

## **WAIKATO DISTRICT PLAN REVIEW SUBMISSION**

**SUBMITTER**                      KONING FAMILY TRUST

**TOPIC:**                              Extent of residential zoning at Raglan

---

**STATEMENT OF EVIDENCE OF NIGEL STEWART MATHER**

Dated: 17 February 2021

---

## Introduction

1. My full name is Nigel Stewart Mather
2. I am a Principal Land and Water Quality Consultant employed by 4Sight Consulting Ltd (**"4Sight"**).

## Qualifications and Experience

3. I have the qualifications and experience described in the following paragraphs.
4. I am a Principal Land and Water Quality Consultant with 4Sight. I lead the 4Sight Environmental Service team, which includes 13 staff across New Zealand
5. I have a broad range of environmental management and risk assessment experience, including contaminated land and groundwater assessment and remediation, consent application technical peer review, hazardous substances management and auditing, environmental due diligence and risk assessment (transactional and advisory services), and HSE management systems implementation and auditing.
6. I have experience across a wide variety of industry sectors, including working with clients in local government, oil and gas, mining, infrastructure and construction, primary production, pulp and paper, food and beverage, and property and commercial.
7. Prior to joining 4Sight, I worked as a Senior Environmental Consultant in New Zealand with ERM, as an environmental specialist in the waste management industry in Queensland and Northern Territory in Australia with Transpacific Industries, and prior to this as an environmental consultant in New Zealand with Beca.
8. I hold qualifications of: Masters of Science (Hons) - Coastal Geomorphology, University of Auckland, 2005; Bachelor of Science - Geography and Geology, University of Auckland, 2001; Diploma of Quality Auditing - Risk Management and Auditing, SAI Global; and SAI Global ISO14001 Lead Auditor Training, 2008.
9. I consider myself to meet the definition of a Suitably Qualified and Experienced Practitioner (**"SQEP"**) as defined in the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (**"NESC"**).

## Code of Conduct

10. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. I have complied with the Code in preparing this statement of evidence and agree to follow it when presenting evidence.
11. I have identified in this statement of evidence the data, information, facts, and assumptions that I considered in forming my opinions. I state the reasons for the opinions I have expressed. I have not omitted to consider material facts known to me that might alter or detract from the opinions I have expressed. I have specified the literature or other material used or relied upon in support of the opinions I have expressed.
12. The evidence that I give in these proceedings is within my area of expertise, except when I rely on the evidence of another witness or other evidence, in which case I have explained that reliance.

## Scope of evidence

13. My evidence relates to a Preliminary Site Investigation (“**PSI**”) first prepared by 4Sight in 2018 to identify the potential for risk to human health associated with proposed residential rezoning at 146 Te Hutewai Road, Raglan (“the **site**”)
14. In my evidence I address the following issues:
  - a) Purpose of the PSI
  - b) Site history with regard to potential contaminating activities
  - c) Results of the investigation of contaminants in soil
  - d) Conclusions regarding risk to human health from contaminants in soil

## Background Materials Referenced

15. In the course of preparing this evidence, I have had regard to the following documents:
  - a) 4Sight report titled *Preliminary Site Investigation (PSI) with Limited Soil Sampling, 146 Te Hutewai Road*, dated October 2020, and the documents referenced within.
16. I have not visited the site, and my opinion is based on the document listed above.

## Summary of evidence

### Purpose of Investigation

17. 4Sight was engaged by the Koning Family Trust to undertake a PSI in August 2018.
18. The purpose of the PSI was to provide a high level assessment of potential implications for a proposed rezoning of the site relative to the requirements of the NESCS.
19. The investigation included a review of selected publicly available information for the site (historic aerial photographs, council records), discussion of site history with the landowner, collection of a limited number of soil samples, and preparation of a report to summarise the results of the PSI.
20. The PSI was not intended to fulfil the requirements of a Detailed Site Investigation (“**DSI**”), or to fully characterise all areas of potential soil contamination at the site.

### Site History

21. Based on review of historic aerial imagery, and discussion with the landowner, the site has been in use as pastoral land, and operated as a family run dairy farm for the past 50 years. The landowner stated that certified organic triple phosphate fertiliser was historically used on the site, but more recently chicken meal has been applied in place of phosphate fertilisers. Lime has also been applied to land on a regular basis.
22. Residential dwellings are present in the eastern and western boundaries of the site, with a number of small scale farm buildings (milking shed, cattle yards) in the centre of the site and on the eastern side of Te Hutewai Road.
23. A rubbish pile was identified in the eastern half of the site during the site visit (August 2018). The pile was approximately 10-15 m<sup>2</sup> in area and contained materials such as green waste, timber, plastics, and concrete. The source of the building material was reported by the landowner to be from a residential dwelling previously located at the site.
24. A Waikato District Council (“**WDC**”) refuse transfer station is located directly adjacent to the southern boundary of the site. Anecdotal information (discussion with the

landowner and information contained on the Xtreme Zero Waste web page) indicates that the refuse transfer station has been used historically for land filling operations (solid waste and sewage waste). Historic aerial images also showed evidence of historic land disturbance at the refuse transfer station property. There was no visible evidence of contamination on the site resulting from operation of the refuse transfer station.

25. The site is not listed on the Waikato Regional Council ("**WRC**") Land Use Information Register ("**LUIR**"). The LUIR lists properties known to be contaminated based on chemical measurements, or potentially contaminated land based on past land use.
26. The site is not listed on the WDC Hazardous Activities and Industries List ("**HAIL**") register. This identifies properties where activities with the potential to contaminate land are being undertaken, have been undertaken, or are more likely than not to have been undertaken.

#### Results of Investigation of Contaminants in Soil

27. Based on the site history, and to support the proposed rezoning, limited sampling was undertaken to determine potential impacts to soil from superphosphate application (presence of cadmium).
28. Six soil samples were collected across areas of proposed residential zoning (as of August 2018). This was determined adequate to assess cadmium impact to soil across the site, assuming broadscale application only (rather than targeted application which has the potential to result in hotspots). Three of these sample locations align with revised residential land use layout (BBO, dated 8 September 2020).
29. Sampling showed that concentrations of cadmium in all samples marginally exceeded the average natural background level of 0.22 mg/kg within the Waikato Region , ranging from 0.26 to 0.74 mg/kg.
30. Cadmium concentrations in all samples were below the WRC Cleanfill criteria and adopted NESCS Soil Contaminant Standards ("**SCS**") Rural Residential (25% produce consumption) (the most conservative SCS) land use criteria.
31. The pH value in all samples was higher (more alkaline) than the standard adopted NESCS SCS Rural Residential (25% produce consumption) land use criteria pH value of 5.0, ranging from pH 5.8 to 6.3. The availability of cadmium in soils is influenced

by pH, with cadmium becoming less available with increasing pH values. Specifically, soil pH is considered to be a dominant influence of uptake of cadmium in plants, and this is relevant under land use where home grown produce consumption is the dominant exposure pathway (rural residential and standard residential). Although a thorough investigation of pH has not been undertaken at the site (the sample set is small, and no off site sample has been taken to assess whether pH on the site has been altered by agricultural activities), using the NESCS SCS rural residential default concentration for cadmium of 0.8 mg/kg is considered conservative. By way of comparison, the adjusted NESCS SCS for rural residential land use for cadmium where pH is 5.5 is 1.4 mg/L.

32. There was no visual or olfactory evidence of soil contamination identified during soil sampling activities, or during the site walkover.

#### Conclusions regarding risks to human health from contaminants in soil

33. Although the historic broad scale application of superphosphate has been identified at the site, shallow soil sampling has indicated that concentrations of cadmium in soils across the proposed residential zone are below the NESCS SCS for rural residential (25% produce consumption) land use.
34. Consideration should be given to the potential for lead and asbestos to be present in shallow soils surrounding existing buildings, and for contaminants around the rubbish pile on site, during future soil disturbance activities. However, as this potential risk is associated with existing rural residential land use this is considered unlikely to present a significant or widespread risk associated with the proposed rezoning. Outside of the existing residential dwellings on the site, soils across the residential re-zoning area of the site are considered suitable for reuse on the site from a human health risk perspective.
35. Overall, contaminants in shallow soils across the site are considered, in general, highly unlikely to present a risk to human health associated with proposed residential land use. On this basis the change of land use is a permitted activity under regulation 8(4) of the NESCS.

Dated: 17 February 2021

A handwritten signature in blue ink, appearing to read 'Nigel Stewart Mather', with a long horizontal flourish extending to the right.

Nigel Stewart Mather

**Attachment 1**

**4Sight Preliminary Site Investigation, 146 Te Hutewai Road for Koning Family Trust,  
dated October 2020**



LAND. PEOPLE. WATER.




**Preliminary Site Investigation (PSI) with  
Limited Soil Sampling**

146 TE HUTEWAI ROAD

For Koning Family Trust

October 2020

## REPORT INFORMATION AND QUALITY CONTROL

Prepared for:	Koning Family Trust	
Author:	Shannen Barns	
	Environmental Consultant	
Reviewed:	Aaron Graham	
	Senior Land and Water Quality Consultant	
Approved for Release:	Nigel Mather	
	Principal Land and Water Quality Consultant	
Document Name	R_8562_146 Te Hutewai Road PSI V4.0 (October 2020)	
Version History:	V4.0	October 2020



## CONTENTS

## Page

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1 INTRODUCTION .....</b>	<b>2</b>
1.1 Scope of Works .....	2
<b>2 SITE DETAILS .....</b>	<b>3</b>
2.1 Land Use – Current and Proposed .....	3
2.2 Geology and Hydrology .....	3
<b>3 SITE HISTORY .....</b>	<b>5</b>
3.1 Council Records .....	5
3.1.1 Waikato Regional Council (WRC) Land Use Information Register (LUIR) .....	5
3.1.2 Waikato District Council (WDC) HAIL Report .....	5
3.1.3 Property File Review .....	5
3.1.4 Hazardous Substances and Incidents Report .....	5
3.2 Aerial Photographs .....	6
3.3 Landowner Information .....	7
3.3.1 Discussion .....	7
<b>4 SITE INVESTIGATION .....</b>	<b>7</b>
4.1 Initial Site Walkover .....	7
4.2 Soil Sampling .....	8
4.2.1 Sampling Methodology .....	8
4.2.2 QA/QC .....	8
4.3 Sampling Observations .....	8
4.4 Evaluation Criteria .....	8
4.5 Results and Discussion .....	9
4.5.1 Results .....	9
<b>5 CONCLUSIONS .....</b>	<b>11</b>
<b>REFERENCES .....</b>	<b>12</b>
<b>LIMITATIONS .....</b>	<b>12</b>

### List of Tables

Table 1: Address and Property Information .....	3
Table 2: Summary of Historic Aerial Review .....	6
Table 3: Initial Soil Sampling Details and Laboratory Analytical Schedule .....	8
Table 4: Soil Analytical Results .....	10

### List of Figures

Figure 1: Site Location Plan and Sampling Locations .....	4
---	---

### List of Appendices

Appendix A: Preliminary Plans
Appendix B: WRC Land Use Information Register
Appendix C: WDC HAIL Report
Appendix D: Property File Review
Appendix E: Historic Aerial Photographs
Appendix F: Photolog
Appendix G: Laboratory Analytical Reports

## EXECUTIVE SUMMARY

---

4Sight Consulting Ltd (4Sight) has been engaged by the Koning Family Trust (the 'client') to undertake a Preliminary Site Investigation (PSI) with limited soil sampling to support the proposed re-zoning application for a dairy farm located at 146 Te Hutewai Road, Raglan (herein referred to as 'the site'). The purpose of the PSI is to provide a high level assessment of the potential implications for a proposed re-zoning of the site under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) (MfE, 2011).

The site is currently operated as a dairy farm and is zoned as Rural under the Waikato District Council (WDC) Operative Plan. The proposed re-zoning seeks to establish up to 24 hectares (Ha) of residential zone across the site's southern extent, with the remainder of the site remaining in its current rural production use. This PSI has included the entire site in its background information review, with soil sampling focussed across the proposed residential zone.

A review of historic aerial imagery and discussion with the landowner identified the site has been in use as pastoral land and operated as a dairy farm for the past 50 years. Residential dwellings are currently present on both the eastern and western boundaries of the site, otherwise the site is primarily in pasture, with some small-scale farm buildings such as a milking shed and cow yards present in its centre and on the eastern side of Te Hutewai Road. A rubbish pile was identified during a site visit on 28 August 2018 in the centre of the eastern portion of the site, covering an area of approximately 10 - 15 m<sup>2</sup>, and contains materials such as timber, plastics and concrete.

A WDC owned refuse transfer station is located directly adjacent the southern boundary of the site and has historically been used for land filling operations. If contaminants from the refuse transfer station or historic land fill activities have been transported to the site via a stream that flows both through the refuse transfer station and the site, these contaminants are highly likely to be sediment bound and limited to the stream extent. On the basis the NESCS applies to contaminants in soil we conclude that the NESCS will not apply to stream sediment.

Shallow soil sampling (0 – 100 mm bgl) was completed at six locations across the proposed residential zoned area of the site on 28 August 2018 to identify if historic agricultural activities (application of superphosphate fertilisers) have impacted shallow soils and pose a risk to human health.

Laboratory analysis identified cadmium concentrations in all soil samples ranged between 0.26 – 0.74 mg/kg. These concentrations marginally exceed natural background concentrations in the Waikato Region, but are below both the Waikato Regional Council (WRC) Cleanfill criteria and adopted NESCS Soil Contaminant Standards (SCS) Rural Residential criteria, which was used as a conservative measure based on the assumption that future land use will comprise mixed residential and rural residential properties.

Based on the findings of this investigation the following conclusions and recommendations have been made:

- Although the historic broad scale application of superphosphate has been identified at the site, shallow soil sampling has indicated that concentrations of cadmium in soils across the proposed residential zone are below the NESCS SCS for rural residential land (25% produce - the most conservative SCS);
- Consideration should be given to the potential for lead and asbestos to be present in shallow soils surrounding existing buildings, and for contaminants around the rubbish pile on site, during future soil disturbance activities. However, as this potential risk is associated with existing rural residential land use this is considered unlikely to present a significant or widespread risk associated with the proposed rezoning;
- Outside of the existing residential dwellings on the site, soils across the residential re-zoning area of the site are considered suitable for reuse on the site from a human health risk perspective; and
- Overall, contaminants in shallow soils across the site are considered, in general, highly unlikely to present a risk to human health associated with proposed residential land use. On this basis the change of land use is a permitted activity under regulation 8(4) of the NESCS.

This investigation and associated reporting has been carried out and reviewed by suitably qualified and experienced practitioners (SQEP) in accordance with the NESCS.

## 1 INTRODUCTION

---

4Sight Consulting Ltd (4Sight) has been engaged by the Koning Family Trust (the 'Client') to undertake a Preliminary Site Investigation (PSI) with limited soil sampling to support the proposed re-zoning application of a dairy farm located at 146 Te Hutewai Road, Raglan (herein referred to as 'the site').

The purpose of the PSI is to assess potential implications for a proposed change of land use under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) (MfE, 2011). Specifically, the change in land use includes a proposed re-zoning application being submitted as part of the Waikato District Plan Review to re-zone a section of the site from rural to residential.

Consideration of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) is required for the activities of subdivision, change of land use and soil disturbance on pieces of land that have been subject to any activities or industries listed on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL).

The site has historically been used for agricultural purposes which includes the potential use of soil fertilisers (superphosphate). Superphosphate has been shown to result in elevated concentrations of cadmium in shallow soil with repeated applications and consequently is an activity which is captured by the HAIL. Therefore, consideration is required to be given to the NESCS.

Land covered in the NESCS is defined in regulation 5(7) as:

*A piece of land that is described by one of the following:*

- a) An activity or industry described in the HAIL is being undertaken on it;*
- b) An activity or industry described in the HAIL has been undertaken on it;*
- c) It is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it.*

### 1.1 Scope of Works

It is understood the proposed re-zoning will allow for residential land use purposes. The northern extent of the site is positioned within a wastewater treatment buffer zone associated with the Council treatment ponds directly north of the site and will remain in its current rural production land use. Outside of this buffer zone, across the southern extent of the site, is an area of approximately 60 ha that is proposed to be re-zoned for residential land use and has been the focus of this investigation. Proposed residential develop will occupy approximately 24.06 ha of this space. Preliminary concept schematic plans have been developed demonstrating the proposed re-zoning of the site and can be found in Appendix A.

The PSI has included the following:

- A review of selected publicly available information for the site, including council files and aerial photographs to determine whether any activities or industries on the HAIL are, have been, or might have been undertaken on the site;
- Site inspection to visually assess the presence of any activities or industries listed on the HAIL or evidence of potential contamination;
- Collection of shallow soil samples from six locations across the area of the site proposed for residential re-zoning at depths of up to 100 millimetres below ground level (mm bgl);
- Analysis of each sample collected for the contaminant of concern, cadmium (Cd), associated with the potential historic use of superphosphate across the site; and
- An overall assessment of the applicability of the NESCS.

## 2 SITE DETAILS

The site is located in Raglan in the Waikato Region, is approximately 80 hectares (ha) in area, and includes part of 339B Wainui Road, Raglan. Preliminary concept schematic plans have been developed demonstrating the location of the proposed re-zoning of the site and can be found in Appendix A.

Table 1: Address and Property Information

Address	Legal Description	CT Number	Area
Incorporates 146 Te Hutewai Road and a portion of 339B Wainui Road, Raglan, 3296	LOT 1 DPS 30217 BLK I KARIOI SD LOT 1 DP 352699 LOT 1 DPS 90029 LOT 3 DP 13913 PT LOT 1 DPS 89073 SEC 2 SO 392210	SA27B/621 216110	Approximately 80 ha

### 2.1 Land Use – Current and Proposed

The site is currently zoned as Rural under the Waikato District Plan (2013). There are residential dwellings present adjacent to both the site's eastern and western boundaries as well as several smaller structures and buildings located in the centre of site associated with the currently operating dairy farm. The site also incorporates an additional farm shed on the opposite side of Te Hutewai Road. The proposed residential zone is approximately 24.06 ha in area, as shown in Appendix A. Figure 1 shows the location of the site.

### 2.2 Geology and Hydrology

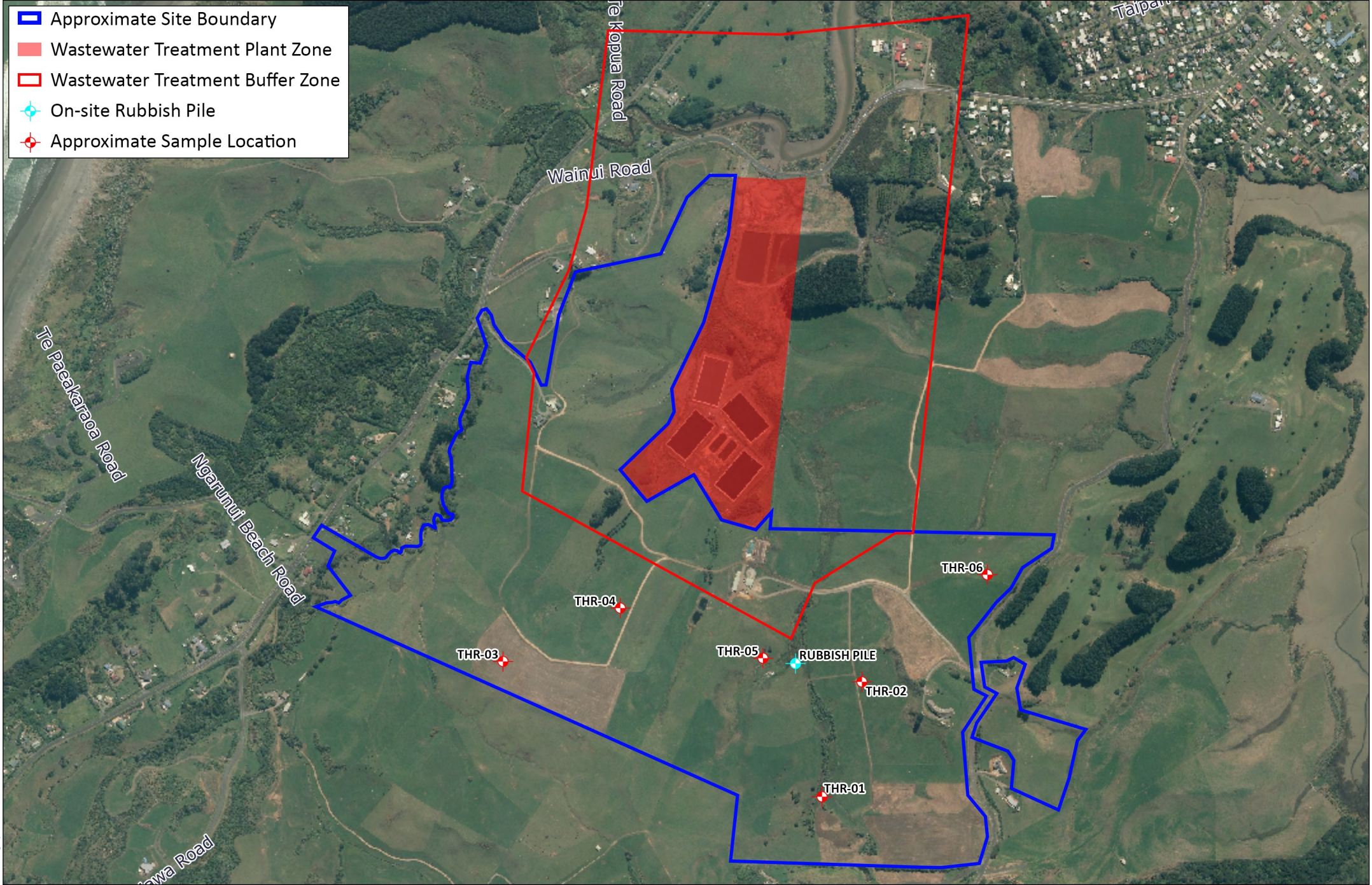
The Institute of Geological and Nuclear Sciences (GNS) 1:250,000 online geological map shows the geology of the site consists of Neogene Igneous Rocks of the Okete Volcanic Formation. These rocks are described as scoria, tuff and lava with compositions including basanite, alkali-olivine basalt and rare hawaiiite.

The closest surface water body is a tributary of the Wainui Stream which flows north through the centre of the site and drains into the Raglan Harbour, approximately 1.6 km north east of the site.

A search of the Waikato Regional Council (WRC) groundwater maps (September 2018) indicated that there are three groundwater bores within a 500 m radius of the site. Bore use was not identified in the database provided, with bore depths provided at two of the three locations, measuring 17 and 100 m bgl. No other information of relevance to this investigation was contained in the groundwater bore search.

During a site visit conducted by 4Sight on 28 August 2018, three monitoring wells were identified in the south eastern corner of the site, within a 50 m radius of the soil sampling location THR-01 (refer to Figure 1). After discussion with the landowner, Mr. Koning, it was identified the wells have approximate depths of 5 -7 m bgl and are associated with the annual groundwater monitoring for the Council-owned refuse transfer station, Xtreme Waste, located directly south of the site.

Aerial imagery sourced from LINZ and licensed under Creative Commons 3.0 (CC BY 3.0 NZ)



Copyright:  
This document and the copyright in this document remains the property of 4Sight Consulting. The contents of this document may not be reproduced either in whole or in part by any means without prior consent of 4Sight Consulting



8562 - Koning Rezoning Evidence

Figure 1: Site Location Plan

Figure prepared for Koning Family Trust by 4Sight Consulting

Date: 02/11/2020  
Version: 1.0  
Drawn: Sam Hendrikse  
Checked: Nigel Mather  
Approved: Nigel Mather



### 3 SITE HISTORY

---

To understand the history of the site and particularly the nature and location of any potentially contaminating activities, a review of selected publicly available information for the site was undertaken. This included searches of the following:

- Current registered bore and groundwater take search, provided by WRC (as summarised in Section 2);
- Property file report provided by Waikato District Council (WDC);
- HAIL Report provided by WDC;
- Land Use Information Register (contaminated site) search, provided by WRC;
- Hazardous Substances and Incidents Report provided by the Environmental Protection Agency (EPA);
- Selected historical aerial photographs readily available through Retrolens and Google Earth Pro; and
- Information obtained from correspondence with the landowner.

#### 3.1 Council Records

##### 3.1.1 Waikato Regional Council (WRC) Land Use Information Register (LUIR)

The WRC maintains a register (known as the Land Use Information Register) of properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of past land use.

An email received from WRC on 7 September 2018 (refer to Appendix B) confirmed the site does not currently appear on the LUIR and no specific information or reports were available regarding potential contamination at the site.

##### 3.1.2 Waikato District Council (WDC) HAIL Report

A search of the WDC HAIL register was requested, with results provided on 17 September 2018. The search is provided in Appendix C and noted that the site has been used for pastoral farming activities including dairy farming and that no record of HAIL activities at the site were found on WDC records.

##### 3.1.3 Property File Review

The Property File for 146 Te Hutewai Road was requested to obtain an overview of historic activities at the site and was provided to 4Sight by WDC on 17 September 2018. Selected information from the file is provided in Appendix D and information relevant to this investigation is described below:

- A Land Use Resource Consent (LUC0397/17) granted by WRC in July 2017 for the discretionary activity to undertake the importation of cleanfill that exceeds the maximum volume and height and resulting earthworks that exceed the maximum volume and area and a temporary entrance that does not comply with separation distances and sight visibility;
- An application to Raglan County Council dated 1964 for a Building Permit to build a 4-bay shed at Te Hutewai Road; and
- An application to Raglan County Council dated July 1964 for a Building Permit to build a residential dwelling at Te Hutewai Road with concrete pile foundations, weatherboard walls and an iron roof. A further application was submitted to Raglan County Council dated October 1967 for a Building Permit to renovate the same dwelling at Te Hutewai Road.

Review of the Property File did not identify any records of potentially contaminating activities that have historically occurred on the site.

##### 3.1.4 Hazardous Substances and Incidents Report

The Environmental Protection Agency (EPA) maintained a list of reported hazardous substance incidents over the period July 2006 – December 2011. A review of this information on 4 September 2018 did not identify any incidents of significance in relation to the site or the adjacent properties.

### 3.2 Aerial Photographs

Historical aerial photographs were sourced from Retrolens® and Google Earth Pro®. These can be found in Appendix E and are described below:

Table 2: Summary of Historic Aerial Review

Aerial Details	The Site	Surrounding Area
<b>1974</b> (Retrolens, black and white, earliest available image)	The site is in use as rural farming land. Three single residential dwellings are present; in the sites eastern portion, on the western boundary and within the separate portion of the site to the east. A single farm shed is also present in the sites south western portion. The remainder of the land is in pasture with a patch of bush in the southern portion of the site, surrounding a stream. Single trees are also sparsely spread across the western portion of the site.	The surrounding area appears to be in use as rural farming land.
<b>1997</b> (Retrolens, black and white)	The site remains in use as rural farming land and no additional buildings from the 1974 aerial image are present. Vegetation has been cleared from the southern boundary of the site.	The surrounding area remains in use as rural farming land. Some additional small buildings are present to the south east of the site and are likely used for farming or light industrial purposes. A large vacant area within a patch of bush is also present at the end of a long driveway connected to Te Hutewai Road directly south of the site and is likely associated with former council land filling operations.
<b>2011</b> (Google Earth Pro, colour)	The site remains in use as rural farming land. The pre-existing residential dwelling in the eastern portion of the site has been removed and a larger dwelling has been constructed in its place. A stream has been dammed in the centre of the northern boundary of the site with two small-scale ponds present. Directly to the north east of these ponds are a number of small farm buildings and structures including a milking shed and cow yards. A number of farm tracks run laterally across the site, connecting the residential dwellings to these farm buildings. A small farm shed has been erected on the eastern side of Te Hutewai Road.	The surrounding area remains primarily in use as rural farming land with a number of rural residential properties present adjacent to the site's western boundary. A number of wastewater treatment ponds are present directly north of the site. Industrial activities are operating directly south of the site's south eastern quarter and various small buildings, structures and piles are present, associated with the current refuse transfer station and recycling depot.
<b>2016</b> (Google Earth Pro, colour, most recent image available)	There are no changes of note from the 2011 aerial image.	The surrounding area remains in use as both rural farming and rural residential land. Two additional rural residential dwellings have been established on the eastern side of Te Hutewai Road, directly south of the small farm shed.

### 3.3 Landowner Information

During a site visit on 28 August 2018 an informal discussion was undertaken with the land owner, Mr. Koning, to understand current and past activities that have occurred on the site. Mr Koning confirmed the site has been occupied as his family-owned dairy farm for the past 50 years with certified organic triple phosphate fertiliser used historically. He has more recently switched to applying chicken meal in place of phosphate fertilisers, particularly in the site's southern portion. Lime has also been applied to the site on a regular basis.

Rubbish is currently piled in the central eastern section of the site, covering an area of approximately 15 – 20 m<sup>2</sup>. Mr. Koning states he uses this localised area to store rubbish from his property before burning it in this same area. The pile is currently comprised of tree branches and building material such as timber and concrete from a previous residential dwelling that has since been removed from the site, as well as general household refuse including plastics.

Mr. Koning also noted that he has previously had issues with activities that have occurred at the council refuse transfer station, previously operated as a land fill, located directly south of the site. This has included the burning of rubbish and the storage of degraded motor vehicles.

#### 3.3.1 Discussion

A stream enters the south eastern quarter of the site and flows north through the eastern portion of the site. This stream flows from land that has been operated by the WDC as a land fill from the 1950s to 1998, and there is a possibility that contaminants from historic fill operations could have impacted the stream at the site. Contaminants (if any) discharged to the stream would be limited to stream sediments only and are considered highly unlikely to have impacted shallow soils surrounding the stream. On the basis the NESCS applies to contaminants in soil we conclude that the NESCS will not apply to stream sediment.

## 4 SITE INVESTIGATION

---

### 4.1 Initial Site Walkover

A site visit was undertaken on Tuesday, 28 August 2018 and photos of the site visit are presented in Appendix F. The following observations were made during the site visit:

- The site is primarily in pasture and there is a large residential dwelling and associated garages present at the end of the driveway of 146 Te Hutewai Road in the eastern portion of the site;
- The site is well fenced around its perimeter and is comprised of multiple fenced paddocks, with farm vehicle tracks and access ways throughout. A small stockpile of silty sand fill is present adjacent to a farm track in the southern portion of the site. Discussion with the land owner identified the stockpile is comprised of cleanfill and is intended to be used to level out that section of the farm track, creating less of an incline;
- Land surrounding the site is primarily in pasture or in use as rural residential lifestyle properties. An operating refuse transfer station and recycling facility, Xtreme Waste, is located uphill from the site's southern boundary. A number of WDC operated wastewater treatment ponds are located directly north of the site;
- A rubbish pile is present in the centre of the eastern portion of the site, covering an area of approximately 10 – 15 m<sup>2</sup>, and contains materials such as timber, plastics and concrete;
- A number of small-scale farm buildings and structures, such as a milking shed and cow yards, are present in the centre of the site and a small farm shed is present on the eastern side of Te Hutewai Road;
- A stream runs through the eastern portion of the site and flows onto the site from the refuse transfer station and recycling facility (former land fill) directly to the south. The stream is fenced around its perimeter and is well planted with native vegetation at its upstream end. Observation of the stream both on the site and past the southern boundary identified no visible evidence of contamination such as hydrocarbon films on the water's surface or dead/dying/stressed vegetation. The landowner stated that levels of potential contaminants within the stream are not currently monitored; and
- Housekeeping across the site is generally tidy, with no disused equipment or visible signs of contamination such as oil or grease, no stressed or dying vegetation and no evidence of current or historical above/underground storage tanks, sumps, pits, or lagoons.

## 4.2 Soil Sampling

Based on the historic agricultural use of the site and known issues within the Waikato Region with elevated levels of cadmium associated with ongoing superphosphate application, sampling was undertaken to determine any impact on shallow soils across the site. Sampling was limited to the area of the site proposed for residential zoning only, on the basis that the concentration of cadmium in soils as a result of broad scale pastoral application has been demonstrated (through repeated sampling across the region) to not present a risk to human health in a commercial land use setting.

Soil sampling was conducted by 4Sight during a site visit on 28 August 2018. Samples were collected at six locations across the site (refer to Figure 1) at depths of between 0 – 100 mm bgl to investigate shallow sub-surface soils. The number of samples collected was selected to provide a high-level assessment of potential cadmium impact, and on the basis that application across the site has been broad scale and is considered highly unlikely to have resulted in hotspots.

Soil sampling was undertaken in general accordance with the Contaminated Land Guidelines No.5 Site Investigation and Analysis of Soils (MfE, 1999, revised 2011). The methodology for the soil sampling is set out below.

### 4.2.1 Sampling Methodology

Each sample location was first checked for the presence of subsurface utilities using available plans and landowner information about the site. A stainless-steel spade was then used to collect shallow (approximately 0 – 100 mm bgl) soil samples at six locations.

Soil sampling locations are presented in Figure 1, and photographs of sampling locations are shown in Appendix F.

Soil samples were collected, placed in sample containers and transported, with Chain of Custody documentation, to RJ Hill Laboratories, Hamilton. The six soil samples collected were analysed at the laboratory for concentrations of cadmium (Cd) and values of pH, as per the analytical schedule in Table 3. The analytical suite was selected based on known historic agricultural activities including the potential for ongoing superphosphate application.

Table 3: Initial Soil Sampling Details and Laboratory Analytical Schedule

Sample ID	Depth (mm)	Soil Type	Lab Analysis
THR-01; THR-02; THR-03; THR-04; THR-05; and THR-06	0 – 100	Topsoil	Cadmium (Cd), pH

### 4.2.2 QA/QC

Standard field quality assurance protocols were followed. All tools used for sampling were washed in a decontaminant solution between samples to reduce the risk of cross contamination. Nitrile gloves were also used and disposed of between each sample. Hill Laboratories are a New Zealand accredited laboratory (by International Accreditation NZ). Their primary quality standard is NZS/ISO/IEC 17025:2005 which incorporates the aspects of ISO 9000 relevant to testing laboratories. Refer to the laboratory analysis report in Appendix G for further information on accreditation.

## 4.3 Sampling Observations

Photos of the site are presented in Appendix F. The following soil characteristics and observations are described below:

- Shallow soils across the residential re-zoning area of the site consist of dark brown silt topsoil with a moderate - strong organic odour from 0 – 100 mm bgl;
- No obvious signs of fill material, such as glass or plastic, and no visible asbestos containing material (ACM) were observed within the soil at any of the sampling locations; and
- No obvious discolouration of the soil and no odours were present at any of the sampling locations.

## 4.4 Evaluation Criteria

The soil sample results have been screened against the following criteria:

- Background concentrations for heavy metals (95% upper limit) as presented on the WRC website. These values are used as a guideline for typical naturally occurring concentrations in the Waikato Region;

- WRC Cleanfill Criteria. These criteria were selected to provide guidance on suitable offsite disposal options, if required; and
- NESCS Soil Contaminant Standards (SCS) for inorganic substances using the Rural Residential / lifestyle block 25% produce land use scenario. These guidelines are to assess human health risk and the land use scenario is consistent with the proposed future land use (refer to preliminary plans in Appendix A) on the assumption that future land use will comprise mixed residential and rural residential properties. SCS for rural residential land use are more conservative than residential guidelines and therefore provide for the 'worst case' scenario.

## 4.5 Results and Discussion

### 4.5.1 Results

A summary of the laboratory results is presented in Table 4 and full results are contained in the laboratory analysis report provided in Appendix G. The following is noted:

- The concentration of cadmium in all samples marginally exceeds natural background levels within the Waikato Region (0.22 mg/kg) and range between 0.26 – 0.74 mg/kg;
- The pH value in all samples are higher (more alkaline) than the standard adopted NESCS SCS Rural Residential land use criteria pH value of 5.0, and range between 5.8 – 6.3; and
- Cadmium concentrations in all samples were below the WRC Cleanfill criteria and adopted NESCS SCS Rural Residential land use criteria.

On the of the sampling conducted across the site, it is considered highly unlikely that cadmium concentrations will present a risk to human health associated with proposed residential land use (standard or rural residential scenarios). The availability of cadmium in soils is influenced by pH, with cadmium becoming less available with increasing pH values. The NESCS SCS rural residential default value is based on a pH value of 5 and based on sampling undertaken the pH of soil across the site ranged between 5.8 and 6.3. Although a thorough investigation of pH has not been undertaken (the sample set is small, and no off site sample has been taken to assess whether pH on the site has been altered by agricultural activities), using the NESCS SCS rural residential default concentration for cadmium of 0.8 mg/kg is considered conservative. By way of comparison, the adjusted NESCS SCS for rural residential land use for cadmium where pH is 5.5 is 1.4 mg/L.

Table 4: Soil Analytical Results

Sample Name:		Assessment Criteria			THR-01	THR-02	THR-03	THR-04	THR-05	THR-06
		Natural Background Concentrations <sup>1</sup>	WRC Cleanfill Criteria <sup>2</sup>	NESCS SCS Guidelines - Rural Residential <sup>3</sup>						
Sample Depth (m):					0 - 0.1	0 - 0.1	0 - 0.1	0 - 0.1	0 - 0.1	0 - 0.1
Soil Type:					Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil
Date:					28-Aug-18	28-Aug-18	28-Aug-18	28-Aug-18	28-Aug-18	28-Aug-18
Lab Number:					2039012.1	2039012.2	2039012.3	2039012.4	2039012.5	2039012.6
Dry Matter	g/100g as rcvd									
Total Recoverable Cadmium	mg/kg dry wt	0.22	1.0	0.8	0.26	0.47	0.67	0.64	0.4	0.74
pH	pH Units	-	-	5.0	5.8	6.3	6.6	6.3	6.3	6.3
Notes: All results and criteria are expressed in mg/kg dry weight, with the exception of soil pH, expressed in pH units. Any results exceeding adopted criteria are shaded accordingly.  1: Natural Background Concentrations for selected elements in soil of the Waikato region, acid recoverable data - 95% upper limit for background. Exceedances are in green. 2: Waikato Regional Council Cleanfill Criteria. Exceedances are in yellow. 3: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) Soil Contamination Standards (SCS) from Table B2 for inorganic substances and Table B3 for organic compounds - using the Rural residential / lifestyle block 25 % produce land use scenario. Exceedances are in blue.										

## 5 CONCLUSIONS

4Sight Consulting Ltd (4Sight) has been engaged by the Koning Family Trust (the 'Client') to undertake a Preliminary Site Investigation (PSI) with limited soil sampling to support the proposed re-zoning application for a dairy farm located at 146 Te Hutewai Road, Raglan (the site). The purpose of the PSI is to provide a high level assessment of the potential implications for a proposed change of land use under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) (MfE, 2011), with the re-zoning application allowing for residential zoning across the southern extent of the site. This investigation included reviewing the site history and field observations. The key findings are:

- The site is currently operated as a dairy farm and is zoned as rural under the WDC Operative Plan;
- A review of historic aerial imagery identified the site and surrounding area has been in use as rural farming and rural residential land since at least the 1970's. The majority of the site is currently in pasture with single residential dwellings present at both the site's eastern and western boundaries. The site also comprises a number of small farm buildings such as a milking shed and cow yards in its centre as well as a small farm shed on the eastern side of Te Hutewai Road. WDC wastewater treatment ponds have been present directly north of the site since at least 2011;
- A WDC owned refuse transfer station is located directly adjacent the southern boundary of the site and has historically been used for land filling operations. If contaminants from the refuse transfer station or historic land fill activities have been transported to the site via a stream that flows both through the refuse transfer station and the site, these contaminants are highly likely to be sediment bound and limited to the stream extent. On the basis the NESCS applies to contaminants in soil we conclude that the NESCS will not apply to stream sediment;
- A rubbish pile is present in the centre of the eastern section of the site, covering an area of approximately 10 – 15 m<sup>2</sup>, and contains materials such as timber, plastics and concrete. Housekeeping at the site is otherwise tidy with no visible evidence of contamination present;
- The site is not identified on the Waikato Regional Council (WRC) Land Use Information Register or WDC HAIL database. Property files obtained from WDC did not identify any potentially contaminating activities have historically occurred on the site; and
- Laboratory analysis identified cadmium concentrations in soil samples collected across the area of the site subject to the residential re-zoning application range between 0.26 – 0.74 mg/kg and marginally exceed natural background concentrations in the Waikato Region but are below both the WRC Cleanfill criteria and adopted NESCS Soil Contaminant Standards (SCS) Rural Residential criteria.

Based on the findings of this investigation the following conclusions and recommendations have been made:

- Although the historic broad scale application of superphosphate has been identified at the site, shallow soil sampling has indicated that concentrations of cadmium in soils across the proposed residential zone are below the NESCS SCS for rural residential land (25% produce - the most conservative SCS);
- Consideration should be given to the potential for lead and asbestos to be present in shallow soils surrounding existing buildings, and for contaminants around the rubbish pile on site, during future soil disturbance activities. However, as this potential risk is associated with existing rural residential land use this is considered unlikely to present a significant or widespread risk associated with the proposed rezoning;
- Outside of the existing residential dwellings on the site, soils across the residential re-zoning area of the site are considered suitable for reuse on the site from a human health risk perspective; and
- Overall, contaminants in shallow soils across the site are considered, in general, highly unlikely to present a risk to human health associated with proposed residential land use. On this basis the change of land use is a permitted activity under regulation 8(4) of the NESCS.

This investigation and associated reporting has been carried out and reviewed by suitably qualified and experienced practitioners (SQEP) in accordance with the NESCS.

## REFERENCES

---

- Environmental Protection Agency [EPA]. (2011). *Hazardous Substance Incidents Reports*. Retrieved from <http://www.epa.govt.nz/about-us/monitoring/Pages/HS-incident-reports-archive.aspx>, accessed March 2018.
- Geological and Nuclear Sciences [GNS]. (2017). *New Zealand Geology Web Map*. Retrieved from <http://data.gns.cri.nz/geology/>, accessed March 2018.
- Google Earth (2018).
- Ministry for the Environment. 2004 (revised 2011). *Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils*. Ministry for the Environment, Wellington, New Zealand.
- Ministry for the Environment. 2011. *Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health*. Ministry for the Environment, Wellington, New Zealand.
- Ministry for the Environment. 2011. *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011*. Ministry for the Environment, Wellington, New Zealand.
- Waikato Regional Council [WRC]. (2016). Natural Background Concentrations in the Waikato Region. Retrieved from <http://www.waikatoregion.govt.nz/Services/Regional-services/Waste-hazardous-substances-andcontaminated-sites/Contaminated-sites/Natural-background-concentrations/>, accessed June 2018
- Waikato Regional Council [WRC]. (2016). *Requests for Official Information*. Retrieved from <http://www.waikatoregion.govt.nz/Council/About-us/Requests-for-official-information/>, accessed September 2018
- Waikato Regional Council [WRC] maps. 2018. Retrieved from <http://maps.waikatodistrict.govt.nz/IntraMaps90/?project=Waikato&configId=b2549ae1-f643-4ac6-9586-211ba985dd8f>

## LIMITATIONS

---

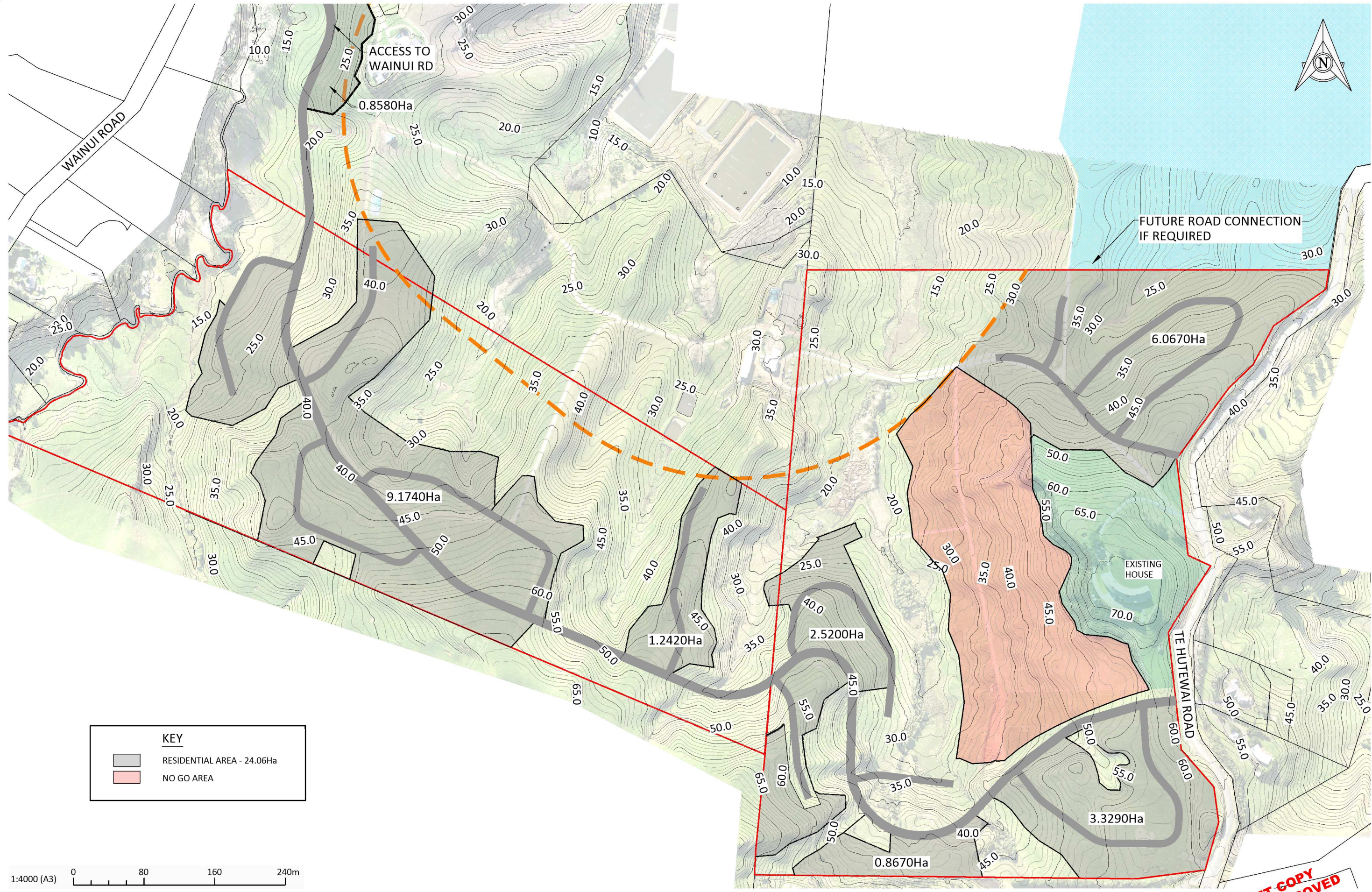
This document does not include any assessment or consideration of potential health and safety issues under the Health and Safety at Work Act 2015. 4Sight Consulting has relied upon information provided by the Client and other third parties to prepare this document, some of which has not been fully verified by 4Sight Consulting. This document may be transmitted, reproduced or disseminated only in its entirety.

From a technical perspective, the subsurface environment at any site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water, vapour and chemical movement. 4Sight Consulting's professional opinions are based on its professional judgement, experience, and training. These opinions are also based upon data derived from the testing and analysis described in this document. It is possible that additional testing and analysis might produce different results and/or different opinions. This document was prepared based on information provided by others. Should additional information become available, this report should be updated accordingly.

**Appendix A:**

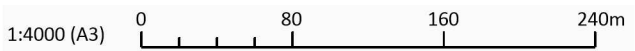
**Preliminary Plans**

100mm  
SCALE FOR VALIDATING SIZE OF A3 PLOT ONLY  
K:\144430 Koning Rezoning\Drawing\100 Maser Planning\Preliminary\144430\_00\_0102.dwg 9/9/2020 1:19 PM hwdieroth Plotted: 09 Sep 2020 1:19 PM  
Version 4.0 - March 2020



**KEY**

- RESIDENTIAL AREA - 24.06Ha
- NO GO AREA



										DESIGNED -		CHECKED BJM		 BLOXAM BURNETT & OLLIVER	CLIENT KONING DEVELOPMENTS		PROJECT LOT 1 DPS 30217 & LOT 1 DPS 90029				DRAWING LAYOUT PLAN				STATUS <div>NOT PRELIMINARY</div>				
										DRAWN HW		APPROVED -									DATE 08.09.2020				SCALE (ORIGINAL SIZE A3) 1:4000				
																					DRAWING NUMBER 144430_00_0102				REVISION -				
										rmx model version:																			
										DATE		ISSUE/REVISION DETAIL		BY		CHK		APPR											

**Appendix B:**

**WRC Land Use Information Register**

## Samantha Waters

---

**From:** Louisa Icke <Louisa.Icke@waikatoregion.govt.nz>  
**Sent:** Friday, 7 September 2018 11:38 AM  
**To:** Shannen Barns  
**Subject:** RE Land Use Information Register enquiry 146 Te Hutewai Road, Te Hutewai (REQ138139) No LUI

Dear Shannen,

Thank you for your enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the property indicated below:

146 Te Hutewai Road, Te Hutewai; LOT 1 DPS 30217 (VRN 06401/482/00)  
339B Wainui Road, Raglan; LOT 1 DP 352699 LOT 1 DPS 90029 LOT 3 DP 13913 PT LOT 1 DPS 89073 SEC 2 SO 392210 (VRN 06401/487/07)



I was unable to create a complete match based on legal descriptions, so I did a spatial map with your plan, file name "Konings location."

**Background:** The Waikato Regional Council maintains a register of properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of past land use. This register (called the Land Use Information Register) is still under development and should not be regarded as comprehensive. The 'potentially contaminated' category is gradually being compiled with reference to past or present land uses that have a greater than average chance of causing contamination, as outlined in the Ministry for the Environment's Hazardous Activities and Industries List (HAIL): <http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf>

**This property:** I can confirm that this property does not currently appear on the Land Use Information Register. However, it is recommended due diligence is exercised where land is to be converted to a productive or more sensitive use.

**District Councils:** Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Waikato District Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

**Rural Land Considerations:** Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

**Additional Information:** Please note that:

- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.
- Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet 20 day response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please note this first in your enquiry and we will do our best to assist.

Please feel free to contact me if you have any further queries on this matter. For any new enquiries or requests for information please continue to use the [Request for Service form](#) for 'Contaminated Land/HAIL.'

Regards,  
Louisa

Please note that I am only in the office Tuesdays and Thursdays 8-4.

**Louisa Icke** Contaminated Land Advisor | Land and Soil, Science and Strategy  
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato  
P: +6478590510  
F: [facebook.com/waikatoregion](https://www.facebook.com/waikatoregion)  
Private Bag 3038, Waikato Mail Centre, Hamilton 3240

\*\*\*\*\*  
This email message and any attached files may contain confidential information, and may be subject to legal professional privilege. If you have received this message in error, please notify us immediately and destroy the original message. Any views expressed in this message are those of the individual sender and may not necessarily

reflect the views of Waikato Regional Council. Waikato Regional Council makes reasonable efforts to ensure that its email has been scanned and is free of viruses, however can make no warranty that this email or any attachments to it are free from viruses.

\*\*\*\*\*

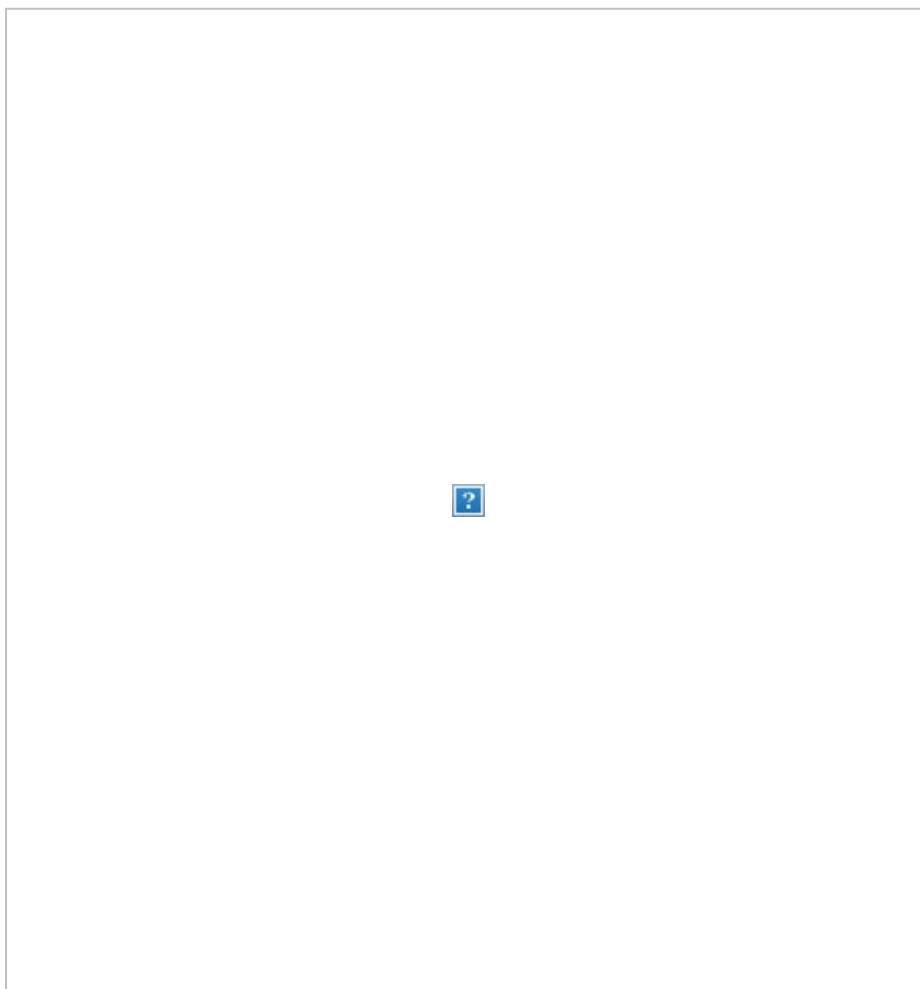
**From:** [Louisa Icke](#)  
**To:** [Shannen Barns](#)  
**Subject:** RE Land Use Information Register enquiry 146 Te Hutewai Road, Te Hutewai (REQ138139) No LUI  
**Date:** Friday, 7 September 2018 11:38:01 AM  
**Attachments:** [image002.png](#)

---

Dear Shannen,

Thank you for your enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the property indicated below:

146 Te Hutewai Road, Te Hutewai; LOT 1 DPS 30217 (VRN 06401/482/00)  
339B Wainui Road, Raglan; LOT 1 DP 352699 LOT 1 DPS 90029 LOT 3 DP 13913 PT LOT 1 DPS 89073 SEC 2 SO 392210 (VRN 06401/487/07)



I was unable to create a complete match based on legal descriptions, so I did a spatial map with your plan, file name "Konings location."

**Background:** The Waikato Regional Council maintains a register of properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of past land use. This register (called the Land Use Information Register) is still under development and should not be regarded as comprehensive. The 'potentially contaminated' category is gradually being compiled with reference to past or present land uses that have a greater than average chance of causing contamination, as outlined in the Ministry for the

Environment's Hazardous Activities and Industries List (HAIL):

<http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf>

**This property:** I can confirm that this property does not currently appear on the Land Use Information Register. However, it is recommended due diligence is exercised where land is to be converted to a productive or more sensitive use.

**District Councils:** Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Waikato District Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

-

**Rural Land Considerations:** Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

**Additional Information:** Please note that:

- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.
- Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet 20 day response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please note this first in your enquiry and we will do our best to assist.

Please feel free to contact me if you have any further queries on this matter. For any new enquiries or requests for information please continue to use the [Request for Service form](#) for 'Contaminated Land/HAIL.'

Regards,  
Louisa

Please note that I am only in the office Tuesdays and Thursdays 8-4.

**Louisa Icke** Contaminated Land Advisor | Land and Soil, Science and Strategy

WAIKATO REGIONAL COUNCIL | Te Kaunihera a Rohe o Waikato

P: +6478590510

F: [facebook.com/waikatoregion](https://facebook.com/waikatoregion)

Private Bag 3038, Waikato Mail Centre, Hamilton 3240

\*\*\*\*\*  
This email message and any attached files may contain confidential information, and may be subject to legal professional privilege. If you have received this message in error, please notify us immediately and destroy the original message. Any views expressed in this message are those of the individual sender and may not necessarily reflect the views of Waikato Regional Council. Waikato Regional Council makes reasonable efforts to ensure that its email has been scanned and is free of viruses, however can make no warranty that this email or any attachments to it are free from viruses.  
\*\*\*\*\*

**Appendix C:**

**WDC HAIL Report**

Your Ref

In reply please quote  
HAIL0051/19

If calling, please ask for  
Alan Parkes



07 September 2018

Postal Address  
Private Bag 544, Ngaruawahia 3742  
New Zealand

0800 492 452  
[www.waikatodistrict.govt.nz](http://www.waikatodistrict.govt.nz)

4Sight Consulting  
Level 2  
3 Vernon Street  
Freemans Bay  
Auckland 1010

Dear Sir/Madam

### Property Enquiry - HAIL report

Further to your request for details of whether or not council records indicate that an activity or industry described in the Ministry for the Environment Hazardous Activities and Industries List (HAIL) is being, has been or is more likely than not to have been undertaken on a piece of land I can advise the following:

**Property address:** 146 Te Hutewai Road TE HUTEWAI  
**VNZ Property ID:** 06401/482.00  
**Legal description:** LOT 1 DPS 30217 BLK 1 KARIOI SD

No record of a HAIL activity has been found on Council records. **NOTE:** please see comments below for clarification required in respect of some matters found on the records if development on the property is proposed.

### Comments:

The site has been used for pastoral farming activities including dairy farming. Prolonged application of superphosphate fertiliser has the potential to elevate cadmium in soil above the rural-residential soil contaminant standard of 0.8 mg/kg. If rural-residential activities are proposed, information should be supplied on superphosphate fertiliser use on the property using Council's site history checklist to determine if any investigation in respect of cadmium in soil is required. Where consistent application of fertiliser over time is identified or there is limited information available a screening sample or samples for cadmium should be provided to determine if soil has been impacted by cadmium such that it could be considered a HAIL activity. The samples need not be taken by a contaminated land specialist but should be taken by an independent person with experience in soil analysis such as a fertiliser company representative or soil scientist. Composite samples comprising a maximum of 4 subsamples across the proposed residential areas of the site would be appropriate. Sample depth should be between 0-100mm. Soil pH should also be recorded as the soil contaminant standard for cadmium is pH dependent. A soil sample should also be taken for cadmium and pH if possible from an area on the property with similar soil characteristics where the soil has not been modified by application of superphosphate fertiliser and liming to give an indication of the natural soil. Such an area may include gardens of existing older homesteads, roadside berms, under troughs etc. The location and description of this sample site should be clearly identified.

A plan of the site should be provided showing the area where the soil cores comprising the composite samples were taken. If the samples show cadmium levels well below the soil contaminant standard then no further action would be necessary. If the sample however indicates cadmium at or very close to the standard then we would conclude that a HAIL class 1 has occurred and a site investigation and report carried out by a suitably qualified and experienced practitioner in contaminated land, prepared in

accordance with the Ministry for the Environment Contaminated Land Management Guidelines would be required.

Please be advised that the review identified structures on the property present in 1964. These structures are likely to have used asbestos containing materials (ACM) and/or lead based paint given the era of construction. Whilst such activities are not specifically identified on the HAIL, the use of lead based paint and presence of ACM can result in the presence of such contaminants at elevated concentrations in the surrounding soil.

The following records (where applicable) were reviewed in this assessment:

Property file including any parent property file from which the property was developed

Waikato District Council Land Use Register

Waikato Regional Council Selected Land Use Register

Subdivision Consent files

Land Use Consent files

Building Consent files

Aerial Photography:

1944 Site is covered in vegetation

1957 Vegetation has been cleared and site is in developing pasture

1974, 1979, 1997 Site is well developed pasture. Buildings are now present approximately mid-way near the eastern boundary, consistent with a 1964 building permit for a dwelling

#### **Disclaimer:**

This information is based on records held by the Council and/or Waikato Regional Council and reflects the council's current understanding of the site. The council does not accept any liability for any inaccuracy of this information or liability for any loss or damage suffered by any person acting or refraining from acting on this information.

If this information indicates that no record of a HAIL activity has been identified on council records, this does not imply that no HAIL activity has been undertaken on the site. This simply means that the council holds no record of a HAIL activity being undertaken on the property at this point in time. However, council records may be incomplete. Similarly, if one HAIL activity is identified, this does not preclude another HAIL activity having been undertaken of which no record is held. If an activity is proposed to be undertaken on the site that is covered by the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES), council retains the right to seek further information on the site history of the subject property. Where pastoral farming activities have been identified, Council may seek information in respect of cadmium in soil resulting from application of superphosphate fertiliser if residential activities are proposed.

If you have any queries please feel free to call me.

Yours faithfully



Alan Parkes

**Contaminated Land Specialist**

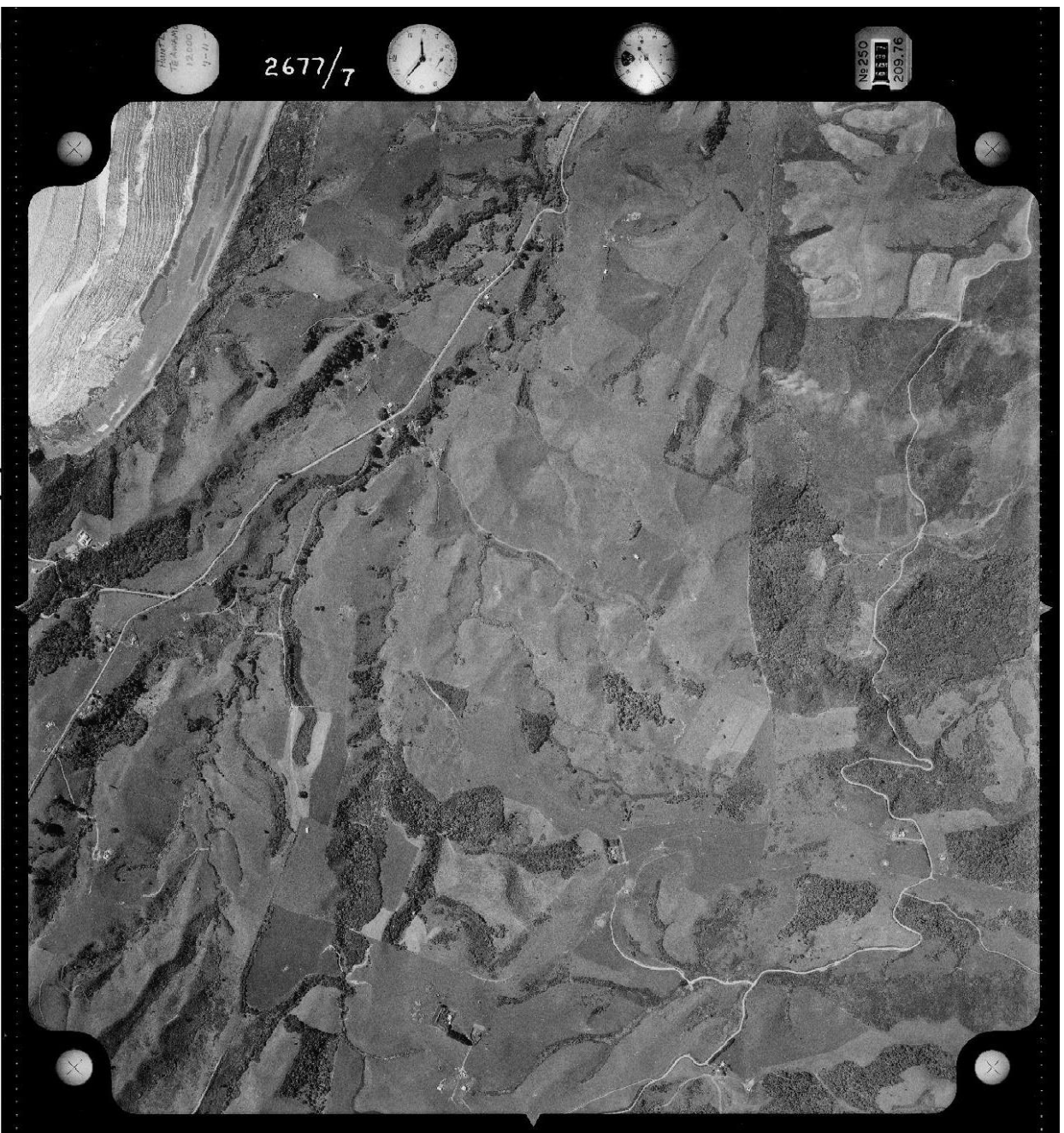
1944

©Sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0

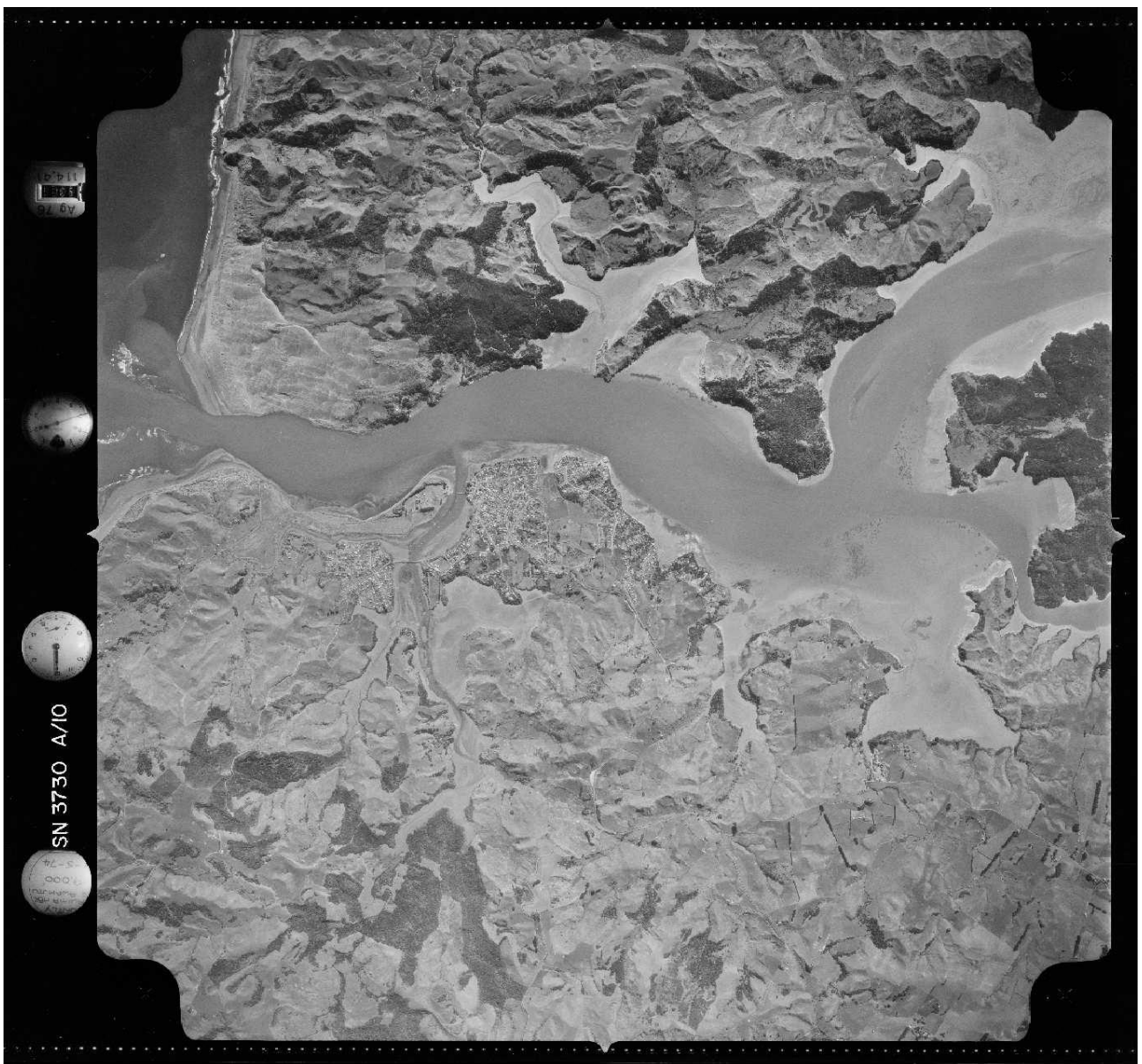


1957

© Sourced from <http://retrolens.nz> and licensed by LINZ



1974



© Sourced from <http://retrolens.nz> and licensed by LIN.

1979



© Sourced from <http://retrolens.nz> and licensed by LIN.

1997



© Sourced from <http://retrolens.nz> and licensed by LIN.

**Appendix D:**

**Property File Review**



## Combined Notification and 104 Decision Report Land Use Consent

Section 95, 104 and 104B of the Resource Management Act 1991

<b>Date:</b>	21 March 2017	<b>App Number:</b>	LUC0397/17
<b>Reporting Planner:</b>	Kelly Cattermole	<b>Property Ref:</b>	1013702
		<b>Site Visit on:</b>	13 <sup>th</sup> of March 2017

<b>Applicant:</b>	M M Koning
<b>Property Address:</b>	146 Te Hutewai Road TE HUTEWAI
<b>Legal Description:</b>	Lot 1 DPS 30217 comprised in Computer Freehold Register SA27B/621
<b>Site Area:</b>	33.4877 Ha more or less
<b>Operative Plan</b>	Waikato District Plan (Waikato Section) 2013
<b>Activity Status:</b>	Discretionary
<b>Zoning:</b>	Rural
<b>Policy Area:</b>	None
<b>Proposal:</b>	Importation of cleanfill that exceeds the maximum volume and height and resulting earthworks that exceed the maximum volume and area and a temporary entrance that does not comply with separation distances and sight visibility.

### 1.0 INTRODUCTION

#### 1.1 Proposal

Pursuant to Section 88 of the Resource Management Act 1991, Wainui Environmental Ltd (The Agent), has applied on behalf of M Koning (the Applicant) for Resource Consent to undertake earthworks for straightening a stock race and flattening out farm land. The earthworks are comprised of the importation of 1700m<sup>3</sup> of cleanfill and 50m<sup>3</sup> of cut to fill earthworks undertaken on the subject site itself, over a 1,500m<sup>2</sup> area. This results in an exceedance of the maximum earthworks volume and area by 750m<sup>3</sup> (1000m<sup>3</sup> max permitted) and 500m<sup>2</sup> (1000m<sup>2</sup> maximum permitted) along with a fill depth that exceeds and maximum height by 0.5m (1.5m proposed). The subject site is within the Rural Zone, Raglan.

The proposed entrance will fail separation distances by 80m (20m proposed) and sight visibility by 200m (50m proposed) but will only be used for the duration of the works and decommissioned thereafter. During the draft conditions process it was highlighted that the Applicant would like the ability to utilise this entrance thereafter for a farm access. This was discussed with Council's Senior Land Development Engineer, Peter Henderson, who advised that this could be undertaken by way of a Vehicle Entranceway Application (outside of the consent process).

All cut material will be used on site. All cleanfill material will be brought onto the site from two

residential sites nearby. All excavation and filling is proposed to be constructed to the required standards. Hours of works will be Monday-Friday 7:30am until 6:00pm and will involve a total of 250 truck movements with a maximum rate of 6 per hour over a 2 week period.

## 1.2 Description of Site

A thorough description of the site has been provided as a part of the application and as such, shall not be repeated here. In addition, a waste transfer station is located to the south at 186 Te Hutewai Road.



Figure 1: Subject site (red). Proposed access location (teal) and cleanfill/earthworks area (blue).

## 1.3 Legal Interests in the Property

No interests on the CFR.

## 2.0 REASON FOR THE APPLICATION

The Waikato District Plan: Waikato Section was made operative on 5<sup>th</sup> April 2013.

An assessment of the proposal's compliance with the relevant rules of the Operative District Plan has been completed (see physical file).

In summary, the proposal triggers consent under the following rules:

Rule #	Rule Name	Status of Activity	Comment
24.25	Earthworks	Discretionary	The proposal involves earthworks which exceed the 1,000m <sup>3</sup> maximum permitted volume by 750 m <sup>3</sup> and exceed the 1,000m <sup>2</sup>

			maximum permitted disturbance area by 500m <sup>2</sup> . In addition, the portion of the stock race will not be revegetated.
24.27	Filling	Discretionary	The proposal involves importing clean fill which exceeds the 200m <sup>3</sup> maximum permitted fill volume by 1500m <sup>3</sup> and the maximum permitted fill depth of 1m by 0.5m.
A14.1	Access and vehicle entrances		The proposed temporary entrance will fail the required separation distance by 80m (20m proposed) and sight visibility by 200m (50m proposed).

As outlined in the table above, the application is deemed to be a Discretionary Activity under the operative planning documents, being the highest status indicated by the above rules.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES)

An assessment of Council's records and historical aerial imagery has been undertaken and no evidence of HAIL activities was identified.

Regulation 5(4) of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES) describes soil disturbance as an activity to which the NES applies where an activity that can be found on the Ministry for the Environment Hazardous Activities and Industries List (HAIL) has occurred.

Regulation 6(2) of the NES specifies that an applicant must establish if any HAIL activities have occurred on the subject site. The applicant can do this by adopting one of two methodologies:

- a. Review of all relevant council records including dangerous goods files, property files, registers, databases, resource consent databases, records available from Regional Council;
- b. Preliminary Site Investigation undertaken by a suitably qualified and experienced practitioner in accordance with the current Ministry for the Environment's Contaminated Land Management Guidelines No. 1 Reporting on Contaminated Sites in New Zealand.

An assessment of Council's records and historical aerial imagery has been undertaken which shows no record of a HAIL activities. As such, the proposal is a permitted activity under the NES.

### **3.0 SECTION 95A ASSESSMENT FOR THE PURPOSE OF PUBLIC NOTIFICATION**

#### **3.1 Notification at Applicant's request or rule in the plan that you must notify - s.95A(2)(b) &(c)**

The applicant did not request that the application be notified. There are no rules in the Operative Plan relevant to this proposal that require that the application must be notified.

#### **3.2 Rule in the Plan that precludes public notification - s95A(3)**

There are no rules in the Operative Plan relevant to this proposal that preclude public notification.

### 3.3 Effects that may or must be disregarded - S 95D(a),(b),(c),(d) and (e)

In deciding whether an activity will have or is likely to have adverse effects on the environment that are more than minor the relevant requirements of Section 95D (a) to (e) must be considered.

#### Section 95D(a)

In regards to section 95D(a), Council must disregard any effects on persons who own or occupy the subject site and adjacent land.

Effects on persons who own or occupy the properties marked below have been disregarded as they either own or occupy the land on which the activity will occur or any land adjacent to that land.



Figure 2: Locations of persons who have been disregarded (1-8) and subject site or sites owned by the Applicant (0).

#### Section 95D(b)

Pursuant to section 95D(b), if a rule or national environmental standard permits an activity with that effect then that adverse effect of that activity may be disregarded. This is known as the "permitted baseline".

Given the degree of non-compliances, it is not appropriate to apply the permitted baseline.

#### Section 95D(c)

As this proposal is for a Discretionary activity, Section 95D(c) is not considered to be relevant.

#### Section 95D(d)

Trade competition and the effects of trade competition are not considered relevant and have been disregarded.

#### Section 95D(e)

Section 95D(e) of the RMA requires that Council must disregard any effect on a person who has given written approval to the application.

Written approvals have been received from the following parties which are referenced to properties identified in Figure 2; therefore the effects on owners of these properties are disregarded.

Property Number	Property Address	Owner or Occupier
2	186 Te Hutewai Road	Waikato District Council / Xtreme Zero Waste

Accordingly, Council must disregard any effects from this proposal on those persons who own or occupy those properties.

In addition, the other sites shown as (0) are owned by the Applicant and therefore, written approval is implicit.

#### **3.4 Assessment of Adverse Environmental Effects – s95A(2)(a)**

Such effects on the wider environment to consider include those on rural character and amenity, noise and dust, erosion and sedimentation and traffic.

##### Effects on Rural Character and Amenity

The placement of fill has the potential for adverse effects on character and amenity, in particular where the fill is placed in sensitive areas or on ridgelines. In this instance, the area proposed to receive the cleanfill has already been modified by a stock race and the earthworks/cleanfill would be consistent with this, as it would result in the realignment/straightening of the stock race.

In addition, the works area is located a considerable distance from any visible public places and will be very temporary in nature, with the works proposed to be confined to a two week period.

As such, the potential adverse character and amenity effects on the environment will be no more than minor.

##### Noise and Dust Effects

The movement of vehicles and machinery around the site during the earthworks and filling has the potential to generate excessive noise and dust. However, these effects reduce with distance. Given the separation distance to other properties located in the wider environment, it is considered that these effects will not extend beyond the immediate environment. In addition, the works will be for a very short duration.

Trucks will be creating noise as they slow down to go into the entrance (in particular those from the south), however, the duration of works is very limited, being 2 weeks and the noise

generated would not be dissimilar from the existing transfer station operating adjacent whose entrance is also in the same vicinity.

As such, it is my opinion that the potential adverse noise and dust effects on the environment will be no more than minor.

#### Land Stability

The proposed earthworks have the potential to adversely affect the stability of land adjoining the site. However, given the location of the site in relation to other properties located in the wider environment it is considered that these effects will not extend beyond the immediate environment. In addition, Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has not raised any concerns with respect to land stability.

As such, it is my opinion that the potential adverse land stability effects on the environment will be no more than minor.

#### Erosion and Sedimentation

The proposed earthworks will result in areas of soil being exposed on the site and the potential for accelerated erosion and sediment runoff to occur. This has the potential to adversely affect adjoining land and waterways (located approx. 40m away).

The proposal includes an erosion and sediment control plan and also proposes measures and methodologies will be designed and implemented in accordance with the Waikato Regional Council Technical Report Erosion and Sediment Control Guidelines for Soil Disturbing Activities, January 2009 (TR2009/02).

Based upon the implementation and ongoing management of suitable erosion and sediment control measures and the short duration of the earthworks, it is considered that the volume of sediment discharging from the site during or following any rain event will be minimal.

A portion of the works will not be revegetated (stock track) however this is only replicating what was currently on the site and as such, there will be minimal adverse effects on the environment.

The Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal with respect to erosion and sedimentation and has raised no concerns given the proposed controls.

As such, it is my opinion that the potential adverse erosion and sedimentation effects on the environment will be no more than minor.

#### Traffic

The creation of a temporary entrance which fails separation distances and the subsequent use of the entrance have the potential for adverse traffic effects. Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has stated that; *'The adverse effect will be mainly on the adjacent entrance to the Recycle Centre, who have given written consent, however additional measures in the form of temporary traffic management will be required to mitigate the adverse effect on other road users'*. In addition, the entrance shall be removed upon the activity ceasing. The potential adverse effects on the owners/occupiers will be assessed further in this report.

Taking the above into consideration, it is my opinion that the potential adverse traffic effects on the environment will be no more than minor.

#### Summary

The potential adverse effects on the environment will be no more than minor.

#### **3.5 Special Circumstances s95A(4)**

There are no special circumstances that warrant public notification.

#### **4.0 SECTION 95B ASSESSMENT FOR THE PURPOSE OF LIMITED NOTIFICATION**

##### **4.1 Rule in the Plan that precludes limited notification - s95B**

There are no rules in the plan that preclude limited notification.

##### **4.2 Effects that may be disregarded - S 95E(2)(a)**

Pursuant to section 95E, if a rule or national environmental standard permits an activity with that effect the adverse effect of the activity on the person may be disregarded. The permitted baseline described in section 3.3 is also relevant to effects on people and will therefore not be readdressed here.

##### **4.3 Statutory Acknowledgment Area - s95E(2)(c)**

The application is not within a statutory acknowledgment area.

##### **4.4 Assessment of adversely affected persons under section 95E**

Such effects on the owners/occupiers of the adjacent sites 1-8 to consider include those on rural character and amenity, noise and dust, erosion and sedimentation and traffic.



Figure 3: Adjacent sites (1-8) and subject site or sites owned by the Applicant (0).

#### Effects on Rural Character and Amenity

The placement of fill has the potential for adverse effects on character and amenity, in particular where the fill is placed in sensitive areas or on ridgelines. In this instance, the area proposed to receive the cleanfill has already been modified by a stock race and the earthworks/cleanfill would be consistent with this, as it would result in the realignment/straightening of the stock race.

The occupier of site 2 has provided their written approval and as such, the potential adverse effects upon them are disregarded.

In addition, a combination of topography and distance means that the cleanfill/earthworks area will not be discernible from any of the owners/occupiers of the adjacent sites 1-8.

As such, the potential adverse character and amenity effects on the owners/occupiers of the sites 1-8 will be less than minor.

#### Noise and Dust Effects

The movement of vehicles and machinery around the site during the earthworks and filling has the potential to generate excessive noise and dust. However, these effects reduce with distance. Given the separation distance to other properties located nearby (sites 1-8), it is considered that these effects will not extend beyond the subject site. In addition, the works will be for a very short duration.

The occupier of site 2 has provided their written approval and as such, the potential adverse effects upon them are disregarded.

Trucks will be creating noise as they slow down to go into the entrance (in particular those from the south). There are a number of sites in close proximity to the proposed temporary entrance, namely, 2-7.

However, the duration of works is very limited, being 2 weeks and the noise generated would not be dissimilar from the existing transfer station operating adjacent whose entrance is also in the same vicinity. In addition, if consent is granted, conditions of consent will ensure that the proposed works are undertaken within less sensitive hours, being between 7:30am-6:00pm Monday-Friday.

As such, it is my opinion that the potential adverse noise and dust effects on the owners/occupiers of sites 1-8 will be less than minor.

#### Land Stability

The proposed earthworks have the potential to adversely affect the stability of land adjoining the site. However, given the location of the site in relation to other properties located in the wider environment it is considered that these effects will not extend beyond the subject site. In addition, Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has not raised any concerns with respect to land stability.

The occupier of site 2 has provided their written approval and as such, the potential adverse effects upon them are disregarded.

As such, it is my opinion that the potential adverse land stability effects on the owners/occupiers of sites 1-8 will be less than minor.

#### Erosion and Sedimentation

The proposed earthworks will result in areas of soil being exposed on the site and the potential for accelerated erosion and sediment runoff to occur.

The proposal includes an erosion and sediment control plan and also proposes measures and methodologies will be designed and implemented in accordance with the Waikato Regional Council Technical Report Erosion and Sediment Control Guidelines for Soil Disturbing Activities, January 2009 (TR2009/02).

Based upon the implementation and ongoing management of suitable erosion and sediment control measures and the short duration of the earthworks, it is considered that the volume of sediment discharging from the site during or following any rain event will be minimal.

The Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal with respect to erosion and sedimentation and has raised no concerns given the proposed controls.

The occupier of site 2 has provided their written approval and as such, the potential adverse effects upon them are disregarded.

As such, it is my opinion that the potential adverse land stability effects on the owners/occupiers of sites 1-8 will be less than minor.

## Traffic

The creation of a temporary entrance which fails separation distances and the subsequent use of the entrance have the potential for adverse traffic effects. Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has stated that; 'The adverse effect will be mainly on the adjacent entrance to the Recycle Centre, who have given written consent, however additional measures in the form of temporary traffic management will be required to mitigate the adverse effect on other road users'. The occupier of site 2(Recycle Centre) have provided their written approval and as such, the potential adverse effects upon them are disregarded.

While other entrances are in close proximity (sites 3-6), the proposed activity will be very limited in duration and if consent is granted, conditions of consent will require a traffic management plan to be submitted and implemented to the satisfaction of Council.

Taking the above into consideration, it is my opinion that the potential adverse traffic effects on the owners/occupiers of the adjacent sites 1-8 will be less than minor.

## Summary

As such, it is my opinion that the potential adverse effects on the owners/occupiers of sites 1-8 will be less than minor.

## **5.0 SECTION 95 NOTIFICATION RECOMMENDATION AND DECISION UNDER DELEGATED AUTHORITY**

Pursuant to section 95 A & B application LUC0397/17 for a Discretionary Activity shall proceed on a NON NOTIFIED basis for the reasons discussed above:

**Reporting Planner:**



**Kelly Cattermole**  
**Planner**

**Peer Reviewed By:**

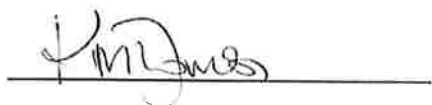


**Lance Feaver**  
**Consultant Planner**

**Dated:** 21/3/17

**Dated:** 21 March 2017

**Approved By:**



**Consents Team Leader**

**Dated:** 23/03/17

## **6.0 SECTION 104**

A decision was made under section 95 of the Act to process the application on a non-notified basis. An assessment of the application under section 104 of the Act is provided below.

## **7.0 SECTION 104(1)A - ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT**

### **7.1 Effects Disregarded**

Pursuant to s104(2), when forming an opinion for the purposes of s104(1)(a) a council may disregard an adverse effect of the activity on the environment if the plan or a NES permits an activity with that effect (i.e. a council may consider the “permitted baseline”).

The “permitted baseline” was discussed in section 3.3 of the approved notification report. This discussion and conclusion is also considered relevant for the purposes of the assessment under s104(1)(a).

Pursuant to s104(3)(a), when forming an opinion for the purposes of s104(1)(a) a council must not have regard to any effect on a person who has given written approval to the proposal, nor any trade competition or effects of trade competition.

### **7.2 The following actual and potential effects are relevant to this proposal:**

The assessment of adverse effects in the approved notification report is also relevant for the purposes of the assessment required under s104(1)(a) and therefore will not be repeated here.

In addition the following positive actual and potential environmental effects have been identified:

The proposed cleanfill/earthworks will allow for a realignment of an existing stock race, assisting in providing for the Applicants economic wellbeing.

In summary, it is considered the actual and potential effects of the proposal are able to be avoided, remedied or mitigated through the imposition of conditions and are therefore acceptable.

## **8.0 SECTION 104(1)(B) - RELEVANT PROVISIONS**

### **8.1 National Environmental Standard**

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES)

The NES is not applicable to this proposal as outlined in Section 2.0 of this report.

### **8.2 Waikato Regional Policy Statement/Operative Regional Plan**

The proposal is consistent with the relevant provisions of the Operative Waikato Regional Policy Statement. The proposed land use will not affect any of the relevant provisions of the Operative Waikato Regional Plan and will meet the permitted activities rules for cleanfill and is located outside of a ‘high erosion risk area’.

### **8.3 Waikato-Tainui Raupatu (Waikato River) Settlement Claims Act 2010**

#### **8.3.1 Vision and strategy**

The subject site is located outside the Waikato River Catchment and therefore the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 is not relevant to this proposal.

### **8.4 Waikato District Plan - Waikato Section April 2013**

#### **8.4.1 Operative Objectives and Policies**

The objectives and policies which are considered relevant to this proposal are set out as follows.

#### Chapter 5: Natural Hazards

Objectives and Policies in Chapter 5 seek that the risks from natural hazards resulting from the use and development of land are minimised. In particular, the use and development of land should not increase the adverse effects of natural hazards or compromise natural processes.

The proposed earthworks and filling have the potential to impact on the stability of the site. Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has raised no issues with respect to land stability.

#### Chapter 13: Amenity Values

Objectives and policies in Chapter 13 seek to maintain amenity values and ensure that any development is compatible with the qualities of the locality.

In these circumstances, any adverse effects created by the earthworks and filling activities relating to noise and dust will be acceptable, will be of a very short duration and the receiving environment is already modified.

As such, the amenity values will be maintained and that the development will be compatible with the particular values of the locality.

#### Summary

For these reasons above, it is therefore considered that this proposal will be consistent with the relevant objectives and policies of the Operative Waikato District Plan.

### **9.0 SECTION 104(1)(C) – OTHER MATTERS**

#### **9.1 Waikato Tainui Environmental Plan**

The proposal is consistent with the Waikato Tainui Environmental Plan.

### **10.0 PART 2 MATTERS**

Having regard to the above assessment it is concluded that the proposal is consistent with the principles (sections 6-8) of the Resource Management Act 1991. Overall the application is considered to meet the relevant provisions of Part 2 of the RMA as the proposal achieves the purpose (section 5) of the RMA being sustainable management of natural and physical resources.

## 12.0 RECOMMENDATION

The above assessment has concluded that any actual and potential effects of the proposal are acceptable and the proposal is consistent with the relevant objectives and policies of the operative planning documents as well as consistent with the Waikato Regional Policy Statement and all other matters. The proposed activity meets the purpose and principles of Part 2 of the Act and therefore subject to the conditions listed within the decision to be served under section 113 the proposal can be **granted**.

**Reporting Planner:**



---

**Kelly Cattermole  
Planner**

**Dated:** 21/3/17

**Peer Reviewed By:**



---

**Lance Feaver  
Consultant Planner**

**Dated:** 21 March 2017

Your Ref

In reply please quote  
LUC0397/17

If calling, please ask for  
Kelly Cattermole

24 March 2017

Hayden Vink  
Wainui Environmental Limited  
PO Box 101  
Raglan 3265

**Postal Address**

Private Bag 544  
Ngaruawahia, 3742  
New Zealand

0800 492 452  
[www.waikatodistrict.govt.nz](http://www.waikatodistrict.govt.nz)

Dear Sir

**APPLICATION BY M M KONING FOR LAND USE CONSENT AT 146 TE HUTEWAI ROAD TE HUTEWAI**

You are advised that your application has now been determined and has been granted. Please find enclosed a copy of the Decision and the Consent.

**A Lapsing of Consents**

Your attention is drawn to section 125 of the Resource Management Act 1991. A summary of that section is that a resource consent lapses on the expiry of five years after the date of commencement of the consent, or after the expiry of such shorter or longer period as is expressly provided for in the consent, unless

- (a) The consent is given effect to, before the end of that period; or
- (b) An application which meets the criteria specified in section 125 is made to the Council.

**B Compliance with Conditions**

Please note that unless a specific time limit is stated in the conditions imposed by the Council when granting this consent, all conditions must be complied with before the use to which the consent relates is established.

**C Changes to Conditions**

Your attention is drawn to section 127 of the Resource Management Act 1991 which enables an application to be made at any time to Council to change or cancel any condition of this consent. Any such application should be accompanied by a deposit of \$1,300.00 for Land Use and Subdivision consents

**D Review of Decision on non-notified application**

Your attention is drawn to section 357 of the Resource Management Act 1991. This section provides that there is a right of objection to Council in respect of this decision. Section 357(5) requires:

Any such objection shall be made by notice in writing to the Council, setting out the reasons for the objection and should be accompanied by a deposit of \$1,300.00. This objection should be made within 15 working days after the decision or requirement being notified to that person, or within such further time as may in any case be allowed by the consent of the Council.

## **E Right of Appeal**

Your attention is drawn to the Resource Management Act 1991 sections 120 and 121 and also the Resource Management (Forms, Fees, and Procedure) Regulations 2003/153, Regulations 16 – 19. Some key provisions to note are as follows:

- (i) You may appeal against the decision of the Council by lodging a Notice of Appeal in the prescribed form with the Registrar of the Environment Court and with the Council within 15 working days of the receipt by you, or the person who filed the application on your behalf, of the Council's decision. The address of the Environment Court is as follows:

The Registrar  
Environment Court  
P O Box 7147  
Wellesley Street  
AUCKLAND

Specialist Court and Tribunal Centre  
Level 2  
41 Federal Street (Cnr Wyndham and Federal Streets)  
AUCKLAND CITY  
Telephone: 09 916 9091  
Fax: 09 916 9090

- (ii) The appeal must be in the form prescribed by the Resource Management (Forms, Fees, and Procedure) Regulations 2003/153 or to like effect. The regulations may be purchased from Bennetts Government Bookshop, or they (and the RMA itself) are accessible on-line at [www.legislation.govt.nz](http://www.legislation.govt.nz). The form is identified as Form 34 in the regulations.
- (iii) A filing fee of \$511.11 GST inclusive must accompany every document by which appeal proceedings are commenced.
- (iv) Section 121 of the Resource Management Act 1991 sets out important information as to the persons upon whom the appeal must be served and the time when service must take place. It is essential that these provisions be adhered to. Failure to do so may result in your appeal being struck out.

If you are in any doubt as to the procedures to be followed it is strongly recommended that you consult a lawyer.

Yours faithfully



Beryl McCauley  
**CONSENTS ADMINISTRATION**

Cc: M M Koning  
146 Te Hutewai Road  
RD 2  
Raglan 3296

# Resource Consent

(Resource Management Act 1991)

[www.waikatodistrict.govt.nz](http://www.waikatodistrict.govt.nz)



## DECISION ON APPLICATION: LUC0397/17

Pursuant to Sections 34A(1), Section 104, 104B and 108 of the Resource Management Act 1991, the Waikato District Council, under delegated authority, grants Land Use Consent for a Discretionary Activity to:

**Activity:** Importation of cleanfill that exceeds the maximum volume and height and resulting earthworks that exceed the maximum volume and area and a temporary entrance that does not comply with separation distances and sight visibility.

**Applicant:** M M Koning

**Location Address:** 146 Te Hutewai Road TE HUTEWAI

**Legal Description:** LOT 1 DPS 30217 comprised in Computer Freehold Register SA27B/621

This consent is subject to the conditions detailed in the attached Schedule 1.

The reasons for this decision are detailed in the attached Schedule 2.

A handwritten signature in black ink, appearing to read "Kim Johnson", written over a horizontal line.

**CONSENTS TEAM LEADER**

**Dated:** 23/07/17

## Schedule 1

# Conditions of Consent

**Resource Consent No: LUC0397/17**

### General Conditions

- 1 The development shall be undertaken in general accordance with the information and plans submitted by the consent holder in support of application number LUC0397/17 and officially received by Council on 22<sup>nd</sup> of February 2017 and further information received on the 16<sup>th</sup> of March 2017 except as amended by the conditions below. Copies of the approved plans are attached. In the case of inconsistency between the application and the conditions of this consent, the conditions of consent shall prevail
- 2 Pursuant to Section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Waikato District Council when monitoring the conditions of this consent.
- 3 The Consent Holder shall ensure that the earthworks do not exceed 1750m<sup>3</sup> in volume and a maximum of 1700m<sup>3</sup> of cleanfill is deposited on the site over a 1500m<sup>2</sup> area with a maximum depth of 1.5m.
- 4 The Consent Holder shall ensure that all fill imported to the site meets the following definition of cleanfill.

Cleanfill means any material that has no potential or actual ability to adversely affect the environment. This material should be of a natural origin such as clay, rock and soil, and other material, such as clean concrete, brick and demolition products that are free of combustible and organic materials, substantially free of voids, and not subject to biological breakdown.

### Prior to Works

- 5 The Consent Holder shall notify the Waikato District Council Monitoring Department at least 2 working days prior to the commencement of activities associated with this consent.

Advice note:

To notify Waikato District Council Monitoring Department, email [monitoring@waide.govt.nz](mailto:monitoring@waide.govt.nz) with the consent number, address of property and date for when the works will commence.

- 6 Prior to undertaking any earthworks activities on the site; erosion and sediment control measures shall be installed in accordance with the Waikato Regional Council's Erosion and Sediment Control Guidelines for Soil Disturbing Activities: January 2009 and maintained in accordance with these guidelines.

- 7 The consent holder shall construct a temporary vehicle entrance in the location indicated on the approved application plan, the entrance shall be constructed in general accordance with a Standard Commercial Vehicle Entrance Rural (TSG-E2 Plan) of the Waikato District Plan, to the satisfaction of the Waikato District Council's Team Leader- Development Engineering. The entrance shall be gated and have a metaled surface which shall extend 20m from the sealed edge of Te Hutewai Road.
- 8 Prior to undertaking works, the consent holder shall provide a copy of the Corridor Access Request (CAR) approved by Waikato District Council's Roading Compliance Officer.

Advice Note: Any CAR application should include appropriate Traffic Management Plans for the construction of the entrance and truck working signage for the duration of the activity.

### **During Works**

- 9 During works, the hours of operation shall be limited to the days of Monday – Friday between the hours of 7:30am – 6.00pm, except for Public Holidays where no earthworks shall be undertaken.
- 10 During works, the site shall be managed in such a way that dust emissions do not cause an objectionable effect beyond the boundaries of the site to the satisfaction of Waikato District Council's Team Leader Monitoring.

#### Advice Note:

For the purposes of this condition, the Waikato District Council Monitoring Department will consider an effect that is objectionable or offensive to have occurred if any appropriately experienced officer of the Waikato District Council determines so after having regard to:

- The frequency, intensity, duration, location and effect of dust emission(s); and/or,
- Receipt of complaints from neighbours or the public; and/or,
- Where relevant written advice from an experienced officer of the Waikato Regional Council or the Waikato District Health Board has been received.

### **After Completion of Works**

- 11 At completion of works, installed erosion and sediment control measures shall not be removed until approval is obtained from a Monitoring Officer of the Waikato District Council.
- 12 All areas of earthworks (excluding any area covered by buildings or the stock race) shall be revegetated to achieve 80% ground cover within 12 months of the earthworks being commenced to the satisfaction of a Monitoring Officer of the Waikato District Council.
- 13 Within one calendar month upon the completion of the cleanfill works, the approved temporary entrance shall be permanently closed to vehicle traffic. The entrance shall be permanently fenced and the water table and berm reinstated to the satisfaction of a Monitoring Officer of the Waikato District Council.

**OR**

The Consent Holder shall provide evidence of an approved Vehicle Entranceway Application for the entranceway shown on the approved plans as 'stabilised construction entrance' to the satisfaction of Council.

### **Advisory Notes**

**1**     Lapse Date

This Resource Consent for land use lapses five years after the commencement of the consent, unless:

- (a) the Consent is given effect to prior to that date.
- (b) an application is made to the consent authority to extend the period after which the consent lapses, and the consent authority decides to grant an extension after taking into account
  - (i) whether substantial progress or effort has been, and continues to be, made towards giving effect to the consent; and
  - (ii) whether the applicant has obtained approval from persons who may be adversely affected by the granting of an extension; and
  - (iii) the effect of the extension on the policies and objectives of any plan or proposed plan.

**2**     Other consents/permits may be required

To avoid doubt; except as otherwise allowed by this resource consent, all land uses must comply all remaining standards and terms of the relevant Waikato District Plan. The proposal must also comply with the Building Act 2004, Hamilton City Infrastructure Technical Specifications and Waikato Regional Plans. All necessary consents and permits shall be obtained prior to development.

**3**     Archaeological sites may be **affected** by the proposal

It is possible that archaeological sites may be affected by the proposed work. Evidence of archaeological sites may include burnt and fire cracked stones, charcoal, rubbish heaps including shell, bone and/or glass and crockery, ditches, banks, pits, old building foundations, artefacts of Maori and European origin or human burials.

The applicant is advised to immediately stop work and contact Heritage New Zealand Pouhere Taonga if the presence of an archaeological site is suspected. Work affecting archaeological sites is subject to a consenting process under the Heritage New Zealand Pouhere Taonga Act 2014. If any activity associated with this proposal, such as earthworks, fencing or landscaping, may modify or destroy any archaeological site(s), an authority (consent) from Heritage New Zealand Pouhere Taonga must be obtained for the work to proceed lawfully. The Heritage New Zealand Pouhere Taonga Act 2014 contains penalties for unauthorised site damage.

In addition to contacting Heritage New Zealand Pouhere Taonga, it is requested that you also contact Council's Monitoring Department at [monitoring@waidc.govt.nz](mailto:monitoring@waidc.govt.nz) with the consent number, address of property and date of when works ceased.

## **Schedule 2**

### **Reasons for Decision**

**Resource Consent No: LUC0397/17**

- 1** The actual and potential effects created by the proposal are minimal because:

  - The duration of works is very limited, being 2 weeks and the noise generated would not be dissimilar from the existing transfer station operating adjacent whose entrance is also in the same vicinity.
  - Council's Senior Land Development Engineer, Peter Henderson, has assessed the proposal and has not raised any concerns with respect to land stability.
  - The proposal includes an erosion and sediment control plan and also proposes measures and methodologies will be designed and implemented.
  - Conditions of consent will ensure that a suitable temporary traffic management is undertaken and implemented to the satisfaction of Council.
  - The area proposed to receive the cleanfill has already been modified by a stock race and the earthworks/cleanfill would be consistent with this, as it would result in the realignment/straightening of the stock race.
- 2** The proposal is consistent with the objectives and policies of the operative District Planning documents.
- 3** The proposal is consistent with the operative Waikato Regional Policy Statement and all other relevant matters.
- 4** Overall the proposal meets the purpose (section 5) and principles (sections 6-8) of the Resource Management Act 1991.

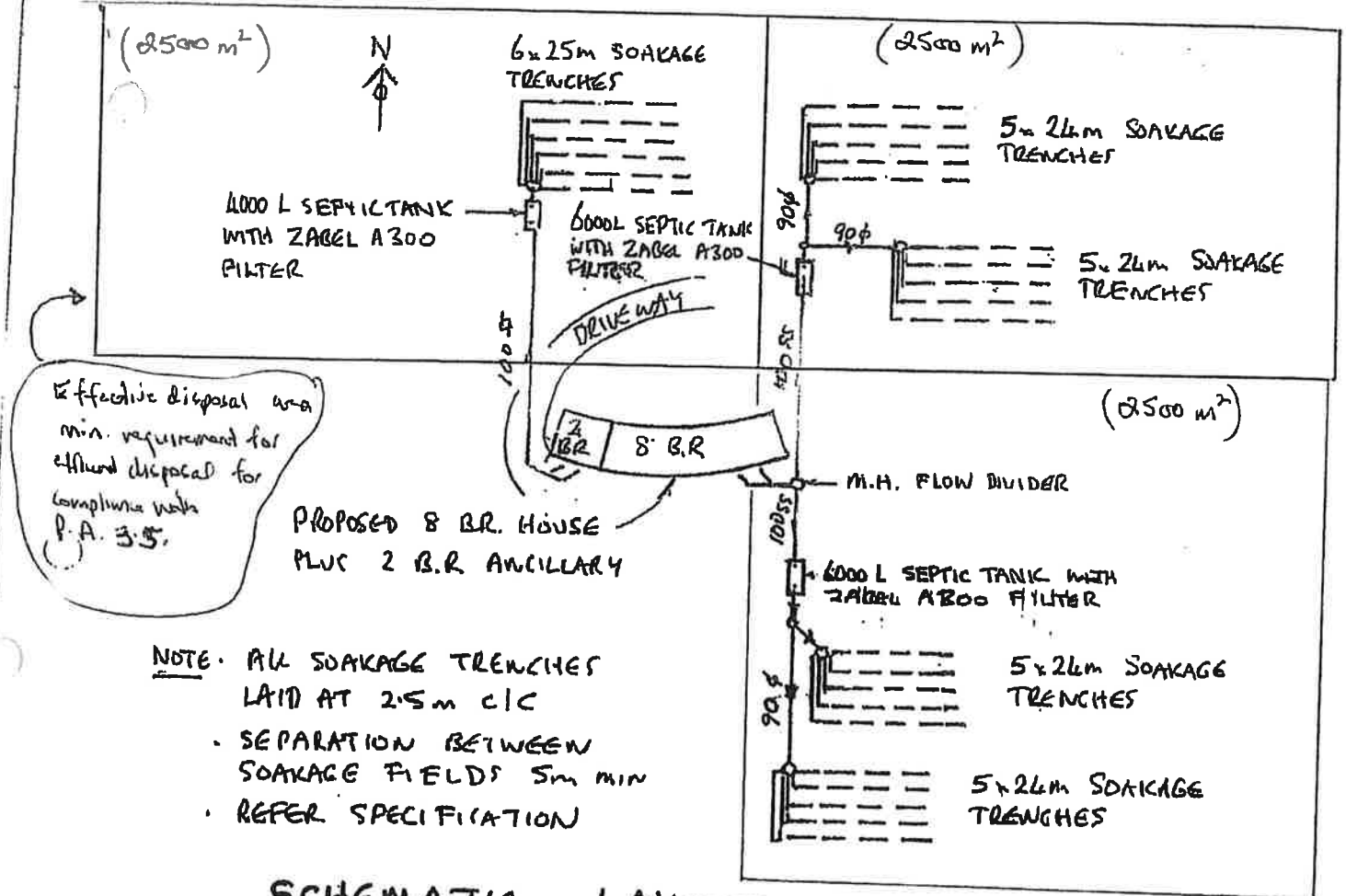


# WASTEWATER DISPOSAL

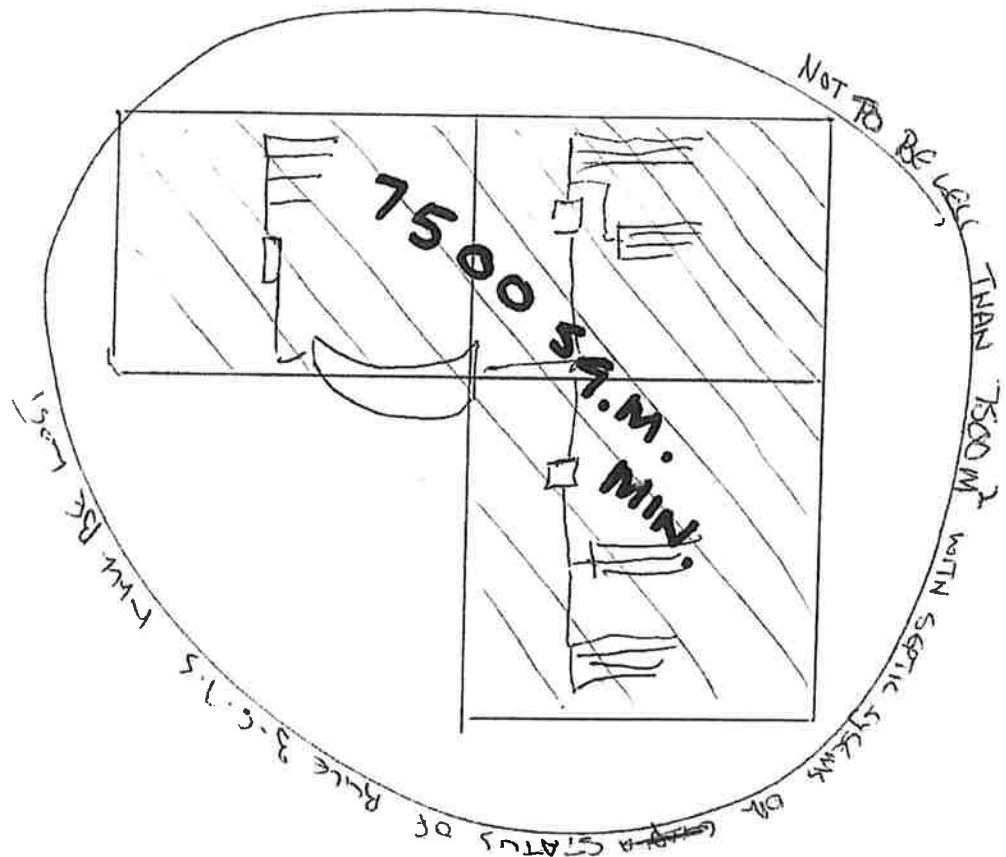
Design by Grant Lowther – Consulting Engineer  
and  
Comments from Environment Waikato

Copy from BLD 1218/08 to Included with LIMs

Helen Crosby  
Environmental Services  
Waikato District Council



SCHEMATIC LAYOUT NTS



# GRANT LOWTHER

Consulting Civil Engineer

Hills Road R D 1 Raglan NZ Ph / fax + 64 7 825 8729

## On-Site Wastewater System

Date: 8 February 2008

Job No: 08726

### A. DESIGN

Owner: Koning family Trust

Site Address: Lot 1 DP30217 Te Hutewai Road Raglan

Design Data: 8 bedroom dwelling plus 1/2 bedroom ancillary dwelling  
Bore water supply  
Standard water reducing plumbing fixtures - 6L/3L dual flush toilets, aerator faucets, low water use dishwasher, water saving washing machines(AAAA rating), no garbage grinder units

Site conditions: land area 33.4877 ha  
Topography flat to gentle slopes - no bores within 30m - no waterways within 20m.  
Soakage fields on undisturbed slope to northwest and south of proposed dwelling.  
Soil classification - light clay strongly structured - /poor drainage.

Wastewater flow allowance = 180 L/P/D

Number of residents = 11 plus 3

Total design flow into three separate wastewater systems = 2880 L/D

Flow into each system : (1) ancillary dwelling 720 L/D  
(2) half house flow 1080 L/D  
(3) half house flow 1080 L/D

Treatment : System (1) 4000L septic tank with 0.75mm effluent filter.  
System (2) and (3) - 6000 L septic tank with 0.75mm filter.

Land application systems: Trickle loaded soakage trenches at maximum loading rate 8mm/day.

Planting Soakage field shall be grassed or planted with suitable native sp. - flax, kawakawa, carex secta, pseudopanex, pittosporum, hebe.

### B. CONSTRUCTION

**This specification shall be incorporated in the building specification for the drainlayer as it includes drainlaying within the building.**

#### B1. MATERIALS AND WORKMANSHIP

The system shall be installed in accordance with the drawing by a drainlayer experienced and qualified in the construction of improved sewage treatment and disposal systems.

Materials and workmanship shall comply with relevant AS/NZ Standards, Local District and Regional Council rules and regulations.

Reference documents:

AS/NZS

- 1546 on-site wastewater treatment units
- 1547 on-site domestic wastewater management
- 3500 national plumbing and drainage code

**B2. WASTEWATER FLOW SEPARATION**

Wastewater from the dwelling and ancillary dwelling shall be separated into three separate discharge points to feed three separate wastewater systems:

- (1) Wastewater from ancillary dwelling,
- (2) and (3) Wastewater from all fixtures in main dwelling including laundry, shower room, kitchen, bathrooms divided in half with a flow splitting manhole..

**B3. SEPTIC TANKS**

Each system - install septic tanks as shown on the drawing each with high quality 0.75mm effluent filter such as Zabel A300 or similar.

The septic tanks should be filled with clean water immediately after installation.

**B4. SOAKAGE TRENCHES**

All soakage beds and trenches shall be laid **LEVEL** along ground contours. Set out using a level or Laser devise.

System (1) - install 6 way distribution chamber fitted with concrete lid .

Trench dimensions - width 0.6m - length 150m (6 x 25m) – excavated depth 450mm – refer sketch 08726 for layout and details.

System (2)– install flow divider feeding 2x 6 way distribution chambers ( cap one outlet).

Trench dimensions - width 0.6m - total length 240m ( 2 x 5 x 24) – excavated depth 450mm – refer sketch 08726 for layout and details.

System (3) – as for system (2)

Install separate 90 dia feed lines to each soakage trench. The feed line trenches shall be backfilled with compacted clay.

**B5. ACCESS COVERS**

Access covers to septic tank shall be brought up to finished ground level with all joints sealed

Cover shall be cast iron with rim mortared onto the riser or reinforced concrete sealed with a gasket onto the riser

**B6. WEATHER CONDITIONS**

Trenches and beds in clay soils must be excavated when the soil is not wet.

Smeared soil surfaces shall be raked or- forked to restore the natural surface.

All open trenches shall be covered during rain to prevent ponding and sealing of the trench bottom.

**B7. STORMWATER**

All surface water and stormwater from buildings and the overflow from rainwater tanks shall be piped or channeled away from the disposal field.

On sloping sites it will be necessary to excavate a surface drain above the highest soakage trench to divert surface runoff away from the soakage field.

**B8. VARIATIONS**

Deviations from the drawing and specifications are not permitted without the approval of the Design Engineer prior to construction.

**B9. AS-BUILT DRAWINGS**

Installer shall submit to the local authority as-built plans of the installation drawn to scale.

**B10. SUPERVISION**

The installer shall give at least 24 hrs notice for an inspection by the Engineer.  
The inspection shall allow for observation of the effluent soakage pipework and septic tank.

**B11. PRODUCER STATEMENT CONSTRUCTION**

The installer shall upon completion of the work issue to Council a Producer Statement certifying that construction has been carried out in accordance with the plans and instructions issued by the design engineer. A form is enclosed which shall be completed and forwarded with the as-built plan to the Engineer

**B12. DISCHARGE CONSENTS**

Each wastewater system as specified complies with Environment Waikato Rule 3.5.7.5 Permitted Activity Rule – Discharge of Domestic Sewage from new On-Site Systems .  
A discharge consent is not required.

**C. MAINTENANCE**

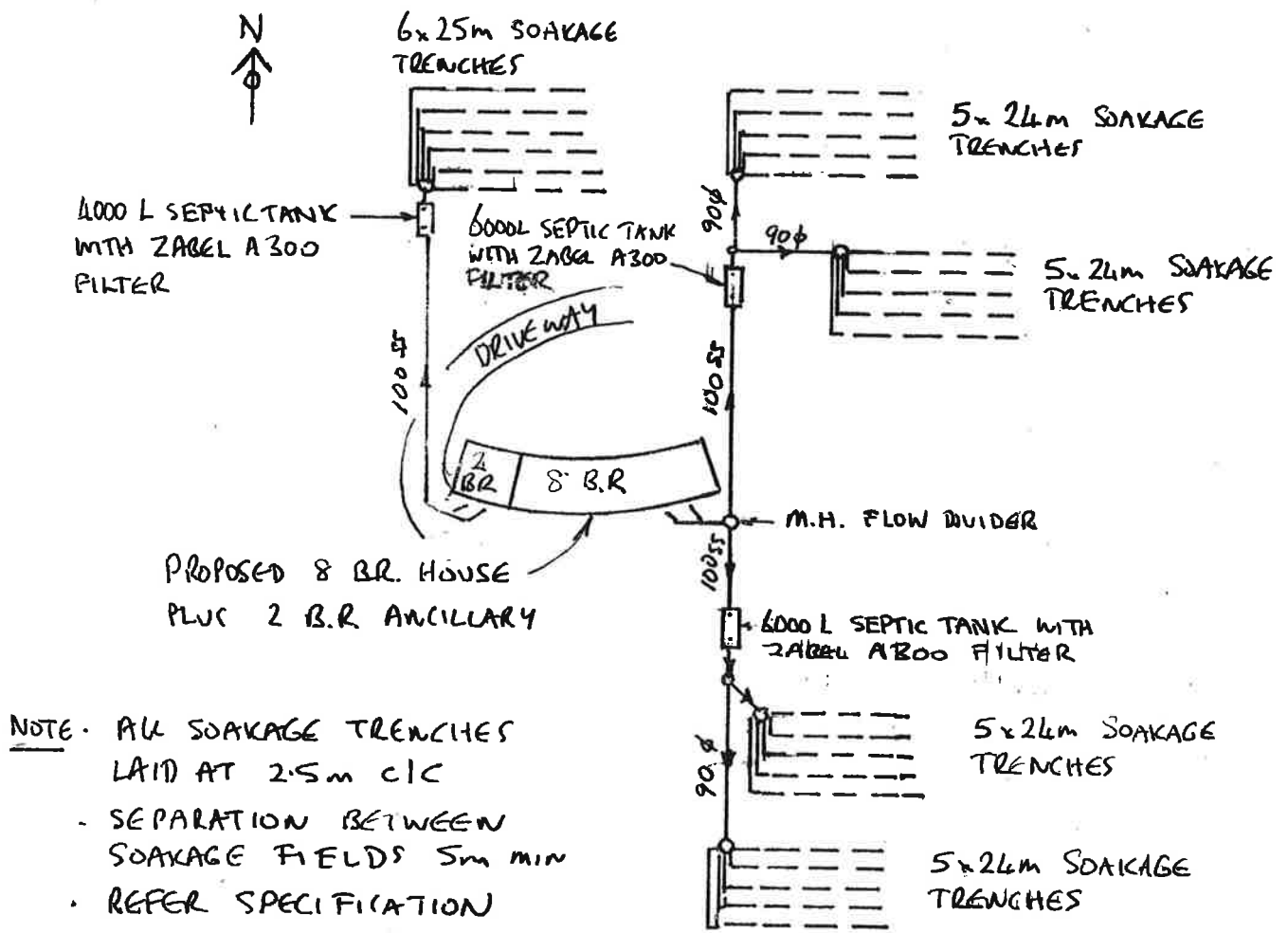
Regular maintenance is essential for proper operation of the treatment plant and disposal system. This shall be carried out annually or as specified by the plant supplier by suitably qualified and experienced contractors.

Maintenance shall include:

- a. annual inspection of septic tank and soakage field.
- b. 5 yearly pump out septic tank and gently clean effluent filter ensuring that slime layer is not removed from filter

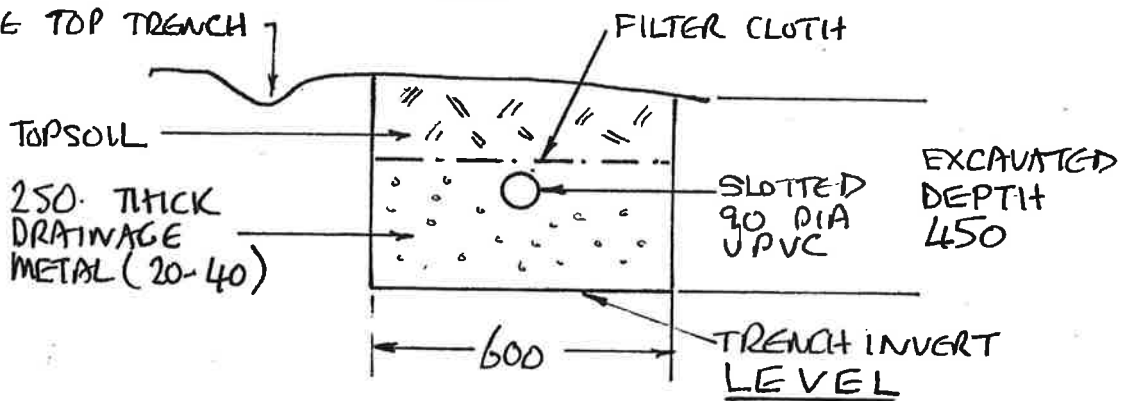
February 2008

GRANT LOWTHER – CONSULTING ENGINEER - RAGLAN



## SCHEMATIC LAYOUT NTS

SURFACE WATER INTERCEPTION DRAIN ABOVE TOP TRENCH



## SOAKAGE TRENCH NTS

B.G. LOWTHER  
CIVIL ENGINEER  
HILL ROAD RAGLAN

ON-SITE WASTEWATER SYSTEM  
NEW HOUSE FOR KONING FAMILY TRUST  
TE HUTEWAI ROAD RAGLAN

date: 02/08 08726  
dm: gl  
issue  
15.02.08 1/1

Your Ref

In reply please quote  
06401/482/00

If calling, please ask for  
Steve Cox

Your Community Partner

21 December 2007

**FILE**

Martin Mario Koning  
146 Te Hutewai Road  
RAGLAN

**District Office**  
15 Galileo Street, Ngaruawahia 3720  
Private Bag 544, Ngaruawahia 3742  
New Zealand  
Ph 07 824 8633  
Fax 07 824 8091  
Call free 0800 492 452  
[www.waikatodistrict.govt.nz](http://www.waikatodistrict.govt.nz)

**Area Offices**  
Huntly Ph 07 828 7551  
Raglan Ph 07 825 8129

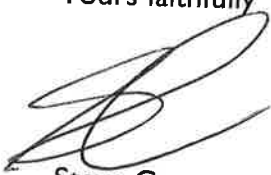
Dear Sir

Following our telephone conversation on 18 December 2007 when you confirmed that you erected a fence line through Council land designated as Road Reserve.

We can confirm that if the above-mentioned fence is still located on the Road Reserve after 8.00am on 7 January 2008, then the Council will organise for the dismantling of your fence without guaranteeing its integrity for future use.

If you have any queries please contact me on 07 824 8633.

Yours faithfully



Steve Cox

**PROJECTS MANAGER**



15 Galileo Street  
NGARUAWAHIA  
Private Bag 544  
NGARUAWAHIA  
Phone (07)824-8633  
Fax (07)824-5808

640/482.00  
**COUNCIL Copy**

**TO BE FILED**

**Issued to**

<b>Name</b>	Koning, Martin	<b>Phone Number</b>	(07) 825 8025
<b>Address</b>	146 Te Hutewai Road Raglan	<b>Fax Number</b>	

**Particulars**

<b>Location</b>	151 Te Hutewai Rd, Raglan	<b>Permit Ref.</b>	<b>P001503</b>
<b>Legal Desc</b>	Open Paddock		
<b>Material</b>	Tree Stumps and Timber		
<b>Start</b>	19/04/2007 1:40:17 p.m.		
<b>End Date</b>	3/05/2007 1:40:17 p.m.		
<b>General</b>	No peat in soil. Approximately 200 from nearest dwelling, 80m from nearest road. n/am from nearest powerlines. 4 x piles totalling 30 cubic metres. Access to water onsite		

**PERMIT EXTENDED. FROM 18/10/2007 1:39:29 p.m. TO 1/11/2007 1:39:29 p.m.**

  
Authorising Officer

**Rec'd by** Soanes, Steve  
**Date** 18/10/2007

27 October 2004

FILE

R Janes  
McPherson Goodwin Ltd  
P O Box 9379  
HAMILTON

Dear Rod

Koning Subdivision Roading Matters

Further to your facsimile of 14 October 2004 and our various discussions regarding Road to Vest and Road Stopping in connection with the Koning Subdivision on Te Hutewai Road Raglan, the Waikato District Council agrees that:

- 1 Waikato District Council (WDC) will pay half of the survey cost (\$2,375.00) plus GST for the vesting of Lots 10, 11 & 12 DP 34012 as road.
- 2 WDC will pay the LINZ lodging fee (\$440.00) for SO 340427 that shows Section 1 as road to be stopped.
- 3 WDC confirms that Section 1 SO 340427 will not be stopped and amalgamated with Lot 3 DP 340412 until such time as approximately 370 m<sup>2</sup>, being Section 2 as shown on McPherson Goodwin Concept Plan 13205, is acquired from the owners of Lot 1 DPS 30217, for road.

If McPherson Goodwin Ltd and M Koning both agree with the above clauses would you please sign and return the duplicate copy of this letter.

Yours sincerely

Lloyd Button  
**TECHNICIAN OFFICER**


We agree with the above terms to address the issues involving road legalisation associated with the Koning subdivision.

Date: 29-10-04

Signed:

SECRETARYLBW102702J

29-10-04

McPherson Goodwin  
Registered Surveyor



1 Clyde Street  
Private Bag 3068  
HAMILTON

Telephone: 0-7-856 3199  
Facsimile: 0-7-838 9000

Your Ref: 6400/106  
Our Ref: 6410/166

If calling, please ask for:

Lindsay Priest

XLJP/rm/738

26 January 1993

Trudi-Ann Kenny  
7 Opotoru Road  
Raglan

**FILE COPY**

Dear Mrs Kenny

**SUBDIVISION ENQUIRY - TE HUTEWAI ROAD**

Thank you for your telephone enquiry 22 January 1993.

I am available at the Raglan Service Centre, Bow Street on Fridays from 10 am to midday. It may suit you to ring Mr Steve Soanes at the Raglan Office Phone 825-8129 to make an appointment to see me so that you can discuss your subdivision enquiry further.

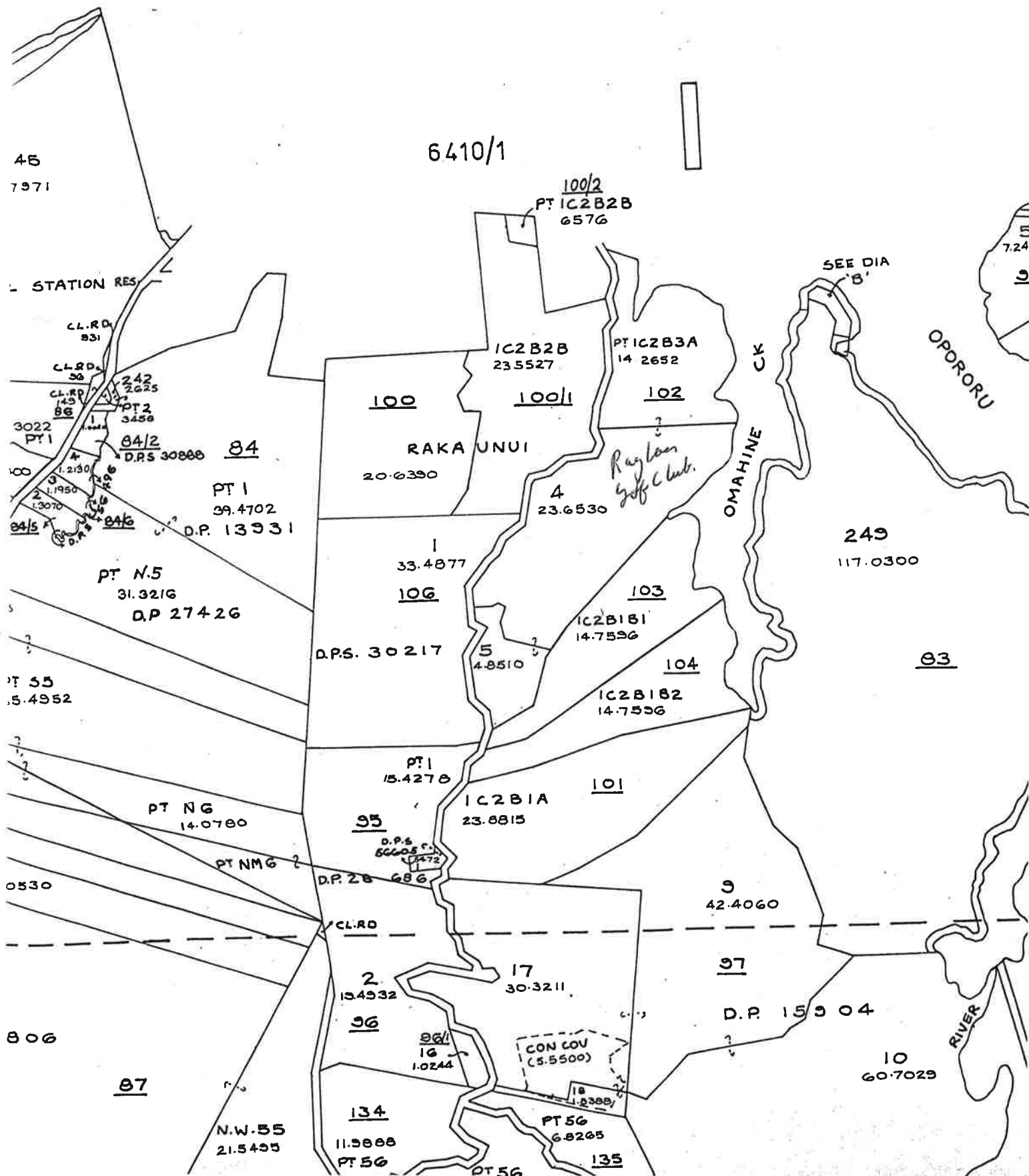
Yours faithfully  
S Colson  
DISTRICT PLANNER  
Per:



Lindsay Priest (Mr)  
ASSISTANT PLANNER

ALSO AVAILABLE:  
NUMBER C.P. 15  
THE STRIP WITH THE  
BUILT-IN REINFORCEMENT

DETAILS



1 Clyde Street  
Private Bag 3068  
HAMILTON

Telephone: 0-7-856 3199  
Facsimile: 0-7-838 9000

If calling, please ask for:

Lindsay Priest

XLJP/745/VH

2 February 1993

Trudi Kenny  
7 Opoturu Road  
RAGLAN

FILE COPY

Dear Mrs Kenny

**Subdivision Enquiry - Lot 1 DPS 30217, Te Hutewai Road**

Thank you for your letter dated 29 January 1993.

I trust that the information I gave to your sister is of assistance.

You will note that the minimum size for a rural residential lot is 1000 m<sup>2</sup> or approximately quarter of an acre. This is somewhat larger than the area you have in mind.

Depending on the value of the dwelling erected the rates could be in the range of \$600 to \$800 per annum.

We have approved building permit application for log cabins which are acceptable if built to the appropriate standards. A relocatable home is also a practical choice if Council's requirements are met.

Please contact our office if you have any further questions.

Yours faithfully  
S Colson  
DISTRICT PLANNER  
Per:



Lindsay Priest (Mr)  
ASSISTANT PLANNER

30/4/81

S.P. 523

Mr. Brownlee

30 April 1981

The District Solicitor,  
Department of Lands & Survey,  
P.O. Box 460,  
HAMILTON.

Your Ref. 18/283

Dear Sir,

Scheme Plan No. 523 - P.J. & N.M.M. Koning

In reply to your letter of 27 March 1981, I wish to advise that pursuant to Section 305 of the Local Government Act 1974, the Raglan County Council hereby approves the land transfer plan in respect of the subdivision of 1C2B3C Rakaunui Block and resolves that the plan be signed and sealed with the common seal of the Council.

The land transfer plan is returned herewith.

Yours faithfully,

R.G. Brownlee,  
Chief Executive Officer.

RGB:MP

Encl:

10/4/81

\*\*\*10.00 =H/R- 173579 10-APR-81

By Cash/Cheque

PAID *[Signature]* ASURER

(RECEIPT IS ACKNOWLEDGED OF AMOUNT PRINTED ABOVE)

**RAGLAN COUNTY COUNCIL**

Box - - - 1  
Telephone 8633

114 Great South Road,  
Ngaruawahia.

THIS RECEIPT IS NOT VALID  
UNLESS RECEIPTED BY  
MACHINE

① *cash*

*O'Neill Allan Parker*  
*PO Box 719, Hamilton*

RECEIVED from

Details of Receipt:

*Shere P.H. - 1 J & N.M. Kenney*  
*91000*

MISCELLANEOUS

S.P. 523

24 October 1980

Messrs. O'Neill, Allen & Parker,  
P.O. Box 719,  
HAMILTON.

Dear Sirs,

Your Ref. Mr. Allen: HJL:K/2/1171

SCHEME PLAN NO. 523 - P.J. & N.M.M. KONING

In reply to your letter of 16 October 1980, I wish to advise that pursuant to Section 279 of the Local Government Act 1974, the Raglan County Council hereby approves Scheme Plan No. 523 in respect of the subdivision of 1C2B3C Rakaunui Block subject to the following conditions:

- 1) That Lot 1 thereon and the land in C.T. 3A/247 be held in the one title.
- 2) That the requirement for a reserve strip along the banks of the Omahina Stream be waived in view of the fact that the whole of Lot 2 is to become Crown Reserve.

This Council makes a charge of \$10 as an inspection fee in respect of each subdivisional plan received and I would be pleased to receive your cheque for this amount as soon as possible.

Yours faithfully,

R.G. Brownlee,  
Chief Executive Officer.

RGB:MP

S.D. 523

# DEPARTMENT OF LANDS AND SURVEY

TELEGRAPHIC ADDRESS: 'LANDS'

CA

FOR VERBAL INQUIRIES  
PLEASE ASK FOR M R R Barnaby

TELEPHONE No. 82 489



OUR REFERENCE: 18/283

YOUR REFERENCE:

DISTRICT OFFICE,

P.O. BOX 460  
HAMILTON

22 October 1980

Chief Executive Officer  
Raglan County Council  
Box 1  
NGARUAWAHIA

Dear Sir

## PROPOSED NEW RAGLAN GOLF COURSE

Council has recently considered a scheme plan relating to the subdivision of Rakaunui 1C2B3C Block which is Maori owned but leased to Messrs P J and N M Koning. Lot 2 on that scheme plan together with 1C2B3A Block is proposed as the new Raglan Golf Course.

Lot 2 on that scheme plan adjoins the Omahina Creek on the Raglan Harbour and is subject to Section 289 (1) of the Local Government Act 1974.

You will be aware that the Chief Surveyor in this office prepared a scheme plan on behalf of the owners and that the plan was submitted to you, for consideration, from this office.

Pending Council's consideration I took the liberty of submitting the plan to the Minister of Lands for his consent to a waiver of esplanade reserve requirements on lot 2 and the purpose of this letter is to tell you that the Minister has consented accordingly.

Initially 1C2B3A and lot 2 will be transferred to the Crown as Crown land subject to the Land Act 1948. A subdivision is intended on the most northern portion of 1C2B3A which is within the Raglan Community Zone and is not required as Golf Course. When that action is completed the Golf Course proper will be redefined and formally set apart as recreation reserve.

Yours faithfully

R M VELVIN  
Commissioner of Crown Lands

per

**O'Neill, Allen & Parker**

**Barristers & Solicitors**



LARRY MICHAEL O'NEILL LL.B.

LLOYD CHARLES ALLEN LL.B.

KEVIN GRAHAM PARKER LL.B.

PAUL JUSTIN SHANNON LL.B.

PAUL DOUGLAS CLARK LL.B.

3P523  
**Arkenstone House  
Knox Street  
Hamilton, N.Z.**

**Telephone 85-199  
P.O. Box 719**

Your Reference

The County Clerk  
Raglan County Council  
Gt South Road  
NGARUAWAHIA

Our Reference Mr Allen:HJL:K/2/1171

16th October 1980

Dear Sir

Re: P.J. & N.M.M. Koning Application for Subdivisional consent

We act for the abovenamed and seek the consent of council to a proposed subdivision of a property at Hutewai-Raglan Road. We enclose in triplicate copy of the proposed subdivisional plan for Council's consideration. Lot 1 on the proposed subdivision will be retained by our clients for farming purposes and Lot 2 is being purchased by the Crown Lands Department for a Crown Reserve. In view of the fact that the whole of Lot 2 is proposed a Crown Reserve we have been asked to seek a waiver of the requirement that that portion of Lot 2 fronting onto Omahina Creek and which for a distance of one chain from the foreshore would normally have been created a reserve, be waived in this instance as of course the whole of Lot 2 will in fact become a reserve. The Crown is also acquiring the land to the North of and adjoining Lot 2 shown as Certificate of Title 3A/296 on the enclosed plan. This title will accordingly cancel on acquisition of ownership by the Crown leaving the whole of Lot 2 and the adjoining land as Crown Reserve.

Our clients will also be the owners of the land to the South of and adjoining Lot 1 shown as Certificate of Title 3A/297 on the enclosed plan. Our clients have no objection to a condition that Lot 1 be amalgamated with the land in this title.

Yours faithfully,  
O'NEILL ALLEN & PARKER

Per: 

Encl: Proposed Plan (3)

# O'Neill, Allen & Parker

## Barristers & Solicitors

LARRY MICHAEL O'NEILL LL.B.

LLOYD CHARLES ALLEN LL.B.

KEVIN GRAHAM PARKER LL.B.

PAUL JUSTIN SHANNON LL.B.

PAUL DOUGLAS CLARK LL.B.

Arkenstone House  
Knox Street  
Hamilton, N.Z.

Telephone 395-192  
P.O. Box 719

### Your Reference

The County Clerk,  
Raglan County Council,  
P.O. Box 1,  
NGARUAWAHIA.

### Our Reference Mr Allen KDG

9th April 1981

Dear Sir,

re: Scheme Plan - P.J. & N.M. Koning

We enclose our cheque for \$10.00 in payment of the inspection fee on the above subdivisional plan.

Yours faithfully,  
O'NEILL ALLEN & PARKER

Per: 

Encl cheque

DEPARTMENT OF LANDS AND SURVEY

TELEGRAPHIC ADDRESS: 'LANDS'  
PJ

FOR VERBAL INQUIRIES  
PLEASE ASK FOR Mr M E Hinton

TELEPHONE No. 82 489



OUR REFERENCE: 18/283

YOUR REFERENCE:

DISTRICT OFFICE,

P.O. BOX 460

HAMILTON

27 March 1981

The Executive Officer  
Raglan County Council  
Box 1  
NGARUAWAHIA

ATTENTION Mr Brownlee

Dear Sir


RAGLAN GOLF COURSE : ACQUISITION FROM KONING

... I refer to previous telephone conversations between the writer and Mr Brownlee concerning the above matter and enclose herewith the survey plan and copy thereof for sealing by Council. In discussions with you, you indicated that members of Council would be together on Saturday and that you could discuss the prospect of an early sealing of the plans at that time.

You will appreciate that both this Department and the Golf Club are anxious to obtain a early settlement of this matter and can only do so once the plan is sealed by Council.

I appreciate your valuable assistance in completing this matter.

Yours faithfully

  
M E HINTON  
District Solicitor

enc

Sutton

Phoned. As settlement  
provided plans can be  
signed & signed on  
Friday

Possible ?

## RAGLAN COUNTY COUNCIL

Box 1, NGARUAWAHIA.

COUNTY AGENT, BOX 3, RAGLAN.

## APPLICATION FOR BUILDING PERMIT

To the RAGLAN COUNTY COUNCIL.

I hereby apply for permission to Renovate House  
 at Te Huteawai Road for Houing Brothers  
 (House No. and Street) (Owner)  
 of Te Huteawai R. D., according to locality plan and detailed  
 (Address)  
 plans, elevations, cross-sections, and specifications of building deposited  
 herewith in duplicate.

Nature of Building: DwellingPurposes for which building is to be used Permanent ResidenceParticulars of Foundations: Concrete Piles Walls: Timber Roof: IronNature of ground on which building is to be erected Clay loam

Area of Ground Floor ..... sq. ft. Area of Outbuilding ..... sq. ft.

Particulars of Land: Lot No., etc. Pahurangi 1C 2D 3C Dk IKorai SDAssessment number 6400/106 Area of land .....

Estimated Value of completed:

Building .. .. . \$1600: 00:

Sanitary Plumbing and Drainage .. .. . \$400: 00:

(Plumbing & Drainage fee to be paid at the same  
time as the building fee)

\$2000: 00:

If valued at \$20,000 ) Estimated date of commencement Month..... Year.....  
 or more state: ) Estimated date of completion Month..... Year.....

Nature of Permit (Tick) 1. Newbuilding 2. Alterations of  
 (Box) additions Renovations  
 3. Conversions 4. Demolitions

Nature of other buildings on same site .....

Signature of Applicant: A. M. WoodsName of Builder: A. M. WoodsAddress: Opotona Road, Raglan

THIS SPACE IS RESERVED FOR THE USE OF THE INSPECTOR OF BUILDING

Date of Permit 27-10-67 Drainage & Plumbing Fee .....

RAGLAN COUNTY COUNCIL

SPECIFICATIONS FOR BUILDING PERMIT

Name: Honing Bros Le Huteawai R.D.

The matters set out herein do not purport to comprise the provisions of a contract.

*Renovation work.*

FOUNDATIONS:

Depth and Width of Footings: .....  
 Reinforcing in Footings: .....  
 Thickness of Foundation Walls: .....  
 Height of Foundation Walls: .....  
 Reinforcing in Foundation Walls: .....  
 Type and Spacing of under-floor ventilators: .....  
 Type of Damp-proof courses: .....  
 Depth and thickness of Chimney footings: .....  
 Foundation Blocks: .....  
 Height from floor to ceiling: 12'0"

*Not applicable*

SCHEDULE OF TIMBER	Size of Timber	Type of Timber	Spacing of Joists, Studs, Rafters, Purlins etc.
Bottom Plates .....			
Sleeper Plates .....			
Jack Studs .....			
Floor Joists .....			
Flooring .....			
Studs .....	<u>4x2 x 3x2</u>		<u>18" centres</u>
Wall Bracing .....			
Dwangs .....	<u>4x2 x 3x2</u>		<u>24"</u>
Top Plates .....	<u>4x2 x 3x2</u>		
Ceiling Joists .....			
Runners over Ceiling Joists .....			
Roof Struts .....			
Collar Ties .....			
Exterior Sheathing .....			
Internal Lining .....	<u>Gib board + Hardboard</u>		
Architraves .....			
Door & Window Facings .....			

RAGLAN COUNTY COUNCIL

MAIN OFFICE:  
P.O. Box 1,  
NGARUAWAHIA. - Phone 8633

COUNTY AGENT:  
P.O. Box 3,  
RAGLAN - Phone 8129

APPLICATION FOR A BUILDING PERMIT

I hereby apply for permission to Build a 4 bay impl shed  
at Kaniny Bros  
(Number, Street & Township)  
for K. Hutewai Road of Rd 2 Raglan  
(Owner) (Address)  
in accordance with the SITE PLANS, and detailed PLANS, ELEVATIONS and SPECIFICATIONS submitted herewith.

PARTICULARS OF LAND

Lot No. 1 D.P. 30217 Area .....  
Survey District Rarua Block 1

Building Areas:

Ground Floor Area 15m x 9m Sq. M. Basement Area ..... Sq. M.

ESTIMATE VALUE OF PROPOSED WORK: (Inclusive of labour)

Building	\$ <u>1700</u>	Estimated completion date .....
Plumbing & Drainage	\$ .....	
Total	\$ <u>1700</u>	

Builder: owners Address: .....

Plumber: ..... Address: .....

Drainlayer: ..... Address: .....

Proposed purpose for which every part of the building is to be used or occupied;

Telephone No: 25-0025 Owner/Builder K. Hutewai  
(Signature)

(FOR OFFICE USE ONLY)

Fees Payable:

Building	\$ <u>20-00</u>
Plumbing & Drainage	\$ .....
Research Levy	\$ .....
Sewer Connection	\$ .....
Water Connection	\$ .....
Total Fees Payable	\$ <u>20-00</u>

Receipt No. 3200  
Permit No. 8058388  
Application No. ....  
.....19..

RAGLAN COUNTY COUNCIL

Box 1, NGARUAWAHIA

COUNTY AGENT, Box 3, RAGLAN.

APPLICATION FOR BUILDING PERMIT

To The RAGLAN COUNTY COUNCIL

I hereby apply for permission to ..... Build house .....  
at ..... Tehuawae ..... for P. J. Konin ..... of ..... Raglan .....  
House No. and Street Owner Address

According to locality plan and detailed plans, elevations, cross-sections, and specifications of building deposited herewith in duplicate.

Nature of Building ..... Dwelling .....

Particulars of Building Foundations ..... Concrete Pils .....

Walls ..... Weatherboards ..... Roof ..... Iron .....

Area of Ground Floor 1200 ..... sq. ft. Area of Outbuildings 200 ..... sq. ft.

Particulars of Land-Lot No. etc. Raglan 1C 2A 3C Blk 1 .....

..... Konin S.D. ..... Street

Length of Boundaries ..... 189m from ..... Area .....

Estimated Cost:

Building - - - - - £ 700 : - : - 3-10-0

Sanitary Plumbing and Drainage - - - £ 250 : - : - 2-10-0

Total £ : : £6-0-0

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, D tool shed .....

Proposed use or occupancy of other part of building .....

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

..... Heavy clay .....

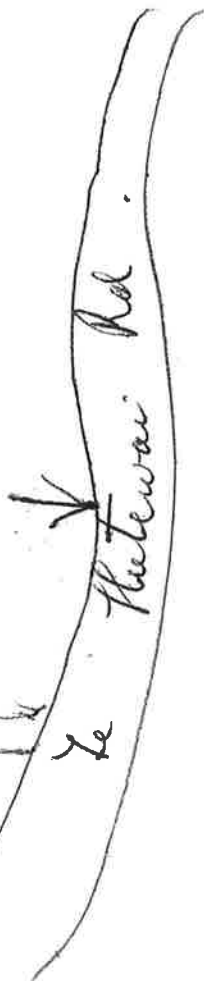
Signature of Applicant ..... P. J. Konin .....  
Name of Builder ..... P. J. Konin .....  
Address ..... Tehuawae .....

THIS SPACE IS RESERVED FOR THE USE OF THE INSPECTOR OF BUILDINGS

Date of Permit ..... 29-7-64 ..... Drainage & Plumbing Fees £2-10-0 .....  
Permit No. ..... 96827 .....  
Receipt No. ..... 9658 .....  
Building Fees £3-10-0 ..... Special Connection Fee .....  
Date of Final Inspection .....  
Deposits .....

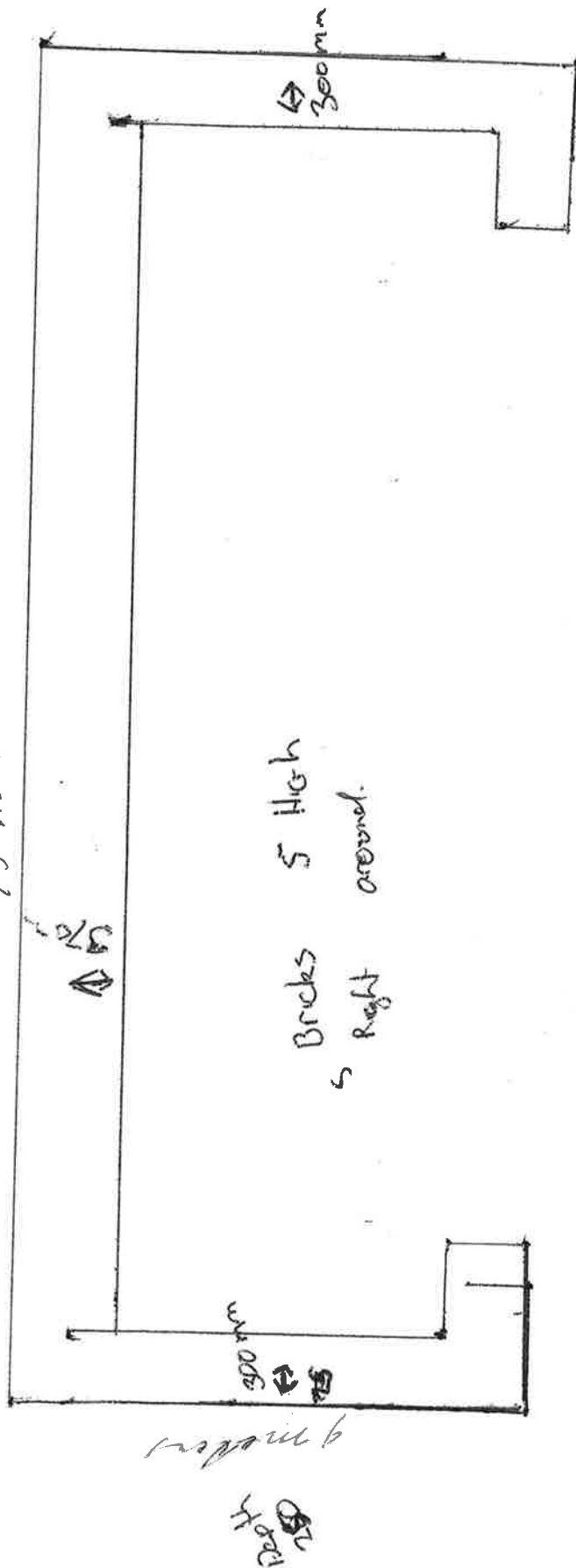


2 chain



L 15 meters  
W 11

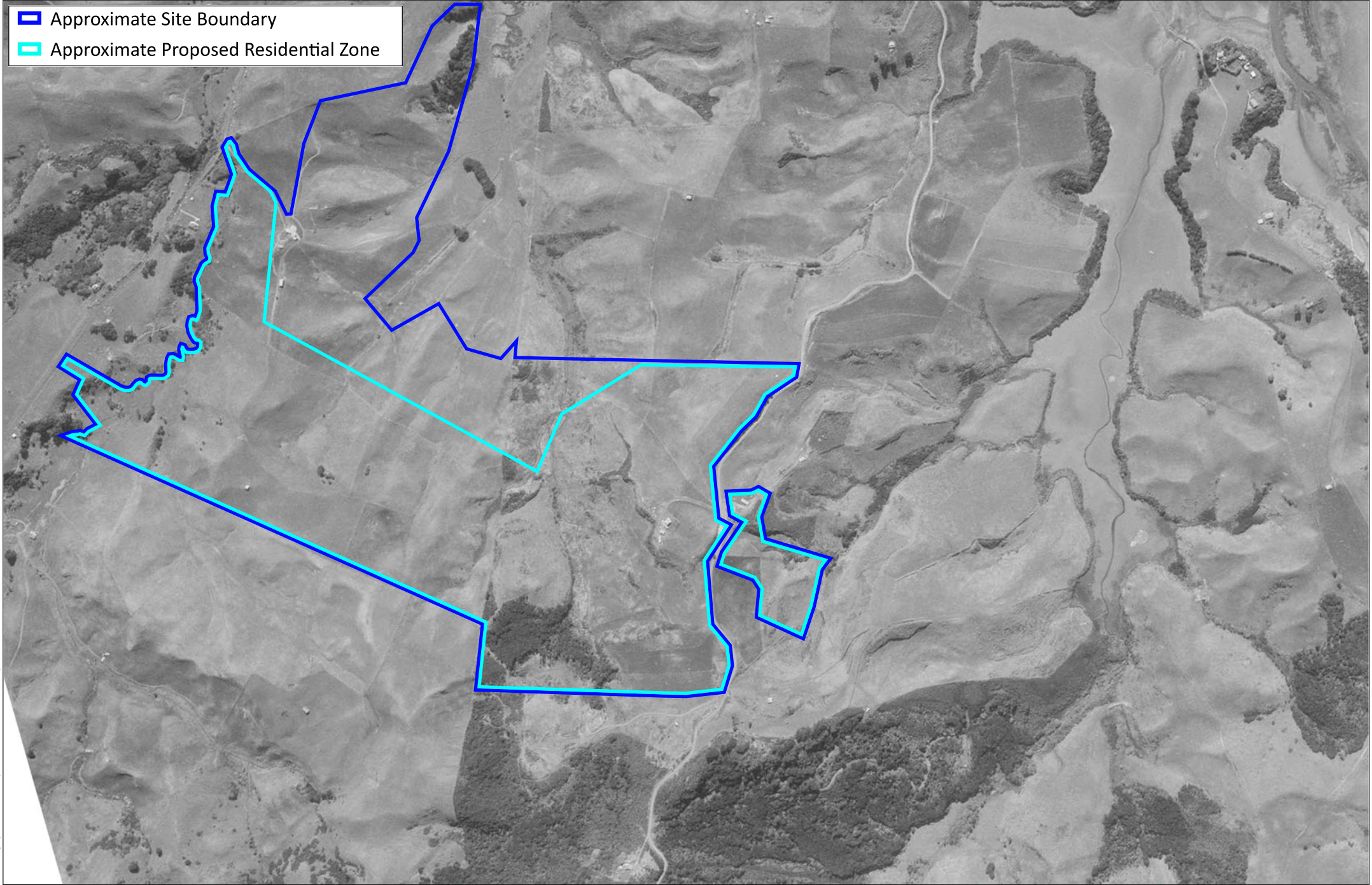
15 meters



**Appendix E:**

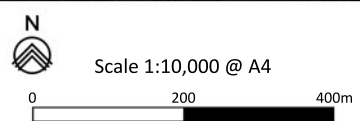
**Historic Aerial Photographs**

- Approximate Site Boundary
- Approximate Proposed Residential Zone



Aerial imagery sourced from <http://retrolens.nz> and licensed by UNZ CC-BY 3.0

Copyright:  
This document and the copyright in this document remains the property of 4Sight Consulting. The contents of this document may not be reproduced either in whole or in part by any means without prior consent of 4Sight Consulting

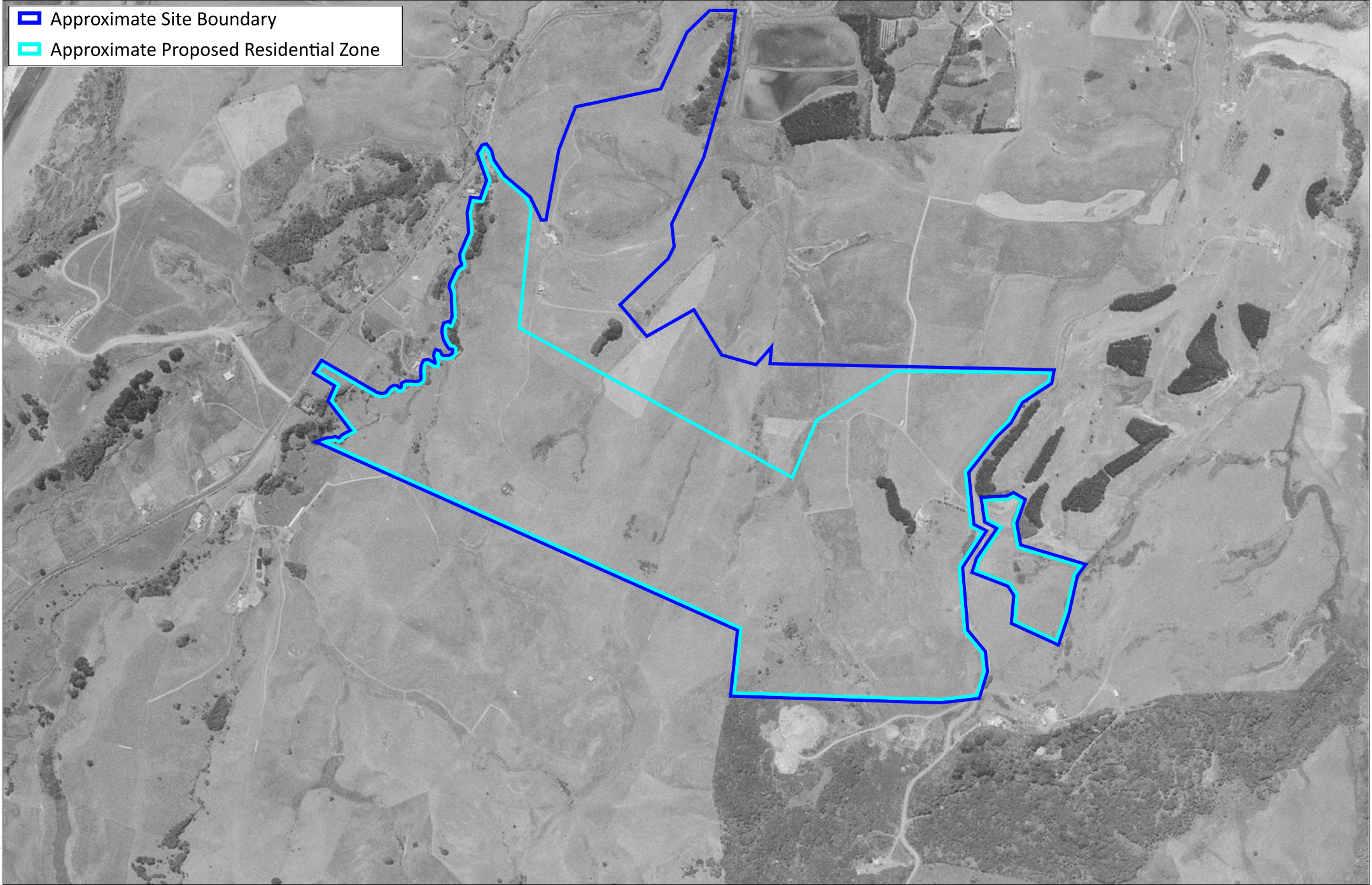


AA3916 – 146 Te Hutewai Road PSI  
Aerial Photograph of the Site Taken in 1974  
Figure prepared for Bloxam, Burnett & Oliver Ltd by 4Sight Consulting

Date: 07/11/2018  
Version: 1.0  
Drawn: Sam Hendrikse  
Checked: Shannen Barns  
Approved: Nigel Mather

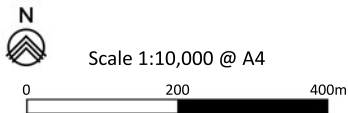


- Approximate Site Boundary
- Approximate Proposed Residential Zone



Aerial imagery sourced from <http://retrolens.nz> and licensed by UNZ CC-BY 3.0

Copyright:  
This document and the copyright in this document remains the property of 4Sight Consulting. The contents of this document may not be reproduced either in whole or in part by any means without prior consent of 4Sight Consulting

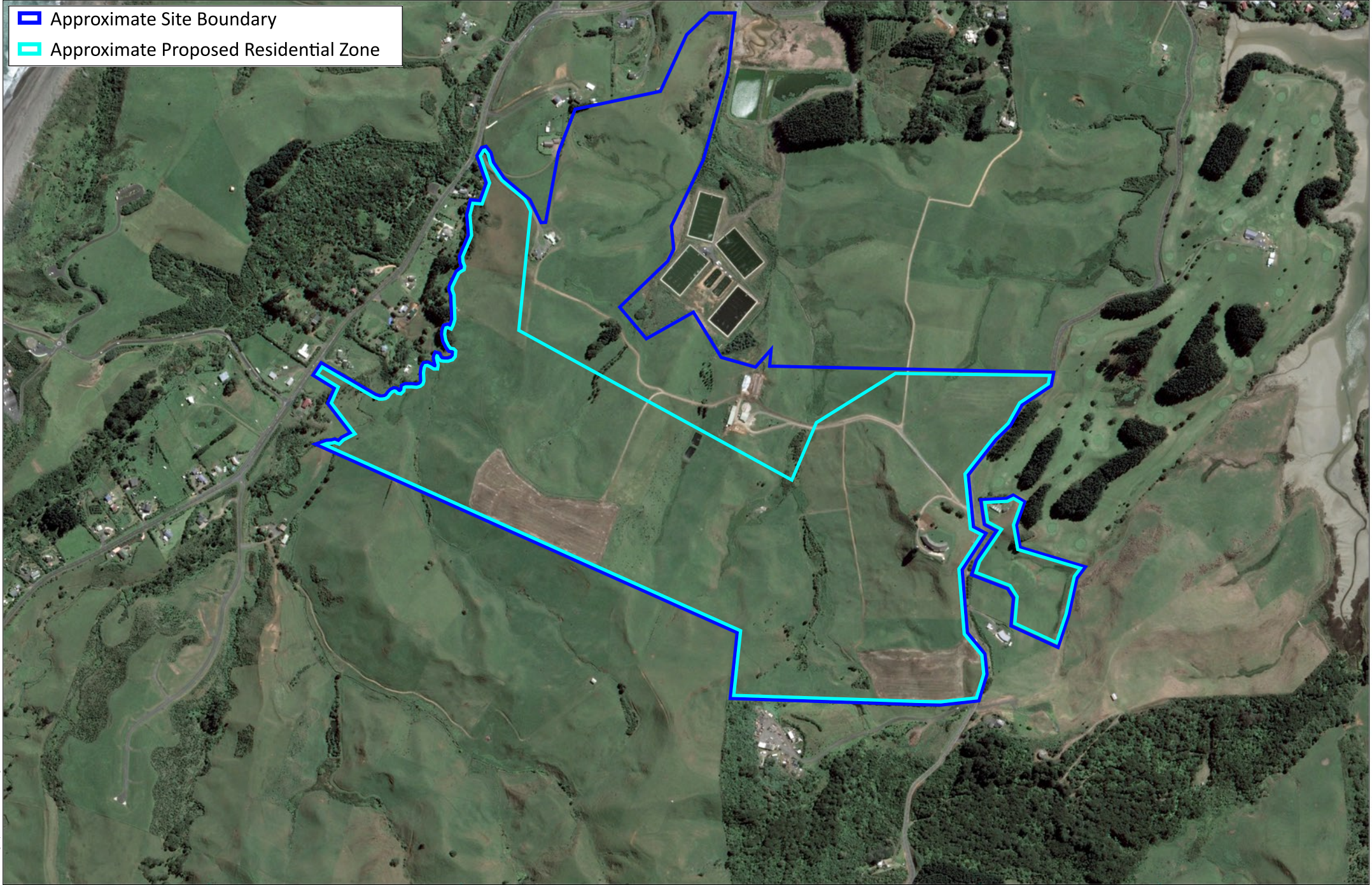


AA3916 – 146 Te Hutewai Road PSI  
Aerial Photograph of the Site Taken in 1997  
Figure prepared for Bloxam, Burnett & Oliver Ltd by 4Sight Consulting

Date: 07/11/2018  
Version: 1.0  
Drawn: Sam Hendrikse  
Checked: Shannen Barns  
Approved: Nigel Mather



- Approximate Site Boundary
- Approximate Proposed Residential Zone

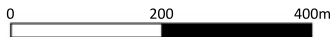


Aerial imagery sourced from Google Earth Pro.

Copyright:  
This document and the copyright in this document remains the property of 4Sight Consulting. The contents of this document may not be reproduced either in whole or in part by any means without prior consent of 4Sight Consulting



Scale 1:10,000 @ A4



AA3916 – 146 Te Hutewai Road PSI

Aerial Photograph of the Site Taken in 2011

Figure prepared for Bloxam, Burnett & Oliver Ltd by 4Sight Consulting

Date: 07/11/2018

Version: 1.0

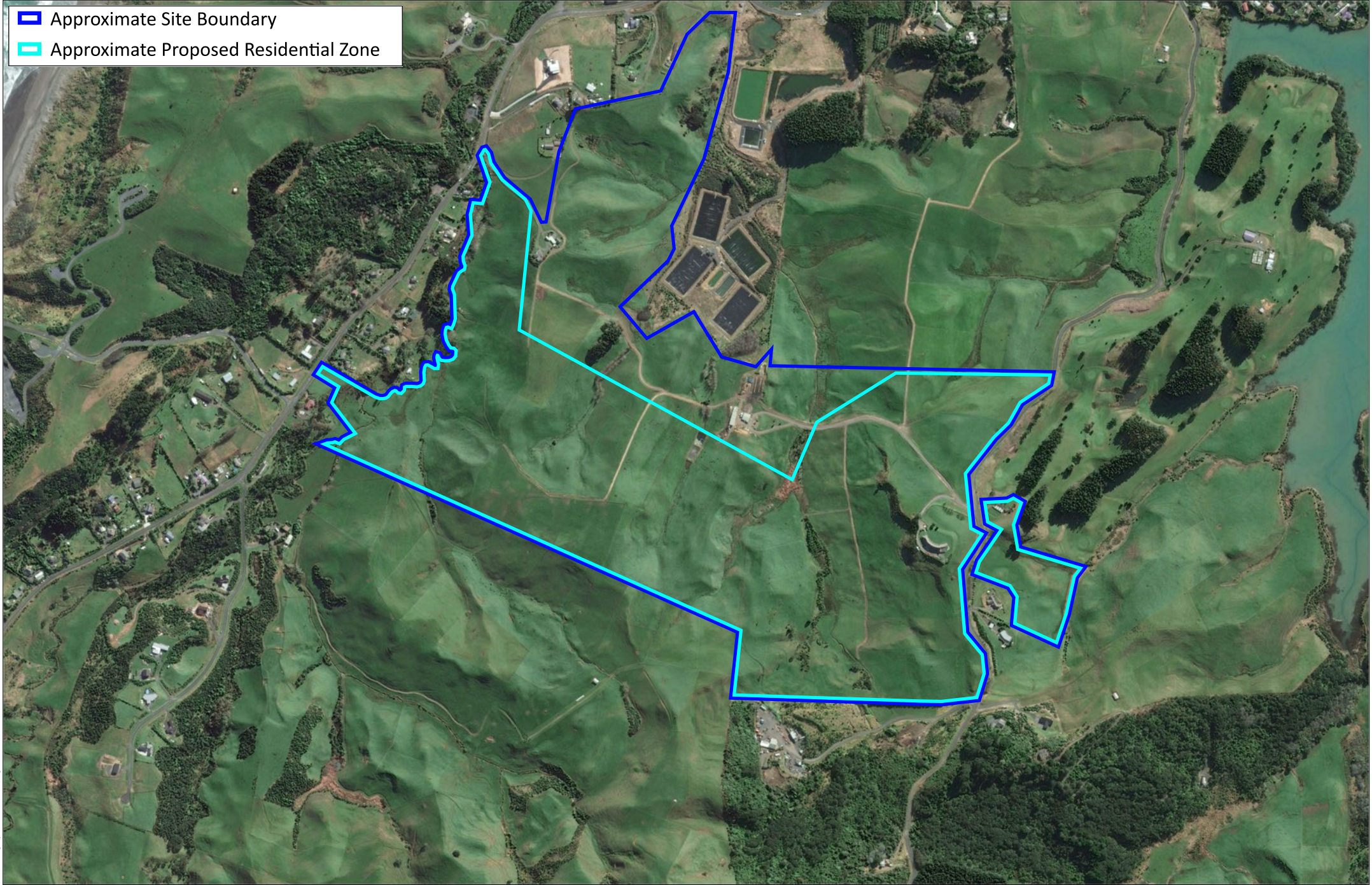
Drawn: Sam Hendrikse

Checked: Shannen Barns

Approved: Nigel Mather

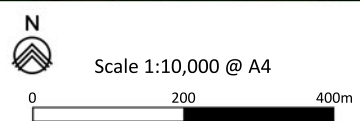
**4SIGHT**  
CONSULTING

- Approximate Site Boundary
- Approximate Proposed Residential Zone



Aerial imagery sourced from Google Earth Pro.

Copyright:  
This document and the copyright in this document remains the property of 4Sight Consulting. The contents of this document may not be reproduced either in whole or in part by any means without prior consent of 4Sight Consulting



AA3916 – 146 Te Hutewai Road PSI  
Aerial Photograph of the Site Taken in 2016  
Figure prepared for Bloxam, Burnett & Oliver Ltd by 4Sight Consulting

Date: 07/11/2018  
Version: 1.0  
Drawn: Sam Hendrikse  
Checked: Shannen Barns  
Approved: Nigel Mather



## **Appendix F:**

### **Photolog**



Photo 1: Representative photo of the south eastern portion of the site, facing north east. The residential dwelling at 146 Te Hutewai Road is pictured in the top centre.



Photo 2: Wide view of the stream that runs through the centre of the eastern portion of the site, facing north.



Photo 3: Monitoring well associated with the former council landfill located directly south of the site. Photo taken facing north from the southern boundary of the site.



Photo 4: Monitoring well closer view.



Photo 5: Wider view of the southern extent of the site, facing south, with the Council refuse transfer station in the distant left of the photo.



Photo 6: Wide view of the central portion of the site, taken from the residential dwelling at 146 Te Hutewai Road, facing west. Featured is the stream that runs through the centre of eastern portion of the site and farm building including cow sheds in the centre of the image.



Photo 7: Western portion of the site with rural residential properties that border the site boundary in the distance.



Photo 8: Northern portion of the site, facing north with council wastewater treatment ponds in distance.



Photo 9: Representative view of the north eastern portion of the site, with the residential dwelling at 146 Te Hutewai Road pictured at the top of the hill in the centre of the image.



Photo 10: Intermittent tributary that flows into the stream in the eastern portion of the site, facing west. The on-site rubbish pile is located adjacent to this stream, further east of the photo.



Photo 11: Wide view of the tributary entering the stream, facing south. The rubbish pile is pictured in the centre of the image, adjacent to the stream.



Photo 12: Closer view of the rubbish pile showing materials present; primarily timber, plastics and tree branches.

**Appendix G:**

**Laboratory Analytical Reports**



## Certificate of Analysis

Page 1 of 1

<b>Client:</b>	4SIGHT Consulting Limited	<b>Lab No:</b>	2039012	SPv2
<b>Contact:</b>	Nigel Mather C/- 4SIGHT Consulting Limited PO Box 911310 Victoria Street West Auckland 1142	<b>Date Received:</b>	28-Aug-2018	
		<b>Date Reported:</b>	03-Sep-2018	(Amended)
		<b>Quote No:</b>	84251	
		<b>Order No:</b>		
		<b>Client Reference:</b>	AA3916 146 Te Hutewai Rd	
		<b>Submitted By:</b>	Shannen Barns	

### Sample Type: Soil

Sample Name:	THR-01 28-Aug-2018 9:30 am	THR-02 28-Aug-2018 9:45 am	THR-03 28-Aug-2018 10:00 am	THR-04 28-Aug-2018 10:15 am	THR-05 28-Aug-2018 10:30 am
Lab Number:	2039012.1	2039012.2	2039012.3	2039012.4	2039012.5
Total Recoverable Cadmium mg/kg dry wt	0.26	0.47	0.67	0.64	0.40
pH* pH Units	5.8	6.3	6.6	6.3	6.3

Sample Name:	THR-06 28-Aug-2018 10:45 am				
Lab Number:	2039012.6				
Total Recoverable Cadmium mg/kg dry wt	0.74	-	-	-	-
pH* pH Units	6.3	-	-	-	-

### Analyst's Comments

**Amended Report:** This certificate of analysis replaces an earlier certificate issued on 31 Aug 2018 at 3:22 pm  
Reason for amendment: The correct client has been added.

## 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 clean 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.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-6
Soil Prep Dry & Sieve for Agriculture	Air dried at 35°C and sieved, <2mm fraction.	-	1-6
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-6
Total Recoverable Cadmium	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.10 mg/kg dry wt	1-6
pH*	1:2 (v/v) soil : water slurry followed by potentiometric determination of pH.	0.1 pH Units	1-6

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Helena Bertram BSc  
Client Services Manager - Environmental



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \*, which are not accredited.

