 9.028). The soil parameters used are presented in Table 5. Back analysis of the existing features was undertaken to determine the effective stress parameters for the stability analysis, adopting a factor of safety of approximately 1.1 to 1.2 at elevated groundwater conditions for the more notable soil creep near the northern boundary of the site, i.e., the slopes are showing signs of soil creep.

Groundwater has been modelled using a phreatic surface, with the phreatic surface analysed using the steady state finite element module within Slide. Boundary conditions for the steady state finite element method have been based on observations made during the investigations, noting the groundwater encountered at CPT01 location, and water course located at the base of the slope. For static groundwater conditions, groundwater has been adjusted to generally lie within the very stiff layer, approaching surface further down-slope nearer the water course.

credible, worst-case groundwater boundary conditions have been assumed. Soils above the estimated groundwater surface have been modelled using a pore water coefficient (RU) to represent a partial degree of saturation within the upper soils (i.e. soils were generally described as becoming moist to wet from 1.7mbgl).

The purpose of the modelling is to determine if ground stabilisation is required to provide a safe building platform. A 10 kPa vertical surcharge has been applied to the ground surface to represent a future building load. The criteria adopted for assessing the global stability is outlined in Table 6 below.

Table 6: Design Factors of Safety (FOS)

Load Case	Design Factor of Safety
Static conditions	≥ 1.5
Elevated groundwater conditions	≥ 1.3
Seismic loading	≥ 1.0

Note: Design Factors of safety taken from Auckland Council – The Auckland Code of Practice for Land Development and Subdivision CH2: Earthworks and Geotechnical.
CH2 also requires an amenity area (the lesser of: 8m from the building footprint, or to the property boundary) with a FOS of 1.2 for normal groundwater, and 1.1 for elevated groundwater.

4.3.2 *Seismic Hazard*

Anticipated peak ground accelerations have been estimated assuming Site Class C, as per NZS 1170.5. The seismic coefficients for geotechnical design are based on the NZTA Bridge Manual SP/M/022 (NZBM) and NZS1170. Assuming a design working life of 50 years with an importance level 2 structure, the return period of an earthquake would be 1 in 500 years. Accordingly, the ULS peak ground acceleration for seismic analysis is 0.13 g. In accordance with the NZBM we have also checked a lower-bound PGA of 0.19 g to ensure there are no step changes in overall performance, i.e. failure surfaces do not result in catastrophic failure.

4.3.3 *Analyses Results*

The stability analyses carried out for all scenarios are outlined in the tables below, with analyses summary sheets for all scenarios are included in Appendix C.

Table 7: Stability Results

Section I.D.	Scenario	Result at dwelling	Required	Outcome	Notes
A'A'	**01** Proposed Dwelling - Elevated groundwater	1.3	1.3	OK	• Minimum FOS = 0.96 across the small localised steeper area below property boundary. *This is located outside of the required amenity area and north of the building restriction line (BLR) in Appendix A* • FOS = 1.0 to 1.30 within northern 20m of the property boundary. *This is located outside of the required amenity area and north of the BLR.* • OK at potential future building platform (FOS = 1.31)
	02 Proposed Dwelling – Normal Groundwater	1.5	1.5	OK	• Localised global minimum FOS = 1.22 at edge of watercourse at the base of the slope. *This is located outside of the site boundary.* • FOS ≥ 1.55 across the site. • OK at potential future building platform (FOS = 1.55)
	03 Proposed dwelling – Seismic (PGA = 0.13g)	1.0	1.0	OK	• Localised global minimum FOS = 0.81 at edge of watercourse at the base of the slope (located outside of the property boundary) Minimum FOS = 0.99 across the site, north of the BLR. • OK at potential future building platform (FOS = 1.02) • Step-change behaviour checked using Peak Ground Acceleration (PGA) = 0.19g - FOS =

					0.89 beneath dwelling platform i.e. step change behaviour observed. • Sliding block analysis undertaken using Ambraseys and Slbulov, 1995 method. A PGA of 0.14 will result in a critical slip plane beneath the potential house platform (FOS = 1.0). Up to 5mm of displacement expected under a magnitude 6.5 earthquake event with a PGA = 0.19g. OK.

We recommend any future dwelling be located nearer the southern boundary where groundwater levels are expected to be lower and where our preliminary stability analysis indicates that the design factors of safety presented in Table 6 are met accordingly. A building restriction line has been included in Appendix A, where the stability of the site does not meet the required factors of safety outlined in Table 6. Building north of the building restriction line will require further analysis.

Based on the results of the analyses, a suitable building platform can be made available in the area shown on the attached site plan, subject to the recommendations outlined within this report. No filling should be undertaken across the site without additional testing and stability modelling. All future cuts should also be supported by retaining walls without further analysis.

4.4 Settlement

Residential dwellings should be designed to tolerate angular distortion as a result of consolidation settlement of up to 1:240 (approximately 25 mm over a 6.0 m length) as required by the New Zealand Building Code (B1/VM4).

The site comprises firm to stiff soils to a depth of up to 4.0mbgl. Due to the presence of firm soils, filling across the site may result in consolidation settlement of the natural soils and should be avoided. Furthermore, foundation loads in excess of 200kPa ultimate bearing capacity may also result in consolidation settlement of the founding soils.

If filling in proposed beneath any future building platforms, then a site-specific settlement analysis should be prepared by a CPEng (Geotechnical) to estimate the differential settlement and associated angular distortion across the proposed buildings.

4.5 Liquefaction Potential

Liquefaction potential has been assessed using MBIE guidance: *planning and engineering guidance for potentially liquefaction prone ground*. The published geology identifies that the site is underlain by residual Taipa Mudstone soils which is of early Eocene to early Oligocene age and is not part of a landform that is commonly susceptible to liquefaction.

Furthermore, subsoil investigations encountered generally moderately to highly plastic, fine-grained soils. Based on the site geology and fine-grained nature of the soils, we consider the soils are too plastic to liquefy.

4.6 Shrink Swell Soil Characteristics

In lieu of site-specific laboratory test data, the residual soils of the Taipa Mudstone across the site are considered reactive under seasonal variations of water content. The site may be designated as highly reactive (Class H) in accordance with B1/AS1 and should be confirmed at Building Consent stage.

5 Preliminary Development Recommendations

5.1 Earthworks

Filling should not be carried out across the site without additional stability analysis and settlement analysis being undertaken as filling could be detrimental to the stability of the site. Any cut material from the building platform should be placed well away from the proposed building platform and slopes or otherwise be exported from the site. All cuts and fills will be subject to further analysis, with permanent excavations likely to need retaining walls and subject to further analysis.

5.2 Foundations

The subsoils beneath the subject fall outside the definition of 'good ground' as contained in NZS3604:2011 due to the presence of weaker soils that cannot adopt an ultimate bearing capacity of 300 kPa. Furthermore, the site is subject to expansive soils and sloping ground. Foundation depths must consider the highly expansive nature of the soils and effects of any sloping ground, including soil creep and/or a reduction of passive support due to sloping ground. Subject to site-specific testing at building consent stage, we recommend foundations be designed for an ultimate bearing capacity of 200 kPa and be subject to specific engineered design (SED).

If building to the north of the building restriction line (BLR) set out in Appendix A is intended, then further assessment and modelling will be required.

Provided the future build remains within the vicinity of the investigated area and the development is within the recommendations of this report, then foundation design parameters outlined in Table 8 below may be used. Furthermore, where slopes across the future build platform exceed 8°, effects of soil creep should be considered. At current, slopes across the site are between 10° to 14°, and foundations will need to be designed to accommodate the reduction in passive support and active earth pressures acting on the up-slope side of the foundations.

We recommend foundations on sloping ground consist of round timber poles encased in concrete. Future foundations should be designed as follows:

- On slopes exceeding 8°, foundations should be subject to specific engineered design. Design should consider soil creep, with piles designed to tolerate 1.0m of lateral earth pressure at its active state (K_0), across a width of three times the pile diameter. A K_0 value of 0.79 can be used to determine active earth pressures acting on the pile, with the active earth pressures acting over a width of 3 times the bored diameter of the pile.

- On sloping ground not exceeding 8°, pile foundation can be designed using the parameters in Table 8, provided the embedment depth is increased to 1.5m due to the geometric loss of passive support from the sloping ground. Cuts will need to be supported by retaining walls.
- If a level platform is prepared, noting the earthworks recommendations in Section 5.1 above, then shallow foundations may be designed using the parameters in Table 8.

Table 8: Foundation Design Parameters (Shallow Foundations)

Design Case	Design values
Ultimate End Bearing Capacity*	200 kPa
Geotechnical Strength factor	0.50
Design Bearing Capacity (limit state design)	100 kPa
Expansive soil class	Class H

**Bearing capacity values do not consider horizontal shear or moment or sloping ground effects.*

No fill is to be undertaken to raise the ground without further assessment e.g., settlement and slope stability. All excavations & fills should be supported by a retaining wall, designed by a CPEng with an understanding of soil mechanics e.g., CPEng (Geotechnical).

5.3 Erosion and Sediment Control

Prior to commencing earthworks, a sediment control system needs to be constructed to ensure the Territorial and Regional Authority requirements are met. Typical details can be found in the Auckland Council publication GD05. Erosion and sediment control should be undertaken as early as possible before soil particles become dislodged and mobilised. The use of contour drains, mulching and earth bunds to control erosion during the construction phase is recommended, as is maintaining vegetation cover where possible to reduce erosion potential.

5.4 Stormwater Control

Concentrated stormwater flows from all impermeable areas must be collected, carried in sealed pipes and discharged in a manner that will not affect the stability of the ground. Concentrated stormwater flows must not be allowed to discharge on the be discharged onto the north facing slopes below the dwelling as this would be detrimental to foundation conditions and site stability.

A stormwater drain along the eastern extent of the existing concrete driveway disperses onto the site at two locations. This must be remediated as part of subdivision works as continual flows onto the slopes can be detrimental to the stability of the site.

5.5 Safety in Design

The recommendations made in this report have been made with regards to Safety in Design, which should be taken into account during the design phase. The following points were raised during planning for safety in design:

- Construction monitoring needs to be considered;
- Trench construction for services should be benched to ensure the vertical height does not exceed 1.0 m without shoring / trench shields;
- Temporary battering of excavations and fills.

5.6 Further Investigation

Future geotechnical investigation is recommended at building consent stage (once the final building location is known) to confirm the subsoil conditions, confirm the soil expansivity, and provide site specific geotechnical assessment for foundation design.

6 Summary of geotechnical Recommendations

The development will need to be undertaken in accordance with current best engineering practice and the following guidelines are applicable to the site:

- Stormwater that discharges onto proposed lot 1 from the existing driveway can affect the stability of the site and must be remediated as part of subdivision works.
- Other concentrated stormwater flows from impermeable surfaces must be collected, carried in sealed pipes and discharged in a manner that will not affect the stability of the ground. Design of devices to collect, transport and discharge concentrated flows should be engineered.
- The natural ground within the specified building platform on Lot 1 is considered generally suitable for the development of a residential building, subject to the following conditions which are to be addressed at building consent stage:
    - Site-specific geotechnical investigations and foundation design will be required by a Chartered Professional Engineer.
    - A building restriction line has been identified 38.5m from the northern boundary based on our stability analysis. If a future building is proposed within 38.5m of the northern boundary, then additional slope stability analysis will be required.
    - Foundation soils lie outside the definition of 'good ground' in NZS3604:2011 due to the presence of firm soils, expansive soils and sloping ground. An ultimate bearing capacity of 200 kPa can be adopted for foundation design, with a geotechnical strength reduction factor of 0.5 for limit state design. Foundations will be subject to Specific Engineered Design by a Chartered Professional Engineer (CPEng).
    - Shallow soil creep is expected across the site and should be remediated with specific foundation design and/or retaining structures. We have provided preliminary guidance on this within Section 5.1 and Section 5.2 of this report.

- Filling should not be undertaken across the site unless demonstrated through additional stability modelling and settlement analysis that filling will not be detrimental to the site, specifically the building platform.
- All cuts should be supported by a retaining wall designed by a Chartered Professional Engineer with relevant experience in soil mechanics.

7 Limitations

This report has been prepared for the use of David McLeavy with respect to the particular brief outlined to us. This report is to be used by our Client and their Consultants and may be relied upon when considering geotechnical advice. Furthermore, this report may be utilised in the preparation of building and/or resource consent applications with local authorities. The information and opinions contained within this report shall not be used in other context for any other purpose without prior review and agreement by Haigh Workman Ltd.

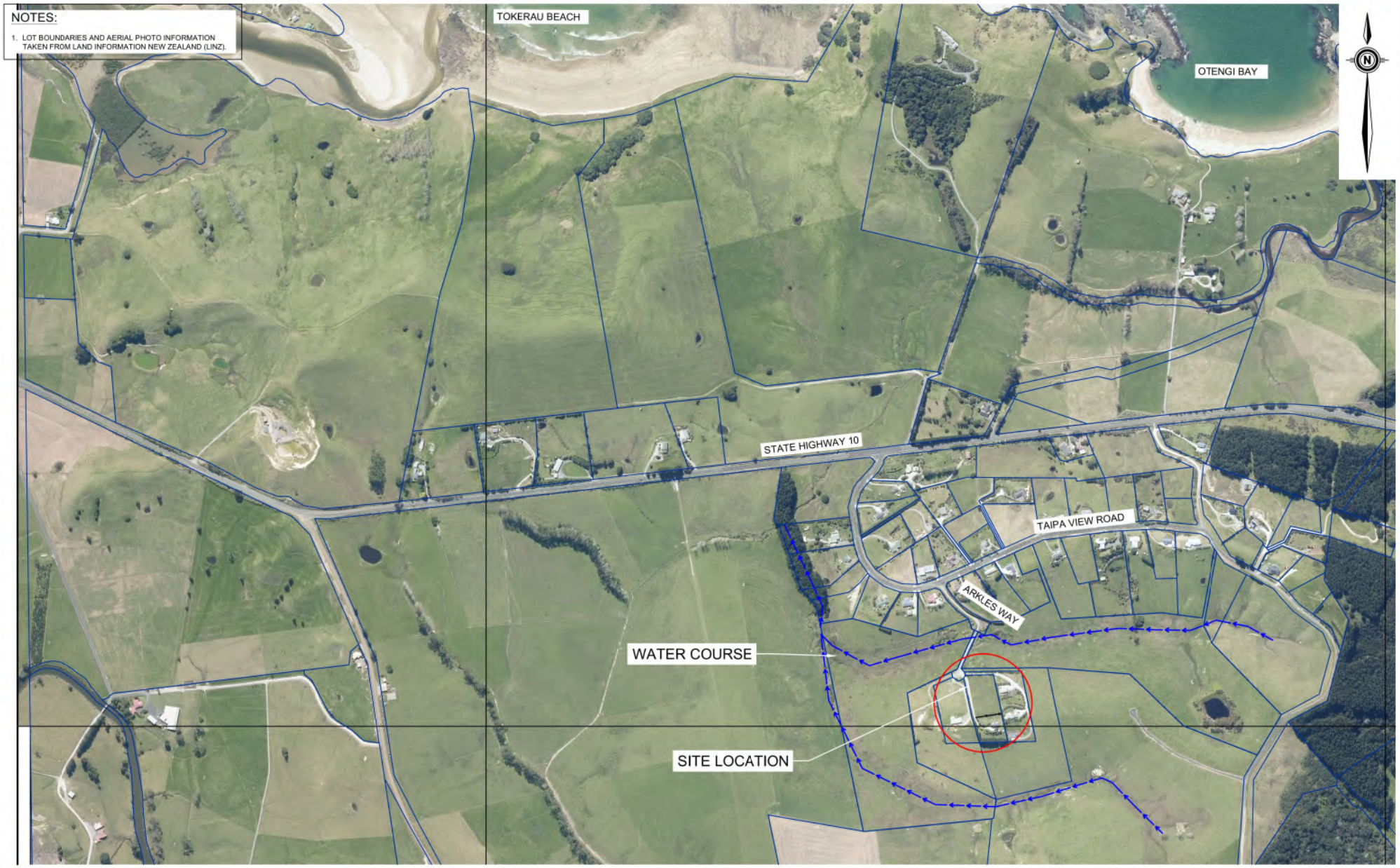
The recommendations given in this report are based on site data from discrete locations. Inferences about the subsoil conditions away from the test locations have been made but cannot be guaranteed. We have inferred an appropriate geotechnical model that can be applied for our analyses. However, variations in ground conditions from those described in this report could exist across the site. Should conditions encountered differ to those outlined in this report we ask that we be given the opportunity to review the continued applicability of our recommendations. Furthermore, should any changes be made, we must be allowed to review the new development proposal to ensure that the recommendations of this report remain valid.

Appendix A – Drawings

Drawing No.	Title
G01	Site Location Plan
G02	Site Investigation Plan
G03	Geological Cross Section A-A'
23623	Proposed Subdivision – Williams and King Surveyors

NOTES:

1. LOT BOUNDARIES AND AERIAL PHOTO INFORMATION TAKEN FROM LAND INFORMATION NEW ZEALAND (LINZ).



Issue	Date	Revision
A	15/07/2024	FIRST ISSUE

DWG: Site Location Plan

Scale: 1:7500 @A3 | Date: July 2023

Drawn: CN | Checked: WT | Approved: WT

File: T:\CLIENTS\DAVID MCLEAVEY\JOBS\24 099 - 10 ARKLES WAY, TAIPA\LOT 12 DP 323635\ENGINEERING\02 GEOTECH\DRAWINGS\GEOTECH DRAWINGS TEMPLATE.DWG

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Project: Geotechnical Investigation
10 Arkles Way, Taipa (Lot 12, DP 323635)

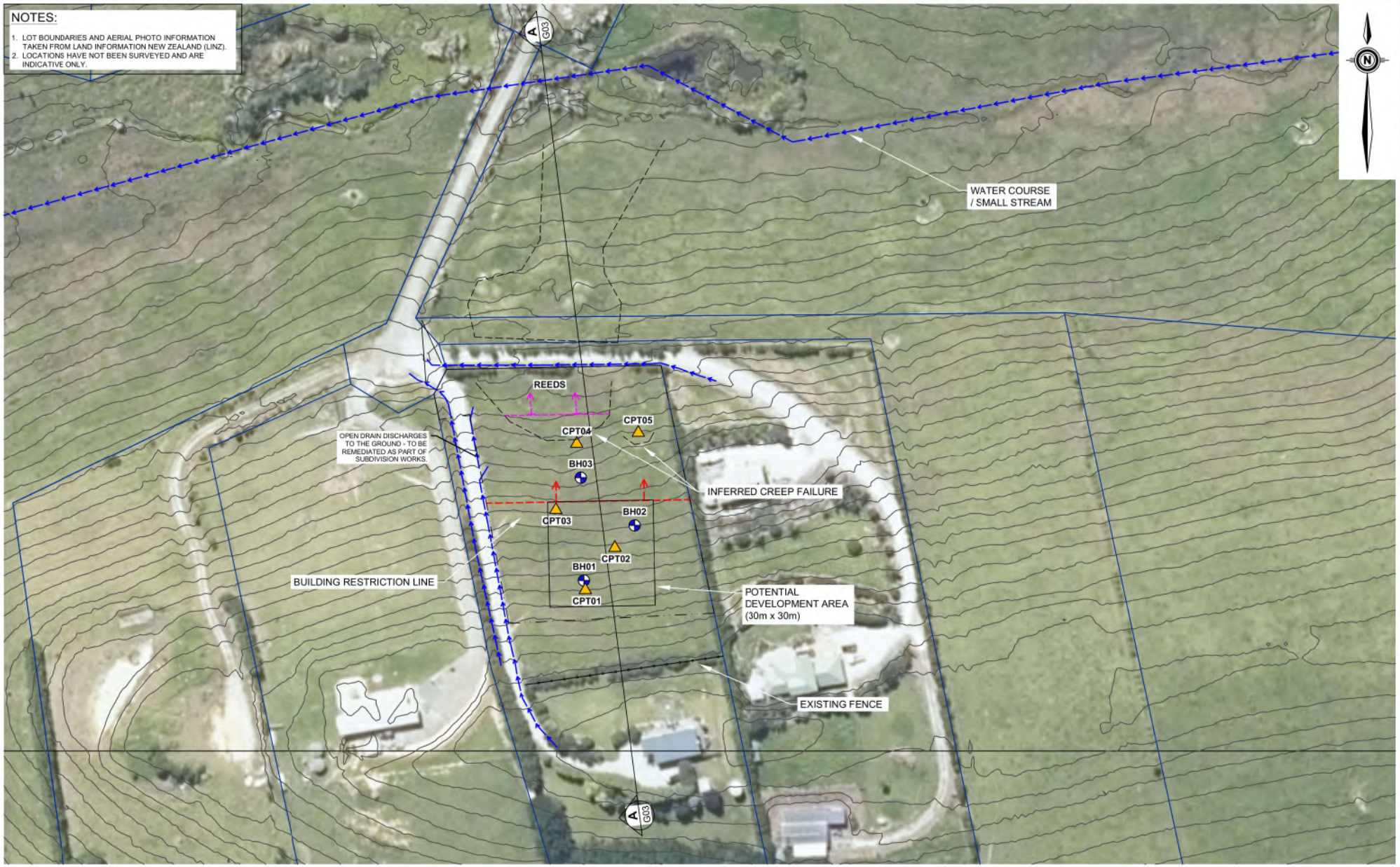
Client: David McLeavey

Project No.: 24 099 | RC no.: N/A

DWG No.: G01

Sheet No.: 1 of 3

Plotted By Craig Nelder at 15/07/2024 1:16:53 PM



Issue	Date	Revision
A	15/07/2024	FIRST ISSUE
B	01/11/2024	SECOND ISSUE

DWG: Site Features & Investigation Plan
contour intervals: 1.0m

Scale 1:1000 @A3 | Date July 2023
Drawn CN | Checked WT | Approved WT
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Project: Geotechnical Investigation
10 Arkles Way, Taipa (Lot 12, DP 323635)

Client: David Mcleavy

Project No. 24 099 | RC no. N/A

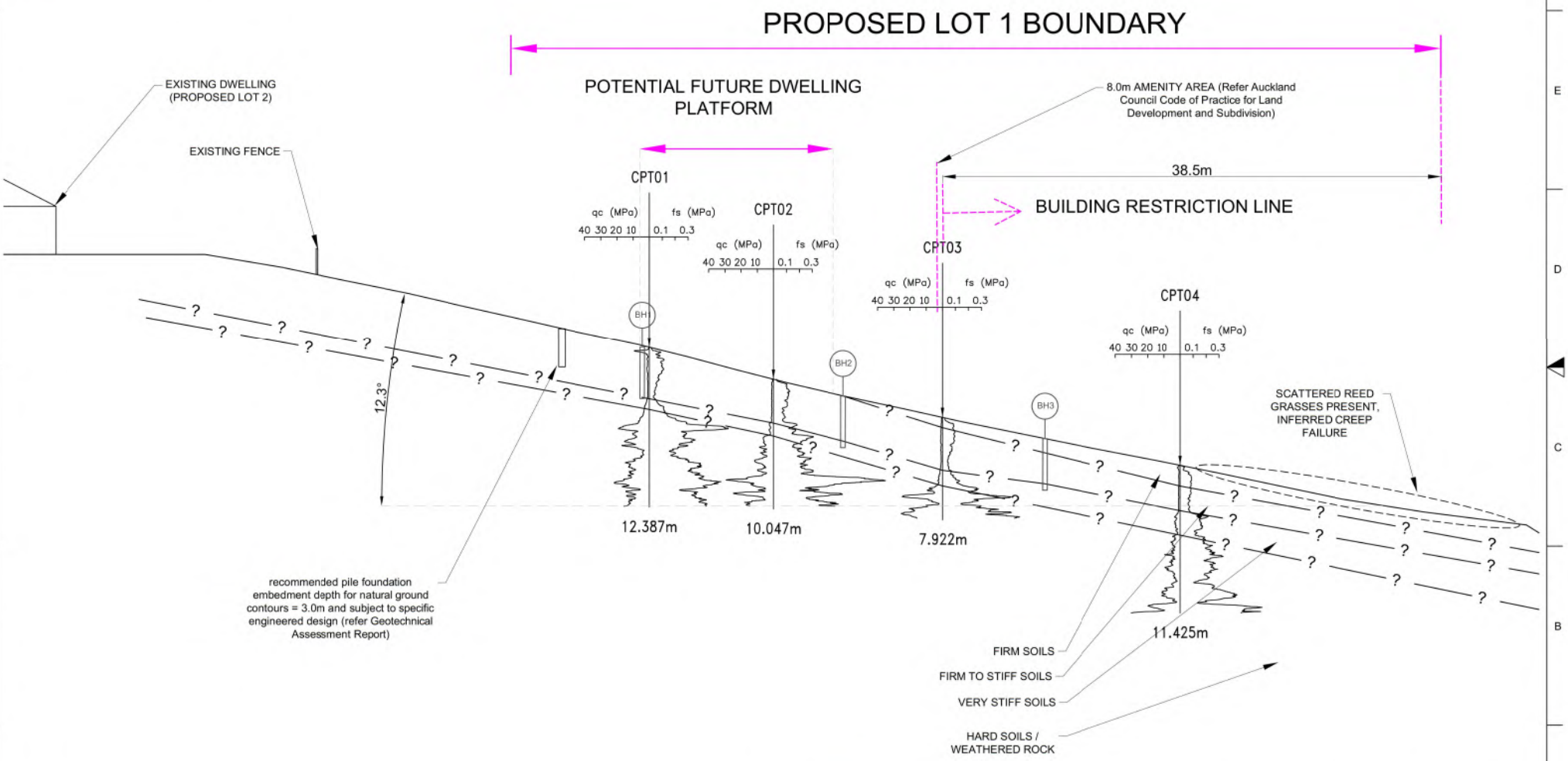
DWG No. **G02**

Sheet No. **2** of **3**

Plotted By Craig Nelder at 4/11/2024 10:12:52 AM

NOTES:

1. THIS DRAWING IS BASED ON MEASUREMENTS BY TAPE, WITH THE GROUND SURFACE INTERPRETED FROM 2018 LIDAR DATA AND IS APPROXIMATE ONLY.
2. THE GROUND MODEL HAS BEEN INFERRED FROM THE DATA OBTAINED ON SITE. INFERENCES ABOUT THE SOILS CONDITIONS BETWEEN TEST LOCATIONS HAVE BEEN MADE BUT CANNOT BE GUARANTEED.
3. DRAWING NOT TO BE USED FOR CONSTRUCTION PURPOSES.



Issue	Date	Revision
A	15/07/2024	FIRST ISSUE
B	01/11/2024	SECOND ISSUE

DWG: Geological Cross Section A-A'

Scale 1:300 @A3 | Date July 2023 | Drawn CN | Checked WT | Approved WT

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Project: Geotechnical Investigation
10 Arkles Way, Taipa (Lot 12, DP 323635)

Client: David Mcleavy

Project No. 24 099 | RC no. N/A

DWG No. G03

Sheet No. 3 of 3

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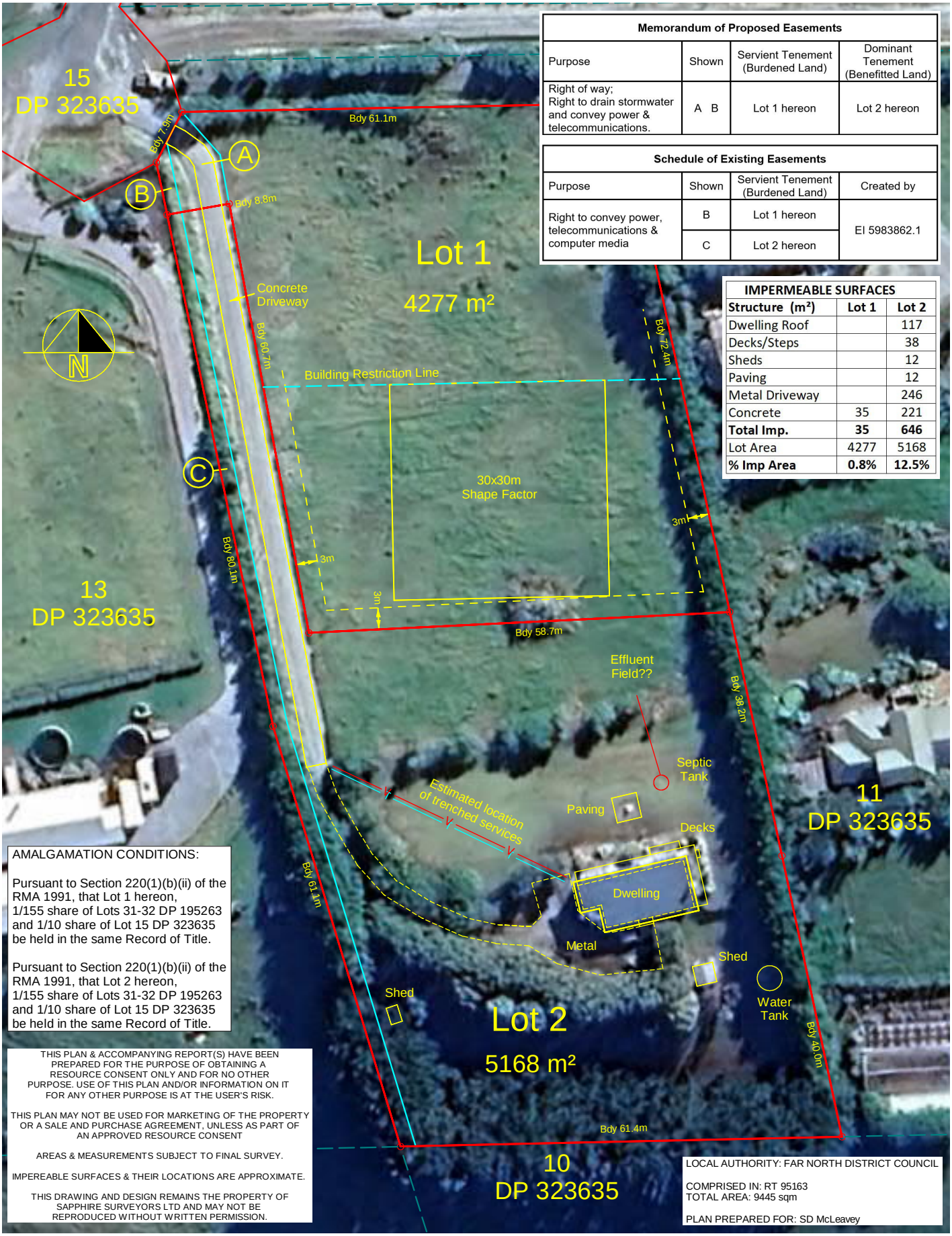

Memorandum of Proposed Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Dominant Tenement (Benefitted Land)
Right of way; Right to drain stormwater and convey power & telecommunications.	A B	Lot 1 hereon	Lot 2 hereon

Schedule of Existing Easements			
Purpose	Shown	Servient Tenement (Burdened Land)	Created by
Right to convey power, telecommunications & computer media	B	Lot 1 hereon	EI 5983862.1
	C	Lot 2 hereon	

IMPERMEABLE SURFACES		
Structure (m²)	**Lot 1**	**Lot 2**
Dwelling Roof		117
Decks/Steps		38
Sheds		12
Paving		12
Metal Driveway		246
Concrete	35	221
Total Imp.	**35**	**646**
Lot Area	4277	5168
% Imp Area	**0.8%**	**12.5%**

AMALGAMATION CONDITIONS:

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 1 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

Pursuant to Section 220(1)(b)(ii) of the RMA 1991, that Lot 2 hereon, 1/155 share of Lots 31-32 DP 195263 and 1/10 share of Lot 15 DP 323635 be held in the same Record of Title.

LOCAL AUTHORITY: FAR NORTH DISTRICT COUNCIL

COMPRISED IN: RT 95163
TOTAL AREA: 9445 sqm

PLAN PREPARED FOR: SD McLeavey

Sapphire Surveyors Ltd

Surveyors & Land Development Specialists

Doubtless Bay, NZ
Ph. 09-406-0001
info@sapphiresurveyors.co.nz

Lots 1 & 2 being a Proposed Subdivision of Lot 12 DP 323635

Job Ref	0117S	
A3	1:500	
Surveyed:		
Drawn:	WW	29/04/2024
Version:	A	
Status:	Final	1/11/2024
Sheet:	1 of 1	

Appendix B – Hand Auger Logs

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Borehole Log - BH01

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavey	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

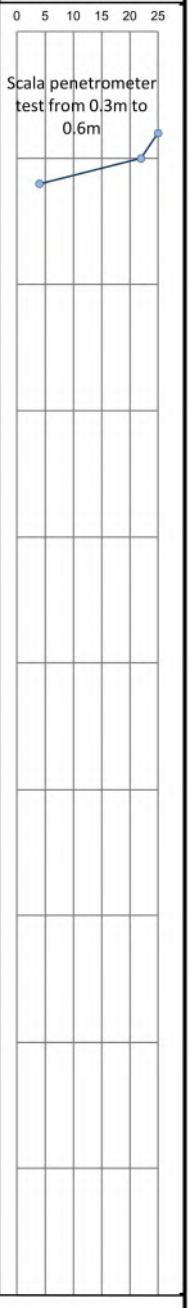
Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)
SILT; brown. Firm, moist to wet, low plasticity. Rootlets. *[TOPSOIL]*	0.0
SILT; light grey to white, mottled grey. Hard, moist, no plasticity. Hardpan. *[TAIPA MUDSTONE]*	
0.45m: Clayey **SILT**; light brown to light greyish brown, mottled dark brown. Very stiff, moist, medium plasticity.	0.5
From 1.0m: Becomes mottled brown to orangish brown.	1.0
Silty **CLAY**; brownish orange to light orange, mottled light grey. Very stiff, moist, medium to high plasticity. From 1.4m: Becomes light grey to white, mottled light orange.	1.5
Clayey **SILT**; light grey, trace mottled light orange. Stiff, moist, medium plasticity.	2.0
	2.5
Silty **CLAY**; orange, mottled light grey. Stiff, moist to wet, high plasticity. From 2.9m: Becomes wet, firm to stiff.	3.0
Clayey **SILT**; brown to orangish brown, mottled grey. Stiff, wet, medium plasticity. From 3.5m: Becomes grey to brownish grey, trace mottled brownish orange.	3.5
End of hole at 4.0m (Target Depth)	4.0
	4.5

Geology: T.S. / TAIPA MUDSTONE

Groundwater Not Encountered

Sensitivity	Vane Shear (kPa)	Remoulded Vane Shear (kPa)
5	163	32
1 1	90	8
3	185	64
4	165	46
2	174	72
3	117	42
3	109	35
3	80	26
3	70	26
4	110	27
5	85	16

Scala Penetrometer (blows/100mm)



LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing undertaken through hardpan. Groundwater not encountered.

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Borehole Log - BH02

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavey	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)
SILT; dark greyish brown. Firm, moist to wet, low plasticity. *[TOPSOIL]*	0.0
0.15m: Clayey **SILT**; orangish brown, mottled greyish brown. Very stiff, moist, medium plasticity. Topsoil dessication. *[TAIPA MUDSTONE]*	
Silty **CLAY**; orange to brownish orange, mottled light brownish grey. Very stiff, moist, high plasticity.	0.5
From 0.6m: Becomes light orange and light grey to brownish grey.	
Clayey **SILT**; light grey to white, mottled light orange. Very stiff, moist, medium to high plasticity.	1.0
From 1.2m: No orange.	
From 1.5m: Becomes trace rootlets.	1.5
From 1.7m: No rootlets. Becomes trace mottled orange. Moist to wet.	2.0
	2.5
Clayey **SILT**; orange, mottled grey to light grey. Stiff, moist to wet, medium plasticity.	3.0
SILT, some clay, trace fine to medium sand; brownish orange to dark orange, mottled grey. Very stiff, moist to wet, low plasticity.	3.5
From 3.6m: Becomes grey to brownish grey, mottled dark orange.	
From 3.9m: Trace sand; brownish orange to dark orange, mottled dark grey.	
End of hole at 4.0m (Target Depth)	4.0
	4.5

Geology: T.S. / TAIPA MUDSTONE

Water Level: Groundwater Not Encountered

Sensitivity	Vane Shear (kPa)	Remoulded Vane Shear (kPa)
3	120	35
4	123	30
4	149	34
3	154	53
2	138	62
3	109	35
5	182	38
	224	

Scala Penetrometer (blows/100mm): 0 5 10 15 20

LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing not undertaken. Groundwater not encountered.

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Borehole Log - BH03

Hole Location: Refer to Site Plan

JOB No. 24 099

CLIENT:	David McLeavey	**SITE:**	10 Arkles Way, Taipa (Lot 12, DP 323635		
Date Started:	12/06/2024	**DRILLING METHOD:**	Hand Auger	**LOGGED BY:**	CN
Date Completed:	12/06/2024	**HOLE DIAMETER (mm)**	50mm	**CHECKED BY:**	WT

Soil Description (Based on NZGS Logging Guidelines 2005)	Depth (m)
SILT; dark brown. Firm, moist to wet, no plasticity. *[TOPSOIL]*	0.0
SILT, some fine sand; light grey. Firm, moist to wet, no plasticity.	
SILT; brown. Very stiff, moist, no to low plasticity. *[TAIPA MUDSTONE]*	
Clayey **SILT**; greyish brown to light greyish brown. Very stiff, moist, low plasticity.	0.5
Silty **CLAY**; brownish orange to orange, mottled light greyish brown. Very stiff, moist, medium to high plasticity. Trace rootlets.	
From 0.9m: Becomes light grey, mottled orange. High plasticity.	1.0
From 1.1m: Becomes light grey.	
	1.5
From 1.7m: Becomes trace mottled orange. Moist to wet.	
	2.0
	2.5
Clayey **SILT**; orange and brownish grey, trace mottled brownish orange. Stiff, moist to wet, low plasticity.	3.0
SILT, some clay; dark grey, mottled brownish orange. Very stiff, moist to wet, no to low plasticity.	
	3.5
Clayey **SILT**; brownish orange, mottled dark brown. Stiff, moist to wet, low plasticity.	
SILT, some clay; dark grey, mottled brownish orange. Very stiff, moist to wet, no to low plasticity.	
End of hole at 4.0m (Target Depth)	4.0
	4.5

Geology: TS; TAIPA MUDSTONE

Water Level: Groundwater Not Encountered

Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)
4	160 / 43
5	70 / 14
8	106 / 13
4	86 / 24
2	106 / 48
3	109 / 32
	224
5	142 / 27
5	224 / 48

Scala Penetrometer (blows/100mm): 0 5 10 15 20

LEGEND

TOPSOIL | CLAY | SILT | SAND | GRAVEL | FILL

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. T.S. = Topsoil.
Hand Held Shear Vane S/N: DR1617
Scala penetrometer testing not undertaken. Groundwater not encountered.

Appendix C – CPT Soundings

CPT Client Engagement / Quote Request

Project Details		Date	20/06/2024
Project Name	Proposed Development	Job Identifier	HW 10 Arkle Way
Project Address	10 Aekle Way, Taipa		
Engineering Consultant Company Name	Haigh Workman Ltd	Engineering Project Manager	Josh Cureen
Email		Mobile	
Client Name		Client Contact Details	

Test Requirements - CPT		Preferred Job Completion Date	
Target No of CPT Tests Required	5	Maximum Test Depth Required	Refusal
No of CPT Tests Required Through Pavement or Other Hard Surface		Type and Thickness of Hard Surface	
Other Requirements Outside Standard Greenfield Testing			

Please note: Service clearance is to be provided by the client or their agents and details are to be provided to the CPT operator prior to Underground Investigation Ltd commencing work. Any delays due to service clearance or H&S approvals will be at the clients expense and may reduce the amount of testing being able to be completed in the working day.

Test Requirements - Dissipation Testing		Please List Test No and Approximate Target Depth of Dissipation	
Test No	Depth	Test No	Depth

Please note: In order to provide useful dissipation data, UIL recommends carrying out at least one CPT prior to carrying out dissipation in order to select appropriate depths for testing. It is preferred if the Geotechnical Engineer for the project discusses this with the CPT operator after completion of the initial testing.

Any Other Site Requirements

UNDERGROUND INVESTIGATION

CPT Equipment Information

CPT Rig Type	Geotech AB - Georig 220	Maximum Push Capacity	200kN
Any Deviations From Common Setup		Reaction Restraint	Screw Anchors
Cone Penetrometer	Nova Cone 100MPa With Memory	Cone Penetrometer Type	TE2
Manufacturer	Geotech AB	Load Cell Configuration	Compresion
Tip Area	10cm	Pore Pressure Type	U_2
Full Scale Output of Sensors	q_c : 100 MPa	f_s : 1 MPa	u_2 : 2 MPa
Calibration Test Class	ISO 1	Saturation Method	Pump Saturation With Secondary Vacuum
Temprature Sensor	No	Data Interval	10mm
Temprature Conditioning	Cone Warmer set to 20° C	Typical Cone Temprature at Start of Test	16-20° C
Any Deviations From Above			

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT01	Job Identifier	HW 10 Arkle Way
Test Date	20/06/2024	Operator	Craig Greenfield
Cone Serial Number	5681	Battery Voltage Start	6.16
Cone Area Ratio	0.865	Start Recording	9:34:00 AM
Probe Radius	0.0178	Finish Recording	9:58:00 AM
Date of First Push Current Calibration	14/09/2023	Measured Ground Water Depth	4.2
Metres To Next Calibration	469	Total Penetration Depth (m)	12.387
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.05%	0.05%	0.56%
End of test with tip loosened	0.06%	0.00%	0.92%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT02	Job Identifier	HW 10 Arkle Way
Test Date	20/06/2024	Operator	Craig Greenfield
Cone Serial Number	5708	Battery Voltage Start	6.08
Cone Area Ratio	0.862	Start Recording	10:34:00 AM
Probe Radius	0.0179	Finish Recording	10:53:00 AM
Date of First Push Current Calibration	9/11/2023	Measured Ground Water Depth	dry to 10m
Metres To Next Calibration	747	Total Penetration Depth (m)	10.047
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☑ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.03%	0.00%	0.46%
End of test with tip loosened	0.02%	0.03%	0.56%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT03	Job Identifier	HW 10 Arkle Way
Test Date	20/06/2024	Operator	Craig Greenfield
Cone Serial Number	5801	Battery Voltage Start	6.02
Cone Area Ratio	0.842	Start Recording	11:12:00 AM
Probe Radius	0.0179	Finish Recording	11:27:00 AM
Date of First Push Current Calibration	9/01/2024	Measured Ground Water Depth	dry to 7.8m
Metres To Next Calibration	999	Total Penetration Depth (m)	7.922
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.03%	0.00%	0.84%
End of test with tip loosened	0.07%	0.02%	0.56%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT04	Job Identifier	HW 10 Arkle Way
Test Date	20/06/2024	Operator	Craig Greenfield
Cone Serial Number	5845	Battery Voltage Start	5.98
Cone Area Ratio	0.85	Start Recording	11:45:00 AM
Probe Radius	0.0179	Finish Recording	12:06:00 PM
Date of First Push Current Calibration	13/03/2024	Measured Ground Water Depth	dry to 10.3
Metres To Next Calibration	1286	Total Penetration Depth (m)	11.425
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☑ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.06%	0.06%	0.02%
End of test with tip loosened	0.01%	0.01%	0.76%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

UNDERGROUND INVESTIGATION

CPT Test Information

Test Hole Number	CPT05	Job Identifier	HW 10 Arkle Way
Test Date	20/06/2024	Operator	Craig Greenfield
Cone Serial Number	5681	Battery Voltage Start	5.96
Cone Area Ratio	0.865	Start Recording	1:05:00 PM
Probe Radius	0.0178	Finish Recording	1:26:00 PM
Date of First Push Current Calibration	14/09/2023	Measured Ground Water Depth	11.3
Metres To Next Calibration	456	Total Penetration Depth (m)	11.67
Depth of Predrill	0	Test ended due to:	☐ High Tilt ☐ High Tip Pressure ☐ High Friction ☐ High Pore Pressure ☐ High Total load ☐ Danger of Rods Buckling ☐ Target Depth ☑ Anchor Failure
Depth at Start of Test	0		
Anchor Depth (Left)	1.5		
Anchor Depth (Right)	1.5		

Zero Value Change % FSO

	Point Resistance	Pore Pressure	Sleeve Friction
Zero Shift Since First Push Current Calibration	0.03%	0.03%	0.12%
End of test with tip loosened	0.05%	0.00%	0.56%

Dissipation Testing

Test No	Depth (m)	Duration (secs)	Comments

Notes and Comments

Data loss (typically at rod change points). Either deleted or averaged	qc	fs	u

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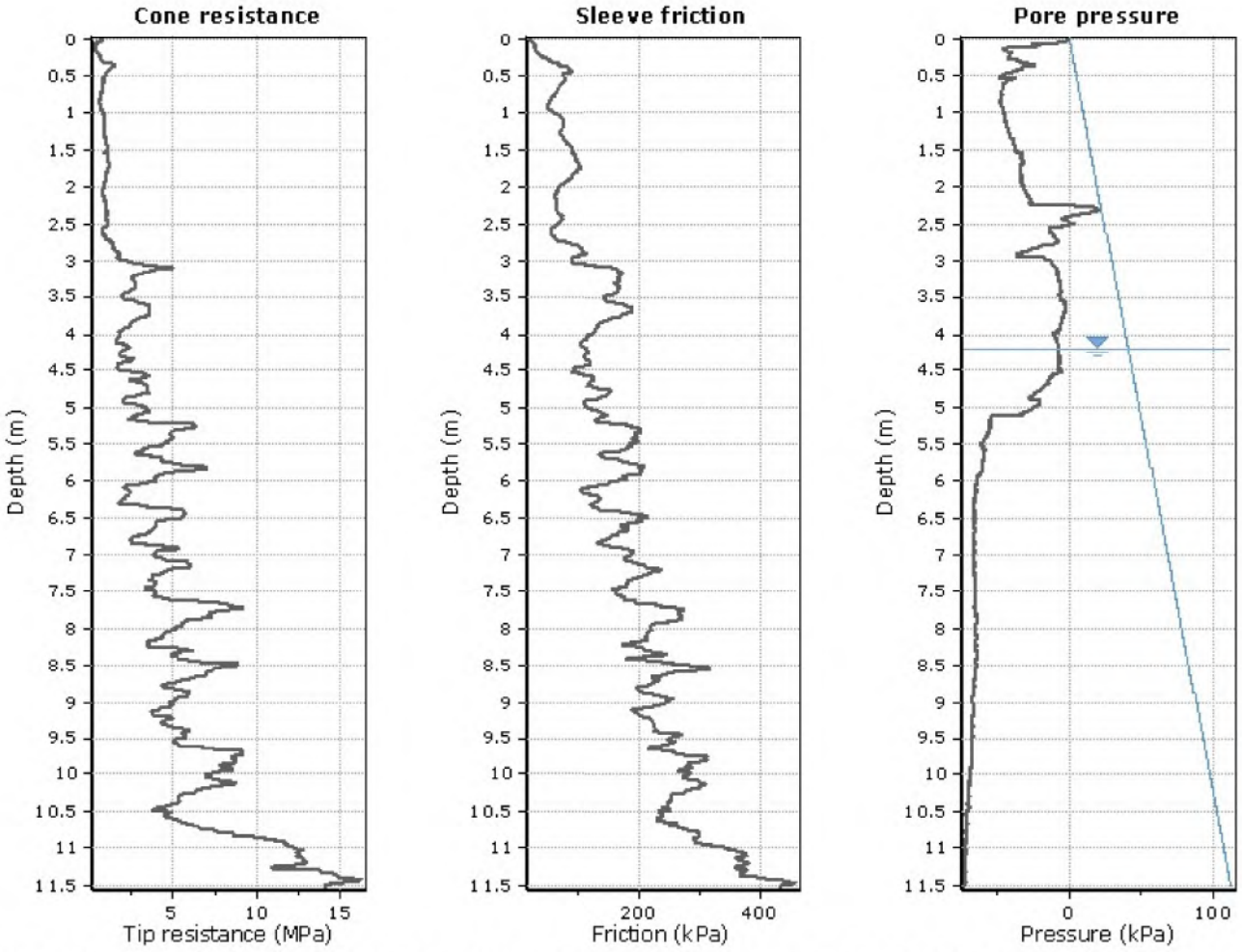
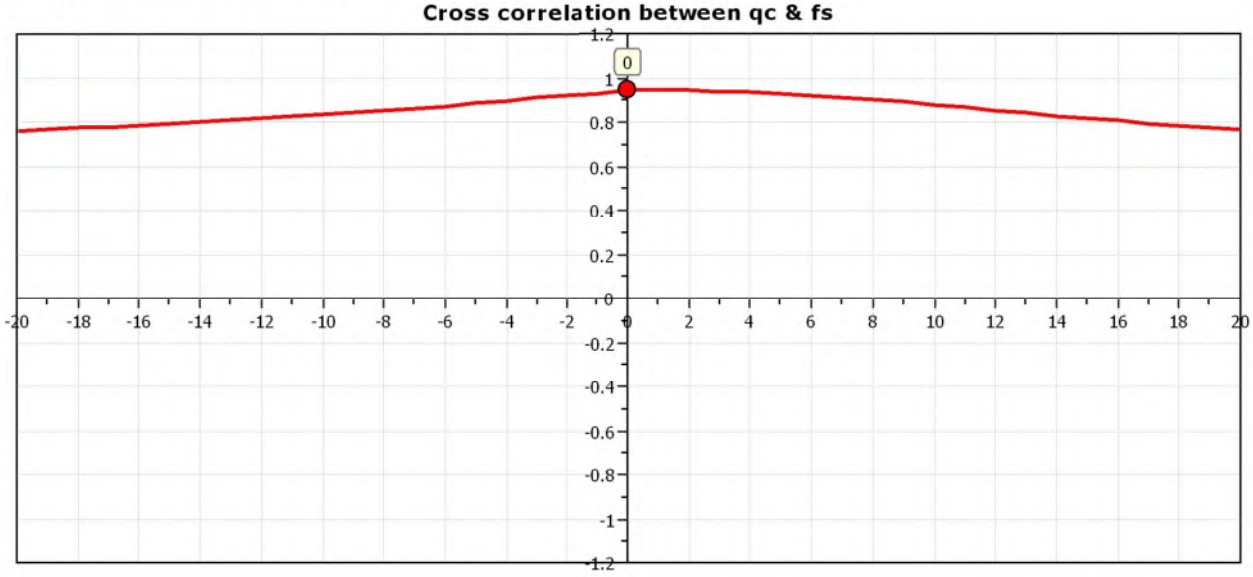
+64211473249

CPT: CPT01
Total depth: 12.32 m, Date: 21/06/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project:
Location:



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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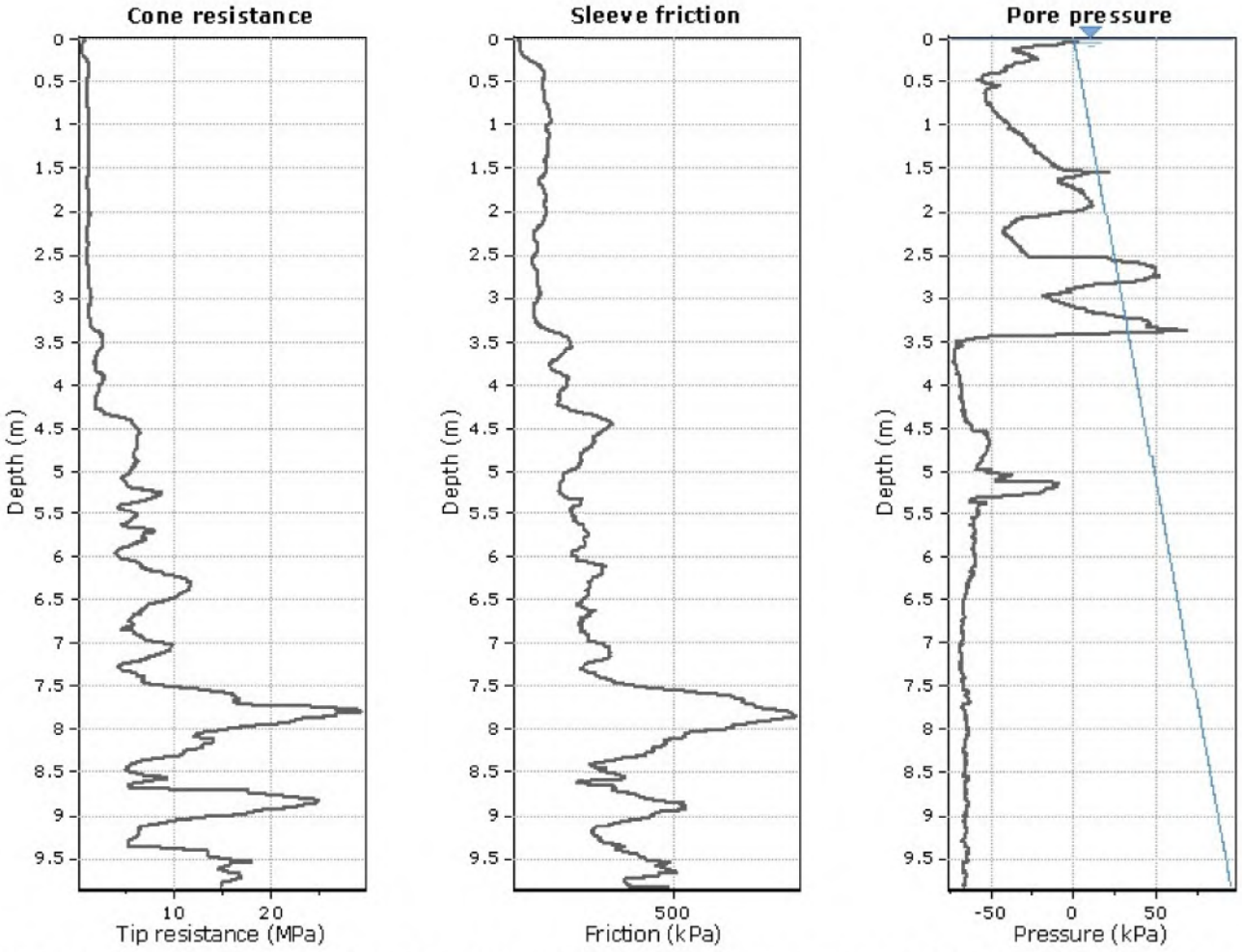
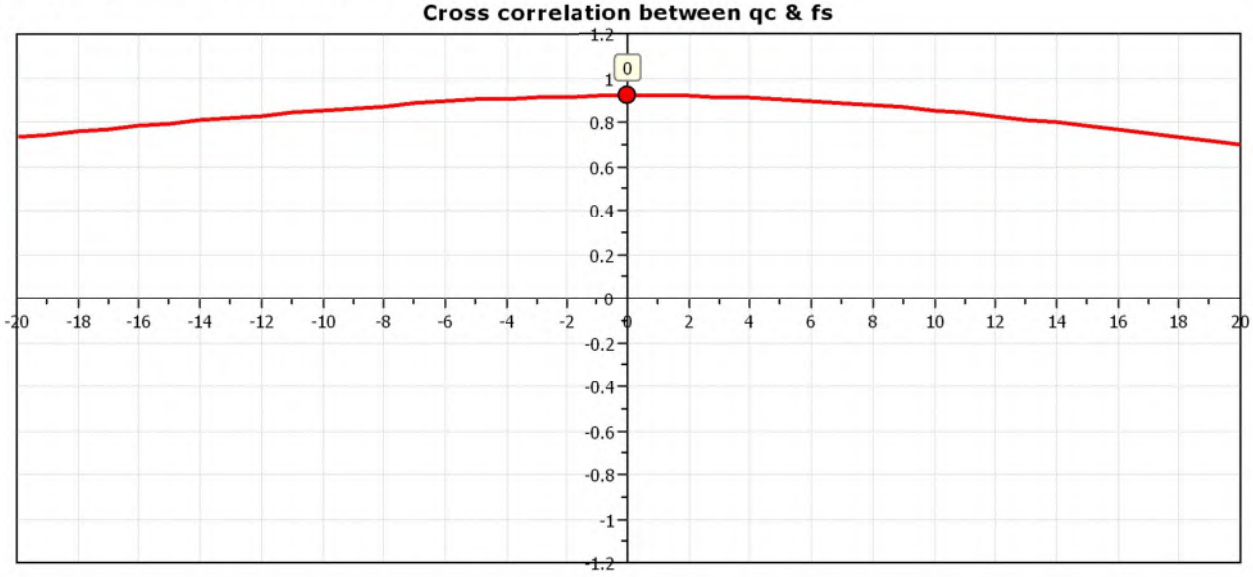
CPT: CPT02
Total depth: 9.82 m, Date: 21/06/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project:
Location:



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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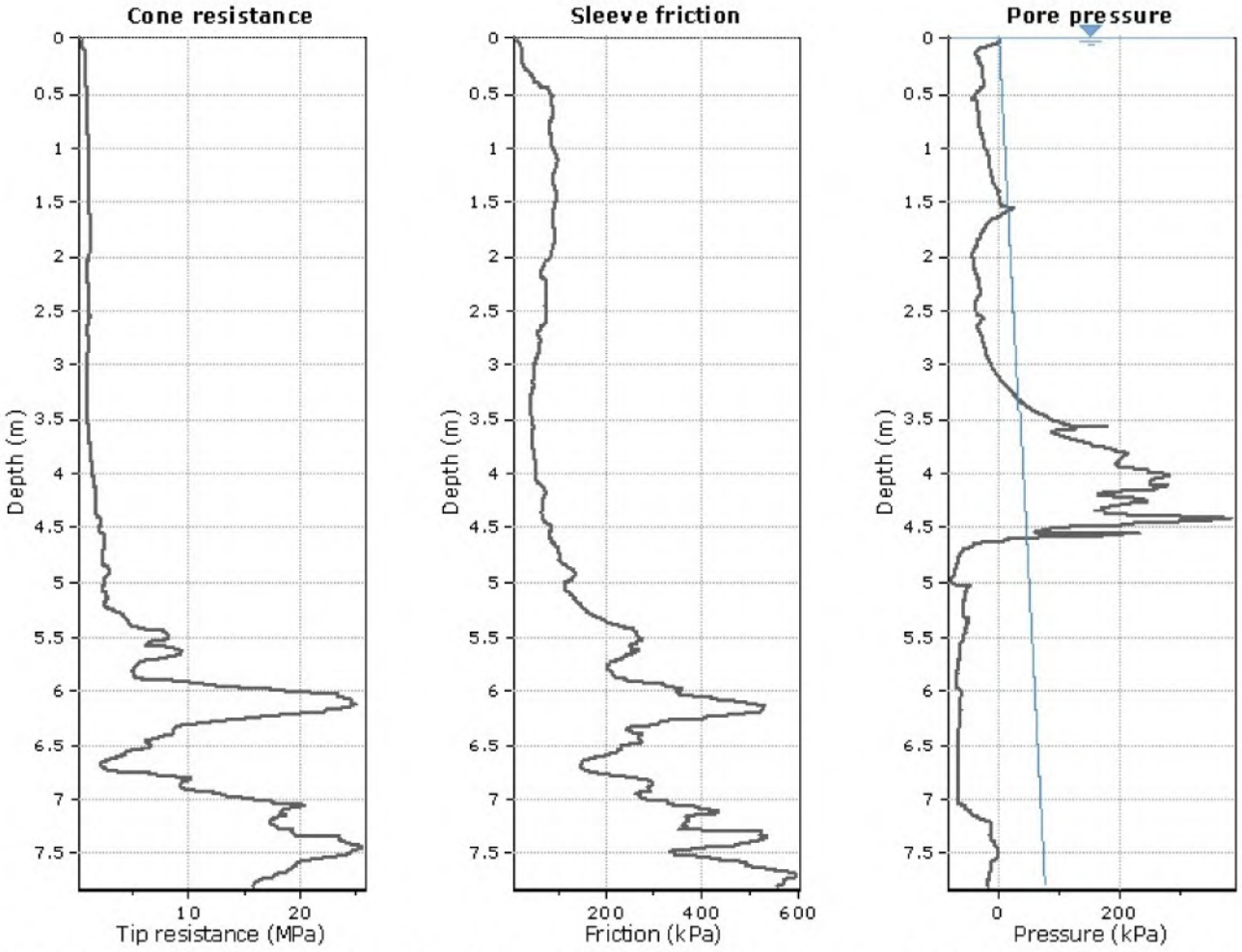
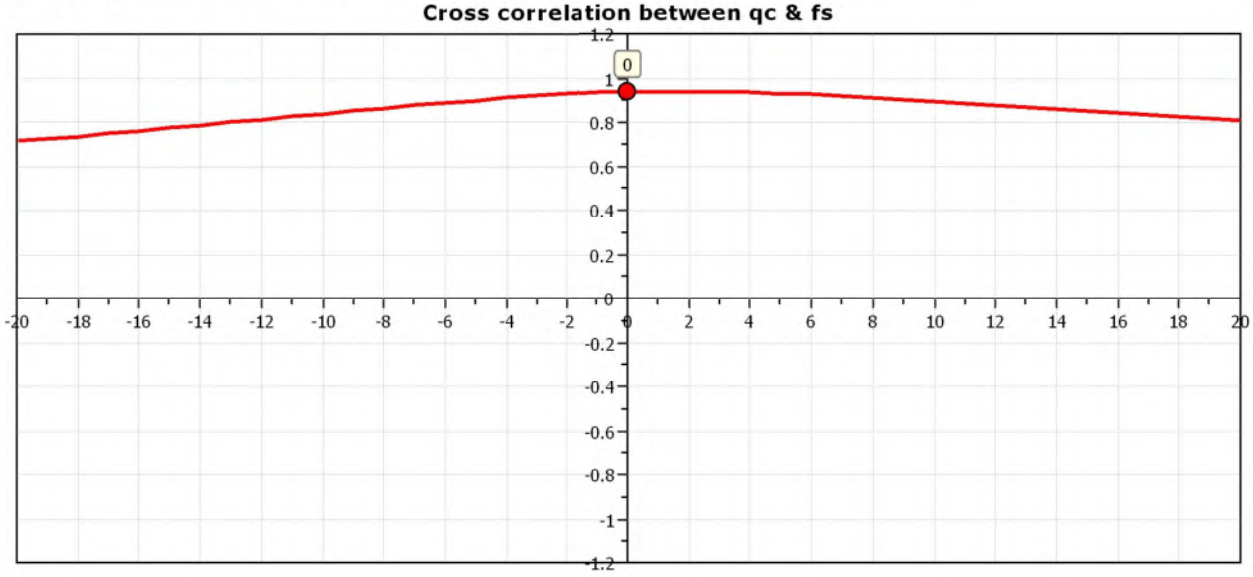
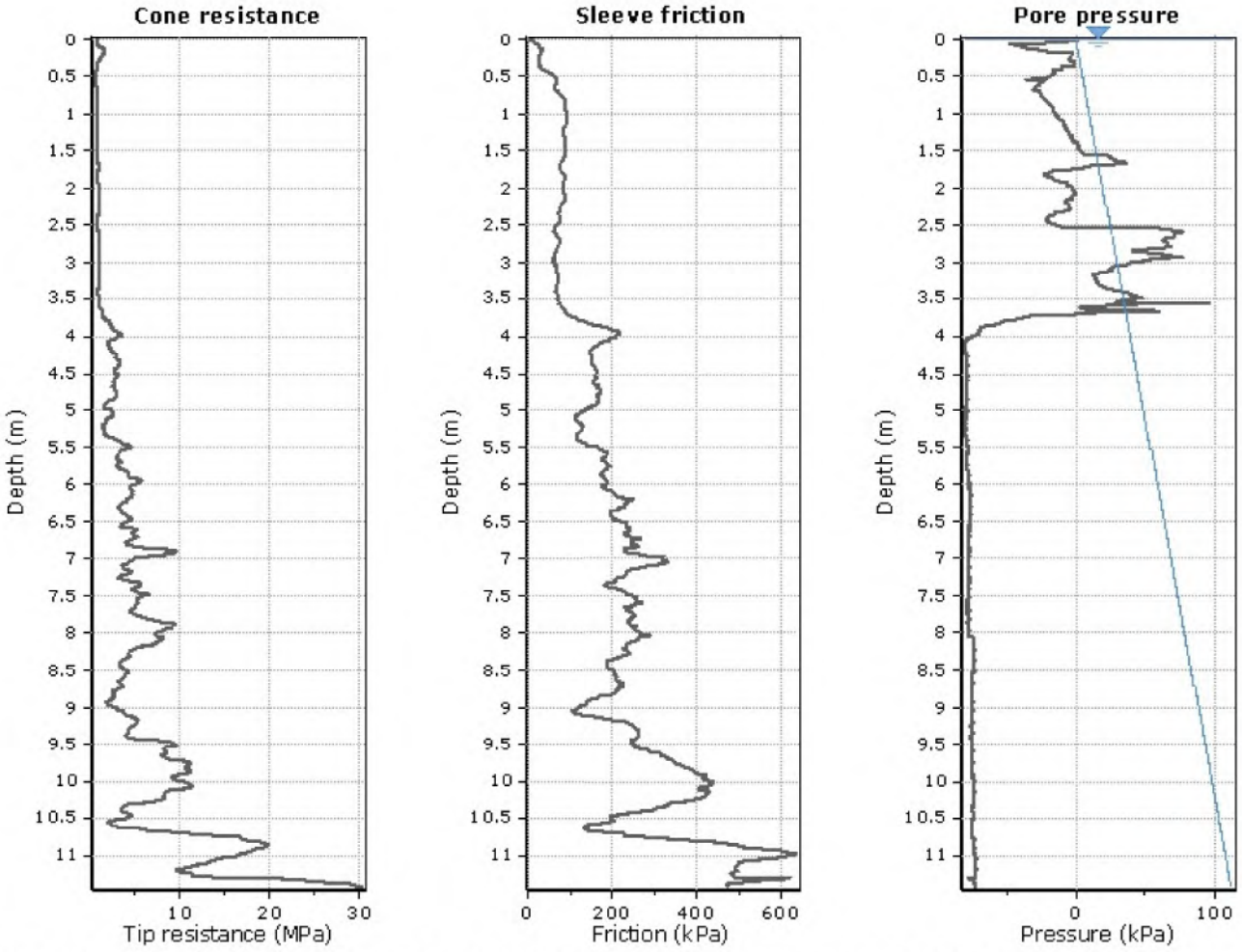
CPT: CPT03
Total depth: 7.80 m, Date: 21/06/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project:
Location:

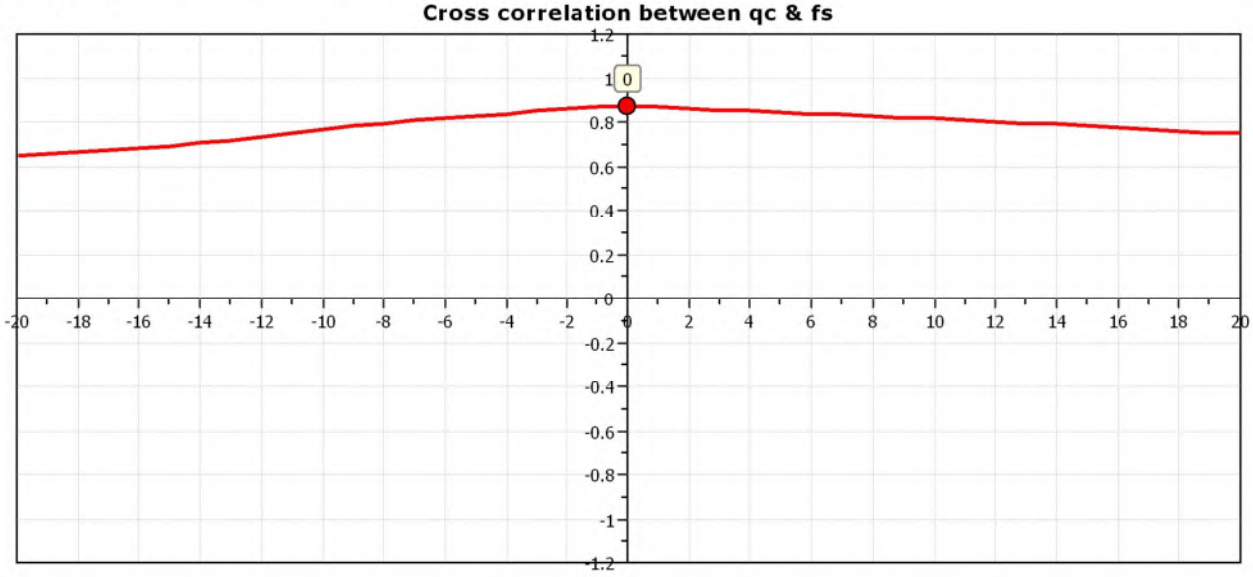


The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).





The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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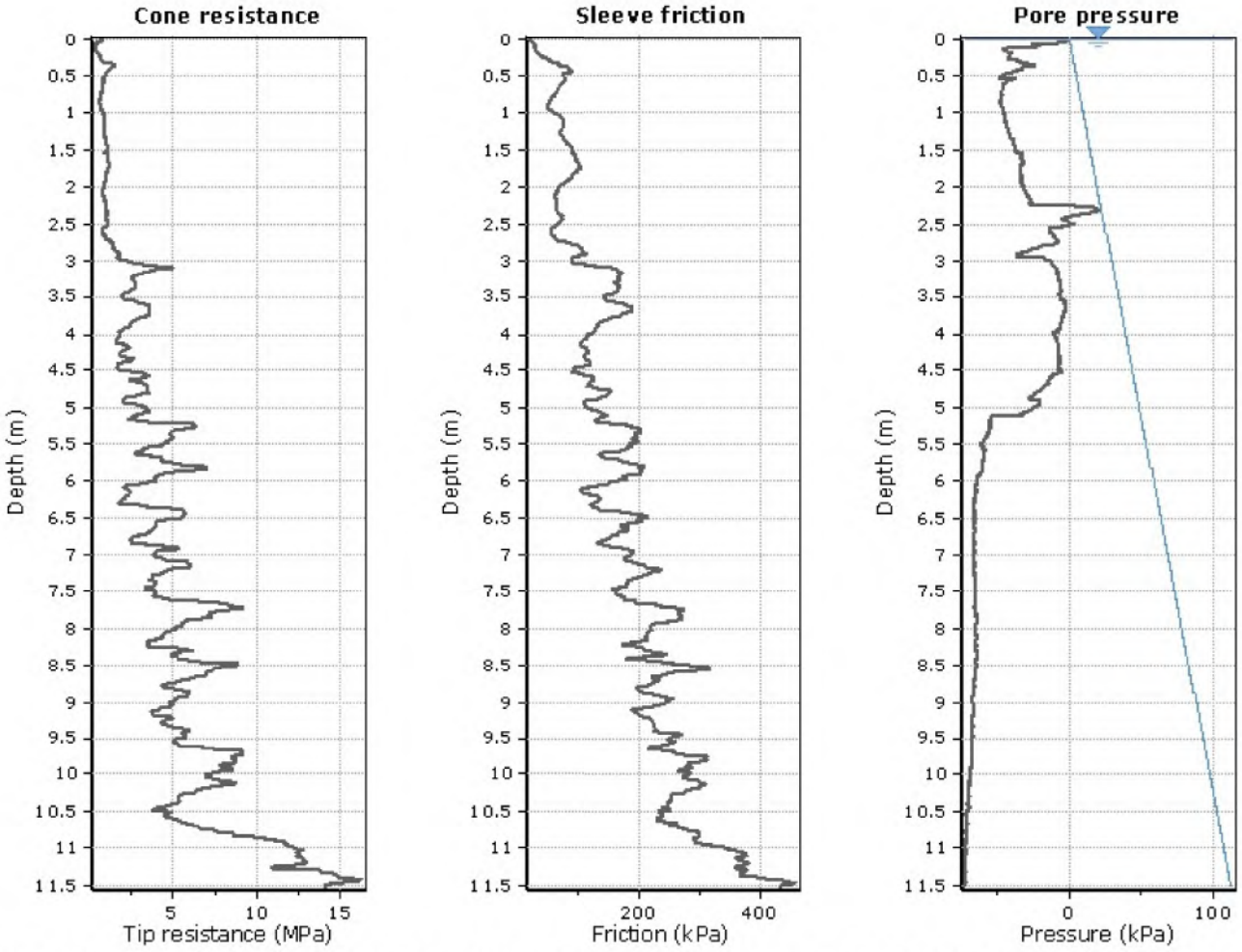
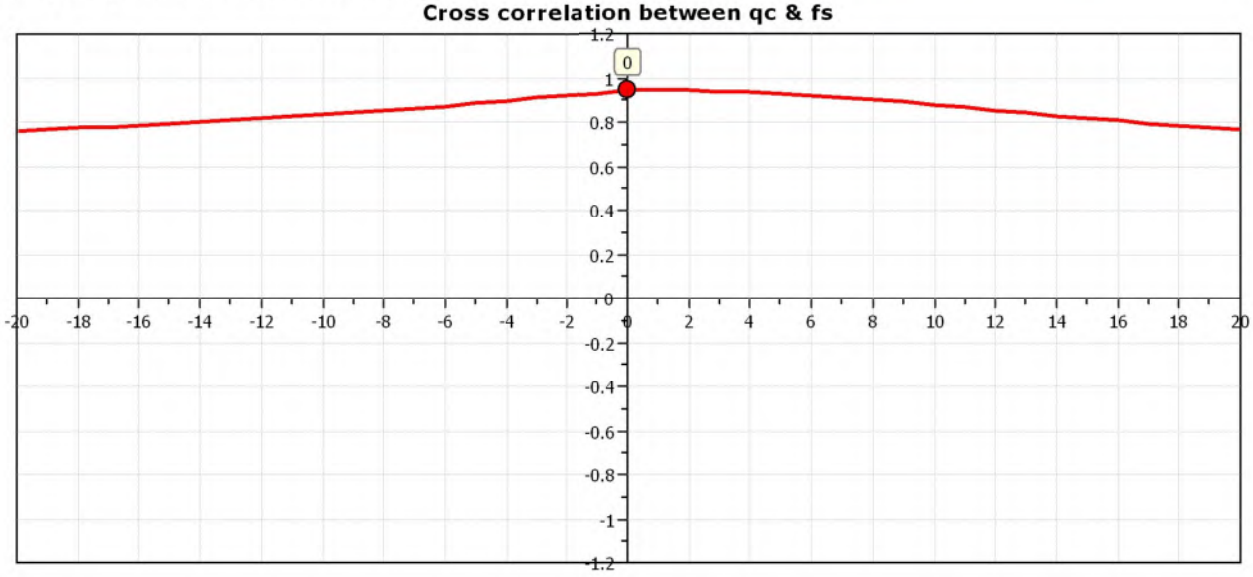
CPT: CPT05
Total depth: 11.51 m, Date: 21/06/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

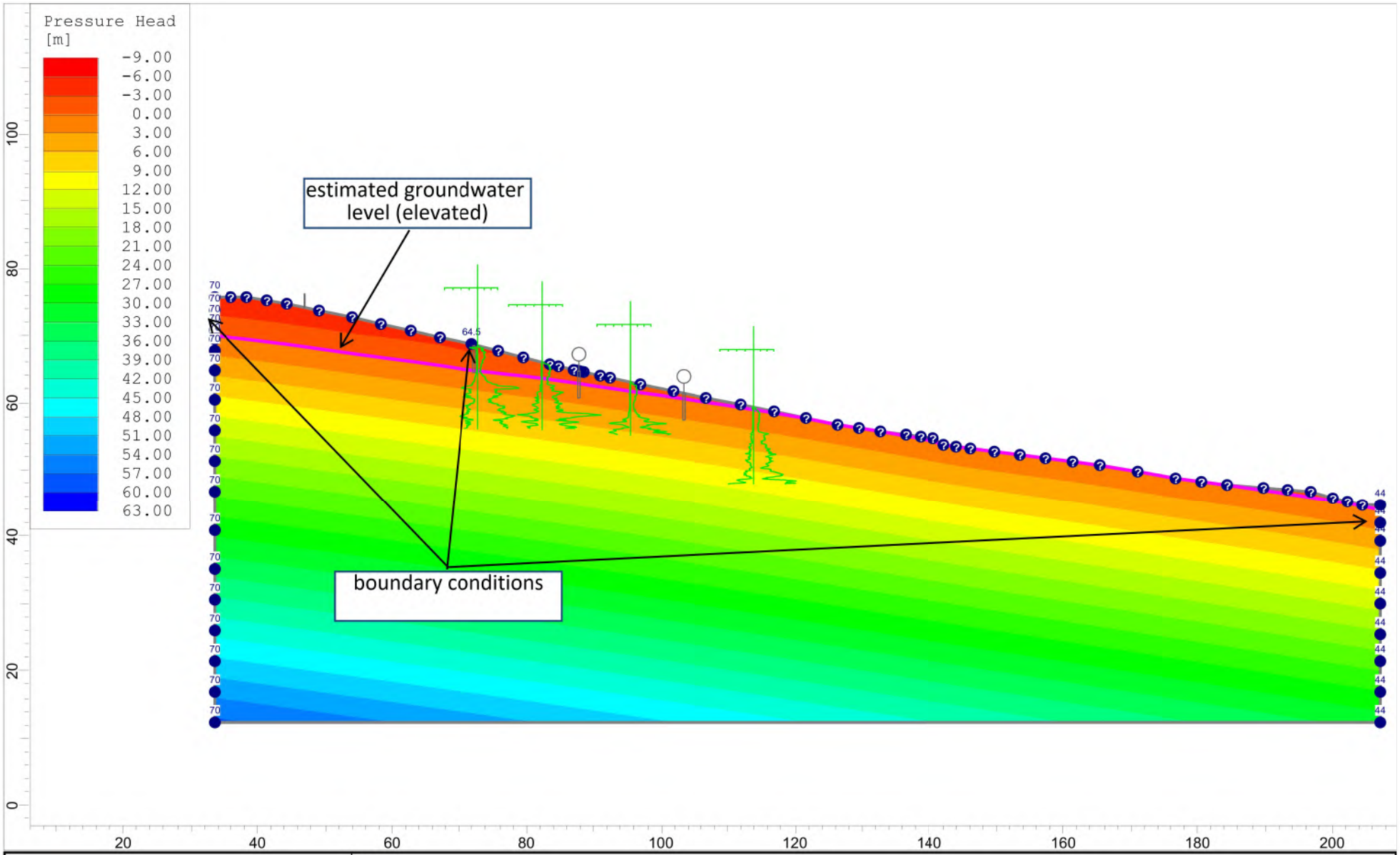
Project:
Location:



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



Appendix D – Slope Stability Outputs



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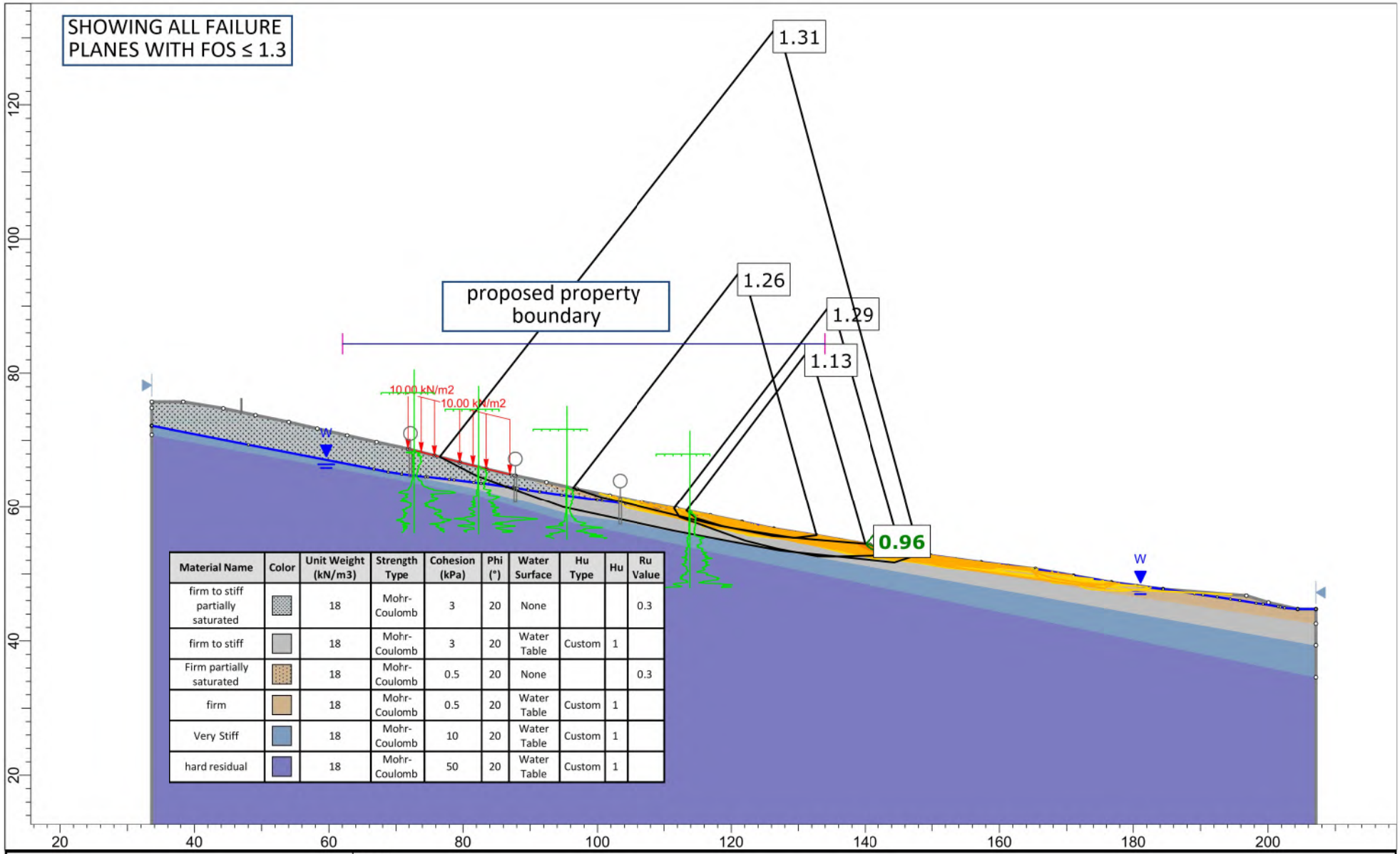
SLIDEINTERPRET 9.028

Project	24 099 stability analysis		
Group	Cross Section A-A'	*Scenario*	A-A' Steady State - Elevated GW model
Drawn By	CN	*Scale*	1:800
Date	15/07/2024 10:20:56 AM	*File Name*	A-A' groundwater



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu	Ru Value
firm to stiff partially saturated		18	Mohr-Coulomb	3	20	None			0.3
firm to stiff		18	Mohr-Coulomb	3	20	Water Table	Custom	1	
Firm partially saturated		18	Mohr-Coulomb	0.5	20	None			0.3
firm		18	Mohr-Coulomb	0.5	20	Water Table	Custom	1	
Very Stiff		18	Mohr-Coulomb	10	20	Water Table	Custom	1	
hard residual		18	Mohr-Coulomb	50	20	Water Table	Custom	1	

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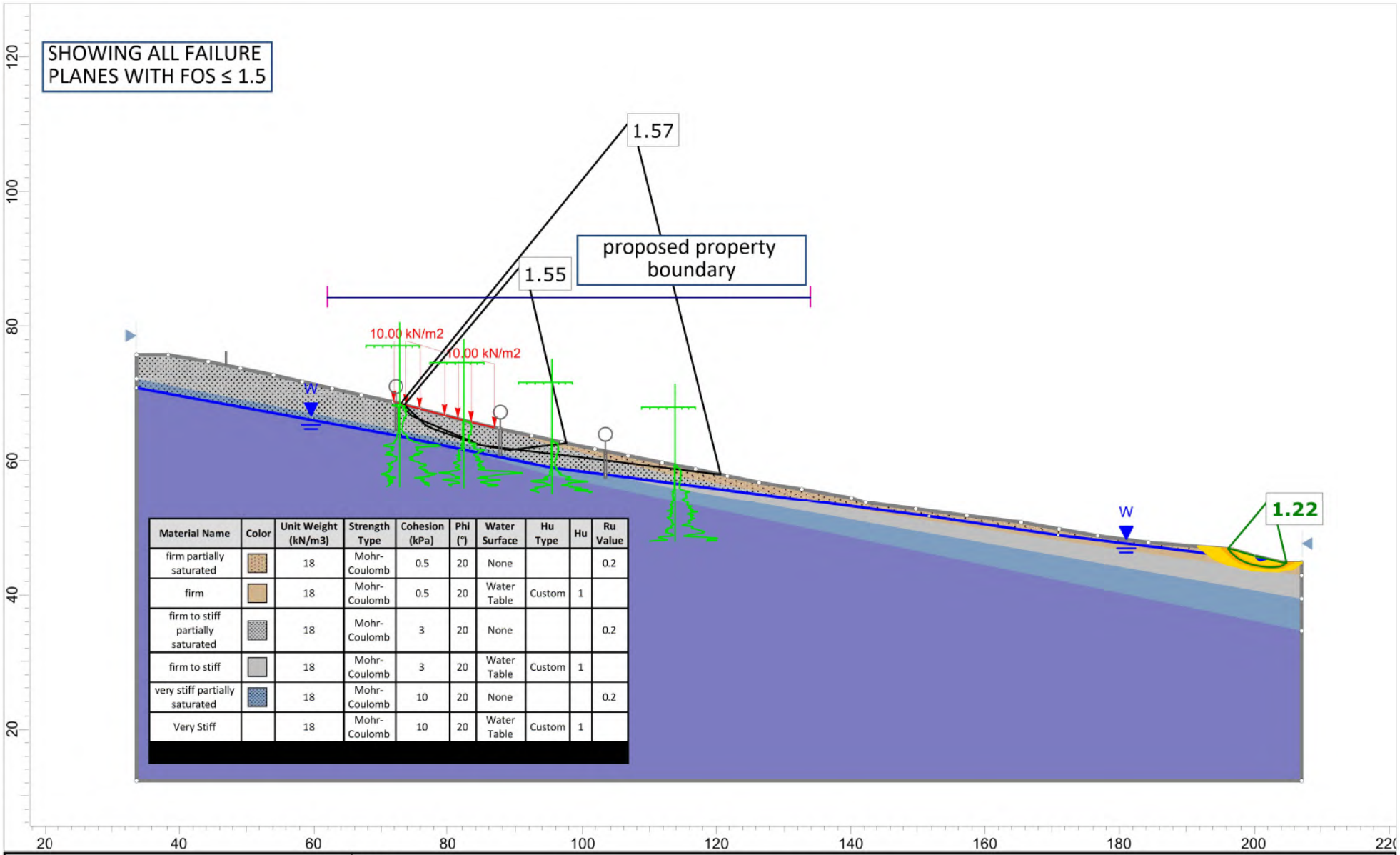
SLIDEINTERPRET 9.028

Project	24 099 stability analysis		
Group	Cross Section A-A'	*Scenario*	A-A' Elevated GW
Drawn By	CN	*Scale*	1:800
Date	23/07/2024 1:57:46 PM	*File Name*	A-A' Elevated

SHOWING ALL FAILURE PLANES WITH FOS ≤ 1.5



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu	Ru Value
firm partially saturated		18	Mohr-Coulomb	0.5	20	None			0.2
firm		18	Mohr-Coulomb	0.5	20	Water Table	Custom	1	
firm to stiff partially saturated		18	Mohr-Coulomb	3	20	None			0.2
firm to stiff		18	Mohr-Coulomb	3	20	Water Table	Custom	1	
very stiff partially saturated		18	Mohr-Coulomb	10	20	None			0.2
Very Stiff		18	Mohr-Coulomb	10	20	Water Table	Custom	1	

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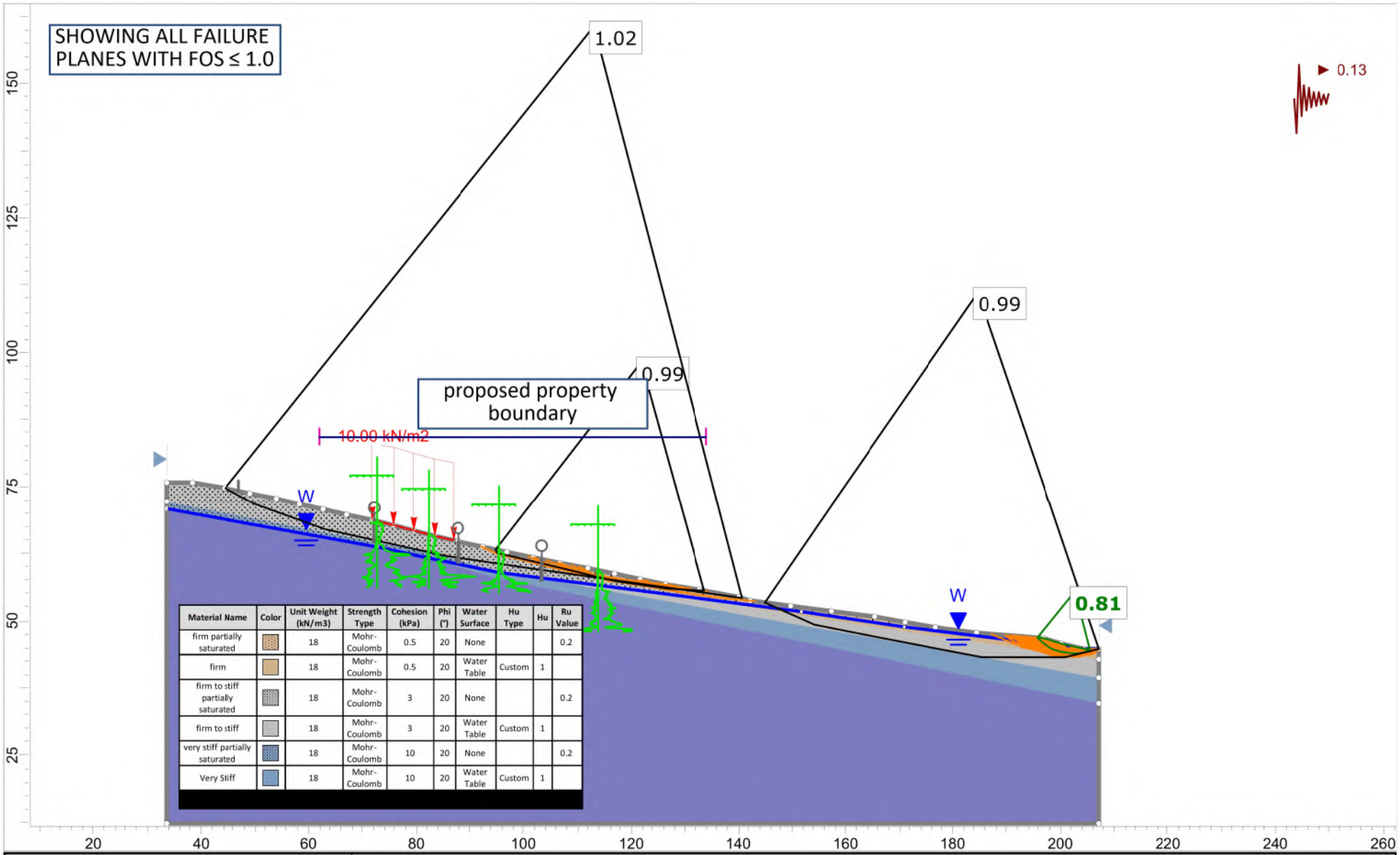
Project	24 099 stability analysis		
Group	Cross Section A-A'	*Scenario*	A-A' Normal GW
Drawn By	CN	*Scale*	1:800
Date	23/07/2024 4:28:18 PM	*File Name*	A-A' Normal



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu	Ru Value
firm partially saturated		18	Mohr-Coulomb	0.5	20	None			0.2
firm		18	Mohr-Coulomb	0.5	20	Water Table	Custom	1	
firm to stiff partially saturated		18	Mohr-Coulomb	3	20	None			0.2
firm to stiff		18	Mohr-Coulomb	3	20	Water Table	Custom	1	
very stiff partially saturated		18	Mohr-Coulomb	10	20	None			0.2
Very Stiff		18	Mohr-Coulomb	10	20	Water Table	Custom	1	

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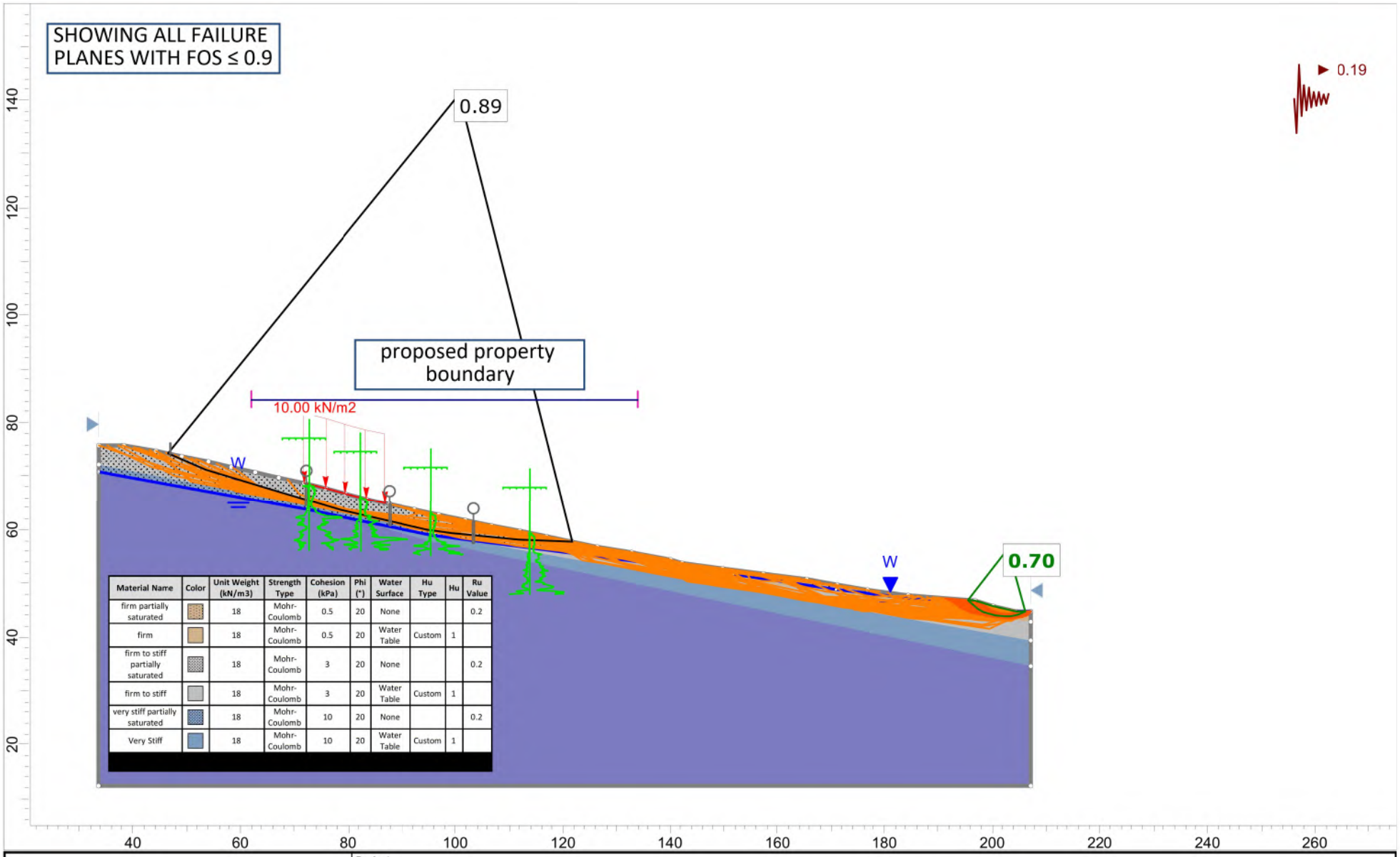
SLIDEINTERPRET 9.028

Project	24 099 stability analysis		
Group	Cross Section A-A'	*Scenario*	A-A' Normal GW, seismic 0.13g
Drawn By	CN	*Scale*	1:1000
Date	24/07/2024 9:32:24 AM	*File Name*	A-A' seismic PGA = 0.13g



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SLIDEINTERPRET 9.028

Project	24 099 stability analysis		
Group	Cross Section A-A'	*Scenario*	A-A' Normal GW, seismic 0.19g
Drawn By	CN	*Scale*	1:1000
Date	24/07/2024 9:00:53 AM	*File Name*	A-A' seismic PGA = 0.19g