REPORT

Tonkin+Taylor

Ground Contamination Assessment

13-15 Trig Road, Whenuapai, Auckland

Prepared for
Ministry of Education
Prepared by
Tonkin & Taylor Ltd
Date
March 2021
Job Number
1016524

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March 2021	1	Final report	R. van der Krogt	N. O'Rourke	G. Nicholson

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Executive summary

Tonkin & Taylor Ltd has been engaged by the Ministry of Education (MoE) to undertake 'high level' assessments of the civil infrastructure suitability (including on-site stormwater and sewerage treatment/discharge) and ground contamination at 13-15 Trig Road, Whenuapai. This report presents the findings of the contaminated land assessment with the civil infrastructure assessment presented in a separate report.

The approximately 4.05 hectare (ha) site is currently occupied for rural residential purposes, with a house, dilapidated shed, garden shed, and above ground pool are present at the site. We understand MoE purchased the site in 2001 and is seeking to designate the site for education purposes. The proposed development comprises facilities for a full primary school (Years 0 to 8) with a master plan roll of 600, expanding to 1,000 in the long term, and an Early Childhood Education (ECE) facility with 50 children.

Our overall conclusion is that the site is **generally suitable** for the proposed new development from a contaminated land perspective.

The table below summarises the potential contaminated land risks and should be read in conjunction with the relevant detail included in the main body of the report.

	Issue	Risk*	Summary and recommendations
Development considerations	HAIL activity	Medium	Buildings at the site were built and/or demolished during the period when asbestos and lead-based paints were in common use. It is therefore possible that these activities could be considered to be HAIL activities if contaminants are present at concentrations that pose a risk to human health or then environment.
	Ground (soil) contamination	Medium	As soil testing has not yet been undertaken a conservative approach has been taken to assess application of the NES Soil and AUP to the site and development proposal. It has been assumed for the purpose of this assessment that the use of asbestos and/or lead-based paints, and fill of an unknown origin, comprise a HAIL activity. This interpretation should be confirmed by soil testing.
	Buildings with asbestos-containing materials	Medium	As all buildings at the site were constructed pre 2000s, an asbestos demolition survey will be required to be undertaken on all buildings prior to their removal as per the Building Act 2004 and Asbestos Regulations. Given the condition of the dilapidated shed constructed with Hardiflex cladding (potentially asbestos-containing), and the broken fragments on the ground surface outside the shed, we recommend an asbestos survey is undertaken as soon as practicable to understand if there is a potential risk to the current tenants.
	Consent requirements	Medium	In order to confirm if consent is required for future change in use or disturbance of the site: • Soil testing is required to determine if contaminants (specifically asbestos and lead) are present at concentrations that pose a risk to human health or the environment; and/or • The scale and duration of works should be evaluated against the permitted activity thresholds when the development details have been resolved.
	Soil re-use / disposal	Low to Medium	If topsoil is removed from site it will need to be disposed of to a facility appropriate to the contaminant content, most likely a managed fill facility that is also licensed to receive low levels of asbestos. Topsoil from parts of the site and shallow fill materials may be able to be reused on site, however, further testing would be

	Issue	Risk*	Summary and recommendations
			required to confirm this. Underlying natural soils are expected to comply with cleanfill criteria.

*Rating is based on the premise that materials are not in poor condition and/or damaged during demolition/redevelopment works which, should it happen, could result in increasing the potential for ground contamination. The risk assessment is indicative only and will be subject to confirmation during the design process. Items assessed as “low risk ” should not be interpreted as meaning that there is “no risk”.

1 Introduction

Tonkin & Taylor Ltd (T+T) has been commissioned by Ministry of Education to undertake a ground contamination desk study investigation for 13-15 Trig Road, Whenuapai referred to below as the site). The location of the site is presented below in Figure 1.1.

This report has been prepared in general accordance with the requirements for a PSI (Preliminary Site Investigation) referred to in the NES Soil regulations[1], and as outlined in the Ministry for the Environment's (MfE) Contaminated Land Management Guidelines[2].

The persons undertaking, managing, reviewing and certifying this investigation are suitably qualified and experienced practitioners (SQEP), as required by the NES Soil and defined in the NES Soil Users' Guide (April 2012).

This investigation was undertaken in accordance with our proposal of 25 January 2021.

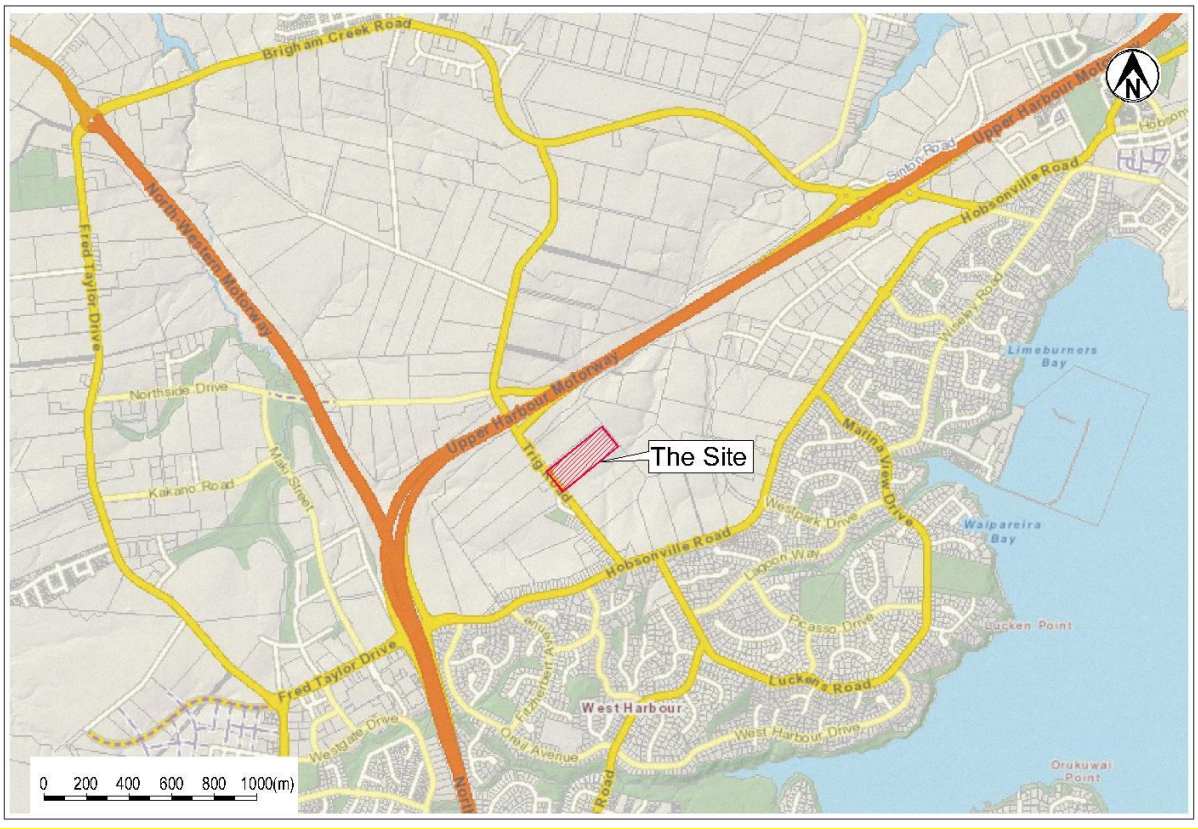


Figure 1.1: Site location plan (source: LINZ)

[1] Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

[2] Ministry for the Environment, updated 2011, Contaminated land management guidelines No. 1: *Reporting on Contaminated Sites in New Zealand*.

1.1 Objective and scope of work

The objective of this investigation was to assess the potential for current and past land uses at the site to have included activities that have the potential to cause ground contamination via a desktop review. The scope of work for this investigation comprised the following:

- Review of Auckland Council property files;
- Review of historical aerial photographs from Auckland Council GeoMaps and Retrolens;
- Review of certificates of title for the site;
- Review of a "Site Contamination Enquiry" from Auckland Council;
- Completion of a brief site walkover inspection;
- Preparation of a plan showing potential contaminated land constraints; and
- Preparation of this report.

This report documents our findings and comments on the potential for ground contamination at the site, in the context of the proposed development, including potential resource consent implications with regard to ground contamination.

2 Site description

2.1 Site identification

The site is located on the north eastern side of Trig Road in the suburb of Whenuapai. The site is rectangular in shape and has an overall site area of 4.05 ha. The site identification details are summarised in **Table 2.1**.

Table 2.1: Site identification

Street address	13-15 Trig Road
Legal description	Lot 5 DP 66045
Site owner	Her Majesty the Queen
Site area	4.05 ha
Zoning	Future Urban Zone

2.2 Site condition

A site walkover inspection was undertaken on 29 January 2021 by a contaminated land specialist. The purpose of the walkover was to gather general information on topography and land use (both on site and the surrounding area) as well as making observations for evidence of potential ground contamination. Relevant observations made at the time of the inspection are summarised below. Key site features are shown on **Figure 2.1** and selected photographs are included in **Appendix A.**

The property is currently used for rural residential living (currently containing a house, garden shed, dilapidated shed and aboveground pool) however a paddock also appears to have been occupied by stock at an earlier stage. The site contains the following site features:

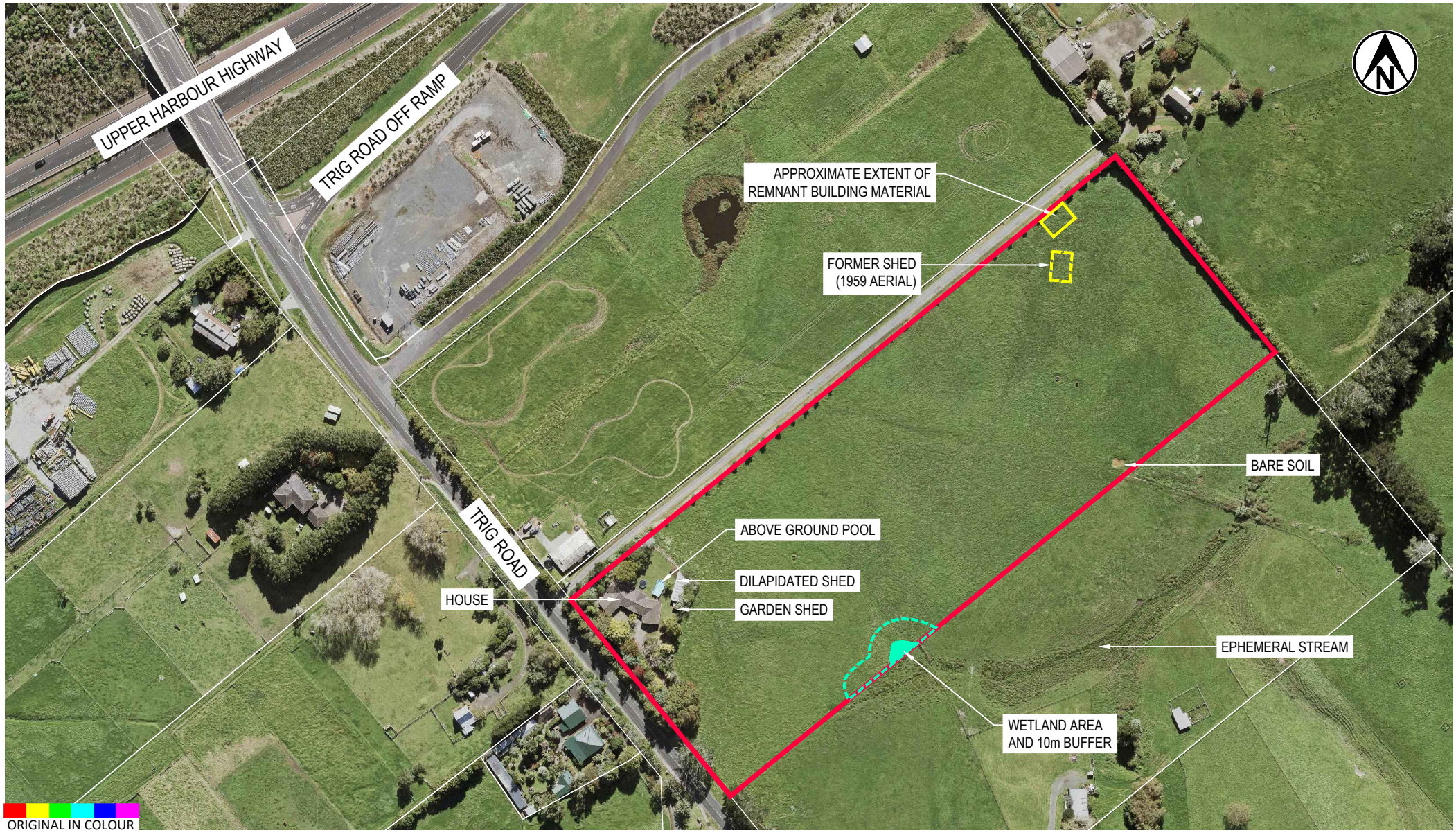
- The topography of the site is generally undulating sloping to a low point along the southern site boundary **Photograph Appendix A.1**.
- The southwestern portion of the site (where the house and driveway access from Trig Road) is generally flat but at a higher elevation than the paddock area. The land slopes steeply to the east away from the vicinity of the house **Photograph Appendix A.2.**
- An area of bare soil was observed near the south eastern boundary – no anthropogenic material or fill was observed **Photograph Appendix A.3**.
- Several buildings are present at the site and are summarised in **Table 2.2** below:

Table 2.2: Summary of buildings present at 13-15 Trig Road

Current building	Constructed	Building materials
House	1980	Brick and tile. Soffit boards appear to be plywood. Refer to **Photograph Appendix A.4 to Photograph Appendix A.7.**
Small garden shed	Not known	Galvanised iron. Refer to **Photograph Appendix A.8.**

Dilapidated shed	Update from aerial	Corrugated iron roof, mixture of corrugated iron, wood and potential ACM walls (Hardiflex). Wooden framing and floor. Broken cladding panels had been replaced with wooden panels. Potential ACM pieces visible on the ground. Refer to **Photograph Appendix A.9 to Photograph Appendix A.16**
Remnant building	1959	Inert building material (wood and steel). Refer to **Photograph Appendix A.17 to Photograph Appendix A.19**

- An aboveground pool was present near the house **Photograph Appendix A.9**.
- The dilapidated shed was used for storage of mattresses and other household items (gas cylinders, furniture and appliances) **Photograph Appendix A.10**.
- No chemical storage was observed during the site visit.



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	NOR	09/03/2021
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CLIENT **MINISTRY OF EDUCATION**

PROJECT **PRELIMINARY SITE INVESTIGATION**

TITLE 13 - 15 TRIG ROAD, WHENUAPAI
SITE FEATURES

SCALE (A4) 1:2500 FIG No. FIGURE 2.1 REV 1

2.3 Surrounding land use

The land uses surrounding the site are similar to the site – pastoral land with residential dwellings. During the site walkover it was noted that the site north of the site had horses and the property to the south had cattle.

2.4 Geology

The published geological map shows that the site is likely to be underlain by the Puketoka Formation. This could comprise of pumiceous deposits comprising pumiceous mud, sand and gravel with black muddy peat.

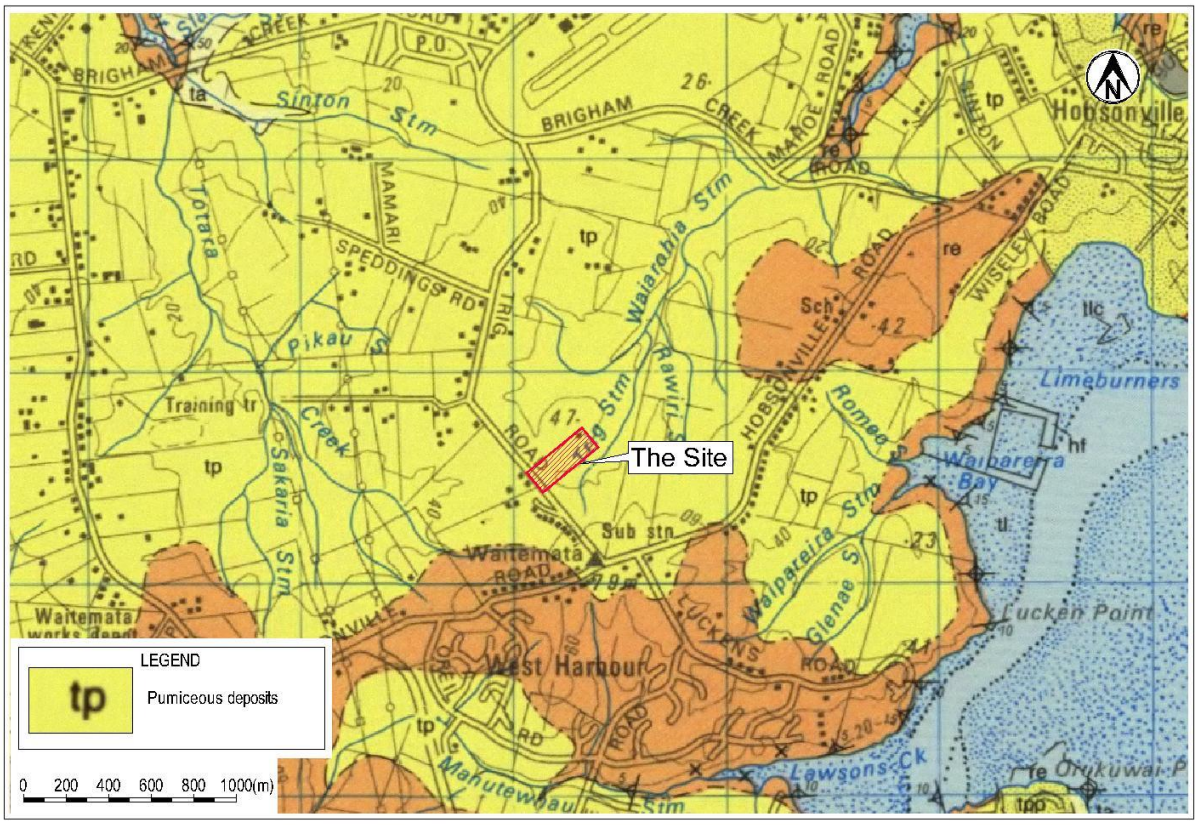


Figure 2.2: Published geology of the Whenuapai area (source: Edbrooke as per footnote[3])

2.5 Hydrogeology and hydrology

There are no open watercourses on the property. Morphum Environmental[4] has identified that a wetland extends onto the southern portion of the property from 9 Trig Road. The extent of the wetland on 13-15 Trig Road and a 10 m earthworks buffer, as applied by Morphum Environmental, are shown on **Figure 2.1.**

The Auckland GeoMaps website shows an open watercourse on 9 Trig Road, immediately south of the site. This watercourse was not observed during the site inspection as the neighbouring property was not accessed. Based on the topographical map, the watercourse appears to be a tributary to Trig Stream to the south-east of the site. Shallow groundwater is predicted to flow in a south easterly direction towards the watercourse and Trig Stream. Trig Stream flows into Waiarohia

[3] Edbrooke, SW. 2001: Geology of the Auckland area. Scale 1:250,000. Institute of Geological & Nuclear Sciences Institute of Geological & Nuclear Sciences Ltd, Lower Hutt, New Zealand.

[4] Morphum Environmental Ltd. Trig Rd ECIA. Figure dated 12 February 2021.

Stream which discharges to the Waiarohia Inlet in the Upper Waitemata Harbour approximately 2 km north-east of the site.

3 Site history

Historical information relating to the site has been collected from a variety of sources including the Auckland Council property file, contamination enquiry, certificates of title and historic aerial photographs. The history focuses on on-site activities, except for the aerial photograph review where comments are also provided on readily observable surrounding land use. The information reviewed is summarised in this section. A more detailed review of the available information is included in **Appendix B**.

In summary, the site history review identified that the site has been used for grazing land prior to the early 1930s.

Aerial photographs show that the site was not occupied by any buildings up until 1959 when a shed is visible near the northern corner of the site. This shed is visible up until the 1996 aerial. Aerial photographs also indicate the presence of horticultural activities in the adjacent (northern) property between 2000 and 2008.

Aerial photographs and building permits indicate the house at the property was built in 1980. The dilapidated shed present to the north of the house was not included within the property files, however, aerial photographs indicate it was likely present from 1980.

A review of the building plans contained within the property file did not indicate the use of asbestos containing materials (ACM) with the exception of “Fibrous plaster” which was proposed to be used in the house, refer to **Figure 2.1**.

An Auckland Council site contamination enquiry indicates that there is no information held within Auckland Council records to suggest that the site has been subject to HAIL activities.

4 Potential for ground contamination

With respect to potentially contaminating activities, the desktop review has found the following:

- The site was initially used for grazing land with an associated shed present near the northern corner from 1959 to 1996;
- The site was redeveloped for a house and shed to be built in 1980. Fill may have been used on the site during development;
- The property adjacent to the site on the northern side was used for horticultural purposes from 2000 to approximately 2008, it is possible that pesticides may have been used, however, the potential for spray drift to have contaminated the site is considered to be low;
- The house, and now dilapidated shed were built in 1980, likely during the period where lead paints and asbestos containing material (ACM) were used.

These activities all fall under potential HAIL activities. The inferred locations of these activities are presented on the site feature **Figure 2.1**. The activities, potential contaminants and an assessment of the likelihood, potential magnitude and possible extent of contamination are presented in **Table 4.1** below.

Table 4.1: Potential for contamination

Potential contaminating activities	Potential contaminants of concern	Likelihood, magnitude and possible extent of contamination	HAIL reference
1 Horticultural activities at the adjacent northern property including the potential application of persistent pesticides;	Metals (As, Cu, Pb) and organochlorine pesticides (OCPs)	Aerial imagery indicates the property north of the site was utilised for horticultural purposes from 2000 until approximately 2008. It is unlikely that persistent pesticides were used during this time period. The potential for contamination from this source is therefore considered to be negligible.	Not a HAIL.
2 Placement of fill of unknown origin during site development	Metals, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH) and asbestos.	No indication of filling was noted during the site walkover; however, filling may have occurred as part of construction of the house and surrounding landscaping in the 1980s to create a level ground surface.	Not a HAIL, unless contaminants are present at concentrations that pose a risk to human health or the environment. Then it becomes Activity I – Intentional or accidental release of contaminants.
3 Buildings constructed with ACM	Asbestos as fibres, fines or fragments.	The current buildings at the site (house and dilapidated shed) were built in 1980. This is during the time ACM were in common use. ACM were not noted to be present in the building plans for	Potentially a HAIL (Activity E1) if deteriorated asbestos products present.

Potential contaminating activities	Potential contaminants of concern	Likelihood, magnitude and possible extent of contamination	HAIL reference
		the house with the exception of "Fibrous plaster". However, during the site walkover it was noted that the dilapidated shed could potentially be clad in ACM, fragments of this fibre board were also present on the ground. It is possible that asbestos was lost to ground during the construction of buildings, including burying offcuts/ waste materials, and/or by subsequent damage to or maintenance of exterior ACM cladding (e.g. sanding or water blasting for repainting). If ACM contamination occurs it is most likely to reside in the shallow soils immediately around (or beneath if buried wastes are presents) the buildings or where water runoff occurs from them.	Potentially a HAIL, Activity I – Intentional or accidental release of contaminants, If contaminants are present at concentrations that pose a risk to human health or the environment.
4 Use of lead-based paints	Lead	Structures have been present on the site when lead-based paints were in use. Damage to or maintenance of painted surfaces (e.g. sanding or water blasting for repainting) has the potential to release lead flakes or dust to ground. If lead contamination occurs it is most likely to reside in the shallow in 'halos' immediately around the buildings, unless mobilised by soil disturbance or water runoff.	Potentially a HAIL, Activity I – Intentional or accidental release of contaminants, if contaminants are present at concentrations that pose a risk to human health or the environment.
5 Former buildings constructed with lead paint or ACM	Lead, asbestos as fibres, fines or fragments.	A former shed was present near the northern corner of the site in historical aerials from 1959-1996. During the site inspection remnant inert building materials (wood and steel) were observed in the vicinity of this location. We recommend soil testing to confirm no contamination is present in this area.	Unlikely to be a HAIL. Potentially Activity I - Intentional or accidental release of contaminants, if contaminants are present at concentrations that pose a risk to human health or the environment.

5 Preliminary conceptual site model

A conceptual site model as defined by the MfE in the contaminated land management guidelines, sets out known and potential sources of contamination, potential exposure pathways, and potential receptors. For there to be an effect from the proposed activity there has to be a contamination source and a mechanism (pathway) for contamination to affect human health or the environment (receptor).

The source-pathway-receptor conceptual site model based on the findings of the desktop review is outlined below.

Sources:

- Placement of fill during site development;
- Buildings containing ACM; and
- Buildings constructed with other potentially contaminating materials (e.g. lead-based paints).

Receptors:

- People – current residents and workers, adjacent site workers, disposal site operators (if soil is removed as part of any development works), the general public and future users of the site; and
- Environment – ecological receptors at stormwater and groundwater discharge points (Trig Stream and the Waitemata Harbour), and those at disposal destinations if they are not appropriate for the type of material.

Exposure pathways by which the source material can affect the receptors are:

- Direct contact by current residents –The extent of the contamination and likely exposure of this receptor to the contamination would need to be evaluated to assess the potential risk. Given the condition of the dilapidated shed constructed with Hardiflex cladding (potentially asbestos-containing), and the broken fragments on the ground surface outside the shed, we recommend an asbestos survey is undertaken as soon as practicable to understand if there is a potential risk to the current tenants;
- Direct contact by future site users – There is a potentially complete pathway if no mitigation is undertaken (e.g. soil removal or capping). The extent of the contamination and likely exposure of this receptor to the contamination would need to be evaluated to assess the potential risk and to inform the extent of mitigation required (if any);
- Direct contact by workers at the property and workers undertaking development or maintenance works – The extent of the contamination and likely exposure of this receptor to the contamination would need to be evaluated to assess the potential risk;
- Direct contact by the public offsite during any offsite transport/ disposal of contaminated material – Pathway incomplete as controls can be implemented to manage the material appropriately. The regulatory implications for soil disturbance are discussed in Section 6;
- Inhalation via dust of onsite workers, neighbours and future site users - Pathway incomplete if appropriate controls are put in place during construction works; and
- Migration to the environment via sediment entrainment in stormwater onsite or at a disposal site – Pathway incomplete if appropriate controls are put in place during any future soil disturbance.

6 Development implications

6.1 Regulatory implications

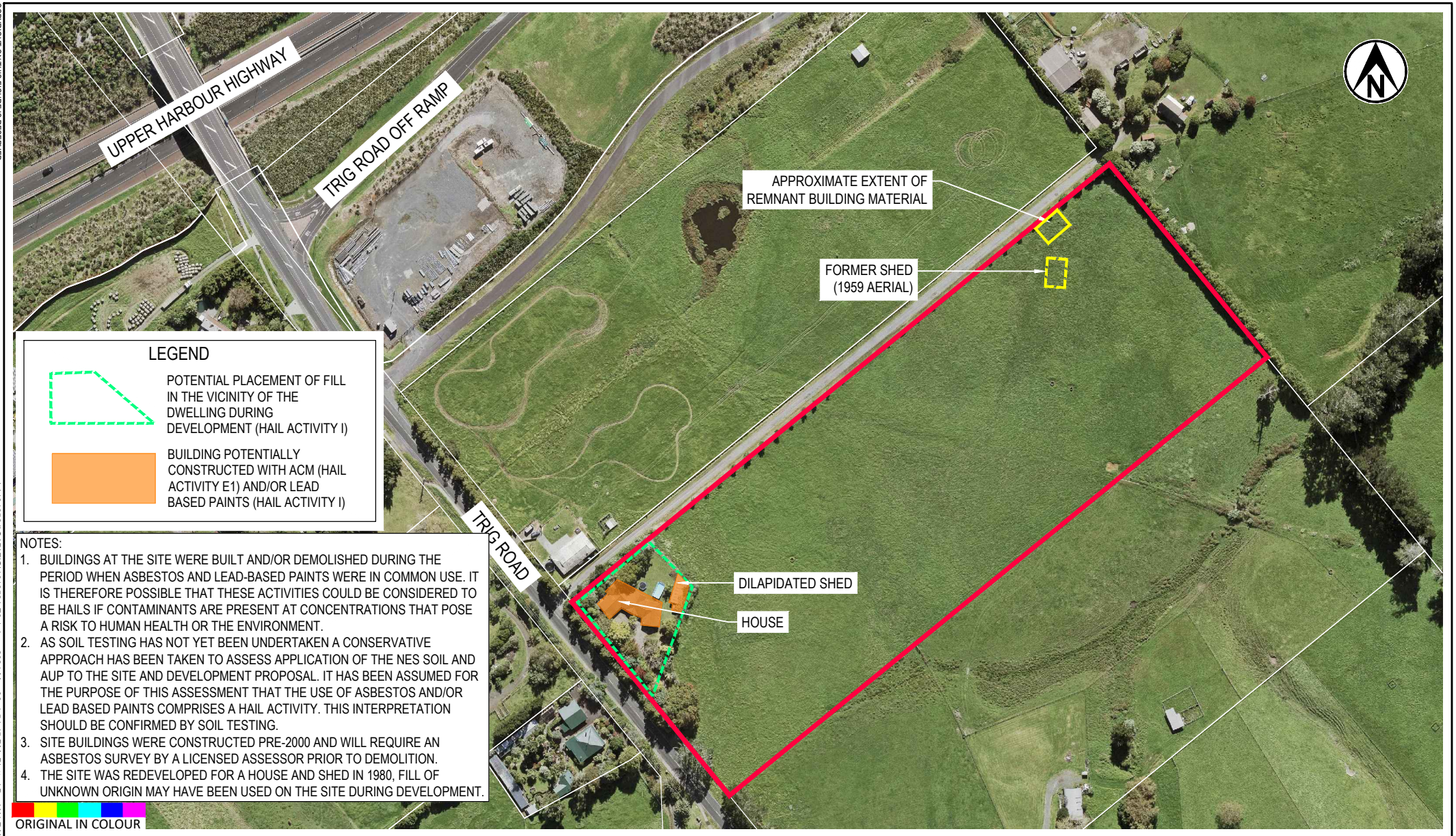
The following section summarises the regulatory implications associated with the contamination conditions identified at the site. The regulatory framework and its application to the site is set out in detail in **Appendix G.**

A plan showing the major contamination constraints for the site is presented in **Figure 6.1**. This assessment has only identified sources of ground contamination that are typical in residential settings. As a result, except where asbestos controls are required to be implemented, only standard health and safety and environmental controls (i.e. typical earthworks control measures) are expected to be required during any future excavation/soil disturbance works. However, we recommend that this interpretation is confirmed by soil sampling.

As described in **Section 6.1.3**, asbestos in the existing buildings/structures and any associated soils will need to be managed and removed in accordance with the Asbestos Regulations.

If offsite disposal of surplus spoil is required it is likely that topsoil and fill materials (if not reused on site) derived from the vicinity of existing or former structures/buildings will need to be disposed to managed fill, material containing elevated concentrations of asbestos will need to be disposed of to landfill, incurring additional costs. Currently Ridge Road Quarries and EnviroFill South operate the only managed fill facilities in the region that can receive low level asbestos contaminated wastes. As future access to these facilities cannot be guaranteed it would be prudent to assume that surplus spoil containing asbestos may need to be disposed of to landfill.

If soils containing contamination are proposed to be reused on site controls such as encapsulation beneath buildings or pavement maybe required, depending on the level of contamination, but especially for asbestos.



NOTES:

1. BUILDINGS AT THE SITE WERE BUILT AND/OR DEMOLISHED DURING THE PERIOD WHEN ASBESTOS AND LEAD-BASED PAINTS WERE IN COMMON USE. IT IS THEREFORE POSSIBLE THAT THESE ACTIVITIES COULD BE CONSIDERED TO BE HAILS IF CONTAMINANTS ARE PRESENT AT CONCENTRATIONS THAT POSE A RISK TO HUMAN HEALTH OR THE ENVIRONMENT.
2. AS SOIL TESTING HAS NOT YET BEEN UNDERTAKEN A CONSERVATIVE APPROACH HAS BEEN TAKEN TO ASSESS APPLICATION OF THE NES SOIL AND AUP TO THE SITE AND DEVELOPMENT PROPOSAL. IT HAS BEEN ASSUMED FOR THE PURPOSE OF THIS ASSESSMENT THAT THE USE OF ASBESTOS AND/OR LEAD BASED PAINTS COMPRISES A HAIL ACTIVITY. THIS INTERPRETATION SHOULD BE CONFIRMED BY SOIL TESTING.
3. SITE BUILDINGS WERE CONSTRUCTED PRE-2000 AND WILL REQUIRE AN ASBESTOS SURVEY BY A LICENSED ASSESSOR PRIOR TO DEMOLITION.
4. THE SITE WAS REDEVELOPED FOR A HOUSE AND SHED IN 1980, FILL OF UNKNOWN ORIGIN MAY HAVE BEEN USED ON THE SITE DURING DEVELOPMENT.

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	NOR	09/03/2021
	APPROVED	DATE

CLIENT **MINISTRY OF EDUCATION**
PROJECT **PRELIMINARY SITE INVESTIGATION**
TITLE 13 - 15 TRIG ROAD, WHENUAPAI
CONTAMINATION CONSTRAINTS
SCALE (A4) 1:2500 FIG No. FIGURE 6.1 REV 1

6.1.1 NES Soil

As described in **Section 4**, buildings at the site were built and/or demolished during the period when asbestos and lead based paints were in common use, and filling may have occurred during site development. It is therefore possible that these activities could be considered to be HAIL activities if contaminants are present at concentrations that pose a risk to human health or the environment. As soil testing has not yet been undertaken a conservative approach has been taken to assess application of the NES Soil to the site and development proposal. It has been assumed for the purpose of this assessment that the use of asbestos and/or lead based paints, and the filling, comprise a HAIL activity. This interpretation should be confirmed by soil testing.

In summary, this assessment indicates that consent under the NES Soil:

- May be required for change in use or soil disturbance of the site.

In order to confirm if consent is required for future change in use or soil disturbance of the site:

- Soil testing is required to determine if contaminants (specifically asbestos, metals and PAHs) are present at concentrations that pose a risk to human health or the environment; and/or
- The scale and duration of works should be evaluated against the permitted activity thresholds when the development details have been resolved.

Council ordinarily requires that a Site Management Plan (SMP) be provided in support of any consent application.

6.1.2 AUP

The contaminated land rules are set out in Section E30 of the AUP. Council applies them to activities involving soil disturbance or site redevelopment. On this basis we expect that consent under Section E30 of the AUP will only be required on the same basis as under the NES Soil i.e.:

- May be required for change in use or soil disturbance of the site.

6.1.3 Asbestos Regulations

Due to the potential presence of asbestos in the buildings an asbestos demolition survey will be required to be undertaken prior to their removal. Removal of asbestos from the existing structures will likely need to occur under the supervision of an appropriately licensed removalist (since the asbestos cladding exceeds 10 m^2 in area). We recommend that the removalist also addresses any localised contamination around and beneath the buildings (if any), in accordance with Asbestos Regulations and Asbestos-in-Soil Guidelines, at the time of demolition. The removalist is likely to need to prepare an Asbestos Removal Control Plan and any localised soil removal requirements can also be addressed by this process.

We consider that the Asbestos Regulations provide the best regulatory vehicle for addressing localised soil contamination associated with removal of asbestos from buildings and this matter should therefore not be a trigger for consent under the NES Soil. Nevertheless, we note that Council may take a different view.

6.2 Construction implications

This assessment has only identified sources of ground contamination that are typical in residential settings. As a result, except where asbestos controls are required to be implemented, only standard health and safety and environmental controls (i.e. typical earthworks control measures) are expected to be required during any *f*uture excavation/soil disturbance works. However, we recommend that this interpretation is confirmed by soil sampling.

As described in **Section 6.1.3,** asbestos in the existing buildings/structures and any associated soils will need to be managed and removed in accordance with the Asbestos Regulations.

If offsite disposal of surplus spoil is required it is likely that topsoil and fill materials (if not reused on site) derived from the vicinity of existing or former structures/buildings will need to be disposed to managed fill, material containing elevated concentrations of asbestos will need to be disposed of to landfill, incurring additional costs. Currently there are two managed fill facilities in the region able to receive low level asbestos contaminated wastes. As future access to this facility cannot be guaranteed it would be prudent to assume that surplus spoil containing asbestos may need to be disposed of to landfill.

If soils containing contamination are proposed to be reused on site controls such as encapsulation beneath buildings or pavement maybe required, depending on the level of contamination, but especially for asbestos.

7 Summary and conclusions

Tonkin & Taylor Ltd has been commissioned by the Ministry of Education to undertake a ground contamination assessment for 13-15 Trig Road, Whenuapai. The objective of this investigation was to investigate the site history and assess whether any HAIL activities have occurred on the site, as well as the likely contamination potential as a result of such activities. The main findings of this study are:

- The site history review identified that the land has been predominantly used for grazing purposes since at least the 1930s.
- The property was developed for residential purposes in 1980.
- In summary, this assessment has identified that the site has only been used for rural residential purposes since its development. Buildings at the site were built and/or demolished during the period when asbestos and lead-based paints were in common use, and filling may have occurred during site development. It is therefore possible that these activities could be considered to be HAIL activities if contaminants are present at concentrations that pose a risk to human health or then environment. However, no evidence has been identified to suggest that contamination conditions should be materially different from those which would be encountered on any residential properties of similar age and building types.
- As soil testing has not yet been undertaken a conservative approach has been taken to assess application of the NES Soil and AUP to the site and development proposal. It has been assumed for the purpose of this assessment that the use of asbestos and/or lead-based paints comprises a HAIL activity. But this interpretation should be confirmed by soil testing. In summary, this assessment indicates that consent under the NES Soil and contaminated land rules of the AUP:
  - Should not be required for subdivision of the site; but
  - May be required for change in use or soil disturbance of the site.
- In order to confirm if consent is required for future change in use or soil disturbance of the site:
  - Soil testing is required to determine if contaminants (specifically asbestos, metals and PAHs) are present at concentrations that pose a risk to human health or the environment; and/or
  - The scale and duration of works should be evaluated against the permitted activity thresholds when the development details have been resolved.

  Council ordinarily requires that a SMP is provided in in support of any consent application.
- Due to the potential presence of asbestos in the buildings an asbestos demolition survey will be required to be undertaken prior to their removal. Given the condition of the dilapidated shed constructed with Hardiflex cladding (potentially asbestos-containing), and the broken fragments on the ground surface outside the shed, we recommend an asbestos survey is undertaken as soon as practicable to understand if there is a potential risk to the current tenants.
- Removal of asbestos from the existing structures will likely need to occur under the supervision of an appropriately licensed removalist (since the asbestos cladding exceeds 10 m^2 in area). We recommend that the removalist also addresses any localised contamination around and beneath the buildings (if any), in accordance with Asbestos Regulations and Asbestos-in-Soil Guidelines, at the time of demolition. The removalist is likely to need to prepare an Asbestos Removal Control Plan and any localised soil removal requirements can also be addressed by this process.

We consider that the Asbestos Regulations provide the best regulatory vehicle for addressing localised soil contamination associated with removal of asbestos from buildings and this matter should therefore not be a trigger for consent under the NES Soil. Nevertheless, we note that Council may take a different view.

- Except where asbestos controls are required to be implemented, only standard health and safety and environmental controls (i.e. typical earthworks control measures) are expected to be required during any future excavation/soil disturbance works. However, we recommend that this interpretation is confirmed by soil sampling.
- If offsite disposal of surplus spoil is required it is likely that topsoil and fill materials (if not reused on site) derived from the vicinity of existing or former structures/buildings will need to be disposed to managed fill, material containing elevated concentrations of asbestos may need to be disposed of to landfill, incurring additional costs.
- If soils containing contamination are proposed to be reused on site controls such as encapsulation beneath buildings or pavement maybe required, depending on the level of contamination, but especially for asbestos.

8 Applicability

This report has been prepared for the exclusive use of our client the Ministry of Education, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
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Rebecca van der Krogt	Glen Nicholson
Contaminated Land Consultant	Project Director

Report reviewed by:

.....

Natalie O'Rourke

Contaminated Land Consultant

8-Mar-21

\\ttgroup.local\files\aklprojects\1016524\issueddocuments\20210308_1016524 moe psi.docx

Appendix A: Site photographs

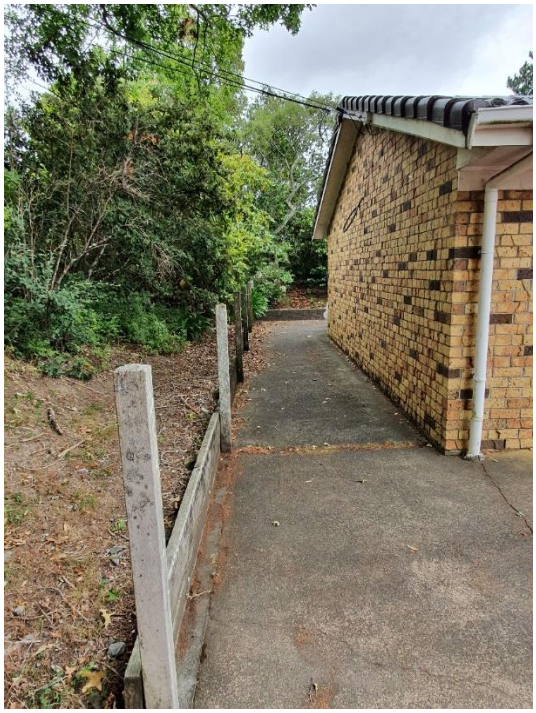
Photograph Appendix A.1: The topography of the site is generally undulating sloping towards the southern boundary.

Photograph Appendix A.2: The house is at a higher elevation than the paddock area. The land slopes steeply to the east away from the vicinity of the house.

Photograph Appendix A.3: Area of bare soil was observed near the south eastern boundary – no anthropogenic material or fill was observed.

Photograph Appendix A.4: Front of house off Trig Road.

Photograph Appendix A.5: Close up view of the front of the house.



Photograph Appendix A.6: View along the side of the house.

Photograph Appendix A.7: View along the back of the house.

Photograph Appendix A.8: Garden shed.

Photograph Appendix A.9: House to the left, above ground pool in centre, dilapidated shed in rear right and garden shed front right.

Photograph Appendix A.10: Inside view of dilapidated shed. Wooden framing and floor present.

Photograph Appendix A.11: Walls of dilapidated shed constructed from potential ACM.

Photograph Appendix A.12: Broken potential ACM walls on dilapidated shed.

Photograph Appendix A.13: Entrance way to dilapidated shed (left) garden shed located on the right. Broken pieces of potential ACM material visible on the ground.

Photograph Appendix A.14: Broken pieces of potential ACM.

Photograph Appendix A.15: Close up of Hardiflex (potential ACM walls).

Photograph Appendix A.16: Broken cladding panels of the dilapidated shed had been replaced with wooden panels.

Photograph Appendix A.17: Remnant building material (wood and steel) was present in the vicinity of the location of a shed visible in a 1959 aerial.

Photograph Appendix A.18: Remnant building material (wood and steel) was present in the vicinity of the location of a shed visible in a 1959 aerial.

Photograph Appendix A.19: Remnant building material (wood and steel) was present in the vicinity of location of a shed visible in a 1959 aerial.

Appendix B: Site history information

Historical information relating to the site has been collected from a variety of sources. The information presented documents on-site activities, except for the aerial photograph review where comments are also provided on readily observable surrounding land use. The information that has been reviewed is summarised in this appendix.

B1 Certificates of title

Current and historical certificates of titles for the site have been reviewed. A summary of the information reviewed is presented below.

- 15 December 1934 - The property was seized from Sager Owen Midgley, Hobsonville farmer. Following this several transfers of mortgages were made.
- 12 December 1966 - The certificate of title was transferred to J.L Midgley Co Limited and mortgaged to Thomas Latimer Midgley
- 6 July 1992 – The property was leased to Her Majesty the Queen for education purposes for a term of 20 years.
- 24 February 2005 - The property 4.0469ha is acquired for a state school by the Crown.
- 09 March 2005 – A new certificate of title is issued for the property with the registered owners listed as “Her Majesty the Queen”.

A copy of the current certificate of title is provided in Appendix C**.**

B2 Historical aerial photographs

Historical aerial photographs were obtained from Retrolens and Auckland Council GeoMaps website and are presented in this Section. Relevant features of the site and surrounding land are summarised from each aerial photograph in Appendix B Table 1.

Appendix B Table 1: Summary of aerial photograph review

Date, run number and source	Key site features	Surrounding land features
1940 - Retrolens	The property appears to be used for agricultural purposes such as grazing.	The surrounding land largely appears to be used for agricultural purposes such as grazing.
1950 - Retrolens	No significant changes observed.	No significant changes observed.
1958 - Retrolens	Two white structures/objects are visible at the site, both are located in the north western quarter of the site.	No significant changes observed.
1959 - Retrolens	A shed is visible near the western corner of the site, two other objects/ structures are visible to the south of this shed. The hedging running through the property appears to be sparser.	Increased development on the southern side of Trig Road south of the site.
1963 - Retrolens	The shed present in the previous aerial is still visible at the site.	Increase in residential development occurring south of the site near the corner of Trig Road and Hobsonville Road.
1969 - Retrolens	The shed present in the 1959 aerial is still visible at the site an object/structure	Increase in shelter belt hedging in the surrounding properties.

Date, run number and source	Key site features	Surrounding land features
	is visible to the south east of the shed. appears to have been removed.	
1972 - Retrolens	The shed first present in the 1959 aerial is still present. The hedging travelling across the property from the northwest side in a south east direction has been removed.	Increase in residential development along Fred Taylor Drive to the west.
1980 - Retrolens	The hedging travelling across the property from the north side in a southern direction has been removed. It appears as though earthworks have occurred in the vicinity of where the house is currently located in the present day. The aerial is of low quality thus it is difficult to determine if the house is present.	Increase in residential development along the southern side of Hobsonville Road south of the site.
1988 - Retrolens	No significant changes observed.	No significant changes observed.
1996 – Auckland Council	The shed first present in the 1959 aerial is no longer present. The house is confirmed to be present near the northwest corner of the property. North of the house there appears to be a grass driveway area. East of the house appears to be a large shed. A potential shed/ unknown white object is present approximately 70 meters north east of the house.	Appears to be horticultural activity present approximately 250 meters north east of the site. The neighbouring property at the northern corner of the site appears to be occupied.
2000 – Auckland Council	Hedging present north east of the house.	The property adjacent on the northern side appears to be occupied for horticultural purposes to large warehouse/ potential glasshouses are present, a sediment pond is also present.
2001 – Auckland Council	No significant changes observed.	No significant changes observed.
2003/04 – Auckland Council	It appears as though the front half of the property is used separate from the back half (visible difference in grass colours).	Horticultural use at the property to the north appears to have reduced.
2006 – Auckland Council	A bare patch of grass is visible along the southern boundary of the site. This bare patch of grass is present to this day. An increase in trees/ vegetation is visible south of the house.	Horticultural use at the property to the north appears to have reduced further.
2008 – Auckland Council	No significant changes observed.	No significant changes observed.
2010/11 – Auckland Council	No significant changes observed	SH18 is under construction approximately 170 meters north west of the site.
2012 – Auckland Council	No significant changes observed	SH18 appears to be almost complete.

Date, run number and source	Key site features	Surrounding land features
2015/16 – Auckland Council	No significant changes observed	SH18 is complete.
2017 – Auckland Council	No significant changes observed	No significant changes observed

B3 Council property file review

The Auckland Council property files for the site were reviewed on 15 February 2021. The key findings from the property file review are summarised below, and selected documents are included in Appendix E.

- Building plan for house dated 14 March 1980. The construction materials listed on the building plan include stone veneer, timber and concrete tiles. No mention of ACM.
- Letter dated 25 July 2001 from Waitakere City Council to Han-Yul Cho authorising building work detailed in the LIM report. Attached to the letter are several documents:
  - Building permit dated 27 March 1980 for dwelling at 13-15 Trig Road.
  - Building permit dated 27 March 1980 for dwelling at 11 Trig Road.
  - Building permit application dated 27 March 1980. The owner of the section is listed as "Crosby Properties Limited".
  - Memorandum dated 1 April 1980 from Waitemata City Council stating the vehicle crossing installed is not satisfactory.
  - Letter dated 14 December 1973 from City of Waitemata "TO THE RATEPAYER". The letter indicates a change of bags to be used for refuse collection.
  - Letter dated 26 March 1980 from the City Inspector regarding the requirement for a vehicle crossing at the site.
  - Memorandum dated 24 March 1980 from Waitemata City Council indicating the cost to an initial a sealed vehicle crossing.
  - Memorandum dated 19 March 1980 from Waitemata City Council querying the cost of providing a vehicle crossing at Lot 5 DP66045.
  - Engineers report dated 12 March 1980 for Lot 5 DP66045.
  - Letter dated 20 February 1980 indicating the building permit proposal fails to comply with the 9.1 meter front yard required under the sites Rural A zoning.
  - Building specifications undated for the erection of a residence at Hobsonville for Mr and Mrs P. Hawkins. No use of ACM were noted with the exception of "Fibrous plaster".
- Letter dated 15 November 1999 from Waitakere City Council to Dianne Gail Hawkins and Philip Victor Hawkins regarding consent application number RMA992188. Attached to the letter are several documents:
  - Non-complying activity report date 7 October 1999 issued by City of Waitakere District Plan.

B4 Council contamination enquiry

A contamination enquiry was placed with Auckland Council on 4 February 2021. The information provided is included in Appendix F and states that there is no information held within Auckland Council records to suggest that the site has been subject to HAIL activities.

Resource consents related to the site or properties immediately surrounding the site (including existing, superseded and surrendered consents) are summarised in Appendix B Table 2 below. The majority of consents identified are considered unlikely to have resulted in soil contamination at 13-15 Trig Road. This is because of their location, distance and/or nature.

One pollution incident was noted as part of the enquiry relating to rotting pig pasture run-off into a stream at 17 Trig Road.

Appendix B Table 2: Ground contamination related resource consents

Location	Type of consent	Activity description	Holder/ Consultant	Status
19 Trig Road, Hobsonville	Take	To take groundwater for irrigation.	-	Withdrawn
23-25 Trig Road, Whenuapai	Bore	To authorise the construction of 56 bores for a new motorway development.	NZ Transport Agency/ Maunsell Limited	Expired
Watercare Services (location not specified)	Bore	To authorise the construction of 15 bores for geological, geotechnical and groundwater purposes.	Tonkin & Taylor Limited	Assessment completed
Trig Road, Whenuapai	Bore	Authorize the construction of a bore for the extraction of groundwater for stock and domestic supply	Jyh Huang	Expired

Appendix C: Certificates of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
GAZETTE NOTICE

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**192542**
Land Registration District	**North Auckland**
Date Registered	09 March 2005 09:00 am

Prior References
NA21C/1295

Type	Fee Simple	**Instrument**	GN 6339011.4
Area	4.0469 hectares more or less		
Legal Description	Lot 5 Deposited Plan 66045		
Purpose	State School		

Registered Owners
Her Majesty the Queen

Interests

Extract from *New Zealand Gazette*, 24/2/2005, No. 41, p. 1064

Land Acquired for State School—Trig Road, Hobsonville

Pursuant to section 20 of the Public Works Act 1981, and to a delegation from the Minister for Land Information, Stephen Robert Gilbert, Land Information New Zealand, declares that, agreements to that effect having been entered into, the land described in the Schedule to this notice is hereby acquired for a state school and vests in the Crown on the date of publication of this notice in the *New Zealand Gazette*.

North Auckland Land Registry—Waitakere City

Schedule

Area ha	Description
4.0469	Lot 5, DP 66045, all Computer Freehold Register NA21C/1295.

Dated at Christchurch this 22nd day of November 2004.

S. R. GILBERT, for the Minister for Land Information.

(LINZ CPC/1999/3753)

ln1034

NOTICE NO: 1034

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Cancelled

Identifier	**NA21C/1295**
Land Registration District	**North Auckland**
Date Issued	26 November 1971

Prior References
NA578/66

Estate	Fee Simple
Area	4.0469 hectares more or less
Legal Description	Lot 5 Deposited Plan 66045

Original Proprietors
Han-Yul Cho and Myung-Sook Cho

Interests

C391993.1 Lease of (part) being Lot 1 Plan 151674 to Her Majesty the Queen for education purposes Term for 20 years less 1 day commencing on 1st January 1992 - 6.7.1992 at 2.24 pm

Fencing Covenant in Transfer C877701.4 - 15.8.1995 at 11.51 am

Land Covenant in Transfer C877701.5 - 15.8.1995 at 11.51 am

D109380.1 Mortgage of Lease C391993.1 to The National Bank of New Zealand Limited - 18.2.1997 at 11.48 am

D561489.1 CAVEAT AGAINST PART LOT 1 DP 151674 BY PHILIP VICTOR HAWKINS AND DIANNE GAIL HAWKINS - 29.11.2000 AT 10.20 AM

6170100.1 Compensation Certificate pursuant to Section 19 Public Works Act 1981 - 5.10.2004 at 9:00 am

6339011.1 Discharge of Compensation Certificate 6170100.1 - 9.3.2005 at 9:00 am

6339011.2 Withdrawal of Caveat D561489.1 - 9.3.2005 at 9:00 am

6339011.3 Discharge of Mortgage D109380.1 - 9.3.2005 at 9:00 am

6339011.4 Gazette Notice (NZ Gazette, 24.2.2005, No.41, p. 1064) acquiring all of the land herein (4.0469ha) for a state school and vesting the same in the Crown on 24.2.2005 - 9.3.2005 at 9:00 am

6339011.4 CT 192542 issued - 9.3.2005 at 9:00 am

CANCELLED.

References
Prior C/T 578/66

Transfer No.
N/C. Order No. A603074

Land and Deeds 69

No. 21C/1295

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 26th day of November one thousand nine hundred and seventyone under the seal of the District Land Registrar of the Land Registration District of NORTH AUCKLAND

WITNESSETH that T.L. ~~MIDGLEY~~ CO. LIMITED at Auckland

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 10 acres more or less being Lot 5 on Deposited Plan 66045 part Allotment 45 Parish of Waipareira.

CTFM 14.6.92

METRIC AREA IS 4.0468ha 4.2168ha

District Land Registrar
23807

DISTRICT LAND REGISTRAR NORTH AUCKLAND, N.Z.

Conversion Factors:
1 Acre = 4046m²
1 Perch = 25.29m²
1 Link = .2012 metres

A192450 Mortgage to Thomas Latimer Midgley ~~Midgeley~~ - 12.12.1966 at 1.31 o'c. as varied 14.5.1969 at 12.55 o'c. and 22.10.1970 at 12.40 o'c.

D.L.R.
23807 FAJ

X Waitemata S.D.

232996.2 Transfer to Marau Investments Limited - 25/5/1973 at 11.39 o'c.

for A.L.R.

232996.3 Mortgage to T. L. Midgley Co. Limited - 25.5.1973 at 11.39 o'c.

A.L.R.

for A.L.R.

073004.1 Transfer to Chatswood Estate Limited at Lower Hutt - 23.8.1974 at 2.04 o'c.

for A.L.R.

908832.1 Transfer to Crosby's Properties Limited at Auckland - 14.1.1980 at 11.27 o'c

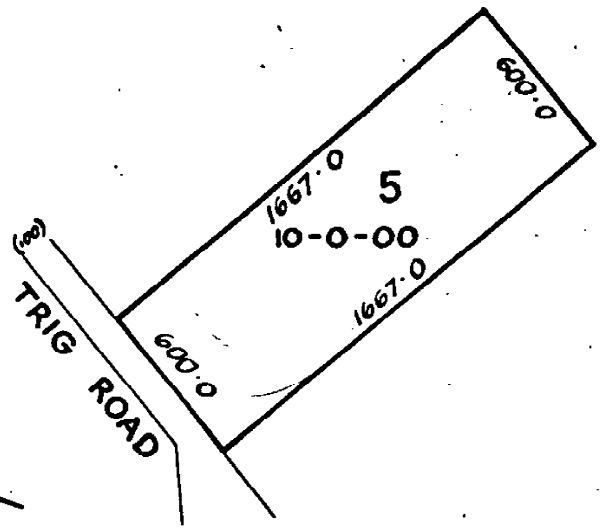
A.L.R.

Fencing covenant in Transfer 908832.1

A.L.R.

908832.2 Mortgage to Chatswood Estate Limited - 14.1.1980 at 11.27 o'c

A.L.R.



Scale: 1 inch = 6 chains.

JM.

No. 21C/1295

Plan 15167 Lodged 25.5.92

21C/1295

C.391993.1 Lease of (part) being Lot 1 Plan 151674 (computed plan) to Philip Victor Hawkins and Dianne Gail Hawkins for the term of 20 years less 1 day commencing on 1st January 1992 - 6.7.1992 at 2.24 oc

A.L.R.

C.637043.1 CAVEAT BY WICKHAM DEVELOPMENTS LIMITED - 4.8.1994 at 12.07 o'c

WITHDRAWN 15 AUG 1995

A.L.R.

C.646081.1 CAVEAT BY WICKHAM DEVELOPMENTS LIMITED - 25.8.1994 at 11.59 oc

WITHDRAWN 15 AUG 1995

A.L.R.

C.877701.3 Transfer to Wickham Developments Limited at Hamilton - 15.8.1995 at 11.51 oc

A.L.R.

C.877701.4 Transfer to Robert Bryan Latham Wickham of Matiere farmer - 15.8.1995 at 11.51 oc

A.L.R.

Fencing covenant in Transfer C.877701.4

A.L.R.

Land covenant in Transfer C.877701.5

A.L.R.

C.877701.5 Transfer to Wickham Developments Limited at Hamilton - 15.8.1995 at 11.51 oc

A.L.R.

C.877701.6 Mortgage to Knight Coldicutt Solicitors Nominees Company Limited - 15.8.1995 at 11.51 oc

ENTERED IN ERROR

A.L.R.

C877701.6 Mortgage to Knight Coldicutt Solicitors Nominees Company Limited -15.8.1995 at 10.51 oc

24.8.95

SURRENDERED

A.L.R.

C.926175.1 CAVEAT BY HAN-YUL CHO AND MYUNG-SOOK CHO - 28.11.1995 at 11.17 o'c

WITHDRAWN 16 AUG 1996

A.L.R.

D.020515.3 Transfer to Han-Yul Cho businessman and Myung-Sook businesswoman both of Auckland - 16.7.1996 at 3.02 oc

A.L.R.

D.109380.1 Mortgage of Lease C.391993.1 to The National Bank of New Zealand Limited - 18.2.1997 at 11.48 o'c

A.L.R.

D561489.1 CAVEAT AGAINST PART LOT 1 DP 151674 BY PHILIP VICTOR HAWKINS AND DIANNE GAIL HAWKINS 29.11.2000 at 10.20

for RGL

D636168.1 Compensation certificate under Section 19 Public Works Act 1981 by Her Majesty The Queen 30.8.2001 at 3.29

for RGL

D666609.2 Gazette Notice (NZ Gazette 13.12.2001 No. 170 p.4188) acquiring all Lease C391993.1 for education purposes and vesting in the Crown 17.12.2001 at 2.12

for RGL

578/66

REGISTER

[Land and Deeds—104.

NEW ZEALAND.

Reference: Land Transfer (Compulsory Registration of Titles) Act, 1924.
Deeds Index. 21A. 30
Application No. 23166[C]

Register-book, Vol. 578, folio 66

26.2.41

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

LIMITED AS TO PARCELS

This Certificate, dated the fifteenth day of December, one thousand nine hundred and thirty four under the hand and seal of the District Land Registrar of the Land Registration District of AUCKLAND **Witnesseth** that SAGER OWEN MIDGLEY of Hobsonville farmer

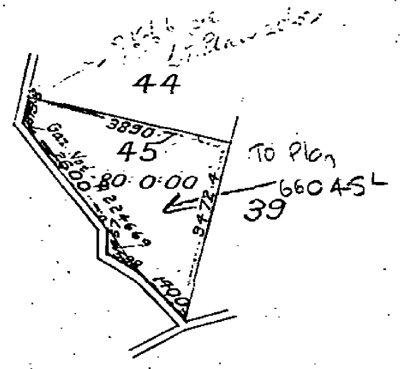
is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial under written or endorsed hereon, subject also to any existing right of the Crown to take and lay off roads under the provisions of any Act of the General Assembly of New Zealand) in the land hereinafter described, as the same is delineated by the plan hereon bordered green, be the several admeasurements a little more or less, that is to say: All that parcel of land containing eighty acres more or less being Allotment 45 of the Parish of Waipareira.

This certificate of title has ceased to be limited as to title. Entered 28-8-1952

E. L. Adams

Assistant ~~District~~ Land Registrar.

METRIC AREA IS 32.3748 ha
32.3748 ha



80-0-00.0
1-1-03.0 A 224669
78-2-37.0

Outstanding Interest registered in the Deeds Register Office at Auckland:

Encumbrance No. 371973 (£310.10.0) Sager Owen Midgley to Margaret Midgley.

E. L. Adams
Asst. Land Regr

DISCHARGE

No. 46383 Transmission of Mortgage No. 341943 to Lily Andrea Midgley Entered 28/2/1941 at 2.30 o'c.

This certificate of title has ceased to be limited as to title. Entered 28/8/1952

Transfer 513568 Sager Owen Midgley to Thomas Latimer Midgley of Hobsonville farmer - produced 28/8/1952 at 3 o'c.

A.L.R.

Mortgage 373918 Thomas Latimer Midgley to Sager Owen Midgley produced 28/8/1952 at 3 o'c.

DISCHARGE Produced A.L.B.

A.L.R.

Variation of Terms of Mortgage 373218
Produced 16/12/1953 at 12 o'clock.

A.L.R.

Variation of Terms of Mortgage 373218
Produced 29/4/1955, at 11.30 o'clock.

A. L. R.

578/66 REGISTER

578/66

Variation of Terms of Mortgage 373218
Produced 8.5.1956 at 2.32 o'clock
[signature], A.L.R.

Variation of terms of mortgage 373218
Produced 13/8/1957 at 2.10 o'c
[signature] A.L.R.

Variation of Terms of Mortgage 373218
Produced 25/9/1958 at 2.51 o'clock
[signature] A.L.R.

A192449 Transfer to T.L. Midgley Co. Limited at Auckland. Produced 12.12.1966 at 1.31 o'c
[signature] A.L.R.

A192450 Mortgage to Thomas Latimer Midgley. Produced 12.12.1966 at 1.31 o'c
[signature] A.L.R.

A224669 Gazette Notice proclaiming parts as road. Entered 31.5.1967 at 9.0 o'c.
[signature] A.L.R.

Variation of Terms of Mortgage A192450 14-4-1969 at 2.55 o'c
[signature] A.L.R.

Variation of Terms of Mortgage
A192450 - 22/10.1970 at 12.00 o'c.
[signature] A.L.R.
12440

A603074 Cancelled as to lots 1-9, 13, Plan 66045 and new CTs issued
A.L.R.
26.11.1971
2380
21c/1291-9; 1303
[signature]
DLR

Cancelled
[signature]

578/66

Appendix D: Historical aerial photographs


1940 - Retrolens Survey number: SN143

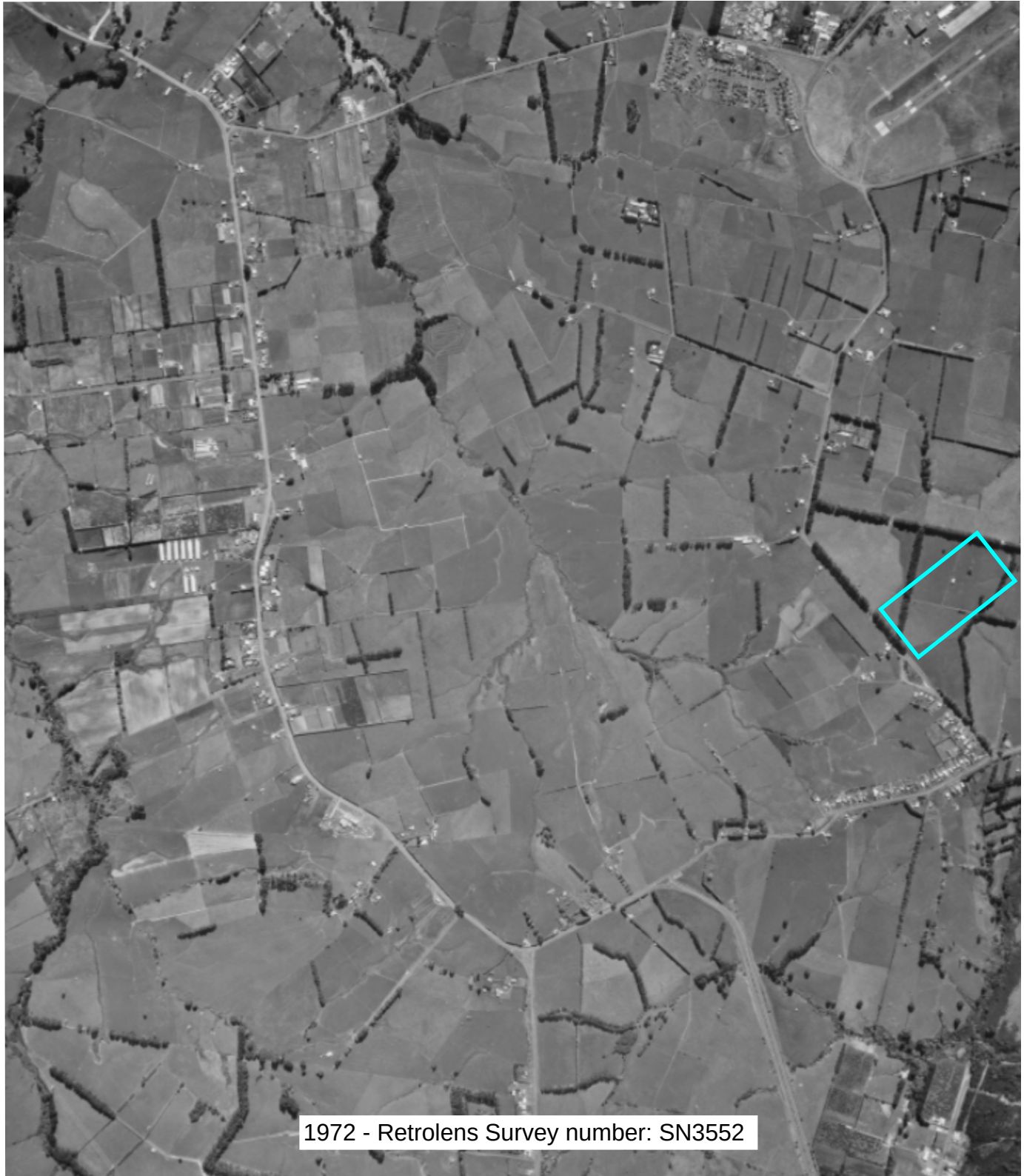
1950 - Retrolens Survey number: SN583


1958 - Retrolens Survey number: SN1052

1959 - Auckland Council GeoMaps


1963 - Retrolens Survey number: SN1392


1969 - Retrolens Survey number: SN3182

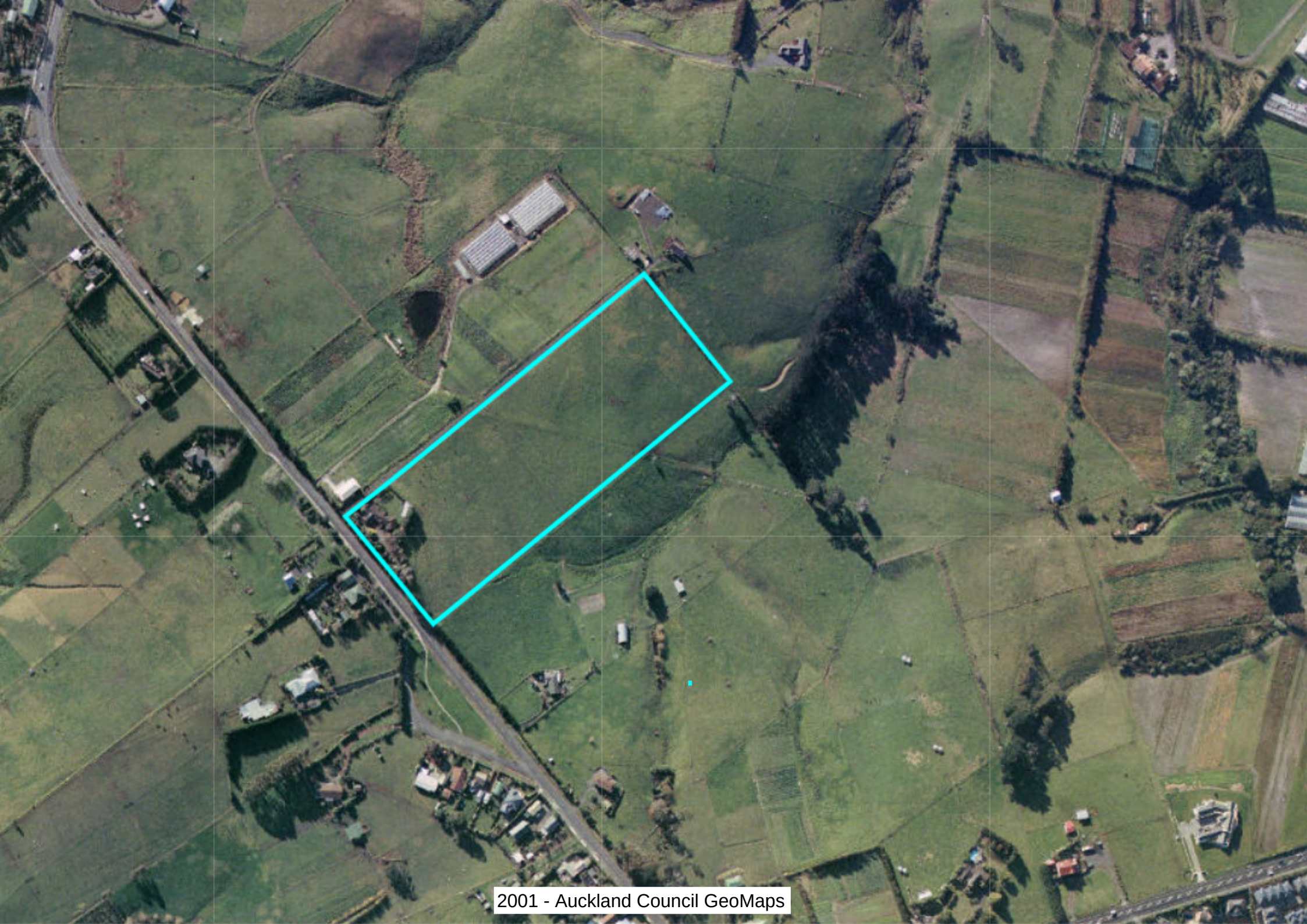

1972 - Retrolens Survey number: SN3552


1980 - Retrolens Survey number: SN5783A

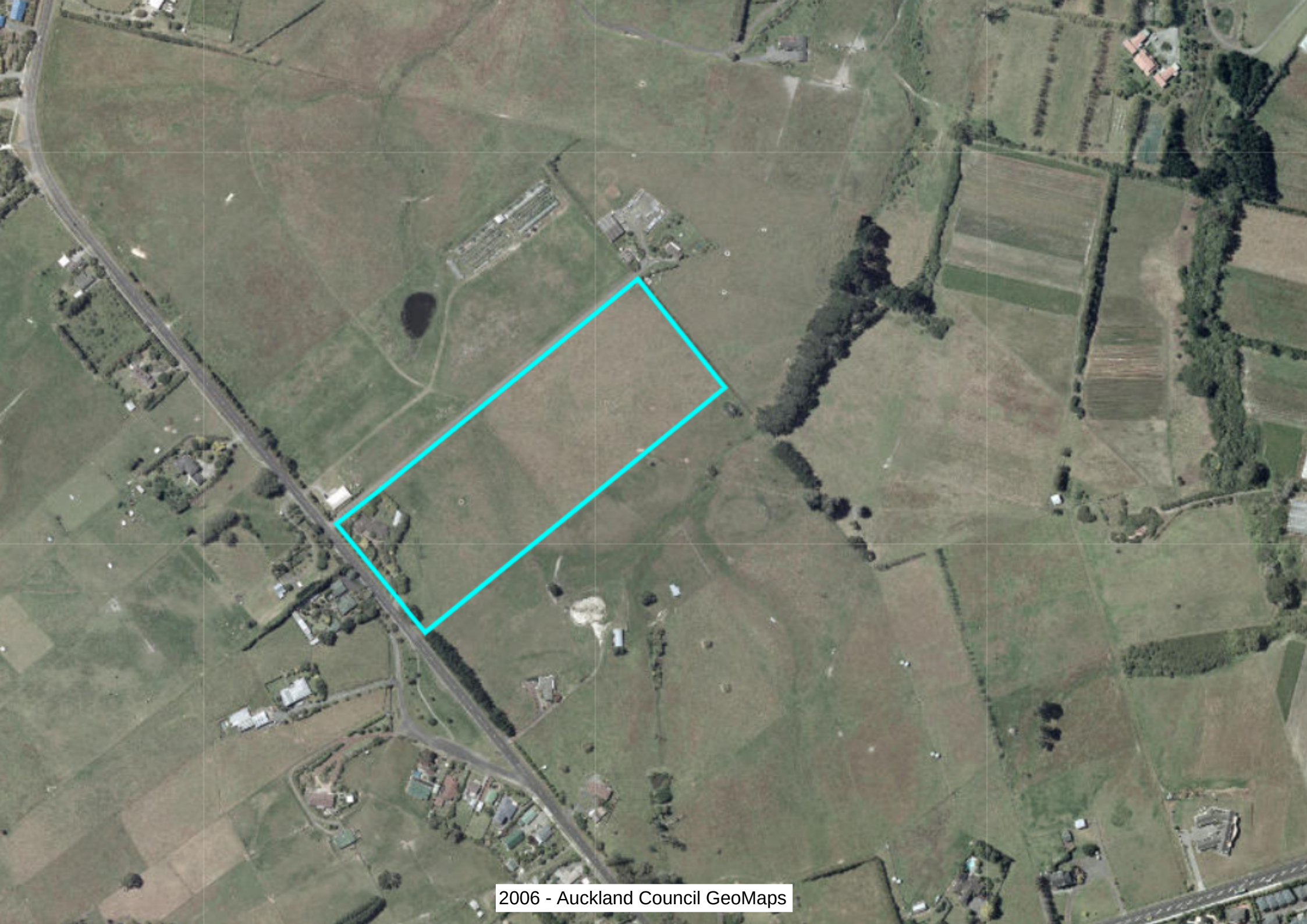

1988 - Retrolens Survey number: SN8772


1996 - Auckland Council GeoMaps


2000 - Auckland Council GeoMaps


2001 - Auckland Council GeoMaps


2003/04 - Auckland Council GeoMaps


2006 - Auckland Council GeoMaps


2008 - Auckland Council GeoMaps

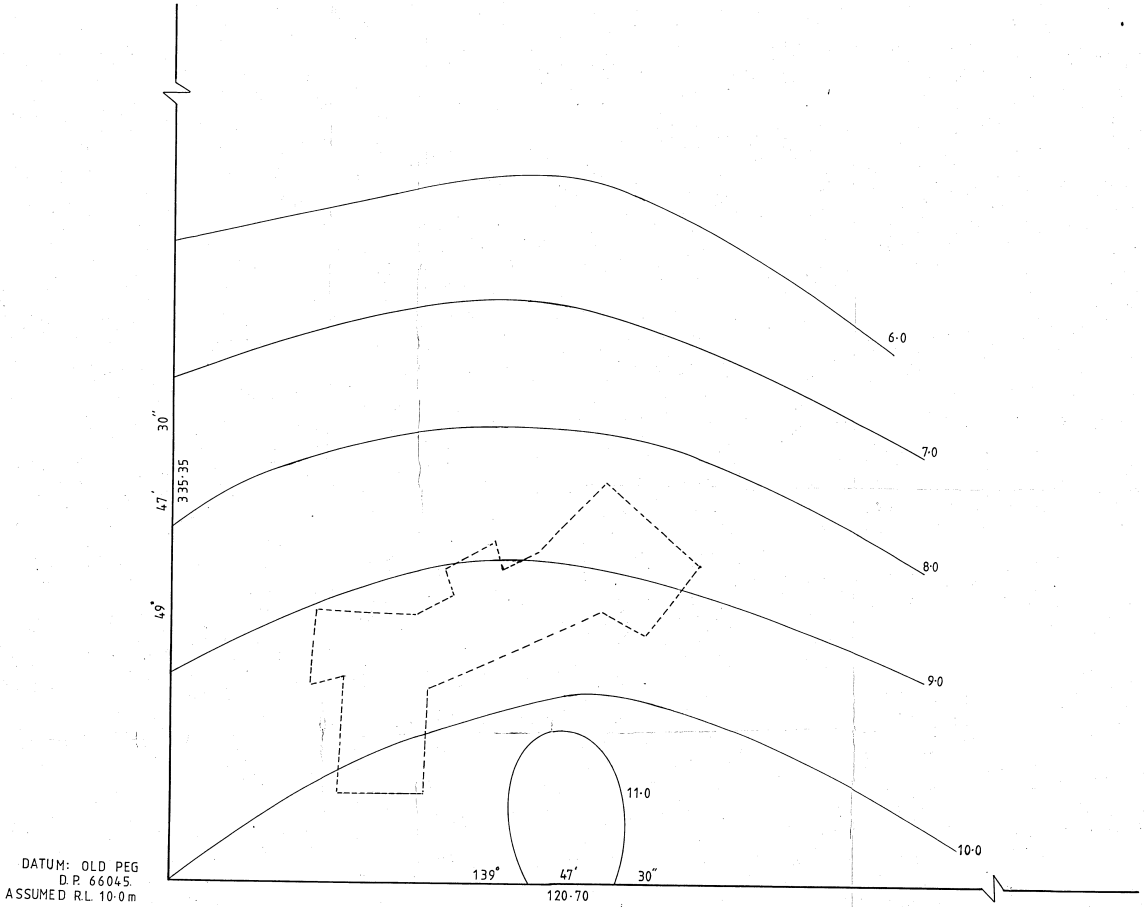

2010/11 - Auckland Council GeoMaps


2012 - Auckland Council GeoMaps


2015/16 - Auckland Council GeoMaps


2017 - Auckland Council GeoMaps

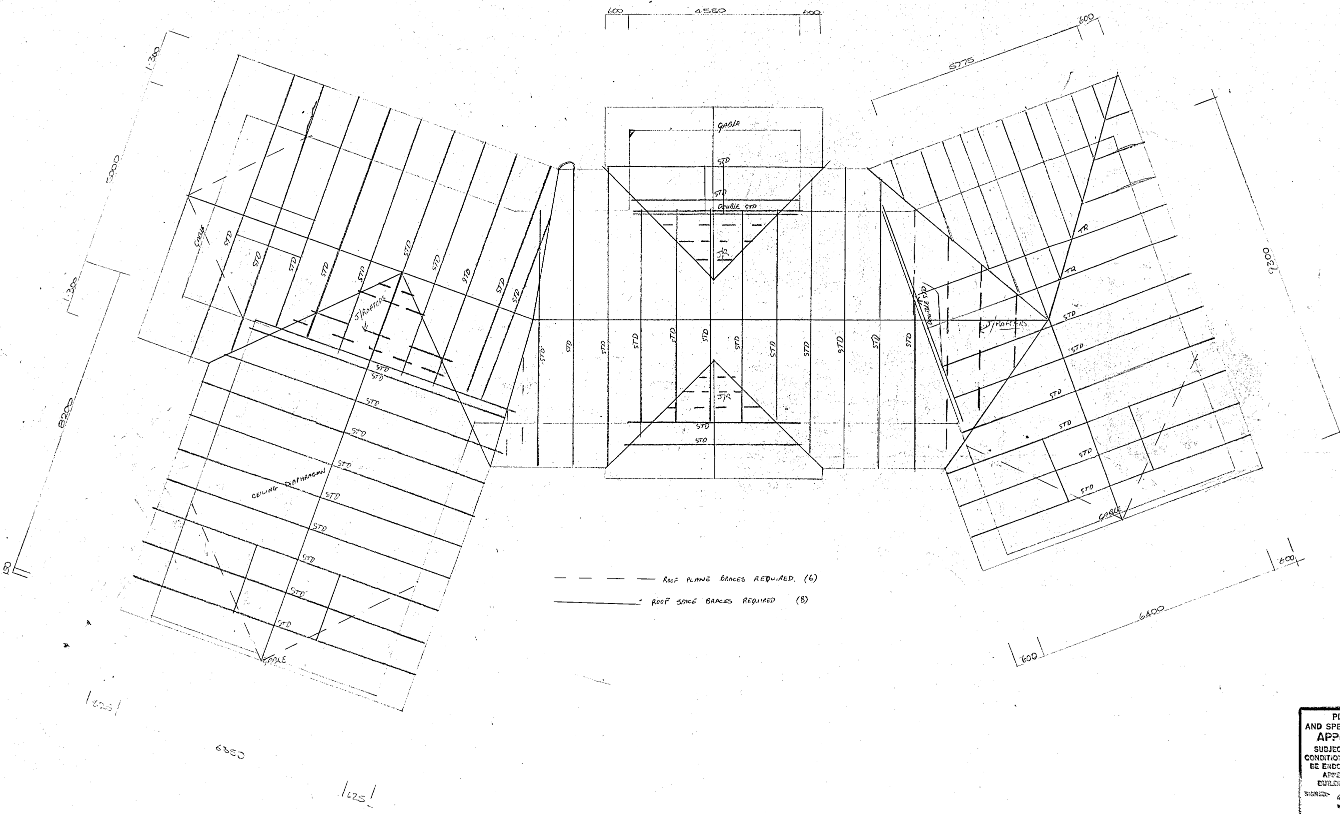
Appendix E: Relevant Council property file information



DATUM: OLD PEG
D.P. 66045.
ASSUMED R.L. 10·0 m

0193

RECEIVED
21 FEB 1980
Waitemata City Council
Inspectors Dept.



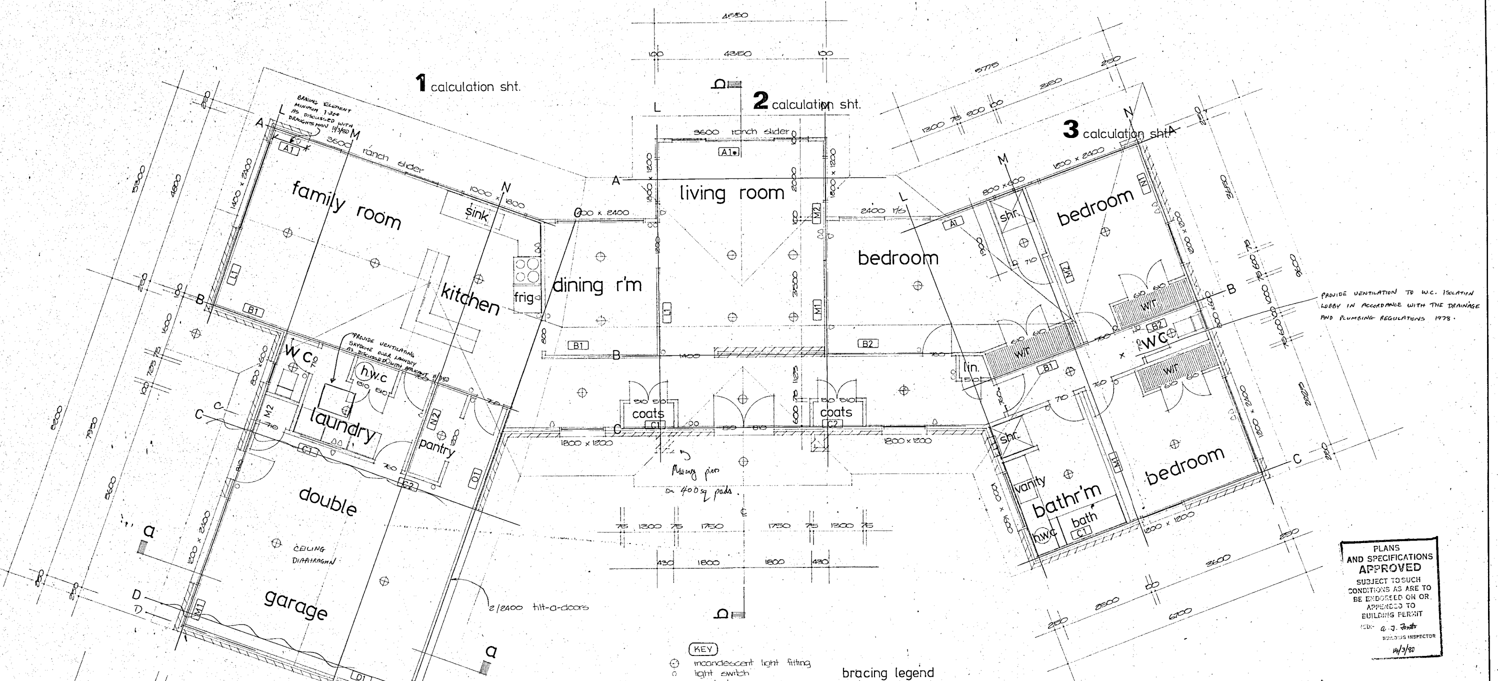
- - - - ROOF PLANE BRACES REQUIRED. (6)

———— ROOF SPACE BRACES REQUIRED (8)

PLANS
AND SPECIFICATIONS
APPROVED
SUBJECT TO SUCH CONDITIONS AS ARE TO BE ENDORSED ON OR APPENDED TO BUILDING PERMIT
SIGNED: [signature]
BUILDING INSPECTOR
DATE: 11/3/80

Crosby Properties. 20° Monier Tile

DRAWN	CHECKED	SCALES	SHEET
TRACED	DATE		SERIES OF
			REF



KEY
- incandescent light fitting
- light switch
- socket

floor plan
scale 1:50

bracing legend

calculation sheet one

LABEL NO.	TYPE	DESCRIPTION
B1, D1, L1, M2	1	let in timber or steel angle brace, sht on-one face
A1, C2, M1, N1 O1	10	sht on one face, sht. material to other
C1	12	sht material both sides

calculation sheet two

LABEL NO.	TYPE	DESCRIPTION
C1 C2 L1 M1	1	let in steel or timber angle brace, sht on one face
M2	10	sht. on face, sht material to other
B1 B2	12	sht. material both sides

calculation sheet three

LABEL NO.	TYPE	DESCRIPTION
C1 N1	1	let in timber or steel angle brace, sht. on one face
A1 L1	10	sht on-one face, sht. material to other
B1 B2 M1 M2	12	sht. material both sides

sheet material

a) be of not less than 450 kg/m³ density
b) gypsum based material not less than 8mm
c) be fixed to framing members
d) have fixings not less than 10mm from sht. edges

sheet bracing

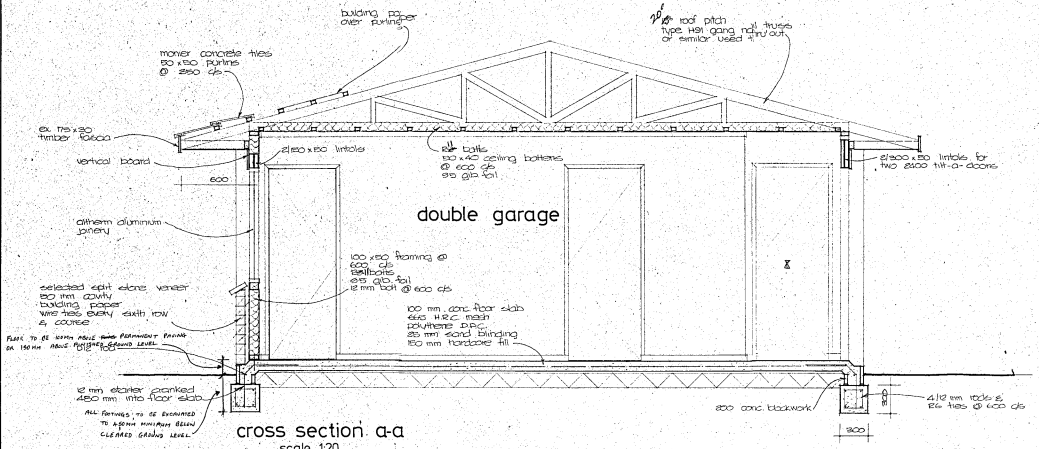
a) be either
i) plywood not less than 6mm thick three-ply or
ii) any other wood-based product not less than 4.5 mm thick with a density not less than 880 kg/m³ or
iii) any other wood-based product not less than 6mm thick with a density not less than 600 kg/m³
b) be fixed to framing members
c) have fixings not less than 10mm from sheet edges

Bracing found ok – See Engs Calcs.

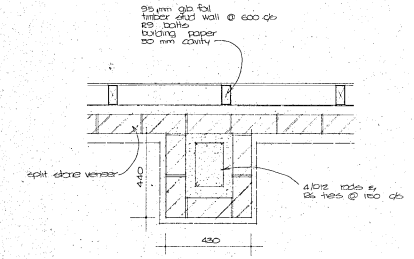
proposed residence for crosby's properties ltd.
at lot 5 trig road, whenuapai.

drawn · G. N. J. Stokes
date · feb 1980
scale · 1:50

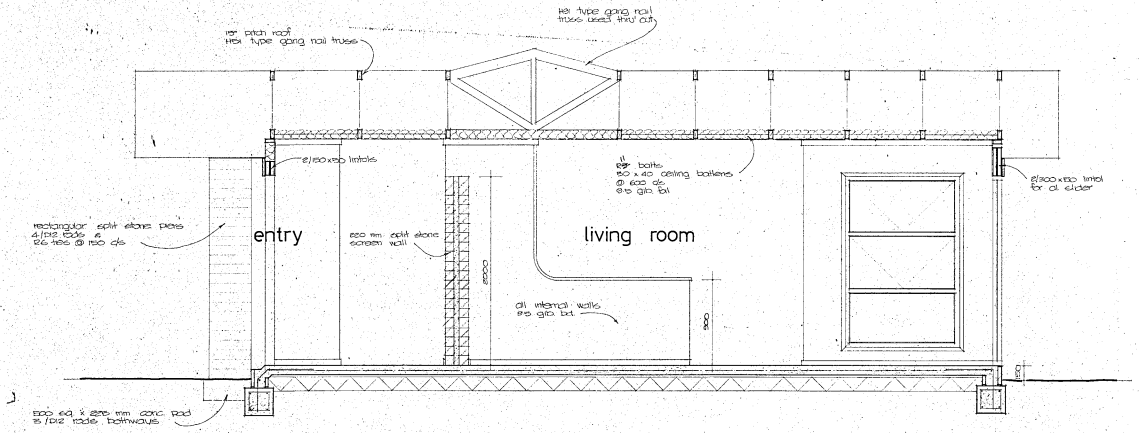
Draughting Services
2075 Great North Rd, Avondale.
phone 884-912



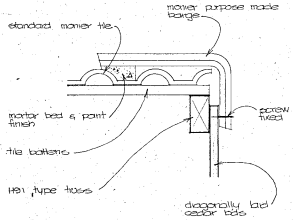
cross section a-a
scale 1:20



split stone pier detail
scale 1:10



cross section b-b
scale 1:20



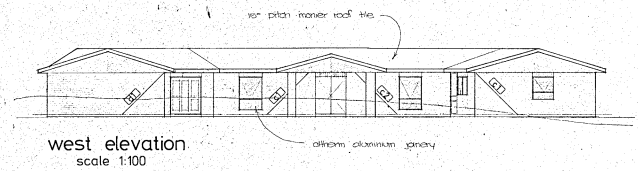
gable end detail
scale 1:5

PLANS AND SPECIFICATIONS APPROVED
SUBJECT TO SUCH CONDITIONS AS ARE TO BE ENDORSED ON OR APPENDED TO BUILDING PERMIT
SIGNED: G.J. Smith BUILDING INSPECTOR
DATE: 14/5/80

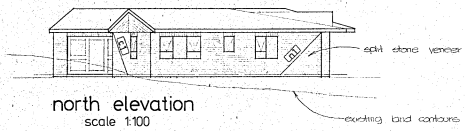
proposed residence for crosby's properties ltd.
at lot 5, trig road, whenuapai

drawn · G.V.J. Stokes
date · feb. 1980
scale · as above

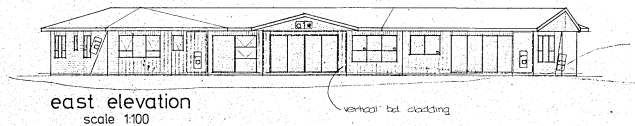
Draughting Services
2075 Great North Rd. Avondale.
phone 864-912



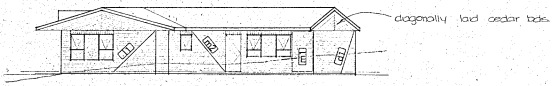
west elevation
scale 1:100



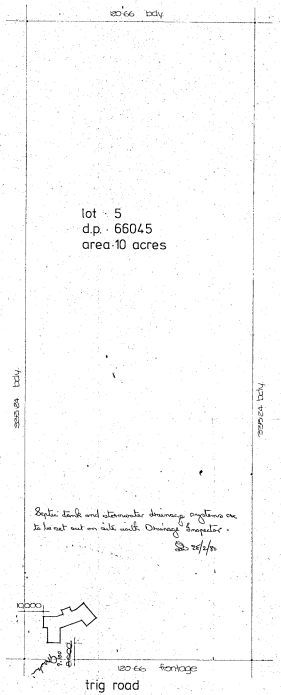
north elevation
scale 1:100



east elevation
scale 1:100



south elevation
scale 1:100



site plan
scale 1:1000

PLANS AND SPECIFICATIONS APPROVED SUBJECT TO SUCH CONDITIONS AS ARE TO BE ENDORSED ON OR APPENDED TO BUILDING PERMIT
SIGNED: [signature] BUILDING INSPECTOR
DATE: 14/4/80

proposed residence for crosby's properties ltd.
at lot 5, trig road, whenuapai

drawn · [signature]
date · feb. 1980
scale · as above

Draughting Services
2075 Great North Rd, Avondale.
phone 864-912

Waitakere City Council
Te Taiao o Waitakere

Waitakere City Council
Civic Centre
6 Waipareira Ave
Waitakere City

Private Bag 93109
Henderson
Waitakere City

Telephone
09 836 8000

Facsimile
09 836 8001

DX CX 10250 Auckland Mail Centre

Email: info@waitakere.govt.nz

Refer: (Regulatory Services)
Extension No. (Civic Centre) : 8602

25TH July 2001

Han-Yul Cho
C/- Tae Wok Kwon
PO Box 5678
Wellesley Street
Auckland

Dear Sir/Madam,

RE: 15 TRIG ROAD WHENUAPAI
LEGAL DESCRIPTION: LOT 1 DP 151674
NO RECORDS OF INSPECTIONS: BP/CONSENT 80014042 DWELLING

The building work detailed in the LIM report has been authorised. However inspection records/ kept by the previous local authority do not indicate sufficient or any progress inspections on this building work. As such, there being no basis or plans available on which to assess or undertake a final inspection, Council does not further inspect in these instances.

Yours faithfully

L. NACEY
LAND INFORMATION CLERK

COPY TO:- Port Glen Consultancy Limited
Att: Wendy Morrice
PO Box 300-272
Albany

CITY OF WAITEMATA

Roll No. / /

32700/605

BUILDING PERMIT

Nº 14042

Owner of Section CROSBY PROPERTIES LIMITED, Date 27th March 1980

Address Trig Rd, Whenuapai.

THIS PERMIT is granted to the undermentioned person authorising the following building work on Lot No. 5 D.P. 66045

on 13-15 Trig Road, WHENUAPAI. in accordance with the plans lodged and

subject to the following conditions: 1) To notations on plans. 2) Engineers calculations to be read in conjunction with the permit drawings.

Nature of proposed work

DWELLING

JOHN ALDRIDGE.
R.D.2. KUMEU.

Value of work, $60,000
D.&.P. $2,000
Fee $ 140 0 : 0 Rec. No. E002 18/2/1980

For the Waitemata City Council

Duly Authorised Officer.

FOR FURTHER CONDITIONS SEE OVER

Unity Press 50659/79

Building Inspected. Date ..... Insp. Intls. .....

23/4/80 Footings ~~Ext~~

15/5/80 P/Floor ~~Ext~~

14/8/81 P/Lwg.

1. Eng report on cutting of top chord.
2. Roof space braces 1/12m².
3. Wall bracing as marked on ~~drawings~~ Calc sheet
4. Nog between trusses over top plate at roof plane brace.
5. Insulation to be installed.

Final Inspection .....

.....Inspector

Register Noted. Date .....

CITY OF WAITEMATA

Roll No. / /

32700/605

BUILDING PERMIT

№ 14042

Owner of Section CROSBY PROPERTIES LIMITED,

Address Trig Rd, Whenuapai.

Date 27th March 1980

THIS PERMIT is granted to the undermentioned person authorising the following building work on Lot No.5 D.P.66045

on 11 Trig Road, WHENUAPAI. in accordance with the plans lodged and

subject to the following conditions: 1) To notations on plans. 2) Engineers calculations to be read in conjunction with the permit drawings.

Nature of proposed work

DWELLING

JOHN ALDRIDGE.
R.D.2. KUMEU.

Value of work, $60,000
D.&.P.$2,000

Fee $140: 0 : 0 Rec. No. E002 18/2/1980

For the Waitemata City Council

Duly Authorised Officer.

Unity Press 50659/79

APPLICATION No. 389/5 ....
FINAL CHECK Initials ....
Date 26/3

PERMIT No. 14042
DATE ISSUED 27/3/80.
Authorised Officer ....

HEAD OFFICE DATE STAMP

RECEIVED 19 FEB 1980 Waitemata City Council Inspectors Dept

CITY OF WAITEMATA

JOHN HENRY CENTRE, 6-8 PIONEER STREET, HENDERSON
POSTAL ADDRESS: PRIVATE BAG, HENDERSON 8 — PHONE: HSN 61-195 and 61-119
INSPECTORS DEPARTMENT ON GROUND FLOOR

BUILDING PERMIT APPLICATION

OWNER OF SECTION: NAME Crosby Properties Limited (BLOCK CAPITALS) PHONE No. 548742

PRESENT POSTAL ADDRESS Trig Road Whenuapai

BUILDER: NAME John Arlidge PHONE No. 416 8852

POSTAL ADDRESS Kumeu R.D.2 (Permit will be posted to builder unless otherwise requested) Phone when ready

SIGNATURE OF APPLICANT P.P. Crosby Properties Ltd ... Bates ... Uncollected 9/4/80

NATURE OF PROPOSED BUILDING WORK

~~House~~ Dwelling

VALUE OF WORK

Building (including the materials for Plumbing & Drainage)	$60,000.
***Drainage** (excluding materials)	$ 1000.
***Plumbing** (excluding materials)	$ 1000.
•Building Permit Fee	$ 140.

*Separate permits to be obtained by Drainlayer and Plumber.
•Fee to be assessed on value of work excluding amount upon which Drainage and Plumbing Fees payable and may be paid at time of lodging application.
†A further 25% is payable on this fee where structural check is required. 35

FLOOR AREA OF PROPOSED WORK

Basement	
Ground Floor	180 sq. mtrs.
First Floor	
Others	Garage 34 sq. mtrs.
Total	214 sq. mtrs.

VALUATION ROLL NO. 32709/605

Building Research Act 1969
LEVY ON TOTAL VALUE OF $3,000 OR MORE INCLUDING DRAINAGE AND PLUMBING WORK
Fee: $1.00 per $1000 or part thereof

Amount of Levy 62-00
Receipt No. E006
Date 18-2-80

FULL LEGAL DESCRIPTION OF THE PROPERTY (as per Rate Demand or Title Deeds)

LOT 5 D.P.66045 part
D.P. Allotment 45 Parish of Waipareira
C.T.Volumne I2C Folio I295 North Auckland Registry

NAME OF PREVIOUS OWNER OF SECTION Chatswood Estate Ltd.

AREA OF SECTION: 4.06 hectares square metres (Show large sites in hectares) FRONTAGE: 120.66 metres

(13-15)

ROAD NAME Trig Road LOCALITY Whenuapai

62-00

IMPORTANT — SEE INSTRUCTIONS ON PAGE FIVE

FOR OFFICE USE ONLY

REMARKS requested calcs for ... garage lintel & truss plan
* Vehicle crossing to be checked by Engineers and cost assessed.
1/4/80 ... advises crossing not up to standard - will have to be up-graded - he will advise client

Permit issued subject to the following conditions ~~to notations on plans~~ TO NOTATIONS ON PLANS
Engineers calcs to be read in conjuntion with permit drawings

Approved by A. J. Foster	Building Inspector	14-3-80	Date
Approved by W. Savage	Plumbing/Drainage Inspector	28-2-80	Date
Approved by	Health Inspector		Date

Town Planning Zoning Rural A Date and Officer
Approved by GJM Town Planning Officer 17/3/80 Date

Building Permit Fee	$ 140-00	Receipt No. E002	Date 18 FEB 1980
Structural Checking Fee	$ 35-00	Receipt No. E006	Date
Road Damage Deposit Fee	$ 100-00	Receipt No. "	Date "
Road Damage Deposit Refund	$	To	Date
Cost of Vehicular Crossing	* $ ~~430~~	Will pay upon permit collection	Date *

OR $100 329 9/4/80.

Electricity Transmission Lines: ~~Present~~/Not present over property	WCC Sanitary and Stormwater Sewers checked — Release/Hold	Location of ARA Trunk Sewers checked — Release/Hold
Initials ... Date 26-2-80	Initials N/A Date	Initials N/A. Date

PLEASE REFER TO INSTRUCTIONS ON PAGE FIVE

SPECIFICATION

TO BE COMPLETED BELOW FOR MINOR BUILDINGS ONLY
(Full specifications are required for all other work)

FOUNDATIONS

If solid concrete. Size of footings..... Walls.....Reinforcing.....

If concrete blocks. Size..... Spacing .....

N.B. — All blocks must be at least 300mm into ground and set on a 300mm x 300mm x 100mm concrete pad.

FRAMING

	Size	Spacing	Span	Timber
Jack Studs	.....	.....		.....
Bearer Plates	.....	.....		.....
Floor Joists	.....	.....	.....	.....
Outer Studs	.....	.....		.....
Inner Studs	.....	.....		.....
Ceiling Joists	.....	.....	.....	.....

Bottom Plates Size..... Top Plates Size.....

Noggins Size..... Number of rows of noggins.....

N.B. (a) Minimum stud height for dwellings is 2.4m.
(b) Top window trimmers must be checked 15mm or otherwise supported.

ROOF

Covering..... Ridges Size..... Purlins Size.....

Sarking Size..... Under Purlins.....

	Size	Spacing	Span	Timber
Rafters	.....	.....	.....	.....

MISCELLANEOUS

FlooringSize..... Exterior Sheathing.....

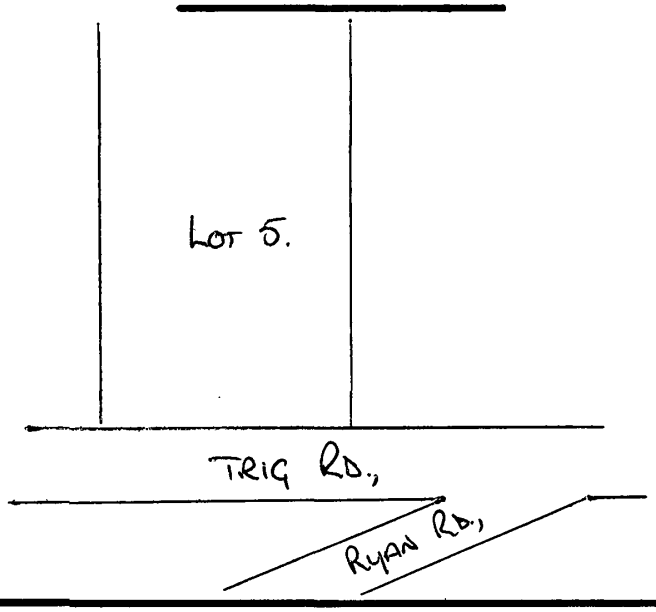
Inside Lining.....

Is any second-hand material to be used in the proposed Construction? ..... If YES, then a separate application must accompany this form.

SANITATION

Privy Type..... e.g. water closet, chemical pan or other type?

LOCALITY SKETCH TO SHOW LOCATION OF BUILDING SITE
(Must be completed)



DRAINAGE AND PLUMBING

ALL DRAINAGE AND PLUMBING MUST BE CARRIED OUT BY REGISTERED TRADESMEN. IF IT IS INTENDED TO INSTALL A SEPTIC TANK, NOW OR IN THE FUTURE, THE SITE MUST BE INSPECTED BY THE INSPECTOR BEFORE BUILDING IS COMMENCED.

IT IS MOST IMPORTANT THAT BUILDINGS SHOULD NOT BE OCCUPIED BEFORE COMPLETE PLUMBING AND DRAINAGE SYSTEMS HAVE BEEN INSTALLED AND OFFICIALLY APPROVED.

PLUMBING AND DRAINAGE PERMITS MUST BE OBTAINED BEFORE ANY PLUMBING OR DRAINAGE WORK IS COMMENCED.

JPB:AS

30 October 1981

Crosby Properties Limited
Trig Road
WHENUAPAI

Dear Sirs,

RE: BUILDING PERMIT APPLICATION 14042 DWELLING ON LOT 5 DP 66045
TRIG ROAD, WHENUAPAI

Please find enclosed a copy of the amended plans which have been duly approved by the Building Inspector. Please note that these plans are to be read in conjunction with the above Building Permit.

When the remedial work has been carried out a further inspection is to be requested prior to the fixing of the ceiling linings.

Yours faithfully,

J.P. Brabbs
For CHIEF BUILDING INSPECTOR

Encl.

WAITEMATA CITY COUNCIL

Date 1.4.80 19

MEMORANDUM *for*:-

City Inspector.

No 46473

Subject: Vehicle Crossing Per Permit For Crosby Properties Ltd Trig Rd, Whenuapai 389/5

I have inspected the "crossing" installed by the owner & it is not satisfactory. I have advised Mr. Phil Hawkins verbally of our standards ie 150 mm of compacted metal & pipes (225 mm - ⌀) & chip seal & believe that he will probably pay a $100 bond against satisfactory completion so that he can pick up the BP. ✓

PA 12/4/80
B23 9/4/80

SEO.

Xing fee
$430 to pay.

City of Waitemata

JOHN HENRY CENTRE
6 PIONEER ST.
HENDERSON 8.

Telephone HSN 61-195, 61-119
PRIVATE BAG, HENDERSON
ADDRESS ALL CORRESPONDENCE
TO THE CITY SECRETARY

TO THE RATEPAYER

14th December, 1978

WEEKLY HOUSEHOLD REFUSE COLLECTION SERVICE-CHANGE TO USE OF MULTIWALL PAPER BAGS

As from 1st April, 1979, Council is to extend the abovementioned service into additional areas, and to coincide with this move, has decided to use throughout the whole of the City, the 'Kleensak' multiwall paper bag method of collection currently operating in the Te Atatu Ward.

This move towards the compulsory use of 'Kleensaks' is in line with modern day practice, is in the interests of public health, and has proved to be most successful in the Te Atatu Ward over a period of seven years.

An annual supply (52 bags) of 'Official' rubbish bags will be delivered to all separately occupied premises during late February-March, 1979, and should householders require additional bags, these may be purchased from Council's Offices at a charge which will cover the cost of the bag, the collection of the refuse, and its final disposal. This charge on the basis of current costs would be 31 cents per bag, but we must emphasise again that this figure covers the cost of the bag, and the collection and disposal of the rubbish, and may vary according to any fluctuations in cost.

The number of official bags placed out for collection will therefore not be restricted, as only bags marked 'Waitemata-Official Bag' will be collected. These bags will only be available through the initially delivered annual supply (52), or from March 1979 from Council's Offices, on payment of a charge covering the cost of the additional bag, and collection and disposal of the excess refuse. No other type of Kleensak or container will be uplifted or emptied after the 1st April, 1979.

Householders wishing to purchase a standard wall mounted holder for 'Kleensaks' may do so from Council's Offices from March 1979, and it is expected that holders, which will be made available at cost, plus a small service charge, will be sold for approximately $6.00. Alternatively, a holder may be purchased through normal retail outlets.

To gauge the demand for holders it would be appreciated if you would kindly advise Council (a telephone call will do) if you wish to purchase one from this source. Such advice will not be recorded as a firm order but will serve as a guide in the ordering of supplies.

Householders residing in the areas changing from 'optional' rubbish containers to the compulsory use of Waitemata Official Kleensaks, as from 1st April 1979, will receive additional information early in 1979, covering the new method of collection, but at this time there is no indication that there will be any change to present collection days. Should this however be found to be necessary, adequate notice will be given.

Council looks forward to your co-operation in making the best possible use of the new method of service, but should you be in doubt on any points please telephone the Inspectors Department - Hsn.61110-61119, 61190-61195. Ext.756.

Yours faithfully,
K. MACLACHLAN
GENERAL MANAGER

Per:
CITY INSPECTOR

OCA 15600

JPB:YBM

26 March 1980

The Manager,
Crosby Properties Ltd,
Trig Road,
WHENUAPAI.

Dear Sir,

RE: BUILDING PERMIT APPLICATION 309/5 - Dwelling onLot 5 DP 66045 Trig Road.

In connection with the above building permit application, you are advised that a vehicle crossing is required at a cost of $430.00.

Please forward your remittance with the duplicate copy of this letter direct to the writer at the above address so that your application can be finalised.

Yours faithfully,

J.P.BRABBS
for CITY INSPECTOR

To Pay when permit ready

Advised by phone. 26/3

WAITEMATA CITY COUNCIL

Date 24-3- 1980

MEMORANDUM *for:-*

Mr Handisides
District Engineer

No 38350

Subject: B.P.A. 389/5 - Inig Road.

The cost to install a sealed vehicle crossing for above is $430.00.

R. Jones.

To Inspectors

NOTE — These memos are for staff and inter-office use only and must not be used for general correspondence.

C&D 63328

WAITEMATA CITY COUNCIL

Date 19/3/80 19

MEMORANDUM *for:-*

Mr. W Handisides
District Engineer

No 50311

Subject: Lot 5 DP66095
[redacted] Trig Rd. Whenuapai

Please have the cost of providing a vehicle crossing to the above property assessed and advise.

Thanks

Mr Jessop 20/3

NOTE — These memos are for staff and inter-office use only and must not be used for general correspondence.

C&D 67126

REPORT ON COMMERCIAL OR INDUSTRIAL BUILDING

STRUCTURAL ENGINEER'S REPORT REPORT C(1)

B.P. APPLICATION NO: 14042

APPLICANT'S NAME: Crosby Properties Ltd

BUILDER'S NAME: John Arlidge

PROPOSAL: Alteration to trusses

LEGAL DESCRIPTION: LOT: 5 D.P. 66045

ROAD NAME & LOCALITY: Trig Rd.

CALCULATIONS AND STRUCTURAL CHECK

1. THE FOLLOWING AMENDMENTS, ALTERATIONS OR ADDITIONAL INFORMATION MUST BE MADE (OR SUPPLIED), BEFORE APPROVAL CAN BE CONSIDERED:
(Please list clearly, and date and sign requirements)

Alteration to trusses.

*(a) RECOMMENDATION:

The matters listed in (1) above (when applicable), have been settled to my satisfaction and I recommend that the application be APPROVED subject to the following conditions:-

Truss to be strengthened as per attached detail.

*(b) I recommend that the application be NOT APPROVED for the following reasons:

Checked
Amended
Detail

* Delete not applicable

Dealt with by _____ Date _____

(STRUCTURAL ENGINEER)

REPORT ON COMMERCIAL OR INDUSTRIAL BUILDING
STRUCTURAL ENGINEER'S REPORT

REPORT C (1)

B.P. APPLICATION NO. 389/5

APPLICANT's NAME: CROSBY PROPERTIES LTD

BUILDER'S NAME: JOHN ARLIDGE

PROPOSAL: DWELLING

LEGAL DESCRIPTION: LOT: 5 D.P. 66045

ROAD NAME & LOCALITY:

CALCULATIONS & STRUCTURAL CHECK

1. THE FOLLOWING AMENDMENTS, ALTERATIONS OR ADDITIONAL INFORMATION MUST BE MADE (OR SUPPLIED), BEFORE APPROVAL CAN BE CONSIDERED: (Please list clearly, and date and sign requirements):-

calcs (2 sets)
masonry piers at front entry

*(a) RECOMMENDATION:
The matters listed in (1) above (when applicable), have been settled to my satisfaction and I recommend that the application be APPROVED subject to the following conditions:-

Engrs Calcs to be read in conjunction with Const Drgs

*(b) I ~~recommend~~ that the application be NOT APPROVED for the ~~following~~ reasons:

STRUCTURALLY APPROVED
SUBJECT TO ENDORSEMENTS
DATE: 12/3/80

* Delete not applicable

Dealth with by _____ Date _____
(STRUCTURAL ENGINEER)

JPB:YMI

20 February 1980

The Manager,
Crosby Properties Ltd,
Trig Road,
WHENUAPAI.

Dear Sir,

RE: BUILDING PERMIT APPLICATION 389/5 - Dwelling on Lot 5 DP 66045 Trig Road.

In connection with the above building permit application, Council's Town Planning Department have advised that the proposal fails to comply with the 9.1 metre front yard required under the sites Rural A zoning.

In view of the above, they have requested that you re-design your proposal in order to comply with their requirements.

Should you have any queries regarding the above, please contact Mr.Mossong of the Planning Department who will be pleased to assist you.

Yours faithfully,

J.P.BRABBS
for CITY INSPECTOR

R1 2474-

Timber frame ... ical house design

46

BPA 389/5 19/2/80

R.J. Wan & Partners
703-721

M J Bull
10th Oct 1979

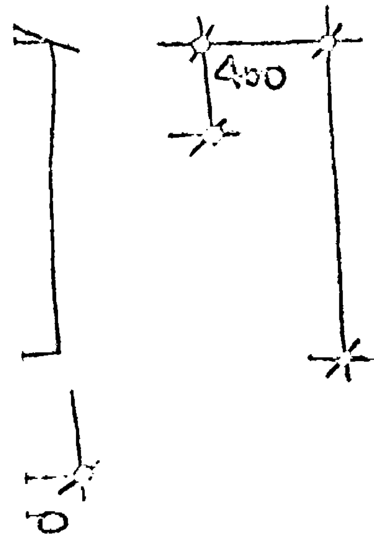
Crosby Properties: Dwelling

Please ~~ask~~ advise applicant that proposal fails to comply with the 9.1 m front yard required under the sites Rural 1.A zoning.
Ask to re-design to comply

Thanks
Greg

house

25° Max.



length of Room

Tony Goodwin.

Farm timber design.

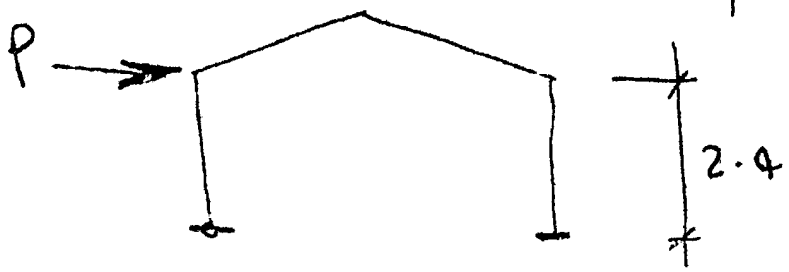
wind loading. $V_s = S_1 S_2 V$

$= 1.0 \times 0.6 \times 35$

$= 21$ M/sec.

$P_v = 270$ N/m^2.

∴ force on house @ eaves.

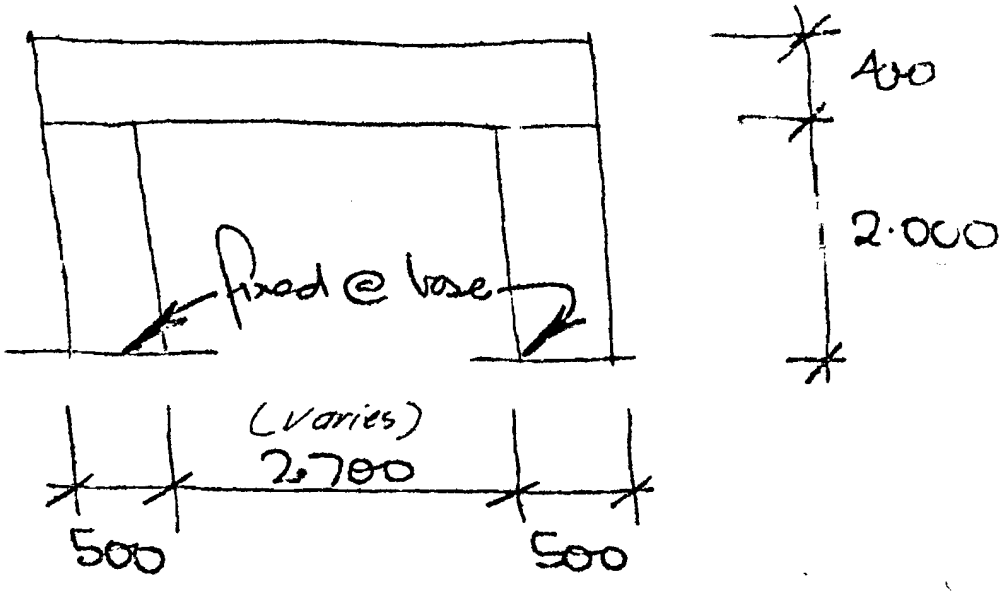


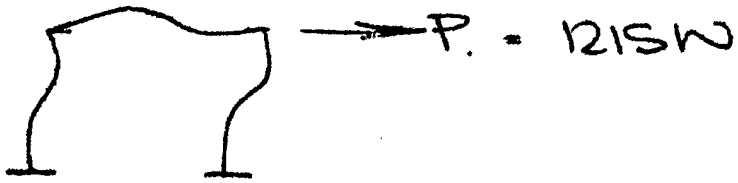
$P = 270 \times 1.2 = 324$ N/M. $\times (.7 + .8) = 486$ N/M

for Beam 5.000 M long

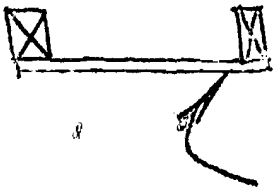
P to end wall $= 486 \times 2.5 = 1215$ N.

for portal frame on end wall





Shear at base = 607 N.



Shear Stress = $\frac{607}{0.5}$ = 1215 N/M

for 9mm plywood with 75mm nail spacing to perimeter.

Allowable shear · 2300 N/M.

for tota member 400 mm deep.
force in perimeter members.

$$= \frac{M}{l.a} = \left(\frac{1215}{2} \times 1\right) \times \frac{1}{350}$$

$$= 3471 \text{ N.} \quad (750 \text{ lbs}).$$

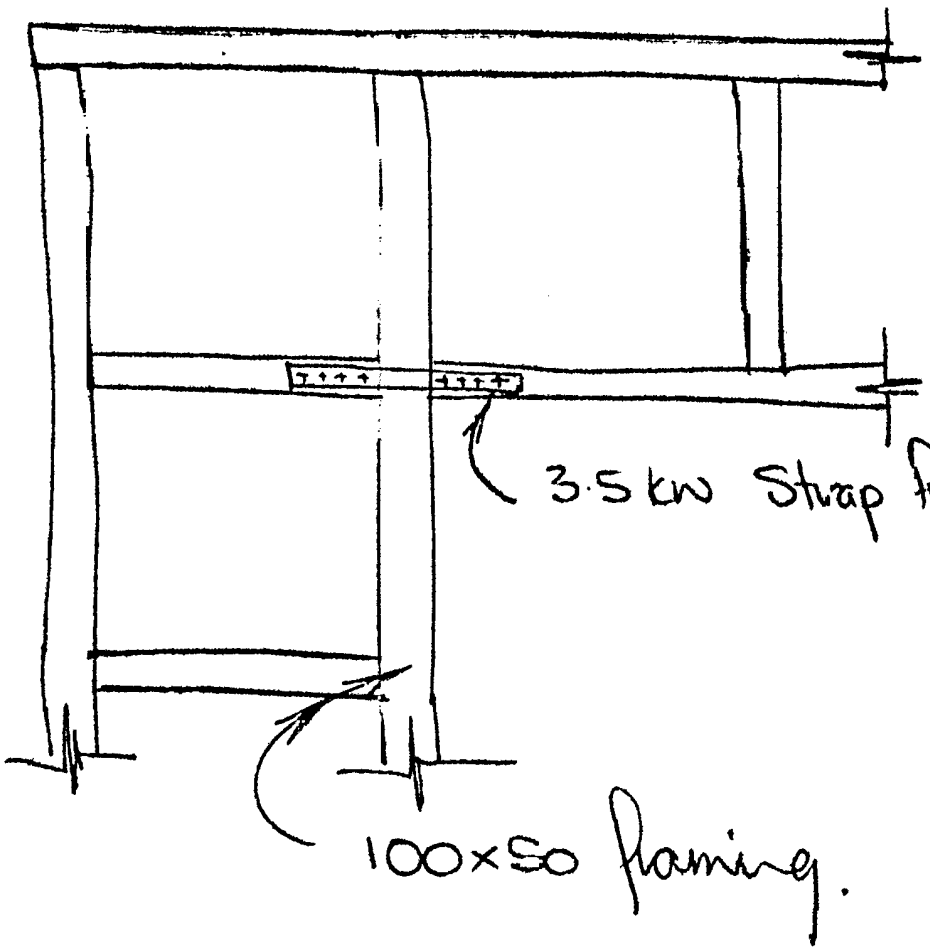
Stress to 100 × 50 framing

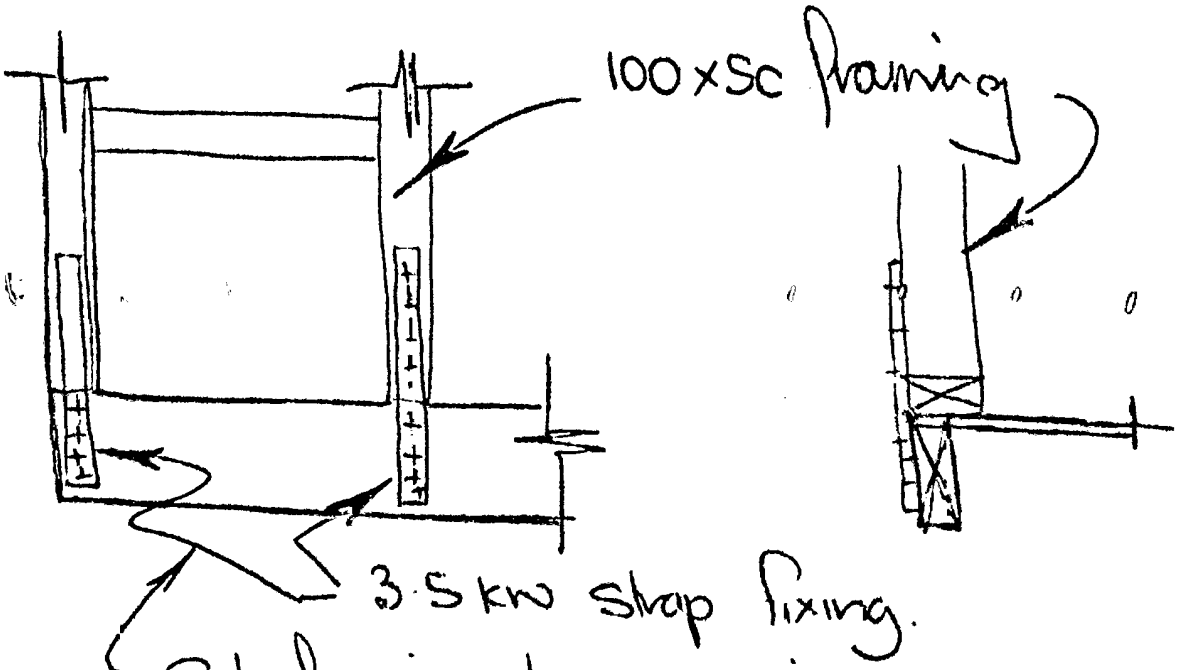
$$= \frac{3471}{90 \times 45} = 0.85 \text{ N/mm}^2.$$

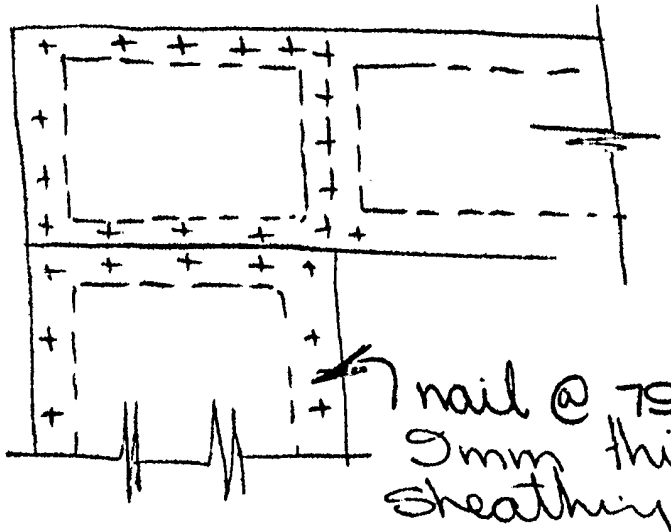
O.K.

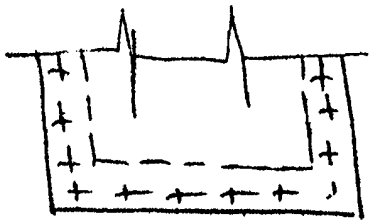
for 100 mm nails
Allowable load / nail
500 N/nail

∴ 7 - 100 mm nails req.


3.5 kw Strap fixing.
100×50 framing.


100×50 framing
3.5 kw strap fixing.
Sub framing to requirements of NZS 3604/1978.


nail @ 75mm c/s.
9mm thick plywood
sheathing.



Proposed Residence for Crosby's properties at lot 5 Trig road. whenuapai

Eng. R.J. Ham & Partners
phone 793-721
Calcs M Bullen
18/2/80

lintel over garage doors.

Span = 4.800

loading roof $750 \times 4 = 3.0$ kN/m

$$Zreq = \frac{3.0 \times 10^3 \times 4.8^2 \times 10^2}{8 \times 7 \times 1.25} = 987 \times 10^3$$

$$Ireq = \frac{3.0 \times 10^3 \times 4.8^3 \times 10^6 \times 200}{77 \times 7.875 \times 10^8 \times 1.25} = 109 \times 10^6 \text{ mm}^4$$

Use 2/300 × 50 to form beam
douglas fir.

for fixing of truss to top plate
& top plate to studs use
2 nail fixings - at location
of eave overhang greater than 750mm

Note:- The designer has only calculated
those elements that require
specific design all remaining
items to comply NZS3604.

CALCULATION SHEET ONE

branz

SHEET A

(CIRCLE whichever is applicable)

NAME: [redacted] ADDRESS: LOT 5 TRIG RD. WHENUAPAI

STOREY: (Single) or Uppermost / Lower of two or middle of three / Lower of three

ROOF TYPE: Light / (Heavy)

ROOF PITCH: (0° – 25°) / 26° – 45°

WIND AREA: High / Medium / (Low)

W = 18 B.U.'s/m

EARTHQUAKE ZONE: A / B / (C)

E = 3 B.U.'s/m²

(ROOF) OR BUILDING LENGTH

BL 14.8m

(ROOF) OR BUILDING WIDTH

BW 9.9m

(GROSS ROOF) OR BUILDING PLAN AREA

GPA ~~133~~ 133 m² ~~133~~ 133 399 ~~399~~

EARTHQUAKE: B.U.'s ALONG AND ACROSS

E x GPA 3 x ~~133~~ 133 = ~~399~~ 399 B.U.'s

WIND: B.U.'s ALONG

W x BW 18 x 9.9 = 179 B.U.'s

WIND: B.U.'s ACROSS

W x BL 18 x 14.8 = 267 B.U.'s

SKETCH PLAN (external and internal walls) :

SHEET B

2 Total B.U.'s Required	3 Wall Line		4 Wall Bracing Elements Provided				6
	Label	Minimum B.U.'s Required	Label No	Type	Rating B.U.'s/m	Length (m)	B.U.'s Provided
ALONG	A	7.5 x 10	A1	10	83	1200	100
		75				Sub-total	100
	B	8.35 x 10	B1	1	42	2400	100
		83.5				Sub-total	100 ✓
	C		C1	12	42	2000	42
			C2	10	83	1100	91
	?	70				Sub-total	133
	D	6.35 x 10	D1	1	42	2400	100
	?	63.5				Sub-total	100
399	TOTAL	292				TOTAL	433
ACROSS	L	5 x 10	L1	1	42	2400	101
		50				Sub-total	101 ✓
	M	13.2 x 10	M1	10	83	1000	83
			M2	1	42	2000	84
		132				Sub-total	167 ✓
	N	70	N1	10	83	900	75
						Sub-total	75 ✓
	O	13.5 x 10	O1	10	83	1800	150
		135				Sub-total	150 ✓
	P					Sub-total	
399	TOTAL	387				TOTAL	493 ✓

CALCULATION SHEET TWO

branz

SHEET A

(CIRCLE whichever is applicable)

NAME: ADDRESS:

STOREY: (Single) or Uppermost / Lower of two or middle of three / Lower of three — ROOF TYPE: Light / (Heavy)

ROOF PITCH: 0° – 25° / (26° – 45°)

WIND AREA: High / Medium / (Low) — W = 18 B.U.'s/m

EARTHQUAKE ZONE: A / B / (C) — E = 3 B.U.'s/m²

(ROOF) OR BUILDING LENGTH — BL = 12 m

(ROOF) OR BUILDING WIDTH — BW = 9.8m

(GROSS ROOF OR BUILDING PLAN AREA) — GPA 103.4m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS — E x GPA 3x103.4 = 311 B.U.'s

WIND: B.U.'s ALONG — W x BW 18x9.8 = 177 B.U.'s

WIND: B.U.'s ACROSS — W x BL = 18x12 = 216 B.U.'s

SKETCH PLAN (external and internal walls) :

SHEET B

1 Total B.U.'s Required	2 Wall Line Label	3 Minimum B.U.'s Required	4 Wall Bracing Elements Provided Label No	5 Type	6 Rating B.U.'s/m	7 Length (m)	8 B.U.'s Provided
ALONG	A	10.5 x10	SEE ENGINEERS CALCULATIONS				
		105			Sub-total		
	B		B1	12	42	2000	42 ~~84~~ 42
			B2	12	42	2000	42 ~~84~~ 42
		70			Sub-total		~~84~~ 84
	C	12.75 x10	C1	1	42	2400	100
			C2	1	42	2400	100
		127.5			Sub-total		200
	D						
					Sub-total		~~268~~ 284
311	TOTAL	303			TOTAL		
ACROSS	L	7.65 x10	L1	1	42	2400	100
		76.5			Sub-total		100
	M	7.65 x10	M1	1	42	2400	100
			M2	10	83	1400	117
		765			Sub-total		217
	N						
					Sub-total		
	O						
					Sub-total		
	P						
					Sub-total		
311	TOTAL	153			TOTAL		317

CALCULATION SHEET THREE

branz

SHEET A

(CIRCLE whichever is applicable)

NAME: ADDRESS:

STOREY: (Single) or Uppermost / Lower of two or middle of three / Lower of three

ROOF TYPE: Light / (Heavy)

ROOF PITCH: (0° – 25°) / 26° – 45°

WIND AREA: High / Medium / (Low)

W - 18 B.U.'s/m

EARTHQUAKE ZONE: A / B / (C)

E - 3 B.U.'s/m²

(ROOF) OR BUILDING LENGTH

BL - 11 m

(ROOF) OR BUILDING WIDTH

BW - 7.8 m

(GROSS ROOF) OR BUILDING PLAN AREA

GPA 85.8 m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS E x GPA 3 x 85.8 = 258 B.U.'s

WIND: B.U.'s ALONG W x BW - 18 x 7.8 = 141 B.U.'s

WIND: B.U.'s ACROSS W x BL - 18 x 11 = 198 B.U.'s

SKETCH PLAN (external and internal walls) :

SHEET B

1 Total B.U.'s Required		2 Wall Line	3	4	5	6	7	8
				Wall Bracing Elements Provided				
		Label	Minimum B.U.'s Required	Label No	Type	Rating B.U.'s/m	Length (m)	B.U.'s Provided
	ALONG	A	5.6	A1	10	83	1200	100
			x10					
			56			Sub-total		100 ✓
		B		B1	12	42	2000	42 ~~84~~ 42
				B2	12	42	2000	42 ~~84~~ 42
			70			Sub-total		~~84~~ 84
		C	6.4	C1	1	42	2400	100
			x10					
			64			Sub-total		100 ✓
		D						
						Sub-total		
258		TOTAL	190			TOTAL		284 ✓
	ACROSS	L	9.65	L1	10	83	1200	100
			x10					
			96.5			Sub-total		100 ✓
		M		M1	12	42	2000	42
				M2	12	42	2000	42
			70			Sub-total		84 ✓
		N	9.35	N1	1	42	2400	100
			x10					
			93.5			Sub-total		100 ✓
		O						
						Sub-total		
		P						
						Sub-total		
258		TOTAL	260			TOTAL		284 ✓

DETAIL A.

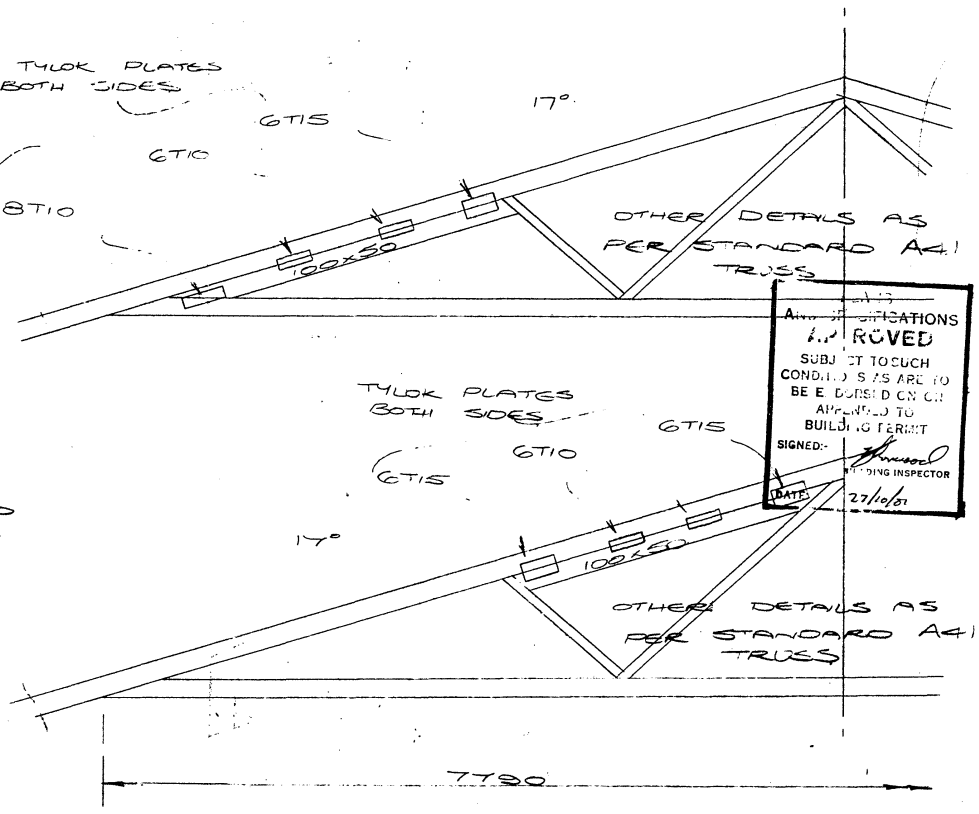
Roof Plane Truss

USE WHERE MID-BOARD CHECKED INTO FIRST TOP CHORD PANEL - MAX DEPTH OF CHECK = 35mm

DETAIL B

Roof plane truss

USE WHERE MID-BOARD CHECKED INTO SECOND TOP CHORD PANEL MAX DEPTH OF CHECK = 35 mm



APPROVED
SUBJECT TO SUCH CONDITIONS AS ARE TO BE ENDORSED ON OR APPENDED TO BUILDING PERMIT
SIGNED:- BUILDING INSPECTOR
DATE: 27/10/81

GANG-NAIL® COMPONENT

designed by **TIMBER ENGINEERING CONSULTANTS**
for **GANG-NAILS N.Z. LTD.**
3-5 ZELANIAN DRIVE, EAST TAMAKI
P.O. BOX 58-014 AUCKLAND, PHONE POP47-109

NEIL TIMBER CO LTD
JOB N° 916

REV A:	DATE	BY	CLIENT NTC	DATE 6-7-81	DRAWING No. 9016
B:			DRAWN [illegible]	SCALE 1:20.	
C:			CHECKED	SHEET 2.	

VERIFY ALL DIMENSIONS ON SITE BEFORE FABRICATING

SPECIFICATION

I N D E X

SPECIFICATION for the erection of a residence at Hobsonville for Mr and Mrs P. Hawkins.

Liquidated damages for delayed completion shall be $_____ per week. Extensions to the contract period for extra work or for contingencies beyond the control of the contractor to be as agreed between the parties at the time and added to the time for completion.

PAYMENTS AND RETENTIONS

Payment in the form of progress payments at not less than one month intervals will be made on value of work carried out less 10% retention as required by the Wages Protection and Contractors Liens Act 1939. Retentions to be held until 31 days after completion of the contract after which a sum of 5% is to be held if maintenance has not been carried out as under clause P. & G. No. 9 , Maintenance.

ARBITRATION

If dispute or difference should arise between the Owner and Contractor the contract shall be subject to arbitration under the Arbitration Act 1908.

PRELIMINARY AND GENERAL

1. Contract
This contract includes the supply and delivery of all materials, labour, fittings, tools, plant, toolshed, temporary water supply, temporary builders' power supply, etc., necessary for the due and proper completion of the building as shown on the drawings and herein specified, in a thorough workmanlike manner, in strict accordance with the Local By-laws, manufacturers' specifications and to whatever regulations made by those loaning monies to complete this contract.

2. Permits
Contractor to comply with the Labour and Building By-laws of the district, to apply for and obtain all the necessary permits and to pay all fees for same, unless otherwise mentioned.

3. Provide and Fix
The words "provide" and "fix" shall be construed to mean "provide" and "fix" where mentioned separately unless otherwise mentioned.

4. Insurance
The Contractor to have all of his employees covered against accident by an Employers' Liability Policy and to take out insurance against fire and theft of materials off-site for a sum sufficient to cover the full amount of the Contract Sum, both policies to remain in force until the building is taken over by the Owner; the fire insurance to be in the joint names of the Owner and Contractor.

5. Interpretation
Work or materials shown on the drawings or specified and not shown, must be supplied as though both shown and specified. Materials shown but not specified must be of the kinds commonly employed for the service they are intended to perform. All figured dimensions shall be taken in preference to scale and all detail drawings shall supersede those to a smaller scale. The Contractor shall be held responsible for the setting out of all work and he shall make good at his own expense any errors that occur through his lack of checking or faulty workmanship.

6. Stability
The Contractor shall carefully brace and support all parts of his work against damage by wind and also protect same from the elements.

7. Protection of Property
The Contractor shall protect adjoining properties during the currency of the contract and shall make good all damage at his own expense.

8. Damage
The Contractor shall make good at his own expense and to the satisfaction of controlling authorities, any damage done to footpaths, kerbs, drainage, etc., or other property under control of such authorities.

Each trade shall take care to prevent damage or disfigurement of the work of other trades and will be responsible for cost of restoring same.

9. Maintenance
Period to be a minimum of thirty days or to a time agreed on by both parties and entered into the agreement after the Owner has taken possession. Any defects in materials, workmanship or any part or parts that require replacing or adjusting, which have been included in this Contract, shall be adjusted or replaced at the Contractor's expense.

10. Materials
Any materials herein specified that are not procurable at the time they are required, thus tending to retard the progress of the contract, may be substituted with other similar materials, providing that the substituted materials conform to the Local By-laws and with permission of the Owner. The Contractor is first to notify the Owner of any change proposed and at the completion of the contract will adjust any difference in cost.

11. Contingencies
Provision is to be made by the Builder and Owner to meet any contingencies that may arise due to the fluctuations in the price of various materials or labour. Should there be either a rise or fall in the price of labour or materials, from the

date that the tender is submitted until final payment, an adjustment to the Contract Price, is to be made accordingly provided that the Contract Price has been affected by such rise or fall in prices.

The Owner will expect the Builder to submit proof of any increases claimed for by way of invoices or labour costs.

12. Visit Site

Tenderers shall visit the site and ascertain the nature and extent of the work and the rights and interests that may be interfered with and any other matter that may influence the making up of a tender or the carrying out of the contract in its entirety. The levels shown on the drawings are approximately correct but tenderers shall verify these as no claims for extra will be allowed on the basis of incorrect levels shown.

13. Workmanship

All work shall be carried out in accordance with the best trade practice, in strict conformity with the drawings and specification and to the satisfaction of the Owner. All defective or damaged work shall be removed and made good to the satisfaction of the Owner.

14. Cleaning

The Contractor, at the conclusion of the Contract, shall have all ceilings, walls and woodwork carefully dusted and wiped down, windows washed and glass free from scratches, floors brushed and wiped down and the entire building left in a perfectly clean condition for occupation.

EXCAVATOR

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Levels
Levels shown are approximately correct, but in all cases the foundation shall be taken to a solid bottom to the satisfaction of the Local Building Authority. Check all levels and make allowances accordingly.

3. Clearing Building Area and Bulk Excavation
Clean off all vegetation and 150 mm top soil over building area and deposit on site as directed. Excavated material to be deposited as directed on site or if directed off site an extra will be allowed to the Contractor.

4. Building Excavation
Excavate for all foundations to the minimum depth shown as required to NZSS 1900 or the Local Body Engineer or his agent, or where directed due to the nature of the country. Excavate for basement field tile drains to required depths and falls. Fill and well ram on completion.

5. Hardfill
Under all concrete floors provide a minimum thickness of 100 mm of 50 mm graded down clean scoria well compacted and binded with fine scoria to a corrected level. 25MM SAND BLINDING REQUIRED UNDER POLYTHENE

6. Field Tile Trenches
Provide for 100 mm diameter tile trench bedded in scoria to correct level.

7. Revet and Maintain
Secure and maintain the sides of all excavations and keep them clear of water and fallen materials.

CONCRETE AND REINFORCING

1. Preliminary and General
Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. Extent of Work
Comprises the setting out, boxing and placing of concrete in the foundations, floor slabs, walls, beams and bands, and any other concrete work shown on the drawings.

3. Materials
Concrete which shall be ordinary grade and reinforcing shall comply with requirements of NZSS 1900 chapter 9.3A 1970 and amendments. Builders mix may be used if agreed by Owner, providing the minimum crushing strength of 17.24 MPA is unaffected.

4. Formwork
Formwork generally shall be of plywood or 25 mm thickness non-staining timber and shall be so constructed that it can be removed without damaging concrete. Times of removal of formwork, methods of construction and pouring of concrete shall be as set down in NZSS 1900, chapter 9.3A.

5. Foundations
Foundation footings, walls and reinforcing shall be to sizes shown on drawings and in accordance with NZSS 1900 chapter 9.3A. If not shown elsewhere footings shall be not less than 300 mm wide x 150 mm high where required reinforced with two 12 mm longitudinal bars and foundation walls shall be not less than 130 mm thick reinforced with 12 mm dia. rods at 300 mm centres horizontally and 10 mm dia. rods at 600 mm centres vertically where height of wall is under 1.8m. Reinforcing steel shall be lapped at least 40-rod diameters for plain rods and not less than 30-bar diameters for deformed bars conforming to the requirements prescribed. Concrete foundation blocks shall be precast 200 x 200 x 600 mm high set on 300 x 300 x 100 mm concrete pads.

6. Concrete Slabs
Where required concrete slabs for floors and porches shall not be less than 100 mm thick poured on well compacted hard fill and reinforced with a layer of 150 x 150 x 5.30 mm mesh. Where floor slabs occur in rooms for habitation they shall have an approved vapour and moisture proof barrier incorporated, such as polythene sheet not less than 0.~~15~~ 22 mm to the requirements of NZSS 1900 Ch.4 and shall be welded into one continuous sheet or shall have joints lapped not less than 150 ~~50~~ mm and sealed with a self adhesive plastic tape to manufacturers' specification.

7. Build-in Bolts etc
Provide in concrete for openings for vents or as required by other trades and for holding down bolts in accordance with NZSS 1900 Ch. 6.1. Timber grounds where required for fixing door frames etc., shall be heart totara dovetailed and where required water bars shall be of brass or galvanised iron.

Power powered tool fixings can be used where appropriate.

8. Paths

Where shown on drawings paths shall be laid not less than 75 mm thick reinforced with a layer of 150 x 150 x 4 mm mesh. Surface to be trowelled even with suitable drainage grade and left off with a wooden float.

9. Completion

Leave all clean and tidy at finish and make good any defective work.

CONCRETE BLOCKLAYER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Extent of Work
Refer to drawings for layout and extent of work. Build the whole of the reinforced and unreinforced 200 mm concrete blockwork, building in as the work proceeds reinforcing steel, bolts and all other lugs, conduits, sleeves, etc., required for the work of other trades. Keep surface clean and free from mortar, perpends true and faces true to line, laying all blocks dry. All blockwork and blocks to comply with the requirements of NZSS 1900 Ch. 6.2 for Masonry Construction.

3. Bond
Blocks shall be laid in stretcher or stack bond as shown with blocks evenly spaced, faces true and vertical. 200 mm blocks shall be free from all defects which would prevent a first class fair faced finish to both faces. Reject all defective blocks which do not comply with NZS 3102P. All joints shall be full and a complete bond shall be secured between the blocks and mortar. Great care shall be exercised to ensure that bond is not broken by making adjustments to blocks after mortar has taken a set.

4. Mortar
The mortar for all blockwork shall be composed and mixed according to the relevant NZSS clauses.

5. Water
Water shall be free from salt, vegetable or organic matter in solution or suspension. Water from Local Authority mains is acceptable.

6. Sand
Sand shall comply to NZSS 1900 Ch. 6.2 filling of masonry cavities and NZSS 2129 "Sands for Mortar, Plaster & External Renderings".

7. Cement
All cement shall comply with NZSS 3122 and shall be properly stored at the site and adequately protected from dampness.

8. Minimum Reinforcing Steel Requirements

a) In all reinforced masonry there shall be at least one vertical rod or bar not less than 12 mm diameter or two 10 mm rods or bars placed at all corners and wall ends except that where openings are carried around corners, the reinforcing steel shall be placed in any masonry used below or above the opening. In all reinforced masonry walls there shall be not less than one 12 mm rod or bar or two 10 mm rods or bars on all sides of, and adjacent to, every opening exceeding 600 mm in either direction.

b) Such vertical reinforcing steel shall extend from the foundation or lower wall beam to the upper wall beam. Horizontal reinforcing steel shall extend not less than 600 mm beyond the corners of the openings.

c) Reinforcing masonry shall be reinforced both horizontally and vertically. The vertical reinforcing steel shall be placed at not more than 1000 mm centre to centre and shall be not less than 10 mm in diameter.

d) Any space containing reinforcing steel shall have a clear distance of not less than 6.35 mm between the steel and masonry at all points and shall be filled solid.

e) Reinforcing steel shall be lapped at least 40-rod diameters for plain rods and not less than 30-bar diameters for deformed bars conforming to the requirements prescribed.

9. Joints to Blockwork
All blockwork joints shall be neatly stuck with a 10 mm rod jointer to form a neat concave recess to a good line, level and of consistent depth of approximately 6 mm. See NZSS 1900, Ch. 6.2.10.2.4.

10. Waterproofing
Apply an approved waterproofer to the exterior of the concrete blockwork below ground level as shown.

BRICKLAYER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Relevant Specifications
All work shall be in accordance with the requirements of NZSS 1900, Ch. 6.2 and NZSS 1900, Ch. 6.1.

3. Materials

a) Bricks: Bricks for external veneers and foundation walls shall be of the colour and type selected and shall comply with NZSS 366 Clay Building Bricks grade A or B. All fair face brickwork shall be laid with their best face outwards.

b) Cement: Cement shall be ordinary Portland Cement and at the time of use shall comply with NZSS 3122 Portland Cement.

c) Plasticizers: Plasticizers shall be used in accordance with the manufacturer's instructions and no other additives are to be used in conjunction with these materials. On no account will further additions be made at the time of retempering mortars.

d) Water: Water shall be drinking quality and shall at the time of use be free from acids, alkalis and organic impurities.

e) Sand for Mortars: Sand used shall be Mercer No.1 sand and/or shall comply with the relevant clauses of NZSS 2129, 1967, "Sands for Mortar, Plasters and External Renderings".

4. Preparation of Mortar
Mortar shall be prepared by mixing in an approved batch mixer. Measurement of materials shall be by volume in a suitably calibrated device. Mortar shall be mixed until a homogenous mass is obtained but for not less than 5 minutes. All mortar whether on the boards or left in the mixer shall be used within 90 minutes. Mortar not used in this time shall be discarded.

5. Bricklaying
Bricks shall be laid in stretcher bond true to line level and plumb, and in accordance with the best trade practice. All work shall be laid from the lowest corner and no corner shall be raised more than 900 mm above wall line. Corners shall be racked back. On no account will toothing be permitted. All joints will be completely filled with mortar and the bricks shall be shoved into place at least 12 mm and shall be disturbed as little as possible after initial positioning. Head joints shall be buttered on three edges, deeply furrowed joints will not be permitted and mortar shall be spread on the bed joint not more than three bricks ahead of laying the next course. Joints shall, unless otherwise

specified, be not more than 9.5mm thick and shall be tooled as directed as work proceeds.

6. Brick Veneer

Construct brick veneer as shown on the drawings and in accordance with NZSS 1900 Ch. 6.2. Mortar and workmanship as previously specified. Veneer ties, and their anchorages, shall be designed and fixed so as to resist a lateral load in tension or compression of twice the weight of veneer which each tie supports, without alongation or shortening of the assembly by more than 1.6 mm. Ties shall be non-corrodible metal or shall be galvanised after forming, with a zinc coating of not less than 505 g/m^2. If of round bar they shall be of a minimum of 5 mm diameter; if of sheet metal they shall be of a minimum thickness of 1.5 mm and a minimum width of 25 mm. The latter shall be used whenever a breather type building paper is fixed to the face of external studs so that puncturing of the paper within the cavity space does not occur.

Approved ties shall be spaced at not more than 500 mm horizontally and not more than 345 mm vertically. An air space of at least 38 mm shall be maintained between timber frame and veneer and where necessary weep holes shall be left every third joint for the discharge of water. Care shall be taken to maintain the air space and upstand free of any mortar droppings, protruding joints, or pipes or electrical wire, junction boxes, etc. Incorporate galvanised vermin proofing. Where shown build in brick-size concrete vents as required. All facing work shall be kept clean as the work proceeds. On completion all brick work shall be left in a clean state.

7. Sills

Sills to be brick on edge, brought to underside of sills, junction between to be filled with 'Hydroseal' and overpointed with cement mortar.

8. Building Paper

Building paper where used on outside face of studs shall be of a bituminous or fire resistant breather type complying to NZSS 2295 and metal ties shall be of a sheetmetal type fixed to face of studs.

9. Vermin Proofing

Build in 100 mm wide strips of approved galvanised wire mesh secured to bottom of wall plates with 20 mm galvanised wire staples carried across cavity and taken 25 mm into work. Vermin proof dividing wall and wherever necessary to prevent entrance of vermin.

CARPENTER AND JOINER

1. Preliminary and General
Read and note all clauses of the Preliminary and General which apply to all works of this section.

2. Extent of Work
The work of this section shall include all labour, materials, equipment necessary to carry out and complete the carpentry as shown, or as further required by this specification, together with any other items of work reasonably inferred as part of this section.

3. Attendance and Protection
Attend upon all other trades providing all blockings, fixings, trims, nogging as necessary for the full completion of their respective works and make good after all trades.

4. Materials and Workmanship
All materials used shall be the best of their respective class and type specified. Any materials which in the opinion of the Owner, Loan Body or Local Authority are not up to standard, to be removed immediately from the site. All work shall be carried out in a workmanlike manner in accordance with best trade practice and as or where especially specified. Any work that is intended or implied but not specifically shown, mentioned or specified as necessary for the proper completion of the building shall be included. All work shall comply with the relevant NZSS requirements, particularly NZSS 1900, Ch. 6.1.

5. Timber
All timber used shall be the best of its kind, conforming to NZSS requirements (Building Timbers). All Pinus radiata to be No. 1, Framing Grade pressure treated or treated to requirements of the Timber Preservation Authority specifications.

6. Damp Proofing
All timber to be protected from dampness with 3-ply bituminous felt or other approved damp proofing material when in contact with concrete or brickwork.

7. Priming
All exterior finishing timber, all timbers in contact with concrete blockwork and all external faces, rebate, etc., of all doors, windows, frames and all woodwork of sashes, shall be primed before fixing unless otherwise specified in Painter.

8. Cleaning
The Contractor at the conclusion of the contract shall have all ceilings, walls and woodwork carefully dusted and wiped down. Windows washed and glass free from scratches and paint. Floors brushed and the entire building and site left in a clean condition for occupation.

9. Nails and Screws
All nails used in framing to be diamond head of sufficient length to penetrate the holding or second timber to at least half length. Flat head nails may be used if timber suitable. All bolts, screws, etc., to be adequate for their respective purpose.

10. Building Paper
Breather type paper shall be fixed under all external wall coverings except wall veneer of framed buildings. If, however, foil insulation is installed the omission of building paper in wall veneer of framed building shall be over-ruled and fixed as required for foil insulation.

11. Insulation
No material shall be used that does not comply with NZS 1340 or NZSS 1900 Ch. 5. as insulants in this contract.

a) Building Paper: Shall be as specified under clause 19(e) of this trade.

b) External Walls: (foil) Except where Gib foil is used all foil is to be of the reinforced, double sided type and shall be fixed only on the (warm side) inside of the external stud, extending from the top plate to the bottom plate. Any joints which do not overlap on either studs or nogging shall be taped to manufacturer's specification. Any punctures to this barrier within the sealed air cavity shall be made good. Fixing to studs shall be either by galvanised clout nails or cadmium coated staples. Foil insulation on external walls shall only be used when a breather type building paper is used as a coverage to the (cold side) outside of the external stud. Foil shall not be used as a substitute for building paper.

c) Ceilings: Where foil is used to insulate ceilings the foil must be fixed to manufacturer's specifications or Building Research Association of New Zealand recommendations.

d) Polythene film: Fix polythene film on the (warm side) inside of the external stud (minimum thickness 0.05mm). Coverage shall be from top plate to bottom plate. Joins will only be allowed on studs or noggings. If film is punctured or torn within a sealed cavity area and unless the affected part can be heatsealed the whole area within the sealed cavity area shall be recovered or the whole sheet replaced. No pressure sensitive tapes will be allowed to be used for a repair. Fixing shall be either by galvanised clout nails with felt washers or

cadmium coated staples. Polythene insulation on external walls shall only be used when a breather type building paper is used as a coverage to the (cold side) outside of the external stud. Polythene shall not be used as a substitute for building paper.

Where polythene film is used to insulate ceilings, film must be fixed to manufacturer's specifications.

e) Loose Infill Insulants: Loose infill when used as a thermal insulant for ceilings shall comply with NZS 1340 and NZSS 1900, Ch.5. Loose fill insulants that compact with settlement shall not be used in external walls.

f) Fibreglass Insulation: To be installed to manufacturer's recommendations and specifications.

12. Timber Groupings
All timber shall be the best of their respective kinds and shall conform to NZSS 3631, "Classification and Grading of New Zealand Timbers".

13. Treated Timbers
Timbers shown in the Schedule of Timbers to be treated shall be treated with an approved preservative process in plants licensed by the Timber Preservation Authority.

14. Schedule of Timbers

Location	Sizes	Grade	Remarks
General Framing			
Studs and Plates	100 x 50 mm or 100 x 75 mm or 75 x 50 mm	Treated Radiata No. 1.	600 mm c.c.
Trimmers	Equal width to built-up framing		
Openings from	Solid or Laminated		
1 m to 1.35 m	75 mm 150 mm	" " "	
1.35 m to 1.8 m	100 mm 150 mm	" " "	
1.8 m to 2.25 m	125 mm 200 mm	" " "	
2.25 m to 2.7 m	150 mm 200 mm	" " "	
Ceiling joists (over 1.8 m)	100 x 50 mm	" " "	450 mm c.c.
Exposed beams	As shown	" " "	See plan

Location	Sizes	Grade	Remarks
Rafters (max. span 2.4 m) (max. span 3 m) (max. span 3.6 m)	 100 x 50 mm 125 x 50 mm 150 x 50 mm	Treated Radiata No. 1.	450 mm c.c. for tile (concrete)
Rafters	100 x 50 mm	" " "	900 mm c.c. for iron or bituminous
Roof trusses	To approved design		
Under purlins and struts	100 x 50 mm 100 x 75 mm	" " "	As required
Purlins	75 x 50 mm	" " "	750 mm c.c.
Tile battens	50 x 25 mm	" " "	As required
Ridges	200 x 25 mm	" " "	See plan
Hips	200 x 25 mm	" " "	See plan
Valley board	150 x 25 mm	" " "	See plan
Dragon ties	100 x 50 mm or 150 x 25 mm	" " "	As required
Wall noggings	75 x 50 mm or 100 x 50 mm	" " "	As required
Collar ties	150 x 25 mm	" " "	See Cl.16
Ceiling noggings	75 x 50 mm	" " "	As required
<u>Timber terraces</u>	See plan	Pressure treated Pine or Hardwood	
<u>Finishing timbers</u> Flooring	100 x 25 mm or 18 mm particle board	T & G D.A.H. Rimu or Matai High Density	Not required
Fascia board	150 x 25 mm to 225 x 25 mm	D.A.H.R.	
Frieze	150 x 25 mm	D.A.H.R.	Not required
Weatherboard	D.A.H. Rimu or P.T.D.A. Rimu or Matai or imported Cedar - Horizontal or Vertical finishing grade. Weatherside or Fibroplanks (delete that not applicable).		Not required

Location	Size	Grade	Remarks
Internal door jambs	25 mm	O.B.R.	
Architraves	75 x 12 mm	O.B.R.) or by	
Skirtings	75 x 12 mm	O.B.R.) agreement	
Sill boards	25 mm	O.B.R.	
Aprons		O.B.R. Scotia or ½ round	
ALL OTHER INTERNAL FINISHING TIMBERS NOT SPECIFICALLY MENTIONED TO BE O.B.R.			
Window jambs	150 x 40 mm	D.A.H. Rimu	
Window sills	150 x 65 mm	D.A.H. Rimu, Matai or Cedar	
Mullions	75 x 65 mm	" " " "	
Facings (ext)	75 x 25 mm	" " " "	
Cornices	40 mm	" " " "	
Door sills	150 or 200 x 65 mm with 12 mm steel weather bar		
Scribers	50 x 12 mm	Totara or Heart Rimu	

15. General Framing
All framing to be 100 x 50 mm stud or 75 x 50 mm stud with 100 x 75 mm to all openings. Top and bottom plates to be same sizes as studs in long lengths. Halve at angles and joints over bearings. All studs at 600 mm c.c. Provide three (3) rows of nogs to full height each wall and to suit plan.

16. Roof Framing
Construct roof as shown on drawings and detailed. Bird-mouth over plates and fix securely. Fix valley boards, ridge, etc. Allow for collar ties to every third set of rafters where rafters exceed 3 m in length, struts, under-purlins, etc. Fix purlins as required. Fix fascia, barge, frieze, etc., as required for iron roof if purpose made metal sections are not shown on plan. Cover whole of roof with building felt or a breather type on wire netting. Trussed roofs shall comply to the requirements of NZSS 1900, Ch. 9.1 and Ch. 8, to the satisfaction of the Local Building Authority.

17. Post and Beams
Where shown on plan fix all to detail, with all bolts, plates, holding down plates, etc. All nail fixing with galvanised nails. All bolt fixing with galvanised bolts.

18. Timber Terraces
Where shown on plan construct to detail or best trade practice. All nail fixing with galvanised nails. All bolt fixing with galvanised bolts and all timber to be treated to the correct preservative retention as specified by The Timber Preservation Authority.

19. Aluminium Joinery
Where shown on plan allow for supply and fixing to manufacturers' specification. Sizes and type to be as shown on plan.

20. Exterior Joinery
All exterior joinery shall be as detailed on plan to sizes shown and shall be constructed to best trade practice, all primed before leaving manufacturers' premises.

21. Plates
All to be straight and true and in long lengths, scarfed at all joints, halved at corners and dovetailed at intersections. See manufacturers' instructions where nail plates are used in lieu of.

22. Studs
Stud height generally to 2400 mm (refer to plans) at approximately 600 mm c.c. Double stud to all openings over 1000 mm and check trimmers to studs.

23. Bracing
Brace all interior bearing walls with 100 x 25 mm cut flush with studs. Brace interior corners where possible with 150 x 25 mm diagonal bracing checked flush with outside face and 150 x 25 mm dragon ties to ceiling joists. Refer to manufacturers' specifications when using metal strap bracing.

24. Ceiling Joists
To be generally 100 x 50 mm spaced as required (refer to plan) and to be well spiked to all plates. Provide adequate ceiling runners to spans of 2400 mm and over.

25. Roof
Roof to be framed up to pitch indicated on plans and to detail, properly checked, birds-mouthed and well spiked. Strut rafters off bearing partitions at 1800 mm c.c. with 100 x 50 mm supporting 100 x 75 mm under purlins. Fix 150 x 25 mm collar ties to rafters as specified in Cl. 16.

26. Purlins
Refer to plan.

27. Eaves
Allow to overhang as shown on plan and line as directed.

28. Nogging
To be 50 mm at approximately 600 mm c.c. or 3 rows to each wall. Provide 75 x 50 mm nogging to ceiling where required for fixing of ceiling sheathing.

29. Fibrous Plaster Ceilings
Fix 9.5 mm fibrous plaster ceiling and stop all joints to form smooth finish.

30. Wall Linings
Generally, shall be 9.5 mm gibraltar board or gib. foil fixed by expert fixers. All nailed with galvanised flat head nails on joints at approximately 150 mm c.c. All stopping to be done with best quality plaster of paris, filled to an even surface and sanded off.

31. Doors and Frames
External door frames shall be of 40 mm full width material rebated, and internal shall be 40 mm rebated or 25 mm material with 12 mm planted stops. Doors shall comply with NZSS 1158, where external shall be framed, ledged and braced or timber or glass panel as shown on drawings, all properly constructed with stiles and rails out of 50 mm material. Internal doors shall not be under 40 mm hollow-core faced with plywood or hardboard with clashing strips fixed to lock stiles. All timber core material shall be treated and doors shall be of approved manufacture. Doors over 1400 mm in height shall be hung on one and one half pairs of 100 x 70 mm antique butt hinges.

32. Wardrobes
To be lined full height. Provide inside each with 300 x 25 mm full width shelf at 1700 mm from floor and 20 mm galvanised pipe coat rail at 75 mm below shelf. Provide cupboards over wardrobe where required.

33. Linen and Coat Cupboards
Lined full height inside and to have 25 mm shelving. Full depth for linen at approximately 400 mm c.c. Coat cupboard to have hat shelf at 1800 mm from floor and coat hooks to side and rear, or as required.

34. Kitchen Units
Fittings to be constructed and fitted by Owner.

35. Hot Water Cupboard
To be constructed where shown and fitted with slat shelving above cylinder spaced at 500 mm c.c. Provide two flush doors with thermostat boxed in.

36. Architraves, Skirtings, etc
Finish all windows internally, door openings and wherever required with 50 x 12 mm rounded or splayed architraves. Finish at junction of floor and wall with 75 x 12 mm skirtings neatly mitred at angles and scribed to floor. Supply and fix beads, half rounds and where required scotia mould at ceiling junction and all trim as required to complete the work.

37. Bathroom Fitting
By Owner.

38. Meter Recess
Provide recess for Electric meter board where directed to the satisfaction of the Local Electric Supply Authority.

39. Manhole
Provide manhole in ceiling 500 x 500 mm where directed.

TILE ROOFER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Tile Roof
Tile roof as shown on drawings with tiles. Colour to be selected by Owner.

3. Setting Out
a) All spoutings, flashings, valleys, vent pipes, etc., to be completed before tiling contractor commences.

b) Wherever possible set out tiles on the main slope so that when laid there is a complete course of tiles both at the eaves and ridge. No end lap shall be less than 65 mm. Keep tiles in straight vertical and horizontal lines.

c) Battens shall be of the specific size required, proof loaded and fixed to hip rafter.

d) Interlocking tiles shall lock and no cut tiles shall be less than half tile and shall be laid at verges only. All cutting to be neatly performed and all cut tiles shall be of adequate size and shape for their purpose.

e) In all cases the manufacture, supply, colouring, battening, laying, setting out and fixing of concrete roof tiles, hipcaps, ridge caps, apex caps shall comply with all requirements as specified in NZS 4206 - 1973, "Specification for Concrete Interlocking Roofing Tiles".

4. Ridging
All ridging to be adequate and neat. All concrete tiles to be pointed with matching mortar.

5. Securing Tiles
Concrete tiles - each alternate tile in every second course shall be wired. Tiles to be staggered.

6. Guarantee
In all cases tiles selected shall be fixed by approved fixers and a guarantee furnished for one year as to the water tightness and security of the roof.

PLUMBER

1. Preliminary and General
Read and note all clauses in the Preliminary and General of this specification which shall apply to all work in this section.

2. General
The whole of the work shall be carried out and completed and tested in the best trade manner by licensed plumbers only, in accordance with the requirements of the Local Authority and Drainage and Plumbing Regulations 1959.

The Plumber shall arrange all permit fees.

Materials shall be the best of their respective kinds; lead, wrought iron and tin shall be the best commercial quality; copper shall conform to NZS 3501, and brass shall be approved composition and manufacture. All copper pipes shall be smooth full bore free from defects, seamless and suitable gauge for high pressure fittings. Joints in copper and other pipes shall be made in accordance with the specified regulations and shall be air and water tight.

3. Sheet Metal
Except where otherwise specified sheets shall be of the following gauge.-

Galvanised spouting	0.60 mm
Galvanised rainwater pipes	0.60 mm
Galvanised pipes and overflows	0.60 mm
Copper flashings, gutters and sumps	0.50 mm
Lead flashings	2 kg

4. Flashings
Flash wherever needed to keep watertight and weathertight, extreme care being taken to keep dissimilar metals from making contact. Also, as much as possible, use flashings of same metal in adjacent areas.

5. Spouting
Provide and fix 125 mm galvanised spouting. All joints to be soldered. Finish ends with topped end. Provide fall to downpipes. Support spouting on brackets at 750 mm maximum and 300 mm from end. Secure bracket to fascia with 50 mm galvanised screws to each bracket.

6. Cold Water Supply
Tap off from main in 19 mm copper or P.V.C. tube with stop-cocks at point of entry to building. From 19 mm pipe run in 12.5 mm copper to all fittings including hot water cylinders and washing machine. Allow for providing a stand-pipe with hose connection front and rear of building. All pipes are to be secure and concealed behind linings when run in walls.

7. Hot Water Supply

Supply and install 136 litres hot water cylinder in cupboard in laundry and 40 litre cylinder in garage as shown. Allow to install and provide and fix 7.5 mm copper expansion pipe taken out through roof and flashed by roofer. If of mains pressure type provide a 19 mm diameter gate valve in an accessible position adjacent to the cylinder. From expansion pipes take off 7.5 mm copper branches to all fittings including washing machine. Hot water piping shall be well lagged with hair felt wire on and concealed. A pressure reduction valve system can be installed in lieu of expansion pipe.

8. Waste Pipe and Traps

Provide and fix drawn copper trap with cleaning eye to all fittings. Provide back vents as required. Waste pipe shall be drawn copper with proper fittings and shall discharge into gully traps. Provide cleaning eyes to all waste pipes at junctions and bends and provide all fittings and fixings complete. All exposed pipes and traps shall be chromium plated. If of a P.V.C. type install to manufacturers' specification and to the size and satisfaction to Local Authority requirements.

9. Terminal Vents

Provide Y junction in soil and fit 75 mm diameter drawn copper terminal vent carried up in duct with screws fixed in front. Continue through roof to required height and terminate with copper wire balloon. Roof penetration flashed by roofer. Position vents as shown on drawings.

10. Fittings

(2) W.C. pan complete with double flap plastic seat.
(2) W.C. cistern complete with C.P. or white P.V.C. flush pipe.
(1) 1655 mm bath. Type to be as selected.
(2) Basin - wall or vanity. Type to be as selected.
(1) Sink top Formica or Stainless Steel as selected.
(2) Stainless steel shower tray 900 x 900 mm or 900 x 750 mm.
(2) 1 x Hot water cylinder 136 litres standard complete with electric element, thermostat, all taps, stopcocks, etc.
1 x Hot water cylinder 40 litres standard complete with electric element, thermostat, all taps, stopcocks, etc.
(1) Stainless steel single or twin tub combination on stand with cupboard below.
(1) Sink faucet and taps.
(1) Bath faucet and taps.

And all other taps, etc., as required, which are to be chromium plated marked Hot and Cold with the exception of stand pipes. Consult with Owner on choice of brands of all taps and fittings. The Plumber shall provide and fix all

other fittings and fixings necessary to complete the contract. Make complete connections, providing traps, vents, etc., in accordance with regulations.

11. Roof

Cover roof with Brownbuilt brand 0.60 mm galvanised trough type sheathing in long runs where shown, all fixed in accordance with manufacturers' specification and leave complete.

DRAINLAYER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this contract where they apply to this trade.

2. Extent of Work
Work in this section of the contract comprises all surface and foul water drainage up to above ground level to connect to Plumber's work. Include all pipes and specials, fittings, construction of manholes, all gully traps and connections for terminal vents, soil and waste pipes. The Drainlayer shall confer with the Plumber and shall arrange with the Contractor before the foundations are laid to fix the exact position of all connections of wastes and drains.

3. Standard of Work
The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the Owner and the Local Council's Drainage Inspector. It shall conform to requirements of the Drainage and Plumbing Regulations of 1959, and the Local Council specification, the Contractor shall allow accordingly should conflict exist. Obtain all permits, service all notices and pay all fees required and arrange for all tests.

4. Materials
All materials shall be the best of their respective kinds. All cast iron pipes shall be free from rust and be of first quality and of even wall thickness and shall be hot dipped. Those for the use in foul drains shall have a wall thickness of not less than 4.7 mm. Cast iron fittings shall be of similar quality and have inspection plates as required. General drains shall be 100 mm diameter first class glazed earthenware with rubber ring joints.

5. Drain Trenches
The excavation of trenches for drains shall be accurately made with base clean and true to grade so that no unnecessary filling is required. Adequate width shall be allowed in accordance with depth of drain to enable laying and jointing to be properly carried out. Trenches shall be kept firm and dry and shall be opened up only in lengths that can be protected, utilised and refilled within a reasonable time.

6. Laying of Drains
All drains are to be laid on and surrounded to mid-point with 100 mm concrete composed of 6 part shingle to 1 part Portland Cement. Any cast iron drains that have been laid on any type of filling are to be set on a continuous bed of concrete 225 mm wide x 150 mm deep reinforced with three continuous 10 mm rods. The pipes are to be laid to straight lines and even grades with socket against fall in all cases.

7. Fittings
The plan shows the layout of the system. Additional fittings that are normally required such as inspection points and

inspection bends, etc., that may be required but are not specifically shown must be allowed for by the Drainlayer to comply with normal practice under the regulations or special requirements of Local Council.

8. Jointing and Bedding of Pipes
The pipes are to be jointed or caulked with lead in a proper manner and each and every junction or change of direction is to have removable cover plates for inspection.

9. Fall in Drains
The whole of the soil and stormwater drains are to be laid to a regular and even fall.

10. Gully Traps
Supply all gully traps and securely bed and build up with 5:1 concrete surround, 150 mm above finished ground levels. Form large and deep dishings and finish the surface with blue metal, dust and cement, one to one and steel trowel smooth. All gully traps are to be fitted with large cast iron gratings and also a grating or perforated plate above the wastes discharging into it.

11. Septic Tank
Provide and lay one only 2000 litre standard precast concrete septic tank in the position shown on drawings. Connect up to outflow pipe from house. Discharge into effluent drains as shown.

Effluent drains shall be laid to fall and shall be 100 mm diameter field tile drain backfilled with selected scoria. Cover with polythene and backfill with soil to finished ground level.

12. Soak Pits
Form soak pits where shown 1200 mm deep x 1200 mm diameter, filled with graded scoria.

13. Completion
Properly backfill all trenches, consolidate as filling proceeds and leave area in a tidy state.

SOLID PLASTERER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Work Included
The solid plastering of all interior floors, and the front and back porches, slabs and steps and terrace.

3. Materials

Cement:	Shall be as specified under Concretor.
Sand:	Shall be river sand sharp and course grained and free of any foreign matter.
Hydrated lime:	Shall be mill hydrated of an approved brand.
Adhesion agents:	If used, shall be in accordance with maker's instructions.

4. Workmanship
All to be best trade practice and genrally where plastering is required by drawings it shall mean finishing to 12 mm thickness with a mix of one part cement to three parts sand with 10% of hydrated lime added and finished to a straight and even surface with a wood float.

5. Foundations
Concrete foundation walls shall be prepared by removing projectors, making good any defects and finishing with a dash coat of 1 to 3 cement and sand applied to give a regular and satisfactory coverage.

6. Concrete Floors
Co-operate with Concretor and allow for plastering of main floor. Float up to true level and steel float finish to remove pattern. Do not over-trowel. A hard dense finish is required.

7. Porch and Steps and Terrace
Plaster up in one operation. One coat 12 mm thick to terraces and porch slabs, 12 mm thick to verticals and sides, etc. Wood float up then given light sweeps with steel float to remove blemishes.

8. Completion and Curing
Leave all work complete and clear away all plaster droppings. Keep work damp and maintain all finished to completion.

FIBROUS PLASTERER

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Work Included
The manufacture and application of fibrous plaster or plasterglass sheet to wall or ceiling surfaces as specified. The manufacture and application of cornices or other decorative fibrous plaster items as specified.

3. Materials
a) Gypsum casting plaster shall comply with AS A43.

b) Water shall be clean and free from impurities which may affect the properties of the plaster. Water from mains controlled by a water supply authority shall be deemed to meet this requirement.

c) Reinforcing fibre shall be sisal, hemp, flax, glass or other synthetic or natural fibre having similar properties, including absence of staining and capacity for even dispersion throughout the sheet. Sisal, hemp and flax fibre shall be well teased before use.

d) Admixtures and release agents shall not be of a deleterious nature nor used in quantities sufficient to impair the properties of the sheet when used with or without decoration.

4. Workmanship
All fibrous plaster or plasterglass sheets and other products shall be manufactured and fixed, strictly in accordance with the Code of Practice of the New Zealand Fibrous Plaster Manufacturers' Association. The whole of the labour required for the erection, fixing, wadding and stopping shall be that of competent fibrous plaster tradesmen.

5. Framing
All noggings, trimmings, straightening and packing of studs or joists, necessary for the fixing of fibrous plaster products shall be provided and completed by the Builder before the commencement of such work. Timber framing shall comply with NZSS 3631 (framing grades) and shall be pre-dried to an equilibrium moisture content not exceeding 15-16%. The surface to which fibrous plaster is fixed must be clean, straight and dry.

6. Painting
All fibrous plaster or plasterglass sheets and other products shall be painted strictly in accordance with the specifications outlined below:

System	First Coat	Second Coat	Third Coat
No. 1	Pigmented sealer	Primer undercoat	Full gloss
No.2	" "	Semi gloss	Semi gloss
No. 3	" "	Alkyd flat	Alkyd flat
No. 4	" "	P.V.A. plastic	P.V.A. plastic

Allow overnight drying between coats except for system No. 4 where one or two hours drying time, according to manufacturers' instructions may be allowed between second and third coats.

N.B.
The fibrous plasterer will not accept responsibility for the effect of glancing light on fibrous plaster with a gloss paint finish.

ELECTRICIAN

1. Preliminary and General
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. Fees
Pay all fees and charges and obtain all necessary permits for this trade.

3. Scope of Work
Carry out the whole of the electrical installations in strict accordance with the latest Electrical Wiring Regulations and Local Authority's by-laws, and meter wiring diagrams.

4. Materials and Workmanship
All materials used under this contract shall be of approved British or New Zealand Standard Specification. Allow for all materials necessary to complete the contract whether specified or not. All work shall be carried out by a Registered Electrician in accordance with regulations and best trade practice and in a manner which will cause minimum inconvenience to other workmen and the work as a whole. Do all cutting away, drilling, etc., and with timber cut the minimum away only for the entry of cables.

5. Co-operation
Co-operate with the Building Contractor and other sub-contractors in all phases of work. Give ample notice to enable the Contractor to arrange the necessary void, chase data, etc.

6. Completion and Connection of Power
Leave work complete, pay all charges and arrange for all inspections and tests and for the connection of power to the works. It is the responsibility of the Electrical Contractor to ensure that no delay is occasioned to the job once the contract is complete.

7. Power Board Supply
Arrange with the Power Board, allow for and pay all fees for the connection of an underground, or overhead, supply to the residence.

8. Meter Box
Provide and install recessed meter box where shown on plan. Confer with Carpenter for trimming same.

9. Main Switchboard
Provide and install in recess main switchboard complete with all necessary control and auxiliary equipment.

10. Electric Stove
Owner will supply oven and stove top. Provide and fix a 30-amp flush switch for stove and 30-amp switch for oven, sufficient cable for connections and allow for installation.

11. Water Heater
Allow for the permanent connection of the water heaters to the electrical system. Provide and install 3 K/W element and thermostat to 136 litres hot water cylinder provided by the Plumber. Refer Cl. 3 of this section. Provide and install suitable element to heater in en-suite.

12. Power Points
All wall plugs shall be 230 v. 10-amp 3-pin flush type. Generally install plugs 300 mm above floor or 225 mm above bench top. Points to washer/dryer space and refrigerator 1200 mm from floor. The exact position of all power points shall be determined on the job by the Owner.

13. Lights
All lights to be first quality, plastic batten holder shall be reinforced. All roses andholders not covered by fittings shall be white.

14. Light Switches
Light switches generally shall be 10-amp, all insulated P.D.L. micro-gap type or equivalent. Where indicated fit flush type with plain bakelite flush plate. Fix switches generally 1200 mm above floor.

15. Light Points
Refer to drawings for positions.

16. Power Points
Refer to drawings for positions (see above).

PAINTER AND GLAZIER

1. Preliminary and General
Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. Materials
Generally all materials shall be of N.Z. manufacture of approved brands and of the paint selected respective coats shall be of the same brand.

3. Workmanship
All work shall be carried out in accordance with good trade practice. Surfaces shall be clean and properly prepared before coating and work shall be in accordance with Code of Practice NZS 2239, "Painting of Buildings".

4. Colour Scheme
The Owner will select from standard colour charts, colours he will require and Contractor is to allow for picking out sashes, doors, porches or any other reasonable colour change required.

5. Stopping
After priming all nail holes or joints are to be stopped and cleaned off before undercoating for painted work and for varnished work holes, etc., are to be stopped with matching putty after first coat of sealer.

6. Painting of External Woodwork
After priming all external woodwork and adjacent metalwork such as flashings, spouting and downpipes, is to be given one good coat of undercoat followed by finishing coat of high gloss paint. Priming coat before painting shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, door, etc.

7. Painting of Interior Surfaces
Refer to plan or separate instructions to accompany this specification. Wallboard and ceilings as required to be given one coat of sealer and finished with two coats of approved paint finishing flat or semi-gloss as required. Where full gloss is required such as kitchen and bathroom, finishing coat shall be full gloss enamel.

8. Varnishing
Where varnishing is required such as doors, architraves and skirtings, give one coat of approved P.V.A. sealer followed by two coats of clear varnish finishing egg-shell gloss and lightly sanding between coats.

9. Paperhanging
By Owner.

10. Glazier
Glaze all sashes, glass doors or screens with appropriate weight glass properly fixed and puttied or beaded into

rebates. Where required glazing shall be selected obscure patterned glass.

11. Mirror
Provide 6 mm plate glass mirrors mounted with clips above vanity in bathroom and en-suite as directed by Owner.

12. Completion
The Painter and Glazier are to do all that is required of their respective trades to leave the work complete and all must be left clean including all glass at completion.

Free.

Waitakere City Council
Te Taiao o Waitakere

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15 November 1999

DIANNE GAIL HAWKINS
& PHILIP VICTOR HAWKINS
13 TRIG RD
WHENUAPAI
WAITAKERE CITY 1008

Dear Sir/Madam

Resource Consent Application Number RMA992188
Location: 15 TRIG RD, WHENUAPAI, WAITAKERE CITY 1008

I am pleased to advise that your Resource Consent (Planning) application has been considered and consent has been granted pursuant to sections 94, 104, 105, and 108 of the Resource Management Act 1991.

The report considering your application and the decision which has been made is attached. The conditions must be met for your consent to be valid.

Please note also that you must establish the activity within two years. If that does not happen the consent lapses and you may need to apply for an extension or a new consent.

If you are dissatisfied with the decision or conditions of consent you have an opportunity to object to the Council. If you want to do this you will need to write a letter outlining your concerns. In this letter you should refer to section 357 of the Resource Management Act 1991 which covers objections to decisions (see the guideline attached). Any objections must be made in writing within 15 working days of your receipt of this letter. There is a lodgement fee of $195.00 (including GST) which is to accompany this objection letter.

Please contact PETER REABURN of the Resource Consents Section (extn) if you have any general queries about the enclosed report or decision.

Yours faithfully

Hugh Briggs
MANAGER : RESOURCE CONSENTS

eco city

CITY OF WAITAKERE DISTRICT PLAN

NON-COMPLYING ACTIVITY REPORT

SUMMARY OF PROPOSAL

To formalise a current long-standing rural lease arrangement to a full (freehold) subdivision.

REPORT PREPARED BY: Peter Reaburn

DATE RECEIVED: 7/10/99

APPLICANT: P.V. Hawkins & D.G. Hawkins

BUILDING CONSENT NO.:N/A

FILE ADDRESS: 13-15 Trig Road, Whenuapai

WARD: Massey

LEGAL DESCRIPTION: Lot 5 DP 66045

SITE AREA: 2905m^2

TRANSITIONAL PLAN ZONING: Rural 1

SECTION: Waitemata

PROPOSED PLAN: **HUMAN ENVIRONMENT:** Countryside
NATURAL AREA: General (Special Soils)

ADDRESS FOR SERVICE: P.V. & D.G. Hawkins
13 Trig Road
Whenuapai

FURTHER INFORMATION REQUIRED: No

PROPOSAL

The applicant seeks consent to formalise an existing lease into a full freehold subdivision. The original lease has been in existence since 1981 and the applicants have lived on the site since that time. The balance of the site (3.7ha) is in separate ownership.

SITE AND NEIGHBOURHOOD DESCRIPTION

The subject site is on rural land in an area generally comprising of life-style sized blocks. There are a number of smaller sites in Trig Road, closer to the Hobsonville Road end. The site contains a substantial dwelling with gardens, etc and has the appearance of a separate site. The balance of the property does not contain a dwelling. It should be noted that the proposed SH18 motorway runs to the north of, but does not affect, the subject site.

DISTRICT PLAN REQUIREMENTS

The proposal is a **non-complying activity** under the Transitional District Plan. The minimum site size is 5ha in the relevant Rural 1 zone.

Under the Proposed District Plan, the proposal also falls to be considered as a **non-complying activity**. The Proposed Plan has a minimum site size of 4ha. The Plan permits the establishment of subdivision at a lower site size (averaging 2ha), but only with an approved structure plan in place. There is no structure plan in place for this area.

The Transitional Plan subdivision processes have effectively been replaced by the new Plan provisions. In any case the Transitional Plan policies are not regarded as being appropriate to a Resource Management Act analysis. In these circumstances, it is considered that only limited regard should be had to the provisions of the Transitional Plan. In support of this assertion, it is noted that the Environment Court has previously held, in relation to a different matter, that relatively little weight should be given to a rule that is not integral with a coherent plan of inter-related objectives, policies and rules (refer *Noel Leeming Appliances* v *North Shore City Council* A006/93).

The Proposed Plan contains a number of policies that are relevant to the consideration of an application for subdivision. These are referred to later in this report.

STATUTORY REQUIREMENTS

The proposal requires consideration as a non-complying activity under the provisions of the Resource Management Act 1991. Section 105(2A) of the Act sets a threshold test which all resource consent applications for non-complying activities must first pass before a consent authority has jurisdiction to grant consent, having regard to the matters specified in Section 104. In short, the proposal must be able to establish and operate without generating more than minor adverse effects on the environment, or must not be contrary to the objectives and policies of at least one of the relevant District Plans that apply in the district (i.e., either the Transitional or Proposed Plan).

The assessment contained later in this report demonstrates that the proposal would generate no more than minor adverse effects on the environment. Jurisdiction to grant consent has therefore been established. However, for a consent authority to grant consent to a non-complying activity application, there should be some exceptional element to the proposal. If such unique circumstances do not exist, then the proposal would effectively compromise the integrity of the District Plan, and public confidence in the consistent administration of the Plan may be undermined. In this particular case the proposal is considered unique. It involves a long-standing lease and occupation of the subject site. The subject site and the balance land have effectively been in different occupation/activity for almost 20 years.

In this instance, the application has been processed on a non-notified basis in accordance with the provisions of Section 94(2) of the Act. Specifically, the proposal would generate no more than minor adverse effects on the environment, and it is not considered that any body or person would be adversely affected by the granting of consent. Note in this respect however that there has been a wide range of support for this proposal from local residents.

ENVIRONMENTAL ASSESSMENT

The Proposed District Plan has been formulated with an "effects-based" emphasis. As a result, any consideration of effects arising from a proposal is likely to consider largely the same matters as an analysis of the degree to which a particular proposal is consistent with the relevant assessment criteria of the Plan. For this reason, this assessment focuses only on the relevant assessment criteria from the Proposed Plan, and does not include any separate assessment of environmental effects.

District Plan Assessment Criteria

It will be noted that this is the second application made for the same subdivision proposal. Consent was declined in April 1996. A major reason for refusal was "the potential to result in the loss of high quality soils which is a precious finite resource".

Assessment criterion 6(a) of the Countryside Environment subdivision rules refers specifically to the need to recognise natural resources. This area is identified as having "special soils" (generally, Class II soils), and the issue identified in 1996 still has some relevance. However, there have been significant developments since 1996 which warrant reassessment of the conclusion which was reached at that stage.

First, it has been recognised that, while soils in this area are good– the quality is very "patchy". This affects the integrity of the soil resource on a wider scale.

Second, there has now been a decision made by the Council to open up the opportunity for a "structure plan" approach to subdivision in this area which would lead inevitably to rural-residential type development. Indeed, a structure plan is already being developed for the Waiarohia Catchment, not far east of the subject property. Introduction of a structure plan approach recognises the acceptable potential of this area for development for other than purely "rural" purposes.

Third, and probably most significant, the Regional Growth Strategy has been finalised. The Regional Growth Strategy identifies this area (lying south of the proposed motorway and between that motorway and Hobsonville Road) as an urban growth area. The Waitakere City Council has very recently initiated a planning study which will inevitably lead to the urban development of this area.

The significance of this subdivision needs to be considered in light of the above changed circumstances. Those changed circumstances add to the circumstances which have already existed on this site – i.e. the fact that the property has effectively been in two parts since 1981, and the applicants portion of the subdivision has been developed with a dwellinghouse and surrounds since that time.

Other relevant assessment criteria relate to roading, drainage and amenity impacts.

With regard to road access, the existing dwellinghouse obviously already has road access, and there is quite suitable access to the balance site as well.

With regard to stormwater disposal, the subject site and the existing development on it has an adequate disposal regime, and any future development of the balance site will need to satisfy appropriate building consent procedures.

With regard to wastewater disposal, the existing septic tank is situated outside the current lease area and would need to be relocated within the new subdivided lot. A preliminary investigation carried out in 1996 indicated that this could be done without difficulty. However, a suitable condition of consent should be imposed to ensure this.

In recognition of the fact that a dwellinghouse could be erected on the balance 3.7ha site, a suitable reserves contribution should be imposed as a condition of consent.

There will be no direct amenity impact arising from the subdivision itself. There could well be a dwellinghouse erected on the 3.7ha balance land, but that development would not alter the general character and appearance of the area to any significant degree.

There are no matters appearing in the relevant policies relating to this proposal which are seen to be either relevant or compromised by the application. Similarly, there are no Part II RMA matters, or any matters under the Regional Policy Statement which are of concern. In the latter respect it will be noted that the Auckland Regional Council did not make any submission to the original application in 1996, and the situation in a regional context has been made much more flexible since that time with the indications given in the Regional Growth Strategy.

CONCLUSION

There is no doubt this area will be developed for urban purposes in the future. That should not be an indication that development may now proceed – generally speaking further development needs to await the conclusion of proper planning processes. However, that future state is relevant when considering this particular application, which has its own unique circumstances. The proposal seeks to confirm, by way of subdivision, an arrangement which has been in existence for many years. While there has never been an application for a dwelling on the balance land, that land has been under separate control for many years, and there would be a quite compelling argument– even if a subdivision was not proposed – for a dwellinghouse to be erected on that larger block. Effectively, that extra dwellinghouse is the only extra development that would be made possible through this subdivision. The applicant's own house will remain as-is – subject to alterations to satisfy infrastructure (and particularly septic tank) arrangements. These unique circumstances are regarded as being a sufficient argument to justify approval of this application now, rather than awaiting the more intensive development which will inevitably occur in the area. The fact that there will be more intense development is relevant in considering, ultimately, the impact on special soils and on amenity. This will be a built-up area with a quite changed character. In that context, this proposal has quite minor effect.

NON-NOTIFICATION

This application is considered to have minor impact only. In light of the future developments in this area, as described above, it is not considered that there would be any party affected by the granting of consent. The future redevelopment of this area for urban purposes is now well-known and expected. There are also no special circumstances which it is considered require notification of the application.

MONITORING

Conditions of subdivision consent will need to be monitored in accordance with normal practice.

RECOMMENDATION

That, pursuant to Sections 88, 94, 104, 105 and 108 of the Resource Management Act 1991, being satisfied that no body or person is adversely affected, consent be granted to the application by P.V. & D .G. Hawkins to subdivide two sites (2905m² and 3.7ha) at 13-15 Trig Road, Whenupai, being Lot 5 DP 66045, for the following reasons:

(1) Subject to conditions, the proposal will have no more than minor adverse environmental effect.

(2) The proposal is based on unique circumstances, involving a lease situation which has existed since 1981, and a confirmation of that lease arrangement through the applicant's occupation of the site.

(3) In view of the intended substantial redevelopment of this general area, the amenity impacts created through subdivision approval are no more than minor in effect.

Consent is subject to the following conditions:

(1) The application should be subject to the preparation, submission and approval of a scheme plan of subdivision. That scheme plan shall be in general accordance with the application, subject to any alterations required to accommodate necessary infrastructure such as wastewater disposal. The Council reserves the right to impose further conditions relating to that scheme plan of subdivision, in particular relating to water supply, stormwater disposal, wastewater disposal and road upgrading.

(2) A reserves contribution is to be paid equal to 6% (plus GST at 12.5%) of Quotable Value New Zealand's market value (exclusive of GST) to be obtained for the smaller of the two lots proposed (pursuant to Section 407 of the Act).

(3) The applicant shall undertake all works and pay all fees necessary for completion of the above.

Report prepared by:

..... Date: 11/11/99

Peter Reaburn
SERVICE MANAGER: RESOURCE MANAGEMENT/BUILDING

Consent granted as recommended

..... Date: 12/11/99

Philip Brown
PRINCIPAL PLANNER

Please contact Peter Reaburn (Ph 836 8014) if you have any queries about this report.

Waitakere City Council
Te Kaunihera o Waitakere

APPLICATION FOR RESOURCE CONSENT UNDER SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

OFFICE USE ONLY
Receipt Date: _____
Initials: _____
Register No: 992188
Planner: _____
Date By: _____

TO: The Chief Executive
Waitakere City Council
Private Bag 93109
Henderson
WAITAKERE CITY 1231

ATTN: Consents Manager

Please read the information sheet accompanying this form first

APPLICANT: P.V. HAWKINS & D.C. HAWKINS ~~agent~~/owner

ADDRESS OF PROPERTY: 13-15 TRIG Rd Whenuapai

LEGAL DESCRIPTION: LOT 5 DP 66045

TOTAL SITE AREA: 2905 M²

UNIT SITE AREAS: (if applicable to residential developments only) _____

BUILDING CONSENT APPLICATION NO: (if applicable) 9 /

DESCRIPTION OF PROPOSAL: (outline this on the attached sheet)

THE TYPE OF RESOURCE CONSENT SOUGHT IS: (✓ box)

LAND USE CONSENT ☐ SUBDIVISION CONSENT ☑ AIR DISCHARGE CONSENT ☐

SPECIFY THE PARTICULAR RULES(S) OF THE DISTRICT PLAN UNDER WHICH A RESOURCE CONSENT IS REQUIRED: (i.e. what aspect of your proposal needs a resource consent)

_____

_____

ASSESSMENT OF EFFECTS - DESCRIBE THE EFFECT OF THE PROPOSAL ON THE ENVIRONMENT (including neighbouring properties) AND MEASURES INCORPORATED INTO THE PROPOSED ACTIVITY TO REDUCE EFFECTS TO AN ACCEPTABLE LEVEL. The attached sheets provide examples of categories under which potential environmental effects may be described and provides space to describe measures to reduce effects (attach further written statements as necessary).

Please note that particular information requirements and assessment criteria applicable to various resource consent categories are available from the Council on request.

PLEASE INDICATE WHICH (IF ANY) OF THE FOLLOWING ADDITIONAL RESOURCE CONSENTS ARE REQUIRED FOR THE PROPOSAL:

SUBDIVISION CONSENT/WATER PERMIT/DISCHARGE PERMIT.

HAVE THESE BEEN APPLIED FOR: YES : NO : N/A

DATE OF APPLICATION: _____

COUNCIL: _____

NAMES AND ADDRESSES OF OWNERS AND OCCUPIERS OF THE PROPERTY (if other than applicant):

OWNER(S):_____ OCCUPIER(S):_____

_____ _____

_____ _____

ADDRESS FOR CORRESPONDENCE: _____

_____

PHONE NO: BUSINESS: _____ HOME: 416 8082

FAX: 416 8002

DO YOU HAVE A DOG ON THE PROPERTY THAT MIGHT WORRY THE INSPECTING COUNCIL STAFF?

YES/~~NO~~

SIGNATURE: _____ DATE: 4.9.99

MATERIAL REQUIRED TO ACCOMPANY THIS APPLICATION (N.B. see also attached information sheet)

1. Attach a further assessment of any effects that the proposed activity may have on the environment in accordance with the Fourth Schedule to the Act (available from the Council on request). (For a Controlled Activity such an assessment is not necessary unless specifically required in the District Plan).
2. Attach a set of accurate to-scale plans. Note: if a building consent application has been lodged it will still be necessary to supply an additional set of plans for this application.
3. Attach written consent of affected parties (eg neighbours) where this is required. (NB: where a property is in joint ownership, such as husband and wife, all landowners must sign. A copy of the plans should be signed also).
4. Attach other information (if any), required to be included in the application by the District Plan or Regulations.
5. For subdivision consent application only - attach information in accordance with Section 219 of the Act.

PAYMENT OF THE CORRECT PROCESSING FEE/DEPOSIT IS REQUIRED WITH THIS APPLICATION.

FURTHER INFORMATION WILL BE REQUESTED IF CONSIDERED NECESSARY.

PLEASE ALLOW ADEQUATE TIME FOR INITIAL REVIEW AND SITE INSPECTION (APPROXIMATELY 2 WEEKS) PRIOR TO MAKING ENQUIRIES CONCERNING PROGRESS OF APPLICATION PROCESSING.

PLEASE RING THE PLANNING SECTION ON 836-8013 WITH ANY QUERIES REGARDING THIS FORM

Waitakere City Council
Te Taiao o Waitakere

Waitakere City Council
Civic Centre
6 Waipareira Ave
Waitakere City

Private Bag 93109
Henderson
Waitakere City

Telephone
09 836 8000

Facsimile
09 836 8001

TAX INVOICE

DX CX 10250 Auckland Mail Centre
Resource Consent Fees
GST Registration No
52-211-247

HAWKINS, DIANNE GAIL
13 TRIG RD
WHENUAPAI
WAITAKERE CITY 1008

Date: 07/10/1999

Customer No: 601201

Invoice No: 830127

Application No: RMA 992188

Owners Name:
Project Address: 15 TRIG RD WHENUAPAI

Invoiced to Date: 0.00

Fee Code	Description	Amount
SM2	SM - Non Notified	400.00

This account includes a total GST content of 44.44

Total To Pay **$ 400.00**

Waitakere City Council
Te Taiao o Waitakere

Civic Centre
6 Waipareira Avenue,
Waitakere City
Tel: 0-9-836 8000

OFFICIAL RECEIPT

Postal Address:
Private Bag 93 109
Henderson
Waitakere City 1231

Receipt No. 613567

Amount Received 400.00

DIANNE GAIL HAWKINS

Receipt Date 7/10/1999

DIANNE GAIL HAWKINS
13 TRIG RD
WHENUAPAI
WAITAKERE CITY

RCON 601201			400.00
601201	Invoice 830127	400.00	

Civic Centre CT4 7/10/1999 13:58:30 1 of 1

Source Counter Cheque 400.00

DESCRIPTION OF PROPOSAL
(Please describe your proposal as fully as possible)

WAITAKERE CITY COUNCIL

RESOURCE CONSENTS SUMMARY SHEET
(N.B. for major applications separate reports should be produced)

Possible Effect*	Measures Proposed to Mitigate Effects to an Acceptable Level

* For guidance on possible effects see Assessment Criteria for Resource Consents applicable to your proposal. Examples of effects may include location, size and design of buildings, removal or alteration of landform and vegetation, traffic and parking impacts, noise, odour, health and safety.

INFORMATION REQUIREMENTS FOR LAND USE CONSENTS
(See Rule 1.1 Information Requirements Proposed District Plan)

Where relevant to the circumstances of the application, the following information should be provided:

(a) A site plan(s) to the scale of 1:100, 1:200 or (for large sites) 1:500, showing:

- the location of any existing or proposed buildings.
- the location of existing or proposed driveways and carparking areas.
- details of landscape features (including any natural landscape elements), vegetation, natural water systems and soils.
- existing or proposed planting and screening.
- existing or proposed signs.
- existing or proposed locations for hazardous facilities, and associated protection structures.
- any heritage item or waahi tapu.
- details of any earthworks proposed.
- contours and/or spot levels.
- the nature and location of any reflective surfaces and, where relevant, colour.
- the location, nature and power of lighting on the site and the means of directing light spill.
- the present or proposed future use to which all parts of the site are to be put.

(b) For any building proposed as part of a resource consent:

- elevations to a scale of 1:100.
- details of materials and colour to be used.
- the distance between buildings and site boundaries or unit area boundaries (where applicable).
- the height and outline of buildings and the relevant recession plane.
- floor plans showing the room layout of each and every floor of buildings, whether existing or proposed.
- the present or proposed future use to which all or any part of buildings are to be put.

(c) A report assessing the effects the proposed activity will have on natural features and any identified heritage item or waahi tapu.

(d) An assessment of the effects of the proposal carried out by an appropriately qualified person including a covering statement in respect of each of the assessment criteria relevant to the application.

FURTHER INFORMATION

As provided for by section 92 of the Act, the Council will require further information from an applicant where it is necessary to obtain a better understanding of the nature of the activity, the effect it may have on the environment, or the ways in which any adverse effect may be mitigated. A report may also be commissioned at the applicant's expense, on any matter raised in relation to the application or on any environmental assessment of effects.

INFORMATION REQUIREMENTS FOR SUBDIVISION CONSENTS (see Rule 1.2 Information Requirements Proposed District Plan)

Where relevant to the circumstances of the application, the following information may be required by the Council:

(a) All of the information required by section 219 of the Act.

(b) A plan drawn to scale clearly showing the proposal.

(c) The position of all proposed site boundaries.

(d) The site area and net site area of all new sites.

(e) Indicative building positions and indicative driveway access points from roads and the driveway within sites.

(f) The location of all natural features.

(g) The location and extent and volume of proposed earthworks.

(h) New roads, with their widths and areas (and grades if on sloping ground), service lanes, pedestrian accessways, driveways and access lots.

(i) Proposed easements and covenant areas.

(j) The location and areas of new reserves to be created.

(k) Locations of any areas considered unsuitable for building purposes because of natural hazards.

(l) All topographical information including contours.

(m) Any heritage item or waahi tapu.

(n) A report assessing the effects the subdivision will have on natural features and any identified heritage item or waahi tapu.

(o) An assessment of the effects of the subdivision carried out by an appropriately qualified person including a statement covering each of the assessment criteria relevant to the application.

FURTHER INFORMATION

As provided for by section 92 of the Act, the Council will require further information from an applicant where it is necessary to obtain a better understanding of the nature of the activity, the effect it may have on the environment, or the ways in which any adverse effect may be mitigated. A report may also be commissioned at the applicant's expense, on any matter raised in relation to the application or on any environmental assessment of effects.

Waitakere City Council
Te Tatao o Waitakere

RESOURCE MANAGEMENT ACT 1991

HOW TO MAKE A NON-NOTIFIED APPLICATION FOR RESOURCE CONSENT

(For controlled activities, limited discretionary activities and 'minor' discretionary and non-complying activities).

INFORMATION TO BE PROVIDED

To avoid delay in the processing of your application the following information **must** be provided:

1. **PLANS** fully outlining the proposal. A site plan, elevation plans, and floor plans are required for most proposals. If a building consent application has been lodged it will still be necessary to supply an additional copy of the plans for this application. Ground levels at the boundary and floor levels of buildings must be shown. Plan accuracy is the responsibility of the applicant

   Note: The plans may need to show the following further information:
   (a) Landscaping, fencing, and site layout including living courts, and
   (b) Location and design of vehicle access, parking and manoeuvring, and
   (c) The design and external appearance of buildings, and
   (d) Any areas of existing or proposed native bush clearance.
   (e) The location and extent (in m^3) of any earthworks.

2. **WRITTEN CONSENT** of bodies or persons the Council considers may be affected by your proposal. Affected bodies or persons must provide their written consent to the proposal. They should also sign a copy of the plans to show that they have actually seen the proposal. Note: If there are multiple owners of the affected property, eg husband and wife, all owners of the property must sign.

3. **YOUR ASSESSMENT** of what 'effect', if any, your proposal will have, for example on neighbouring properties. Examples of categories under which effects may be described are listed on Attachment A to the application form. Measures that you are willing to take to reduce effects to an acceptable level should be described on Attachment A and incorporated, where appropriate, on building and site plans. See also the district plan "assessment criteria" which are relevant to your application - these are available free from the Council.

4. **REASONS** justifying the proposal.

REPORT AND DECISION

A report explaining the proposal in terms of the requirements of the Resource Management Act and the District Plan is prepared for Council to assist it in its decision. You are notified of Council's decision within 20 working days of receipt of full information, and have a right of appeal to the Environment Court if you are dissatisfied with the decision.

5. Deposits - Non-notified Resource Consent (GST inclusive)

   - $112.50 quick (no site visit) consent application
   - $400.00 other non-notified consent applications

   Note: Additional fees may be charged for more complex applications.
   Charge Account: 35-5310-22800-534

6. Building Consent Applications

   Where a building consent application has already been lodged please indicate on the application form the building consent application number.

IF YOU REQUIRE ANY FURTHER INFORMATION CONTACT A RESOURCE PLANNER AT THE COUNCIL, PHONE 836-8013

Appendix F: Council contamination enquiry

9 February 2021

Tonkin & Taylor
105 Carlton Gore Road
AUCKLAND 1023

Attention: Rebecca van der Krogt

Dear Rebecca

Site Contamination Enquiry – *15 Trig Road, Whenuapai*

This letter is in response to your enquiry requesting available site contamination information within Auckland Council records for the above site. Please note this report does not constitute a site investigation report; such reports are required to be prepared by a (third-party) Suitably Qualified and Experienced Practitioner.

The following details are based on information available to the Contamination, Air & Noise Team in the Resource Consent Department. The details provided may be from former regional council information, as well as property information held by the former district/city councils. For completeness the relevant property file should also be requested to obtain all historical records and reports via 09 3010101 or online at:

https://www.aucklandcouncil.govt.nz/buying-property/order-property-report/Pages/order-property-file.aspx.

1. Hazardous Activities and Industries List (HAIL) Information

This list published by the Ministry for the Environment (MfE) comprises activities and industries that are considered likely to cause land contamination as a result of hazardous substance use, storage, and/or disposal.

There is no information held within our records to suggest this site has been subject to HAIL activities.

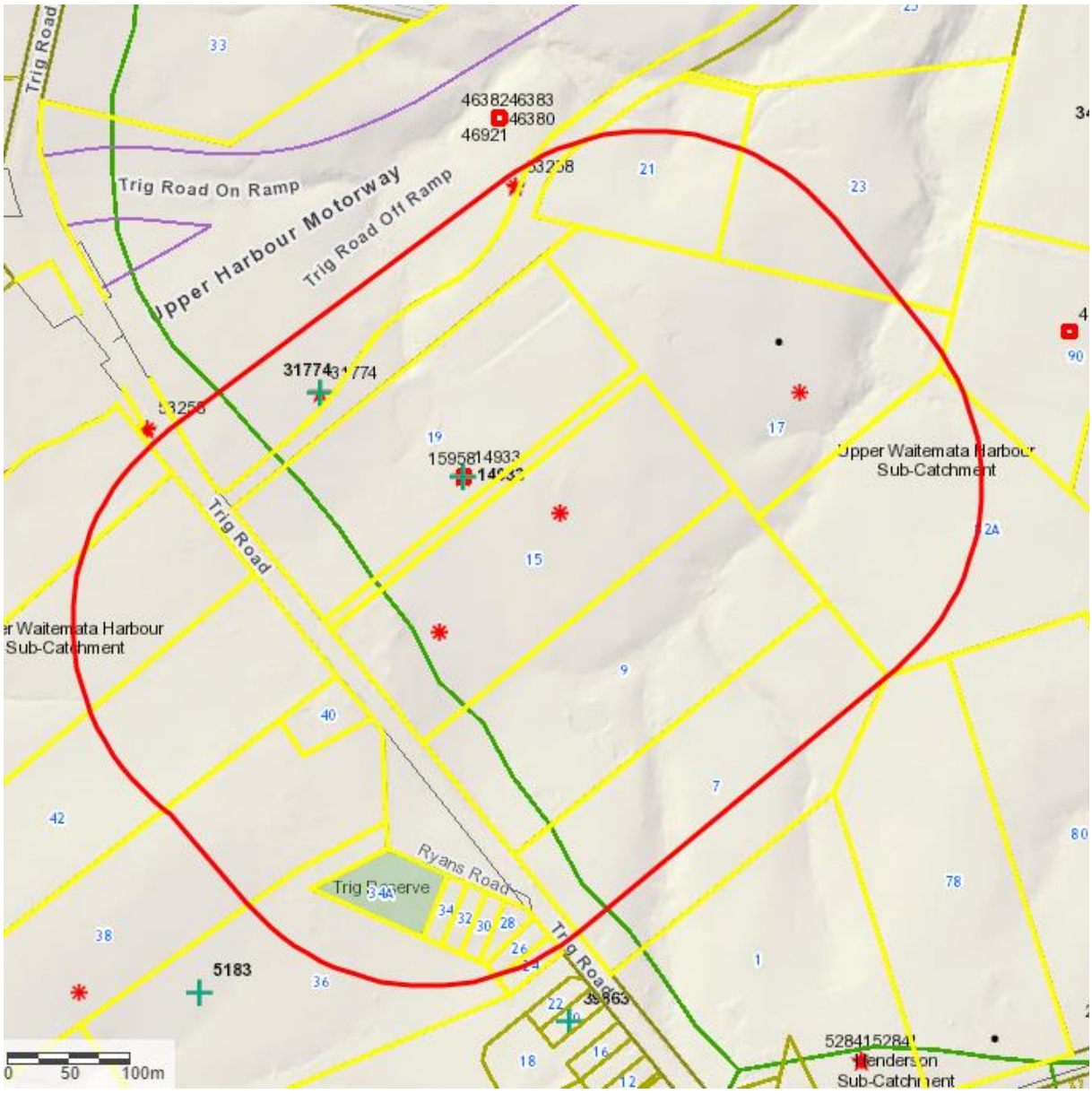
Please note:

- *If you are demolishing any building that may have asbestos containing materials (ACM) in it, you have obligations under the Health and Safety at Work (Abestos) Regulations 2016 for the management and removal of asbestos, including the need to engage a Competent Asbestos Surveyor to confirm the presence or absence of any ACM.*
- *Paints used on external parts of properties up until the mid-1970's routinely contained lead, a poison and a persistent environmental pollutant. You are advised to ensure that soils affected by old, peeling or flaking paint are assessed in relation to the proposed use of the property, including high risk use by young children.*

2. Consents and Incidents Information (200m radius of the selected site)

The Council database was searched for records of the following activities within approximately 200 metres of the site:

- Pollution Incidents (including air discharges, oil or diesel spills)
- Bores
- Contaminated site and air discharges, and industrial trade process consents
- Closed Landfills
- Air quality permitted activities



Legend:

All Consents

All Applications

All Permitted Activities

All Bores

Closed Landfill (Auckland Council owned)

Closed Landfill (Privately owned)

Relevant details of any pollution incidents and consents are appended to this letter (Attachment A). Please refer to the column titled ‘Property Address’ on the spreadsheet to aid in identifying corresponding data on the map.

While the Auckland Council has carried out the above search using its best practical endeavours, it does not warrant its completeness or accuracy and disclaims any responsibility or liability in respect of the information. If you or any other person wishes to act or to rely on this information, or make any financial commitment based upon it, it is recommended that you seek appropriate technical and/or professional advice.

If you wish to clarify anything in this letter that relates to this site, please contact contaminatedsites@aucklandcouncil.govt.nz. Any follow up requests for information on other sites must go through the online order process.

Should you wish to request any of the files referenced above and/or listed in the attached spreadsheet for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days’ notice to ensure the files will be available).

Please note Auckland Council cost recovers officer’s time for all site enquiries. As such an invoice for $128 for the time involved in this enquiry will follow shortly.

Yours Sincerely,

Contamination, Air and Noise Team
Specialist Unit | Resource Consents
Auckland Council

Appendix G: Regulatory framework

The rules and associated assessment criteria relating to the control of contaminated sites in the Auckland region are specified in the following documents:

- The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES Soil);
- The Auckland Unitary Plan – Operative in part (AUP)
- Health and Safety at Work (Asbestos) Regulation 2016 (Asbestos Regulations).

The NES Soil considers issues relating to land use and the protection of human health while the AUP has regard to issues relating to the protection of the general environment. The management of asbestos in soils is regulated under Asbestos Regulations. As asbestos is principally considered to be a human health contaminant the Asbestos Regulations (like the NES Soil) currently only considers issues relating to the protection of human health.

In order to help achieve compliance with the Asbestos Regulations, WorkSafe New Zealand has prepared an Approved Code of Practice (ACoP): Management and Removal of Asbestos (September 2016). The ACoP refers readers to the "New Zealand Guidelines for Assessing and Managing Asbestos in Soil" (herein referred to as the Asbestos-in-Soil Guidelines) which were published in November 2017 by BRANZ Ltd.

The requirement under each regulatory system (the NES Soil, AUP and Asbestos Regulations) for contaminated sites are described in this appendix.

G1 NES Soil

The NES Soil came into effect on 1 January 2012. This legislation sets out nationally consistent planning controls appropriate to district and city councils for assessing contaminants in soil with regard to human health.

The NES Soil applies to specific activities on land where a HAIL activity has, or is more likely than not to have occurred. Activities covered under the NES Soil include soil disturbance, soil sampling, fuel systems removal, subdivision and land use change.

As buildings at the site were built and/or demolished during the period when asbestos and lead based paints were in common use, and filling may have occurred during site development. It is therefore possible that these activities could be considered to be HAIL activities if contaminants are present at concentrations that pose a risk to human health or the environment.

In order to confirm if consent is required for future change in use or soil disturbance of the site:

- Soil testing is required to determine if contaminants (specifically asbestos, metals and PAHs) are present at concentrations that pose a risk to human health or the environment; and/or
- The scale and duration of works should be evaluated against the permitted activity thresholds when the development details have been resolved.

Council ordinarily requires that a Site Management Plan (SMP) is provided in support of any consent application.

If all of the conditions of a Permitted Activity can be met then resource consent is not required. If the permitted activity provisions cannot be met then consent will be required either as a controlled activity or restricted discretionary activity, determinant on the degree of ground contamination present. If investigations to quantify contamination are not carried out then a discretionary consent is required.

The conditions for the soil disturbance as a permitted activity are presented in **Tables F.2** and **F.3**. The permitted activity volumes may depend on the extent the HAIL activity area of the site and would require further consideration during the design process.

Appendix G Table 1: NES Soil permitted activity conditions for soil disturbance

NES Soil – Soil disturbance permitted activity conditions (Regulation 8(3))	
a	Implementation of controls to minimise exposure of humans to mobilised contaminants.
b	The soil must be reinstated to an erosion free state within one month of completing the land disturbance.
c	The volume of the disturbance of the piece of land must be no more than 25 m^3 per 500 m^2.
d	Soil must not be taken away unless it is for laboratory testing or, for all other purposes combined, a maximum of 5 m^3 per 500 m^2 of soil may be taken away per year.
e	Soil taken away must be disposed of at an appropriately licensed facility.
f	The duration of land disturbance must be no longer than two months.
g	The integrity of a structure designed to contain contaminated soil or other contaminated materials must not be compromised.

The key thresholds which the proposed development would need to comply with in order to be considered a permitted activity are summarised in **Table F.3.**

Appendix G Table 2: Soil disturbance permitted activity thresholds for the site

HAIL activity area of the site	2,322 m^2 based on the area surrounding the residential dwelling and associated shed.
Maximum permitted volume of disturbance	Approximately 116.1 m^3
Maximum permitted volume of soil removed from site	Approximately 46.4 m^3 per year
Maximum permitted duration of earthworks	Two months

For a change in land use, the requirement for a permitted activity is that is “highly unlikely that there will be a risk to a human health if the activity is done to the piece of land”. Soil testing is required to confirm that the change of land use can be undertaken as a permitted activity.

G2 AUP

The Auckland Unitary Plan – Operative in part (AUP) was released on 15 November 2016. This version supersedes the Decisions Version, the Independent Hearings Panel Recommended Version and the original proposed version.

The contaminated land rules, set out in Chapter E Environmental Risk Section E30, are not subject to any appeal, hence, the rules can now be ‘treated as operative’ under section 86F of the Resource Management Act 1991. Additionally, the provisions in the Auckland Council Regional Plan: Air Land and Water no longer need to be considered.

The contaminated land rules are set out in Chapter E Environmental Risk Section E30.

Rule E30.6.1.4 states that if soil concentrations or the 95% upper confidence limit (UCL) of soil concentrations are below the specified permitted activity criteria detailed in Table E30.6.1.4.1, then a resource consent is not required for the site. If soil contaminant concentrations exceed these

relevant guidelines or separate phase is present, then a controlled activity consent for the ongoing discharge of contaminants is required.

As described in **Section 6.1.2** of this report we expect consent under Section E30 of the AUP will only be required on the same basis as under the NES Soil.

F4 Health and Safety at Work (Asbestos) Regulations 2016

The management of asbestos in soils is regulated under the Health and Safety at Work (Asbestos) Regulations 2016 (Asbestos Regulations). In order to help achieve compliance with the Asbestos Regulations, WorkSafe New Zealand has prepared an Approved Code of Practice (ACoP): Management and Removal of Asbestos (September 2016). The ACoP refers readers to the *"New Zealand Guidelines for Assessing and Managing Asbestos in Soil"* (herein referred to as the Asbestos-in-Soil Guidelines) which were published in November 2017 by BRANZ Ltd.

The Asbestos-in-Soil guidelines define the level of oversight and controls (including personal protective equipment, decontamination, etc.) that is required to be implemented dependent on the concentration of asbestos fibres/fines or fragments that are present in the soils.

As all buildings at the site were constructed pre 2000s, an asbestos demolition survey will be required to be undertaken on all buildings prior to their removal as per the Building Act 2004 and Asbestos Regulations.

Removal of asbestos from the buildings will likely need to occur under the supervision of an appropriately licensed removalist (since the asbestos cladding exceeds 10 m^2 in area). We recommend that the removalist also addresses any localised contamination beneath the buildings (if any), in accordance with Asbestos Regulations and Asbestos-in-Soil Guidelines, at the time of demolition. Depending on the extent and nature of asbestos the removalist may need to prepare an Asbestos Removal Control Plan.

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