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Soil Contamination Report for Proposed Private Plan Change at

Fonterra Te Rapa, Hamilton

Rev A1 **4 December 2024** **Job No. 230649**

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Executive Summary

Soil & Rock Consultants (S&RC) have prepared this soil contamination report on behalf of Fonterra Limited (Fonterra) to inform and support its Private Plan Change 17 (PC17) request at Te Rapa, Hamilton. The purpose of PC17 is to live-zone approximately 91ha of land (the Plan Change Area) surrounding the Te Rapa Dairy Manufacturing Site.

Assessment of available information and observations from our site walkover indicate that the following Hazardous Activities and Industries List (HAIL) activities have, or potentially have, occurred within the Plan Change Area:

- Persistent pesticide bulk storage or use associated with horticultural activities;
- Potential contamination from Asbestos / Asbestos Containing Materials in historical structures; and
- Potential contamination from Lead based paint.

Soil samples were collected at selected locations of interest for proposed future development. Soil samples were analysed for Contaminants of Concern, including Heavy Metals, Organochlorine Pesticides and Asbestos.

Laboratory analytical results reported:

- Heavy Metals concentrations in one soil sample exceeded applicable Human Health criteria;
- Asbestos was not detected in any of the soil samples;
- Heavy Metals concentrations were above Background Levels in 19 of the 42 soil samples; and
- Organochlorine Pesticides concentrations were below laboratory Method Detection Limits for all soil samples.

Based on these findings:

- Prior to future earthworks and development, further targeted soil sampling should be conducted to fulfil the requirement for a Detailed Site Investigation; and
- Prior to future earthworks and development, a Site Management Plan and/or Remediation Action Plan should be based on the findings of the Detailed Site Investigation outlined above.

Our findings, conclusions, and recommendations are detailed in this report and appendices.

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Appendices:

1.0 Introduction

S&RC were engaged by Fonterra to undertake a soil contamination investigation and report in association with PC17 at Te Rapa, Hamilton. The purpose of PC17 is to live-zone approximately 91ha of land (the Plan Change Area) surrounding the Te Rapa Dairy Manufacturing Site. PC17 does not seek to change any of the land within Te Rapa Dairy Manufacturing Site or planning provisions relating to the Manufacturing Site.

The objectives of PC17 are to:

- Live-zone all Fonterra-owned land to Te Rapa North Industrial zone.
- Protect the Te Rapa Dairy Manufacturing Site from reverse sensitivity risk.
- Future proof rail access on the North Island Main Trunk Line (NIMT)

This report has been prepared in accordance with Ministry for the Environment's (MfE) guidelines for contaminated site investigations and the requirements of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS). This investigation and reporting have been prepared, reviewed, and authorised by Suitably Qualified and Experienced Practitioners (SQEP) as required under the NES-CS regulations.

1.1. Limitations

This report has been prepared by S&RC for the sole benefit of Fonterra Limited (the client), their appointed consultants, and Council with respect to PC17 and the brief given to us. The data and/or opinions contained in this report may not be used in other contexts, for any other purpose or by any other party without our prior review and agreement. This report may only be read or transmitted in its entirety, including the appendices.

The recommendations given in this report are based on data obtained from discrete locations and soil conditions between locations are inferred only. Our assessment is based on those actual and inferred conditions however variations between test locations may occur and S&RC should be contacted in this event. S&RC should also be contacted should the scope or scale of development vary from that currently indicated.

1.2. Plan Change Area Description

The Plan Change Area relates to approximately 91ha of land in the northern extent of Te Rapa, approximately 8km north of Central Hamilton. The Plan Change Area is made up of three distinct areas, all of which are encompassed by the Waikato River to the east, the Waikato Expressway (State Highway 1C) and the NIMT rail line to the west, Hutchinson Road and Bern Road to the north and Ruffell Road, Old Ruffell Road and property boundaries to the south.

All three areas have frontage to Te Rapa Road which runs north to south through the centre of the Plan Change Area. The three areas are described as follows:

- **West Block:** Section 1, 3 SO 456626, Part Lot 1 DPS 10804, Lot 1 DPS 34481, Part Lot 2 DPS 10804, and Lot 1 – 6 DPS 11087
- **North Block:** Lot 1 DP 551065 and Lot 1 DPS 8230
- **South-East Block:** Lot 5 DPS 18043, Lot 1 DPS 85687 and Lot 1-3 DPS 61136

Due to site access constraints, our investigation and sampling was limited to the land owned by Fonterra at the time of our investigation and did not extend to Section 1, 3 SO 456626 (West Block), Lot 1 DP8230 (North Block), and Lots 1-2 and 3 DPS 61136 (South-East Block). The Plan Change Area extent is shown in Figure 1.

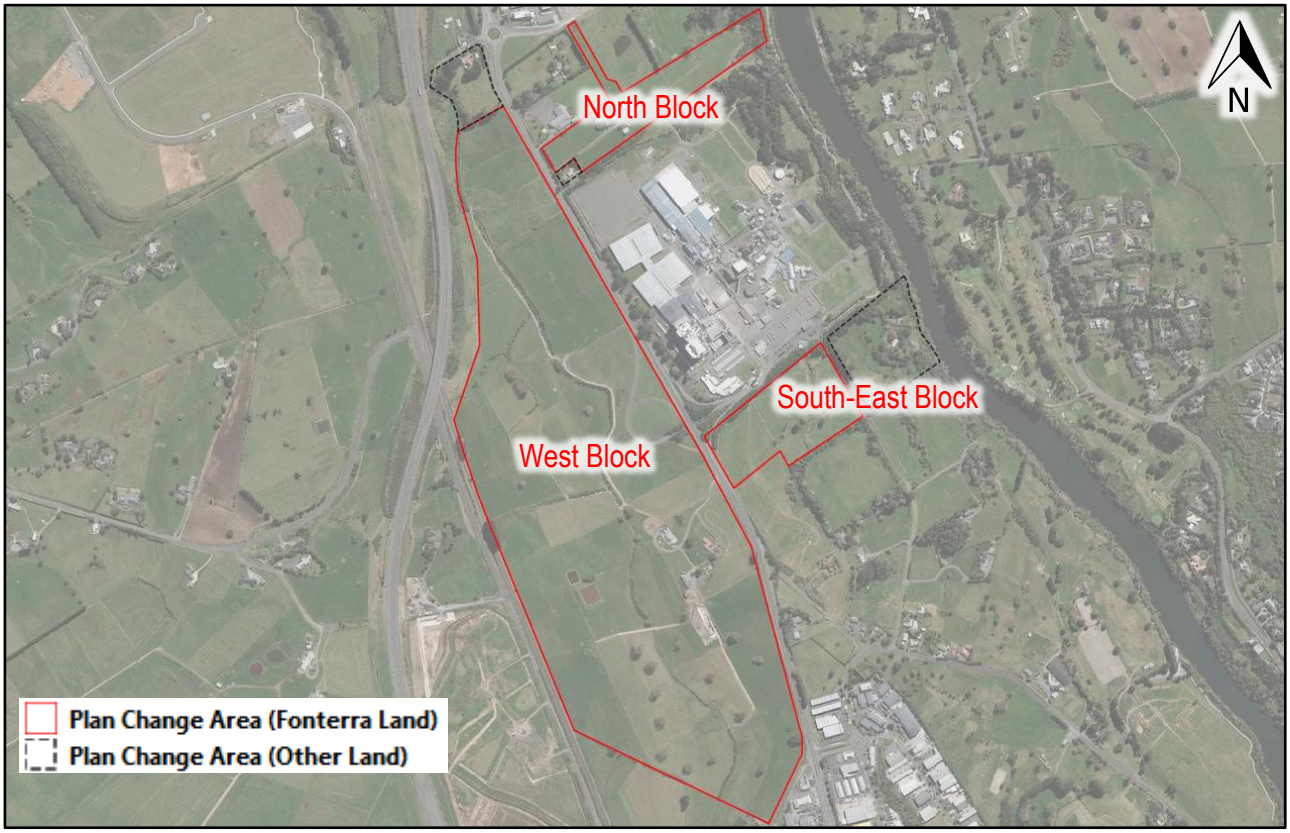

Figure 1: Plan Change Area (Underlay Source: LINZ Data Service)

The North and South-East Blocks are generally near-level, however steep slopes are present at the eastern margins forming the banks of the Waikato River.

The Plan Change Area is currently utilised for rural and residential uses. Built development across the West Block comprises dwellings, a milking shed, and farming sheds/workshops. Structures in the North Block include two dwellings and a barn/shed/workshop. A dwelling and two sheds/workshops are present in the eastern-most portion of the South-East Block. A previous dwelling and other structures in the western portion of the South-East Block have been demolished.

2.0 Plan Change Area Information

2.1. Site Walkover

A walkover of the Fonterra-owned land within the Plan Change Area was completed by S&RC on 17-20 July 2023. Photographs from the walkover are provided in Appendix B. The following was observed:

- Access is from the east and west via Te Rapa Road;
- Built development comprises multiple structures, including dwellings and associated structures, and farm structures including sheds;
- The topography is predominantly flat with a gentle slope towards the stream (West Block) or the Waikato River (North and South-East Blocks);
- The land is used primarily for pastoral purposes and is well kept;
- There were no obvious refuse, tipping, chemical containers, vegetation discolouration, odours or drums present; and
- The Waikato River runs along the easternmost boundary of the Plan Change Area, no ponding or standing water was noted.

2.2. Geology, Surface Water, and Groundwater

The Plan Change Area topography is predominantly flat with a gentle slope towards the stream (West Block) or the Waikato River (North and South-East Blocks).

Reference to the GNS New Zealand Geological Web Map 1:250,000 Geology map, indicates the Plan Change Area is underlain by Hinuera Formation alluvial soils of the Piako Subgroup (see Figure 2) with recent alluvium present within the floodplain surrounding Te Rapa Stream in the northern portion of the Plan Change Area.

The S&RC July 2023 geotechnical investigation confirmed the presence of the above soils, consisting primarily of silty sand, underlying topsoil extending to depths ranging between 0.1m and 0.3m below ground level (bgl), (Ref. 220489, '*Geotechnical Investigation for Proposed Private Plan Change at Fonterra Te Rapa, 1344 Te Rapa Road, Hamilton'*, S&RC, *in progress*).

The nearest surface water to the Plan Change Area is the Waikato River, which flows along the eastern border of the North Block and is approximately 240m to the east of the South-East Block. The Waikato River flows towards the north to northeast to Port Waikato and the Tasman Sea.

No ponding or surface water of significance was observed during our walkover, however multiple small streams were identified across the West Block. Surface water runoff is expected to flow towards the stream and flow into the Waikato River.

Groundwater was encountered between 0.5m and 4.0m bgl during the July 2023 geotechnical investigation. Based on the surrounding topography, the regional groundwater flow direction is expected to be to the east towards the Waikato River.

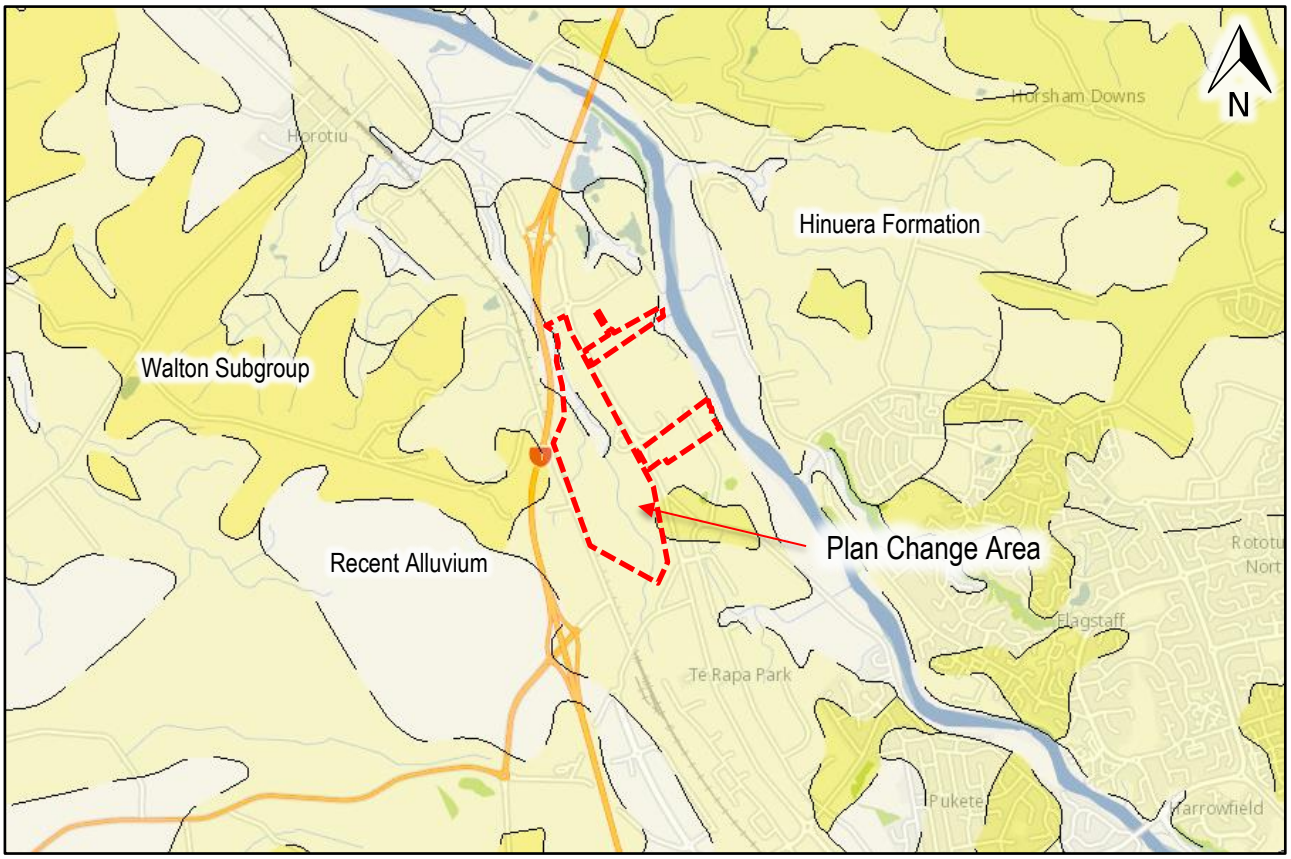

Figure 2: Geological Map (Source: GNS WebMaps Website)

3.0 Historical Information

The history of the Plan Change Area has been assessed through a review of historical aerial images, a review of Land Information New Zealand (LINZ) certificates of title, a search of Hamilton City Council (HCC) contamination incident files, and a search/request of the HCC property files.

3.1. Historical Aerial Photography

Historical aerial images of the Plan Change Area were obtained from *Retrolens* website and Google Earth Pro with images available from 1941 to 2023. These images are discussed in Table 1 and included in Appendix C.

Table 1 – Historical Aerials

Year / Source	Description
1941 Retrolens	**North Block** • The North Block is mostly undeveloped; • There is a small structure visible on the northern boundary in the centre of the Block, its purpose is unknown; and • The remainder of the Block is undeveloped and there is an overland flow path running through the eastern section of the property flowing in from the south. **South-East Block** • A dwelling is visible in the northwest corner of this Block; • Sheds are visible in the middle of the Block; • The remainder of the Block is utilised as pastureland, a large row of trees are visible on the southwest corner of the Block; and • An overland flow path clearly cuts diagonally across the Block from the southwest towards the northeast. **West Block** • The western most Block is predominantly undeveloped with some small sheds across the northern and southern areas; • There are dwellings with associated structures visible to the northeast, the centre of the Block and near the southeast corner of the Block; • The dwelling near the southeast corner of the Block appears to be utilised for horticultural land-use; • The remainder of the Block is utilised as pastureland; • An overland flow path clearly cuts across the Block from south to northwest; and • The surrounding area is utilised for pastoral land-use.
1963 Retrolens	**North Block** • A shed has been built across the eastern section of the Block; and • The remainder of the Block is similar to the 1941 aerial photography. **South-East Block** • No identifiable changes are visible across the Block. **West Block** • A dwelling and associated structures are visible in the northwestern part of the Block; • No other changes are visible across the Block; and • The surrounding area is used primarily for pastoral use.
1974 Retrolens	**North Block** • All prior structures appear to have been demolished within the Block and a driveway and residential dwelling are visible on the western section of the Block; and • The remainder of the property appears unchanged. **South-East Block** • Structures previously visible have been removed and an internal accessway and a residential dwelling are visible on the eastern section of the block; and • The remainder of the Block appears unchanged.

Year / Source	Description
	West Block • The dwellings and associated structures have been removed; extensive earthworks are visible in this area; • No other changes are visible across the Block; and • The surrounding area remains primarily pastoral, with the exception of a large industrial structure (Te Rapa Dairy Manufacturing Site) to the south and residential structures to the east of the site (located between the North Block and South Site).
1995 Retrolens	**North Block** • The overland flow path that flowed across the Block has been filled in; and • Further associated structures are visible near the dwelling in the western section of the Block. **South-East Block** • Two residential dwellings are visible on the eastern and western sections of the Block; and • No further developments are visible across the Block. **West Block** • The Block has multiple internal accessways crossing through it from north to south; • A residential dwelling is visible in in the northern section of the Block • The overland flow path has now been filled in; • The remainder of the Block appears unchanged; and • The surrounding area remains primarily pastoral with industrial and residential developments visible to the east and south of the Block.
2004 Google Earth Pro	**The North Block** • No further developments are visible across the Block. **South-East Block** • No further developments are visible across the Block. **West Block** • Multiple sheds and other structures are visible in the central portion; and • The surrounding area remains primarily pastoral with further industrial and residential development visible to the east of the Plan Change Area.
2012 Google Earth Pro	**The North Block** • No further developments are visible across the Block. **South-East Block** • No further developments are visible across the Block. **West Block** • No further developments are visible across the Block; and • The surrounding area remains primarily pastoral with further industrial and residential development visible to the east and south of the Plan Change Area.
2017 Google Earth Pro	**The North Block** • No further developments are visible across the Block. **South-East Block** • No further developments are visible across the Block.

Year / Source	Description
	West Block • A large, excavated pit is visible near the centre west of the Block; and • The surrounding area remains primarily pastoral with further industrial and residential development is visible to the east of the Plan Change Area.
2023 Google Earth Pro	**The North Block** • No further developments are visible across the Block. **South-East Block** • No further developments are visible across the Block. **West Block** • No further developments are visible across the Block; and • The surrounding area remains primarily pastoral with further industrial and residential development visible to the east of the Plan Change Area.

3.2. Records of Title

Copies of the Records of Title for the Fonterra-owned land at the time of our investigation are provided in Appendix D.

From the available information held by LINZ:

North Block

951342

- The Registered Owner is listed as Fonterra Limited.

South-East Block

SA16D/1480

- The Original Registered Owner (3 April 1974) for the site is listed as Harrise Unka;
- The site was transferred to Jun Pan on 7 September 2006;
- The site was transferred to Yanping Gu, Zhewen Wu and Nielsen Law Trustee on 23 March 2009;
- The site was transferred to Yanping Gu, Zhewen Wu and Alison Margaret Kellaway on 23 Sept 2011;
- The site was transferred to Yanping Gu and Zhewen Wu on 23 December 2015; and
- The site was transferred to Fonterra Limited (current owner) on 4 October 2021.

SA68A/150

- The Original Registered Owner (3 April 2000) for the site is listed as Anchor Products Limited which was changed to Fonterra Limited (current owner) on 2 March 2005.

West Block

- There are seven Fonterra-owned titles for this block: SA34A/629, SA43C/416, SA7B/163, SA48A/156, SA16B/416, SA16D/1059, and SA48A/157.
- The Original Registered Owner (24 May 1967) for the West Block is listed as Anchor Products Limited and there was a change of name to Fonterra Limited (current owner) on 24 July 2006.

3.3. Hamilton City Council Property Files

Information was obtained from Property File requests lodged with HCC relating to Resource Consents and Building Consents/Permits issued for developments that have occurred within the Fonterra-owned land.

Relevant information from the Property Files is summarised in Table 2 and provided in Appendix E.

Table 2 – Property File

Date	Document	Owner / Applicant	Description
The North Block			
3 May 1965	Racing Stable Building Permit	T.H. Knowles	Application for Building Permit for the construction of a stable
2 June 1965	Stables Plan	T.S Malloch	Stable Plans and Construction Materials
24 January 1992	Proposed Relocation of Existing House	K.H & P. Wilmshurst	Proposed relocation and site plans for Existing House
South-East Block			
19 August 1975	Building Permit for Dwelling	R.L Denison	Application for Building Permit for the Construction of a Dwelling and Relocation of Existing Children's Playhouse
17 August 1978	Building Permit for Shed and Haybarn	R.L Denison	Application for Building Permit for the construction of a Shed for tractor, implement and hay storage
17 December 1987	Proposed House Additions	Mr J. Morth	Submitted Plans for Proposed Additions to the House and swimming pool
West Block			
31 March 2014	Site Plan and Building Plans	Fonterra Co-operative Group Limited	Approved Building Consent for the construction of a farm implement lean-to shed
24 January 2018	Application or Building Consent	Fonterra Co-operative Group Limited	Approved Building Consent for the construction of a farm shed

4.0 Summary of Previous Activities and Land Uses

Based on previous land use and development information within the Fonterra-owned land, Table 3 summarises the potential for contamination associated with previous site activities and land uses classified under the HAIL within the Plan Change Area.

Table 3 – Site Activities / Land Uses and Potential HAIL Categories

Time Frame	Location	Primary Source	Activity / Land Use	Potential HAIL Category
pre-1940 – c. 1960	West Block	Aerial Photographs	Persistent pesticide bulk storage or use associated with historical orchard	A.10
c. 1955 – present	The North Block South-East Block West Block	Walkover, Aerial Photographs, Contamination Enquiry, Property File	Potential contamination from possible Asbestos / Asbestos Containing Materials (ACM) in historical buildings	E.1
c. 1955 – present	The North Block South-East Block West Block	Walkover, Aerial Photographs, Contamination Enquiry	Potential contamination from possible Lead-based paint use on historical buildings	I

5.0 National Environmental Standard Regulations

Future commercial or industrial development is expected to comprise site works where soils will be disturbed and potentially transported to another location. Based on the reviewed available historical information, activities that have or may have occurred within the Plan Change Area are classified as HAIL activities. As such, the Plan Change Area would be covered under the NES-CS Regulations.

6.0 Regulations

Within the Waikato Region, investigations of contaminated and potentially contaminated sites are governed by rules under:

- MfE NES-CS (MfE, 2012).
- New Zealand Guidelines for Assessing and Managing Asbestos in Soil (2017).

Background values are also used in determining if the NES-CS applies to a site, and the options for offsite soil disposal. While part of this report assesses potential planning and plan change requirements from relevant authorities, these sections are provided for reference only. Guidance/clarification should be sought from an Environmental Planning Specialist.

National Environmental Standard – Contaminants in Soil

The NES-CS came into force on 1 January 2012, with Contaminated Land Management Guidelines revised in 2011 (No.2) and 2021 (No. 1 and 5). The NES-CS incorporates by reference MfE contaminated land documents, including MfE Contaminated Land Management Guidelines for the investigation, assessment, and reporting of contaminated land within New Zealand. These documents are aimed to provide national consistency in the reporting of contaminated site information. These documents are:

- Contaminated Land Management Guidelines (No. 1, 2 and 5);
- HAIL;
- Methodology of Deriving Soil Guideline Values Protective of Human Health; and
- Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, revised 2011).

Copies of the above guideline documents are available at www.mfe.govt.nz.

New Zealand Guidelines for Assessing and Managing Asbestos in Soil

The New Zealand Guidelines for Assessing and Managing Asbestos in Soil were published in 2017. The guidelines provide direction around identifying, assessing and managing Asbestos in soil in New Zealand and establish Human Health Soil Guideline Values (SGV).

7.0 Soil Assessment Criteria

The Plan Change Area is zoned 'Te Rapa North Industrial Zone – Deferred Industrial Zone'. The Plan Change Area is broadly divided into three Blocks. Each Block includes at least one dwelling with associated structures with the remainder of the Block utilised as pasture.

Based on information provided to us, PC17 is to allow for the future development of the site for commercial or industrial purposes. For this assessment, soil analytical results were compared against:

- NES-CS Human Health criteria for Commercial / Industrial use;
- PHG Human Health criteria for Commercial / Industrial use;
- Asbestos SGV for Commercial and Industrial sites; and
- Background values (derived from Landcare Research's Predicted Background Concentrations database) for assessment of soil disposal options.

8.0 Soil Analytical Results

Forty-two soil samples (37 shallow soil samples, including four shallow samples collected for Quality Assurance / Quality Control (QA/QC) purposes, and five deeper soil samples) were collected from the Fonterra-owned land and analysed for Contaminants of Concern (CoC), including Heavy Metals, Organochlorine Pesticide (OCP) and Asbestos. Laboratory analytical results reported:

- Heavy Metals (Arsenic) concentrations in one soil sample (AH07) exceeded MfE NES-CS Commercial / Industrial Human Health criteria;
- Asbestos was not detected in any of the soil samples;
- Heavy Metals concentrations were above Background Levels in 19 of the 42 soil samples; and
- OCP concentrations were below laboratory Method Detection Limits (MDL) for all soil samples.

Laboratory analytical results are summarised in Table 4. Soil sampling locations are shown on S&RC Drawing 230649/1 provided in Appendix A.

Laboratory analytical results and Chain of Custody documentation are provided in Appendix F.

Table 4 – Soil Analytical Results (mg/kg)

Sample Reference	Sample Soil Type	Sample Depth (m)	Heavy Metals								OCP				Asbestos		
			As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	ΣDDT	Aldrin	Dieldrin	Lindane	ND/D	ACM	FA/AF
		NES-CS [1]	**70**	**1,300**	**6,300**	**10,000**	**3,300**	**4,200**	**3,000 [5]**	**35000 [5]**	**1,000**	**160**	**160**	**14,000 [6]**	-	-	-
		Asbestos SGV [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.05**	**0.001**
		Background Level [3]	13	0.28	60.5	40.2	30.1	0.23 [4]	32.9	101.8	-	-	-	-	-	-	-
AH01	**SILT**	**0.3**	10	0.31	7.6	5.9	14	0.15	3.5	42	<MDL	<MDL	<MDL	<MDL	-	-	-
AH01-D	**Sandy SILT**	**0.6**	12	0.05	7.6	3.3	15	0.16	3.5	46	<MDL	<MDL	<MDL	<MDL	-	-	-
AH02	**SILT**	**0.3**	21	0.12	14	13	26	0.09	3.1	93	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH05	**Sandy SILT**	**0.3**	4.7	0.09	4.9	4.7	10	0.1	1.6	25	<MDL	<MDL	<MDL	<MDL	-	-	-
AH06	**Sandy SILT**	**0.3**	8.1	0.08	7.1	4.4	13	0.12	2.7	33	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH07	**SILT**	**0.3**	**82**	0.22	17	48	50	0.11	6.2	850	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH08	**Sandy SILT**	**0.6**	14	0.06	6.5	4.3	14	0.18	2.5	25	<MDL	<MDL	<MDL	<MDL	-	-	-
AH08-D	**SAND**	**0.3**	9.2	0.04	7.8	3.9	12	0.14	2.4	21	<MDL	<MDL	<MDL	<MDL	-	-	-
AH09	**SILT**	**0.3**	26	0.23	7.1	3.7	23	0.17	3.1	38	<MDL	<MDL	<MDL	<MDL	-	-	-
AH10	**SILT**	**0.3**	9.4	0.27	6.6	3.6	14	0.16	2.9	33	<MDL	<MDL	<MDL	<MDL	-	-	-
AH11	**SILT**	**0.3**	9.2	0.27	7.4	5.3	12	0.12	3	38	<MDL	<MDL	<MDL	<MDL	-	-	-
AH11-D	**SILT**	**0.6**	9.8	0.08	6	4.7	11	0.15	2.6	39	<MDL	<MDL	<MDL	<MDL	-	-	-
AH12	**SILT**	**0.3**	9.4	0.26	6.4	4	14	0.15	2.8	33	<MDL	<MDL	<MDL	<MDL	-	-	-
AH13	**SILT**	**0.3**	6.3	0.24	6.4	4.5	11	0.12	2.5	30	<MDL	<MDL	<MDL	<MDL	-	-	-
AH14	**SILT**	**0.3**	9.4	0.23	7	5	11	0.12	2.9	32	<MDL	<MDL	<MDL	<MDL	-	-	-
AH15	**SILT**	**0.3**	9	0.25	6.3	3.8	13	0.14	2.7	32	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH15-D	**SILT**	**0.6**	11	0.02	7.5	4.6	14	0.24	2.8	32	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH16	**Sandy SILT**	**0.3**	3.5	0.14	8.9	10	6.5	0.02	3.7	120	<MDL	<MDL	<MDL	<MDL	-	-	-
AH17	**Sandy SILT**	**0.3**	2.8	0.1	5.6	8	7.9	0.02	2.9	60	<MDL	<MDL	<MDL	<MDL	-	-	-
AH18	**Sandy SILT**	**0.3**	9.8	0.3	13	14	17	0.13	6.2	99	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH19	**SAND**	**0.3**	17	0.25	12	14	40	0.12	6.5	100	<MDL	<MDL	<MDL	<MDL	-	-	-
AH20-D	**Sandy SILT**	**0.6**	4.8	0.08	10	5.4	9.5	0.06	4.1	49	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH21	**Sandy SILT**	**0.3**	9.1	0.24	8.3	10	25	0.12	3.9	89	<MDL	<MDL	<MDL	<MDL	-	-	-

Sample Reference	Sample Soil Type	Sample Depth (m)	Heavy Metals								OCP				Asbestos		
			As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	ΣDDT	Aldrin	Dieldrin	Lindane	ND/D	ACM	FA/AF
		NES-CS [1]	**70**	**1,300**	**6,300**	**10,000**	**3,300**	**4,200**	**3,000 [5]**	**35000 [5]**	**1,000**	**160**	**160**	**14,000 [6]**	-	-	-
		Asbestos SGV [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.05**	**0.001**
		Background Level [3]	13	0.28	60.5	40.2	30.1	0.23 [4]	32.9	101.8	-	-	-	-	-	-	-
AH22	**SILT**	**0.3**	6.6	0.11	8.8	5	8	0.06	3.6	63	<MDL	<MDL	<MDL	<MDL	-	-	-
AH23	**SILT**	**0.3**	6.8	0.24	7.7	6.4	8.4	0.11	3.1	52	<MDL	<MDL	<MDL	<MDL	-	-	-
AH24	**Sandy SILT**	**0.3**	11	0.26	9.3	12	12	0.11	4	79	<MDL	<MDL	<MDL	<MDL	-	-	-
AH26	**Sandy SILT**	**0.3**	7.3	0.33	9.6	14	12	0.16	4	85	<MDL	<MDL	<MDL	<MDL	-	-	-
AH27	**SILT**	**0.3**	11	0.47	12	17	15	0.25	5.2	90	<MDL	<MDL	<MDL	<MDL	-	-	-
AH28	**SAND**	**0.3**	10	0.44	12	16	14	0.23	5	85	<MDL	<MDL	<MDL	<MDL	-	-	-
AH29	**Sandy SILT**	**0.3**	12	0.53	13	8.4	15	0.16	5.6	59	<MDL	<MDL	<MDL	<MDL	-	-	-
AH30	**Sandy SILT**	**0.3**	9.3	0.25	14	10	18	0.1	4.6	62	<MDL	<MDL	<MDL	<MDL	-	-	-
AH31	**Sandy SILT**	**0.3**	7.7	0.3	11	13	13	0.14	4.5	110	<MDL	<MDL	<MDL	<MDL	-	-	-
AH35	**SILT**	**0.3**	7.8	0.34	8.6	9.8	19	0.1	3.6	55	<MDL	<MDL	<MDL	<MDL	-	-	-
AH36	**SILT**	**0.3**	8	0.36	6.6	12	13	0.14	2.5	67	<MDL	<MDL	<MDL	<MDL	-	-	-
AH37	**SILT**	**0.3**	6.9	0.21	12	11	8.1	0.09	4	67	<MDL	<MDL	<MDL	<MDL	ND	-	-
AH38	**SILT**	**0.3**	11	0.39	9	11	18	0.16	3.8	55	<MDL	<MDL	<MDL	<MDL	-	-	-
AH39	**SILT**	**0.3**	11	0.42	8.5	9.8	17	0.16	3.9	55	<MDL	<MDL	<MDL	<MDL	-	-	-
AH40	**SILT**	**0.3**	11	0.63	11	18	15	0.21	5.1	93	<MDL	<MDL	<MDL	<MDL	-	-	-

Notes: Concentration: Values below accepted Background Levels (Heavy Metals) and/or laboratory MDL (OCP)
Concentration: Values above accepted Background Levels and/or laboratory MDL but in compliance with relevant criteria
Concentration: Values above relevant acceptance criteria

ND = Asbestos Not Detected
D = Asbestos Detected

[1] NES-CS – MfE NES Human Health Criteria for Commercial/Industrial Use (MfE, 2012)
[2] Asbestos SGV – Asbestos Soil Guidelines Values (%w/w) for Asbestos Containing Material (ACM) and Fibrous Asbestos/Asbestos Fines (FA/AF) for Commercial and Industrial sites, New Zealand Guidelines for Assessing and Managing Asbestos in Soil (2017)
[3] LRIS Portal PBC Predicted Background Soil Concentrations in New Zealand Sandstone Pakihi (https://lris.scinfo.org.nz/layer/48470-pbc-predicted-background-soil-concentrations-new-zealand-deprecated/) Manaaki Whenua Landcare Research
[4] Waikato Regional Council (WRC), Natural background concentrations in the Waikato region, Upper limit background concentrations for selected elements in soil of the Waikato region, acid recoverable data
[5] Australian Health Investigation Levels for Commercial/Industrial use (NEPC, 1999), applied in accordance with MfE Contaminated Land Guidelines No. 2
[6] MfE Soil Guidelines for Former Sheep-Dip Sites for Commercial/Industrial Use (MfE, 2006)

9.0 Quality Assurance / Quality Control

Four duplicate soil samples (QA-01, QA-02, QA-03 and QA-04 which are duplicates of AH-07, AH-17, AH-26 and AH-29 respectively) were collected for QA/QC purposes. The duplicate soil samples were collected using the same soil sampling procedures as the original samples and analysed at the laboratory using the same sample preparation and analysis procedures as the original samples. QA/QC results are presented in Table 5. Laboratory analytical results and Chain of Custody documentation is provided in Appendix F.

Relative Percentage Difference (RPD) calculations for analytes reported above the laboratory MDL ranged from 0.0 to 146.7%. RPD values for the duplicate pairs mostly met S&RC QA/QC acceptance criteria of less than 50%. Exceptions to S&RC QA/QC acceptance criteria are listed below (from duplicate pairing QA-01 as a duplicate of AH-01 and QA-02 as a duplicate of AH-17) with RPD over 50% for all Heavy Metals determinants are inferred to be due to localised heterogeneity within soil samples.

Table 5 – Quality Assurance/Quality Control Results

Contaminant of Concern		Results (mg/kg)		RPD (%)	Results (mg/kg)		RPD (%)
		AH-07	QA-01		AH-17	QA-02	
Heavy Metals	As	82	180	74.8	2.8	9.8	111.1
	Cd	0.22	0.22	0	0.10	0.30	100
	Cr	17	18	5.7	5.6	13	79.6
	Cu	48	28	52.6	8.0	14	54.5
	Pb	50	59	16.5	7.9	17	73.1
	Hg	0.11	0.14	24	0.02	0.13	146.7
	Ni	6.2	4.4	33.9	2.9	6.2	72.5
	Zn	850	350	83.3	60	99	49.1
OCP	ΣDDT	<MDL	<MDL	-	<MDL	<MDL	-
	Aldrin	<MDL	<MDL	-	<MDL	<MDL	-
	Dieldrin	<MDL	<MDL	-	<MDL	<MDL	-
	Lindane	<MDL	<MDL	-	<MDL	<MDL	-
Contaminant of Concern		Results (mg/kg)		RPD (%)	Results (mg/kg)		RPD (%)
		AH-26	QA-03		AH-29	QA-04	
Heavy Metals	As	7.3	8.3	12.8	12	11	8.7
	Cd	0.33	0.33	0	0.53	0.35	40.9
	Cr	9.6	12	22.2	13	11	16.7
	Cu	14	14	0	8.4	7.8	7.4
	Pb	12	12	0	15	12	22.2
	Hg	0.16	0.18	11.8	0.16	0.15	6.5
	Ni	4.0	5.2	26.1	5.6	5.2	7.4
	Zn	85	83	2.4	59	54	8.8
OCP	ΣDDT	<MDL	<MDL	-	<MDL	<MDL	-
	Aldrin	<MDL	<MDL	-	<MDL	<MDL	-
	Dieldrin	<MDL	<MDL	-	<MDL	<MDL	-
	Lindane	<MDL	<MDL	-	<MDL	<MDL	-

OCP = Organochlorine Pesticides NA = Not Applicable
MDL = laboratory Method Detection Limit
RPD = Relative Percentage Difference

10.0 Groundwater Monitoring

During our July 2023 investigation, 12 standpipe piezometers were installed for the purpose of groundwater monitoring and sampling. Groundwater samples were collected from three of the piezometers on 17 August 2023 as per Table 6.

Table 6 – Groundwater Sampling

Piezometer	Date Examined	Water level (m)	Total Well Depth (m)	Samples Taken	Comments
PZ02	17 August 2023	1.9	2.4	Nitrates / Nitrites 3, Heavy Metals, Total Nitrogen / Phosphorus and BOD	-
PZ03	17 August 2023	DRY	1.62	DRY	-
PZ04	17 August 2023	1.65	2.53	Nitrates / Nitrites 3, Heavy Metals, Total Nitrogen / Phosphorus and BOD	-
PZ06	19 August 2023	2.32	-	-	Not accessible due to livestock in the area
PZ08	19 August 2023	0.64	-	-	Not accessible due to livestock in the area
PZ11	17 August 2023	DRY	2.65	DRY	-
PZ12	17 August 2023	DRY	3.96	DRY	-
PZ16	-	-	-	-	Unable to locate Piezometer
PZ18	-	-	-	-	Unable to locate Piezometer
PZ24	17 August 2023	-	-	-	Piezometer broken at base. Data logger salvaged
PZ25	17 August 2023	3.21	3.33	-	Bore was purged dry at the beginning of the day, by the end of the day the bore was still dry (no recovery).
PZ47	17 August 2023	1.68	3.18	Nitrates / Nitrites 3, Heavy Metals, Total Nitrogen / Phosphorus and BOD	-

11.0 Groundwater Assessment Criteria

Groundwater analytical results were assessed against:

- ANZG – Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) (updated Australian and New Zealand Environmental and Conservation Council [ANZECC] Guidelines) 2018 (ANZG 2018 Guidelines);
- Australian and New Zealand Environmental and Conservation Council [ANZECC] Guidelines) 2000 - Primary Industries (Volume 3), Irrigation and general water uses (ANZECC 2000 Guidelines); and
- Water Services (Drinking Water Standards for New Zealand) Regulations 2022.

While part of our report assesses potential planning and Resource Consent requirements from relevant authorities, these sections are provided for reference only. Guidance/clarification should be sought from an Environmental Planning Specialist.

Australian and New Zealand Guidelines for Fresh and Marine Water Quality

The ANZG 2018 Guidelines are an update of the ANZECC 2000 Guidelines and are proposed to replace the ANZECC Guidelines. The ANZG provide water managers with tools and guidance to assess, manage and monitor water quality. They complement the existing National Policy Statement for Freshwater Management 2020 (NPS-FW), which is the main direction to local government about how to manage freshwater in New Zealand. The ANZG provide Default Guideline Values (DGV) considered protective of fresh and marine water ecosystems. However, the ANZG notes that there are 'several errors and inconsistencies'' in the published DGV; therefore, all DGV referenced in this investigation were checked against Table 3.4.1 and Section 8.3.7 of the ANZECC 2000 Guidelines.

Water Services (Drinking Water Standards for New Zealand)

The Water Services (Drinking Water Standards for New Zealand) Regulations 2022 provide water managers with tools and guidance to assess, manage and monitor drinking-water quality. The standards are based in part of the World Health Organization Guidelines for drinking-water quality. These standards revoke and replace the Drinking-water Standards for New Zealand 2005 (revised 2018).

12.0 Groundwater Analytical Results

Three groundwater samples were collected from the monitoring wells where groundwater was available (three of the twelve groundwater monitoring wells were dry during the groundwater monitoring event). Two of the wells (PZ06 and PZ08) were unable to be inspected on the day due to instruction from the farm manager, one piezometer (PZ24) was broken and two were unable to be located on the day of inspection.

Groundwater samples were analysed for Dissolved Metals, Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Kjeldahl nitrogen (TKN), Nitrite and Nitrate Nitrogen, Total Phosphorus and Cation Profile (Sodium, Calcium, Potassium and Magnesium). No QA/QC samples could be collected due to the low amount of groundwater available for sampling. Laboratory analytical results reported:

- Total Phosphorus concentrations were detected in all groundwater samples above ANZECC criteria for irrigation and general water use. However, further analysis would be required to separate natural contributions of phosphorus from that which might be associated with irrigation of wastewater.
- Copper (Cu) concentrations in all samples were detected above the ANZG DGV criteria;
- Zinc (Zn) concentrations in one sample (PZ47) was detected above the ANZG DGV criteria;

- Heavy Metals concentrations were detected in all groundwater samples, but at concentrations generally below applicable ANZG DGV criteria;
- Chloride was detected in all groundwater samples, but at concentrations below applicable criteria; and
- Nitrite Nitrogen and Nitrate Nitrogen were detected in three of the four groundwater samples, but at concentrations below applicable criteria.

Laboratory analytical results for the collected groundwater samples are summarised in Table 7. The standpipe piezometer locations are shown on S&RC Drawing 230649/1 provided in Appendix A. Laboratory analytical results and Chain of Custody documentation are provided in Appendix F.

Table 7 – Groundwater Analytical Results

		Test Analysis Levels (mg/kg)			ANZG DGV [1]	ANZECC [2]	Drinking Water Standards [3]
Sample Reference		**PZ02**	**PZ04**	**PZ47**			
Sample Type		**Groundwater**					
Dissolved Heavy Metals	**As**	0.0017	0.0087	0.0075	**0.140**	-	**0.01**
	Cd	<MDL	<MDL	0.00005	**0.0008**	-	**0.004**
	Cr	<MDL	<MDL	<MDL	**0.040**	-	**0.05**
	Cu	**0.0027**	**0.0059**	**0.046**	**0.0025**	-	**2**
	Pb	0.00013	0.00011	0.00153	**0.0094**	-	**0.01**
	Ni	0.0010	0.0027	0.0021	**0.017**	-	**0.08**
	Zn	0.021	0.027	**0.095**	**0.031**	-	**1.5**
cBOD		-	13	2	-	**15**	-
Chloride		12.5	26	11.8	-	-	**250**
Total Kjeldahl Nitrogen		14.7	7.8	3.5	-	-	-
Nitrite-N		0.009	<MDL	0.015	-	-	**0.913** [4]
Nitrate-N		0.29	<MDL	<MDL	-	-	**11.3**
Total Phosphorus		**1.99**	**0.199**	**0.30**	-	**0.05**	-
Cation Profile Dissolved Metals	**Na**	11.6	36	15.5	-	-	**200**
	Ca	9.3	24	17	-	-	**100**
	K	7.8	11.6	2.2	-	-	-
	Mg	2.3	10.7	3.6	-	-	**100**

Notes: Concentration: Values below laboratory Method Detection Limit (MDL)
Concentration: Values above MDL but in compliance with relevant criteria
Concentration: Values above relevant acceptance criteria

[1] ANZG DGV – Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, August 2018) (80% protection of freshwater species [95% protection for Hg]). ANZG notes that there are 'several errors and inconsistencies' in the published DGV database. All values referenced in this investigation have been checked against Table 3.4.1 of the ANZECC 2000 Guidelines. Only chemical guidelines have been shown, not physical stress guidelines.
[2] ANZECC 2000 Guidelines – Primary Industries (Volume 3), Irrigation and general water uses.
[3] Drinking Water Standards for New Zealand Regulations 2022. Maximum acceptable values for inorganic determinants of health significance.
[4] Drinking Water Standards for New Zealand Regulations 2022. Maximum acceptable values for inorganic determinants of health significance, Nitrite guideline value provided as 3 mg/L, converted to Nitrite-N (multiplied by 3.284 [0.913mg/L]).

13.0 Discussion

13.1. Conceptual Site Model

A Conceptual Site Model (CSM) was developed for the Plan Change Area to provide a preliminary assessment of potential effects on Human Health and the Environment. The CSM is presented in Table 8.

Table 8 – Conceptual Site Model

Source	Exposure Pathway	Potential Receptors	Risk Assessment	
Contaminants in Soil	Human Health Soil Ingestion, Inhalation (Dust), Dermal Contact, Produce	During Construction Subsurface Construction / Maintenance Workers	• CoC concentrations in one soil sample exceeded applicable MfE NES-CS and PHG Human Health criteria for Commercial / Industrial use; • Asbestos was not detected in any soil samples; and • Prior to earthworks, a Site Management Plan / Remediation Action Plan (SMP/RAP) should be prepared for the site, outlining remediation and control measures to be implemented prior to / during redevelopment.	Risk Must be Managed
		After Construction Subsurface Construction / Maintenance Workers, On-site Users		
	Environmental Discharge (Contaminant Migration)	During Construction Groundwater, Flora / Fauna	• Asbestos was not detected in any samples; • Heavy Metals concentrations were above Background Levels; • OCP concentrations were below laboratory MDL in all soil samples; • The nearest surface water body is located 240m east of the site (Waikato River); • Groundwater was encountered at depths ranging between 0.5m and 4.0m bgl beneath the site; • A SMP / RAP should be prepared outlining control measures to be implemented prior to / during redevelopment; and • Any fill material disposed of off-site will be disposed of at a facility licenced to accept such materials.	Minimal Risk / Risk Must be Managed
		During Construction Groundwater, Flora / Fauna		
Contaminants in Groundwater	Human Health (Groundwater Use)	Groundwater and Surface Water Users	• Groundwater is used for irrigation purposes; • Total Phosphorus concentrations detected in all groundwater samples were above ANZECC criteria for irrigation and general water use; • Groundwater is not used for potable use; • Copper (Cu) concentrations in all samples and Zinc (Zn) concentrations in one sample (PZ47) was above the Drinking Water Standards criteria; and • The nearest surface water body is located 240m east of the site (Waikato River).	Minimal Risk / Risk Must be Managed
	Environmental Discharge (Contaminant Migration)	Freshwater Ecosystem Flora / Fauna	• Dissolved Metals concentrations were below Environmental criteria.	No risk to the Environment

13.2. Regulatory Implications

This section considers the potential regulatory implications in a future development scenario, following a successful plan change application. Soil disturbance is presumed to be required, with a change of land use (to commercial or industrial) and likely subdivision. Based on findings from this investigation, Table 8 presents potential Resource Consent requirements for the proposed activity under the provisions of the NES-CS.

This investigation presents factual information obtained from the Fonterra-owned land at the time of our investigation. Matters of control and discretion, however, rest with the consenting authority (HCC / WRC) based on their assessment of this report.

It would be appropriate to seek clarification from HCC / WRC or an Environmental Planning Specialist for further information on resource consenting requirements.

14.0 Conclusion

Our investigation was carried out in accordance with the scope of work, accessible areas, and current applicable regulations. This report has been prepared in accordance with MfE's Guidelines for Contaminated Site Investigations and HCC / WRC requirements. The investigation and reporting have been prepared, reviewed and authorised by SQEP, as required under the NES-CS.

Available historical information and observations from our walkover indicate that the following HAIL activities have, or potentially have, occurred within the Plan Change Area:

- Persistent pesticide bulk storage or use associated with horticultural activities (HAIL Cat. A.10);
- Potential contamination from Asbestos / ACM in historical structures (HAIL Cat. E.1); and
- Potential contamination from Lead based paint (HAIL Cat. I).

Forty-two soil samples (37 shallow soil samples, including four shallow samples collected for QA/QC purposes, and five deeper soil samples) were collected from the Fonterra-owned land and analysed for CoC, including Heavy Metals, OCP and Asbestos.

Three groundwater samples were collected from the existing monitoring wells (piezometer) and analysed for Dissolved Metals, cBOD, Chloride, TKN, Nitrite and Nitrate Nitrogen, Total Phosphorus and Cation Profile (Sodium, Calcium, Potassium and Magnesium).

Laboratory analytical results reported:

Soil:

- Heavy Metals (Arsenic) concentrations in one soil sample (AH07) exceeded MfE NES-CS Human Health criteria;
- Asbestos was not detected in any of the soil samples;
- Heavy Metals concentrations were above Background Levels in 19 of the 42 soil samples; and
- OCP concentrations were below laboratory MDL for all soil samples.

Groundwater:

- Total Phosphorus concentrations were detected in all groundwater samples above ANZECC criteria for irrigation and general water use;
- Copper concentrations in all samples were detected above the ANZG DGV criteria;
- Zinc concentrations in one sample (PZ10) were detected above the ANZG DGV criteria;
- Heavy Metals concentrations were detected in all groundwater samples, but at concentrations generally below applicable ANZG DGV criteria;
- Chloride was detected in all groundwater samples, but at concentrations below applicable criteria; and
- Nitrite Nitrogen and Nitrate Nitrogen were detected in three of the four groundwater samples, but at concentrations below applicable criteria.

15.0 Recommendations

Based on these findings, it is recommended:

- Prior to future earthworks and development, further targeted soil sampling should be conducted to fulfil the requirement for a Detailed Site Investigation (DSI); and
- Prior to future earthworks and development, a Site Management Plan and/or Remediation Action Plan (SMP / RAP) should be prepared based on findings of the DSI to ensure that site conditions are protective of Human Health and the Environment.

End of Report Text – Appendices Follow

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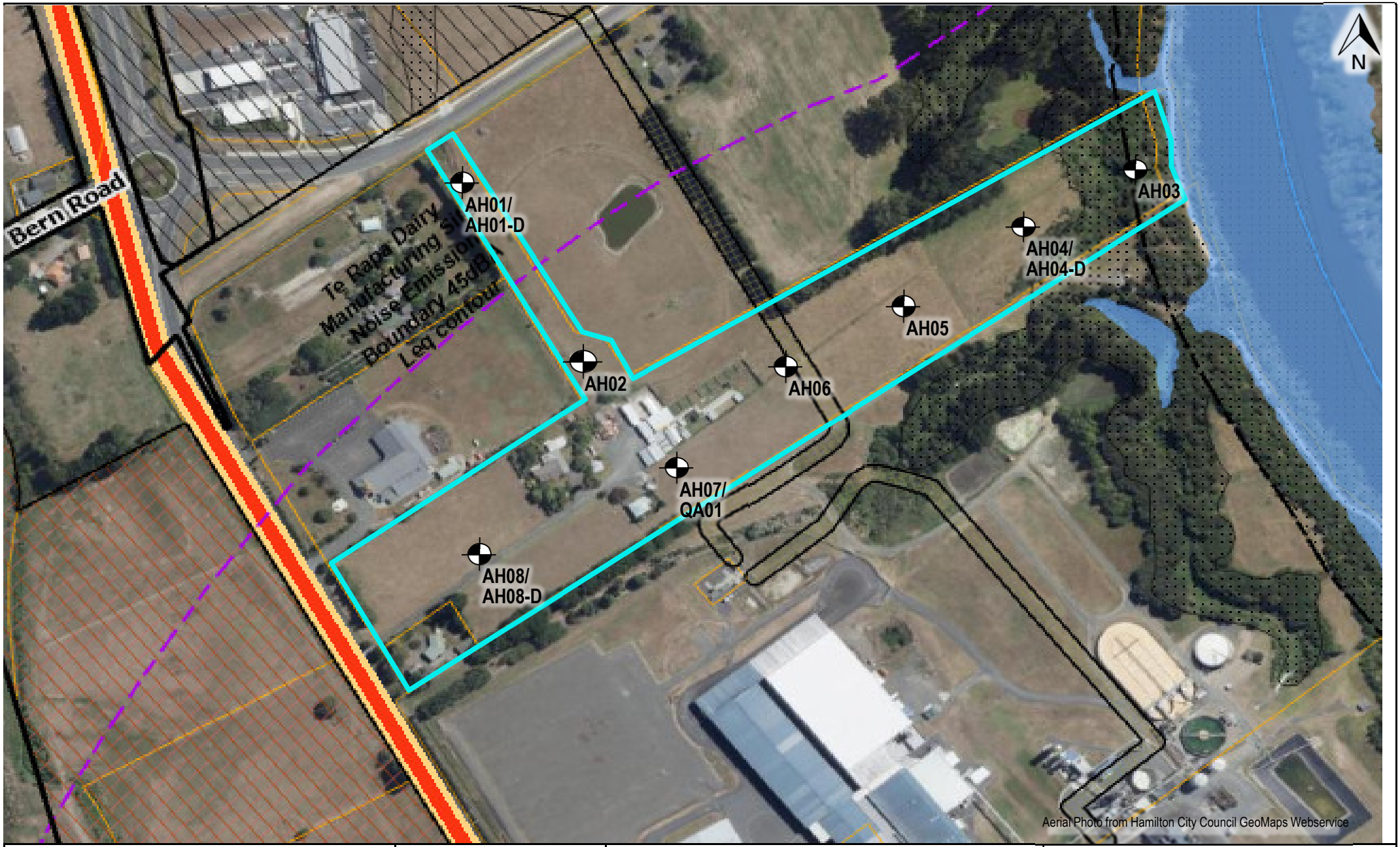
Appendix A

Site Plan



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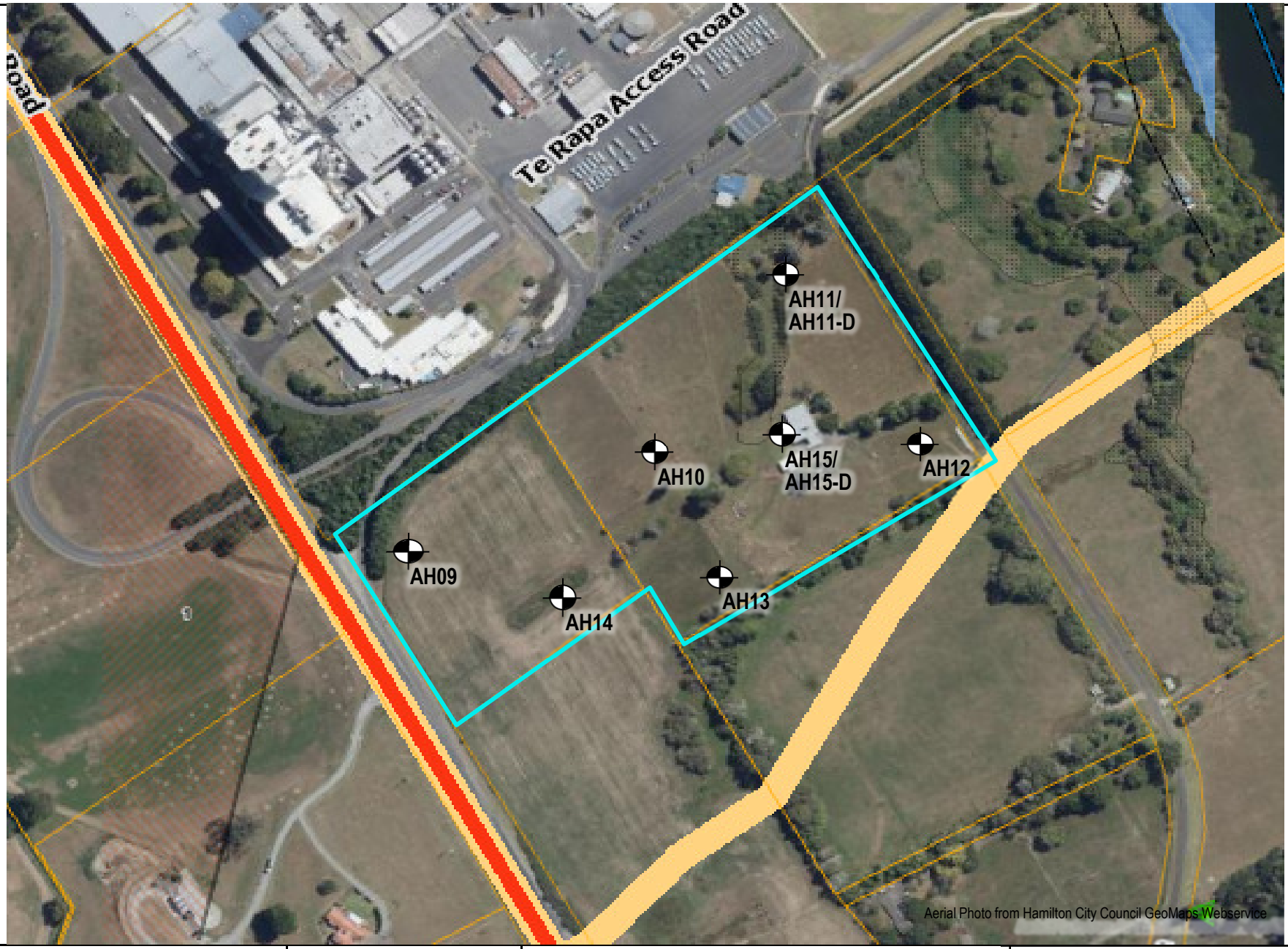
DRAWING NO:	**230649/1**
DATE:	October 2023
DRAWN:	RD
SCALE:	NTS

INVESTIGATION PLAN
TE RAPA FARM

Key:

AH01 S&RC Hand Augerhole Locations 18 Jul 2023



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DRAWING NO:	**230649/1**
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DRAWN:	RD
SCALE:	NTS

INVESTIGATION PLAN
TE RAPA FARM

Key:

AH01 S&RC Hand Augerhole Locations 18 Jul 2023

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DRAWN:	RD
SCALE:	NTS

INVESTIGATION PLAN
TE RAPA FARM

Key:

AH01 S&RC Hand Augerhole Locations 18 Jul 2023

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Appendix B

Photographic Documentation

Photo Documentation – Walkover & Field Investigation (17 July 2023)

	
The farm section of the site is mostly flat and is bordered by the Waikato Expressway across the northern section.	The Northern section of the site is divided into multiple lots and paddocks.
	
The Farm site has multiple buildings, structures and accessways across the site. The buildings are all in very good condition.	Recently completed trenches are visible across the site to improve drainage. The large building (top right corner of the photograph) is the Fonterra Te Rapa facility.

	
The soil from the trenches were pilled beside them in small bunds.	Livestock were kept on the field which hindered access to some of the locations.

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Appendix C

Historical Aerial Photography

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Retrolens

1941

Historical Aerial Photography

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Retrolens

1963

Historical Aerial Photography

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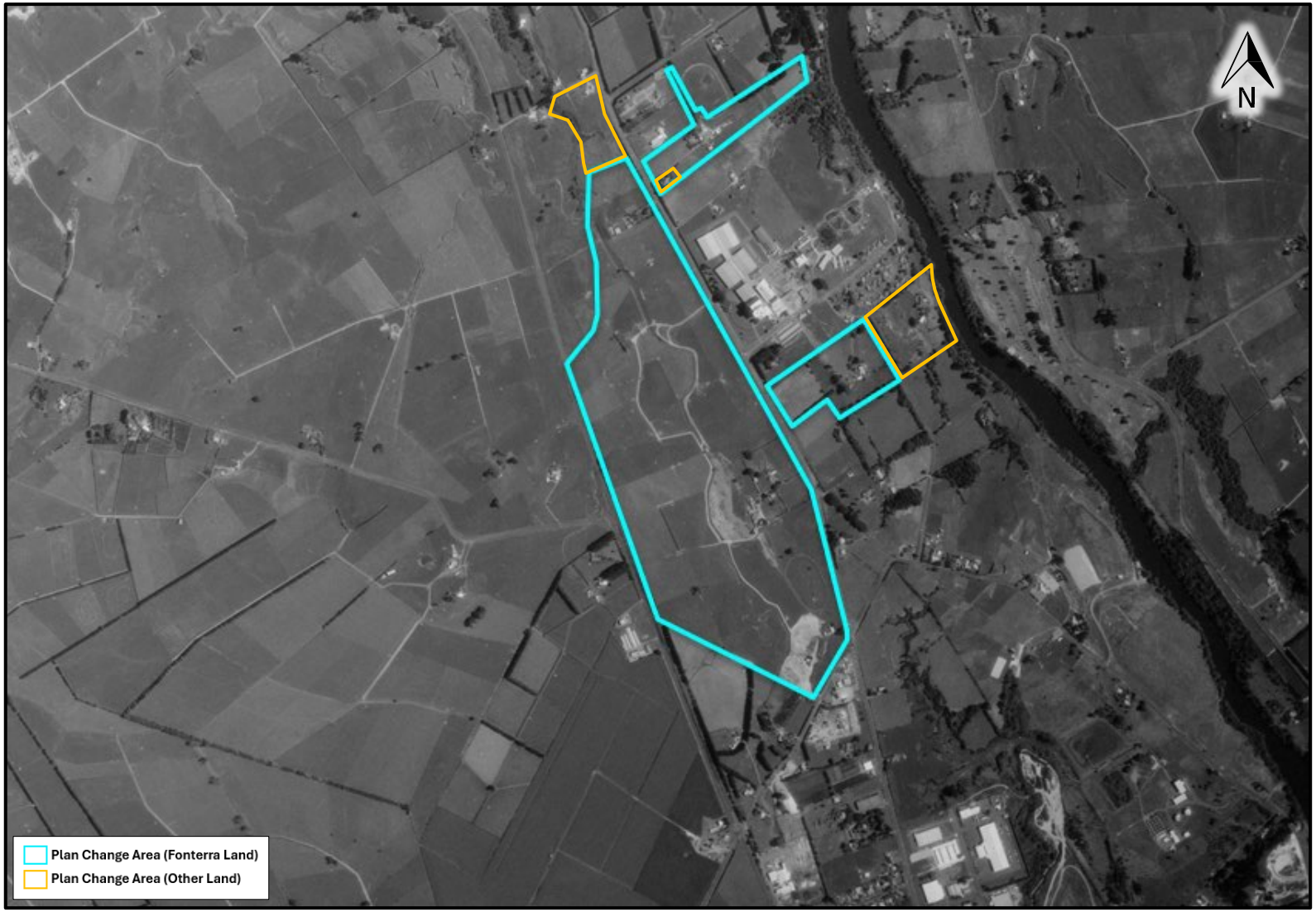
Retrolens

1974

Historical Aerial Photography



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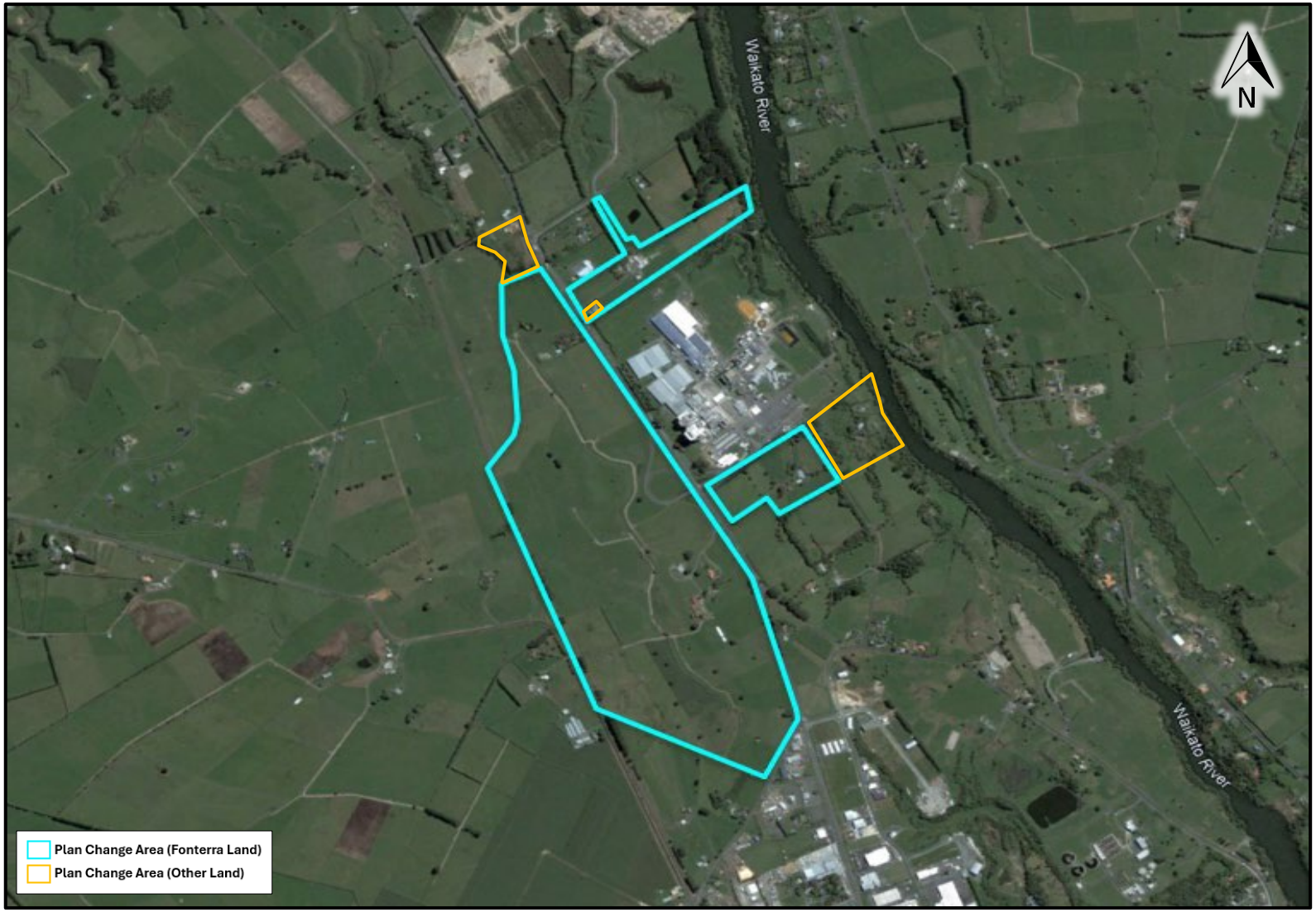
Retrolens

1995

Historical Aerial Photography



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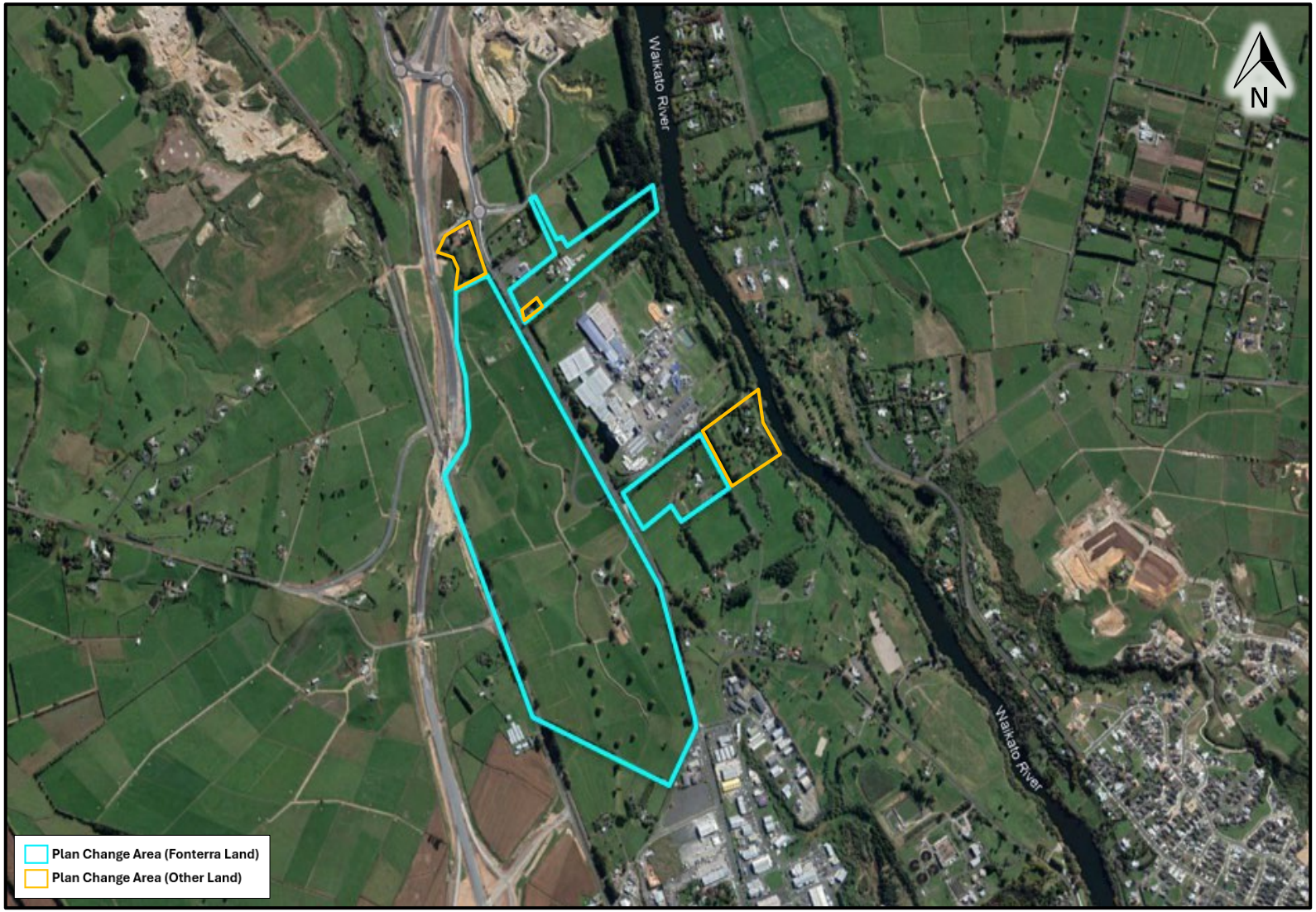
Google Earth Pro

2004

Historical Aerial Photography

Google Earth Pro



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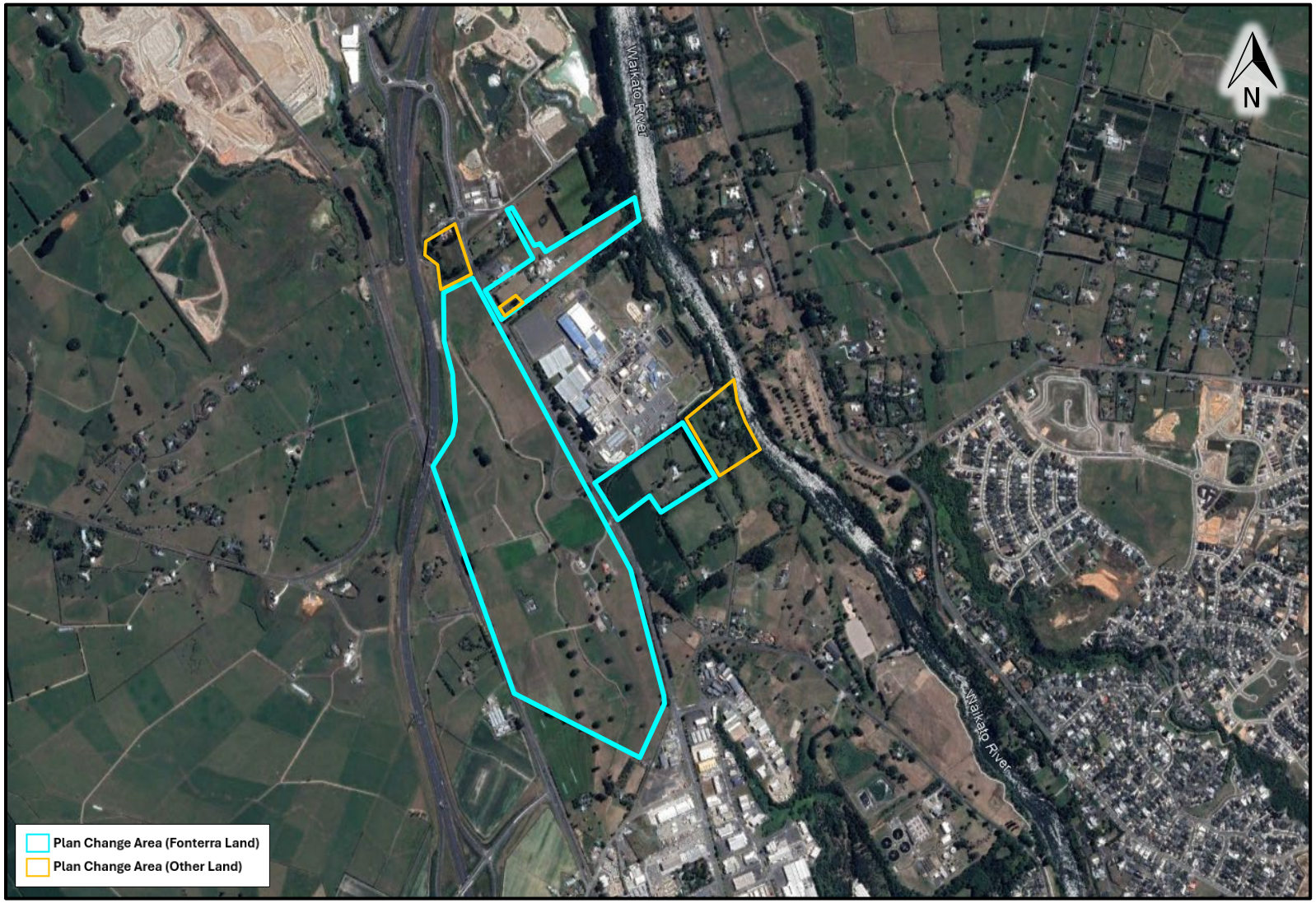
Google Earth Pro

2012

Historical Aerial Photography

Google Earth Pro



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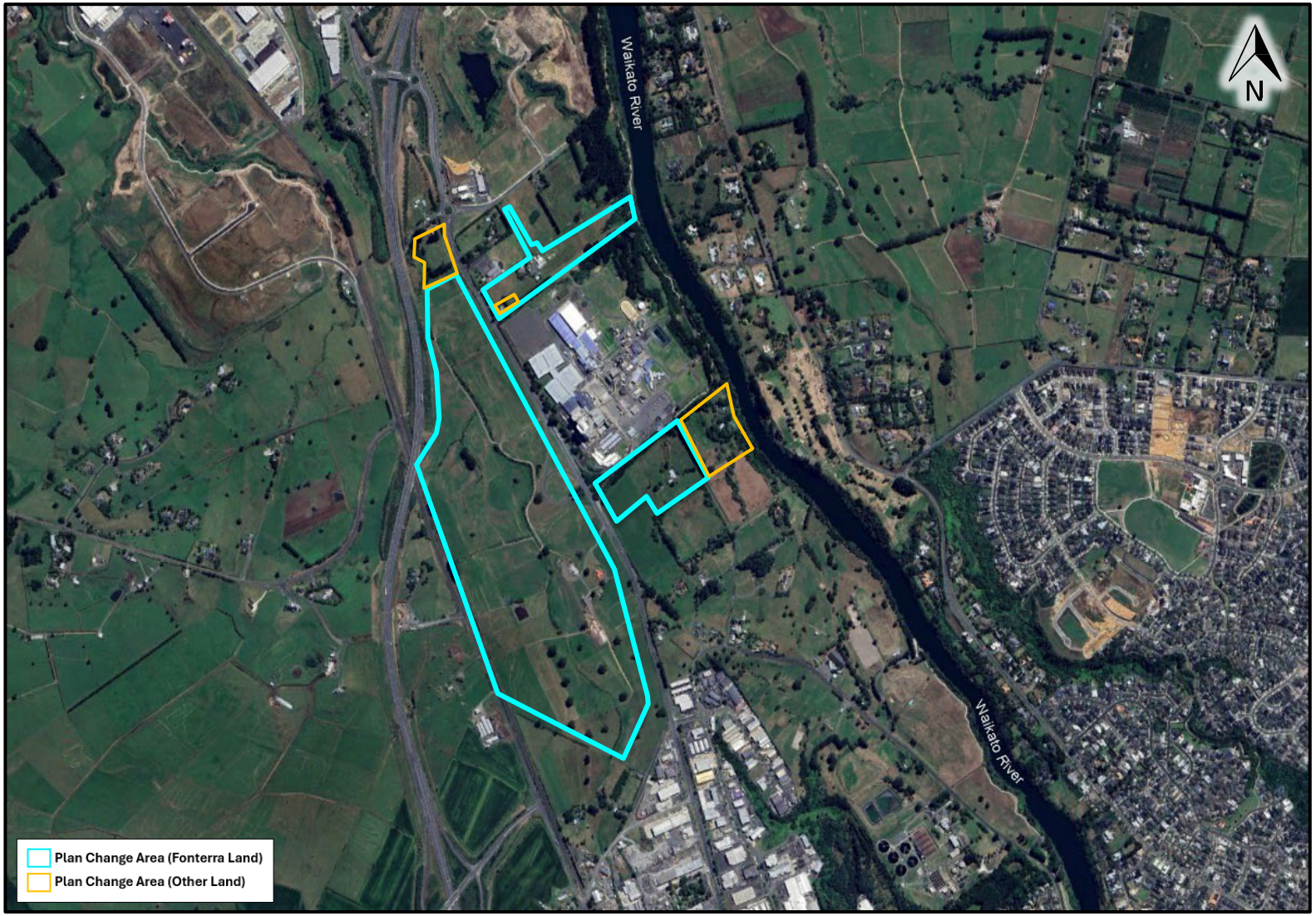
Google Earth Pro

2017

Historical Aerial Photography

Google Earth Pro



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Google Earth Pro

2023

Historical Aerial Photography

Google Earth Pro

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Appendix D

Certificates of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **951342**

Land Registration District **South Auckland**

Date Issued 06 October 2021

Prior References

434976 434977 SA9C/120

Estate Fee Simple

Area 6.0076 hectares more or less

Legal Description Lot 1 Deposited Plan 551065

Original Registered Owners

Fonterra Limited

Interests

S258205 Building Line Restriction - 31.5.1963 at 3:52 pm

S340460 Gazette Notice declaring No 1 State Highway (Awanui - Bluff) fronting the within land to be a limited access road - 21.3.1966 at 2.59 pm

Subject to a pipeline easement (in gross) over part marked B on DP 551065 in favour of Natural Gas Corporation of New Zealand Limited created by Transfer B067622 - 21.2.1992 at 2.17 pm

8971783.5 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.2.2012 at 2:44 pm (affects part formerly Lot 3 DP 409281)

Land Covenant in Easement Instrument 8971783.6 - 1.2.2012 at 2:44 pm (affects parts formerly Lots 2-3 DP 409281)

Appurtenant to parts formerly Lots 2-3 DP 409281 is a right of way created by Easement Instrument 8971783.7 - 1.2.2012 at 2:44 pm

The easements created by Easement Instrument 8971783.7 are subject to Section 243 (a) Resource Management Act 1991

12065773.7 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 6.10.2021 at 5:11 pm

Subject to a right of way, a right to drain water and stormwater and a right to convey water, electricity, telecommunications and computer media over part marked A on DP 551065 created by Easement Instrument 12065773.8 - 6.10.2021 at 5:11 pm

The easements created by Easement Instrument 12065773.8 are subject to Section 243 (a) Resource Management Act 1991

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA16D/1480**

Land Registration District **South Auckland**

Date Issued 03 April 1974

Prior References
SA1D/323

Estate Fee Simple

Area 4.1834 hectares more or less

Legal Description Lot 5 Deposited Plan South Auckland 18043

Original Registered Owners
Harrise Unka

Interests

B057362.2 Mortgage to ANZ Banking Group (New Zealand) Limited - 10.12.1991 at 9.00 am

6221513.1 CAVEAT BY YANPING GU - 19.11.2004 at 9:00 am

7019253.1 Withdrawal of Caveat 6221513.1 - 7.9.2006 at 9:00 am

7019253.2 Discharge of Mortgage B057362.2 - 7.9.2006 at 9:00 am

7019253.3 Transfer to Jun Pan - 7.9.2006 at 9:00 am

8099067.1 Transfer to Yanping Gu, Zhewen Wu and Nielsen Law Trustee (2008) Limited - 23.3.2009 at 10:44 am

8099067.2 Mortgage to Bank of New Zealand - 23.3.2009 at 10:44 am

8857562.1 Discharge of Mortgage 8099067.2 - 23.9.2011 at 2:52 pm

8857562.2 Transfer to Yanping Gu, Zhewen Wu and Alison Margaret Kellaway - 23.9.2011 at 2:52 pm

8857562.3 Mortgage to Kiwibank Limited - 23.9.2011 at 2:52 pm

10299891.1 Discharge of Mortgage 8857562.3 - 23.12.2015 at 11:46 am

10299891.2 Transfer to Yanping Gu and Zhewen Wu - 23.12.2015 at 11:46 am

10299891.3 Mortgage to Westpac New Zealand Limited - 23.12.2015 at 11:46 am

12201309.1 CAVEAT BY FONTERRA LIMITED - 27.7.2021 at 6:55 pm

12252251.1 Withdrawal of Caveat 12201309.1 - 4.10.2021 at 4:36 pm

12252251.2 Discharge of Mortgage 10299891.3 - 4.10.2021 at 4:36 pm

12252251.3 Transfer to Fonterra Limited - 4.10.2021 at 4:36 pm

References
Prior C/T 1D/323

Land and Deeds 69

Transfer No.
N/C. Order No. S.651751

REGISTER

16D/1480

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 3rd day of April one thousand nine hundred and seventy-fo
under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that ROGER STEELE McKAY of Te Rapa farmer

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 4.1834 HECTARES more or less being Lot 5 on Deposited Plan S.18043 and being part Allotments 1 and 2 Parish of Pukete

DISTRICT LAND REGISTRAR SOUTH AUCKLAND

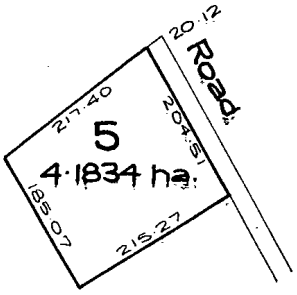
ASSISTANT LAND REGISTRAR

S.456920 Mortgage (now) Roger Steele McKay and Julia Margaret Isobel Winthrop produced 21.6.1969 at 2.30 o'c H.007130.1 DISCHARGED A.L.R.

Variation of terms of Mortgage S.456920 produced 16.6.1972 at 11.50 o'c A.L.R.

S.642663 Certificate of Postponement of Rates pursuant to Section 96 of the Rating Act 1967 entered 20.12.1974 at 10.15 o'c A.L.R.

Blk. XII Newcastle S.D.



Measurements are Metric

M.P.H. [redacted]

H.045799.1 Transfer to Robert Leslie Denison of Hamilton drainage contractor 29.7.1975 at 9.38 o'c for A.L.R.

H.055962 Mortgage to Bank of New Zealand produced 16.10.1975 at 9.06 o'c DISCHARGED 4328403.1 for A.L.R.

H.328403.2 Transfer to Basil Charles Marwood of Hamilton retired and Nancy Margaret Marwood his wife produced 20.2.1981 at 9.38 o'c for A.L.R.

H.328403.3 Mortgage to Robert Leslie Denison produced 20.2.1981 at 9.38 o'c DISCHARGED 1/1630542 for A.L.R.

H.328403.4 Mortgage to Adams Richardson McKinnon Nominees Limited produced 20.2.1981 at 9.38 o'c DISCHARGED 1466091.1 for A.L.R.

H.412046 Transfer of Mortgage H.328403.3 to Alice Elsie Nunns, Daisy Elizabeth Herring and Marjorie Edith Matthews as ~~tenants in common~~ in equal shares produced 3.6.1982 at 9.09 o'c ~~for~~ A.L.R.

16D/1480 No.

OVER...

Register copy for L. & D. 69, 71, 72

C.T. 16D/1480

H.465091.2 Mortgage to Getty Preston Solicitor's Nominee Co Ltd produced 13.5.1983 at 11.[illegible] a'c

H630054.3

for A.L.R.

H.545857 CAVEAT BY TRUSTBANK WAIKATO ENTERED 13.9.1984 AT 10.[illegible] o'c

H630054.1

FOR A.L.R.

H.630054.4 Transfer to City Joinery Specialists (Hamilton) Limited at Hamilton produced 5.12.1985 at 10.38 o'c

for A.L.R.

H.876817 Transfer to Allan Gordon Tucker of Hamilton retired - 8.6.1989 at 9.05 o'c

for A.L.R.

H.933230 Transfer to Harrise Unka of Hamilton greengrocer - 16.2.1990 at 9.16 o'c

for A.L.R.

B.057362.2 Mortgage to ANZ Banking Group (New Zealand) Limited - 10.12.1991 at 9.00 o'c

~~for~~ A.L.R.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA68A/150**

Land Registration District **South Auckland**

Date Issued 03 April 2000

Prior References
SA16D/1483 SA27C/698

Estate	Fee Simple
Area	24.7737 hectares more or less
Legal Description	Lot 1 Deposited Plan South Auckland 10458, Lot 1 Deposited Plan South Auckland 29922 and Lot 1 Deposited Plan South Auckland 85687

Original Registered Owners
Anchor Products Limited

Interests

Subject to Section 241(2) Resource Management Act 1991 (affects DPS 85687)

S340460 Gazette Notice declaring the adjoining State Highway No 1 (Awanui - Bluff) to be a limited access road - 21.3.1966 at 2.59 pm and varied H352715 - 14.7.1981 at 11.18

H415288 Gazette Notice declaring the adjoining State Highway No 1 (Ngaruawahia - Hamilton) to be a limited access road - 22.6.1982 at 10.40 am

Subject to a right (in gross) to convey water over parts marked A (affects Lot 1 DPS 10458) and B (affects Lot 1 DPS 29922) on DPS 82428 in favour of Waikato District Council created by Transfer B511211.1 - 9.11.1998 at 11.20 am

Subject to a natural gas pipeline right (in gross) over part marked E on DPS 86208 in favour of Natural Gas Corporation of New Zealand Limited created by Transfer B590340.1 - 3.2.2000 at 11.15 am (affects Lot 1 DPS 10458)

B664265.2 Notice pursuant to Section 91 Transit New Zealand Act 1989

6331229.1 Change of Name of Anchor Products Limited to Fonterra Limited - 2.3.2005 at 9:00 am

Subject to a right (in gross) to convey electricity over part marked B on DPS 88989 in favour of WEL Networks Limited created by Easement Instrument 6331229.2 - 2.3.2005 at 9:00 am (Limited as to Term)

8261953.1 Variation of the conditions of the easement created by Easement Instrument 6331229.2 - 20.8.2009 at 9:00 am

Subject to a right (in gross) to convey electricity over parts marked A and B on DP 384809 in favour of Wel Networks Limited created by Easement Instrument 8261953.2 - 20.8.2009 at 9:00 am (Limited as to Term)

Subject to a telecommunications purposes easement (in gross) over part marked A on DP 433510 in favour of Telecom New Zealand Limited created by Transfer 8677421.1 - 20.7.2011 at 3:00 pm

Subject to a right of way (in gross) over part Lot 1 DPS 10458 marked H on DP 471391 in favour of Hamilton City Council created by Easement Instrument 10159273.1 - 17.8.2015 at 5:00 pm

Subject to a right (in gross) to convey electricity & telecommunications over Lot 1 DPS 10458 marked A on DP 514011 in favour of WEL Networks Limited created by Easement Instrument 11441346.1 - 2.9.2019 at 2:31 pm

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

Reference:
Prior CT: 16D/1483 & 27C/698
Document No.: B599677.4

LT69

REGISTER

68A/150

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT 1952

This Certificate dated the 3rd day of April Two Thousand under the seal of the Registrar-General of Land, New Zealand, for the Land Registration District of SOUTH AUCKLAND

WITNESSETH that **ANCHOR PRODUCTS LIMITED**

is seised of an estate in **fee simple** (subject to such reservations, restrictions, encumbrances and interests as are notified by memorial endorsed hereon) in the land hereinafter described, delineated on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 24.7737 hectares, more or less being **LOT 1 ON DEPOSITED PLAN S10458, LOT 1 ON DEPOSITED PLAN S29922 and LOT 1 ON DEPOSITED PLAN S85687**

REGISTRAR-GENERAL OF LAND NEW ZEALAND

for Registrar-General of Land

Subject to Section 241(2) Resource Management Act 1991 by Waikato District Council (affects DPS 85687)

S340460 Gazette Notice declaring State Highway No 1 (Awanui – Bluff) to be a limited access road – 21.3.1966 at 2.59
Varied H352715 – 14.7.1981 at 11.18

H415288 Gazette Notice declaring State Highway No 1 (Ngaruawahia – Hamilton) to be a limited access road – 22.6.1982 at 10.40

Subject to a right to convey water easement in gross over :
1. the part of Lot 1 DPS 10458 marked A on DPS 82428
2. the part of Lot 1 DPS 29922 marked B on DPS 82428
both parts herein to Waikato District Council created by Transfer B511211.1 – 9.11.1998 at 11.20

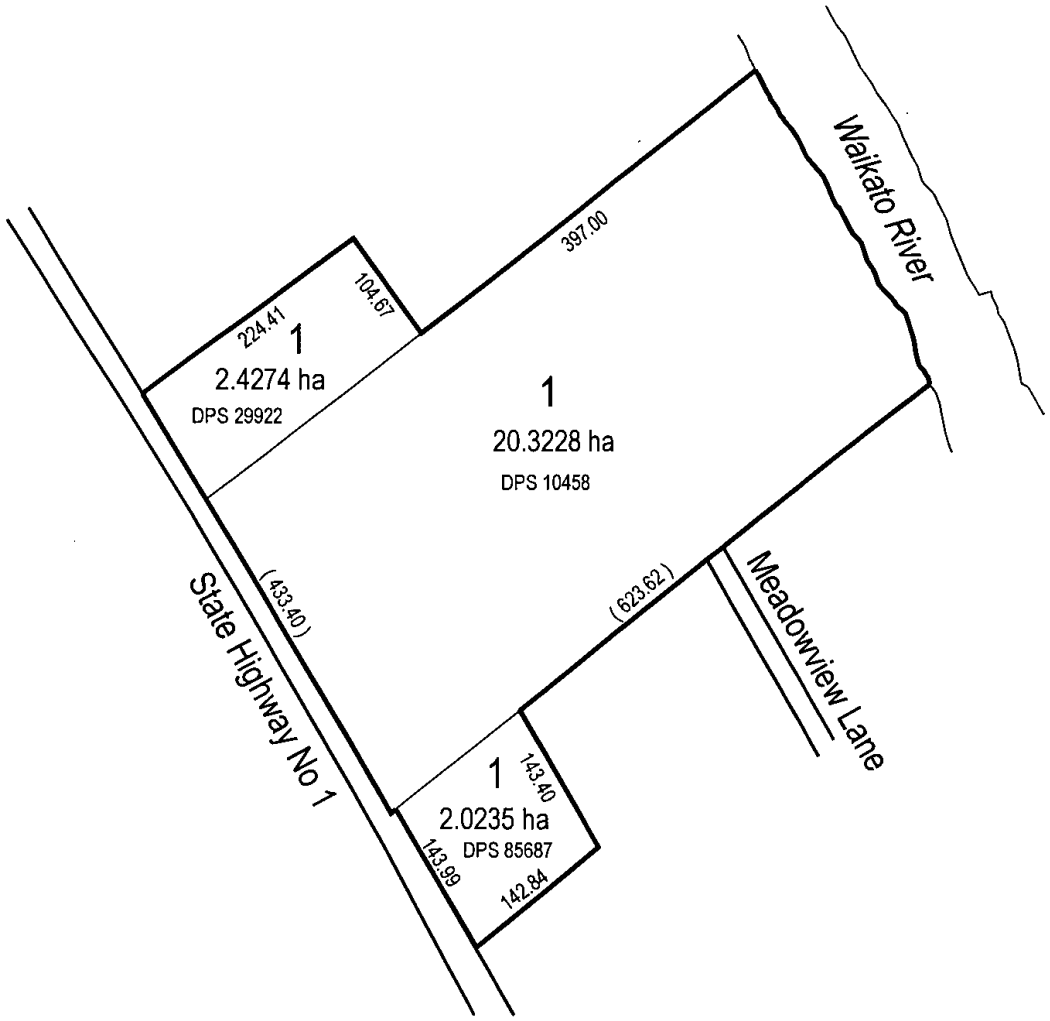
Subject to a Natural Gas Pipeline easement in gross over the part of Lot 1 DPS 10458 (pt herein) marked E on DPS 86208 to Natural Gas Corporation of New Zealand Limited created by Transfer B590340.1 – 3.2.2000 at 11.15

For RGL

B. 664265.2 Certificate pursuant to Section 91 Transit New Zealand Act 1989 authorising a crossing place to and from a Limited Access Road entered

68A/150

68A/150



Total Area : 24.7737 ha

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA7B/163**

Part-Cancelled

Land Registration District **South Auckland**

Date Issued 24 May 1967

Prior References

SA165/146 SA70/54

Estate	Fee Simple
Area	16.4125 hectares more or less
Legal Description	Lot 2 Deposited Plan South Auckland 10804

Original Registered Owners

Anchor Products Limited

Interests

S340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road - 21.3.1966 at 2.59 pm

Subject to a right of way over part coloured yellow on DPS 10804 created by Transfer S375313 - 24.5.1967

Subject to an electricity right (in gross) over part marked A on DPS 60930 in favour of WEL Energy Group Limited created by Transfer B226675.2 - 6.9.1994 at 10.30 am

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

7820757.2 Notice pursuant to Section 18 Public Works Act 1981.- 20.5.2008 at 9:00 am

8152248.1 Notice pursuant to Section 23 Public Works Act 1981 - 5.5.2009 at 9:27 am

8203774.1 Compensation Certificate pursuant to Section 19 Public Works Act 1981 - 23.6.2009 at 9:24 am

9221426.1 Gazette Notice (2012 p3713) acquiring parts (3130 m² shown as Section 5 SO 411114, 29m² shown as Section 6 SO 411114 and 3.2826 ha shown as Section 8 SO 411114) for road which, pursuant to section 88 of the Government Roading Powers Act 1989, becomes road, limited access road and State highway, and which vests in the Crown; and acquiring part (21m² shown as Section 9 SO 411114) for the functioning indirectly of a road (segregation strip), which shall vest in the Crown on 25.10.2012 and CIR 601362 issued - 30.10.2012 at 11:13 am

9614471.1 Discharge of Compensation Certificate 8203774.1 - 9.1.2014 at 6:09 pm

9654244.1 Withdrawal of Notice 7820757.2 pursuant to Section 18 Public Works Act 1981 - 26.2.2014 at 10:36 am

9654244.7 Withdrawal of Notice 8152248.1 pursuant to Section 23 Public Works Act 1981 - 26.2.2014 at 10:36 am

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

References
Prior C/T. 70/54
165/146
Transfer No. S.375313
N/C. Order No.

Land and Deeds 69

No. 7B/163.

S REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 24th day of May one thousand nine hundred and sixty seven under the seal of the District Land Registrar of the Land Registration District of South Auckland.

WITNESSETH that RAYMOND GEORGE LEACH of Hamilton, Contractor

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 40 ACRES 2 ROODS 9 PERCHES more or less being Lot 2 on Deposited Plan S.10804 and being parts Allotments 118, 118A and 119 Parish of Horotiu.

DISTRICT LAND REGISTRAR SOUTH AUCKLAND N.Z.

Assistant Land Registrar

This Certificate is affected by the following interests as at date of issue:

Subject as to the part shown coloured yellow on Plan S.10804 to a right of way appurtenant to Lot 1 Plan S.10804 created by Transfer S.375313.

T.C.L. Booth A.L.R.
S.340460 Gazette Notice declaring No.1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road produced 21.3.1966 at 2.59 o'c.

T.C.L. Booth A.L.R.
Fencing Covenant in Transfer S.375313. EXPIRED 25 YEARS FROM 1979 A.L.R.

T.C.L. Booth A.L.R.
S.375314 Mortgage to Douglas Gordon Holmes produced 24.5.1967 at 9.30 o'c. H142325 DISCHARGED A.L.R.

T.C.L. Booth A.L.R.
S.381217 Mortgage to Bank Finance Company Limited produced 18.7.1967 at 12.20 o'c. H-269149-1 DISCHARGED 16/7/71 A.L.R.

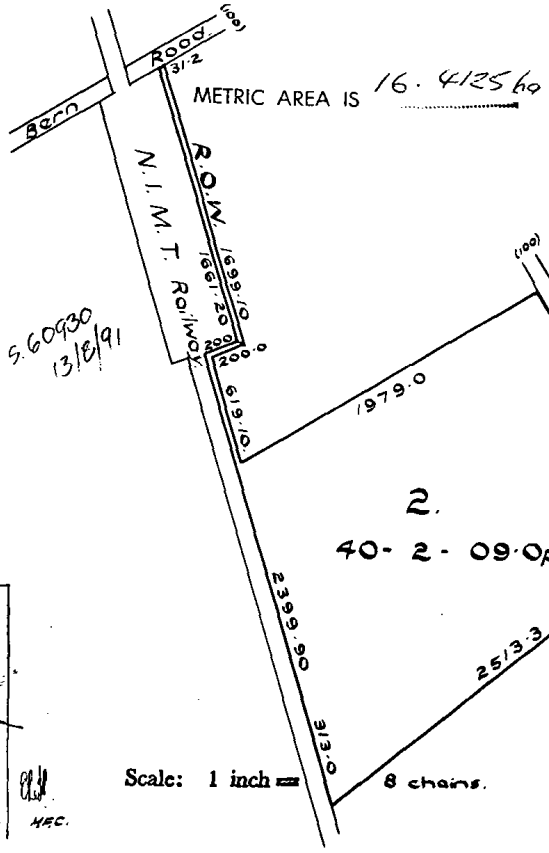
A.L.R.

Variation of terms of Mortgage S.381217 produced 29.6.1971 at 12.00 o'c DISCHARGED A.L.R.

S.638303 Mortgage to Bank of New Zealand produced 11.10.1973 at 2.15 o'c H.353871.2 A.L.R.

A.L.R.

XII Newcastle S.D.



No. 7B/163

- OVER -

Register copy for L. & D. 69, 71, 72

7B/163

Variation of Terms of Mortgage S381217
Produced 24/1/74 at 2.50 o'clock.
A.L.R.

H.115386 Variation of Terms of Mortgage S.381217 produced 25.1.1977 at 12.26 o'c

for A.L.R.

H.269149.2 Mortgage to Lock Finance Limited produced 16.1.1980 at 11.26 o'c
H.353871.1

for A.L.R.

H.269149.3 Memorandum of Priority making Mortgage H.269149.2 a first mortgage and Mortgage S.638303 a second mortgage produced 16.1.1980 at 11.26 o'c

for A.L.R.

H.353871.3 Transfer to Brian Perry Aggregates Limited at Hamilton produced 20.7.1981 at 1.54 o'c

for A.L.R.

H.353871.4 Transfer to John Clifford Sisley of Hamilton sharemilker and Robyn Sisley his wife produced 20.7.1981 at 1.54o'c

for A.L.R.

H.353871.5 Mortgage to The Rural Banking and Finance Corporation of New Zealand produced 20.7.1981 at 1.54 o'c
H448861.1

for A.L.R.

H.353871.6 Mortgage to Bank of New Zealand produced 20.7.1981 at 1.54 o'c
H448861.2

for A.L.R.

H.448861.3 Transfer to Brian Perry Aggregates Limited at Hamilton produced 24.1.1983 at 1.40 o'c

for A.L.R.

H.519406 CAVEAT BY IAN JAMES MALCOLM ENTERED 6.4.1988 AT 9.15 O'C
B.007620.6

FOR A.L.R.

H.982680 Change of name of the registered proprietor to Perry Aggregates Limited - 4.10.1990 at 11.04 o'c

for A.L.R.

B.007620.7 Transfer to Ian James Malcolm of Hamilton studmaster - 4.3.1991 at 9.05 o'c

A.L.R.

B.007620.8 Transfer of a one half share to Valetta Alice Cohen of Auckland widow - 4.3.1991 at 9.05 o'c

A.L.R.

of the 1/2 share of Valetta Alice Cohen

B.051936.3 Transmission to The New Zealand Guardian Trust Company Limited and Brian Robert Everett of Auckland solicitor as executors - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c
B.226675.1

for A.L.R.

B.226675.2 Transfer granting an electricity easement in gross over the part herein marked A on DPS.60930 in favour of WEL Energy Group Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA16B/416**

Land Registration District **South Auckland**

Date Issued 18 October 1973

Prior References
SA524/139

Estate Fee Simple - 1/2 share

Area 49.6800 hectares more or less

Legal Description Lot 2-6 Deposited Plan South Auckland 11087

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring No 1 State Highway (Awanui-Bluff) to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto are rights of way specified in Easement Certificate S454464 - 12.9.1969 at 11.30 am

Subject to a right of way over parts coloured blue (affects Lots 2, 4 and 6 DPS 11087) and yellow (affects Lots 3 and 5 DPS 11087) on DPS 11087 specified in Easement Certificate S454464 - 12.9.1969 at 11.30 am

Subject to a right of way specified in Easement Certificate S454464 - 12.9.1969 at 11.30 am

H330600 CERTIFICATE PURSUANT TO SECTION 643 LOCAL GOVERNMENT ACT 1974 - 5.3.1981 AT 9.22 AM (AFFECTS LOTS 3 AND 4 DPS 11087)

Subject to an electricity right (in gross) over part in favour of The Waikato Electricity Limited created by Transfer H436699 - 26.10.1982 at 1.47 pm

B664265.1 Certificate pursuant to Section 91 Transit New Zealand Act 1989

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

References
Prior C/T 524/139
Transfer No. S.629641
N/C. Order No.

Land Deeds 69

16B 416

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 18th day of October one thousand nine hundred and seventy-three under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

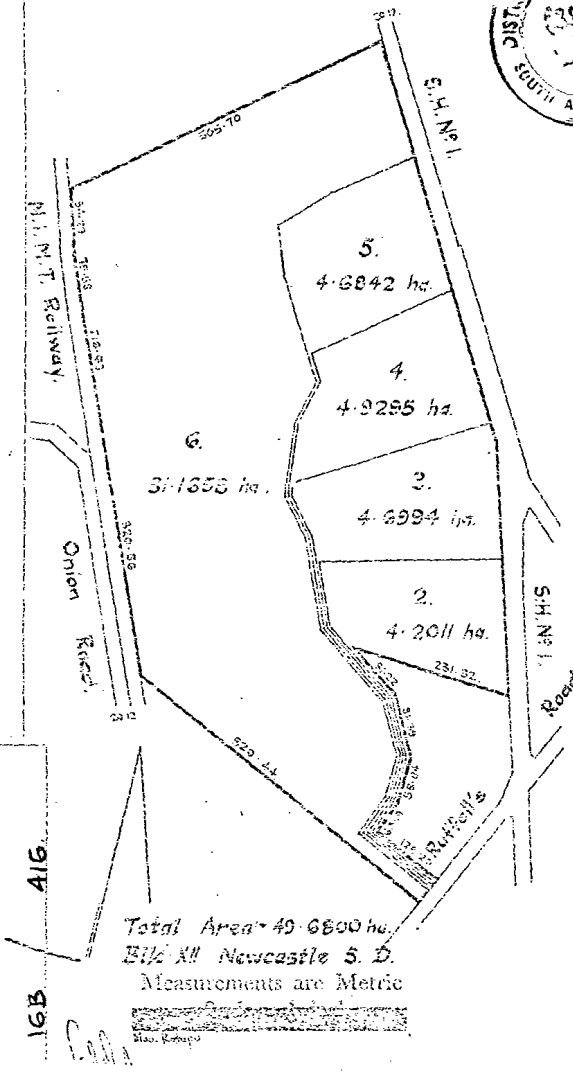
WITNESSETH that IAN JAMES MALCOLM of Hamilton studmaster

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 49.6800 HECTARES more or less being Lots 2, 3, 4, 5 and 6 on Deposited Plan S.11087 and being part Allotments 5, 6 and 7 Parish of Pukete.

Image Quality due to Condition of Original

DIST. LAND REGISTRAR SOUTH AUCK.

ASSISTANT LAND REGISTRAR



S.540460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) to be a limited access road produced 21.3.1966 at 2.59 o'c

A.L.R.

S.372761 Statutory Land Charge under the Rural Housing Act 1939 by the Waipa County Council discharged 1991 entered 18.4.1967 at 5.40 o'c

A.L.R.

B.007620.2

Appurtenant hereto is a right of way over the part Lot 1 shown coloured yellow on Plan S.11087 (Pt. C.T. 524/139) created by Transfer S.629641 See Easement Certificate S.454464

A.L.R.

Subject to a right of way over the part Lots 2, 4 and 6 shown coloured blue and Lots 3 and 5 shown coloured yellow on Plan S.11087 appurtenant to Lot 1 Plan S.11087 (C.T. 524/139) created by Transfer S.629641 See Easement Certificate S.454464

A.L.R.

S.629642 Mortgage to Dennis Malcolm produced 18.1[illegible].17 o'c discharged 4.3.1991

A.L.R.

B.007620.5

OVER...

Register copy for L. & D. 69, 71, 72

CERTIFICATE OF TITLE No. 16B / 416

S.454464 Easement Certificate certifying the following to be the easements intended to be created by the operation of Section 90A Land Transfer Act 1952

Lots on Plan S.11087

Right of Way	Servient Tenement	Dominant Tenement
"	Lot 2	Lots 3,4,5,6
"	Lot 3	Lots 2,4,5,6
"	Lot 4	Lots 2,3,5,6
"	Lot 5	Lots 2,3,4,6
"	Lot 6	Lots 2,3,4,5

entered 12.9.1969 at 11.30 o'c

for A.L.R.

H039102.3 Certificate under Section 96 of the Rating Act 1967 entered 4.3.1975 at 1.35 oc.
H.833772

for A.L.R.

H.039098 Certificate of Postponement of Rates under Section 96(2) Rating Act 1967 entered 4.3.1975 at 12.23 o'c
H.833771

A.L.R.

H.066315.4 Certificate of Postponement of Rates pursuant to Section 96 of the Rating Act 1967 entered 5.7.1976 at 11.20 o'c
H.833773

for A.L.R.

H.193154 Mortgage to Southern Cross Building and Banking Society produced 17.8.1978 at 10.05 o'c
H779072

for A.L.R.

H.270133 CAVEAT BY AUSTRALIAN GUARANTEE CORPORATION (N.Z.) LIMITED ENTERED 23.1.1980 AT 11.12 o'c
H=94587

FOR A.L.R.

H.313004 Transmission of Mortgage S.629642 to Ada Winifred Malcolm, Ian James Malcolm and Vivienne Ada Keeley as executors entered 28.10.1980 at 11.31 o'c

for A.L.R.

H.330600 Certificate against Lots 3 and 4 Plan S.11087 under Section 643 of the Local Government Act 1974 entered 5.3.1981 at 9.22 o'c

for A.L.R.

H.436699 Transfer granting an electricity easement in gross over part Lot 6 Plan S.11087 herein in favour of the Central Waikato Electric Power Board produced 26.10.1982 at 1.47 o'c (with consent of Chargeholder under Charges H.039102.3, H.039098 and H.066315.4)

for A.L.R.

H.548397 Statutory Land Charge under The Rural Housing Act 1939 by The Waipa County Council entered 27.9.1984 at 9.02 o'c
B.007620.1

for A.L.R.

H.577866 Mortgage to Westpac Banking Corporation produced 11.3.1985 at 9.00 o'c (consent of Chargeholder under Charges H.039102.3, H.039098 and H.066315.4)
H601426

for A.L.R.

H.622298 Mortgage to Bank of New Zealand produced 24.10.1985 at 11.31 o'c
H.918803.1

for A.L.R.

H.886801 Transmission of Easement created by Transfer H.436699 to The Waikato Electricity Authority - 19.7.1989 at 2.40 o'c

for A.L.R.

H.918803.2 Mortgage to BNZ Finance Limited - 29.11.1989 at 11.36
B.007620.3

for A.L.R.

H.969246.3 Certificate pursuant to Section 21(5B) Waikato Electricity Authority Act 1988 vesting Easement in gross created by H.436699 in favour of The Waikato Electricity Limited - 2.8.1990 at 1.37 o'c

A.L.R.

B.007620.8 Transfer of a one half share to Valetta Alice Cohen of Auckland widow - 4.3.1991 at 9.05 o'c

A.L.R.

B.007620.9 ONCT) Cancelled as to the one half
4.3.1991) share of Ian James Malcolm and CT 48A/156 issued

A.L.R.

B.051936.3 Transmission to The New Zealand Guardian Trust Company Limited and Brian Robert Everett of Auckland solicitor as executors - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c
B.226675.1

for A.L.R.

CERTIFICATE OF TITLE 16B/416

REGISTER

B.072958.2 Change of name of the transferee in Electricity Easement in gross H.436699 to WEL Energy Group Limited - 24.3.1992 at 3.00 o'c

~~for~~ A.L.R.

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

B.664265.1 Certificate pursuant to Section 91 Transit New Zealand Act 1989 authorising a crossing place to and from a Limited Access Road entered

Register copy for L. & D. 69, 71, 72.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA16D/1059**

Land Registration District **South Auckland**

Date Issued 20 March 1974

Prior References
SA524/139

Estate Fee Simple - 1/2 share

Area 4.1100 hectares more or less

Legal Description Lot 1 Deposited Plan South Auckland 11087

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring the adjoining State Highway No.1 (Awanui - Bluff) to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto is a right of way specified in Easement Certificate S454464

Subject to a right of way over part coloured yellow on DPS 11087 specified in Easement Certificate S454464

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

No. 163/1059

References
Prior C/T 524/139

Transfer No.
N/C. Order No. S.651242

Land and Deeds 69

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 20th day of March one thousand nine hundred and seventy-four under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that JAMES MALCOLM of Te Rapa stud-master

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 4.1100 HECTARES more or less being Lot 1 on Deposited Plan S.11087 and being part Allotment 7 Parish of Pukete

DISTRICT LAND REGISTRAR SOUTH AUCKLAND, N.Z.

ASSISTANT LAND REGISTRAR

S.174123 Compensation Certificate by Minister of Works entered 27.1.1960 at 9.00 o'c
B.035512

DISCHARGED 7/1/1960

A.L.R.

S.340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) to be a limited access road produced 21.3.1966 at 2.59 p.m.

A.L.R.

S.372761 Statutory Land Charge under the Rural Banking Act 1948 by Waipa County Council entered 18.4.1967 at 9.00 o'c
H.004886

DISCHARGE Produced

A.L.R.

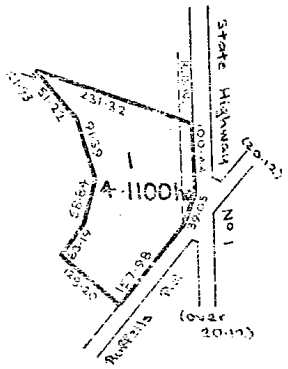
Appurtenant hereto is a right of way over part Lots 2, 3, 4, 5 and 6 shown coloured blue and yellow on Plan S.11087 created by Transfer S.629641
See Easement Certificate S.454464

A.L.R.

Subject to a right of way over the part shown coloured yellow on Plan S.11087 appurtenant to Lots 2, 3, 4, 5 and 6 Plan S.11087 created by Transfer S.629641
See Easement Certificate S.454464

A.L.R.

Blk XII Newcastle S.D.



Measurements are Metric

H.313004 Transmission to Ada Winifred Malcolm widowand Ian James Malcolm stud master both of Frankton and Vivienne Ada Keeley of Hamilton married woman as executors entered 28.10.1980 at 11.31 o'c

for A.L.R.

- OVER -

No. 163/1059

16D/1059

H.557039.1 Transfer to Ian James Malcolm of Hamilton stud master produced 13.11.1984 at 2.21 o'c

for A.L.R.

H.557039.2 Mortgage to Mrs Winifred Malcolm Vivienne Ada Keeley and Ian James Malcolm produced 13.11.1984 at 2.21 o'c

B.007620.4

for A.L.R.

H.622298 Mortgage to Bank of New Zealand produced 24.10.1986 at 11.31 o'c

H.918803.1 DISCHARGED 29/11/1989 for A.L.R.

for A.L.R.

H.918803.2 Mortgage to BNZ Finance Limited - 29.11.1989 at 1.55 o'c

B.007620.3.

for A.L.R.

B.007620.8 Transfer of a one half share to Valetta Alice Cohen of Auckland widow - 4.3.1991 at 9.05 o'c

A.L.R.

B.007620.9 ONCT 4.3.1991) Cancelled as to the one half share of Ian James Malcolm and CT 48A/157 issued

A.L.R.

B.051936.3 Transmission to The New Zealand Guardian Trust Company Limited and Brian Robert Everett of Auckland solicitor as executors - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c

B.226675.1 DISCHARGED 6/1/1995

for A.L.R.

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA34A/629** **Part-Cancelled**

Land Registration District **South Auckland**

Date Issued 02 August 1985

Prior References
SA30D/930

Estate	Fee Simple
Area	10.4064 hectares more or less
Legal Description	Part Lot 1 Deposited Plan South Auckland 10804

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto is a right of way created by Transfer S375313

Subject to a right (in gross) to convey electricity over part marked A on DPS 88988 in favour of Wel Networks Limited created by Easement Instrument 6439314.1 - 30.5.2005 at 9:00 am

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

7820757.2 Notice pursuant to Section 18 Public Works Act 1981.- 20.5.2008 at 9:00 am

8152248.1 Notice pursuant to Section 23 Public Works Act 1981 - 5.5.2009 at 9:27 am

8203774.1 Compensation Certificate pursuant to Section 19 Public Works Act 1981 - 23.6.2009 at 9:24 am

9221426.1 Gazette Notice (2012 p3713) acquiring part (5.9504 ha shown as Section 3 SO 411114) for road which, pursuant to section 88 of the Government Roading Powers Act 1989, becomes road, limited access road and State highway, and which vests in the Crown; and acquiring part (22m² shown as Section 4 SO 411114) for the functioning indirectly of a road (segregation strip), which shall vest in the Crown on 25.10.2012 and CIR 601362 issued - 30.10.2012 at 11:13 am

9614471.1 Discharge of Compensation Certificate 8203774.1 - 9.1.2014 at 6:09 pm

9654244.1 Withdrawal of Notice 7820757.2 pursuant to Section 18 Public Works Act 1981 - 26.2.2014 at 10:36 am

9654244.7 Withdrawal of Notice 8152248.1 pursuant to Section 23 Public Works Act 1981 - 26.2.2014 at 10:36 am

10308153.1 Gazette Notice (2016-ln231) declaring part (6505m²) shown as Section 1 on SO 418048 to be road which, pursuant to section 88(2) of the Government Roading Powers Act 1989, becomes road, limited access road and State highway, and shall vest in the Crown; and declaring part (14m²) shown as Section 2 on SO 418048 is acquired for the functioning indirectly of a road (segregation strip) and shall vest in the Crown. CIR 726016 issued for Section 2 SO 418048 - 18.1.2016 at 12:14 pm

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

References
Prior C/T 30D/930

Transfer No.
N/C. Order No. H.605432

Land and Deeds 69

REGISTER

No. 34A/629

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 2nd day of August one thousand nine hundred and eighty five under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that A.F. PORTER LIMITED a duly incorporated company having its registered office at Hamilton

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 10.4064 HECTARES more or less being part Lot 1 on Deposited Plan S.10804 and being part Allotments 118 and 118A Parish of Horotiu

ASSISTANT LAND REGISTRAR

S.340460 Gazette Notice declaring No.1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road produced 21.3.1966 at 2.59 o'c

A.L.R.

Appurtenant hereto is a Right of Way over part Lot 2 coloured yellow on Plan S.10804 (pt C.T. 7B/163) created by Transfer S.375313

A.L.R.

H.463491.2 Mortgage to Harkness Henry Nominees Limited produced 24.5.1983 at 1.55 o'c

A.L.R.

H.548980 Variation of terms of Mortgage H.462491.2 produced 1.10.1984 at 9.32 o'c

A.L.R.

~~H.646786.2 Transfer to Bernice Claire Capon~~ of Hamilton widow produced 21.3.1986 at 11.41 o'c

~~for A.L.R.~~

H.646786.3 Mortgage to Westpac Banking Corporation produced 21.3.1986 at 11.41 o'c

Entered in Error

~~for A.L.R.~~

H.704899 Transfer to Ian James Malcolm of Hamilton stud master produced 28.1.1987 at 2.00 o'c

for A.L.R.

H.918803.2 Mortgage to BNZ Finance Limited - 29.11.1989 at 4.30 o'c

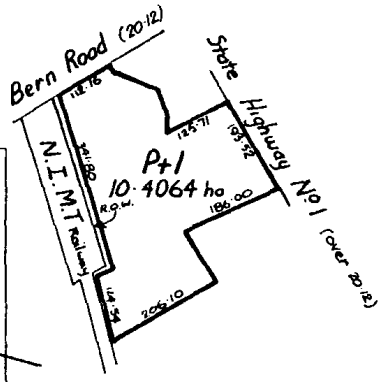
B.007620.3

for A.L.R.

B.007620.8 Transfer of a one half share to Valetta Alice Cohen of Auckland widow - 4.3.1991 at 9.05 o'c

A.L.R.

Block XII Newcastle S.D.



Measurements are Metric

No. 34A/629

OVER ....

Register copy for L. & D. 69, 71, 72.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA48A/156**

Land Registration District **South Auckland**

Date Issued 04 March 1991

Prior References
SA16B/416

Estate Fee Simple - 1/2 share

Area 49.6802 hectares more or less

Legal Description Lot 2-6 Deposited Plan South Auckland 11087

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring the adjoining State Highway No. 1 (Awanui-Bluff) to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto are rights of way specified in Easement Certificate S454464 - 12.9.1969 at 11.30 am

Subject to rights of way over part coloured blue (affects Lots 2, 4 and 6) and over part coloured yellow (affects Lots 3 and 5) on DPS 11087 specified in Easement Certificate S454464 - 12.9.1969 at 11.30 am

H330600 CERTIFICATE PURSUANT TO SECTION 643 LOCAL GOVERNMENT ACT 1974 (AFFECTS LOTS 3 AND 4 DPS 11087 ONLY) - 5.3.1981 AT 9.22 AM

Subject to an electricity right (in gross) over part in favour of (now) WEL Energy Group Limited created by Transfer H436699

B664265.1 Notice pursuant to Section 91 Transit New Zealand Act 1989

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

References
Prior C/T 16B/416

Transfer No.
N/C. Order No. B.007620.9

Land and Deeds 69

ONE HALF SHARE TITLE

REGISTER

No. 48 A/ 156

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

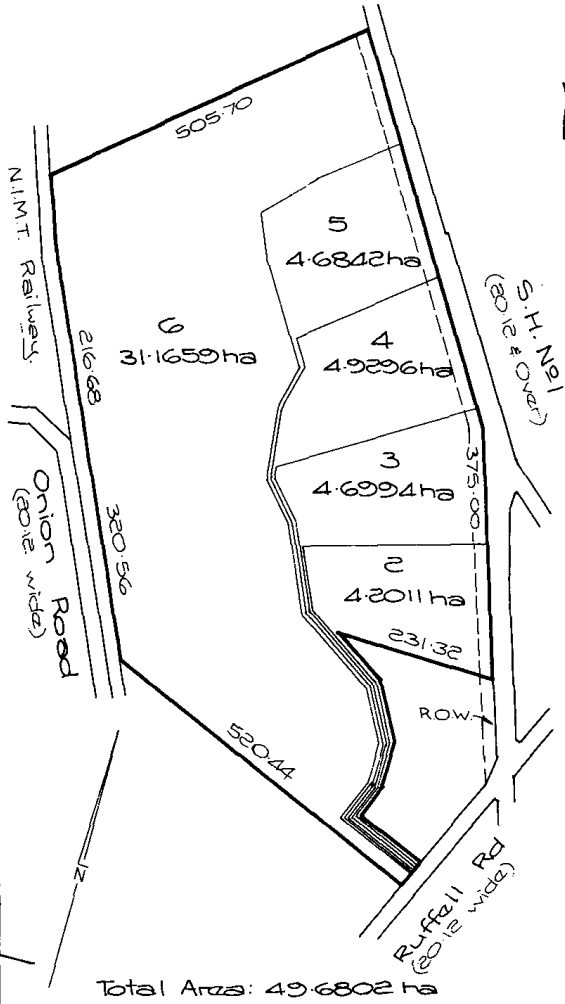
This Certificate dated the 4th day of March one thousand nine hundred and ninety one under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that IAN JAMES MALCOLM of Queensland studmaster is seised of an estate in fee simple as to an undivided one half share

~~is seised of an estate in fee simple~~ (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon. be the several admeasurements a little more or less, that is to say: All that parcel of land containing 49.6802 HECTARES more or less situated in Block XII Newcastle Survey District being Lots 2, 3, 4, 5 and 6 on Deposited Plan S.11087

DISTRICT LAND REGISTRAR SOUTH AUCKLAND

ASSISTANT LAND REGISTRAR



THIS CERTIFICATE IS AFFECTED BY THE FOLLOWING INTERESTS AS AT THE DATE OF ISSUE:

S.340460 Gazette Notice declaring No.1 State Highway (Awanui-Bluff) to be a limited access road - 21.3.1966 at 2.59 o'c

Appurtenant hereto is a right of way over the part Lot 1 coloured yellow on DPS.11087 (pt CsT 16D/1059 & 48A/157) created by Transfer S.629641 (See Easement Certificate S.454464)

Subject to a right of way over the part Lots 2, 4 and 6 coloured blue and part Lots 3 and 5 coloured yellow on DPS.11087 appurtenant to Lot 1 DPS.11087 (CsT 16D/1059 & 48A/157) created by Transfer S.629641 (See Easement Certificate S.454464)

S.454464 Easement Certificate certifying the following right of way easement to be the easement intended to be created by the operation of Section 90A Land Transfer Act 1952

Lots on DPS.11087

Servient Tenement	Coloured	Dominant Tenement
Lot 2	Blue	Lots 3 4 5 6
Lot 3	Yellow	Lots 2 4 5 6
Lot 4	Blue	Lots 2 3 5 6
Lot 5	Yellow	Lots 2 3 4 6
Lot 6	Blue	Lots 2 3 4 5

- 12.9.1969 at 11.30 o'c

- OVER -

No. 48 A/ 156

REGISTER

CERTIFICATE OF TITLE No. 48A / 156

Subject to an electricity easement in gross over part Lot 6 DPS.11087 herein in favour of (now) Waikato Electricity Limited created by Transfer H.436699

H.330600 Certificate pursuant to Section 643 Local Government Act 1974 by the Waipa County Council - 5.3.1981 at 9.22 o'c (affects Lots 3 and 4 DPS.11087 only)

B.007620.11 Mortgage to Ada Winifred Malcolm, Vivienne Ada Keeley and Jan James Malcolm - 4.3.1991 at 9.05 o'c

A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c

DISCHARGED 6/9/1994 RGL

B.226675.1

for A.L.R.

B.072958.2 Change of name of the transferee in Electricity Easement in gross H.436699 to WEL Energy Group Limited - 24.3.1992 at 3.00 o'c

for A.L.R.

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

B.664265.1 Certificate pursuant to Section 91 Transit New Zealand Act 1989 authorising a crossing place to and from a Limited Access Road entered

14838J—48,000/3/90MK

REGISTER

CT 34A/629

of the 1/2 share of Valetta Alice Cohen

B.051936.3 Transmission to The New Zealand Guardian Trust Company Limited and Brian Robert Everett of Auckland solicitor as executors - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c

DISCHARGED

for A.L.R.

B226675.1

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA48A/157**

Land Registration District **South Auckland**

Date Issued 04 March 1991

Prior References
SA16D/1059

Estate Fee Simple - 1/2 share

Area 4.1101 hectares more or less

Legal Description Lot 1 Deposited Plan South Auckland 11087

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto is a right of way as specified in Easement Certificate S454464

Subject to a right of way over part coloured yellow on DPS 11087 as specified in Easement Certificate S454464

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

References
Prior C/T 16D/1059

Transfer No.
N/C. Order No. B.007620.9

Land and Deeds 69

ONE HALF SHARE TITLE

REGISTER

No. 48 A / 157

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

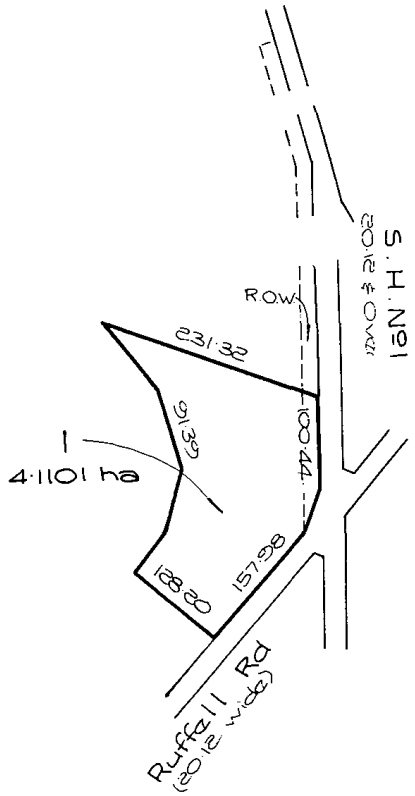
This Certificate dated the 4th day of March one thousand nine hundred and ninety one under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that IAN JAMES MALCOLM of Queensland studmaster is seised of an estate in fee simple as to an undivided one half share

~~is seised of an estate in fee simple~~ (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 4.1101 HECTARES more or less situated in Block XII Newcastle Survey District being Lot 1 on Deposited Plan S.11087

DISTRICT LAND REGISTRAR SOUTH AUCKLAND N.Z.

ASSISTANT LAND REGISTRAR



Measurements are Metric

THIS CERTIFICATE IS AFFECTED BY THE FOLLOWING INTERESTS AS AT THE DATE OF ISSUE:

S.340460 Gazette Notice declaring No.1 State Highway (Awanui-Bluff) to be limited access road - 21.3.1966 at 2.59 o'c

Appurtenant hereto is a right of way over part Lots 2, 4 and 6 coloured blue and part Lots 3 and 5 coloured yellow on DPS.11087 (pt CsT 16B/416 & 48A/156) created by Transfer S.629641 (See Easement Certificate S.454464)

Subject to a right of way over the part herein coloured yellow on DPS.11087 appurtenant to Lots 2, 3, 4, 5 and 6 DPS.11087 (CsT 16B/416 & 48A/156) created by Transfer S.629641 (See Easement Certificate S.454464)

S.174123 Compensation Certificate by Minister of Works - 27.1.1960 at 11.55 o'c

B.035512

B.007620.10 Mortgage to Ada Winifred Malcolm, Vivienne Ada Keeley and Ian James Malcolm - 4.3.1991 at 9.05 o'c

DISCHARGED B.051936.6 A.L.R.

A.L.R.

B.051936.5 Transfer to Malcolm Hayward Udy and Dianne Jean Udy both of Huntly company directors as tenants in common in equal shares - 8.11.1991 at 1.45 o'c

for A.L.R.

B.051936.6 Mortgage to BNZ Finance Limited - 8.11.1991 at 1.45 o'c

B.226675.1 DISCHARGED 6/1/94 A.L.R.

for A.L.R.

No. 48 A / 157

REGISTER

CERTIFICATE OF TITLE No. 48A / 157

B.226675.3 Transfer to New Zealand Cooperative Dairy Company Limited - 6.9.1994 at 10.30 o'c

for A.L.R.

B564603.5 Transfer to Anchor Products Limited - 1.9.1999 at 9.10

for RGL

14838J—48,000/3/90MK

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **SA43C/416**

Land Registration District **South Auckland**

Date Issued 28 February 1989

Prior References
SA30D/929

Estate Fee Simple

Area 1.8575 hectares more or less

Legal Description Lot 1 Deposited Plan South Auckland 34481

Original Registered Owners
Anchor Products Limited

Interests

S340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road - 21.3.1966 at 2.59 pm

Appurtenant hereto is a right of way created by Transfer S375313

Subject to a right (in gross) to convey electricity over part marked B on DPS 88988 in favour of WEL Networks Limited created by Easement Instrument 6439314.1 - 30.5.2005 at 9:00 am

6960068.1 Change of Name of Anchor Products Limited to Fonterra Limited - 24.7.2006 at 9:00 am

Land Covenant in Covenant Instrument 11945025.1 - 1.4.2021 at 4:21 pm

Land Covenant in Covenant Instrument 12065773.9 - 6.10.2021 at 5:11 pm

REGISTER

Land and Deeds 69

No. 43C/416

References
Prior C/T 30D/929
DM No. H.855687
Transfer No.
N/C. Order No.

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 28th day of February one thousand nine hundred and eighty nine under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that ROBIN ARTHUR PORTER of Hamilton company director and ROBYN LEAH PORTER his wife are

~~xxxxxxxxxxxxxxxxxxxxxxxxxxxx~~ (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 1.8575 HECTARES more or less situated in Block XII Newcastle Survey District being Lot 1 on Deposited Plan S.34481

ASSISTANT LAND REGISTRAR

THIS CERTIFICATE IS AFFECTED BY THE FOLLOWING INTERESTS AS AT THE DATE OF ISSUE

S.340460 Gazette Notice declaring No. 1 State Highway (Awanui-Bluff) fronting the within land to be a limited access road - 21.3.1966 at 2.59 o'c

Appurtenant hereto is a Right of Way over part Lot 2 shown coloured yellow on DPS.10804 (CT 7B/163) created by Transfer S.375313

H.617929.3 Mortgage to The National Bank of New Zealand Limited - 3.10.1985 at 2.23 o'c

DISCHARGED 15/11/93 FOR D.L.R

A.L.R.

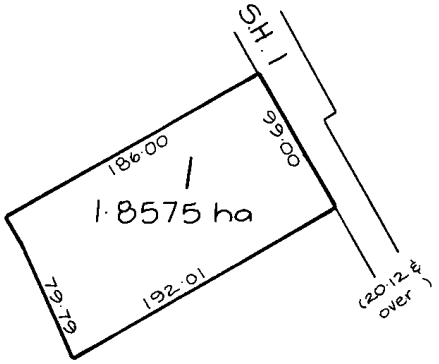
B.156012 Certified under the Joint Family Homes Act 1964 on Robin Arthur Porter and Robyn Leah Porter both abovenamed - 17.8.1993 at 2.15 o'c

CANCELLED 15/11/93 for DLR

for A.L.R.

B492315.2 Transfer to Anchor Products Limited - 15.7.1998 at 10.32

for DLR



Measurements are Metric

No. 43C/416

REGISTER

CERTIFICATE OF TITLE No. /

85689H—50,000/5/88MK

Soil&Rock Consultants

Your responsive & cost-effective engineers

Appendix E

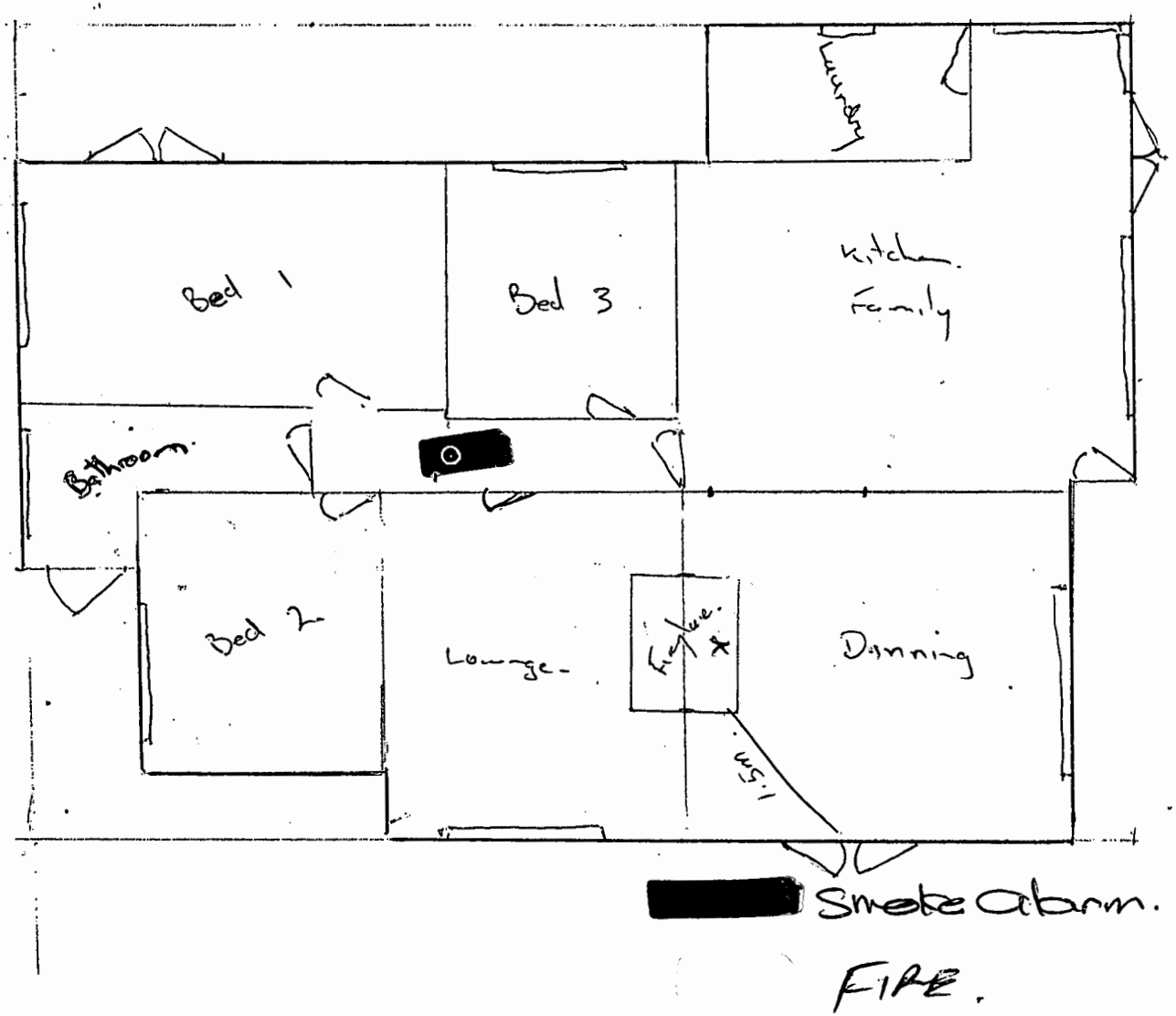
Hamilton City Council Property Files

6399 TE RAPA RD

LOT 3 DPS 11080

BUILT 1900's

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE



WAIPA COUNTY

PM 299-795

Application for Building Permit

(Please See Back Hereof) HAMILTON

44 ID / 462

TO THE WAIPA COUNTY COUNCIL, P.O. BOX 12, TE AWAMUTU

PI 6666337.

I hereby apply for permission to ERECT. (Erect. etc.)

at STATE H/WAY 1 RD 8. Great South Road. (House No. and Road)

for K. WILMSHURST. (Owner — Block Letters), of RD 8 FRANKTON. (Address)

according to locality plan and detailed plans and specifications of building deposited herewith,

Nature of Building(s) Dog Kennel (General description, type, etc.)

Particulars of Building(s)—Foundations CONCRETE.

Walls IRON. Roof IRON.

Area of Ground Floor 72 sq. m Area other Floor(s) ..... sq. m Area Outbldgs. ..... sq. m

Particulars of Land—Lot No. 3 D.P. S 11080

Estimated Value		Number on Valuation Roll
Building	$ 3000.00	456 / 128 ✓
Plumbing and Drainage	$	
Total	$ 3000.00	

Proposed purposes for which every part of building is **to be used or occupied** (describing separately each part intended for use or occupation for a separate purpose): House Dogs

(Dwelling, Apartments, Private Garage, Joinery Factory, Offices, etc.)

Nature of ground on which building is to be placed and the subjacent strata

"In the event of this application being granted subject to conditions to be complied with prior to the issue of the Building Permit, the applicant hereby agrees that he will pay and discharge all legal and other expenses incurred by the Waipa County Council in connection with the said conditions notwithstanding that the applicant may withdraw his application prior to the issue of the said permit".

Signature of Owner [signature]

Dated 21 - 4 1982 Name of Builder ~~[illegible]~~ OWNER (Block Letters)

(State name of Licensed Plumber, if known): Address of Builder RD 8 FRANKTON

Signature of Builder [signature]

TO BE COMPLETED WHEN APPLICATION IS FOR A DWELLING PERMIT IN A RURAL ZONE

Is dwelling to be occupied by a person employed in rural activities on the site

Is building to be rented or leased Signature of Owner

THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

Receipt No. 26011

Building Fee 22.00.

D. and P. Fee

B.R. Levy

Soil Test Fee

Dep. against F.D.

Crossing Fee

Water Conn. Fee

TOTAL:

1) Edge of floor slab to be thickened to form a foundation not less than 750mm x 1200 mm deep. Foundation to be excavated through top soil to solid original ground at least 200mm below ground level.

2) Foundation to be reinforced with not less than one 12mm rod

3) Bottom plates to exterior walls & internal partions to be on concrete nib at least 150mm above ground level & 180mm above floor level.

4) Purlins to be 100x50 or 75x50 on edge spaced at not more than 900mm centres.

5) Building to be braced as detailed on returned drawing

Received 21 APR 1982 Date of Permit 13-5-82 Permit No. A23758

TYPECRAFT PRINT

PLEASE NOTE:—

APPLICATIONS FOR NEW BUILDINGS: One application form, one scaled site plan, one set of plans on strong paper, and one specification should be submitted in the first instance. **Note:** Site plans for new dwellings are preferred on a foolscap-sized sheet and scale may accordingly be reduced to, say 1/16th inch. Where special reasons warrant, additional copy of plans and of specifications required by the By-laws as above may be asked for.

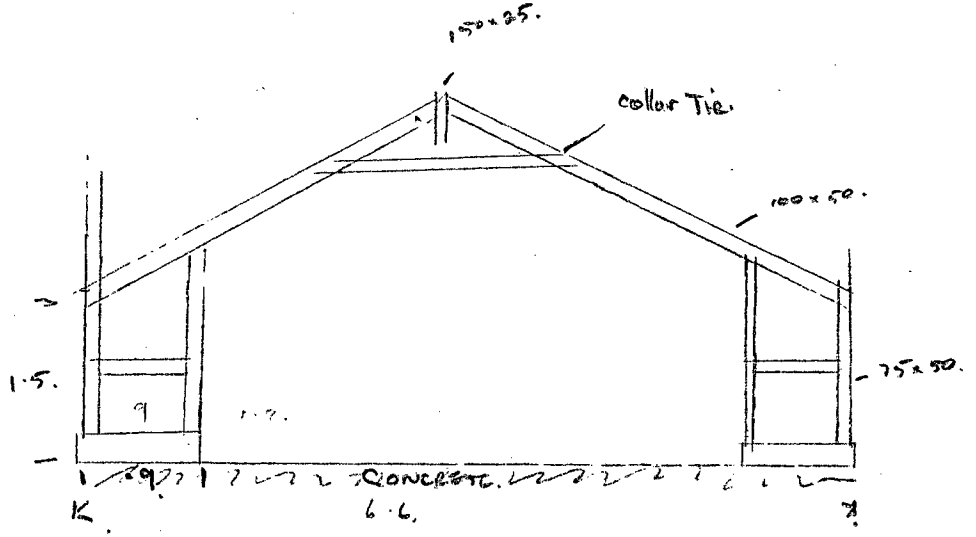
APPLICATIONS FOR ALTERATIONS, ADDITIONS, ACCESSORY BUILDINGS, such as private garages: One application form, one site plan, one set of plans and a schedule specification should be submitted in the first instance.

Note: specification should cover types, grading, spacing (Centres) and sizes of materials. It is important that the position of existing foul drainage (especially gulley traps, terminal vent, etc.) should be shown on the plans.

APPLICATIONS FOR BUILDINGS TO WHICH SEPTIC TANKS ARE TO BE PROVIDED: Before a building permit for a building the waste water disposal system of which is to be a **septic tank** soil soakage system can be finalised, a soil percolation test must first be carried out on the site. Request forms for this service are available at the County Office.

A seperate application to be made for Permit to carryout, Sanitary Plumbing and Drainage work.

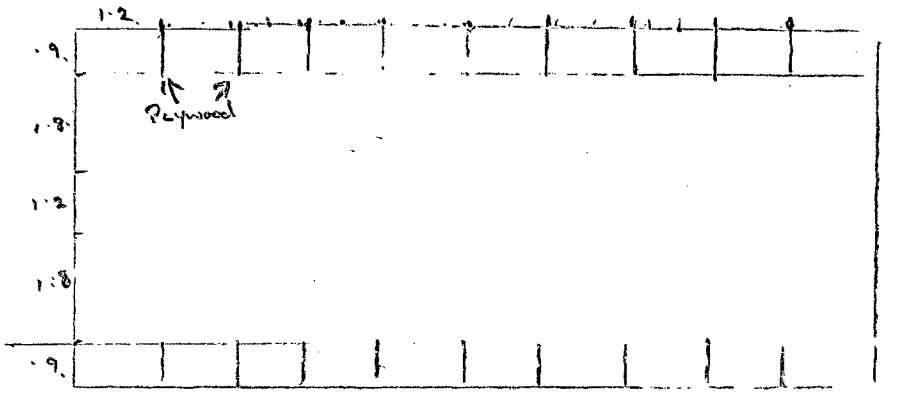
THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

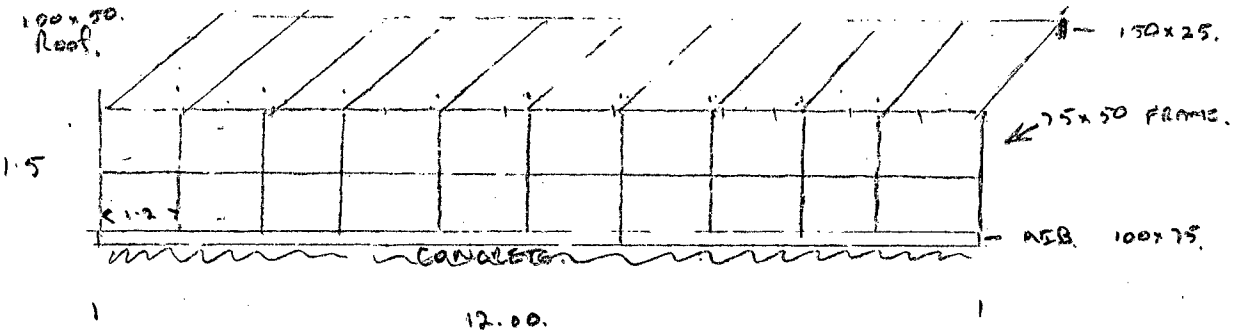


INTERIOR. - PARTITIONED OFF WITH Plywood.

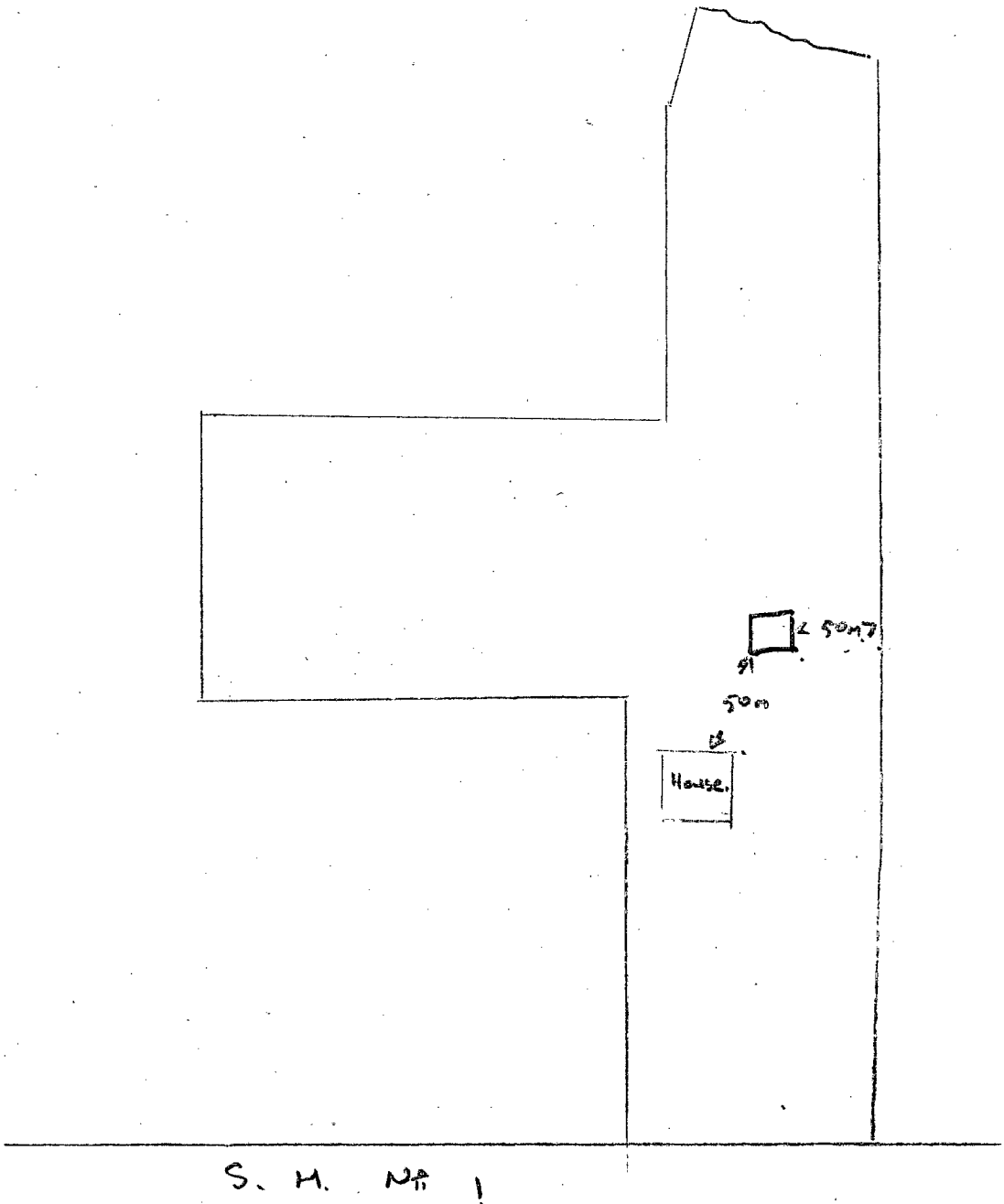
EXTERIOR. - IRON CLAD.

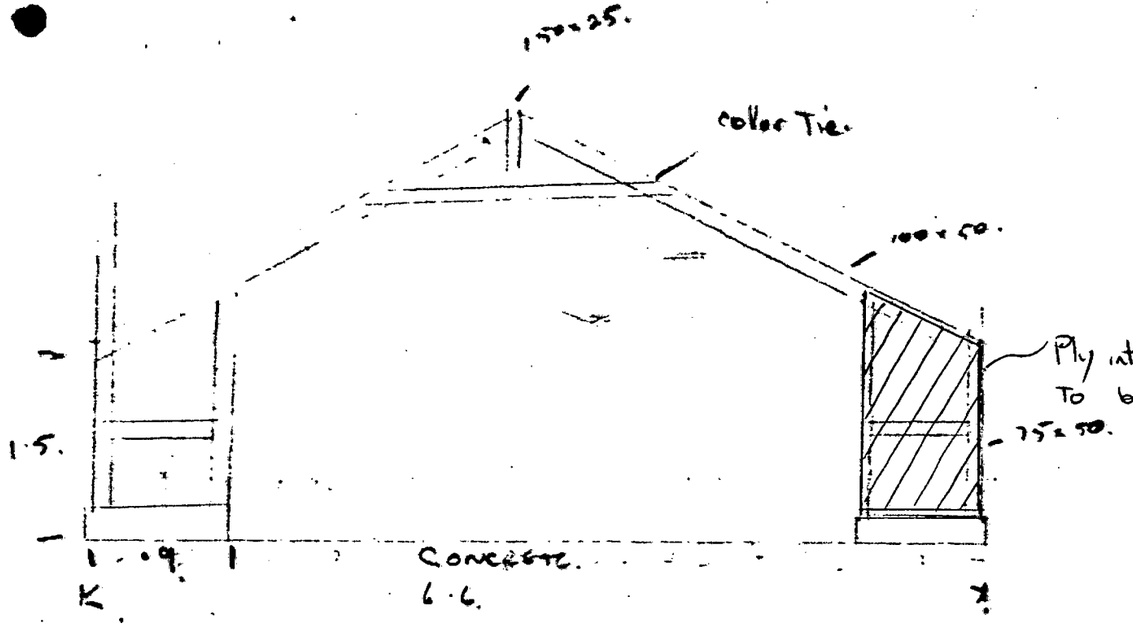
LOCATION. - ON Reverse.





10/6/80





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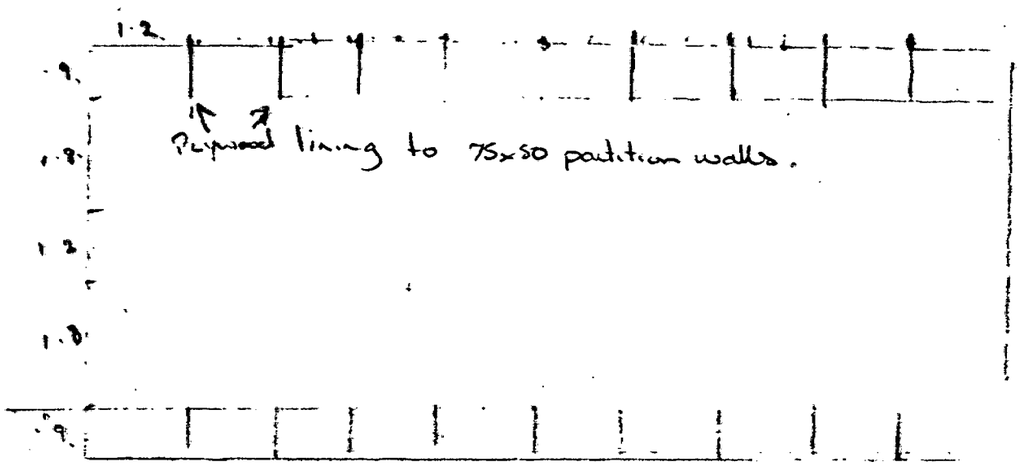
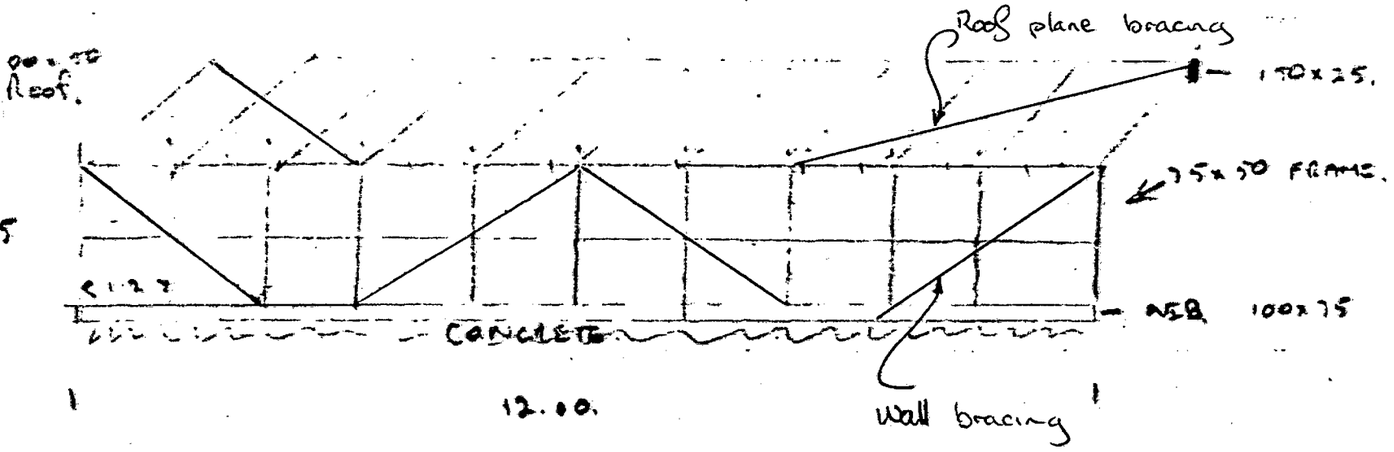
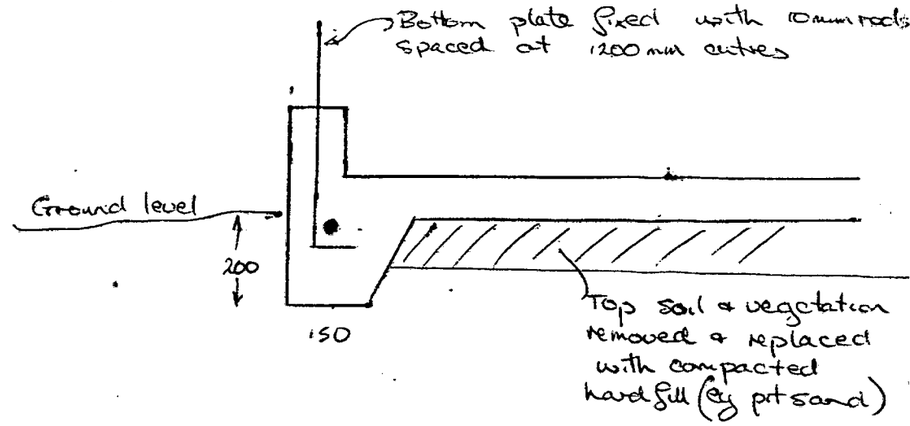




Foundation detail



WAIPA COUNTY COUNCIL.

P.O. Box 12,
TE AWAMUTU.
4th September, 1964.

~~Owner~~/Builder,
Mr. L.V. Burdett,
21 Waingaro Road,
NGARUAWAHIA.

Dear Sir,

Re Racing Stable / Great South Road.
Owner T.H. Knowles.

Your application for a Building Permit for the above has been considered and on receipt of fees as required by the By-laws, the permit may be uplifted subject to the conditions noted below.

The Permit must be obtained before any work is commenced and the fees and charges payable are £7/10/- This amount is made up as follows:-

£7/10/- Building Fee.
£ Plumbing & Drainage Fee.

Yours faithfully,

F.J. AMESS.

BUILDING INSPECTOR.

1. 8" x 2" joist over feed room and gear room are not approved. Details of joist sufficient to carry loads which will be placed on loft floor to be submitted before floor construction is commenced.

2. Suitable drainage to be provided from stable to satisfaction of County Health Inspector.

3rd June, 1965.

Mr. A.W. Wylde Browne,
P.O. Box 282,
PALMERSTON NORTH.

Dear Sir,

RE: T. KNOWLES.

In reply to your letter of the 27th May, 1965 I have to advise that a Mr. L.V. Burdette applied to this office on the 1st September, 1965 for a building permit to erect stables for Mr. T. Knowles on land within the Waipa County at Te Rapa.

The builder submitted with his application drawings of which a copy was forwarded to you previously.

On the 4th September, 1965 the builder was notified that a building permit could be uplifted provided certain fees were paid and subject to certain conditions as follows:-

1. 8" x 2" joist over feed rooms and gear room not approved. Details of joist sufficient to carry loads which will be placed on loft floor to be submitted before floor construction is commenced.

2. Suitable drainage to be provided from stable to satisfaction of County Health Inspector.

The building permit was uplifted on the 17th September, 1964 and apart from the amendment mentioned in my letter a copy of the builders drawing (recently obtained) is enclosed, the building to the best of my knowledge was constructed in accordance with the drawings bearing the name of T.S. Malloch, A.M.I. Struct. E. M.N.Z.I.E. Palmerston North except that 12" x 12" floor joists were placed over feed room and gear room to our approval.

At no time was an application for a permit on your plans declined. In fact Mr. Knowles did whilst discussing the matter on the site mention that he could see no problems regarding compliance with our By-laws as the building was

designed by an Engineer friend in Palmerston North.

The builder when applying for his permit stated that the building was estimated to cost £3150. I do not know if this figure was the basis of a firm contract between the owner and builder.

I enclose our receipt for plan copying fees paid to this office.

Yours faithfully,

F.J. AMESS.

COUNTY HEALTH & BUILDING INSPECTOR.

ENCL:

WYLDE-BROWNE AND ROBERTS
REGISTERED ARCHITECTS

P.O. BOX - 282
TELEPHONE 75-122

A. W. WYLDE-BROWNE B.ARCH., A.R.I.B.A., F.N.Z.I.A.
J. REX ROBERTS A.N.Z.I.A., A.I.A.A.

VOGUE BUILDING,
192 THE SQUARE,
PALMERSTON NORTH.

27th May 1965.

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Waipa County Council,
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Dear Sir,

Thank you for your letter and the copies of drawings of Mr Knowles' stables at Te Rapa. I enclose cheque for the cost of the drawings.

I would be obliged if you could give me further information on two matters.

1. In a letter I received from Mr Knowles in November last year he wrote as follows: "The Building Inspector here would not pass the plans without drastic alterations and he suggested that I had them all redrawn, which I had to have done" this refers to our drawings which incidentally were never fully completed as Mr Knowles informed me prior to this that he was abandoning the scheme because of the cost.

   When Mr Peter Garry telephoned me after he had spoken to you on Tuesday last, he informed me that the application for the building permit was made on the 1st September 1964, and the permit issued on the 17th September 1964.

   I feel this could be an important issue, and I would be grateful if you would confirm that no application and declining of a permit on our plans was made prior to 1st September 1964.

cont'd...

25th May, 1965.

Mr. L.V. Burdett,
21 Waingaro Road,
NGARUAWAHIA.

Dear Sir,

re: STABLES, MR. T. KNOWLES.

B.P. A.048389.

It is noticed that the amended details of the layout of the above now completed have not been lodged at this office as required by the writer whilst the building was in course of construction.

It is requested that you submit such amendments without further delay thus bringing the records in this office up to date.

Your co-operation in the matter will be appreciated.

Yours faithfully,

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25th May, 1965.

Mr. A. Wylde Brown,
Registered Architect,
P.O. Box 282,
PALMERSTON NORTH.

Dear Sir,

At the request of Mr. Garry of Hamilton I am forwarding copies of three sheets of drawings submitted to this office by a builder for Mr. T. Knowles for stables which have been erected at Te Rapa.

During the course of construction it was decided to instal a shower, water closet and sink in separate compartments alongside Box 8 and to create a separate room between these compartments and the end wall thus creating a centre passage for the full length of the building.

The cost of the copies referred to which are under separate cover amounts to £2/10/-.

Would you kindly remit same at your convenience.

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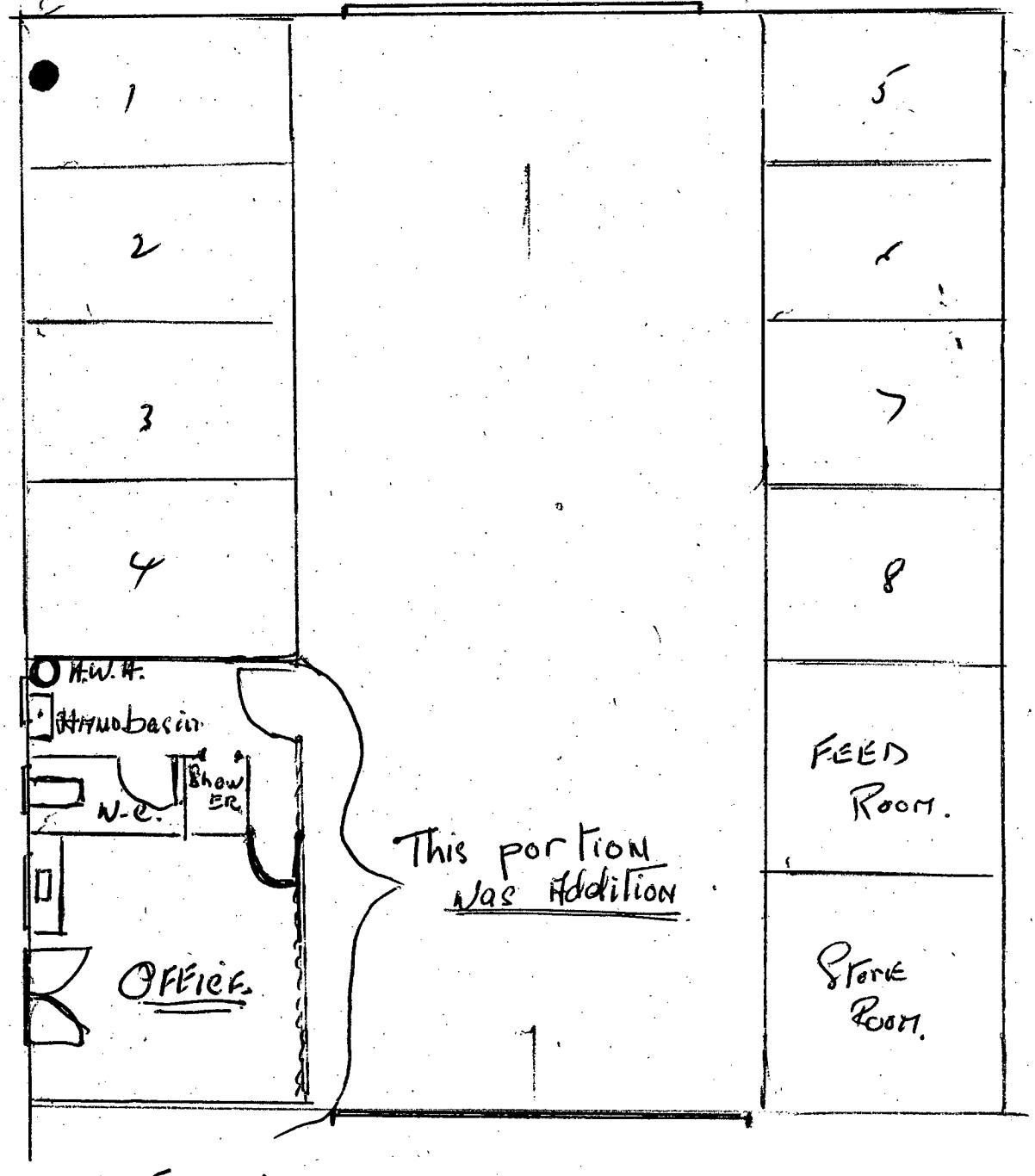
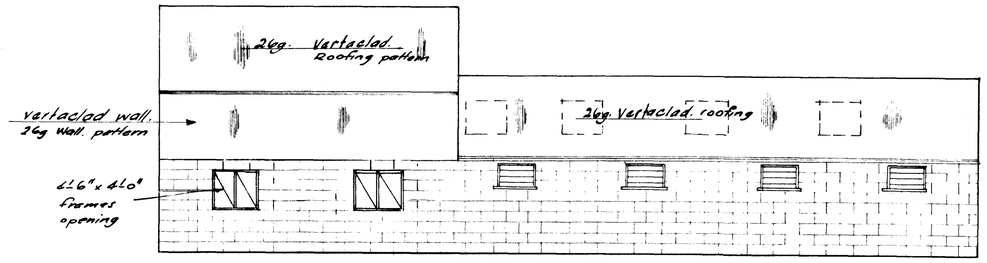
Stables for Mr T. H. Knowles

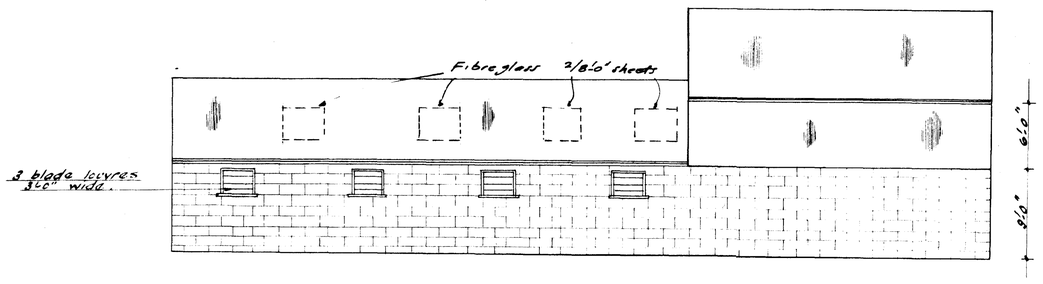


4×2 Framing.
8×2 C.J.
Hardboard lining.
Concrete floor.

Read 2-6-65.



SIDE ELEVATION.



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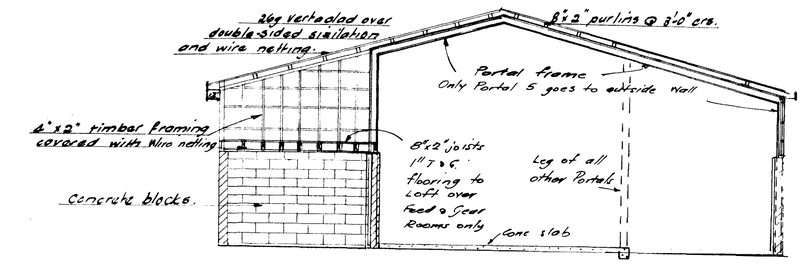
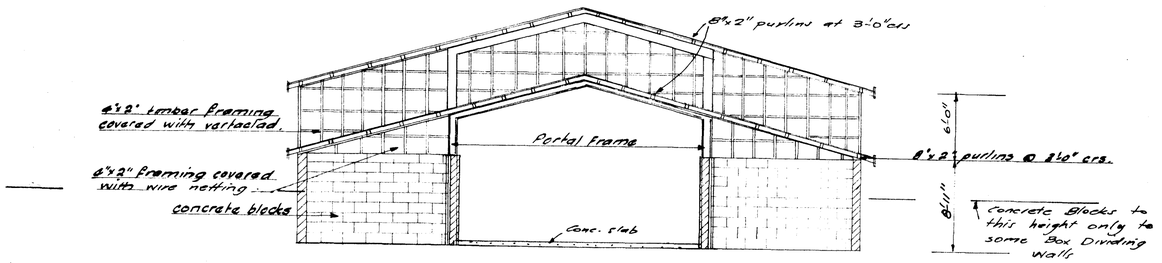
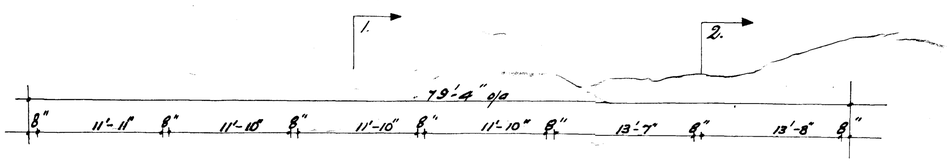
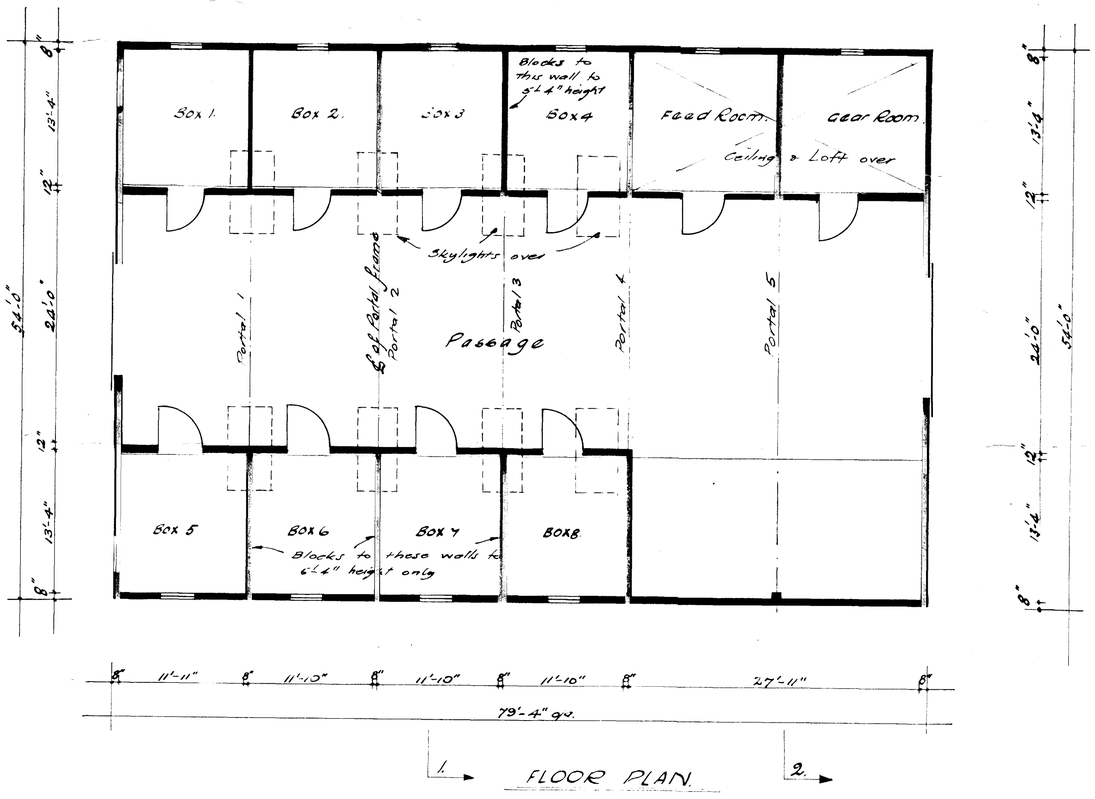


SECTION 2-2.

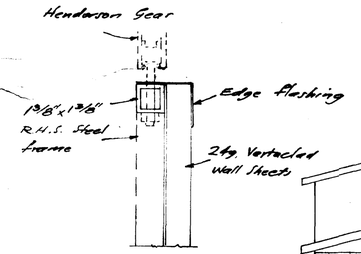


SECTION 1-1.

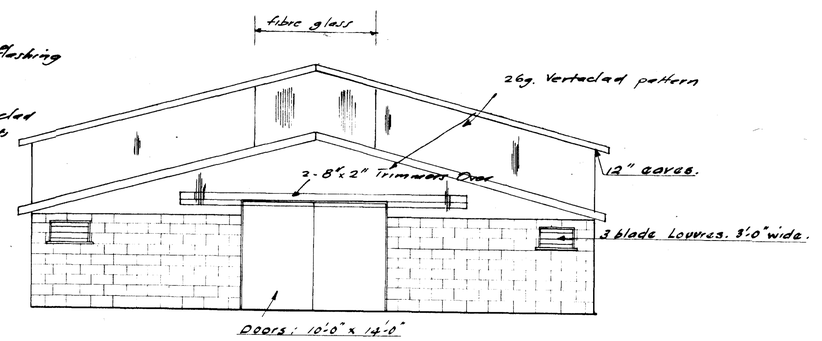




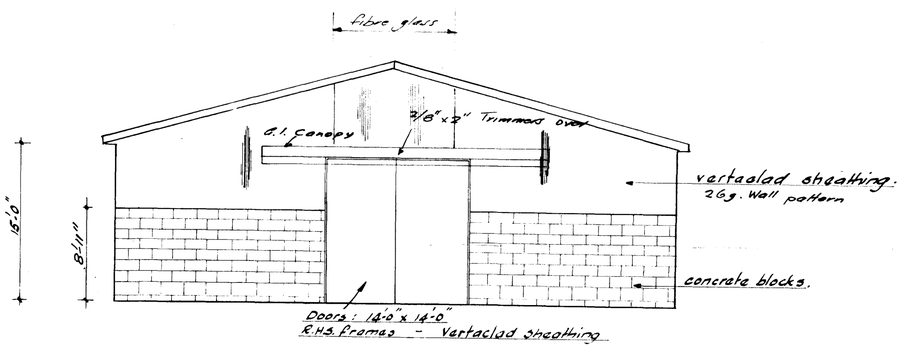
FLOOR PLAN



DOOR DETAIL



END ELEVATION



END ELEVATION.

NOTE. OWNER WILL SUPPLY THE FOLLOWING MATERIALS.

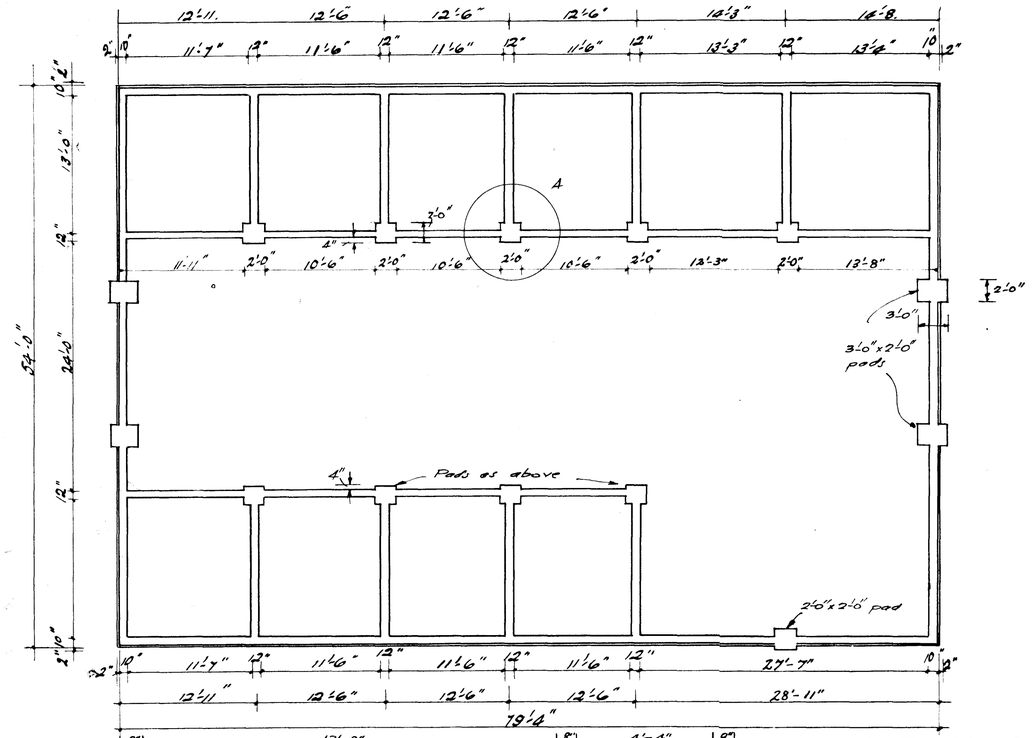
Boxing
Flooring to loft.
Doors to Boxes
4"x2" plates
All Vertaclad Roofing & walling.

STABLE AT: TE-RAPA HAMILTON for: T.H. KNOWLES ESQ.

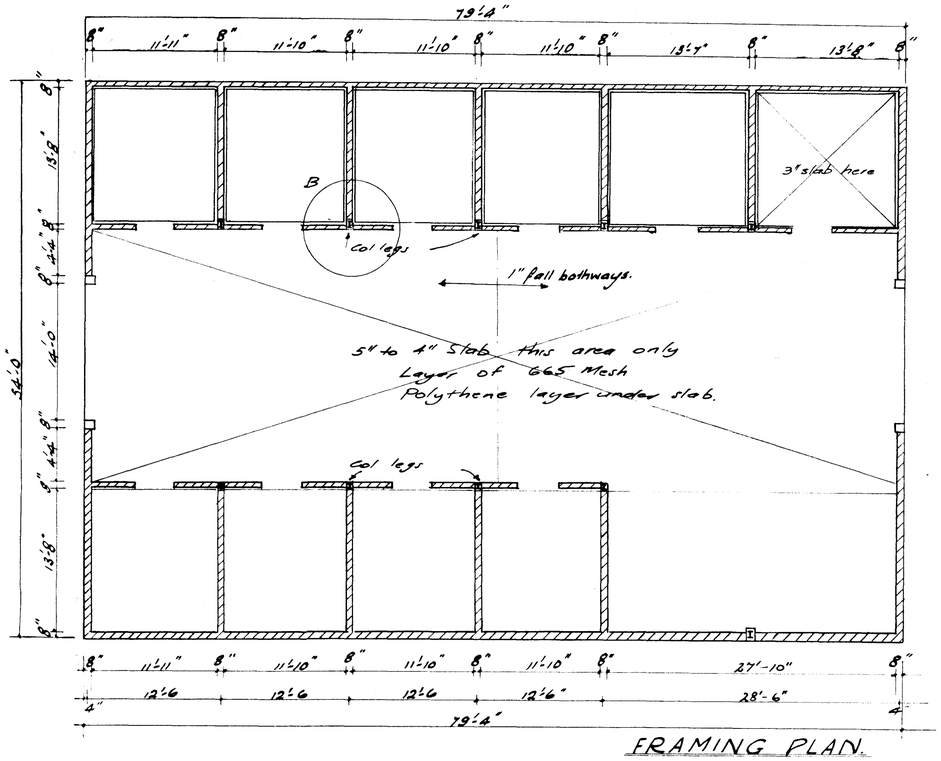
Scale: 1/8" = 1'-0"

T.S. MALLOCH. A.M.I Struct. E. M.N.Z.I.E.
CONSULTING STRUCTURAL ENGINEER
PALMERSTON NORTH

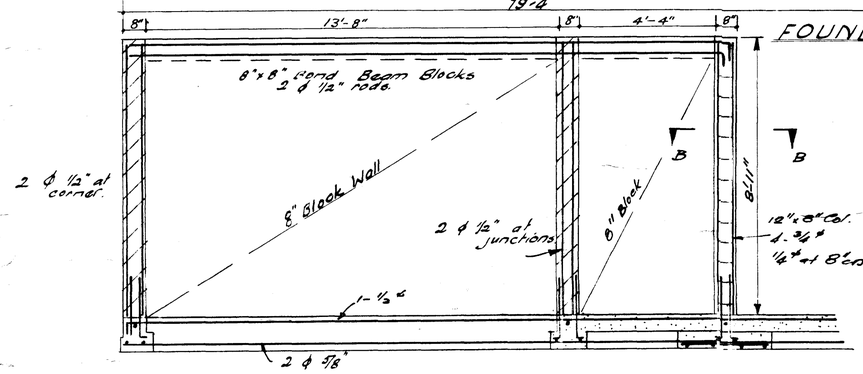
SHEET 1



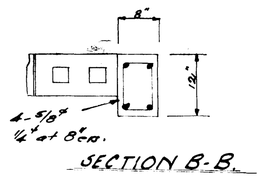
FOUNDATION PLAN



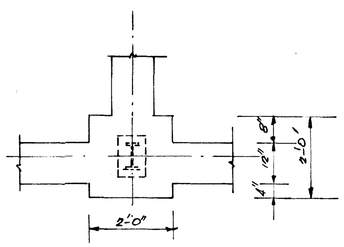
FRAMING PLAN.



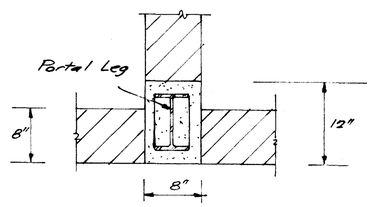
ELEVATION OF END WALL



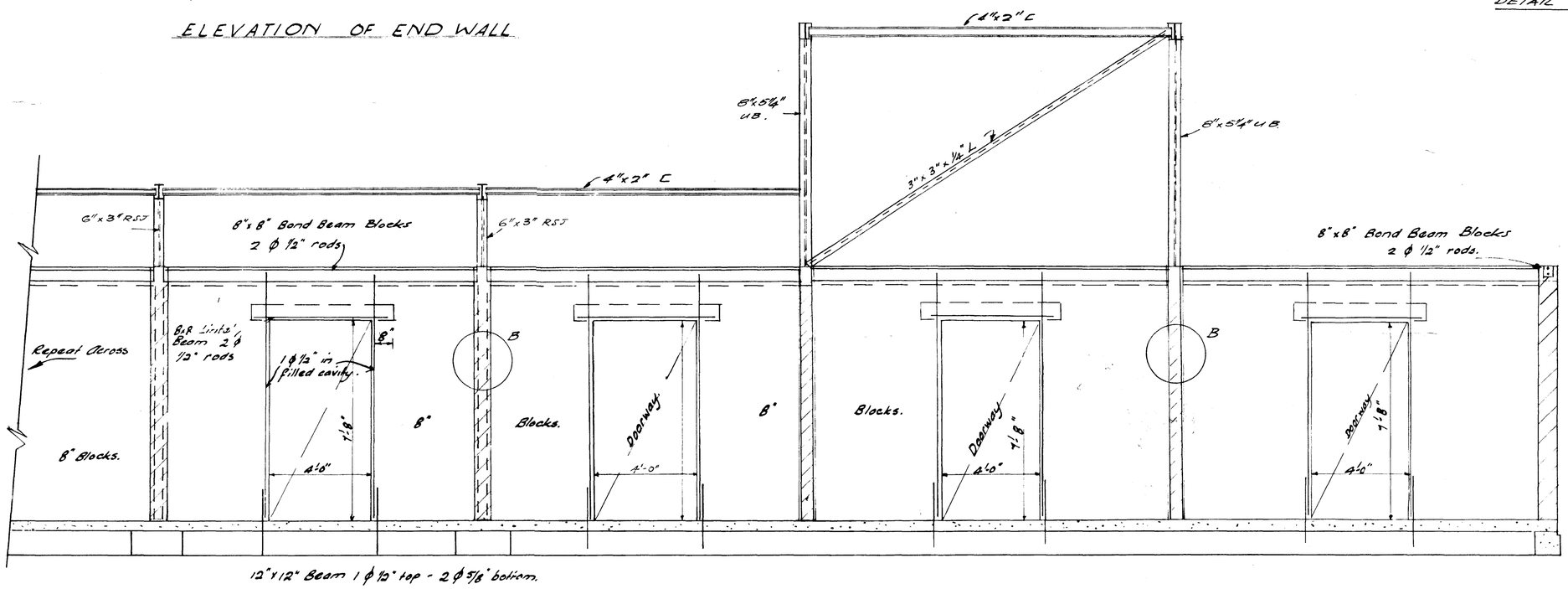
SECTION B-B.



DETAIL A TYPICAL PAD



DETAIL B TYPICAL COL.



ELEVATION OF INTERIOR SIDE WALL.

SCALES 1/8". 3/8". 1/2". 1".

STABLE AT TE-RAPA HAMILTON for: T.H. KNOWLES ESQ.

T. S. MALLOCH. A.M.I.Struct.E. M.N.Z.I.E.
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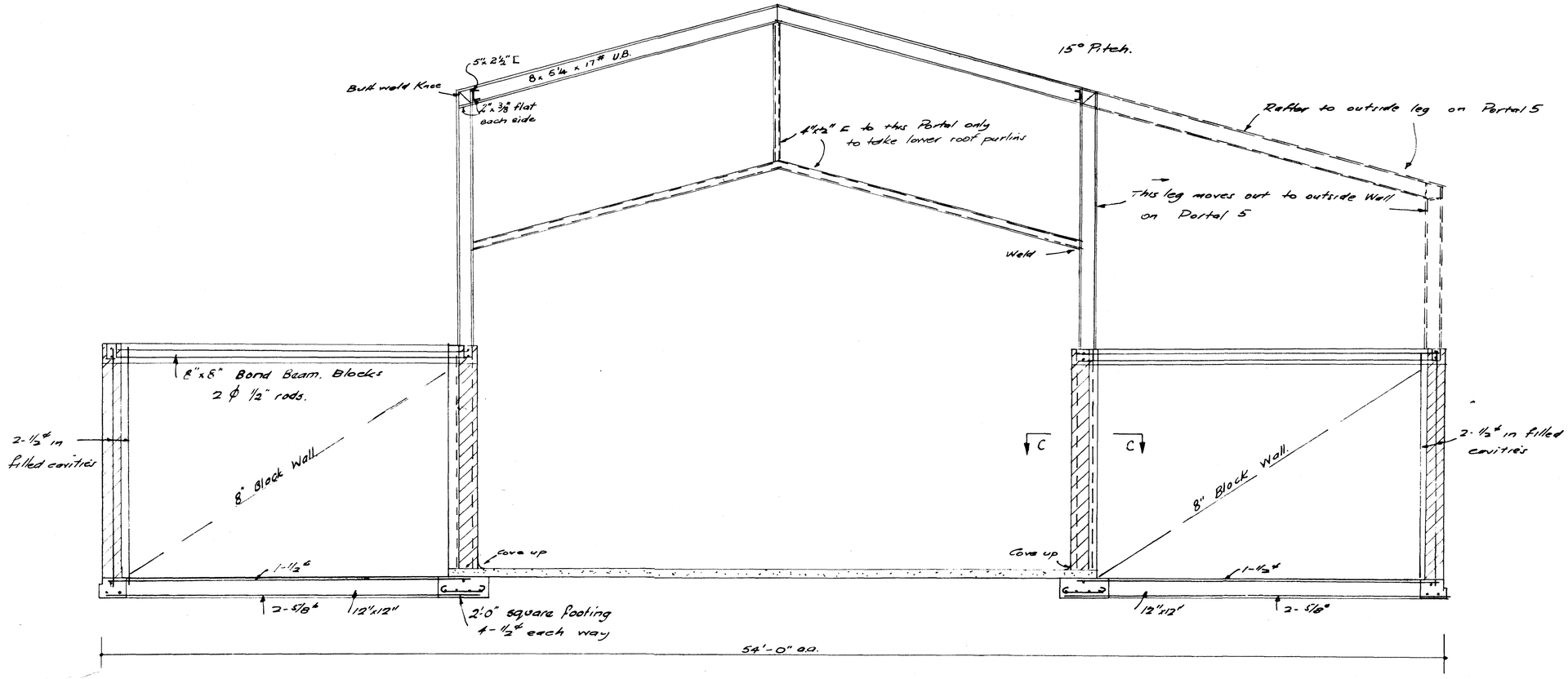
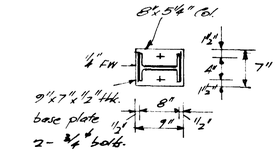
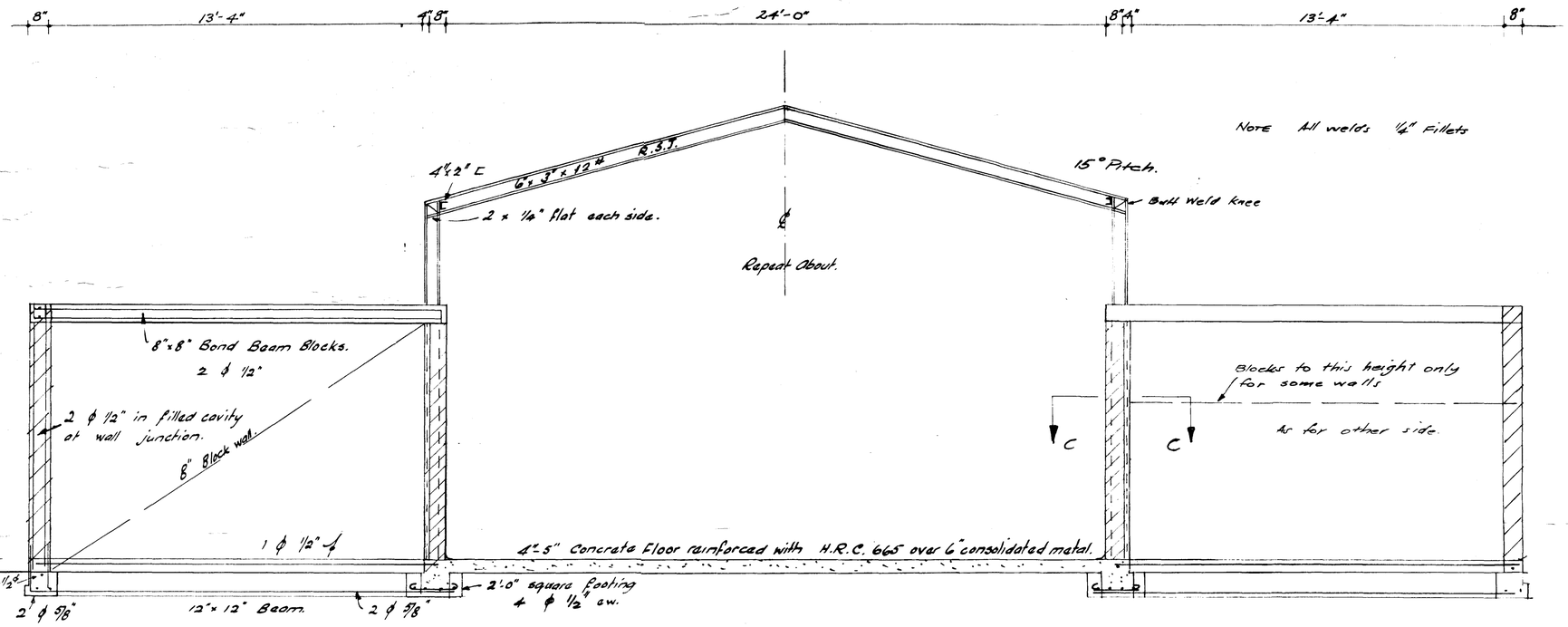


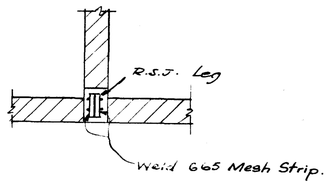
ELEVATION OF PORTAL 4.



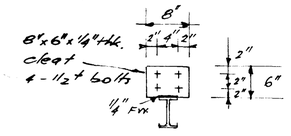
TYPICAL BASE PLATE ALL COLUMNS



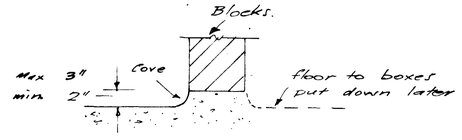
ELEVATION OF PORTALS 1.2.3.



SECTION CC.



TYPICAL PURLIN CLEAT



TYPICAL DETAIL AT BASE OF ALL WALLS

Scales 3/8", 3/4".

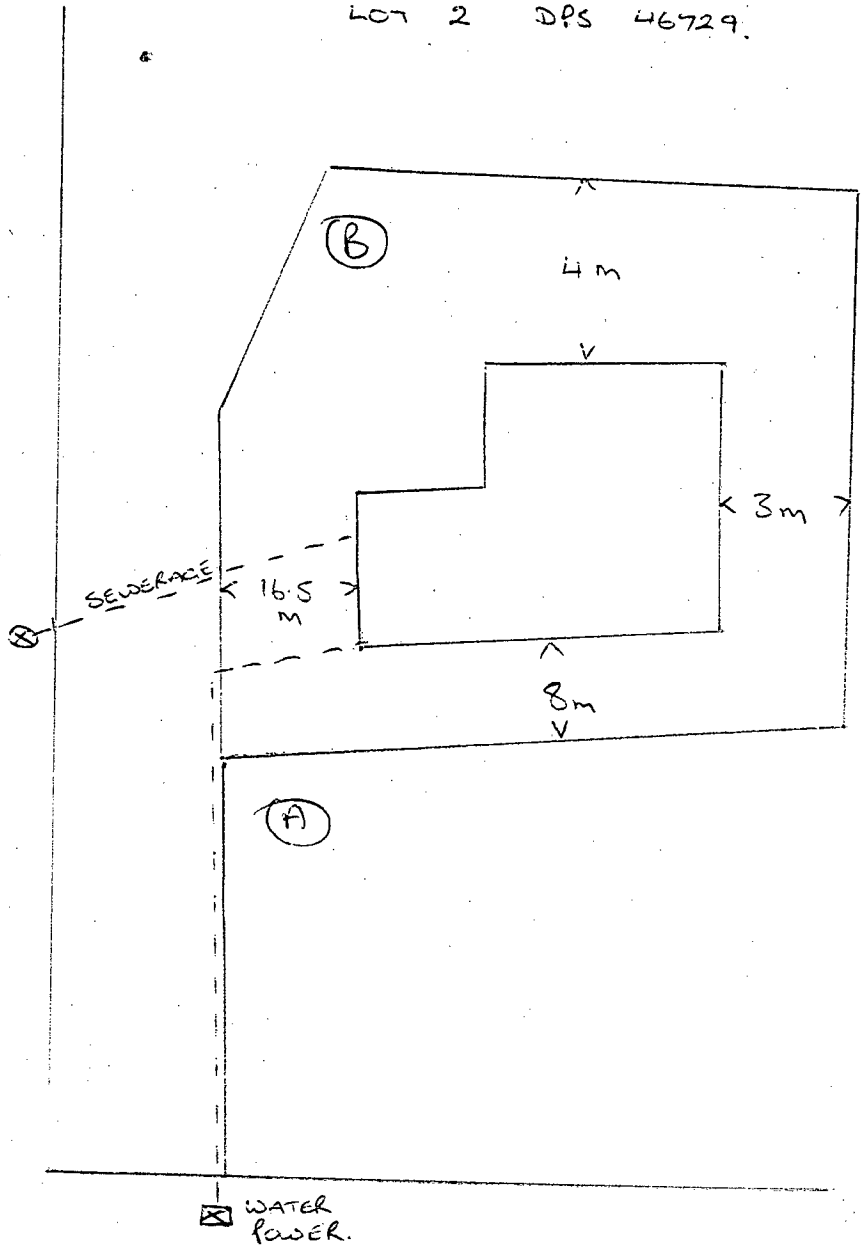
STABLE AT TE-RAPA HAMILTON for: T.H. KNOWLES ESQ.

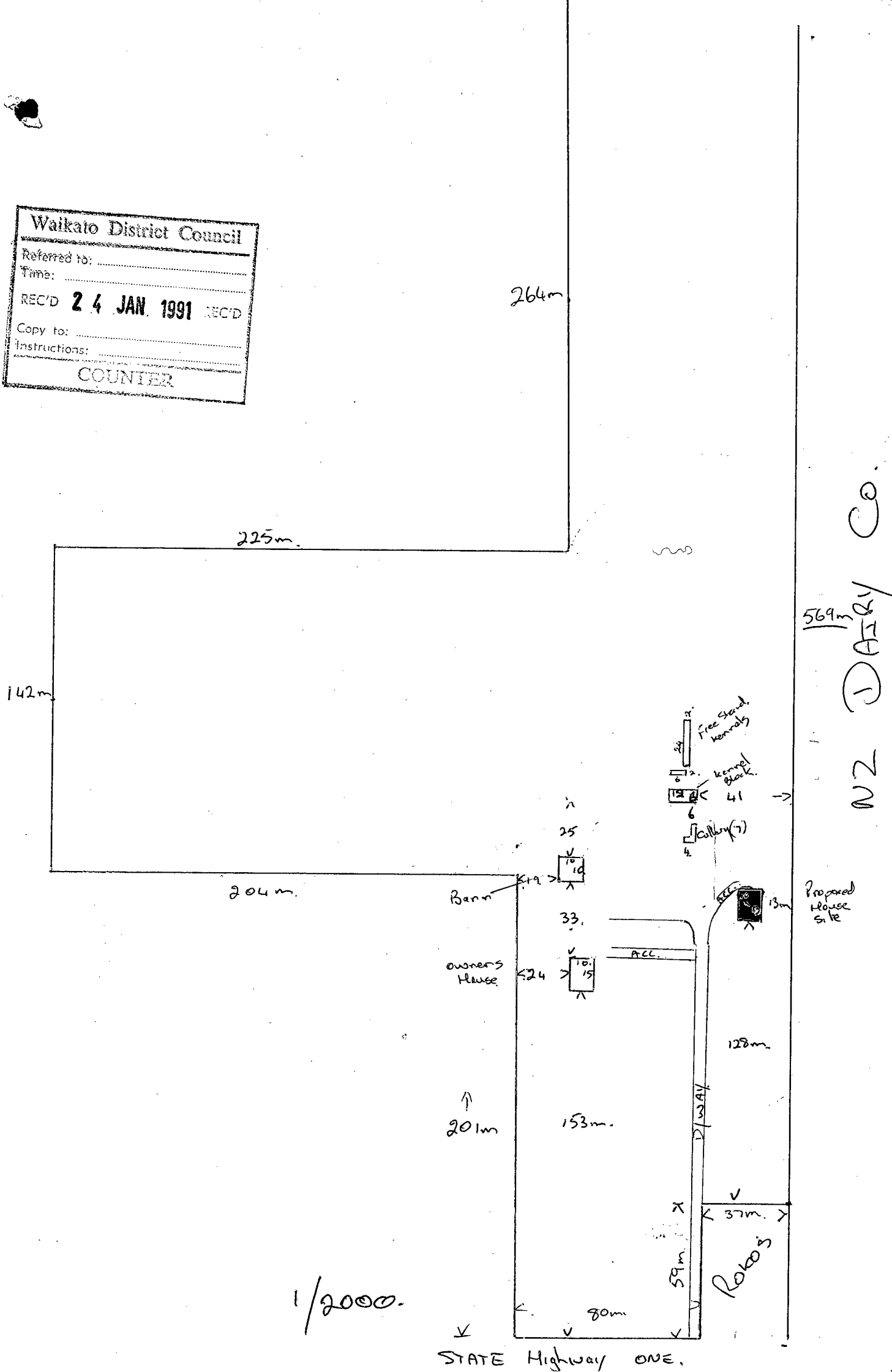
T. S. MALLOCH. A.M.I.Struct.E. M.N.Z.I.E.
CONSULTING STRUCTURAL ENGINEER
PALMERSTON NORTH

SHEET 3

SITE PLAN

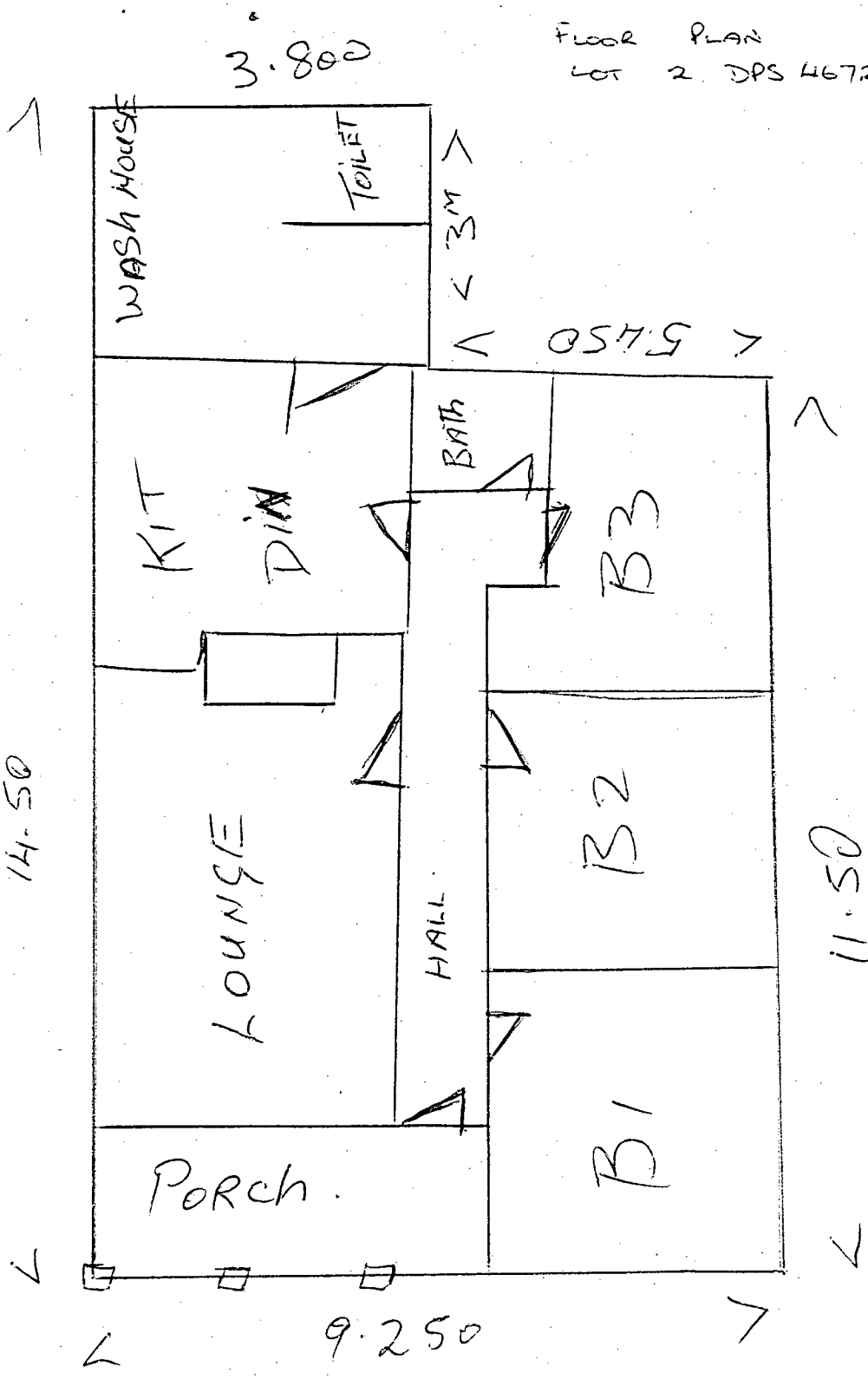
LOT 2 DPS 46729.

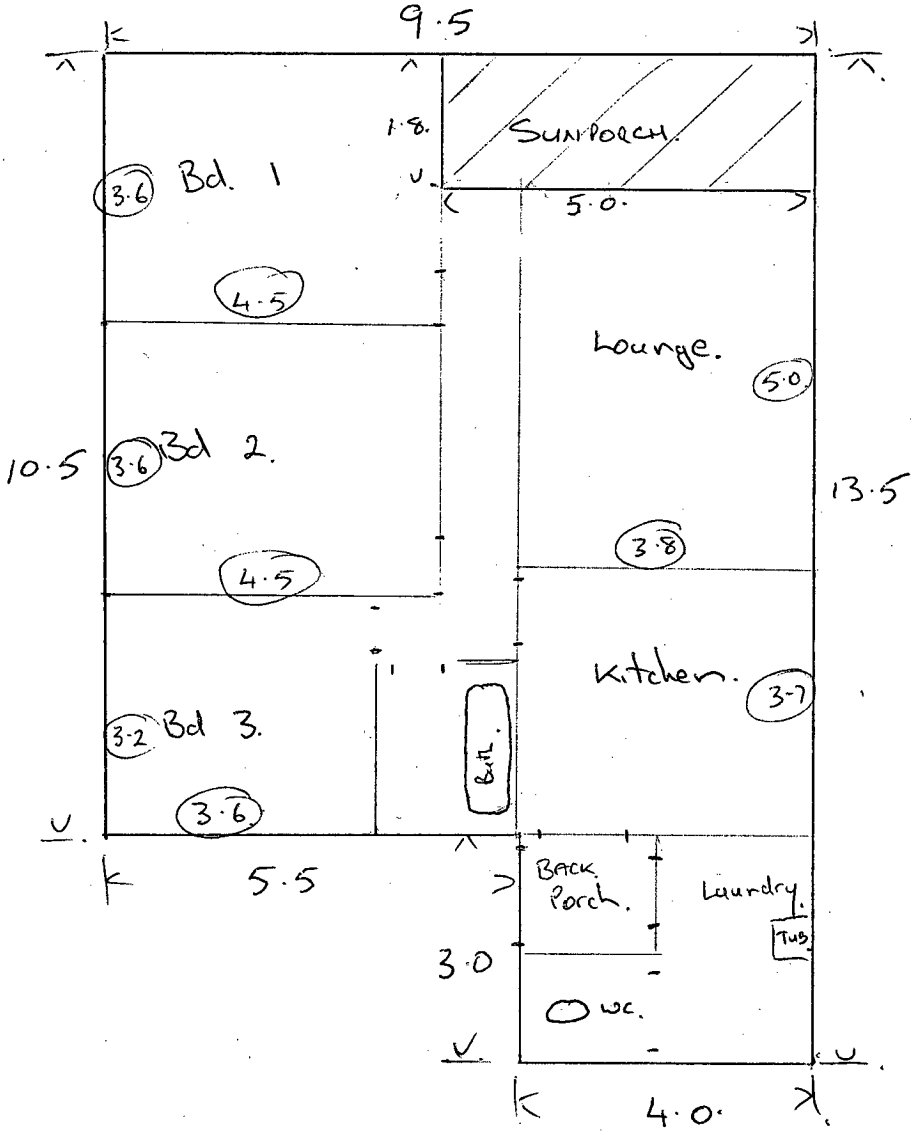


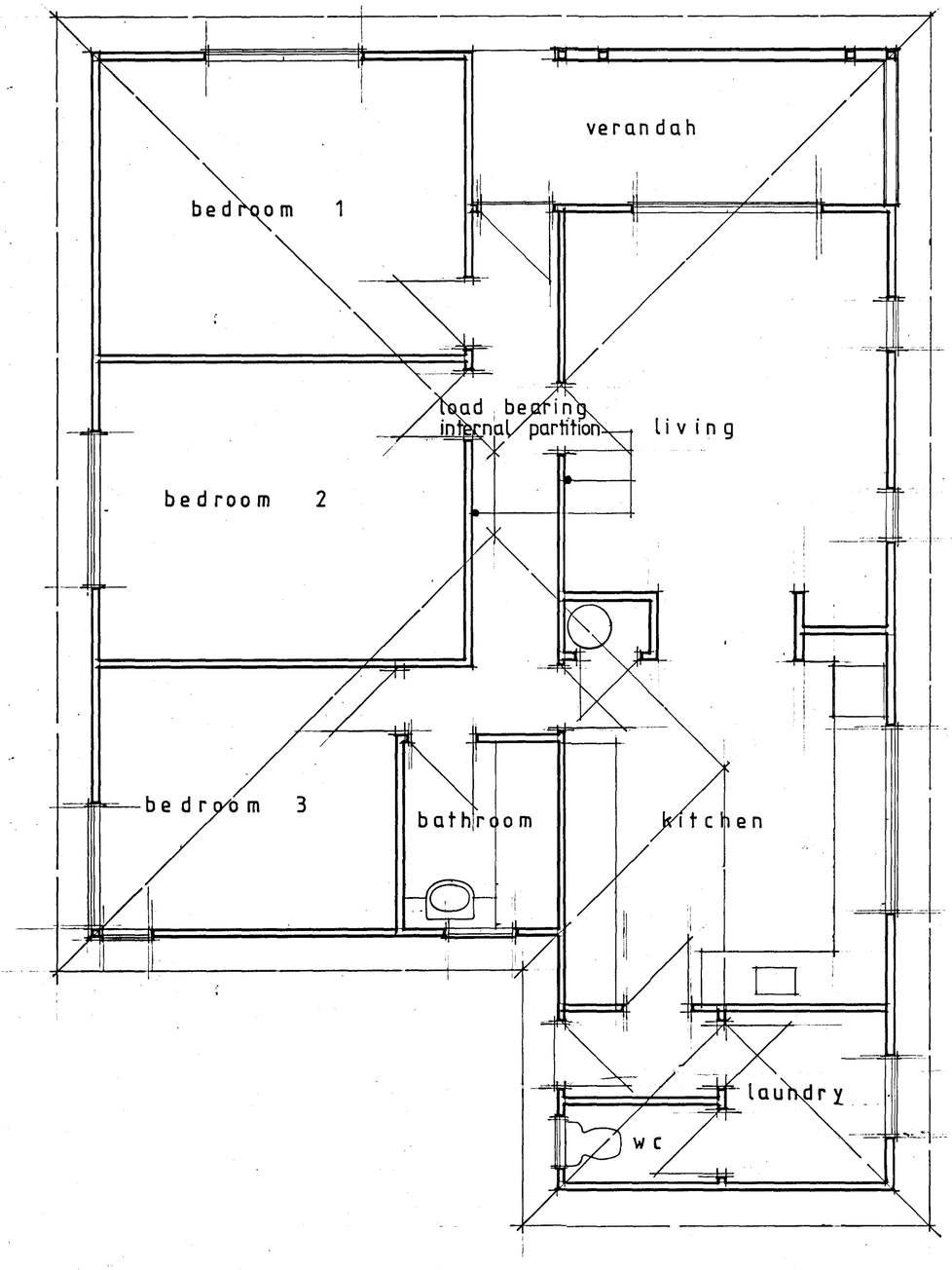


1/2000.

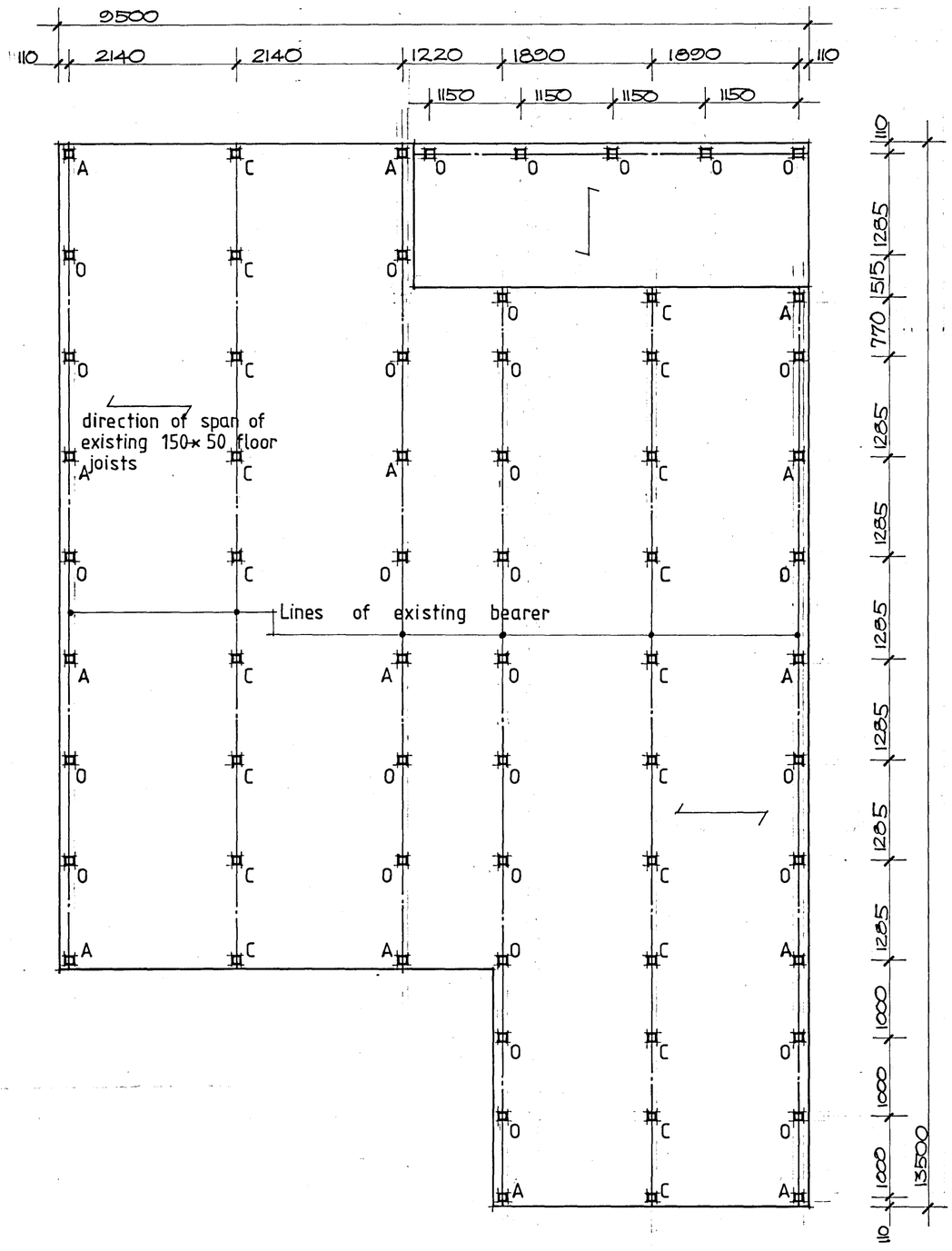
FLOOR PLAN
LOT 2 DPS 46729.




9.5
1.8.
SUNPORCH.
5.0.
3.6
Bd. 1
4.5
Lounge.
5.0
10.5
3.6
Bd 2.
13.5
3.8
4.5
Kitchen.
3.7
3.2
Bd 3.
Bath.
3.6
5.5
Back Porch.
Laundry.
Tub
3.0
WC.
4.0.



floor plan existing house



⌗ A = 125×125 Anchor pile cast 800mm into 400mm Φ× 900mm deep concrete footings

⌗ C = 125×125 Cantilever pile cast 350mm into 300mm Φ× 450mm deep concrete footings

⌗ O = 125×125 Ordinary pile cast 200mm into 300mm Φ× 300mm deep concrete footings

Bearers fixed to piles as required by NZS 3604 for pile type

foundation plan

Graham Bull Associates
Architectural Consultants
3 Home Street, P.O. Box 257.
☎ (07) 8392589, Hamilton NZ.

Proposed Relocation of Existing House at State Highway 1
For K.H. & P Wilmshurst

Designer	Scale	Job No	Sheet
G.J.B.	1:50	92003	1
Drawn	Date		
G.J. Bull	January 1992		

c/- Swiss Hairdressers
6 Princes St.
Hamilton.
3-3-88

Dear Sir,

Please find enclosed cheque for $170-50 being payment for building permit for alterations to dwelling on Pukete Rd Hamilton.

Would you please send permit to the above address

Yours faithfully
P. Morth.

MR & MRS J MORTH.

WAIPA COUNTY COUNCIL

P.O. Box 340,
TE AWAMUTU.

23 February 1988

Owner/Builder,
Mr J. & Mrs P. Morth,
C/- Swiss Hairdressers,
6 Princess Street,
HAMILTON.

Dear Sir,

re : ALTERATIONS TO DWELLING / PUKETE Road

Owner : (AS ABOVE)

Your application for a building permit for the above has been considered and on receipt of fees as required by the By-Laws, the permit may be uplifted subject to the conditions noted below.

The permit must be obtained before any work is commenced and the fees and charges payable are $ 170.50 This amount is made up as follows : (Incl. of G.S.T.)

$ 22.00	Building Research Levy
$ 137.50	Building Fee
$ 11.00	Plumbing & Drainage Fee
$	Percolation / Site Investigation Fee
$	

Yours faithfully,

I.H. Fraser,
SENIOR BUILDING INSPECTOR.

1. Epoxy grouting of starter rods into existing block walls to be supervised by Design Engineer who shall advise County Building Inspector by letter that starter rods have been fitted to his satisfaction.
2. Excavated foundations with all steel tied in place to be inspected by County Building Inspector prior to any concrete being poured.
3. Block work with all steel tied in place to be inspected by County Building Inspector prior to block cavities being filled with concrete.

Continued over page...

Cont/2...

4. Roof truss manufacturers plan showing layout of roof trusses to be submitted for approval prior to work commencing on house roof framing.

5. Framing to be inspected by County Building Inspector prior to any wall lining being fixed.

19 Febroary 1988.
Waipa County Council,
Bank Street,
Te Awamutu.

Dear Sir.

I hope the floor plan fowarded has enough information relating to the completion of the upper floor area.

All rooms will be used as stated. Where I have titled "All Purpose Room", although contains a sink, will be used mainly for storage & study.

I apoligise for the mis-calculation of information that was fowarded, but hope that the current information is to your satisfaction.

Yours Faithfully,
J.K. Marth.

WAIPA COUNTY COUNCIL

COUNTY OFFICE AND COUNCIL CHAMBERS

BANK STREET TE AWAMUTU
POST OFFICE BOX 340
TELEPHONE (082) 7133

18 February 1988

Mr J.K. Morth,
C/O Swiss Hairdressers,
6 Princess Street,
HAMILTON.

Dear Sir,

re: Proposed House Additions

Receipt is acknowledged of your letter providing information requested in my previous letter.

Before a permit can be finalised, we still require a floor plan of the upper floor showing which rooms are to be completed, and advise if any plumbing facilities are to be installed.

Yours faithfully,

O.M. Johnston,
BUILDING INSPECTOR.

J. K. Morth;
6 Princes St;
Hamilton.

Dear Sir,

In response to your letter dated 17 Dec 1987, I'm replying to give you information as requested.

1. Estimated value of work is $22 000.
2. Roof trusses are still being quoted, but as required a certificate of the manufacture & design of the trusses will follow well in advance of any roof work.
3. Completion of only a portion of the upper floor will take place & is intended for use as a bedsitter area only.
4. Where you request details of plaster finish to gables, although Architect has drawn this in, Aluminium Joinery & glass is likely to be used.
5. Door between swimming pool & house already have existing key locks on doors as well as security locks. If additional locks are needed for childproofing, they will be purchased & fitted as required.
6. The beams will be pine with ply (C11) sarking with a stained finish. All timber shall be tanalith treated (300 x 75)

I hope there is enough information in relation to the building permit so as a final agreement can be adhered to as soon as possible.

Yours Faithfully,

WAIPA COUNTY COUNCIL

COUNTY OFFICE AND COUNCIL CHAMBERS

BANK STREET TE AWAMUTU
POST OFFICE BOX 340
TELEPHONE (082) 7133

17 December 1987

Mr J. Morth,
C/- Swiss Hairdressers,
6 Princess Street,
HAMILTON.

Dear Sir,

re : Proposed Additions to House and Room to Enclose Swimming Pool

Plans submitted with your recent building permit application have been checked and a visit made to the site. Before a building permit can be finalised the following matters are to be resolved or details submitted for approval :

1. Estimated value of work.
2. Roof truss manufacturers plan is required showing layout of roof trusses.
3. Would you please advise what your proposals are to complete the upper floor. If you intend to complete only a portion of the upper floor, would you please submit a floor plan showing which rooms are to be completed and advise the proposed use or occupation of these rooms.
4. Details of plaster finish to gable sheathing of swimming pool room.
5. Details of door locks to swimming pool room including door between swimming pool and existing house.
6. Specification covering timber type, treatment and paint specification covering roof and ceiling construction of swimming pool room.

I note the following requirements for your information, which will be conditions of permit :

A. Epoxy grouting of starter rods into existing block walls must be supervised by Design Engineer who shall advise County Building Inspector by letter that starter rods have been fitted to his satisfaction.

B. Excavated foundations with all steel tied in place to be inspected by County Building Inspector prior to any concrete being poured.

C. Block work with all steel tied in place to be inspected by County Building Inspector prior to block cavities being filled with concrete.

Yours faithfully,

O.M. Johnston,
BUILDING INSPECTOR.

14 15 16 17 18 19 20

overhang

new windows

existing terrace
closed in.

new window

new window

existing blockwork

batten insulate
and line

remove window and door

lounge

existing windows

kitchen

ldy

terrace

bed

stair

overhang

new window

existing terrace
closed in

new windows

remove windows

bed

bath

4

b

b

batten insulate and line

new window

new window

bed

existing first floor plan 1:50

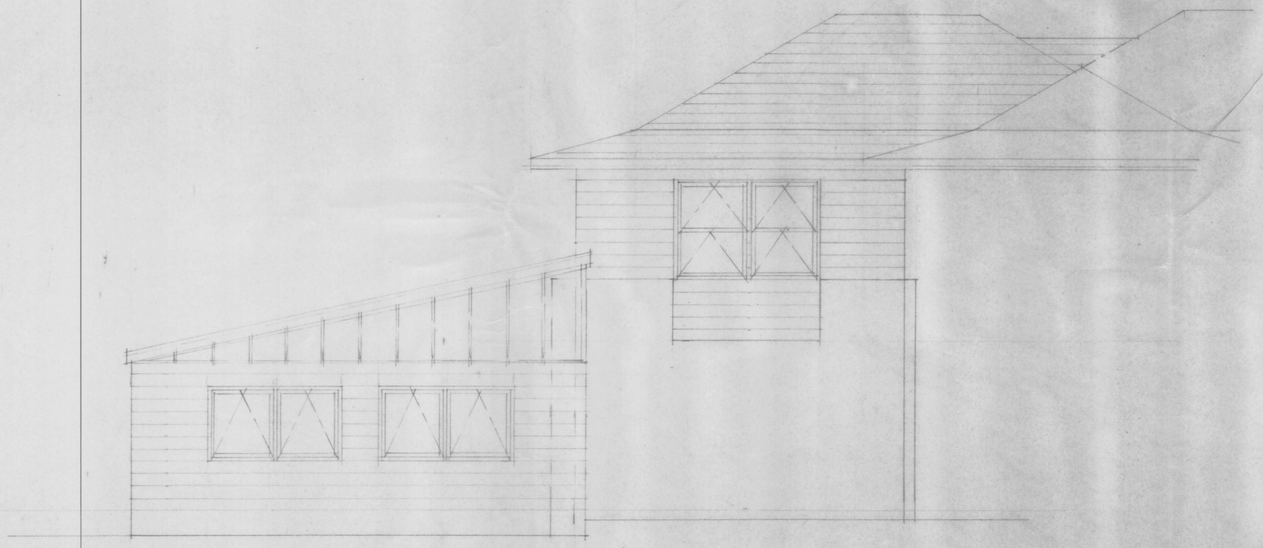
5

STREET .....
ST NO .....
LOT .....
DP .....
CONSENT NO .....
DRGS .....

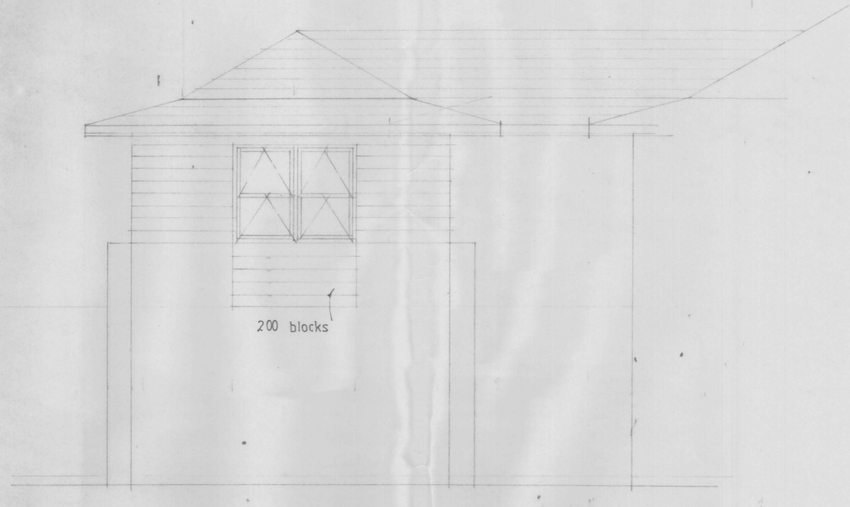
ADDITIONS RESIDENCE AT PUKETE ROAD
TE RAPA FOR: MR. J.K. MORTH.

CHECK ALL DIMENSIONS BEFORE COMMENCING

1

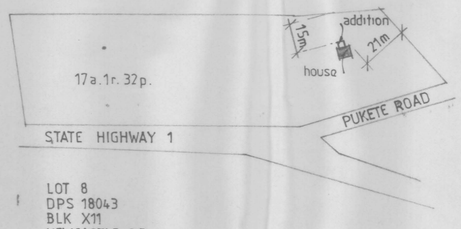


elevation 1



elevation 5

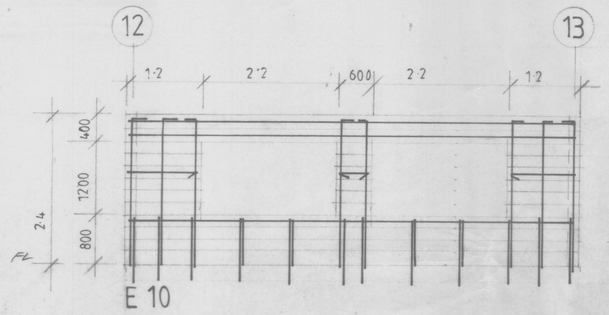
elevation 4



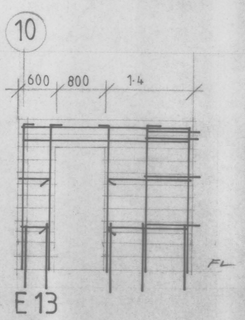
LOT 8
DPS 18043
BLK X11
NEWCASTLE SD

site plan

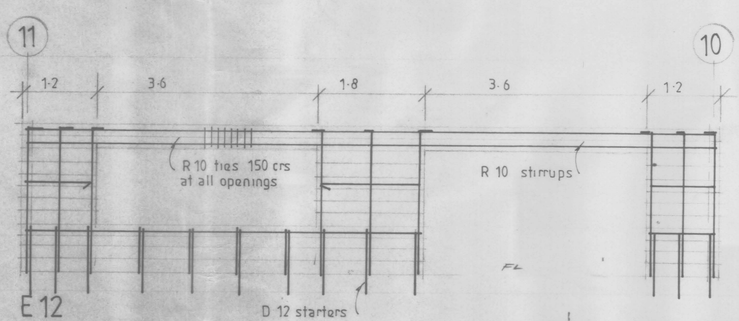
STREET	
ST NO	
LOT	
DPS	
CONSENT NO DETAILS	



E 10



E 13



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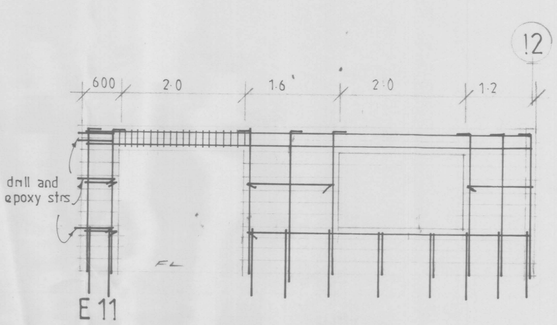
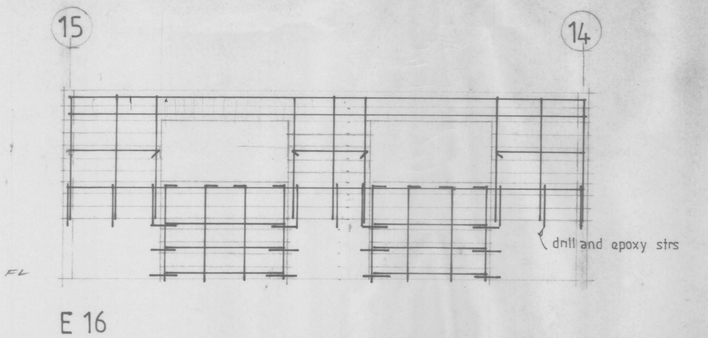
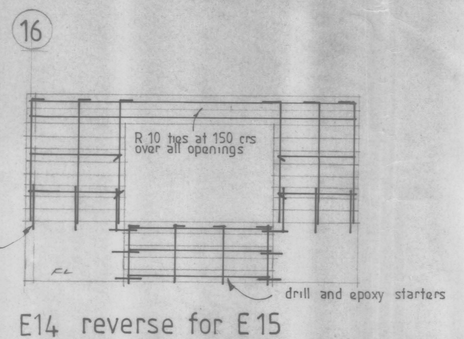


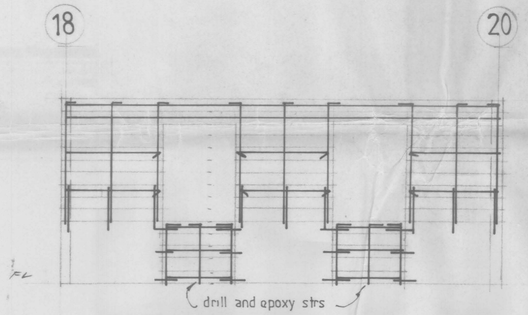
E 11



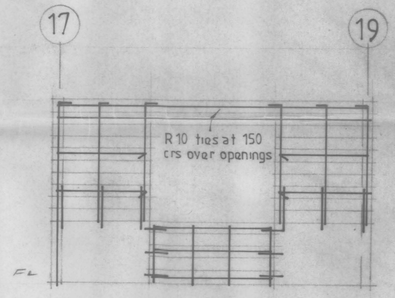
E 16



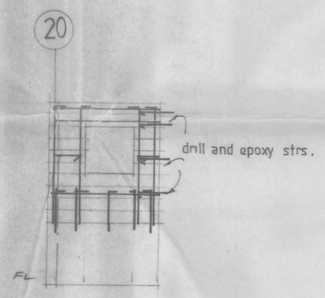
E14 reverse for E 15



E 17



E 20 reverse for E 18



E 19

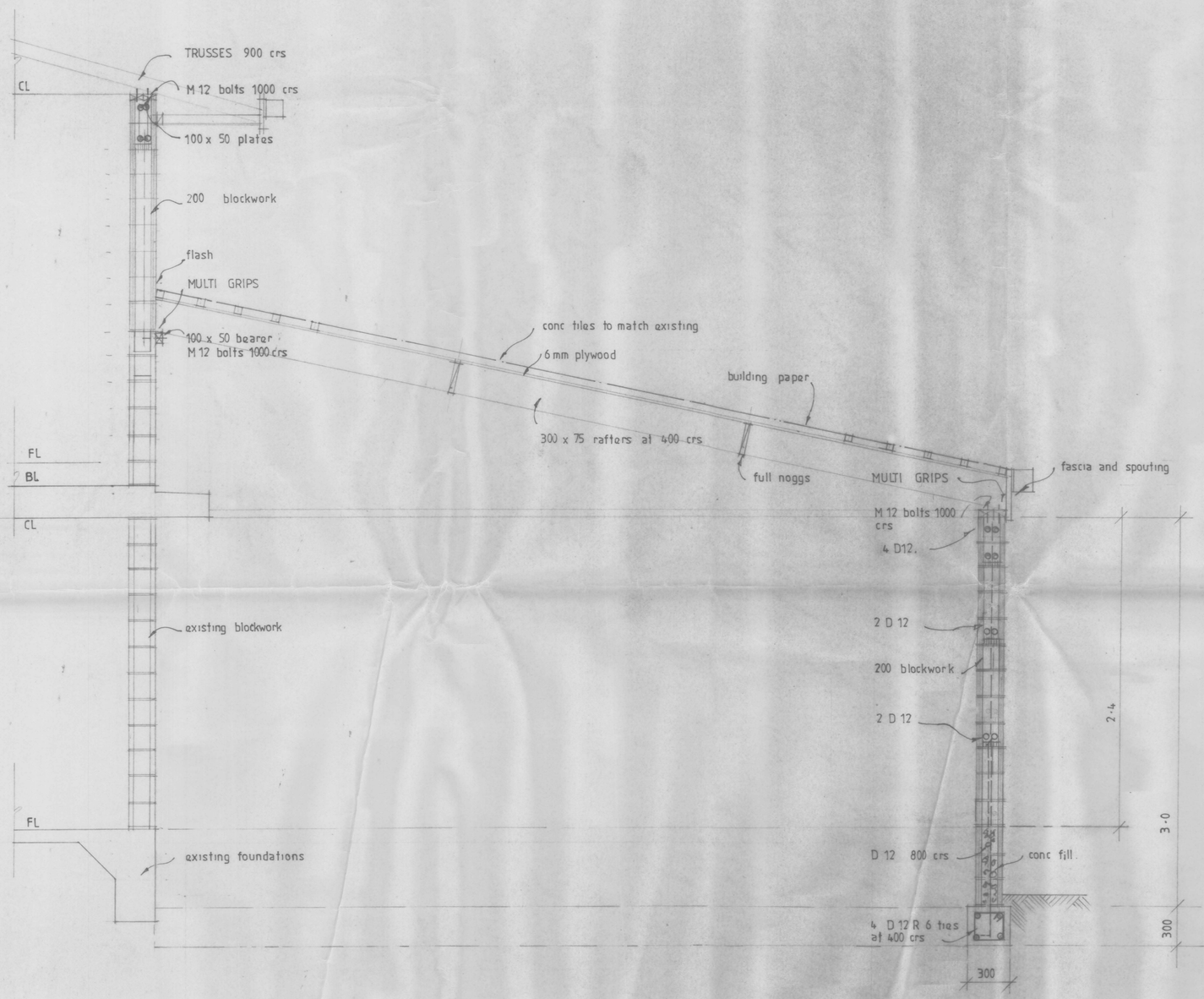
BLOCKWORK ELEVATIONS AND REINFORCING 1:50

CHECK DIMENSIONS AND HEIGHTS ON SITE

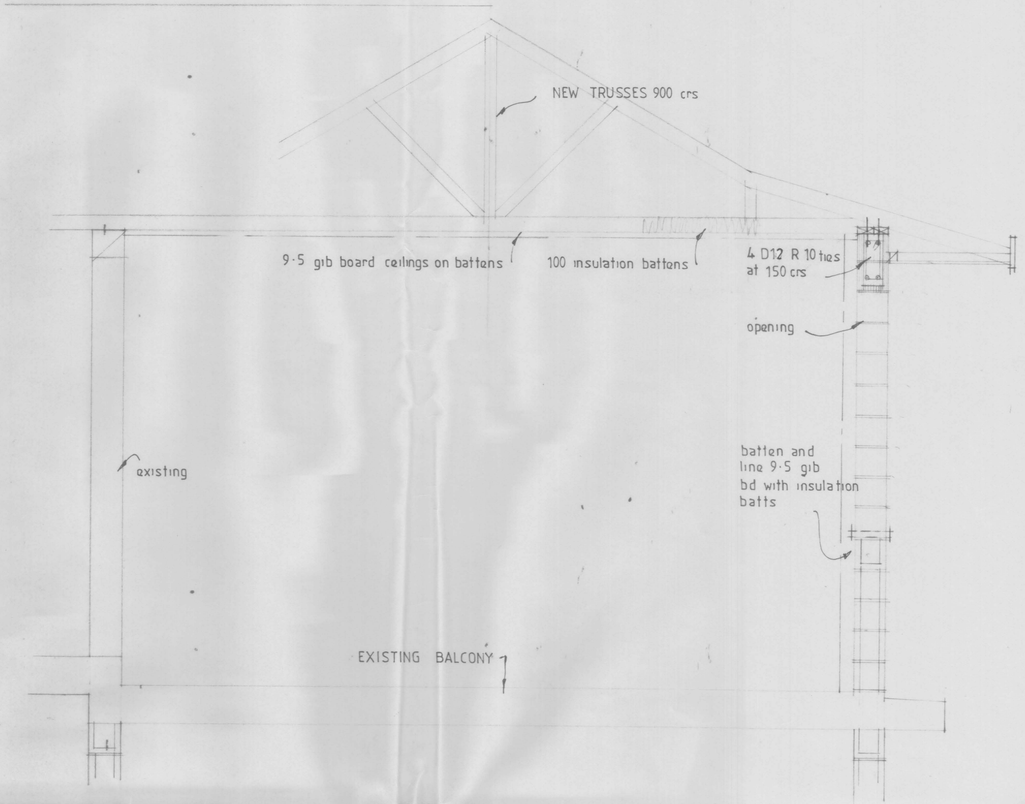
REINFORCING

ALL BOND BEAMS — 2 D12
ALL VERTICALS — D12
ALL DOUBLE BOND BMS — 4 D12
R 10 stirrups at 150 crs over all openings

STREET .....
ST NO .....
LOT .....
DPS .....
CONSENT NO .....
DETAILS .....

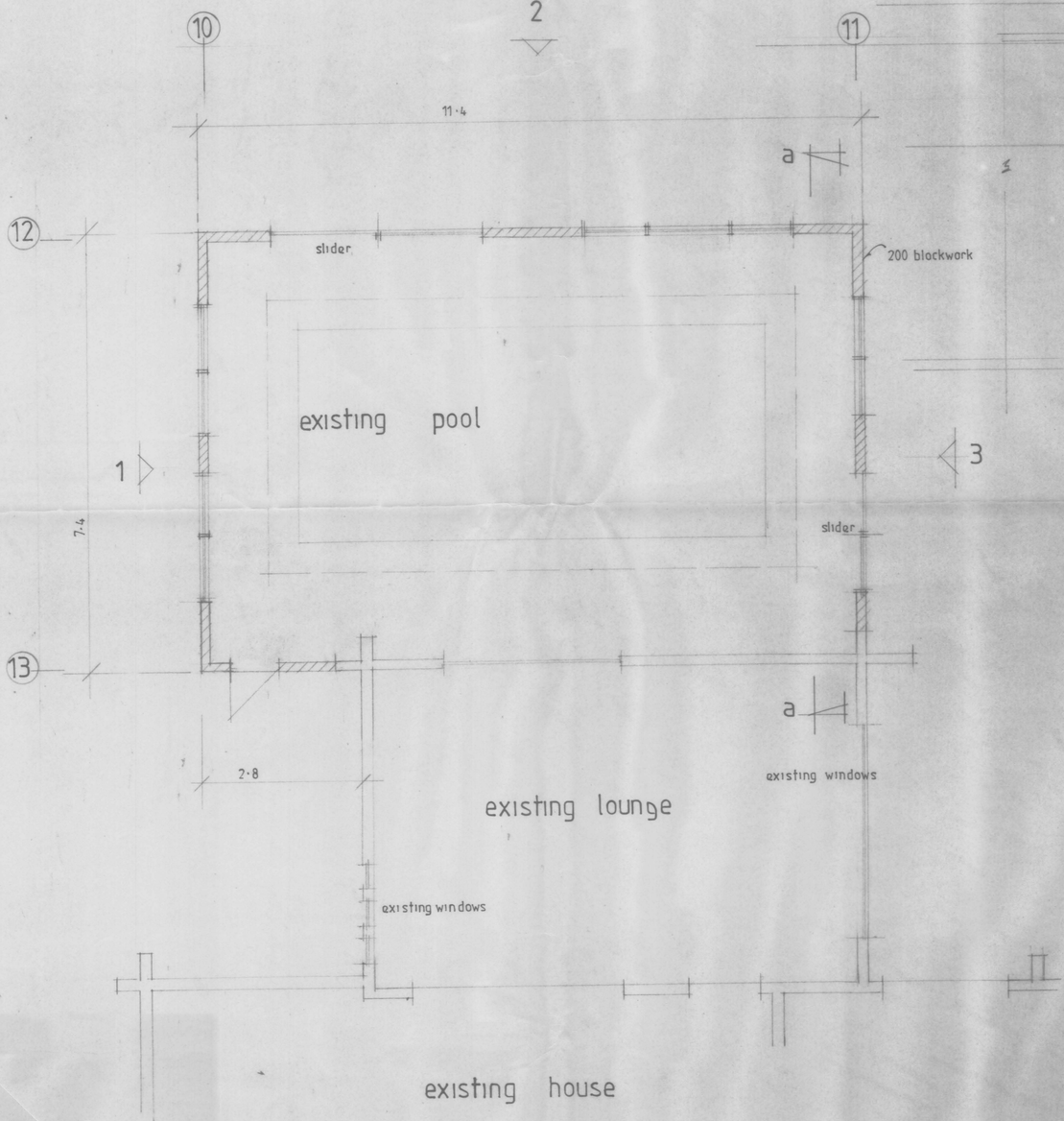


section aa . 1 : 20



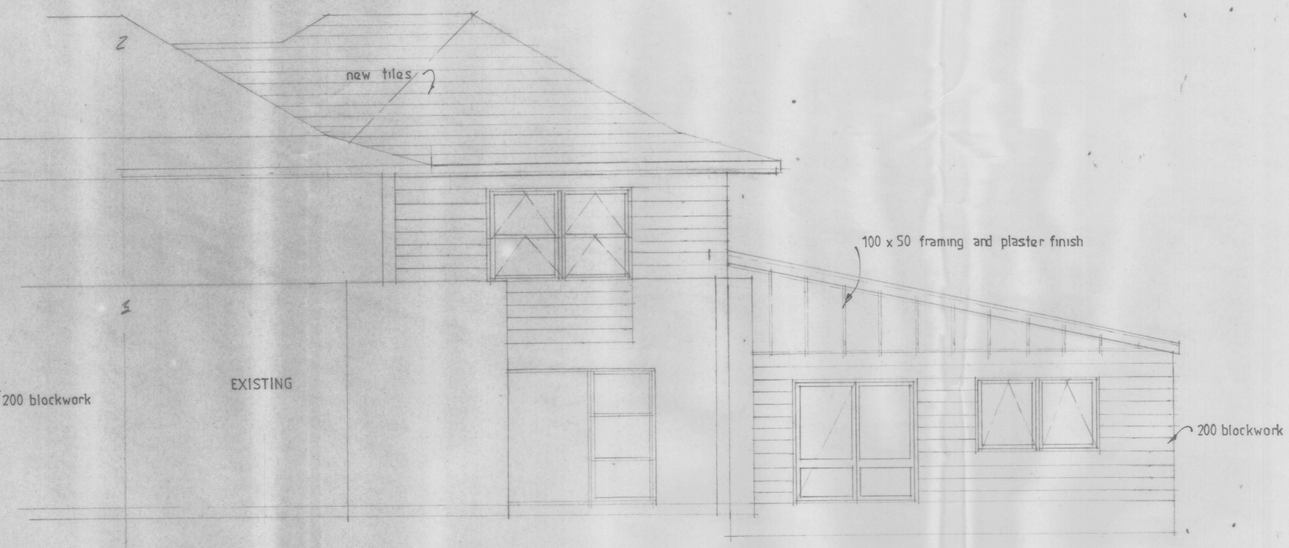
section bb . 1 : 20

STREET .....
ST NO .....
LOT .....
DPS .....
CONSENT NO .....
DETAILS .....

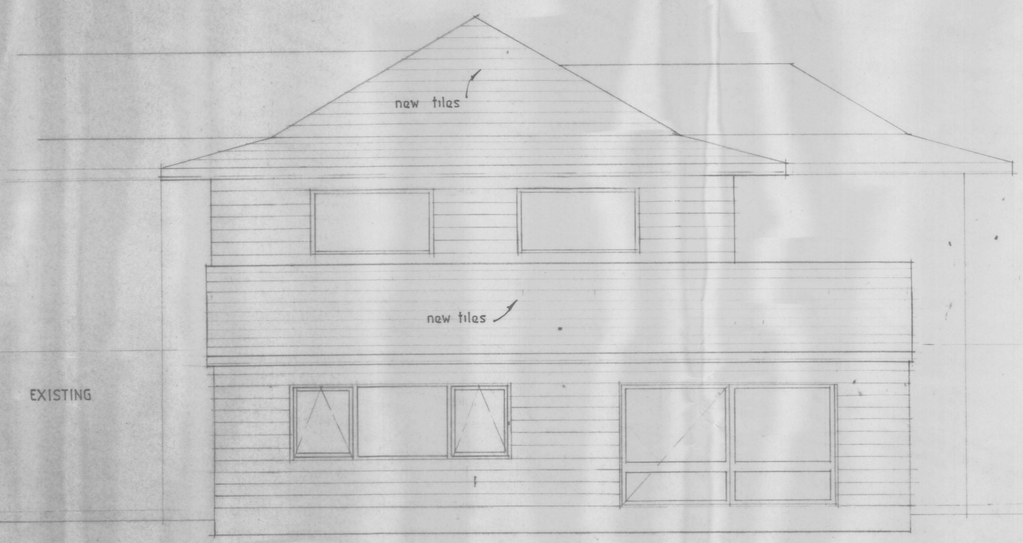


existing house

ground floor plan. 1:50

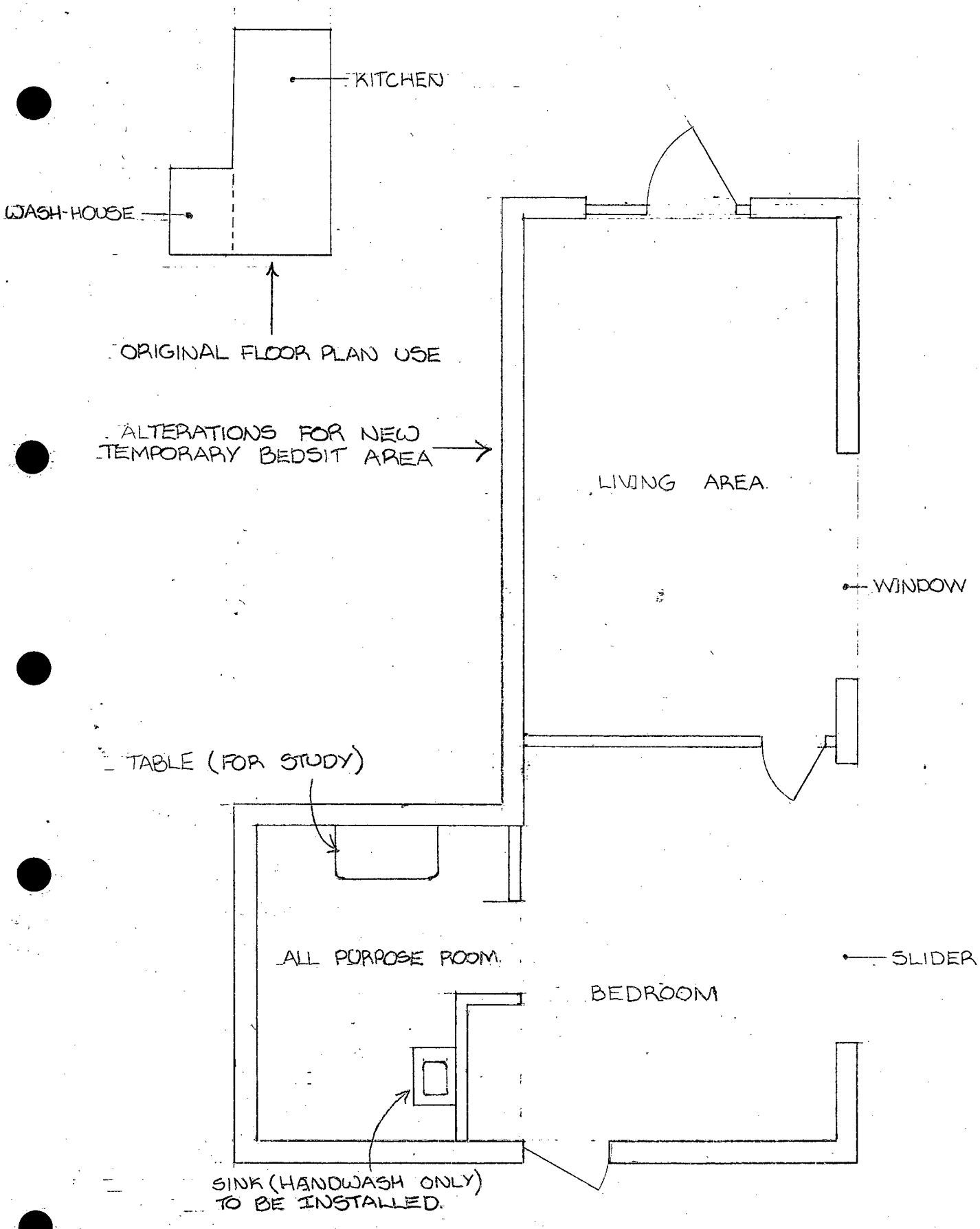


side elevation 3



rear elevation 2

STREET .....
ST NO .....
LOT .....
DPS .....
CONSENT NO .....
DETAILS



SCALE 1:50

SCALE DRAWING OF UPPER PORTION TO BE COMPLETED.

WAIPA COUNTY 4410/457

Application for Building Permit (Please See Back Hereof)

TO THE WAIPA COUNTY COUNCIL, P.O. BOX 12, TE AWAMUTU

I hereby apply for permission to ERECT (Erect. etc.)

at MEADOW LANE. R.D.8 FRANKTON (OFF RUKETE RD TE RAPA) (House No. and Road)

for Robert Leslie DENISON (Owner), of P.O. BOX 10268 TE RAPA (Address)

according to locality plan and detailed plans and specifications of building deposited herewith,

Nature of Building(s) ERECT DWELLING. AND SHIFT EXISTING CHILDRENS PLAYHOUSE (General description, type, etc.)

Particulars of Building(s)—Foundations 300 x 300 mm FOOTING, CONCRETE SLAB FLOOR 100 mm.

Walls 200 mm BLOCK AND TIMBER FRAME Roof DIMOND 'METRIC' LONG RUN IRON

Area of Ground Floor 228.64 sq. m Area other Floor(s) ..... sq. ft. Area Outbldgs. CARPORT/TOOLSHED 42 sq m PLAYHOUSE 5.75 sq. m. sq. m.

Particulars of Land—Lot No. 5 D.P. 18043

PART 12 & 13 RUKETE PARISH CT VOLUME 1D FOLIO 323.

Estimated Value		Number on Valuation Roll
Building	$25,000	457/2/5.
Plumbing and Drainage	$ 2,000	
Total	$27,000	

Proposed purposes for which every part of building is **to be used or occupied** (describing separately each part intended for use or occupation for a separate purpose): DWELLING – PRIVATE RESIDENCE – CARPORT AS SUCH – TOOLSHEDS AS SUCH. (Dwelling, Apartments, Private Garage, Joinery Factory, Offices, etc.)

Nature of ground on which building is to be placed and the subjacent strata FINE PUMICE CLAY

Estimated Date of Completion AUGUST 1976 Signature of Owner R L Denison

Dated 19th August 1975 Signature of Builder R L Denison

(State name of Licensed Plumber, if known): Address P.O. Box 10268 TE RAPA

PLUMBER: A.V. O'HALLORAN DRAINLAYER R.L. DENISON

TO BE COMPLETED WHEN APPLICATION IS FOR A DWELLING PERMIT IN A RURAL ZONE

Is dwelling to be occupied by a person employed in rural activities on the site YES.

Is building to be rented or leased No Signature of Owner R L Denison.

THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

Receipt No. C218

Building Fee $64-00

D. and P. Fee 20-00

B.R. Levy 13-50

Soil Test Fee

Dep. against F.D. —

Crossing Fee —

Water Conn. Fee —

TOTAL: $97-50

Bdg Projects Authority App. slip sent to Mr Denison 3-9-75 by Owen

1) Concrete floor to be completely enveloped in moisture proof membrane

2) Exposed rafter members to steel together at apex with approved metal strapping e.g. "Ryde Nail" etc

3) 200 x 50 ceiling joists to be not further apart than 900 mm.

4) Hot water booster to be install in accordance with N.Z.S.S. 1900 Chapter 7.

5) Excavated footings with all steel tied in place to be inspected by C.B.I. prior to any concrete being poured.

6) Main foundation slab to have 75 mm concrete

Received 21 – 8 – 75 Date of Permit 2/12/75 Permit No. G88357

P. T.

PLEASE NOTE:

APPLICATIONS FOR NEW BUILDINGS: One application form, one scaled site plan, one set of plans on strong paper, and one specification should be submitted in the first instance. **Note:** Site plans for new dwellings are preferred on a foolscap-sized sheet and scale may accordingly be reduced to, say 1/16th inch. Where special reasons warrant, additional copy of plans and of specifications required by the By-laws as above may be asked for.

APPLICATIONS FOR ALTERATIONS, ADDITIONS, ACCESSORY BUILDINGS, such as private garages: One application form, one site plan, one set of plans and a schedule specification should be submitted in the first instance.

Note: Specification should cover types, grading, spacing (Centres) and sizes of materials. It is important that the position of existing foul drainage (especially gulley traps, terminal vent, etc.) should be shown on the plans.

APPLICATIONS FOR BULIDINGS TO WHICH SEPTIC TANKS ARE TO BE PROVIDED: Before a building permit for a building the waste water disposal system of which is to be a **septic tank** soil soakage system can be finalised, a soil percolation test must first be carried out on the site. Request forms for this service are available at the County Office.

RATHOUSE AS INSPECTED BY MR JOHNSON AT 181 SANDWICH ROAD. : A frame construction 8' x 8' bottom floor 4' x 8' top floor.

THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

WAIPA COUNTY COUNCIL.

APPLICATION FOR PERMIT FOR SANITARY PLUMBING OR DRAINAGE WORK.

To The Engineer,
Waipa County Council.

I, the undersigned....Robert Leslie DENISON.....
(name in full)

of.....P.O.Box 10268, Te Rapa.....
(insert full address.)

hereby apply for permission for the work described herein, and set out in the plans attached hereto, to be carried out in the premises situated at.....Meadow Lane, Te Rapa.....
(name of road.)

LOT NO....5.....D.P. 18043

ALLOTMENT..Part 12 and 3, Pukete Parish, CT Volume ID Folio 323.....

Name and address of the person for whom work is to be carried out.

.....Self.....

.....

Name and address of registered plumber or other person entitled to do work.

.....R.L.Denison, P.O.Box 10268, Te Rapa...(Reg Drainlayer.).....

.....A.V.OHalloran, Riverlea Road, Hamilton (Reg Plumber).....

Description of Work.....Provide Soil drainage from Dwelling and workshop to...

....750 Gallon tank, and effluent system as designed by Engineer.....

PLUMBING : Provide all supply and waste systems as necessary.

VALUE OF PROPOSED WORK INCLUDING MATERIALS:-

(A.) PLUMBING..$1,300.....
(B.) DRAINAGE..$700.....
TOTAL..$2,000.....

SIGNATURE.....

DATED THIS 20th DAY OF.....August.....19.75.....

Building Permit No..... E.C. .....

Receipt No. ..... F.P. .....

PLEASE NOTE.

BEFORE A PERMIT CAN BE ISSUED TO ANY PERSON WHO IS ENTITLED TO DO SANITARY PLUMBING OR DRAINAGE IN THE COUNTY OF WAIPA IT WILL BE NECESSARY THAT THIS FORM BE FULLY COMPLETED.

PERMIT FEES.

1 DOLLAR FOR EVERY 100 DOLLARS OR PART THEREOF.

SPECIFICATIONS FOR PROPOSED DWELLING FOR MR AND MRS R.L.DENISON AT MEADOW LANE TE RAPA.....

1. Excavation ... all topsoil and vegetation shall be removed from site.
2. Backfilling ... all floor areas shall be backfilled with pit sand thoroughly rammed and consolidated.
3. Damp proofing ... All concrete floors shall be damp proofed with .25mm polythene film.
4. Foundations ... Shall be in solid ground, 10m.p.a. concrete 300mmx300mm reinforced with 4 12mm steel rods with 9 mm stirrups at 600mm centres. 9mm starters shall be provided for the floor at 1.2 M centres, and for the walls at each corners and at each side of openings. Foundations shall follow the floor edge of the dwelling. Foundations for carport and tool sheds shall be similar, but shall contain 2 only 12 mm reinforcing rods.
5. Floor Slab shall be 100 mm concrete 10 m.p.a. reinforced with 6:6:5 mesh and tied into foundations every 1.2M with 9 mm starters. Slab shall be a minimum of 200mm above surrounding ground level at any point. A rebate 125 mm in depth and 200 mm wide shall be allowed for all external walls.
6. Central Heating ... elements shall be tied to floor slab reinforcing mesh.
7. Exterior 200mm block walls ... shall be reinforced vertically at each corner and at the sides of all window and door openings, using one 12mm steel rod extending from the foundation. Horisontal reinforcing shall be provided in a continuous beam (bond beam) along the top edge of the wall reinforced with 4 9mm rods with stirrups at 600mm intervals. There shall be a double bond beam with a total of 6 rods over each window and door opening, extending a minimum of 600 mm beyond the openings. One 12 mm steel rod shall reinforce the bond beam under each window. All block work shall be sealed inside and out with an approved sealer.
8. Exterior timber frame walls (covered by patios) shall be 100mm x 50mm Radiata, Boric treated, and sheathed with an ornamental shiplap stained treated radiata.
9. Exterior joinery shall be bronze finished aluminium windows and sliding doors. An exterior type of aluminium joinery will also be used on the atrium area. Exterior doors which are not sliding shall be glazed treated timber, suitably stained.
10. Interior walls ... shall be 100mm x 50 mm Radiata, B.T. lined with Gib. board.
11. Roof shall be Dimond 'Metric' laid at a 4 degree pitch. The pitch shall be achieved by raising the centre of the roof, and curving the iron slightly over it. Building paper shall be laid directly under the iron. Rafters shall be 150mm x 50mm B.T.Rad. at not more than 1M centres. Purlins shall be 75mm x 50mm B.T.Rad laid on the flat, at 1 M centres. In the living and dining room areas Rafters shall be 350 mm x 50mm exposed beams of sandblasted oregan.
12. Ceiling shall be Gib. Board throughout, with provision for Revertex 'Whisper' spray coatings. The Gib board shall be fixed to 50mm x 38mm batons affixed directly to the underside of the rafters, or in the dining room and lounge to the underside of the purlins. Before these batons are affixed, a layer of double sided Sizalcraft film will be affixed to the rafters or purlins. The batons shall be affixed at centres of not more than 600 mm on rafters and 450 mm on purlins.

1

AMENDED SPECIFICATIONS FOR PROPOSED DWELLING FOR MR. AND MRS. R.L.DENISON AT LOT 5, D.P. 18043, PART 12 & 3, PUKETE PARISH,(Meadow Lane, Te Rapa.)

STANDARDS The residence is to be erected in accordance with ~~xxxxx~~ Chapter 6.1: 1964, N.Z.S.S. 1900 and subsequent amendments, and with the relevant Local body building bylaws.

LOCALITY

Shall be pegged by the owner on the site, as detailed on the attached site plan.

MATERIALS AND WORKMANSHIP

Work is to be carried out in accordance with the drawings, and materials generally shall be the best available. Any materials specified and unprocurable at the time required may be substituted with other similar materials provided that they comply with the local bylaws and N.Z.S.S. 1900.

CONCRETE

Concrete strength is to be of at least 17.24 M.Pa.

Foundations shall be in solid ground 300mm x 300mm reinforced with 4 x 12mm steel rods with 6mm stirrups at 600 mm centres. 12 mm starter rods are to protrude from foundations at least 600 mm above floor level into cavities of blockwork at positions corresponding with reinforcing in cavities. Further 12 mm starting rods at 600 mm centres shall protrude from the foundations at least 600 mm and shall be tied into the floor slab reinforcing.

Floor slab shall be 100 mm concrete, reinforced with 6:6:5 mesh tied into foundations as above. Slab shall be a minimum of 200mm above ground level at any point. A rebate of 25mm depth and 200mm width shall be allowed for all external walls.

All floor slabs shall be damp proofed with polythene film of approved strength, which shall run under the floor slab areas only and not above any foundations, in addition to this film a waterproofing agent shall be added to all concrete poured into floor slabs. The areas under all floor slabs shall be built up with pit sand thouroughly rammed and consolidated.

Central heating elements shall be tied to the reinforcing mesh in the floor slabs immediatly prior to pouring by the electrician, and every endeavour shall be made while pouring to avoid damage to these elements.

EXTERIOR 200MM BLOCK WALLS

BLOCKS shall be good stock first grade 200 mm metric blocks. Mortar shall be composed of one part cement to 3 parts of sand or plymortar. Plymortar shall be well mixed with the sand and water and immediatly before use gauge with cement. No mortar which has become set or dead shall be used. Joints shall not exceed 9mm in thickness. All joints are to be weatherstruck as work proceeds.

REINFORCING of blocks shall be at 600 mm centres and at each corner, and at the sides of all window and door openings, using one 12mm steel rod extending from the foundation vertically. Horisontal reinforcing along a top beam (bond beam) shall be 4 x 12mm rods held in position with 6mm stirrups at 600mm intervals. There shall be a double bond beam with a total of 6 x 12mm rods over all window and door openings extending a minimum of 600mm beyond the opening. One 12mm steel rod shall reinforce the bond beam under each window. Blocks shall be sealed with an approved sealer or paint, inside and out,

2

CARPENTER AND JOINER

All materials are to be the best of their respective kinds, and grades, laid true to their various levels, and constructed in a proper tradesmanlike manner, to make the whole of the works a sound construction, and to comply with local bylaws. All framing timbers shall be boric treated radiata, and all woodwork coming into contact with concrete of blockwork is to be protected with 3ply malthoid D.P.C. All plates, studs, and nogs shall be 100mm x 50mm with studs spaced at not more than 400mm. Non bearing partition walls may be 75mm x 50mm.
Lintels shall conform to Chapter 6.1.26 and to table 6 of N.Z.S.S. 1900.
Gib board linings will be fitted throughout to all timber walls. Exterior finish on timber frame walls (covered by patios) shall be an ornamental shiplap stained treated radiata.

ROOF

Roof shall be 'Dimond' 'Metric' laid at a 4 degree pitch. This pitch shall be achieved by raising the centre of the roof and allowing the iron to curve slightly over it. Building paper shall be laid directly under the iron, and shall be supported by netting. Purlins shall be ~~x~~ 75mm x 50mm laid on edge, at not more than 1.0 M centres. Rafters shall be 150mm x 50mm B.T.Radiata 200 x 50 Spaced 3.5m 11'6" at not more than 1.0 M centres, except over the lounge and dining room areas where rafters shall be 350mm x 50mm exposed beams of sandblasted oregan.
Ceilings shall be gib board throughout, with provision for 'Revertex Whisper' spray coatings. A layer of double sided sizalcraft film shall be affixed to the underside of the rafters. 50mm x 38mm batons shall then be affixed at 400 mm centres and the gib board fastened to the batons. In the lounge and dining room areas, the sizalcraft foil and batons shall be affixed to the bottom of the purlins.

EXTERIOR JOINERY

All exterior windows and sliding doors shall be of a bronze finished aluminium type of approved design and quality. This will include the sliding doors and windows into the atrium area. All exterior doors shall be 800mm x 2.0M , 3 light obscure glass or raised panel, 3 x ~~x~~ 100mm Galv. Butts. All interior doors shall be 800mm x 2.0 M plywood finish, 3 x ~~x~~ 90mm butts.

EAVES

Allow rafters to overhang as shown, and cut off plumb. Frame out with 75mm x 38mm and fix 150mm x 25mm fascia board. Line under with 4mm flat fibrolite sheets.

Wall Linings

All ~~xxxxx~~ timber frame walls to be lined with 3/8" flush jointed gibralter board sheets. All sheets to be nailed with $1\frac{1}{4}$" Galv. flat head nails on joints every 150mm and intermediate studs. All stopping to be done with good quality plaster of paris by skilled tradesman. All concrete block walls to be finished with struck joints and painted.

ROBES :

To be lined and ceiled and have a shelf and a coat rail.

SINK TOP AND RETURN BENCH

To be selected ceramic tiles with double stainless steel sink. Upstand at back to be ceramic tile for at least 150mm up wall. Form cupboards under all sink areas with one full width full length shelf and doors with toe spape at floor.

3

KITCHEN CUPBOARDS

Provide kitchen cupboards and dressers where shown provide cupboards and two way drawers to unit between kitchen and dining room. Provide pantry as shown and shelving to suit. Fix ceramic tiles to all dresser tops, with the exception of one portion as shown to be fitted with formica of choice as a baking area.

HOT WATER CUPBOARDS

Provide hot water cupboards where shown. Cupboards to have slatted shelving above cylinders and provide doors as required. Element to be boxed into power boards approval.

FINISHING

Finish off inside and window openings to details with architraves. Skirting to all walls to be neatly finished to floor.

ROOFER

Refer to plans. Dimond 'Metric' roof 4 degree pitch curved over ~~peak~~ highest point at centre line of house. Roof shall be 26g , fixed with 150mm x 14g round head roofing screws and 18g square washers over a 1.5mm neoprene washer. Provide with approved building paper over netting. Fix Dimond 'Straightline' spouting and downpipes.

PLUMBER

Flash all openings through roof with 4lb lead or 25g galvinised iron. Make the building watertight.

COLD WATER

Lay water from supply through 18mm P.V.C. piping to entry points in slab floor of house. Lay 18mm and 12mm copper piping wrapped in densotape to all plumbing fixtures as necessary. Connect to pressure reducing valve and hot water cylinders.

HOT WATER

Provide and fix two 25 gallon elecric hot water cylinders with 750watt elements and thermostat controls and all necessary connections to make same in working order. All hot water pipe to be lagged. Provide connections from hot water cylinder in laundry to coal burning booster in kitchen and fit out as necessary.

Vent hallway between bedrooms with 150mm diameter pipe through roof, capped, and flashed

BATHROOMS

Provide basins, baths, and shower units of an approved design as selected by owner.

WASTES

Bath sink shower basin, and tubs to have ~~x~~ 38mm P.V.C. traps and wastes, wrapped as necessary for protection through floor slabs. All sanitary plumbing to be installed by a registered plumber, approved by the Sanitary Inspector.

W.C. to be provided with white earthenware pan, plastic seat (white) 3 gallon low set silent flush symphonic cistern, p.v.c. pipes and vent.

PAINTER AND PAPERHANGER

EXTERIOR WOODWORK

All exterior woodwork, including atrium area to recieve two coats of selected sealing stain. All nail holes to be puttied after first coat.

SPOUTING, UNDER EAVES ETC

To recieve one coat first quality primer, and two coats selected colour ready mixed enamel of approved brand.

ENAMEL

~~Walls~~ Ceilings, woodwork, in kitchen, laundry, bathrooms, and W.C's to have a priming coat on woodwork, a sealing coat on wall board and plaster, and then given one coat of flat and one coat of enamel in selected shades to be approved.

4

CEILINGS

All ceilings in other rooms to be stopped and finished with REVERTEX 'Whisper' spray coating finish.

Wallpaper.

All gib walls to be papered with papers of owners choice. Papers to be hung plumb and joints butted.

Interior block walls to be spray painted with a mottled effect finsh coat of selected colour over a sealing base coat.

Exterior of block walls to be sealed with an approved sealer, such as two coats of Taubmans'Drycote' clear sealer.

Interior finishing work

All interior work not enammelled to have a coat of approved sealer, nail holes puttied, and two coats of satin finish varnish.

CLEANING etc

All glass, fittings, etc to be left free from paint marks, and clean on completion.

GLAZIER

All glass to be of first quality and of sufficient weight for the sizes where glazed.

ELECTRICAL ENGINEER

Electrician shall make necessary application to the power board, and work is to be carried out to power board regulations, to N.Z.S.S. standards.

Cables of ample capacity for the power required and adequate safty margins to be used.

Switchboards Polished nonconductive asbestos composition fixed where directed flush to wall. Size to be adequate to accommodate all required meters, switches, and fuses etc.

SWitches. Lighting and power, 5amp and 10 amp respectively, positions as shown on plan.

Lights Provide ceiling lights as indicated on plan, complete with lamps and shades. Provide 100 watt lights for living and dining room, bedrooms and kitchen, 60 watt elsewhere.

POWER POINTS

Provide power points at positions shown on plans, 1350mm above floor in kitchen and laundry, 300mm above floor elsewhere.

Hot water thermostat and element provided by plumber to be installed and connected.

ELECTRIC RANGE provided to be installed.

DRAINLAYER

All drainage will be laid by owner (Reg No 29172). Winstones 'Terrain' P.V.C. soil pipe will be used, laid to minimum grades in a surround of pea metal. Earthenware gully traps and standard precast concrete back entry gully surrounds will be used. A minimum of 700 gallon capacity septic tank will be provided and a soakage system as designed on the plan included with the permit application willbe laid. Stormwater shall be piped in 3" 75mm 'polidrain' p.v.c. pipes to gully.

Hot water Booster

A coal and wood burning hot water booster shall be installed in the kitchen as marked on the plan. It shallbe surrounded on both sides and at the rear with brick veneer, and the chimney shall be precast concrete sections poured into galv. iron as supplied by Firth Industries.

4410/457

WAIPA COUNTY

WDC

Application for Building Permit

(Please See Back Hereof)

TO THE WAIPA COUNTY COUNCIL, P.O. BOX 12, TE AWAMUTU

I hereby apply for permission to ERECT (Erect. etc.)

at LOT 5 DPS 18043 MEADOW LANE, TE RAPA (House No. and Road)

for R.L. DENISON (Owner — Block Letters), of BOX 10268 TE RAPA (Address)

according to locality plan and detailed plans and specifications of building deposited herewith,

Nature of Building(s) IMPLIMENT SHED AND HAYBARN (General description, type, etc.)

Particulars of Building(s)—Foundations ~~Piles~~ CONCRETE

Walls TIMBER FRAME Roof BROWNBUILT

Area of Ground Floor 720 sq. m Area other Floor(s) ..... sq. m Area Outbldgs. ..... sq. m

Particulars of Land—Lot No. 5 D.P. 18043

MEADOW LANE

Estimated Value		Number on Valuation Roll
Building	$1600-00	~~457/2/5~~
Plumbing and Drainage	$ NIL.	
Total	$	

Proposed purposes for which every part of building is to be used or occupied (describing separately each part intended for use or occupation for a separate purpose): STORING TRACTOR AND IMPLIMENTS AND HAY (Dwelling, Apartments, Private Garage, Joinery Factory, Offices, etc.)

Nature of ground on which building is to be placed and the subjacent strata PUMICE CLAY

Estimated Date of Completion 1 MONTH Signature of Owner [signature]

Dated 17 - 8 1978 Name of Builder R.L. DENISON (Block Letters)

(State name of Licensed Plumber, if known): N.A. Address of Builder BOX 10268 TE RAPA

Signature of Builder [signature]

TO BE COMPLETED WHEN APPLICATION IS FOR A DWELLING PERMIT IN A RURAL ZONE

Is dwelling to be occupied by a person employed in rural activities on the site NO

Is building to be rented or leased NO Signature of Owner [signature]

THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

Receipt No. E 1377

Building Fee $8-00

D. and P. Fee

B.R. Levy

Soil Test Fee

Dep. against F.D.

Crossing Fee

Water Conn. Fee

TOTAL:

1. Bottom plate to be not less than 150mm above surrounding ground level
2. 3 ply malthoid to be fitted between bottom plate and foundation
3. Poles to front of shed to be set in concrete pad not less than 400x400 x1metre deep. A scrap metal foot to be welded to base of pole
4. Purpose made bracket to be welded to top of pole for bolting beam to same.
5. Building to be adequately braced.

Received 18-8-78 Date of Permit 21.8.78 Permit No. I 35553

TYPECRAFT PRINT

PLEASE NOTE:—

APPLICATIONS FOR NEW BUILDINGS: One application form, one scaled site plan, one set of plans on strong paper, and one specification should be submitted in the first instance. **Note:** Site plans for new dwellings are preferred on a foolscap-sized sheet and scale may accordingly be reduced to, say 1/16th inch. Where special reasons warrant, additional copy of plans and of specifications required by the By-laws as above may be asked for.

APPLICATIONS FOR ALTERATIONS, ADDITIONS, ACCESSORY BUILDINGS, such as private garages: One application form, one site plan, one set of plans and a schedule specification should be submitted in the first instance.

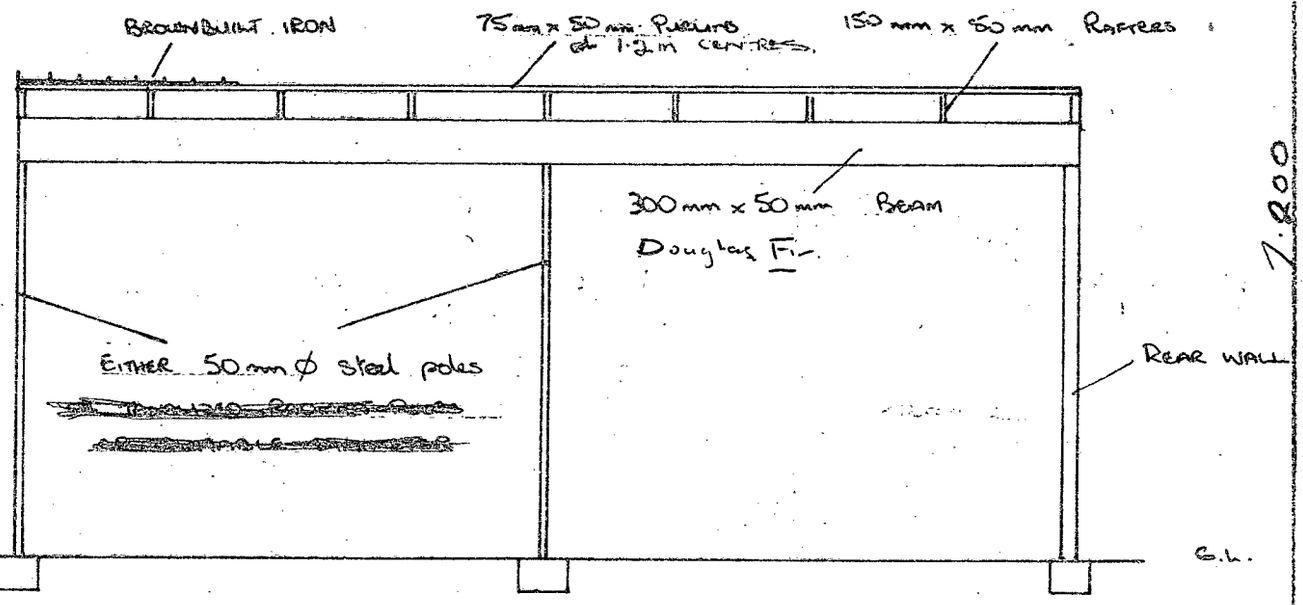
Note: Specification should cover types, grading, spacing (Centres) and sizes of materials. It is important that the position of existing foul drainage (especially gulley traps, terminal vent, etc.) should be shown on the plans.

APPLICATIONS FOR BULIDINGS TO WHICH SEPTIC TANKS ARE TO BE PROVIDED: Before a building permit for a building the waste water disposal system of which is to be a septic tank soil soakage system can be finalised, a soil percolation test must first be carried out on the site. Request forms for this service are available at the County Office.

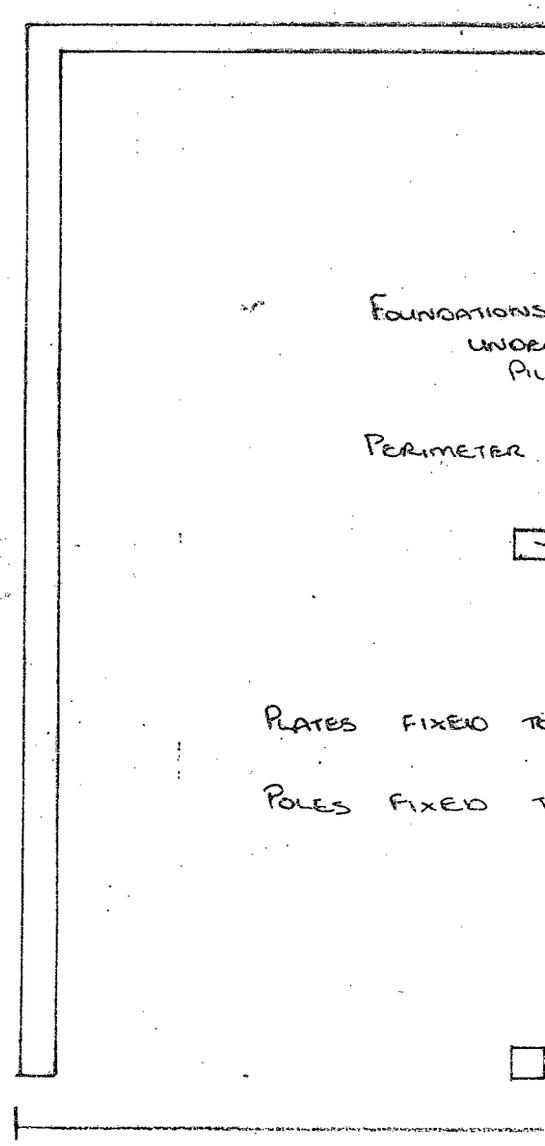
THIS SPACE RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

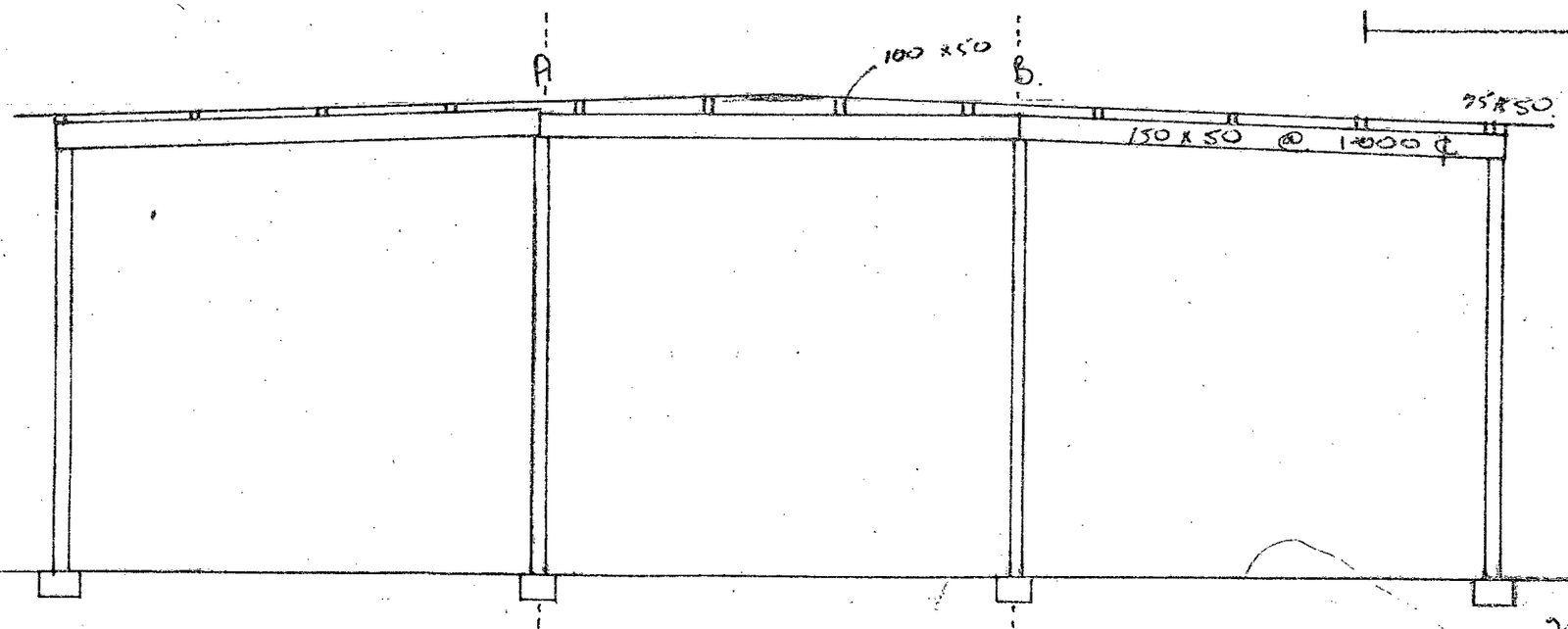
IMPLIMENT SHED AND HAYBARN FOR MR R.L. DENISON
LOT 5 DPS 18043 MEADOW LANE TE RAPA

NOTE: ALL RAFTERS 2 NAILED TO BEAMS AND PERIMETER WALLS.



CROSS SECTION THROUGH A & B.





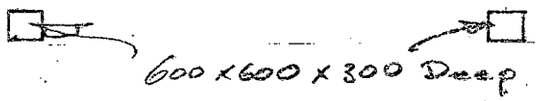
Clear of all boundaries

R MR R.L. DENISON
WANÉ TE RAPA

S AND PERIMETER WALLS.

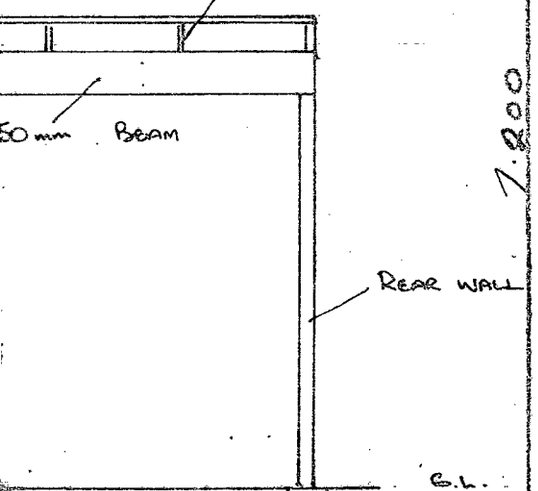
FOUNDATIONS: - 200 x 200 mm CONTINUOUS FOUNDATION UNDER PERIMETER WALL. 200 x 200 mm PILES POURED IN SITU TO DEPTH 600 mm UNDER SUPPORT POLES.

PERIMETER FOUNDATIONS REINFORCED 2 x 9mm rods.



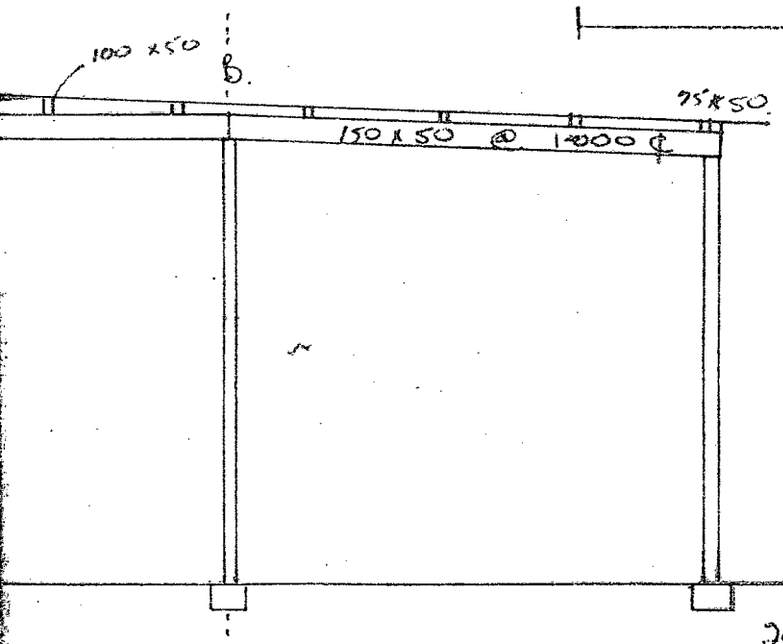
PLATES FIXED TO FOUNDATIONS BY BOLTS (9mm) tied to rods.

POLES FIXED TO PILES BY BOLTING TO FLANGES SET INTO PILES

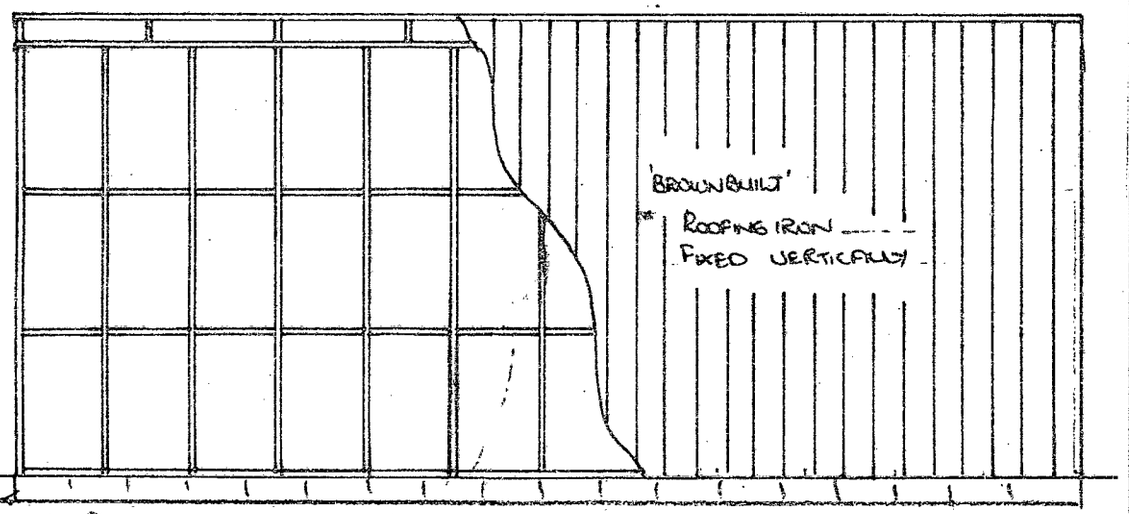


7.800

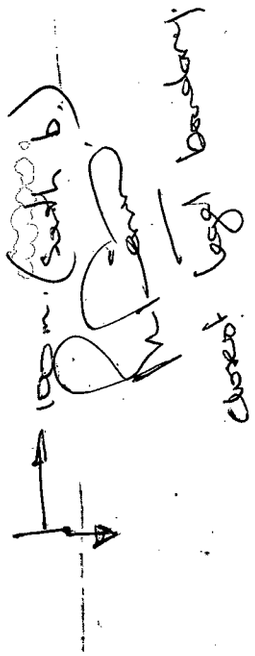
10.000

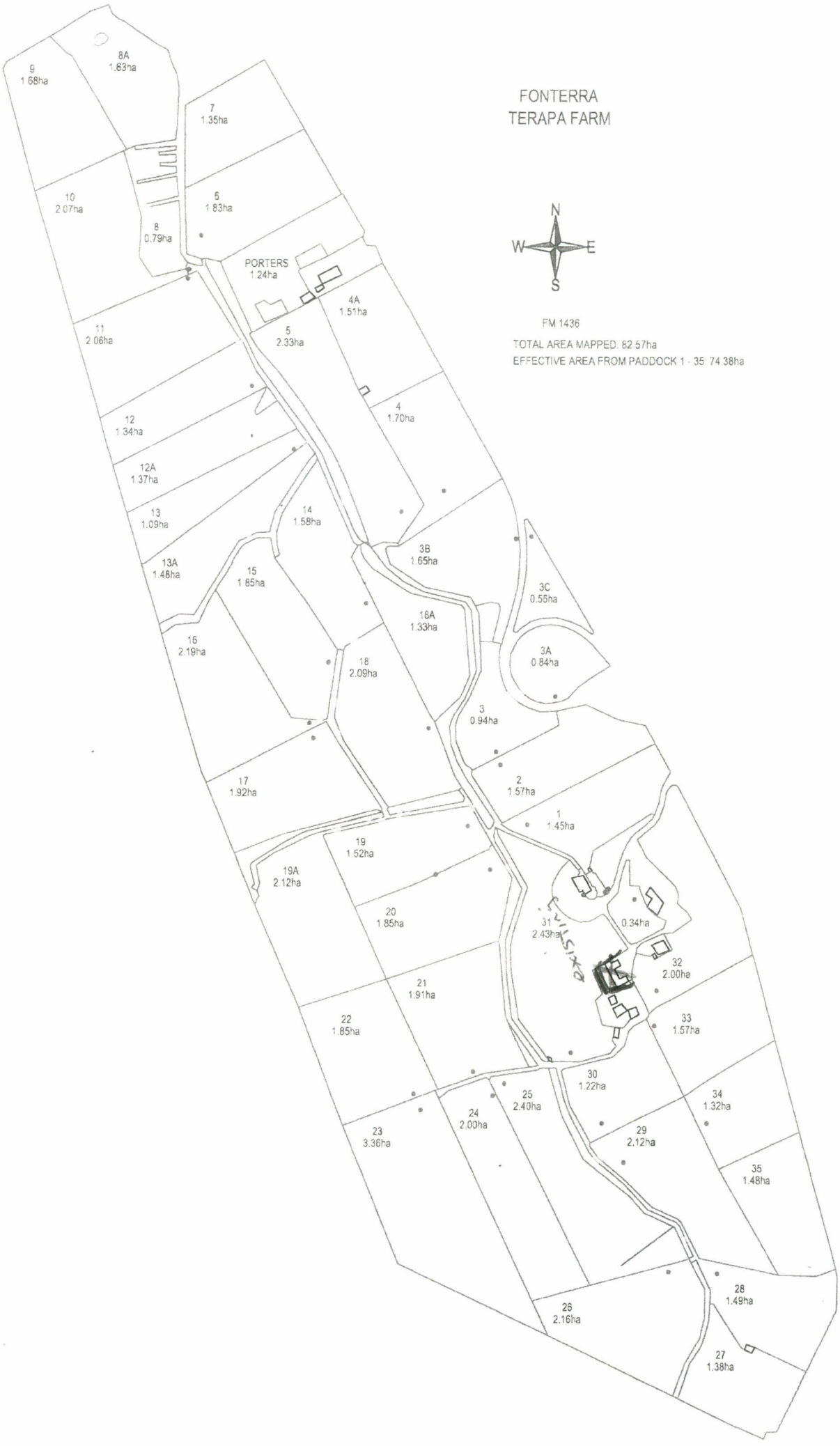


300 mm HIGH CONCRETE BLOCK



BOTH END WALLS - SIMILAR CONSTRUCTION FOR REAR (SOUTH) WALL




FONTERRA
TERAPA FARM
N
W
E
S
FM 1436
TOTAL AREA MAPPED: 82.57ha
EFFECTIVE AREA FROM PADDOCK 1 - 35: 74.38ha
9
1.68ha
8A
1.63ha
7
1.35ha
10
2.07ha
6
1.83ha
8
0.79ha
PORTERS
1.24ha
4A
1.51ha
11
2.06ha
5
2.33ha
4
1.70ha
12
1.34ha
12A
1.37ha
13
1.09ha
14
1.58ha
3B
1.65ha
13A
1.48ha
15
1.85ha
3C
0.55ha
18A
1.33ha
16
2.19ha
3A
0.84ha
18
2.09ha
3
0.94ha
17
1.92ha
2
1.57ha
1
1.45ha
19
1.52ha
19A
2.12ha
20
1.85ha
31
2.43ha
0.34ha
32
2.00ha
21
1.91ha
22
1.85ha
33
1.57ha
30
1.22ha
25
2.40ha
34
1.32ha
24
2.00ha
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29
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35
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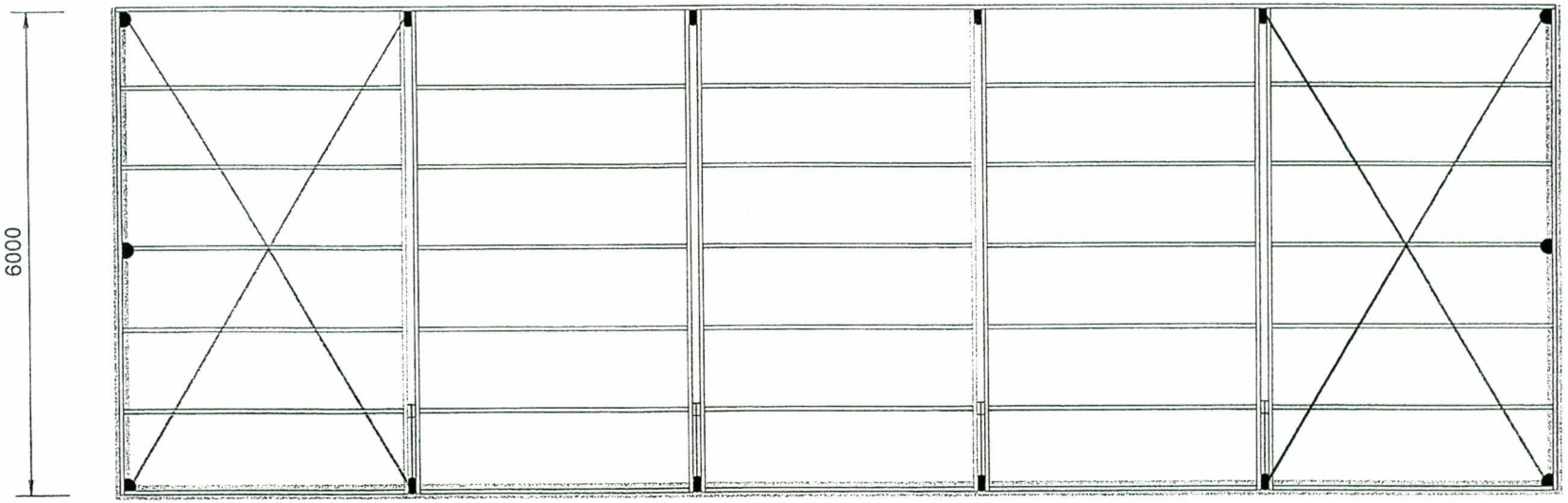
28
1.49ha
26
2.16ha
27
1.38ha



Pitch = 5.71 deg. by others.

Regarding any future alterations to this shed:
If at any time the cladding (internal or external) needs to be removed from a wall along a rafter, rafter props must be added.
If this is the case please contact MiTek Farm Buildings for further information.

= CLAD WALLS

Single row of tensioned Multibrace laid over purlins. Fix at each end with 11x30x3.15 nails and 3 at each purlin crossing.

● POLE ☐ COLUMN

Wind Load: High	Girt Size: 140 x 45mm	Pole Size: 175mm SED	Max. Pole Height: 4200mm
Sg = 0.9 kPa	Girt Centres: 1000mm	Pole Embedment Depth: 1100mm	Lower Pole Height: 3600mm
Earthquake Zone: 1	Purlin Size: 190 x 45mm	Column Type: Round Pole	Floor Type: Earth
Rafter Span: 6000mm	Purlin Centres: 1000mm	Int. Pole Size: 150mm	Planer Gauged VSG8 / MSG8
Pole/Bay Spacing: 3600mm	Rafter Size: 290 x 45mm	Props Required: 1 per span	

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

MiTek™
MiTek New Zealand Ltd.
AUCKLAND
PO Box 58-014, Greenmount
Phone: (09) 274 7109
Fax: (09) 274 7100
CHRISTCHURCH
PO Box 8387, Riccarton
Phone: (03) 348 8691
Fax: (03) 348 0314
www.miteknz.co.nz
HOME OF GANG-NAIL® BUILDING SYSTEMS

Job Name: Frank Gies
Job Site: Hamilton (TBC)

PLAN

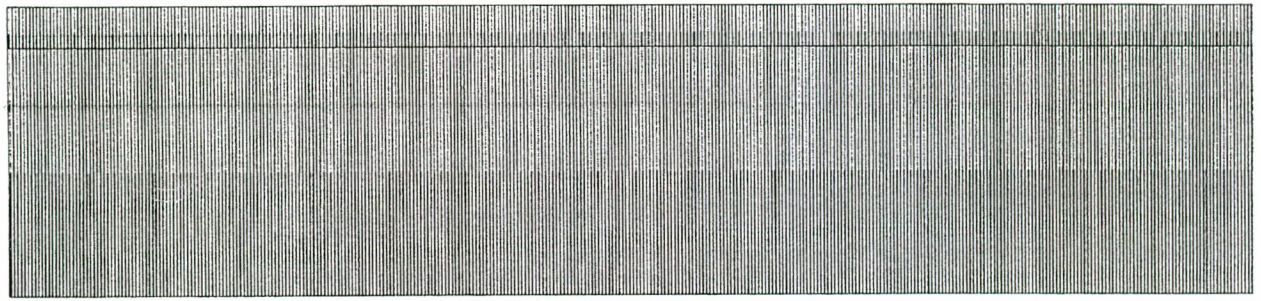
Job Number: LT27675

Client Name: Bunnings	Client Reference Number: FM16	Detailed by: Becky Stanton	Date: 31 / 03 / 14
		Checked by:	Scale: Drawings to scale

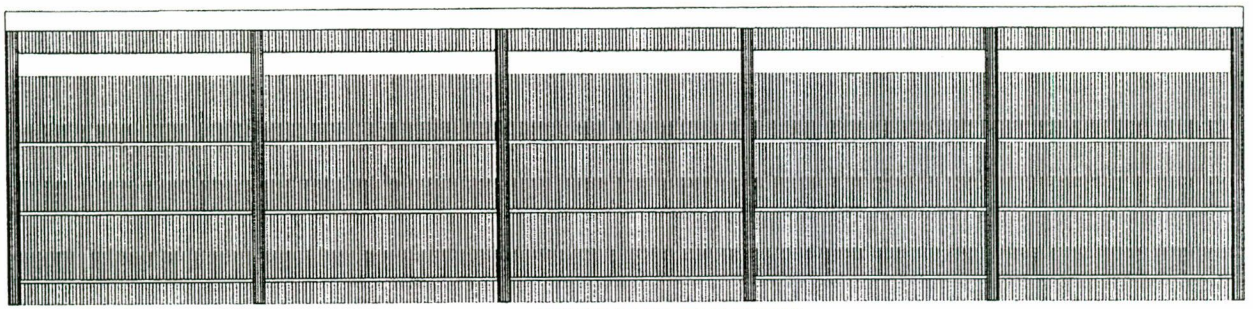
Sheet Number: 1

NOTES:

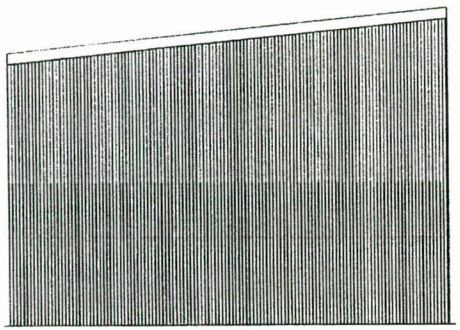
N.B. This design does not include any design or detail of flashing requirements.



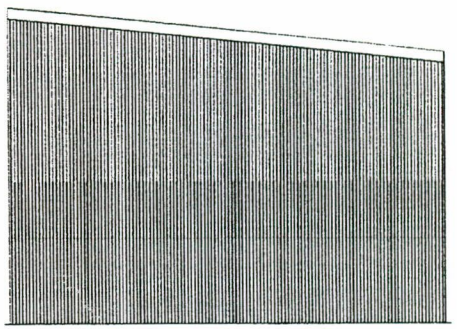
REAR ELEVATION



FRONT ELEVATION



LEFT END ELEVATION



RIGHT END ELEVATION

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Job Name: Frank Gies

Job Site: Hamilton (TBC)

Client Name: Bunnings

Client Reference Number: FM16

ELEVATIONS

Detailed by: Becky Stanton

Date: 31 / 03 / 14

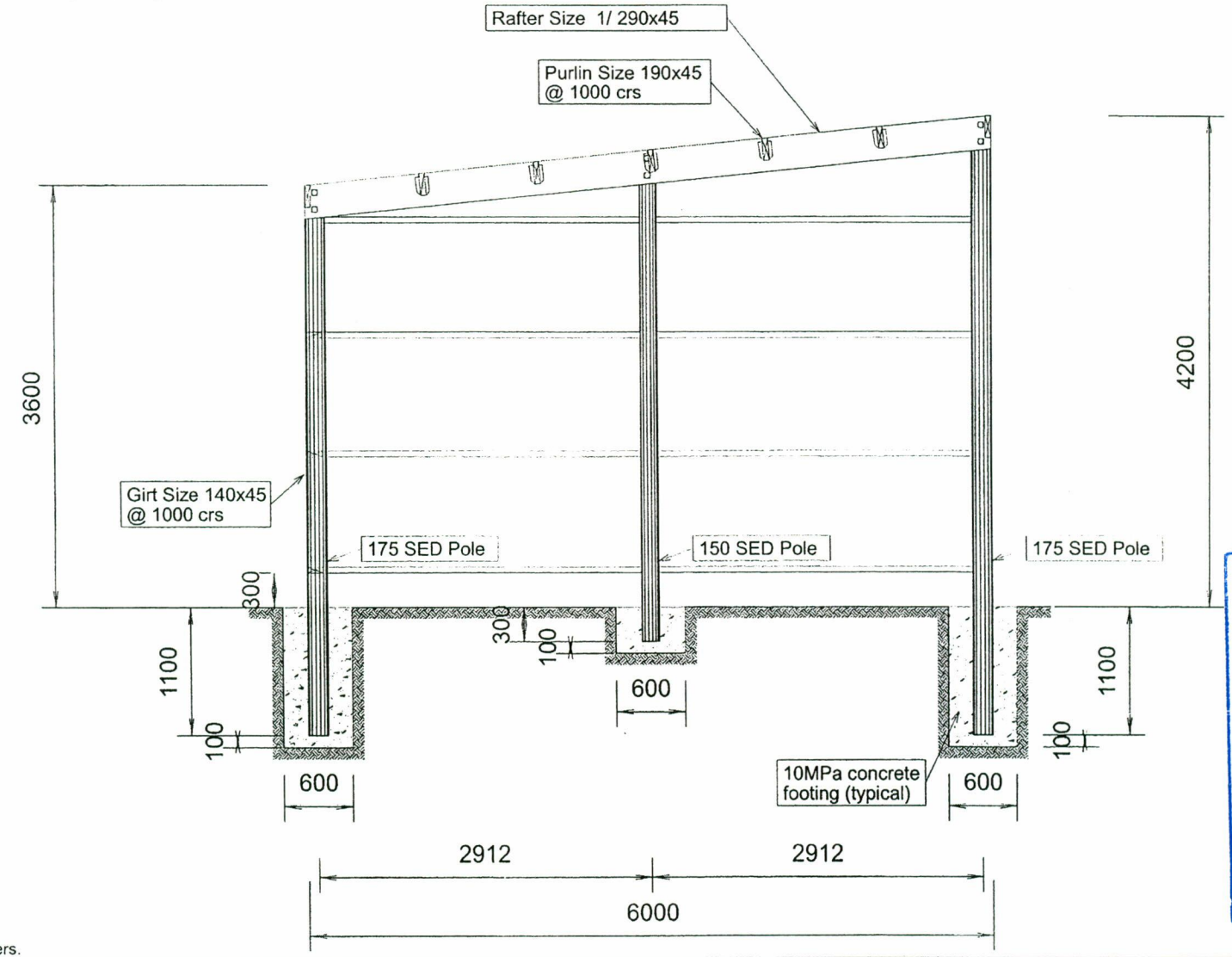
Checked by:

Scale: Drawings to scale

Job Number: LT27675

Sheet Number: 2

Note: Girt pattern may vary, as long as spacings do not exceed 1000.



Pitch = 5.71 deg. by others.

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
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MiTek New Zealand Ltd.
AUCKLAND
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Phone: (03) 348 8691
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HOME OF GANG-NAIL® BUILDING SYSTEMS

Job Name: Frank Gies
Job Site: Hamilton (TBC)

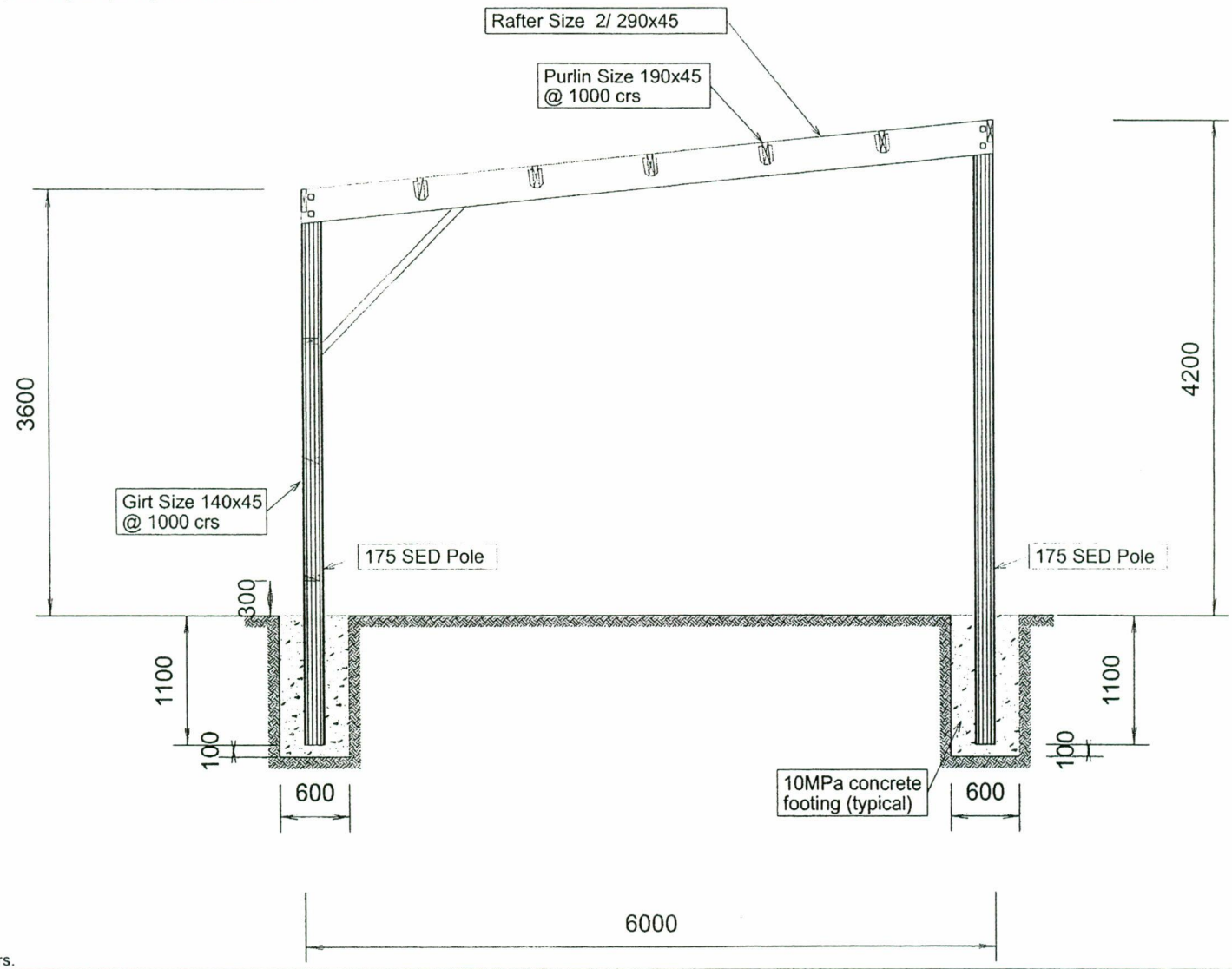
Client Name: Bunnings
Client Reference Number: FM16

END ELEVATION

Detailed by: Becky Stanton
Date: 31 / 03 / 14
Checked by:
Scale: Drawings to scale

Job Number: LT27675
Sheet Number: 3

Note: Girt pattern may vary, as long as spacings do not exceed 1000.



Pitch = 5.71 deg. by others.

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

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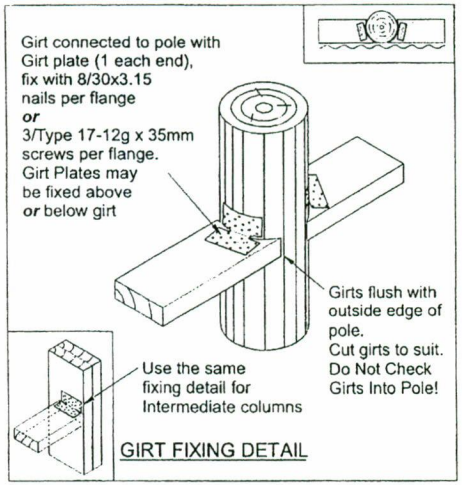
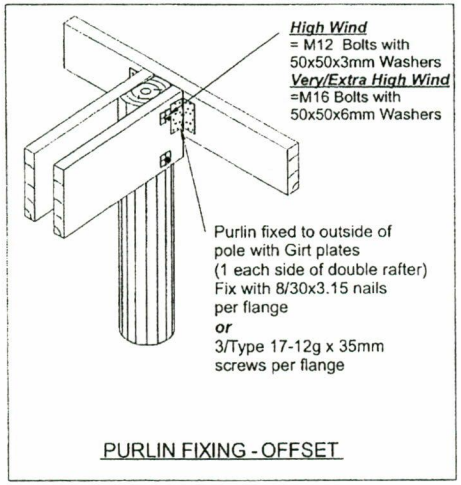
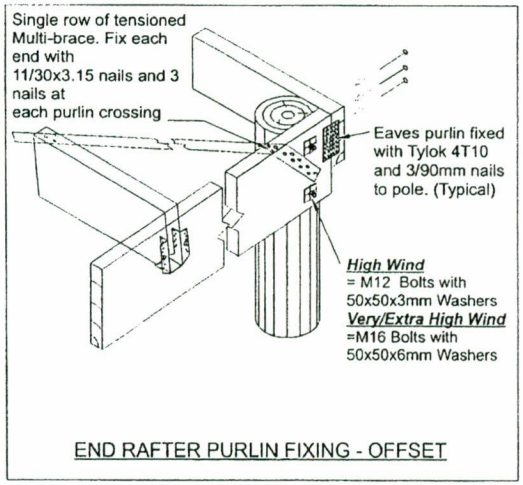
Job Name: Frank Gies Job Site: Hamilton (TBC)		CENTRE SECTION	Job Number: LT27675
		Detailed by: Becky Stanton	Date: 31 / 03 / 14
Client Name: Bunnings	Client Reference Number: FM16	Checked by:	Scale: Drawings to scale
			Sheet Number: 4



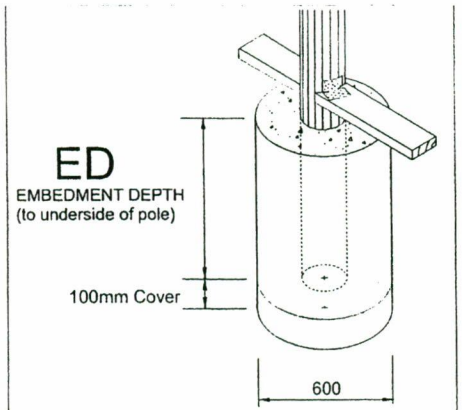
GIRT FIXING DETAIL



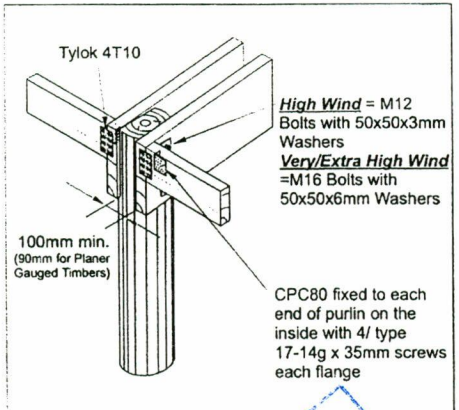
PURLIN FIXING - OFFSET



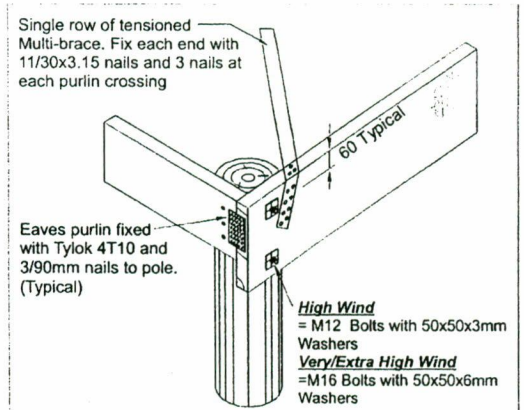
END RAFTER PURLIN FIXING - OFFSET



POLE EMBEDMENT



PURLIN FIXING - FLUSH



END RAFTER / PURLIN & BRACING FIXING

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HOME OF GANG-NAIL® BUILDING SYSTEMS

Job Name: Frank Gies
Job Site: Hamilton (TBC)
Client Name: Bunnings
Client Reference Number: RM16

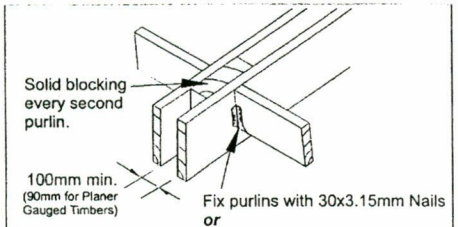
DETAILS PAGE 1

Detailed by: Becky Stanton
Checked by:
Date: 31 / 03 / 14
Scale: NTS

Job Number: LT27675
Sheet Number: 5

INTERMEDIATE COLUMN FIXING DETAIL

LT11

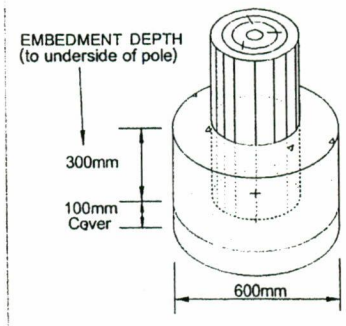


	Purlin Size	Hanger Size	No. of Nails per flange	No.of Screws per flange
PG	140/190x45	JH 47x120	4	2
PG	240/290x45	JH 47x190	6	3
RS	150/200x50	JH 52x120	4	2
RS	250/300x50	JH 52x190	6	3

DOUBLE RAFTER/PURLIN FIXING DETAILS

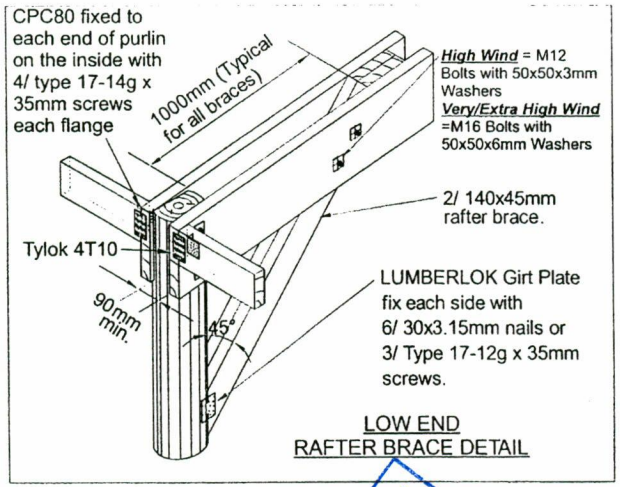
LT22

ROUND POLE OPTION

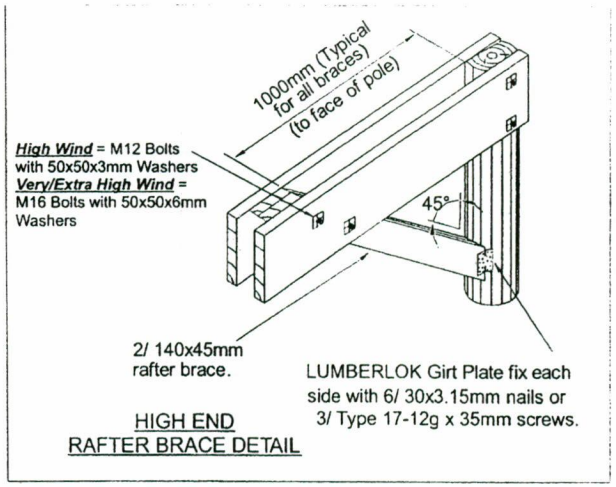


INTERMEDIATE COLUMN FOOTING DETAIL

LT32



LOW END RAFTER BRACE DETAIL



HIGH END RAFTER BRACE DETAIL

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Job Name: Frank Gies

Job Site: Hamilton (TBC)

Client Name: Bunnings

Client Reference Number: FM16

DETAILS PAGE 2

Detailed by: Becky Stanton

Checked by:

Date: 31 / 03 / 14

Scale: NTS

Job Number: LT27675

Sheet Number: 6

Build Waikato

Waikato Building Consents
Working Together

Form 6: Application for Code Compliance Certificate

Section 92, Building Act 2004

1. THE BUILDING [Complete ALL fields on this form. Put N/A if not applicable. Cross out mistakes don't use white out fluid / tape]

BC Number: 2018/36916

Project address: 1293 Te Rapa Rd Hamilton

BC issued by: .....

[Name of the Council / Building Consent Authority (BCA) that granted the building consent]

OFFICE ONLY:
Date received:
9-4-18

2. THE OWNER

Name of Owner / Company: Fonterra Ltd

Contact person *[If the Owner is NOT an individual]*: Frank Lives

Mailing address: 1293 Te Rapa Rd Hamilton

Street address / registered office: As above

Phone Number:

Landline: .....

Mobile: .....

Daytime: .....

After hours: .....

Facsimile number: .....

Email address: .....

Website: .....

The following evidence of ownership is attached to this application:

- ☐ Copy of Certificate of Title
- ☐ Lease Agreement
- ☐ Agreement for Sale and Purchase
- ☑ Other Document: Rates

3. AGENT [Only required if application is being made on behalf of the owner]

Name of Agent / Company: AgBuild

Contact person *[If the Agent is NOT an individual]*: Geoff Everton

Mailing address: 218 Cardiglands Dr RD1 Cambridge 3493

Street address / registered office: As above

Phone Number:

Landline: N/A

Mobile: 027 248 7116

Daytime: " " "

After hours: " " "

Facsimile number: N/A

Email address: geoff@agbuild.co.nz

Website: www.agbuild.co.nz

Relationship to owner: [State details of the authorisation from the owner to make the application on the owner's behalf] .....

FIRST POINT OF CONTACT: For communications with the Council / Building Consent Authority: ☐ Owner ☑ Agent ☐ Full name & contact details supplied

INVOICE TO: ☑ Owner ☐ Agent

4. APPLICATION [Tick those boxes that are applicable]

All building work to be carried out under the Building Consent specified on this form was completed on 30/3/18 [Insert date]

The Licensed Building Practitioner(s) who carried out or supervised the restricted building work is / are as follows:

☑ Not Applicable as NO restricted building work

Name	Licensing Class	Licensed building practitioner number *[or registration number if treated as being licensed under section 291 of Building Act 2004]*	Particular work carried out or supervised

[Continue on the next page if necessary]

Hauraki · matamata piako district council · Waitomo · Otorohanga · Waipa · Waikato · Thames Coromandel District Council · Hamilton City Council

Name	Licensing Class	Licensed building practitioner number *[or registration number if treated as being licensed under section 291 of Building Act 2004]*	Particular work carried out or supervised

[Continue on another page if necessary]

The personnel who carried out building work OTHER than restricted building work are as follows:
[List names, addresses, telephone numbers, and (where relevant and if not provided above) licensed building practitioner numbers or Plumbers, Gasfitters, and Drainlayers Board registration numbers]

Name	Address *[Contact details must be in New Zealand]*	Phone No. License / Registration No:
Geoff Everton	218 Grasslands Dr RD1 Cambridge 3493	PH: 027 248 7116 ~~LBP / Registration No:~~
Dux Drainlayers	181 Queen St Cambridge 3434	PH: 07 827 0119 LBP / Registration No:
		PH: LBP / Registration No:
		PH: LBP / Registration No:
		PH: LBP / Registration No:
		PH: LBP / Registration No:
		PH: LBP / Registration No:
		PH: LBP / Registration No:

[Continue on another page if necessary]

5. SPECIFIED SYSTEMS

The following specified systems are contained on the Compliance Schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the Building Consent: *[Please tick as appropriate]*

☐ The specified systems for the building are as follows: [Specified systems are defined in regulations] **OR**

☐ The following specified systems have been altered, added to, or removed in the course of the building work: **OR**

☑ There are **NO** specified systems in the building [**Note**: If unsure whether your building has specified systems, talk to the BCA or your architect]

The following specified systems are being altered, added to, or removed in the course of the building work: [Tick those that are applicable]	**Existing** [✓ Tick]	**New or Added** [✓ Tick]	**Altered** [✓ Tick]	**Removed** [✓ Tick]
SS1 Automatic systems for fire suppression (e.g. sprinkler systems)				
SS2 Automatic or manual emergency warning systems for fire or other dangers (other than a warning system for fire that is entirely within a household unit and serves only that unit)				
SS3 Electromagnetic or automatic doors or windows (e.g. ones that close on fire alarm activation)				
SS3/1 Automatic doors				
SS3/2 Access controlled doors				
SS3/3 Interfaced fire or smoke doors or windows				
SS4 Emergency lighting systems				
SS5 Escape route pressurisation systems				
SS6 Riser mains for use by fire services				
SS7 Automatic back-flow preventers connected to a potable water supply				
SS8 Lifts, escalators, travelators, or other systems for moving people or goods within buildings				
SS8/1 Passenger carrying lifts				
SS8/2 Service lifts				
SS8/3 Escalators and moving walks (travelators)				
SS9 Mechanical ventilation or air conditioning systems				
SS9/1 Mechanical ventilation				
SS9/2 Air conditioning systems				
SS10 Building maintenance units providing access to exterior and interior walls of buildings				
SS11 Laboratory fume cupboards				
SS12 Audio loops or other assistive listening systems				
SS12/1 Audio loops				
SS12/2 FM radio frequency systems and infrared beam transmission systems				
SS13 Smoke control systems				
SS13/1 Mechanical smoke control				
SS13/2 Natural smoke control				
SS13/3 Smoke curtains				
SS14 Emergency power systems for, or signs relating to, a system or feature specified in any of clauses 1 to 13				
SS14/1 Emergency power systems				
SS14/2 Signs in relation to any specified systems 1-13				
SS15 Any or all of the following systems and features, so long as they form part of a building's means of escape from fire, and so long as those means also contain any or all of the systems or features specified in clauses 1 to 6, 9, and 13:				
SS15/1 Systems for communicating spoken information intended to facilitate evacuation				
SS15/2 Final exits				

[Continue on the next page if necessary]

	Existing [✓ Tick]	New or Added [✓ Tick]	Altered [✓ Tick]	Removed [✓ Tick]
SS15/3 Fire separations (as defined by the Building Code)				
SS15/4 Signs for communicating information intended to facilitate evacuation				
SS15/5 Smoke separations				
SS16 Cable Cars				

6. REQUEST

I request that you issue a Code Compliance Certificate for this work under section 95 of the Building Act 2004.
The Code Compliance Certificate should be sent to: *[State which address and whether Owner or Agent]*

☐ Owner ☑ Agent Name of Owner / Agent: Geoff Fuelton

Address: 218 grasslands DR cambridge

Signature of: ☐ OWNER or by the ☑ AGENT on behalf of and with the authority of the Owner: *[tick correct one]*

Signature: GeFuelton Name of person Signing: Geoff Fuelton *Date:* 5/4/18

7. ATTACHMENTS *[The following documents are attached to this application]:*

- ☐ Other documents from the personnel who carried out the work e.g. Producer Statements, As-laid drainage plans.
- ☐ Memoranda (Records of Building Work) from licensed building practitioner(s) stating what restricted building work they carried out or supervised.
- ☐ Certificates that relate to the energy work e.g. electrical or gas certificates.
- ☐ Evidence that specified systems are capable of performing to the performance standards set out in the building consent.

NOTE: Incomplete applications cannot be lodged. You will be asked to complete the application and re-submit it.

OK

Build Waikato

Waikato Building Consents
Working Together

Form 2: Application for PIM and/or Building Consent

Section 33 or section 45, Building Act 2004

1. THE BUILDING [Complete ALL fields on this form. Put N/A if not applicable. Cross out mistakes don't use white out fluid / tape]

1293.

Street address of building: SH1, Te Rapa, Hamilton 3200

Legal description of land where building is located: Lot(s) 1 DP/S 511087

Building name: New outbuilding

Location of building within site / block number: [include nearest street access] As per Site plan

Number of levels: [above & below ground] 1 ground Level / Unit Number:

Floor area: 64.8 (sq m) [Indicate area affected by the building work]

Current, lawfully established, use: [add no. of occupants per level and per use if more than 1] N/A

Year first constructed: [approximate date is acceptable e. g.: c1920s or 1960-1970] 2018

OFFICE ONLY:

Date received:

Consent / PIM No.: 2018/36916

Document or Parcel No.: 6666360

Valuation No.:

RECEIVED
24 JAN 2018
BUILDING

2. THE OWNER

Name of Owner / Company: Fonterra

Contact person *[If the Owner is NOT an individual]*: Frank Gies

Mailing address: 1293 Te Rapa Rd Hamilton

Street address / registered office: 1293 Te Rapa Rd Hamilton

Phone Number:

Landline:

Mobile:

Daytime:

After hours:

Facsimile number:

Email address:

Website:

HAMILTON CITY COUNCIL
BUILDING UNIT
APPROVED
SUBJECT TO CONDITIONS
TO BE KEPT ON SITE

THE FOLLOWING EVIDENCE OF OWNERSHIP IS ATTACHED TO THIS APPLICATION:

- ☐ Certificate of Title
- ☐ Lease Agreement
- ☐ Agreement for Sale and Purchase
- ☑ Other document: Rates

3. AGENT [Only required if application is being made on behalf of the owner]

Name of Agent / Company: AgBuild 2014 Ltd

Contact person *[If the Agent is NOT an individual]*: Geoff Everton

Mailing address: 218 Grasslands Dr, RD1 Cambridge 3493

Street address / registered office: As above

Phone Number:

Landline: N/A

Mobile: 027 248 7116

Daytime: As above

After hours: As Above

Facsimile number: N/A

Email address: geoff@agbuild.co.nz

Website: www.agbuild.co.nz

Relationship to owner: [State details of the authorisation from the owner to make the application on the owner's behalf]

Com 1

FIRST POINT OF CONTACT for communications with the Council / Building Consent Authority: ○ Owner ◉ Agent

☐ Full name & contact details supplied

INVOICE TO: ◉ Owner ○ Agent

Duplicate
Issued

4. APPLICATION [Tick if applicable]

I request that you issue:

		PLEASE COMPLETE THE FOLLOWING SECTIONS
☐	A Project Information Memorandum (PIM)	COMPLETE SECTIONS: 5, 7
☑	A Building Consent [The existing PIM No. (If applicable)]	COMPLETE SECTIONS: 5, 6, 8, 9, 10
☐	An Amendment to an existing Building Consent for the building work described in this [Existing BC No.:]	COMPLETE SECTIONS: 5, 6, 8, 9 ,10

State the reference number if this application involves a National Multiple Use Approval:

Name: Geoff Everton Signature: G Everton Date: 24/1/18

The signature is that of the ○ Owner OR the ☑ Agent on behalf of and with the approval of the Owner

HAURAKI DISTRICT COUNCIL · matamata piako District Council · Waitomo District Council · OTOROHANGA · Waipa DISTRICT COUNCIL · Waikato DISTRICT COUNCIL · THAMES COROMANDEL DISTRICT COUNCIL · Hamilton City Council

5. THE PROJECT [if more than one project please list on a separate page]

DESCRIPTION OF THE BUILDING WORK: Provide enough information to enable scope of work to be fully understood, (e.g. adding ensuite to house)

New 6 x 10.8m shed

Will the building work result in a change of use of the building? ◯ Yes ✓ No. If Yes, provide details of the new use of the building (e.g. home to hostel, implement shed to chemical storage, office to restaurant): .....

Intended life of the building if less than 50 years: .....50..... [Years]

List Building Consents previously issued for this project (if any): [List who issued the consent, the date of issue and the consent number]

N/A

Estimated value of the building work on which the building levy will be calculated (including goods and services tax):

$.....16,460.30..... [State estimated value as defined in section 7 of the Building Act 2004]

6. RESTRICTED BUILDING WORK: BUILDING PRACTITIONERS INVOLVED IN THIS PROJECT

Will the building work include any restricted building work? ◯ Yes ✓ No. If yes, provide the following details of all licensed building practitioners who will be involved in carrying out or supervising the restricted building work:

[If these details are unknown at the time of the application, they MUST be supplied before the building work begins – name, licensing class and Licensed Building Practitioner's number (or registration number if treated as being licensed under 291 of the Act)]

DESIGNER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

ENGINEER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

CARPENTER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

ROOFER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

EXTERNAL PLASTERER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

N/A

BRICK / BLOCKLAYER Name ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

FOUNDATION SPECIALIST Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

PLUMBER Name: ..... Licence Class: .....

Registration / Licence No.: ..... N/A

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

GASFITTER Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

Other LBP Name: ..... Licence Class: .....

Registration / Licence No.: .....

Address: .....

Telephone: ..... Fax: ..... Mobile: .....

Email: .....

NOTE: Continue on another page if necessary

7. PROJECT INFORMATION MEMORANDUM

The following matters are involved in the project:
[Tick the matters relevant to the project [do not fill in this section if the application is for a building consent only]

- [ ] Subdivision
- [ ] Alterations to land contours [e.g. digging out the site for a building platform]
- [ ] New or altered connections to public utilities [e.g. Council sewer, storm water or water mains]
- [ ] New or altered locations and / or external dimensions of buildings
- [ ] New or altered access for vehicles
- [ ] Building work over or adjacent to any road or public place
- [ ] Disposal of stormwater and wastewater [e.g. are you altering domestic sewer or storm water drains]
- [ ] Building work over any existing drains or sewers or in close proximity to wells or water mains
- [ ] Is the site contaminated?
- [ ] Will the building be sited on sloping ground, or near to a bank, a stream or a coastal zone?
- [ ] Other matters known to the applicant that may require authorisations from the Territorial Authority: **[Please attach]**

8. BUILDING CONSENT

The following plans and specifications are attached to this application: [Note: All plans and specifications must meet the minimum requirements set out in the regulations or required by the Building Consent Authority (BCA)]

☑ Refer to documents indicated on the applicant checklist ☑ Other documents [Please specify]: .Cont..on.another.page.if.necessary

THE BUILDING WORK WILL COMPLY WITH THE BUILDING CODE AS FOLLOWS:

[If you're not sure which clauses are applicable, talk to your Designer]

Building Code clause [☑ Tick / list relevant clause of building code]	**Means of Compliance** [Refer to relevant compliance document(s) or detail of alternative solution in the plans and specifications]		**Waiver / modification required** [Supporting documents recorded below]
	Acceptable Solution [Specify]	**Other Means of Compliance – Verification Method or Alternative Solution** [If ☑ Other, then list at the end of this section]	
☑ B1 Structure	☑ B1/AS1 ☐ Other ☐ NZS3604 ☐ NZS4229	☐ B1/VM1 ☐ Other ☐ AS/NZS1170 ☐ SED	☐
☑ B2 Durability	☑ B2/AS1	☐ B2/VM1 ☐ Other	☐
☐ C 1 – C6 Protection From Fire	☐ C/AS1 ☐ C/AS2 ☐ C/AS3 ☐ C/AS4 ☐ C/AS5 ☐ C/AS6 ☐ C/AS7	☐ Other	☐
☐ D1 Access routes	☐ D1/AS1 ☐ NZS 4121	☐ Other	☐
☐ D2 Mechanical installations for access	☐ D2/AS1 ☐ D2/AS2 ☐ D2/AS3 ☐ NZS 4121	☐ Other	☐
☑ E1 Surface water	☑ E1/AS1 ☐ AS3500	☐ E1/VM1 ☐ Other	☐
☐ E2 External moisture	☐ E2/AS1 ☐ E2/AS2 ☐ E2/AS3	☐ E2/VM1 ☐ Other ☐ SED	☐
☐ E3 Internal moisture	☐ E3/AS1	☐ Other	☐
☐ F1 Hazardous agents on site	☐ F1/AS1	☐ F1/VM1 ☐ Other	☐
☐ F2 Hazardous building materials	☐ F2/AS1	☐ Other	☐
☐ F3 Hazardous substances / processes	☐ F3/AS1	☐ F3/VM1 ☐ Other	☐
☐ F4 Safety from falling	☐ F4/AS1	☐ Other	☐
☐ F5 Construction / Demolition hazards	☐ F5/AS1	☐ Other	☐
☐ F6 Lighting for emergency	☐ F6/AS1	☐ Other	☐
☐ F7 Warning systems	☐ F7/AS1	☐ Other	☐
☐ F8 Signs	☐ F8/AS1 ☐ NZS 4121	☐ Other	☐
☐ F9 Restricting access to residential pools	☐ F9/AS1 ☐ F9/AS2 ☐ Schedule, FSA1987	☐ Other	☐
☐ G1 Personal hygiene	☐ G1/AS1 ☐ NZS 4121	☐ Other	☐
☐ G2 Laundering	☐ G2/AS1 ☐ NZS 4121	☐ Other	☐
☐ G3 Food preparation / Prevention of contamination	☐ G3/AS1 ☐ NZS 4121	☐ Other	☐
☐ G4 Ventilation	☐ G4/AS1	☐ G4/VM1 ☐ Other	☐
☐ G5 Interior environment	☐ G5/AS1	☐ Other	☐
☐ G6 Airborne and impact sound	☐ G6/AS1	☐ G6/VM1 ☐ Other	☐
☐ G7 Natural light	☐ G7/AS1	☐ G7/VM1 ☐ Other	☐

Building Code clause	Acceptable Solution	Verification Method or Alternative Solution	Waiver / modification required
☐ G8 Artificial light	☐ G8/AS1	☐ G8/VM1 ☐ Other	☐
☐ G9 Electricity	☐ G9/AS1	☐ G9/VM1 ☐ Other	☐
☐ G10 Piped services	☐ G10/AS1	☐ G10/VM1 ☐ Other	☐
☐ G11 Gas as an energy source	☐ G11/AS1	☐ Other	☐
☐ G12 Water supplies	☐ G12/AS1 ☐ G12/AS2	☐ G12/VM1 ☐ Other	☐
☐ G13 Foul water	☐ G13/AS1 ☐ G13/AS2 ☐ AS3500 ☐ G13/AS3	☐ G13/VM1 ☐ G13/VM4 ☐ Other	☐
☐ G14 Industrial liquid waste	☐ G14/AS1	☐ G14/VM1 ☐ Other	☐
☐ G15 Solid waste	☐ G15/AS1	☐ Other	☐
☐ H1 Energy efficiency	☐ H1/AS1	☐ H1/VM1 ☐ Other	☐
Other	☐ BCH Back country huts ☐ SH Simple House		☐
Waiver / Modification required [List supporting documents]			
Alternative Solution [List supporting documents]			

9. COMPLIANCE SCHEDULE *[do not fill in this section if this is an application for a Project Information Memorandum only]*

☐ The specified systems for the building are as follows: *[specified systems are defined in regulations]* **OR**

☐ The following specified systems are being altered, added to, or removed in the course of the building work: **OR**

☐ There are **NO** specified systems in the building *[**Note**: If unsure whether your building has specified systems, talk to the BCA or your architect]*

The following specified systems are being altered, added to, or removed in the course of the building work: [Tick those that are applicable]	**Existing** [✓Tick]	**New or Added** [✓Tick]	**Altered** [✓Tick]	**Removed** [✓Tick]
SS1 Automatic systems for fire suppression (e.g. sprinkler systems)	☐	☐	☐	☐
SS2 Automatic or manual emergency warning systems for fire or other dangers (other than a warning system for fire that is entirely within a household unit and serves only that unit)	☐	☐	☐	☐
SS3 Electromagnetic or automatic doors or windows (e.g. ones that close on fire alarm activation)				
SS3/1 Automatic doors	☐	☐	☐	☐
SS3/2 Access controlled doors	☐	☐	☐	☐
SS3/3 Interfaced fire or smoke doors or windows	☐	☐	☐	☐
SS4 Emergency lighting systems	☐	☐	☐	☐
SS5 Escape route pressurisation systems	☐	☐	☐	☐
SS6 Riser mains for use by fire services	☐	☐	☐	☐
SS7 Automatic back-flow preventers connected to a potable water supply	☐	☐	☐	☐
SS8 Lifts, escalators, travellators, or other systems for moving people or goods within buildings				
SS8/1 Passenger carrying lifts	☐	☐	☐	☐
SS8/2 Service lifts	☐	☐	☐	☐
SS8/3 Escalators and moving walks (travellators)	☐	☐	☐	☐
SS9 Mechanical ventilation or air conditioning systems				
SS9/1 Mechanical ventilation	☐	☐	☐	☐
SS9/2 Air conditioning systems	☐	☐	☐	☐

PLEASE CONTINUE SECTION 9 ON THE NEXT PAGE

The following specified systems are being altered, added to, or removed in the course of the building work: [Tick those that are applicable]	Existing [✓Tick]	New or Added [✓Tick]	Altered [✓Tick]	Removed [✓Tick]
SS10 Building maintenance units providing access to exterior and interior walls of buildings	☐	☐	☐	☐
SS11 Laboratory fume cupboards	☐	☐	☐	☐
SS12 Audio loops or other assistive listening systems				
SS12/1 Audio loops	☐	☐	☐	☐
SS12/2 FM radio frequency systems and infrared beam transmission systems	☐	☐	☐	☐
SS13 Smoke control systems				
SS13/1 Mechanical smoke control	☐	☐	☐	☐
SS13/2 Natural smoke control	☐	☐	☐	☐
SS13/3 Smoke curtains	☐	☐	☐	☐
SS14 Emergency power systems for, or signs relating to, a system or feature specified in any of clauses 1 to 13				
SS14/1 Emergency power systems	☐	☐	☐	☐
SS14/2 Signs in relation to any specified systems 1-13	☐	☐	☐	☐
SS15 Any or all of the following systems and features, so long as they form part of a building's means of escape from fire, and so long as those means also contain any or all of the systems or features specified in clauses 1 to 6, 9, and 13:				
SS15/1 Systems for communicating spoken information intended to facilitate evacuation	☐	☐	☐	☐
SS15/2 Final exits	☐	☐	☐	☐
SS15/3 Fire separations (as defined by the Building Code)	☐	☐	☐	☐
SS15/4 Signs for communicating information intended to facilitate evacuation	☐	☐	☐	☐
SS15/5 Smoke separations	☐	☐	☐	☐
SS16 Cable Cars	☐	☐	☐	☐

N/A

10. ATTACHMENTS

[Note: all plans and specifications must meet the minimum requirements set out in the regulations or required by the BCA]

The following documents are attached to this application: [Tick as applicable or put NA if there are no attachments]

☑ Plans and specifications [*list*] 1-7

☐ Memoranda (Certificates of Design Work) from licensed building practitioner(s) who carried out or supervised any design work that is restricted building work

☐ Project Information Memorandum

☐ Development contribution notice

☐ Certificate attached to Project Information Memorandum

☐ Other relevant information: [Please specify]: .....

11. DOCUMENT COLLECTION

MATAMATA - PIAKO DISTRICT COUNCIL ONLY

Please tick which office you wish to collect your Building Consent from when it is ready:

☐ Te Aroha ☐ Matamata ☐ Morrinsville

THAMES - COROMANDEL DISTRICT COUNCIL ONLY

Please tick your preferred collection options:

☐ Please post my documentation to: ○ Owner ○ Agent

☐ The documentation will be collected by: ○ Owner ○ Agent

The documentation will be collected from:

○ Thames Service Centre, 515 MacKay Street
○ Coromandel Service Centre, 355 Kapanga Road
○ Whangamata Service Centre, 620 Port Road
○ Whitianga Service Centre, 10 Monk Street

DOCUMENT CHECK: PLEASE CHECK THAT YOU HAVE PROVIDED ALL THE REQUIRED INFORMATION

OFFICE USE ONLY **FEES PAYABLE:**	**AMOUNT ($)**
PIM	
Building Consent - Application fee - Approval fee - Inspection fee - Mileage	500.00
Code Compliance Certificate	
BRANZ levy	
MBIE levy	
Photocopying	
Microfilm (A3 / A4) / Scanning	39.89
Certificate of Title	
Street crossing administration	
Structural check	120.00
Amendments to consent	
External consultant 1	
External consultant 2	
NZ Fire Service check	
Planning Bond / Resource Consent	
Planning Bond / Resource Consent	
Rural connection	
Fire main	
Water connection	
Water disconnection	
Wastewater / sewerage connection	
Wastewater disconnection	
Backflow inspection	
Stormwater connection - mains	
Stormwater connection - kerb & channel	
Stormwater disconnection	
CCTV survey wastewater	
CCTV survey stormwater	
Cellar indemnity	
Council bonds	
Compliance schedule	
Development Contributions: Water..... Stormwater.....Wastewater..... Transport / Roading..... Community infrastructure.....	
BCA accreditation	~~340~~ 3.40
Total fees (incl. GST)	663-29
Deposit paid – Date:	663.29
Remainder fees due:	—

BC Number:

REFERRALS:

Structural consultant:
Name:
Sent: Returned:

Structural consultant:
Name:
Sent: Returned:

Other consultant:
Name:
Sent: Returned:

Other consultant:
Name:
Sent: Returned:

NZ Fire Service:
Name:
Sent: Returned:

Historic Places Trust: (Notification)
Date advised:

ADDITIONAL NOTES AND / OR FEES:

AUTHORIZATIONS:

Planning Officer:
Date:

Building Officer:
Date: 21-02-2018

Engineer:
Date:

CHECKED BY:
Officer:
Date: 23-2-18

ISSUED BY:
Officer: Sally cook
Date: 23-2-18

Receipt No.: —

Receipt No.: 7575402 24-1-18

Receipt No.: —

Kim

Soil&Rock Consultants

Your responsive & cost-effective engineers

Appendix F

Laboratory Analytical Results and Chain of Custody Documentation

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

Soil & Rock Consultants
Level 1, 131 Lincoln Rd Henderson
Auckland
NEW ZEALAND

Attention: **Richard Duggan**

Report **1020213-S**
Project name TE RAPA HAMILTON
Project ID 230649
Received Date Aug 25, 2023

Client Sample ID			**AH01**	**AH01-D**	**AH02**	**AH05**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**K23-Au0064956**	**K23-Au0064957**	**K23-Au0064958**	**K23-Au0064959**
Date Sampled			**Jul 18, 2023**	**Jul 18, 2023**	**Jul 18, 2023**	**Jul 18, 2023**
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	72	67	77	INT
Tetrachloro-m-xylene (surr.)	1	%	77	105	93	64
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	10	12	21	4.7
Cadmium	0.01	mg/kg	0.31	0.05	0.12	0.09
Chromium	0.1	mg/kg	7.6	7.6	14	4.9
Copper	0.1	mg/kg	5.9	3.3	13	4.7
Lead	0.1	mg/kg	14	15	26	10

Client Sample ID			AH01	AH01-D	AH02	AH05
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064956	K23-Au0064957	K23-Au0064958	K23-Au0064959
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.15	0.16	0.09	0.10
Nickel	0.1	mg/kg	3.5	3.5	3.1	1.6
Zinc	5	mg/kg	42	46	93	25
Sample Properties						
% Moisture	1	%	37	29	32	34

Client Sample ID			AH06	AH07	QA01	AH08
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064960	K23-Au0064961	K23-Au0064962	K23-Au0064963
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	72	82	82	64
Tetrachloro-m-xylene (surr.)	1	%	88	86	100	97
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	8.1	82	180	14
Cadmium	0.01	mg/kg	0.08	0.22	0.22	0.06
Chromium	0.1	mg/kg	7.1	17	18	6.5
Copper	0.1	mg/kg	4.4	48	28	4.3
Lead	0.1	mg/kg	13	50	59	14

Client Sample ID			AH06	AH07	QA01	AH08
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064960	K23-Au0064961	K23-Au0064962	K23-Au0064963
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.12	0.11	0.14	0.18
Nickel	0.1	mg/kg	2.7	6.2	4.4	2.5
Zinc	5	mg/kg	33	850	350	25
Sample Properties						
% Moisture	1	%	31	27	29	23

Client Sample ID			AH08-D	AH09	AH10	AH11
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064964	K23-Au0064965	K23-Au0064966	K23-Au0064967
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	82	71	75	65
Tetrachloro-m-xylene (surr.)	1	%	96	93	104	107
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	9.2	26	9.4	9.2
Cadmium	0.01	mg/kg	0.04	0.23	0.27	0.27
Chromium	0.1	mg/kg	7.8	7.1	6.6	7.4
Copper	0.1	mg/kg	3.9	3.7	3.6	5.3
Lead	0.1	mg/kg	12	23	14	12

Client Sample ID			AH08-D	AH09	AH10	AH11
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064964	K23-Au0064965	K23-Au0064966	K23-Au0064967
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.14	0.17	0.16	0.12
Nickel	0.1	mg/kg	2.4	3.1	2.9	3.0
Zinc	5	mg/kg	21	38	33	38
Sample Properties						
% Moisture	1	%	21	28	29	30

Client Sample ID			AH11-D	AH12	AH13	AH14
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064968	K23-Au0064969	K23-Au0064970	K23-Au0064971
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	65	60	72	57
Tetrachloro-m-xylene (surr.)	1	%	86	82	90	78
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	9.8	9.4	6.3	9.4
Cadmium	0.01	mg/kg	0.08	0.26	0.24	0.23
Chromium	0.1	mg/kg	6.0	6.4	6.4	7.0
Copper	0.1	mg/kg	4.7	4.0	4.5	5.0
Lead	0.1	mg/kg	11	14	11	11

Client Sample ID			AH11-D	AH12	AH13	AH14
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064968	K23-Au0064969	K23-Au0064970	K23-Au0064971
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.15	0.15	0.12	0.12
Nickel	0.1	mg/kg	2.6	2.8	2.5	2.9
Zinc	5	mg/kg	39	33	30	32
Sample Properties						
% Moisture	1	%	18	31	28	28

Client Sample ID			AH15	AH15-D	AH16	AH17
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064972	K23-Au0064973	K23-Au0064974	K23-Au0064975
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	61	INT	59	64
Tetrachloro-m-xylene (surr.)	1	%	75	78	72	85
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	9.0	11	3.5	2.8
Cadmium	0.01	mg/kg	0.25	0.02	0.14	0.10
Chromium	0.1	mg/kg	6.3	7.5	8.9	5.6
Copper	0.1	mg/kg	3.8	4.6	10	8.0
Lead	0.1	mg/kg	13	14	6.5	7.9

Client Sample ID			AH15	AH15-D	AH16	AH17
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064972	K23-Au0064973	K23-Au0064974	K23-Au0064975
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.14	0.24	0.02	0.02
Nickel	0.1	mg/kg	2.7	2.8	3.7	2.9
Zinc	5	mg/kg	32	32	120	60
Sample Properties						
% Moisture	1	%	28	27	25	16

Client Sample ID			QA02	AH18	AH19	AH20
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064976	K23-Au0064977	K23-Au0064978	K23-Au0064979
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	74	81	61	70
Tetrachloro-m-xylene (surr.)	1	%	65	64	58	64
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	9.8	4.4	17	4.8
Cadmium	0.01	mg/kg	0.30	0.06	0.25	0.08
Chromium	0.1	mg/kg	13	8.4	12	10
Copper	0.1	mg/kg	14	5.8	14	5.4
Lead	0.1	mg/kg	17	11	40	9.5

Client Sample ID			QA02	AH18	AH19	AH20
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064976	K23-Au0064977	K23-Au0064978	K23-Au0064979
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.13	0.04	0.12	0.06
Nickel	0.1	mg/kg	6.2	4.0	6.5	4.1
Zinc	5	mg/kg	99	47	100	49
Sample Properties						
% Moisture	1	%	37	15	27	21

Client Sample ID			AH21	AH22	AH23	AH24
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064980	K23-Au0064981	K23-Au0064982	K23-Au0064983
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	89	73	62	56
Tetrachloro-m-xylene (surr.)	1	%	75	66	63	63
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	9.1	6.6	6.8	11
Cadmium	0.01	mg/kg	0.24	0.11	0.24	0.26
Chromium	0.1	mg/kg	8.3	8.8	7.7	9.3
Copper	0.1	mg/kg	10	5.0	6.4	12
Lead	0.1	mg/kg	25	8.0	8.4	12

Client Sample ID			AH21	AH22	AH23	AH24
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064980	K23-Au0064981	K23-Au0064982	K23-Au0064983
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.12	0.06	0.11	0.11
Nickel	0.1	mg/kg	3.9	3.6	3.1	4.0
Zinc	5	mg/kg	89	63	52	79
Sample Properties						
% Moisture	1	%	28	27	25	34

Client Sample ID			AH26	QA03	AH27	AH28
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064984	K23-Au0064985	K23-Au0064986	K23-Au0064987
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	60	59	63	74
Tetrachloro-m-xylene (surr.)	1	%	67	63	62	65
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	7.3	8.3	11	10.0
Cadmium	0.01	mg/kg	0.33	0.33	0.47	0.44
Chromium	0.1	mg/kg	9.6	12	12	12
Copper	0.1	mg/kg	14	14	17	16
Lead	0.1	mg/kg	12	12	15	14

Client Sample ID			AH26	QA03	AH27	AH28
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064984	K23-Au0064985	K23-Au0064986	K23-Au0064987
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.16	0.18	0.25	0.23
Nickel	0.1	mg/kg	4.0	5.2	5.2	5.0
Zinc	5	mg/kg	85	83	90	85
Sample Properties						
% Moisture	1	%	30	30	34	34

Client Sample ID			AH29	QA04	AH30	AH31
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064988	K23-Au0064989	K23-Au0064990	K23-Au0064991
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	71	74	71	74
Tetrachloro-m-xylene (surr.)	1	%	65	64	64	66
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	12	11	9.3	7.7
Cadmium	0.01	mg/kg	0.53	0.35	0.25	0.30
Chromium	0.1	mg/kg	13	11	14	11
Copper	0.1	mg/kg	8.4	7.8	10	13
Lead	0.1	mg/kg	15	12	18	13

Client Sample ID			AH29	QA04	AH30	AH31
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064988	K23-Au0064989	K23-Au0064990	K23-Au0064991
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.16	0.15	0.10	0.14
Nickel	0.1	mg/kg	5.6	5.2	4.6	4.5
Zinc	5	mg/kg	59	54	62	110
Sample Properties						
% Moisture	1	%	36	35	24	40

Client Sample ID			AH35	AH36	AH37	AH38
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064992	K23-Au0064993	K23-Au0064994	K23-Au0064995
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides (NZ MfE)						
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	73	61	68	68
Tetrachloro-m-xylene (surr.)	1	%	66	61	61	67
Metals M8 (NZ MfE)						
Arsenic	0.1	mg/kg	7.8	8.0	6.9	11
Cadmium	0.01	mg/kg	0.34	0.36	0.21	0.39
Chromium	0.1	mg/kg	8.6	6.6	12	9.0
Copper	0.1	mg/kg	9.8	12	11	11
Lead	0.1	mg/kg	19	13	8.1	18

Client Sample ID			AH35	AH36	AH37	AH38
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			K23-Au0064992	K23-Au0064993	K23-Au0064994	K23-Au0064995
Date Sampled			Jul 18, 2023	Jul 18, 2023	Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit				
Metals M8 (NZ MfE)						
Mercury	0.01	mg/kg	0.10	0.14	0.09	0.16
Nickel	0.1	mg/kg	3.6	2.5	4.0	3.8
Zinc	5	mg/kg	55	67	67	55
Sample Properties						
% Moisture	1	%	26	31	25	40

Client Sample ID			AH39	AH40
Sample Matrix			Soil	Soil
Eurofins Sample No.			K23-Au0064996	K23-Au0064997
Date Sampled			Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit		
Organochlorine Pesticides (NZ MfE)				
2.4'-DDD	0.01	mg/kg	< 0.01	< 0.01
2.4'-DDE	0.01	mg/kg	< 0.01	< 0.01
2.4'-DDT	0.01	mg/kg	< 0.01	< 0.01
4.4'-DDD	0.01	mg/kg	< 0.01	< 0.01
4.4'-DDE	0.01	mg/kg	< 0.01	< 0.01
4.4'-DDT	0.01	mg/kg	< 0.01	< 0.01
DDT + DDE + DDD (Total)*	0.01	mg/kg	< 0.01	< 0.01
a-HCH	0.01	mg/kg	< 0.01	< 0.01
Aldrin	0.01	mg/kg	< 0.01	< 0.01
b-HCH	0.01	mg/kg	< 0.01	< 0.01
Chlordanes - Total	0.01	mg/kg	< 0.01	< 0.01
cis-Chlordane	0.01	mg/kg	< 0.01	< 0.01
d-HCH	0.01	mg/kg	< 0.01	< 0.01
Dieldrin	0.01	mg/kg	< 0.01	< 0.01
Endosulfan I	0.01	mg/kg	< 0.01	< 0.01
Endosulfan II	0.01	mg/kg	< 0.01	< 0.01
Endosulfan sulphate	0.01	mg/kg	< 0.01	< 0.01
Endrin	0.01	mg/kg	< 0.01	< 0.01
Endrin aldehyde	0.01	mg/kg	< 0.01	< 0.01
Endrin ketone	0.01	mg/kg	< 0.01	< 0.01
g-HCH (Lindane)	0.01	mg/kg	< 0.01	< 0.01
Heptachlor	0.01	mg/kg	< 0.01	< 0.01
Heptachlor epoxide	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobenzene	0.01	mg/kg	< 0.01	< 0.01
Methoxychlor	0.01	mg/kg	< 0.01	< 0.01
Toxaphene	0.5	mg/kg	< 0.5	< 0.5
trans-Chlordane	0.01	mg/kg	< 0.01	< 0.01
Dibutylchlorendate (surr.)	1	%	62	56
Tetrachloro-m-xylene (surr.)	1	%	64	63
Metals M8 (NZ MfE)				
Arsenic	0.1	mg/kg	11	11
Cadmium	0.01	mg/kg	0.42	0.63
Chromium	0.1	mg/kg	8.5	11
Copper	0.1	mg/kg	9.8	18
Lead	0.1	mg/kg	17	15

Client Sample ID			AH39	AH40
Sample Matrix			Soil	Soil
Eurofins Sample No.			K23-Au0064996	K23-Au0064997
Date Sampled			Jul 18, 2023	Jul 18, 2023
Test/Reference	LOR	Unit		
Metals M8 (NZ MfE)				
Mercury	0.01	mg/kg	0.16	0.21
Nickel	0.1	mg/kg	3.9	5.1
Zinc	5	mg/kg	55	93
Sample Properties				
% Moisture	1	%	39	34

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides (NZ MfE)	Auckland	Aug 28, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water by GCMSMS			
Metals M8 (NZ MfE)	Auckland	Aug 28, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Auckland	Aug 25, 2023	14 Days
- Method: LTM-GEN-7080 Moisture Content in Soil by Gravimetry			

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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Site# 2370

Company Name: Soil & Rock Consultants
Address: Level 1, 131 Lincoln Rd Henderson
Auckland
NEW ZEALAND

Project Name: TE RAPA HAMILTON
Project ID: 230649

Order No.:
Report #: 1020213
Phone: 0011 64 9 835 1740
Fax: 0011 64 9 835 1847

Received: Aug 25, 2023 2:13 PM
Due: Aug 29, 2023
Priority: 2 Day
Contact Name: Richard Duggan

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	AH01	Jul 18, 2023		Soil	K23-Au0064956			X	X	X
2	AH01-D	Jul 18, 2023		Soil	K23-Au0064957			X	X	X
3	AH02	Jul 18, 2023		Soil	K23-Au0064958	X		X	X	X
4	AH05	Jul 18, 2023		Soil	K23-Au0064959			X	X	X
5	AH06	Jul 18, 2023		Soil	K23-Au0064960	X		X	X	X
6	AH07	Jul 18, 2023		Soil	K23-Au0064961	X		X	X	X
7	QA01	Jul 18, 2023		Soil	K23-Au0064962			X	X	X
8	AH08	Jul 18, 2023		Soil	K23-Au0064963			X	X	X
9	AH08-D	Jul 18, 2023		Soil	K23-Au0064964			X	X	X
10	AH09	Jul 18, 2023		Soil	K23-Au0064965			X	X	X
11	AH10	Jul 18, 2023		Soil	K23-Au0064966			X	X	X

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NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
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NEW ZEALAND

Project Name: TE RAPA HAMILTON
Project ID: 230649

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Priority: 2 Day
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Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
12	AH11	Jul 18, 2023		Soil	K23-Au0064967			X	X	X
13	AH11-D	Jul 18, 2023		Soil	K23-Au0064968			X	X	X
14	AH12	Jul 18, 2023		Soil	K23-Au0064969			X	X	X
15	AH13	Jul 18, 2023		Soil	K23-Au0064970			X	X	X
16	AH14	Jul 18, 2023		Soil	K23-Au0064971			X	X	X
17	AH15	Jul 18, 2023		Soil	K23-Au0064972	X		X	X	X
18	AH15-D	Jul 18, 2023		Soil	K23-Au0064973	X		X	X	X
19	AH16	Jul 18, 2023		Soil	K23-Au0064974			X	X	X
20	AH17	Jul 18, 2023		Soil	K23-Au0064975			X	X	X
21	QA02	Jul 18, 2023		Soil	K23-Au0064976			X	X	X
22	AH18	Jul 18, 2023		Soil	K23-Au0064977			X	X	X
23	AH19	Jul 18, 2023		Soil	K23-Au0064978			X	X	X
24	AH20	Jul 18, 2023		Soil	K23-Au0064979	X		X	X	X
25	AH21	Jul 18, 2023		Soil	K23-Au0064980			X	X	X

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Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
26	AH22	Jul 18, 2023		Soil	K23-Au0064981			X	X	X
27	AH23	Jul 18, 2023		Soil	K23-Au0064982			X	X	X
28	AH24	Jul 18, 2023		Soil	K23-Au0064983			X	X	X
29	AH26	Jul 18, 2023		Soil	K23-Au0064984			X	X	X
30	QA03	Jul 18, 2023		Soil	K23-Au0064985			X	X	X
31	AH27	Jul 18, 2023		Soil	K23-Au0064986			X	X	X
32	AH28	Jul 18, 2023		Soil	K23-Au0064987			X	X	X
33	AH29	Jul 18, 2023		Soil	K23-Au0064988			X	X	X
34	QA04	Jul 18, 2023		Soil	K23-Au0064989			X	X	X
35	AH30	Jul 18, 2023		Soil	K23-Au0064990			X	X	X
36	AH31	Jul 18, 2023		Soil	K23-Au0064991			X	X	X
37	AH35	Jul 18, 2023		Soil	K23-Au0064992			X	X	X
38	AH36	Jul 18, 2023		Soil	K23-Au0064993			X	X	X
39	AH37	Jul 18, 2023		Soil	K23-Au0064994	X		X	X	X

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Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
40	AH38	Jul 18, 2023		Soil	K23-Au0064995			X	X	X
41	AH39	Jul 18, 2023		Soil	K23-Au0064996			X	X	X
42	AH40	Jul 18, 2023		Soil	K23-Au0064997			X	X	X
43	AH25	Jul 18, 2023		Soil	K23-Au0064998		X			
44	AH32	Jul 18, 2023		Soil	K23-Au0064999		X			
45	AH33	Jul 18, 2023		Soil	K23-Au0065000		X			
46	QA05	Jul 18, 2023		Soil	K23-Au0065001		X			
47	AH34	Jul 18, 2023		Soil	K23-Au0065002		X			
Test Counts						7	5	42	42	42

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides (NZ MfE)							
2.4'-DDD	mg/kg	< 0.01			0.01	Pass	
2.4'-DDE	mg/kg	< 0.01			0.01	Pass	
2.4'-DDT	mg/kg	< 0.01			0.01	Pass	
4.4'-DDD	mg/kg	< 0.01			0.01	Pass	
4.4'-DDE	mg/kg	< 0.01			0.01	Pass	
4.4'-DDT	mg/kg	< 0.01			0.01	Pass	
a-HCH	mg/kg	< 0.01			0.01	Pass	
Aldrin	mg/kg	< 0.01			0.01	Pass	
b-HCH	mg/kg	< 0.01			0.01	Pass	
Chlordanes - Total	mg/kg	-			0.01	N/A	
cis-Chlordane	mg/kg	< 0.01			0.01	Pass	
d-HCH	mg/kg	< 0.01			0.01	Pass	
Dieldrin	mg/kg	< 0.01			0.01	Pass	
Endosulfan I	mg/kg	< 0.01			0.01	Pass	
Endosulfan II	mg/kg	< 0.01			0.01	Pass	
Endosulfan sulphate	mg/kg	< 0.01			0.01	Pass	
Endrin	mg/kg	< 0.01			0.01	Pass	
Endrin aldehyde	mg/kg	< 0.01			0.01	Pass	
Endrin ketone	mg/kg	< 0.01			0.01	Pass	
g-HCH (Lindane)	mg/kg	< 0.01			0.01	Pass	
Heptachlor	mg/kg	< 0.01			0.01	Pass	
Heptachlor epoxide	mg/kg	< 0.01			0.01	Pass	
Hexachlorobenzene	mg/kg	< 0.01			0.01	Pass	
Methoxychlor	mg/kg	< 0.01			0.01	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
trans-Chlordane	mg/kg	< 0.01			0.01	Pass	
Method Blank							
Metals M8 (NZ MfE)							
Arsenic	mg/kg	< 0.1			0.1	Pass	
Cadmium	mg/kg	< 0.01			0.01	Pass	
Chromium	mg/kg	< 0.1			0.1	Pass	
Copper	mg/kg	< 0.1			0.1	Pass	
Lead	mg/kg	< 0.1			0.1	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Organochlorine Pesticides (NZ MfE)							
2.4'-DDD	%	104			70-130	Pass	
2.4'-DDE	%	128			70-130	Pass	
2.4'-DDT	%	92			70-130	Pass	
4.4'-DDD	%	92			70-130	Pass	
4.4'-DDE	%	111			70-130	Pass	
4.4'-DDT	%	93			70-130	Pass	
a-HCH	%	106			70-130	Pass	
Aldrin	%	101			70-130	Pass	
b-HCH	%	99			70-130	Pass	
Chlordanes - Total	%	124			70-130	Pass	
cis-Chlordane	%	99			70-130	Pass	
d-HCH	%	102			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	%	115			70-130	Pass	
Endosulfan I	%	101			70-130	Pass	
Endosulfan II	%	99			70-130	Pass	
Endosulfan sulphate	%	96			70-130	Pass	
Endrin	%	128			70-130	Pass	
Endrin aldehyde	%	102			70-130	Pass	
Endrin ketone	%	104			70-130	Pass	
g-HCH (Lindane)	%	106			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	108			70-130	Pass	
Hexachlorobenzene	%	118			70-130	Pass	
Methoxychlor	%	77			70-130	Pass	
Toxaphene	%	106			70-130	Pass	
trans-Chlordane	%	116			70-130	Pass	
LCS - % Recovery							
Metals M8 (NZ MfE)							
Arsenic	%	101			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	98			80-120	Pass	
Lead	%	97			80-120	Pass	
Mercury	%	99			80-120	Pass	
Nickel	%	97			80-120	Pass	
Zinc	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					
4.4'-DDD	K23-Au0064957	CP	%	111			70-130	Pass	
4.4'-DDT	K23-Au0064957	CP	%	112			70-130	Pass	
a-HCH	K23-Au0064957	CP	%	119			70-130	Pass	
Aldrin	K23-Au0064957	CP	%	111			70-130	Pass	
b-HCH	K23-Au0064957	CP	%	118			70-130	Pass	
d-HCH	K23-Au0064957	CP	%	115			70-130	Pass	
Dieldrin	K23-Au0064957	CP	%	125			70-130	Pass	
Endosulfan I	K23-Au0064957	CP	%	116			70-130	Pass	
Endosulfan II	K23-Au0064957	CP	%	104			70-130	Pass	
Endosulfan sulphate	K23-Au0064957	CP	%	119			70-130	Pass	
Endrin aldehyde	K23-Au0064957	CP	%	102			70-130	Pass	
g-HCH (Lindane)	K23-Au0064957	CP	%	119			70-130	Pass	
Heptachlor	K23-Au0064957	CP	%	94			70-130	Pass	
Heptachlor epoxide	K23-Au0064957	CP	%	123			70-130	Pass	
Methoxychlor	K23-Au0064957	CP	%	98			70-130	Pass	
trans-Chlordane	K23-Au0064957	CP	%	130			70-130	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K23-Au0064957	CP	%	103			75-125	Pass	
Chromium	K23-Au0064957	CP	%	106			75-125	Pass	
Copper	K23-Au0064957	CP	%	100			75-125	Pass	
Lead	K23-Au0064957	CP	%	100			75-125	Pass	
Mercury	K23-Au0064957	CP	%	104			75-125	Pass	
Nickel	K23-Au0064957	CP	%	98			75-125	Pass	
Zinc	K23-Au0064957	CP	%	93			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4'-DDD	K23-Au0064967	CP	%	129			70-130	Pass	
4.4'-DDE	K23-Au0064967	CP	%	121			70-130	Pass	
4.4'-DDT	K23-Au0064967	CP	%	97			70-130	Pass	
a-HCH	K23-Au0064967	CP	%	103			70-130	Pass	
Aldrin	K23-Au0064967	CP	%	103			70-130	Pass	
b-HCH	K23-Au0064967	CP	%	112			70-130	Pass	
d-HCH	K23-Au0064967	CP	%	110			70-130	Pass	
Dieldrin	K23-Au0064967	CP	%	104			70-130	Pass	
Endosulfan I	K23-Au0064967	CP	%	114			70-130	Pass	
Endosulfan II	K23-Au0064967	CP	%	110			70-130	Pass	
Endosulfan sulphate	K23-Au0064967	CP	%	97			70-130	Pass	
Endrin	K23-Au0064967	CP	%	127			70-130	Pass	
Endrin aldehyde	K23-Au0064967	CP	%	110			70-130	Pass	
Endrin ketone	K23-Au0064967	CP	%	102			70-130	Pass	
g-HCH (Lindane)	K23-Au0064967	CP	%	103			70-130	Pass	
Heptachlor	K23-Au0064967	CP	%	97			70-130	Pass	
Heptachlor epoxide	K23-Au0064967	CP	%	116			70-130	Pass	
Hexachlorobenzene	K23-Au0064967	CP	%	123			70-130	Pass	
Methoxychlor	K23-Au0064967	CP	%	75			70-130	Pass	
trans-Chlordane	K23-Au0064967	CP	%	113			70-130	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K23-Au0064967	CP	%	104			75-125	Pass	
Chromium	K23-Au0064967	CP	%	103			75-125	Pass	
Copper	K23-Au0064967	CP	%	102			75-125	Pass	
Lead	K23-Au0064967	CP	%	102			75-125	Pass	
Mercury	K23-Au0064967	CP	%	108			75-125	Pass	
Nickel	K23-Au0064967	CP	%	99			75-125	Pass	
Zinc	K23-Au0064967	CP	%	98			75-125	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K23-Au0064976	CP	%	98			75-125	Pass	
Chromium	K23-Au0064976	CP	%	97			75-125	Pass	
Copper	K23-Au0064976	CP	%	97			75-125	Pass	
Lead	K23-Au0064976	CP	%	91			75-125	Pass	
Mercury	K23-Au0064976	CP	%	101			75-125	Pass	
Nickel	K23-Au0064976	CP	%	91			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					
2.4'-DDD	K23-Au0064977	CP	%	119			70-130	Pass	
2.4'-DDE	K23-Au0064977	CP	%	100			70-130	Pass	
2.4'-DDT	K23-Au0064977	CP	%	107			70-130	Pass	
4.4'-DDD	K23-Au0064977	CP	%	72			70-130	Pass	
4.4'-DDE	K23-Au0064977	CP	%	95			70-130	Pass	
4.4'-DDT	K23-Au0064977	CP	%	78			70-130	Pass	
a-HCH	K23-Au0064977	CP	%	107			70-130	Pass	
Aldrin	K23-Au0064977	CP	%	87			70-130	Pass	
b-HCH	K23-Au0064977	CP	%	110			70-130	Pass	
cis-Chlordane	K23-Au0064977	CP	%	108			70-130	Pass	
d-HCH	K23-Au0064977	CP	%	93			70-130	Pass	
Dieldrin	K23-Au0064977	CP	%	89			70-130	Pass	
Endosulfan I	K23-Au0064977	CP	%	114			70-130	Pass	
Endosulfan II	K23-Au0064977	CP	%	97			70-130	Pass	
Endosulfan sulphate	K23-Au0064977	CP	%	80			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	K23-Au0064977	CP	%	80			70-130	Pass	
Endrin aldehyde	K23-Au0064977	CP	%	79			70-130	Pass	
g-HCH (Lindane)	K23-Au0064977	CP	%	93			70-130	Pass	
Heptachlor	K23-Au0064977	CP	%	121			70-130	Pass	
Heptachlor epoxide	K23-Au0064977	CP	%	98			70-130	Pass	
Hexachlorobenzene	K23-Au0064977	CP	%	102			70-130	Pass	
Methoxychlor	K23-Au0064977	CP	%	83			70-130	Pass	
trans-Chlordane	K23-Au0064977	CP	%	97			70-130	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K23-Au0064986	CP	%	100			75-125	Pass	
Chromium	K23-Au0064986	CP	%	99			75-125	Pass	
Copper	K23-Au0064986	CP	%	98			75-125	Pass	
Lead	K23-Au0064986	CP	%	96			75-125	Pass	
Mercury	K23-Au0064986	CP	%	100			75-125	Pass	
Nickel	K23-Au0064986	CP	%	95			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					
2.4'-DDD	K23-Au0064987	CP	%	91			70-130	Pass	
2.4'-DDE	K23-Au0064987	CP	%	80			70-130	Pass	
2.4'-DDT	K23-Au0064987	CP	%	80			70-130	Pass	
4.4'-DDD	K23-Au0064987	CP	%	125			70-130	Pass	
4.4'-DDE	K23-Au0064987	CP	%	76			70-130	Pass	
4.4'-DDT	K23-Au0064987	CP	%	73			70-130	Pass	
a-HCH	K23-Au0064987	CP	%	88			70-130	Pass	
Aldrin	K23-Au0064987	CP	%	72			70-130	Pass	
b-HCH	K23-Au0064987	CP	%	88			70-130	Pass	
cis-Chlordane	K23-Au0064987	CP	%	89			70-130	Pass	
d-HCH	K23-Au0064987	CP	%	79			70-130	Pass	
Dieldrin	K23-Au0064987	CP	%	79			70-130	Pass	
Endosulfan I	K23-Au0064987	CP	%	75			70-130	Pass	
Endosulfan II	K23-Au0064987	CP	%	75			70-130	Pass	
Endosulfan sulphate	K23-Au0064987	CP	%	74			70-130	Pass	
Endrin	K23-Au0064987	CP	%	71			70-130	Pass	
Endrin aldehyde	K23-Au0064987	CP	%	109			70-130	Pass	
Endrin ketone	K23-Au0064987	CP	%	109			70-130	Pass	
g-HCH (Lindane)	K23-Au0064987	CP	%	77			70-130	Pass	
Heptachlor	K23-Au0064987	CP	%	92			70-130	Pass	
Heptachlor epoxide	K23-Au0064987	CP	%	79			70-130	Pass	
Hexachlorobenzene	K23-Au0064987	CP	%	85			70-130	Pass	
Methoxychlor	K23-Au0064987	CP	%	78			70-130	Pass	
trans-Chlordane	K23-Au0064987	CP	%	85			70-130	Pass	
Spike - % Recovery									
Metals M8 (NZ MfE)				Result 1					
Arsenic	K23-Au0064996	CP	%	99			75-125	Pass	
Chromium	K23-Au0064996	CP	%	97			75-125	Pass	
Copper	K23-Au0064996	CP	%	103			75-125	Pass	
Lead	K23-Au0064996	CP	%	93			75-125	Pass	
Mercury	K23-Au0064996	CP	%	99			75-125	Pass	
Nickel	K23-Au0064996	CP	%	94			75-125	Pass	
Zinc	K23-Au0064996	CP	%	88			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides (NZ MfE)				Result 1					
2.4'-DDD	K23-Au0064997	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4'-DDE	K23-Au0064997	CP	%	81			70-130	Pass	
2.4'-DDT	K23-Au0064997	CP	%	84			70-130	Pass	
4.4'-DDD	K23-Au0064997	CP	%	127			70-130	Pass	
4.4'-DDE	K23-Au0064997	CP	%	76			70-130	Pass	
4.4'-DDT	K23-Au0064997	CP	%	70			70-130	Pass	
a-HCH	K23-Au0064997	CP	%	91			70-130	Pass	
b-HCH	K23-Au0064997	CP	%	88			70-130	Pass	
cis-Chlordane	K23-Au0064997	CP	%	88			70-130	Pass	
d-HCH	K23-Au0064997	CP	%	84			70-130	Pass	
Dieldrin	K23-Au0064997	CP	%	88			70-130	Pass	
Endosulfan I	K23-Au0064997	CP	%	85			70-130	Pass	
Endosulfan II	K23-Au0064997	CP	%	74			70-130	Pass	
Endosulfan sulphate	K23-Au0064997	CP	%	73			70-130	Pass	
Endrin	K23-Au0064997	CP	%	74			70-130	Pass	
Endrin aldehyde	K23-Au0064997	CP	%	108			70-130	Pass	
Endrin ketone	K23-Au0064997	CP	%	110			70-130	Pass	
g-HCH (Lindane)	K23-Au0064997	CP	%	82			70-130	Pass	
Heptachlor	K23-Au0064997	CP	%	96			70-130	Pass	
Heptachlor epoxide	K23-Au0064997	CP	%	83			70-130	Pass	
Hexachlorobenzene	K23-Au0064997	CP	%	85			70-130	Pass	
Methoxychlor	K23-Au0064997	CP	%	76			70-130	Pass	
trans-Chlordane	K23-Au0064997	CP	%	82			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDE	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDT	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDD	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDE	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDT	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
a-HCH	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Aldrin	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
b-HCH	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
cis-Chlordane	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
d-HCH	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Dieldrin	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan I	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan II	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan sulphate	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin aldehyde	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
g-HCH (Lindane)	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor epoxide	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Hexachlorobenzene	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Methoxychlor	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
trans-Chlordane	K23-Au0064956	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K23-Au0064956	CP	mg/kg	10	10	<1	30%	Pass	
Cadmium	K23-Au0064956	CP	mg/kg	0.31	0.32	3.8	30%	Pass	
Chromium	K23-Au0064956	CP	mg/kg	7.6	7.7	2.0	30%	Pass	
Copper	K23-Au0064956	CP	mg/kg	5.9	6.4	7.7	30%	Pass	

Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Lead	K23-Au0064956	CP	mg/kg	14	15	5.0	30%	Pass	
Mercury	K23-Au0064956	CP	mg/kg	0.15	0.16	6.9	30%	Pass	
Nickel	K23-Au0064956	CP	mg/kg	3.5	3.5	<1	30%	Pass	
Zinc	K23-Au0064956	CP	mg/kg	42	44	3.2	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K23-Au0064956	CP	%	37	36	5.0	30%	Pass	
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDE	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDT	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDD	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDE	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDT	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
a-HCH	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Aldrin	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
b-HCH	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Chlordanes - Total	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
cis-Chlordane	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
d-HCH	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Dieldrin	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan I	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan II	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan sulphate	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin aldehyde	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
g-HCH (Lindane)	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor epoxide	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Hexachlorobenzene	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Methoxychlor	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
trans-Chlordane	K23-Au0064966	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K23-Au0064966	CP	mg/kg	9.4	8.2	14	30%	Pass	
Cadmium	K23-Au0064966	CP	mg/kg	0.27	0.24	9.3	30%	Pass	
Chromium	K23-Au0064966	CP	mg/kg	6.6	5.6	15	30%	Pass	
Copper	K23-Au0064966	CP	mg/kg	3.6	3.2	13	30%	Pass	
Lead	K23-Au0064966	CP	mg/kg	14	12	13	30%	Pass	
Mercury	K23-Au0064966	CP	mg/kg	0.16	0.15	9.4	30%	Pass	
Nickel	K23-Au0064966	CP	mg/kg	2.9	2.5	16	30%	Pass	
Zinc	K23-Au0064966	CP	mg/kg	33	28	16	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K23-Au0064966	CP	%	29	29	<1	30%	Pass	
Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K23-Au0064975	CP	mg/kg	2.8	3.3	16	30%	Pass	
Cadmium	K23-Au0064975	CP	mg/kg	0.10	0.11	15	30%	Pass	
Chromium	K23-Au0064975	CP	mg/kg	5.6	8.0	35	30%	Fail	Q02
Copper	K23-Au0064975	CP	mg/kg	8.0	7.2	11	30%	Pass	
Lead	K23-Au0064975	CP	mg/kg	7.9	8.5	7.1	30%	Pass	
Mercury	K23-Au0064975	CP	mg/kg	0.02	0.03	15	30%	Pass	

Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Nickel	K23-Au0064975	CP	mg/kg	2.9	3.3	12	30%	Pass	
Zinc	K23-Au0064975	CP	mg/kg	60	55	8.2	30%	Pass	
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDE	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDT	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDD	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDE	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDT	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
a-HCH	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Aldrin	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
b-HCH	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Chlordanes - Total	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
cis-Chlordane	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
d-HCH	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Dieldrin	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan I	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan II	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan sulphate	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin aldehyde	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin ketone	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
g-HCH (Lindane)	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor epoxide	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Hexachlorobenzene	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Methoxychlor	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Toxaphene	K23-Au0053436	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-Chlordane	K23-Au0064976	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K23-Au0064976	CP	%	37	35	6.1	30%	Pass	
Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K23-Au0064985	CP	mg/kg	8.3	9.4	12	30%	Pass	
Cadmium	K23-Au0064985	CP	mg/kg	0.33	0.43	26	30%	Pass	
Chromium	K23-Au0064985	CP	mg/kg	12	12	1.7	30%	Pass	
Copper	K23-Au0064985	CP	mg/kg	14	16	15	30%	Pass	
Lead	K23-Au0064985	CP	mg/kg	12	14	16	30%	Pass	
Mercury	K23-Au0064985	CP	mg/kg	0.18	0.22	20	30%	Pass	
Nickel	K23-Au0064985	CP	mg/kg	5.2	5.4	4.6	30%	Pass	
Zinc	K23-Au0064985	CP	mg/kg	83	87	5.1	30%	Pass	
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDE	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDT	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDD	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDE	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDT	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
a-HCH	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Aldrin	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
b-HCH	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
Chlordanes - Total	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
cis-Chlordane	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
d-HCH	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Dieldrin	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan I	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan II	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan sulphate	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin aldehyde	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin ketone	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
g-HCH (Lindane)	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor epoxide	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Hexachlorobenzene	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Methoxychlor	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
trans-Chlordane	K23-Au0064986	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K23-Au0064986	CP	%	34	34	<1	30%	Pass	
Duplicate									
Metals M8 (NZ MfE)				Result 1	Result 2	RPD			
Arsenic	K23-Au0064995	CP	mg/kg	11	11	1.7	30%	Pass	
Cadmium	K23-Au0064995	CP	mg/kg	0.39	0.40	1.5	30%	Pass	
Chromium	K23-Au0064995	CP	mg/kg	9.0	8.9	<1	30%	Pass	
Copper	K23-Au0064995	CP	mg/kg	11	11	2.8	30%	Pass	
Lead	K23-Au0064995	CP	mg/kg	18	18	2.3	30%	Pass	
Mercury	K23-Au0064995	CP	mg/kg	0.16	0.14	12	30%	Pass	
Nickel	K23-Au0064995	CP	mg/kg	3.8	4.0	4.9	30%	Pass	
Zinc	K23-Au0064995	CP	mg/kg	55	57	3.0	30%	Pass	
Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
2.4'-DDD	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDE	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
2.4'-DDT	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDD	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDE	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
4.4'-DDT	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
a-HCH	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Aldrin	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
b-HCH	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Chlordanes - Total	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
cis-Chlordane	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
d-HCH	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Dieldrin	K23-Au0064996	CP	mg/kg	< 0.01	0.02	86	30%	Fail	Q15
Endosulfan I	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan II	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endosulfan sulphate	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin aldehyde	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Endrin ketone	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
g-HCH (Lindane)	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Heptachlor epoxide	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Hexachlorobenzene	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides (NZ MfE)				Result 1	Result 2	RPD			
Methoxychlor	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
trans-Chlordane	K23-Au0064996	CP	mg/kg	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	K23-Au0064996	CP	%	39	38	1.8	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Katyana Gausel	Analytical Services Manager
Raymond Siu	Senior Analyst-Metal
Raymond Siu	Senior Analyst-Organic
Sophie Bush	Senior Analyst-Asbestos

Raymond Siu
Senior Instrument Chemist (Key Technical Personnel)

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates IANZ accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Certificate of Analysis

Environment Testing

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

Soil & Rock Consultants
Level 1, 131 Lincoln Rd Henderson
Auckland
NEW ZEALAND

Attention:	Richard Duggan
Report	1020213-AID
Project Name	TE RAPA HAMILTON
Project ID	230649
Received Date	Aug 25, 2023
Date Reported	Aug 30, 2023

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence IANZ Accreditation does not cover the performance of this service (non-IANZ results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name TE RAPA HAMILTON
Project ID 230649
Date Sampled Jul 18, 2023
Report 1020213-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AH02	23-Au0064958	Jul 18, 2023	Approximate Sample 621g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH06	23-Au0064960	Jul 18, 2023	Approximate Sample 519g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH07	23-Au0064961	Jul 18, 2023	Approximate Sample 429g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH15	23-Au0064972	Jul 18, 2023	Approximate Sample 230g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH15-D	23-Au0064973	Jul 18, 2023	Approximate Sample 252g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH20	23-Au0064979	Jul 18, 2023	Approximate Sample 261g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
AH37	23-Au0064994	Jul 18, 2023	Approximate Sample 537g Sample consisted of: Fine grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Auckland	Aug 29, 2023	Indefinite

eurofins

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Eurofins Environment Testing NZ Ltd
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Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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Site# 2370

Company Name: Soil & Rock Consultants
Address: Level 1, 131 Lincoln Rd Henderson
Auckland
NEW ZEALAND

Project Name: TE RAPA HAMILTON
Project ID: 230649

Order No.:
Report #: 1020213
Phone: 0011 64 9 835 1740
Fax: 0011 64 9 835 1847

Received: Aug 25, 2023 2:13 PM
Due: Aug 29, 2023
Priority: 2 Day
Contact Name: Richard Duggan

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	AH01	Jul 18, 2023		Soil	K23-Au0064956			X	X	X
2	AH01-D	Jul 18, 2023		Soil	K23-Au0064957			X	X	X
3	AH02	Jul 18, 2023		Soil	K23-Au0064958	X		X	X	X
4	AH05	Jul 18, 2023		Soil	K23-Au0064959			X	X	X
5	AH06	Jul 18, 2023		Soil	K23-Au0064960	X		X	X	X
6	AH07	Jul 18, 2023		Soil	K23-Au0064961	X		X	X	X
7	QA01	Jul 18, 2023		Soil	K23-Au0064962			X	X	X
8	AH08	Jul 18, 2023		Soil	K23-Au0064963			X	X	X
9	AH08-D	Jul 18, 2023		Soil	K23-Au0064964			X	X	X
10	AH09	Jul 18, 2023		Soil	K23-Au0064965			X	X	X
11	AH10	Jul 18, 2023		Soil	K23-Au0064966			X	X	X

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IANZ# 1327	IANZ# 1290	IANZ# 1402

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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NATA# 2377
Site# 2370

Company Name: Soil & Rock Consultants
Address: Level 1, 131 Lincoln Rd Henderson
Auckland
NEW ZEALAND

Project Name: TE RAPA HAMILTON
Project ID: 230649

Order No.:
Report #: 1020213
Phone: 0011 64 9 835 1740
Fax: 0011 64 9 835 1847

Received: Aug 25, 2023 2:13 PM
Due: Aug 29, 2023
Priority: 2 Day
Contact Name: Richard Duggan

Eurofins Analytical Services Manager : Katyana Gausel

Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
12	AH11	Jul 18, 2023		Soil	K23-Au0064967			X	X	X
13	AH11-D	Jul 18, 2023		Soil	K23-Au0064968			X	X	X
14	AH12	Jul 18, 2023		Soil	K23-Au0064969			X	X	X
15	AH13	Jul 18, 2023		Soil	K23-Au0064970			X	X	X
16	AH14	Jul 18, 2023		Soil	K23-Au0064971			X	X	X
17	AH15	Jul 18, 2023		Soil	K23-Au0064972	X		X	X	X
18	AH15-D	Jul 18, 2023		Soil	K23-Au0064973	X		X	X	X
19	AH16	Jul 18, 2023		Soil	K23-Au0064974			X	X	X
20	AH17	Jul 18, 2023		Soil	K23-Au0064975			X	X	X
21	QA02	Jul 18, 2023		Soil	K23-Au0064976			X	X	X
22	AH18	Jul 18, 2023		Soil	K23-Au0064977			X	X	X
23	AH19	Jul 18, 2023		Soil	K23-Au0064978			X	X	X
24	AH20	Jul 18, 2023		Soil	K23-Au0064979	X		X	X	X
25	AH21	Jul 18, 2023		Soil	K23-Au0064980			X	X	X

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Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
26	AH22	Jul 18, 2023		Soil	K23-Au0064981			X	X	X
27	AH23	Jul 18, 2023		Soil	K23-Au0064982			X	X	X
28	AH24	Jul 18, 2023		Soil	K23-Au0064983			X	X	X
29	AH26	Jul 18, 2023		Soil	K23-Au0064984			X	X	X
30	QA03	Jul 18, 2023		Soil	K23-Au0064985			X	X	X
31	AH27	Jul 18, 2023		Soil	K23-Au0064986			X	X	X
32	AH28	Jul 18, 2023		Soil	K23-Au0064987			X	X	X
33	AH29	Jul 18, 2023		Soil	K23-Au0064988			X	X	X
34	QA04	Jul 18, 2023		Soil	K23-Au0064989			X	X	X
35	AH30	Jul 18, 2023		Soil	K23-Au0064990			X	X	X
36	AH31	Jul 18, 2023		Soil	K23-Au0064991			X	X	X
37	AH35	Jul 18, 2023		Soil	K23-Au0064992			X	X	X
38	AH36	Jul 18, 2023		Soil	K23-Au0064993			X	X	X
39	AH37	Jul 18, 2023		Soil	K23-Au0064994	X		X	X	X

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Sample Detail						Asbestos - AS4964	HOLD	Moisture Set	Organochlorine Pesticides (NZ MfE)	Metals M8 (NZ MfE)
Auckland Laboratory - IANZ# 1327						X	X	X	X	X
Christchurch Laboratory - IANZ# 1290										
Tauranga Laboratory - IANZ# 1402										
40	AH38	Jul 18, 2023		Soil	K23-Au0064995			X	X	X
41	AH39	Jul 18, 2023		Soil	K23-Au0064996			X	X	X
42	AH40	Jul 18, 2023		Soil	K23-Au0064997			X	X	X
43	AH25	Jul 18, 2023		Soil	K23-Au0064998		X			
44	AH32	Jul 18, 2023		Soil	K23-Au0064999		X			
45	AH33	Jul 18, 2023		Soil	K23-Au0065000		X			
46	QA05	Jul 18, 2023		Soil	K23-Au0065001		X			
47	AH34	Jul 18, 2023		Soil	K23-Au0065002		X			
Test Counts						7	5	42	42	42

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V = r x t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to “non-bonded / friable”.
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Laura Liu	Senior Analyst-Asbestos

Authorised by:

Sophie Bush	Senior Analyst-Asbestos

Katyana Gausel
Senior Analyst-Asbestos (Key Technical Personnel)

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates ISO/IEC 17025:2017 accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

Client:	Soil & Rock Consultants	**Lab No:**	3345115	SPv1
Contact:	Richard Duggan	**Date Received:**	17-Aug-2023	
	C/- Soil & Rock Consultants	**Date Reported:**	24-Aug-2023	
	PO Box 21424	**Quote No:**	125516	
	Henderson	**Order No:**		
	Auckland 0650	**Client Reference:**	230649	
		Submitted By:	Richard Duggan	

Sample Type: Aqueous

Sample Name:		PZ02	PZ04	PZ10
Lab Number:		3345115.1	3345115.2	3345115.3
Individual Tests				
Chloride	g/m³	12.5	26	11.8
Nitrite-N	g/m³	0.009	< 0.02 #1	0.015
Nitrate-N	g/m³	0.29	< 0.02	< 0.002
Nitrate-N + Nitrite-N	g/m³	0.30	< 0.02 #1	0.016
Total Kjeldahl Nitrogen (TKN)	g/m³	14.7	7.8	3.5
Total Phosphorus	g/m³	1.99	0.199	0.30
Carbonaceous Biochemical Oxygen Demand ($cBOD_5$)	g O_2/m³	-	13	2
Cation Profile				
Total Hardness	g/m³ as $CaCO_3$	33	104	57
Dissolved Calcium	g/m³	9.3	24	17.0
Dissolved Magnesium	g/m³	2.3	10.7	3.6
Dissolved Potassium	g/m³	7.8	11.6	2.2
Dissolved Sodium	g/m³	11.6	36	15.5
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn				
Dissolved Arsenic	g/m³	0.0017	0.0087	0.0075
Dissolved Cadmium	g/m³	< 0.00005	< 0.00005	0.00005
Dissolved Chromium	g/m³	< 0.0005	< 0.0005	< 0.0005
Dissolved Copper	g/m³	0.0027	0.0059	0.046
Dissolved Lead	g/m³	0.00013	0.00011	0.00153
Dissolved Nickel	g/m³	0.0010	0.0027	0.0021
Dissolved Zinc	g/m³	0.021	0.027	0.095

Analyst's Comments

#1 Severe matrix interferences required that a dilution be performed prior to analysis of this sample, resulting in a detection limit higher than that normally achieved for the NO2N, NO3N and NOxN analysis.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Cation Profile		-	1-3
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn	0.45µm Filtration, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.00005 - 0.0010 g/m³	1-3
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1-3
Total Hardness	Calculation from Calcium and Magnesium. APHA 2340 B 23rd ed. 2017.	1.0 g/m³ as $CaCO_3$	1-3

Sample Type: Aqueous			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Dissolved Calcium	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.05 g/m^3	1-3
Dissolved Magnesium	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.02 g/m^3	1-3
Dissolved Potassium	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.05 g/m^3	1-3
Dissolved Sodium	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.02 g/m^3	1-3
Chloride	Filtered sample. Ion Chromatography. APHA 4110 B (modified) 23rd ed. 2017.	0.5 g/m^3	1-3
Nitrite-N	Automated Azo dye colorimetry, Flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m^3	1-3
Nitrate-N	Calculation: (Nitrate-N + Nitrite-N) - NO2N. In-House.	0.0010 g/m^3	1-3
Nitrate-N + Nitrite-N	Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m^3	1-3
Total Kjeldahl Nitrogen (TKN)	Total Kjeldahl digestion, phenol/hypochlorite colorimetry. Discrete Analyser. APHA 4500-Norg D (modified) 4500 NH3 F (modified) 23rd ed. 2017.	0.10 g/m^3	1-3
Total Phosphorus	Total phosphorus digestion, automated ascorbic acid colorimetry. Flow Injection Analyser. APHA 4500-P H (modified) 23rd ed. 2017.	0.002 g/m^3	1-3
Carbonaceous Biochemical Oxygen Demand ($cBOD_5$)	Incubation 5 days, DO meter, nitrification inhibitor added, seeded. APHA 5210 B (modified) 23rd ed. 2017.	2 g O_2/m^3	2-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 19-Aug-2023 and 24-Aug-2023. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Ara Heron BSc (Tech)
Client Services Manager - Environmental