PlanCreative

Application for Land Use Consent

Prestons Road Commercial Development

390-408 Prestons Road, Christchurch

29 August 2024

Christchurch City Council

Reference: 254017

Version Consent Lodgement

PlanCreative Limited, PO BOX 10318, Christchurch 8145
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FORM 9: APPLICATION FOR RESOURCE CONSENT UNDER SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

TO: The Christchurch City Council

Ferrymead Properties Limited and Prestons Road Investments Limited

hereby applies for land use consent described below.

a. The names and addresses of the owner and occupier of land to which this application relates are as follows:

390, 394 and 396 Prestons Road are owned by **Ferrymead Properties Limited.**

400, 402, 404 and 406 Prestons Road are owned by **Prestons Road Investments Limited.**

408 Prestons Road is owned by **Cathryn Hide and Murray Withers.**

b. The location of the proposed activity is as follows:

390-408 Prestons Road, Christchurch.

c. A description of the activity to which the application relates is:

Resource consent is sought to construct and operate a new commercial development with associated car parking, landscaping, and signage.

d. A description of the application site including its location and its natural and physical characteristics.

Section 2 of the application describes the application site and surrounds.

e. Additional Consents

No other consents are required for this development proposal.

f. Assessment of Environmental Effects

Section 5 of the application includes an assessment of environmental effects in sufficient detail to satisfy the purpose for which it is required. This is in accordance with Schedule 4 of the Resource Management Act 1991.

g. Assessment against Part 2 of the Resource Management Act 1991

There is no need to assess the proposal against Part 2 of the RMA as the District Plan was competently prepared and gives effect to it.

h. Assessment against section 104(1)(b)

Section 4 of the application assesses the proposed activity against any relevant provisions of the operative District Plan in accordance with section 104(1)(b) and in accordance with Schedule 4 of the Resource Management Act 1991.

i. Additional Information

We attach any information required to be included in this application by the district plan, the regional plan, the Resource Management Act 1991, or any regulations made under that Act:

- **Appendix A: Certificates of Title**
- **Appendix B: Development Site Plan**
- **Appendix C: Mitre 10 Mega Building Floor Plans, Elevations and Signage**
- **Appendix D: Mitre 10 Mega Building Architectural Renders**
- **Appendix E: Retail Buildings Floor Plans and Elevations**
- **Appendix F: Retail Buildings Architectural Renders**
- **Appendix G: Pylon Signage**
- **Appendix H: Landscape Plans**
- **Appendix I: Babbage Consulting Earthworks Plans and Sediment Control Plans**
- **Appendix J: District Plan Compliance Assessment**
- **Appendix K: Retail Assessment**
- **Appendix L: Integrated Transport Assessment**
- **Appendix M: Preliminary and Detailed Site Investigation**

(Signature of applicant or person authorised to sign on behalf of applicant).

Dated at Christchurch this: 29th day of August 2024

ADDRESS FOR SERVICE:	**ADDRESS FOR APPLICANT (for fees and monitoring purposes):**
PlanCreative Limited, PO Box 10 318, Christchurch 8145 Attention: **Ray Edwards** Telephone: 029 963 8727 E-mail: ray@plancreative.co.nz	Ferrymead Properties Limited, 1005 Ferry Road, Ferrymead, Christchurch, 8023 Attention: **Tim Andrews** Telephone: 021 602 905 E-mail: tim.andrews@mitre10.co.nz

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1.0 INTRODUCTION

This resource consent application relates to a proposal to redevelop 390-408 Prestons Road to provide for a commercial development as generally anticipated by the Commercial Core zoning of the application site.

The proposed development has the following District Plan non-compliances:

a) Rule 15.4.1.1 (P3) and (P4). The Mitre 10 Mega has a tenancy is greater than the permitted maximum of 500m² GLFA;

b) Rule 15.4.2.1 c). A new building exceeding 1000m² GFA, and not provided with an urban design assessment, requires consent as a restricted discretionary activity;

c) Rule 15.4.2.7. The total parking supply of 374 spaces requires 76 trees to be planted within or adjacent to the parking area and between the buildings and the street. The proposal provides for 49 trees in these locations.

d) Rule 6.8.4.1.3 (RD2d). The proposed pylon signs each contain a digital panel. This requires consent as a restricted discretionary activity;

e) Rule 6.8.4.2.4. The proposed amount of building signage on the site exceeds permitted area amounts;

f) Rule 6.8.4.2.4. The 15% price guarantee sign on the Mitre 10 building has a height of 9.7m;

g) Rule 7.4.3.7 a). The eastern (primary) site access has a formed width of 10.5m. The western southern service area egress has a formed width of 18.5m.

h) Rule 7.4.3.8 e. The site frontage length permits two vehicle crossings to Prestons Road, whereas three are proposed;

i) Rule 7.4.3.10 – The proposed activity is classified as a mixed use activity and will generate more than 50 trips in the weekday evening peak hour.

j) Rule 8.9.2.1 (P1a). 3,338.50m³ of earthworks on the site is permitted in a 12 month period. Approximately 11,678m³ of earthworks is required, and;

k) Rule 8.9.2.1 (P1b). Earthworks shall not exceed a maximum depth of 0.6m. Earthworks required to create the stormwater detention basin will be up to 1.4m deep.

Consent is sought for a **restricted discretionary** activity under the Christchurch District Plan.

This application addresses the character of the land, the proposed land use activity, and the relevant provisions of the Christchurch District Plan. This application also includes an assessment of effects on the environment as required by the Fourth Schedule to the Resource Management Act 1991. This application document also includes the information required for a basic integrated transport assessment.

2.0 THE APPLICATION SITE

2.1 Summary of Property Details

Total Site Area: 32,130m²

Registered Owner: 390, 394 and 396 Prestons Road are owned by Ferrymead Properties Limited (FPL).

400, 402, 404 and 406 Prestons Road are owned by Prestons Road Investments Limited (PRIL).

408 Prestons Road is owned by Cathryn Hide and Murray Withers.

Operative District Plan Zoning: Commercial Core Zone (Prestons Neighbourhood Centre)

Overlays/Precincts/Other Limitations: Liquefaction Management Area.

2.2 Site Address, Legal Description and Title Reference

Table 1 below summarises the various land parcels that constitute the application site:

Site Address	Legal Description	Title Reference	Owner	Area
390 Prestons Road	Lot 1 DP 81666	CB47B/264	FPL	5,286m²
394 Prestons Road	Lot 2 DP 81666	CB47B/265	FPL	9,005m²
396 Prestons Road	Lot 3 DP 81666	CB47B/266	FPL	14,034m²
400 Prestons Road	Lot 3 DP18707	CB8B/218	PRIL	1,012m²
402 Prestons Road	Lot23 DP18707	CB699/53	PRIL	1,012m²
404 Prestons Road	Lot 1 DP18707	CB811/49	PRIL	1,012m²
406 Prestons Road	Lot 1 DP16442	CB568/79	PRIL	1,012m²
408 Prestons Road	Lot 3 DP13469	CB753/20	Hide & Withers	1,012m²
			Total	**33,385m²**

Table 1: The various land parcels that constitute the application site

Recent copies of the relevant certificates of title are provided in **Appendix A**.

2.3 Site Information

The location of the site is illustrated in Figure 1 below:

Figure 1: Location of the application site (outlined in red).

Figure 1 shows that the site comprises several allotments along the southern side of Prestons Road. These sites have historically been used for the following activities:

a) 390 Prestons Road – *Buzzbug* Volkswagen car parts and a dwelling;

b) 394 Prestons Road – Previously the main operational base for Treetech Tree Services Limited;

c) 396 Prestons Road –the storage of caravans and campervans and a dwelling;

d) 400-406 Prestons Road – a dwelling on each site, and;

e) 408 Prestons Road – *Little Blue Penguin* preschool.

2.4 Site Zoning

The application site has a *Commercial Core* zoning under the Christchurch District Plan as shown in Figure 2 below:

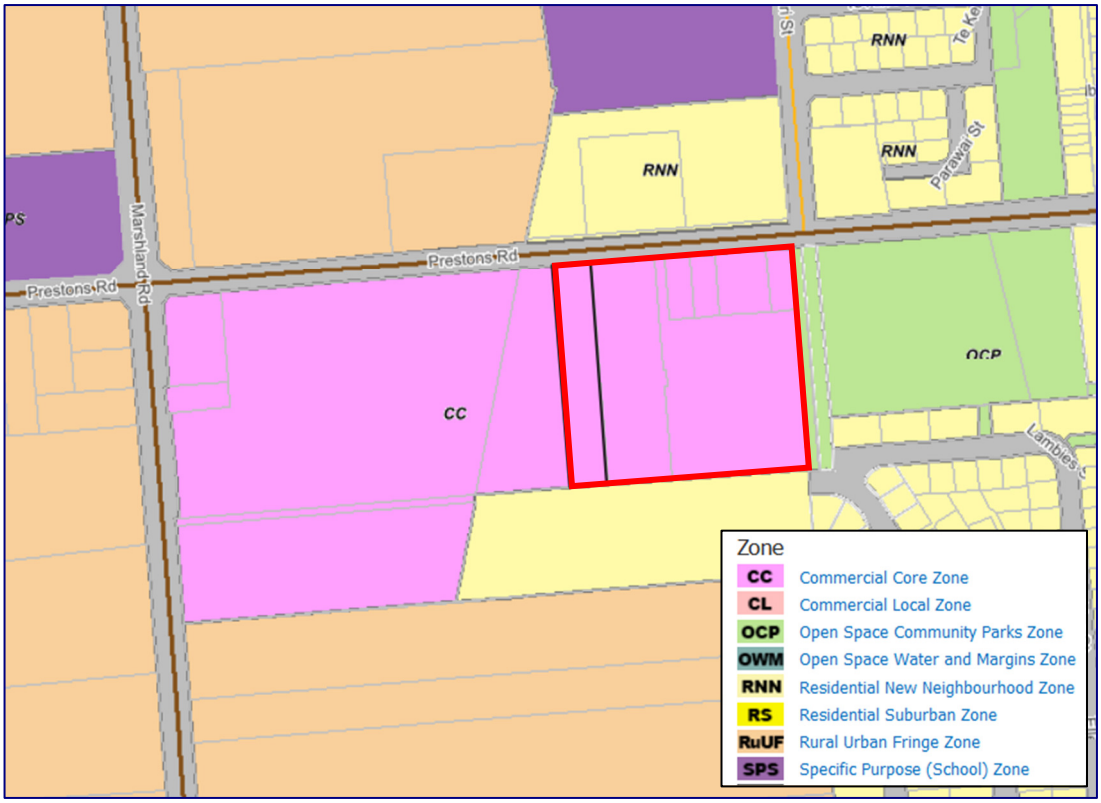


Figure 2: Christchurch District Plan Zoning of the application site (outlined in red).

2.5 Surrounding Land Uses

Figure 2 shows that:

a) The site is part of a wider *Commercial Core* zone that extends west to Marshland Road. While the adjoining site to the west, at 386 Prestons Road, has not been redeveloped for commercial purposes, the sites further to the west through to Marshland Road, have been partially redeveloped to include a New World supermarket, a McDonalds, a restaurant, and a selection of retail outlets. The total retail GLFA in the developed parts of the zone is approximately 5,800m² (measured from aerial imagery);

b) To the northwest pf the site, across Prestons Road, is a *Rural Urban Fringe* zone that has not been redeveloped from historic semi-rural land uses;

c) To the north and northeast of the site, also across Prestons Road, is a *Residential New Neighbourhood* zone that is being progressively redeveloped with low-medium density housing;

d) To the east of the site is the Marshland Doman which has an *Open Space Community Parks* zoning;

e) To the south southeast of the site, is another *Residential New Neighbourhood* zone that is being progressively redeveloped with low-medium density housing. As part of this, the bottom of Figure 1 shows that Georgina Street has been extended westwards immediately south of the application site, with residential allotments having been created alongside the southern site boundary.

2.6 Potential Soil Contamination

A search of the Environment Canterbury *Listed Land Use Register* (LLUR) has been undertaken to identify any soil contamination issues. This search provided the following results:

a) 390 Prestons Road – no results;

b) 394 Prestons Road – no results;

c) 396 Prestons Road – no results;

d) 400 Prestons Road – no results;

e) 402 to 406 Prestons Road:

i. Preliminary site investigation INV267186, 1st November 2019;

ii. Detailed site investigation INV267188, 23 December 2019;

iii. Site validation report INV297735, 30 September 2021, and;

iv. Classified as being below industrial and commercial guidelines, SIT267184.

f) 408 Prestons Road – no results.

The applicant subsequently organised for a Preliminary and Detailed Site Investigation (PSI / DSI) to be undertaken by KPES Limited. A copy of the PSI / DSI is provided in **Appendix M** to this application. The reader is referred to that report, and in part5icular the recommendations provided in Section B of the executive summary. The applicant volunteers conditions of consent to achieve the recommendations of the PSI / DSI.

3.0 THE PROPOSAL

3.1 General Description

The site plan provided in **Appendix B** shows that is proposed to construct and operate a new commercial development with associated car parking, landscaping, and signage. Vehicle access to the site will be in two locations from Prestons Road, with a third vehicle egress for service delivery vehicles, onto Prestons Road. The site will be landscaped, and includes a planted stormwater detention area alongside the western site boundary. There will be signage placed on all buildings, complemented by two pylon signs located in two locations alongside Prestons Road site boundary.

3.2 Mitre 10 Mega Building

It is proposed for the southern half of the application site to contain a *Mitre 10 Mega* outlet which will have a gross floor area of 10,335m². The building will contain the main retail warehouse area, a trade sales and drive through area, as well as an outdoor nursery and landscape supplies area, goods unloading area, administration offices and a café. The floor areas of the proposed building are provided in Table 2 on the next page.

The proposed building will be up to 10m high above floor level, and setback:

a) 91.835m from the Prestons Road boundary,

b) 10.876m from the southern boundary,

c) 13.223m from the western internal boundary, and

d) 6.205m from the eastern internal boundary.

The floor plans and elevations for this building are provided in **Appendix C**. Architectural renders of the proposed building are provided in **Appendix D**.

Sub-activity	Gross Floor Area	Canopy Area	Total
Retail hall	4949.8m²		4949.8m²
Drive-through	2479.1m²		2479.1m²
Garden centre (partly covered)	2039.6m²		2039.6m²
Inwards Goods	382.6m²		382.6m²
Entry vestibule	110.2m²		110.2m²
Sub-total trading area	**9961.3m²**		**9961.3m²**
Office block	167.2m²		167.2m²
Office mezzanine	146.0m²		146.0m²
Cafe	227.5m²		227.5m²
Amenities Area	30.0m²		30.0m²
Sub-total 'other' areas	**570.7m²**		**570.7m²**
Inwards goods canopy		192.8m²	192.8m²
Drive-through southern canopy		259.0m²	259.0m²
Drive-through northern canopies		75.0m²	75.0m²
Entry vestibule canopies		50.0m²	50.0m²
Sub-total canopy areas		**576.8m²**	**576.8m²**
Total	**10,532m²**	**576.8m²**	**11,108.8m²**

Table 2: Proposed Mitre 10 Mega Building Areas

3.3 Retail / Commercial Buildings

The site plan provided in **Appendix B** shows that is also proposed to construct five retail / commercial buildings in the northern half of the application site. These buildings will be divided into multiple tenancies, with a maximum GLFA of 150m², and will be used for activities permitted under Rule 15.4.1.1 and likely (but not limited to) the following activities:

a) P3 Retail activity, excluding supermarket and department store, with a maximum individual tenancy size of 500m² GLFA;

b) P4 Trade suppliers with a maximum individual tenancy size of 500m² GLFA;

c) P5 Second hand goods outlets with a maximum individual tenancy size of 500m² GLFA;

d) P6 Commercial services with a maximum individual tenancy size of 500m² GLFA;

e) P7 Entertainment activities with a maximum individual tenancy size of 500m² GLFA;

f) P9 Food and beverage outlets with a maximum individual tenancy size of 500m² GLFA;

g) P10 Gymnasiums with a maximum individual tenancy size of 500m² GLFA

h) P11 Offices with a maximum individual tenancy size of 500m² GLFA;

i) P14 Health care facilities;

j) P15 education activities.

The floor areas of the proposed retail / commercial buildings are provided in Table 3 below:

Sub-activity	Gross Floor Area
Building A (western)	969.8m²
Building B (central)	765.3m²
Building C (central)	343.0m²
Building D (central)	670.2m²
Building E (eastern)	765.3m²
Total	**3,513.6m²**

Table 3: Proposed Retail / Commercial Building Areas

Of note is the Building B has a U-shaped footprint and it is anticipated that Buildings C and D will be used for a food court area (like 'Little High' or 'Riverside') where individual tenancies will not exceed 150m² GLFA. If this use of these buildings was to occur, then the 220.4m² central courtyard area will be used for outdoor use in association with any food and beverage tenancies.

Buildings A to E elevations are provided in **Appendix E** and architectural renders of these buildings is provided in **Appendix F**. It is noted that the northern elevation of buildings A to E achieves a 40.2% glazing area.

3.4 Site Signage

Mitre 10 Mega Signage

The elevations provided in **Appendix C** show that it is proposed to install signage on the northern and eastern elevations of the Mitre 10 Mega building. The elevations provided in **Appendix C** provide the dimensions of the various signs. This information is summarised in Table 4 below. Note that other signage shown on the building elevations is directional signage.

Sign #	Location	Description	Height Above Ground	Area
A	Northern Elevation	Proudly Locally owned	8.0m	9.48 x 3.00 = 28.4m²
B		Mitre 10	8.0m	14.71 x 3.00 = 44.1m²
C		Mega Home Improvement Warehouse	9.0m	14.75 x 4.46 = 66.2m²
D		Low Price 15% Guarantee	9.7m	6.0 x 6.0 = 28.3m²
E		Columbus Coffee	4.8m	5.38 x 1.0 = 5.38m²
F	Western Elevation	Mitre 10	9.0m	12.25 x 2.5 = 30.6m²
G	Eastern Elevation	Mitre 10	9.0m	12.25 x 2.5 = 30.6m²
			Total	**233.6m²**

Table 4: Proposed Mitre 10 Mega Signage Areas

Retail / Commercial Building Signage

The elevations provided in **Appendix E** show that it is proposed to install signage on the northern, southern, eastern, and western building elevations. The proposed signage areas summarised in Table 5 on the next page. It is proposed that the tenancy identification signs will be internally illuminated, but not digital signage with varying images.

Site Pylon Signage

In addition to the building signage presented in Tables 4 and 5, it is proposed to construct two double-sided pylon signs at the road boundary for overall site identification purposes. These pylons signs will be located alongside the two primary vehicle access points and will be 2.5m wide x 9.0m high with a 18m² signage panel including a 3m² digital panel at the top of each sign. Plans of the proposed pylon signs are provided in **Appendix G**.

Building	Location	Description	Height Above Ground	Individual Sign Area	Total Sign Area
A to E	Northern Elevation	5 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	5 x 3.09m² = 15.45m²
A to E	Southern Elevation	5 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	4 x 3.09m² = 12.36m²
A	Southern Elevation	Tenancy Identification Sign	<4.0m	2.01 x 2.63 = 5.31m²	5.31m²
A	Eastern Elevation	7 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	7 x 3.09m² = 21.63m²
B	Western Elevation	6 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	6 x 3.09m² = 18.54m²
D	Eastern Elevation	5 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	5 x 3.09m² = 15.45m²
E	Western Elevation	7 x Tenancy Identification Sign	4.6m	3.40 x 0.91m = 3.09m²	7 x 3.09m² = 21.63m²
				Total	**110.37m²**

Table 5: Proposed Commercial Buildings Signage Areas

3.5 Hours of Operation

It is noted that there are no limits on operating hours within the Commercial Core zone. That said, it is likely that the operating hours of the various activities proposed within the site will be as follows:

a) The Mitre 10 Mega store - between 07:00 and 22:00 on any day;

b) Retail activity, trade suppliers, second hand goods outlets, commercial services, offices, and health care facilities - between 07:00 and 18:00 on any day;

c) Entertainment activities, food, and beverage outlets - between 07:00 and 22:00 on any day;

d) Gymnasiums – 24 hour operation;

e) Education activities - between 07:00 and 18:00 Monday to Saturday.

It is also anticipated that community groups will likely to use the Mitre 10 Mega part of the site most weekends for fundraising activities. Typically, this would be limited to a sausage sizzle, which is a common activity at other Mitre 10 Mega stores throughout the country. These fundraising events

are anticipated to run from 10:00am to 2:00pm on weekends and are considered to cater for visitors already on site.

3.6 Sale of Alcohol

The potential use of Buildings C and D for food and beverage activities introduces the potential for these outlets to be licensed for the sale of alcohol. Should any of the retail tenancies located within 75m of a residential zone be used for the sale of alcohol, then separate resource consent will be sought at that time. To this effect, application volunteers a condition of consent that the sale of alcohol be located a minimum of 75m from the residential new neighbourhood zone located across Prestons Road from the application site.

3.7 Site Access Provision

As noted earlier, vehicle access to the site will be in two locations from Prestons Road, with a third vehicle egress for service delivery vehicles, also onto Prestons Road. In more detail:

a) The primary vehicle access will be from Prestons Road on the common boundary of 402 and 404 Prestons Road, commencing approximately 55 metres from the prolongation of the eastern boundary of Korari Street. This access will be 10.5m wide consisting of a 4.0m wide entry lane, and 3.0m wide right turn exit lane and a 3.5m wide left turn exit lane. This access has been specifically positioned to make use of the existing flush median on Prestons Road to provide for storage for right truing vehicles into the site. An 18m queue space will be provided at this access point.

b) The secondary vehicle access will also be from Prestons Road on the common boundary within 394 Prestons Road. This access will be 7.5m wide consisting of a 4.0m wide entry lane, and 3.5m wide left turn exit lane. Because of the reduced carriageway width in Prestons Road at this point, it is proposed to limit turns at this access point to left turn entry and exit only through the installation of a solid median island within the flush median on Prestons Road. An 6m queue space will be provided at this access point.

c) It is proposed to provide an egress from the Mitre 10 Mega southern yard area alongside the western site boundary to provide a left turn exit for Mitre 10 Mega service delivery vehicles and staff vehicles. The exact design of this egress point is still to be finalised in consultation with Council engineering staff, to avoid relocation of the pedestrian refuge island located centrally within Prestons Road in this location. The final design of this

egress point may require the driveway and stormwater detention basin to be reconfigured.

Pedestrian access will be from four locations onto Prestons Road, with each location leading directly to a footpath along the frontages of the commercial buildings A, B, D and E. All footpaths will be designed for mobility impaired people in accordance with the design requirements of AS4121:2001.

3.8 Car Parking Provision

It is proposed to provide a total of 374 parking spaces across the site in the areas identified in Table 6 below:

Car Park Location	Standard Parking Spaces	Mobility Spaces	Total Parking Spaces
Between Building A and Building B	71 spaces	2 spaces	73 spaces
Between Building D and Building E	97 spaces	2 spaces	99 spaces
Mitre 10 Mega visitor parks	146 spaces	5 spaces	151 spaces
Mitre 10 Mega staff parks	51 spaces	nil	51 spaces
Total	**365 spaces**	**9 spaces**	**374 spaces**

Table 6: Proposed Car Parking Supply

The proposed parking layout has been designed to fully comply with the requirements of NZS2890.1:2004. The main site space widths are 2.6m with aisle widths of 7.0-8.0m. The mobility spaces will be 2.4m wide plus a 1.2m wide wheelchair area. All accessible spaces are located alongside accessible routes to the buildings.

All parking spaces will be sealed, marked, and illuminated (max 2.5 lux) in accordance with relevant District Plan design requirements.

3.9 Cycle Parking Provision

The proposed Mitre 10 Mega has a 10,532m² GLFA (Table 2). The five commercial buildings have a combined GFA of 3514m² (Table 3). The combined GFA is 14,046m² which requires 46 visitor cycle parks plus 19 covered staff cycle parks.

It is proposed to provide 46 visitor cycle spaces located in key areas, and alongside proposed pedestrian routes, within the car park. It is also proposed to provide 5 secure and covered staff cycle parks within the servicing enclosure located behind Building C, and 14 secure and covered staff cycle parks in the southwestern corner of the site behind the Mitre 10 building.

Stands will be designed to meet the requirements of Appendix 7.5.2 a. ii.-vii. in relation to the stand design and location.

3.10 Goods Loading Provision

Servicing for the Mitre 10 Mega activity will be provided in the southern yard of the site. Entry will be from the Prestons Road primary vehicle access and then around the eastern side of the Mitre 10 Mega building. This route has been designed to cater for a B-train. The proposed site plan shows the southern yard readily capable of containing the required 5 HGV loading spaces.

Servicing for the five commercial buildings will be provided in the southern yard of Buildings C and D. This area has been designed to accommodate the two required design two-axle rigid truck HGV loading spaces. In addition four of the parking spaces located between Buildings A-E will be marked as courier van drop-off spaces.

3.11 Landscaping

The site plan provided in **Appendix B** shows that 1,377m² of the site will be landscaped plus a 1,333m² stormwater detention basin alongside the western site boundary that will also be landscaped. A landscape design for the development has been prepared by *Outerspace* and this is provided in **Appendix H**. Features to note from this plan are:

a) Buildings A to E are setback 3.0m from the road boundary of the site. This area will be landscaped with 18 English oaks and various other shrubs and plantings.

b) Limited landscaping is provided along the eastern site boundary because Figures 1 and 2 earlier show that this side of the site adjoins the landscaped Marshland Domain.

c) The southern site boundary, which adjoins a residential zone, will be planted with 22 '*Upright Hornbeams*' and *Griselinia* within a 1.5m wide landscape strip. The Hornbeams will be planted at 2.0m heights and at 8.8m centres. A 1.8m high fence is proposed along this boundary.

d) The western site boundary will contain extensive plantings within the proposed stormwater detention basin area;

e) The overall car park will be planted with:

i. 18 English Columnar Oak trees along the road frontage of the site;

ii. 10 English Columnar Oak trees within the car park;

iii. 11 Upright Hornbeams within the car park;

iv. 10 Ribbonwoods within the stormwater detention basin alongside the car park and western service vehicle egress, and;

v. 6 Ribbonwood trees located between the western side of the Mitre 10 building and the western site boundary

The total tree supply between the buildings and the street is 18 + 10 + 11 + 10 = 49 trees. All trees will be planted within a minimum 1.5m wide landscaped area. Wheelstops will be provided for any parking spaces that nose into landscaped areas (and this is volunteered as a condition of consent).

The proposed Upright Hornbeams and English Oaks are identified as suitable trees in Appendix 6.11.6 of the District Plan. The proposed Ribbonwoods are not identified as suitable trees in Appendix 6.11.6 of the District Plan, but they have been specifically selected for their tolerance to wet soil conditions because of being located within the stormwater detention basin area.

3.12 Fencing

The site plan provided in Appendix B shows that the eastern, southern, and western site boundaries will have 1.8m high fencing. The road boundary of the site will not be fenced.

1.8m high fencing is also proposed to secure and screen the Building C service court area.

It is also proposed to provide a fence within the southern yard area to sperate the drive through exterior yard area from the southern service delivery area.

3.13 Outdoor Lighting

While the lighting design for the proposed development is yet to be prepared, it is proposed that the lighting design will accord with the design requirements of District Plan rules 6.3.4.1 and 6.3.5.1. To this effect it is proposed to volunteer the following design criteria as conditions of consent:

a) The entire car park area will be illuminated to a maximum of 2.5 lux);

b) All fixed exterior lighting will, as far as practicable, be aimed, adjusted, and/or screened to direct lighting away from the windows of habitable spaces of sensitive activities (being the residential area located across the southern site boundary, and the residential area located across Prestons Road from the site);

c) Any outdoor lighting will not result in a greater than 4.0 lux spill (horizontal or vertical) onto neighbouring residentials zoned areas;

d) Any outdoor lighting will not result in a greater than 10.0 lux spill (horizontal or vertical) onto neighbouring commercial zoned areas

e) Any outdoor lighting will not result in a greater than 2.5 lux spill (horizontal or vertical) onto Prestons Road.

3.14 Earthworks

Earthworks will be necessary to create the buildings foundation platforms, and the create the vehicle parking and landscaped areas. While building floor levels and foundation requirements (300mm deep) are generally known, final detailed design of the yards and landscaped areas is yet to be completed to enable exact calculation of required earthworks. Based on what is known at the time of preparing this document, and earthworks plan and information on industry standard sediment control devices has been prepared by Babbage Consulting and their information is provided in **Appendix I**. They currently calculate that the proposal requires the earthworks volumes presented in Table 7 below:

	Cut	Fill	Balance
Stage 1, cut existing site to design subgrade levels	5,107m³	1659m³	3448m³
Stage 2, fill site to finished levels	nil	10,019m³	10,019m³
Total	**5,107m³**	**11,678m³**	**6,571m³**

Table 7: Estimated Earthworks Volumes as Calculated by Babbage Consultants.

The above volumes do not exempt out earthworks within 1.8m of the building footprint as exempted under Rule 8.9.3 (iv.) of the District Plan.

The plans provided in **Appendix I** show that the maximum cut depth will be up to 1.4m in isolated locations alongside the western site boundary to create the stormwater detention basin. The typical fill depth is 0.2m-0.4m with only isolated spots where fill up to 0.8m is required.

3.15 Water Supply for Firefighting

The site is connected to the Council's urban reticulated system. While initial consultation with FENZ has been undertaken in relation to this project, the final detailed design of the water supply infrastructure for fire fighting is yet to be finalised. However, based on what is known for the Mitre 10 Mega building at the time of preparing this application, the design solution is likely to be as follows:

a) There is an existing 300mm ring main on two boundary lines of the property, the fire risk for water supply would fall under FW7 (stored water 800,000 litres);

b) Extending 2 x 200mm mains of the ring main with inground couplers (not hydrants) 2 doubles at the southern end and 2 singles in the car park would provide adequate water supply over stored water.

c) Two additional PA doors would be required at the rear of the building to access the building and maintain the max 75-metre hose run.

d) To avoid the need for a riser main in the stair well to access all 3 levels of the office a minor wall adjustment would be required on the second-floor office space.

e) Adding some clear light panels to the roof allowing for burn out in a fire.

For the five commercial buildings, these would be supported by a combination of the road hydrants and two development hydrants in the car park.

Given that further detached design work is still required, it is proposed to volunteer conditions of consent to meet the requirements of this rule. The proposed conditions are:

1. *The firefighting water supply requirements of SNZ PAS 4509:2008 shall be met for the development. The firefighting water supply solution to meet the requirements of SNZ PAS 4509:2008 shall be confirmed prior to construction of the first tenantable building on the site commencing, and:*
    i. *the adequacy of that solution to meet the requirements of SNZ PAS 4509:2008 shall be certified by an appropriately qualified and experienced fire engineer, or otherwise approved by FENZ; and;*
    ii. *evidence of the certification or FENZ approval shall be provided to Christchurch City Council prior to the commencement of construction of any commercial building on the site, via email to: RCmonitoring@ccc.govt.nz.*

4.0 OPERATIVE DISTRICT PLAN COMPLIANCE ASSESSMENT

4.1 Zoning of Application Site

The application site is zoned ***Commercial Core*** in the Christchurch District Plan.

4.2 Activity Definition

For this application, the proposed commercial/retail buildings are considered to fall under the District Plan definition of 'retail activity' being:

Retail activity *means the use of land and/or buildings for displaying or offering goods for sale or hire to the public. It includes food and beverage outlets, second-hand goods outlets, food courts and commercial mail order or internet-based transactions. It excludes trade suppliers, yard-based suppliers and service stations.*

The proposed Mitre 10- Mega activity is considered to fall under the District Plan definition of 'trade supplier' being

Trade supplier *means a business engaged in sales to businesses and institutional customers (but may also include sales to the general public) and consists only of suppliers of goods in one or more of the following categories:*

a. automotive and/or marine suppliers;

b. building suppliers;

c. catering equipment suppliers;

d. farming and agricultural suppliers;

e. garden and patio suppliers;

f. hire services (except hire or loan of books, videos, DVDs and other similar home entertainment items);

g. industrial clothing and safety equipment suppliers; and

h. office furniture, equipment, and systems suppliers.

From the above underlined classifications, it is noted that:

a) an automotive supplier is a business primarily engaged in selling auto parts and accessories;

b) a building supplier means a business primarily engaged in selling goods for consumption or use in the construction, modification, cladding, fixed decoration or outfitting of buildings. It includes suppliers of:

i. awnings and window coverings;

ii. *bathroom, toilet, and sauna installations;*

iii. *electrical materials and plumbing supplies;*

iv. *heating, cooling, and ventilation installations;*

v. *kitchen and laundry installations, excluding standalone appliances;*

vi. *paint, varnish and wall coverings;*

vii. *permanent floor coverings;*

viii. *power tools and equipment;*

ix. *safes and security installations;*

x. *timber and building materials; and*

xi. *any other goods allowed by any other definition under trade supplier.*

It is important to note that the Mitre 10 Mega activity only needs be only 'primarily engaged' in selling the above product lines, and not solely engaged in selling them. Therefore, there is flexibility for other retail lines to be sold under the trade supplier definition without it being classified as a retail activity.

4.3 Compliance Assessment and Reasons for Consent

An assessment against the relevant provisions of the Christchurch District Plan is provided in **Appendix J**. Based on this, land use consent is required for the following reasons:

Chapter 15.4 – Commercial Core Zone Rules

a) Rule 15.4.1.1 (P3) and (P4). The Mitre 10 Mega activity is a hybrid of a trade supplier and retail activity. The tenancy size is greater than the permitted maximum of 500m² GLFA. This requires consent as a **restricted discretionary** activity under Rule 15.4.1.3 (RD6).

b) Rule 15.4.2.1. Any new building exceeding 1000m² GFA, and not provided with an urban design assessment. This requires consent as a **restricted discretionary** activity under Rule 15.4.2.1 c).

c) Rule 15.4.2.7. The total parking supply of 374 spaces requires 75 trees to be planted within or adjacent to the car parking area at the front of the site. The proposal provides

for 49 trees in these locations. This requires consent as a **restricted discretionary** activity under Rule 15.4.1.3 (RD2).

Chapter 6 – General Rules

d) Rule 6.8.4.1.3 (RD2d). The proposed pylon signs each contain a digital panel. This requires consent as a **restricted discretionary** activity under Rule 6.8.4.1.3 (RD2).

e) Rule 6.8.4.2.4. The maximum permitted total area of signs is the length along the primary building frontage x 0.5m = 169.53m frontage length x 0.5 = 84.77m². The proposed Mitre 10 building has 233.6m² of signage. The proposed retail / commercial buildings have 233.6m² of signage. This requires consent as a **restricted discretionary** activity under Rule 6.8.4.1.3 (RD1).

f) Rule 6.8.4.2.4. The maximum permitted height above ground level for a sign is 9 metres or façade height, whichever is lower. All proposed signage has a maximum height of 9.0m apart from the 15% price guarantee which has a height of 9.7m. This requires consent as a **restricted discretionary** activity under Rule 6.8.4.1.3 (RD1).

Chapter 7 – Transport

g) Rule 7.4.3.7 a) - The maximum formed width of a vehicle access shall be 9m. The eastern (primary) site access has a formed width of 10.5m. The western southern service area egress has a formed width of 18.5m. This requires consent as a **restricted discretionary** activity under Rule 7.4.2.3 (RD1).

h) Rule 7.4.3.8 e. The site frontage length permits two vehicle crossings to Prestons Road, whereas three are proposed. This requires consent as a **restricted discretionary** activity under Rule 7.4.2.3 (RD1).

i) Rule 7.4.3.10 – The proposed activity is classified as a mixed use activity and will generate more than 50 trips in the weekday evening peak hour. This requires consent as a **restricted discretionary** activity under Rule 7.4.2.3 (RD1).

Chapter 8 – Subdivision, Development and Earthworks

j) Rule 8.9.2.1 (P1a). Earthworks shall not exceed 1000m³/ha in commercial zones over any 12 month time period. The site area is 3.3385 hectares. Therefore 3338.50m³ is permitted in a 12 month period. Ignoring the 1.8m exemption around buildings,

approximately 11,678m³ of earthworks is required. This requires consent as a **restricted discretionary** activity under Rule 8.9.2.3 (RD1).

k) Rule 8.9.2.1 (P1b). Earthworks shall not exceed a maximum depth of 0.6m. Earthworks required to create the stormwater detention basin will be up to 1.4m deep. This requires consent as a **restricted discretionary** activity under Rule 8.9.2.3 (RD1).

4.4 Activity Status

Overall, the activity requires land use consent as a **restricted discretionary** activity.

5.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

5.1 Retail / Trade Supplier Tenancy Size

Rule 15.4.1.1 (P3) and (P4) limit the maximum permitted tenancy size of 500m² GLFA. The proposed Mitre 10 mega activity has a GFA of 10,532m². This requires consent as a **restricted discretionary** activity under Rule 15.4.1.3 (RD6). The relevant assessment matters are contained in Rules 15.13.2.1 (maximum tenancy size) and 15.13.2.4 (centre vitality and amenity). These assessment matters are copied below:

15.13.2.1 Maximum Tenancy Size

a. The extent to which the scale of the activity:

i. affects recovery of the Central City and its function as the principal Centre;

ii. supports the intended role of the Centre having regard to the Centres Hierarchy.

15.13.2.4 Centre vitality and amenity

a. The extent to which the scale, character, form, and location of the activity:

i. Contributes to the vitality of the centre, particularly along key pedestrian frontages;

ii. Supports the intended role of the centre the development is proposed in, while not eroding the role of the Central City and District Centres in the centres hierarchy (Refer to 15.2.2.1 Policy – Role of centres);

iii. Impacts upon the diversity of activities within the centre;

iv. Promotes the efficient use of land within the centre to achieve a compact urban form;

v. Reflects the functional requirements of the activity.

In response to the above assessment matters, **Appendix K** contains an economic assessment prepared by Property Economics Limited on behalf of the applicant. The key purpose of this assessment is to:

a) Consider the potential effect the proposal will have on the consumption of Commercial Core zoned land, otherwise intended for a convenience centre, by a non-convenience store type that services a broader market than the local area, and the consequences of this on the future potential of the centre, and;

b) Provide commentary on the changing nature of hardware, building supply and home improvement stores, the effect this has on their role, function, position in the market

and locational requirements, and how this is likely to impact the potential trade competition and retail distribution effects of the proposed store.

Main points made in the economic assessment include:

a) The definition of Retail activity in the plan excludes the service station, trade suppliers and yard-based suppliers;

b) The Prestons Commercial Core zone has a special requirement that limits the total retail floorspace to a maximum of 12,000m² of retail floorspace and the maximum GLFA of any single tenancy for a retail activity (excluding supermarket) is 150m². These rules have been retained in Plan Change 14;

c) Under this Statistics NZ high growth scenario, the population of the identified catchment is anticipated to grow by an additional 4,485 residents over the next 15 years to 15,380 residents. This equates to a growth rate of 2.23% per annum or a total increase of +41% from the current 2023 population base. If, however, realised growth is at a rate similar to the medium projection scenario the catchment would grow by a slower rate of 2,375 residents, growth of +22%.

d) However, if PC14 is approved, it could shift catering for population growth away from greenfield expansion to urban densification which may slow growth of the Prestons area. Consequently, its future as a major retail destination is questionable, particularly within the next 30 years.

e) Compounding this, Council traffic count data shows that the traffic volume through the Marshland / Prestons intersection has significantly reduced (dropping by 34% from 14,196 in 2019 to only 9,434 in 2023) since the northern motorway became operational. This has removed some of the potential 'drive-by' traffic from the Prestons Road Centre market lowering its sales potential and sustainable GFA requirement compared to the pre-Northern Motorway potential;

f) Trade Retail stores such as the proposed Mitre 10 Mega have no meaningful propensity to create significant adverse retail distribution effects on centres. This is because hardware and building supply stores no longer compete directly with retail stores, but increasingly with traditional trade and construction business activities that were or are generally sited in industrial locations;

g) In relation to loss of commercial core zoned land area from the Mitre 10 Mega activity, the economic analysis of convenience demand within the catchment indicates a total land requirement for retail and commercial service of between 3.3ha and 3.64ha for the Medium and High growth scenarios respectively. The maximum permitted retail floor space would require around 4.60 hectares of land. The Prestons Road Commercial Core Zone encompasses approximately 10ha of land. Utilising the higher District Plan cap as the land requirement baseline there is a residual 5.4ha of Commercial Core Zone land in the Prestons Road Centre available for other land uses;

h) All the existing Prestons Commercial Core Zone vacant land provision is not required to satisfy its role and function in the market. Put simply, the Commercial Zone provision of the centre is too large for its role and function and cannot be fully utilised because of the Operative District Plan retail cap and the future size of the market;

i) As such, other land use activities should be considered for the residual Commercial Core Zone land of the centre to improve it functionality and amenity afforded the community. Mitre 10 Mega proposes to occupy only part of the centre's current vacant Commercial Core Zone provision at circa 2.5ha.

j) Importantly, the economic analysis show the proposed Mitre 10 Mega store will not undermine the Prestons Road Centre or compromise its development potential in the future. The Mitre 10 Mega would add diversity, vibrancy and amenity to the centre's offering and create efficiencies by complementing the centre and draw additional shoppers / tradies on a more frequent basis improving the economic performance of the centre overall;

k) Consequently, Property Economics foresee no potential adverse effects of the proposal on the future of the Prestons Neighbourhood Centre and its potential to play its envisaged role and function in the market, and;

l) Property Economics foresee the proposal resulting in benefits of increased centre activity, increased economic activity, local employment, enhanced community shopping experience.

Overall, Property Economics are of the opinion that the proposed development will result in a net economic benefit and a positive economic impact on the Prestons local market, surrounding community, and the overall performance of the Prestons Neighbourhood Centre.

5.2 Urban Design

Under Rule 15.4.2.1, any new building exceeding 1000m² GFA, and not provided with an urban design assessment, requires consent as a **restricted discretionary** activity under Rule 15.4.2.1 c). The relevant assessment matters are contained in Rule 15.13.1. These assessment matters are copied below:

15.13.1 Urban design

a. The extent to which the development:

i. Recognises and reinforces the centre's role, context, and character, including any natural, heritage or cultural assets;

ii. Promotes active engagement with, and contributes to the vibrancy and attractiveness of, any adjacent streets, lanes, or public spaces;

iii. Takes account of nearby buildings in respect of the exterior design, architectural form, scale and detailing of the building;

iv. Provides a human scale and minimises building bulk while having regard to the functional requirements of the activity;

v. Is designed to incorporate Crime Prevention Through Environmental Design (CPTED) principles, including encouraging surveillance, effective lighting, management of public areas and boundary demarcation;

vi. Incorporates landscaping or other means to provide for increased amenity, shade, and weather protection;

vii. Provides safe, legible, and efficient access for all transport users;

In response to the above it is noted that:

a) The Property Economics assessment concludes that the Mitre 10 Mega proposal will be beneficial to the operation of the Prestons Commercial Core zone. The proposed retail buildings are anticipated activities in the zone;

b) The site has a single road frontage to Prestons Road. The retail building designs are otherwise permitted in the zone and typical of what is current architectural typology for suburban commercial development, the road frontage will be landscaped, vehicle access to the road is coordinated and minimised given the number of allotments that constitute the application site, pedestrian connections to this road are provided in four locations and compliant cycle parking is provided;

c) The site layout specifically places the larger Mitre 10 Mega building to the rear of the site, and the height of this building is well below the permitted 12m height limit in the

zone. The single-storey retail buildings are placed towards the front of the site to provide scale consistent with that of the surrounding residential environment;

d) The overall site layout is open to the street, with secure service delivery areas, secure staff cycle parking, car ark illumination and building illumination;

e) The site will be comprehensively landscaped.

Overall, it is considered that the proposal provides a high standard urban design outcome given the site zoning and anticipated uses to establish within the zone.

5.3 Tree Numbers

Under Rule 15.4.2.7, one tree shall be planted for every 5 car parking spaces (or part thereof) provided between buildings and the street. The total parking supply of 374 spaces requires 75 trees to be planted between buildings and the street. The proposal provides 49 trees between buildings and the street. This requires consent as a **restricted discretionary** activity under Rule 15.4.1.3 (RD2). The relevant assessment matters are contained in Rule 15.13.3.6. These assessment matters are copied below:

15.13.3.6 Landscaping and trees

a. The extent to which the proposed landscaping and tree planting:

i. achieves a high level of on-site amenity while minimising the visual effects of activities and buildings on the surroundings;

ii. supports the growth of vegetation and its protection through the provision of space, or other methods e.g. barriers;

iii. continues to recognise Ngāi Tahu/mana whenua values through the use of indigenous species in riparian areas, where appropriate, that supports the establishment of ecological corridors;

b. The extent to which the non-compliance is mitigated through the design, scale and type of landscaping proposed including the species used;

c. The appropriateness and design of landscaping having regard to the potential adverse effects on safety for pedestrians and vehicles.

In response to the above it is noted that:

a) The overall site is large and needs to provide a suitable amount of parking in the front yard areas to provide operational functionality, and to protect the arterial function (and not overall on street parking provision) of Prestons Road outside the site;

b) While the front yard areas available for landscaping are limited, the proposed landscape design includes 1,635 plantings across the site including 49 trees locations in prominent locations. The English Columnar oaks and the Upright Hornbeams are identified by the Council as being suitable trees;

c) The road boundary of the site will be landscaped a minimum of 3.0m deep where there is otherwise no requirement to do so (under Rule 15.4.2.3, buildings can be constructed up to the street boundary), and up to 18m deep alongside Buildings B and D.

d) The scale of the parking area is essentially divided into two by the east-west road of trees and landscaping provided along the southern side of Buildings A to E.

e) The required landscaping and trees are provided along the southern site boundary;

f) The stormwater detention basin provides for a significant area of landscaping alongside the western site boundary;

g) Wheelstops will be provided for any parking spaces that nose into landscaped areas (and this is volunteered as a condition of consent);

h) The proposed landscape design fully integrates with pedestrian access locations, and will have no effect on vehicle access and circulation within the site.

Overall, it is considered that the proposed landscape design recognises operational constraints of the site, and follows contemporary design practice like that used for similar large scale commercial activities elsewhere. It follows that any visual amenity related effects from the proposed shortfall in car park tree numbers will be negligible.

5.4 Pylon Digital Signage

The proposed pylon signs each contain a digital panel. Under Rule 6.8.4.1.3 (RD2d), digital signage requires consent for a restricted discretionary activity. The relevant assessment matters are contained in Rule 6.8.5.2 (as the digital panel, being <18m², is not a billboard). These assessment matters are copied below:

6.8.5.2 Illuminated, moving, changing, flashing or retro-reflective displays

a. Whether the extent of the impacts of the signage are increased or lessened due to:

i. the frequency and intensity of intermittent or flashing light sources, and the proposed periods of illumination and frequency of image changes;

ii. the prominence of the sign due to its illuminated or animated nature and ability to draw the eye;

iii. the nature of surrounding land use activities; and

iv. the proximity of the display to other properties and the likely effects of such intermittent or flashing lights or changing images upon those properties and their occupants.

In response to the above it is noted that:

a) The proposed digital sign panels will be in operation at the same times as commercial activity on the site is in operation. There will be no flashing or intermittent light sources;

b) The proposed digital panels are located near the top of a 9m high sign pylon and well-spaced along the substantial site frontage to Prestons Road. While the overall pylon sign is intended to attract attention, the 3m² digital panel will be used to advertise site specific events (such as sales or fundraising activities) or promotions. The digital panel will be subservient to the overall pylon sign as it forms only 17% of total sign panel area;

c) The proposed pylon signs are located within a commercial core zoned area, and angled at 90 degrees to the residential area located across Prestons Road. Visual amenity effects will be negligible because of the small size of the proposed signage panels and the separation distance and viewing angle fork the residential zoned area across the road.

Overall, it is considered that any visual amenity related effects from the proposed digital panels will be negligible.

5.5 Tenancy Signage and Signage Height

Under Rule 6.8.4.2.4 the maximum permitted total area of signs is 84.77m². The proposed Mitre 10 building has 233.6m² of signage. The proposed retail / commercial buildings have 233.6m² of signage. Also, under Rule 6.8.4.2.4. The maximum permitted height above ground level for a sign is 9 metres or façade height, whichever is lower. All proposed signage has a maximum height of 9.0m apart from the Mitre 10 Mega 15% price guarantee which has a height of 9.7m. These two non-compliances require consent as a **restricted discretionary** activity under Rule 6.8.4.1.3 (RD1). The relevant assessment matters are contained in Rule 6.8.5.1. These assessment matters are copied below:

6.8.5.1 All signs and ancillary support structures

a. Whether the scale, design, colour, location and nature of the signage will have impacts on the architectural integrity, amenity values, character, visual coherence, and heritage values of:

i. the building and the veranda on which the signage is displayed and its ability to accommodate the signage;

ii. the surrounding area (including anticipated changes in the area);

iii. residential activities; and

iv. heritage items or heritage settings, open spaces, protected trees or areas possessing significant natural values.

b. Whether the extent of the impacts of the signage are increased or lessened due to:

i. the design, dimensions, nature and colour of the sign or support structure;

ii. the level of visibility of the sign;

iii. vegetation or other mitigating features; and/or

iv. the length of time that temporary election or referendum signage is proposed to be displayed.

c. Whether the signage combines with existing signage on the building, the site or in the vicinity, to create visual clutter or set a precedent for further similar signage.

d. Whether there are any special circumstances or functional needs relating to the activity, building, site or surroundings, which affect signage requirements, including:

i. operational, safety, directional, and functional requirements;

ii. its size, scale or nature; and

iii. the length of the road frontage.

e. Whether the signage:

i. enlivens a space or screens unsightly activities;

ii. will result in an orderly and co-ordinated display; and

iii. relates to the business or activity on the site and the necessity for the business or activity to identify and promote itself.

f. For small-scale, grouped poster signage, the nature and extent of any management and maintenance regime in place including keeping the posters current, and the posters and sites on which they are installed clean and free of graffiti.

g. The potential of the signage to cause distraction or confusion to motorists and/or adversely affect traffic safety due to its location, visibility, and/or content, including size of lettering, symbols, or other graphics.

In response to the above it is noted that:

a) The permitted signage area is based on a ratio of sign area to road frontage length. While this might be appropriate for strip shopping locations such as, for example, Colombo Street in Sydenham, it is a less practical design consideration for deeper sites such as the application site. This is especially the carse when the depth of the site allows for structures to be oriented at 90 degrees to the road boundary, creating a much longer façade length overall, with each tenancy still requiring some form of identification signage;

b) The proposed sign for each retail / commercial tenancy, at approximately 3m² in area, is appropriate given the façade area for each tenancy. The proposed signed design, considered across Buildings A to E, presents an orderly display. Further, the signs will be kept within the outline of the building adding to the compatibility between the signs and the scale of the building.

c) The proposed signage on the Mitre 10 Mega building is in scale with the scale of the building itself. The Mitre 10 mega building is significantly setback from the road boundary, and signage on the eastern and western elevations of the building has bene kept to a minimum. Signage on the critical southern elevation, which faces a residential zone, has been specifically avoided.

d) There are no open spaces or heritage items in the surrounding area which could be adversely affected by the proposed signage;

e) There is no definitive evidence that suggest that the presence of building signage (or pylon signage for the matter) has a measurable adverse effect on road safety.

Overall, as the proposed signage is directly related to the proposed activities on the site, and is proportional to the length of road frontage of the site and building scale within the site, the effects of the signage on the surrounding environment will be less than minor.

5.6 Transport Effects

The transport related District Plan design non-compliances, which only relate to site access design and traffic generation, are assessed in the transport assessment provided in **Appendix L**. The transport assessment concludes that the access designs are appropriate for the expected levels of traffic they will carry, and that the effects of site generated traffic on the operation of the surrounding road network are able to be accommodated (noting that the critical Marshlands/Prestons

intersection carries significantly less traffic than it used to because of the opening of the northern motorway).

5.7 Earthworks

Under Rule 8.9.2.1 (P1a). Earthworks shall not exceed 1000m³/ha in commercial zones over any 12 month period. The site area is 3.3385 hectares. Therefore 3338.50m³ is permitted in a 12 month period, whereas approximately 11,678m³ of earthworks is required.

In addition, under Rule 8.9.2.1 (P1b), permitted earthworks cannot exceed a maximum depth of 0.6m, whereas earthworks required to create the stormwater detention basin will be up to 1.4m deep.

Both non-compliances require consent as a **restricted discretionary** activity under Rule 8.9.2.3 (RD1). The relevant assessment matters are contained in Rule 8.9.4.1. These assessment matters are copied below:

8.9.4.1 Nuisance

a. The extent to which any potential dust nuisance, sedimentation and water or wind erosion effects can be avoided or mitigated.

b. The extent to which effects on neighbouring properties, and on the road network, of heavy vehicle and other vehicular traffic generated as a result of earthworks can be avoided or mitigated.

c. The extent to which any potential changes to the patterns of surface drainage or subsoil drains can be avoided or mitigated if those changes would put the site or adjoining land at higher risk of drainage problems, inundation run-off, flooding, or raise that site's or adjoining land's water table.

d. Whether any change in ground level would be likely to impact on trees in terms of access to water and drainage.

e. The extent of any potential adverse effects on the quality of groundwater and whether any such can be avoided or mitigated.

f. The extent to which any adverse effects from noise and vibration associated with earthworks and land improvement can be avoided or mitigated, and the effectiveness of any methods to mitigate such effects.

g. The extent to which earthworks in the Open Space Avon River Precinct (Te Papa Ōtākaro) Zone have an adverse effect on the Avon River and its margins.

In response to the above it is noted that:

a) in terms of temporary effects during the earthworks phase, while the excavation and fill volumes are large, they are typical for the scale of development and most earthworks relates to cut to fill within the site;

b) The works will be completed in a short time frame during dry weather, and in accordance with best practice erosion and sediment control measures, minimising nuisance effects such as noise, dust, and sediment runoff (refer to **Appendix I** for more information on this);

c) Traffic associated with the earthworks will not cause congestion or safety effects on the surrounding road network nor inconvenience persons on neighbouring properties, given the short duration of the works and access being obtained from the existing site access;

d) The earthworks will occur during standard day-time working hours only to ensure noise and vibration experienced by nearby persons will not be beyond what could be anticipated from the site. The applicant is willing to accept current best practice conditions of consent relating to earthworks noise and vibration.

Overall, it is considered that the scale of required earthworks must be anticipated because of the size of the site and the types of development envisaged to establish within it. Earthworks related effects can be managed, using accepted best practice, such that any effects of the signage on the surrounding environment will be less than minor

6.0 NOTIFICATION

6.1 Section 95A – Public Notification

Section 95A gives a council discretion to decide whether to publicly notify an application or not. There are a total of four steps that are to be followed to publicly notify consent applications under Sections 95A (2) to 95A (9). These steps are addressed in Table 8 below.

Test	Yes/No	Comment
Step 1: Mandatory notification in certain circumstances – section 95A(3)		
Has the applicant requested that the application be publicly notified?	No	
Is public notification required under s95C (following a request for further information or commissioning of report)?	No	Not anticipated.
Is the application made jointly with an application to exchange reserve land?	No	
Step 2: If not required by Step 1, notification is precluded if any of these circumstances apply – section 95A(5)		
Does a rule or NES preclude public notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Is the application a restricted discretionary or discretionary activity for a subdivision?	No	
Is the application a restricted discretionary or discretionary activity for residential activity?	No	
Is the application a boundary activity (other than a controlled activity)?	No	
Step 3: Notification required in certain circumstances if not precluded by Step 2 – section 95A(8)		
Does a rule or NES require public notification?	No	
Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?	No	Disregarding effects on persons who own or occupy land adjacent to the subject site, any adverse effects on the wider environment will be less than minor/no more than minor, as determined in Section 5 of this application.

Step 4: Relevant to all applications that don't already require notification – section 95A(9)		
Do special circumstances exist that warrant the application being publicly notified?	No	It is not anticipated that special circumstances exist in relation to the application. There is nothing unusual or out of the ordinary about a commercial development located within a commercial zone in this location. There are no other aspects of the activity or site that are unusual to a degree that warrants public notification.

Table 4: Public notification steps under Section 95A of the RMA

6.2 Section 95B – Limited Notification

Section 95B gives a council discretion for limited notification of consent application. Like public notification, there are a total of four steps that are to be followed for limited notification consent applications under Sections 95B (2) to 95A (10). These steps are addressed in Table 9 below.

Test	Yes/No	Comment
Step 1: Certain affected groups/persons must be notified – sections 95B(2) and (3)		
Are there any affected protected customary rights groups or customary marine title groups?	No	
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement - is there an affected person in this regard?	No	
Step 2: If not required by Step 1, notification is precluded if any of the following apply – section 95B(6)		
Does a rule or NES preclude limited notification for all aspects of the application?	No	
Is this a land use consent application for a controlled activity?	No	
Step 3: Notification of other persons if not precluded by Step 2 – sections 95B(7) and (8)		
In the case of a boundary activity, is the owner of an allotment with an infringed boundary considered affected under s95E?	No	
Are there any other affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval?	No	Adverse effects on any persons, including the owners and occupiers of adjacent sites identified in Table 4 above, are less than minor as determined in section 5 of this application.

Step 4: Notification in special circumstances – section 95B(10)		
Do special circumstances exist that warrant notification to any other persons not identified above?	No	It is not anticipated that special circumstances exist in relation to the application. There is nothing unusual or out of the ordinary about a trade supplier in this location. There are no other aspects of the activity or site that are unusual to a degree that warrants public notification.

Table 9: Limited notification steps under Section 95A of the RMA

6.3 Notification Conclusion

Public notification and limited notification of the application is not required.

7.0 STATUTORY EVALUATIONS

Section 104(1)(b) of the Act sets out that when considering an application for resource consent, a council shall have regard to any relevant provisions of any national environmental standards, other regulations, policy statements (national and regional, including proposed regional policy statements), or plans or proposed plans. The relevant statutory documents in this case, are addressed below.

7.1 District Plan Objectives and Policies

The proposal has been assessed against the relevant objectives and policies of the operative Christchurch District Plan, and in particular the following:

Chapter 15 - Commercial Zones

Policy 15.2.2.1– Role of centres

a. Recognise and manage commercial centres as the focal points for the community and business through intensification within centres that reflects their functions and catchment sizes, and in accordance with a framework that:

i. gives primacy to, and supports, the recovery of the CBD, followed by Key Activity Centres, by managing the size of all centres and the range and scale of activities that locate within them;

ii. supports and enhances the role of District Centres; and

iii. maintains the role of Local Centres, Neighbourhood Centres and Large Format Centres.

as set out in Policy 15.2.2.1, Table 15.1 - Centre's role:

Table 15.1 - Neighbourhood Centre

- *A destination for weekly and daily retailing needs as well as for community facilities.*
- *In some cases, Neighbourhood centres offer a broader range of activities comprising guest accommodation, residential activities, along with small-scale comparison shopping, food and beverage outlets, entertainment and recreation activities and offices.*

- *A wider range of activities is anticipated in Neighbourhood Centres that are Key Activity Centres or those located in Banks Peninsula, reflecting their distinctive roles and/or remote catchments.*
- *Anchored principally by a supermarket(s) and in some cases, has a second or different anchor store.*
- *Primarily serves the immediately surrounding suburbs.*
- *Medium density housing is contemplated in (above ground floor level) and around the centre.*

In response to the above it is noted that:

a) The proposed development is located within an operative Commercial Core zone and, except for the size of the Mitre 10 Mega activity, is otherwise anticipated to establish in the zone as it provides for small-scale comparison shopping, food and beverage outlets, entertainment and recreation activities and offices;

b) The economic assessment provided in Appendix K confirms that the proposed Mitre 10 Mega activity will not undermine the function of the Prestons Commercial Core zone. By default, it cannot undermine the role of District Centres or the central city;

c) The economic assessment identifies that the proposal will provide a destination for weekly and daily retailing needs as well as for community facilities for the immediately surrounding suburbs;

d) The Prestons Commercial Core zone already has a supermarket; however, this is separated from most of the zone area by the undeveloped 386 Prestons Road. If the application site is to be developed ahead of development of 386 Prestons Road, then a second large scale anchor tenant, such as Mitre 10 Mega, is necessary to ensure on viability to the centre as whole.

Overall, it is considered that the proposal is consistent with Policy 15.2.2.1.

Policy 15.2.2.4 - Accommodating growth

a. Growth in commercial activity is focussed within existing commercial centres.

In response to the above it is noted that the proposed development is wholly located within an operative Commercial Core zone, and as such the proposal is consistent with Policy 15.2.2.4.

Objective 15.2.4 - Urban form, scale, and design outcomes

a. A scale, form and design of development that is consistent with the role of a centre, and which:

i. recognises the Central City and District Centres as strategically important focal points for community and commercial investment;

ii. contributes to an urban environment that is visually attractive, safe, easy to orientate, conveniently accessible, and responds positively to local character and context;

iii. recognises the functional and operational requirements of activities and the existing built form;

iv. manages adverse effects on the surrounding environment; and

v. recognises Ngāi Tahu/ mana whenua values through landscaping and the use of low impact urban design, where appropriate.

In response to the above it is noted that:

a) The proposed site layout places the largest structure at the rear of the site to minimum the effects of its bulk when viewed from the street.

b) The proposed parking layout, access layout for all transport modes, and landscape design recognises the functional and operational requirements of the activities expected to establish on the site.

c) The architectural design of Buildings A to E combined with the proposed landscape provision will contribute to an urban environment that is visually attractive, safe, easy to orientate, conveniently accessible, and responds positively to local character and context;

d) The proposed vehicle access arrangement specifically recognises the arterial function of Prestons Road through minimising site access numbers, and through positioning site access points suitably clear of the nearby signalised intersections, and in locations where existing road width can provide for vehicle turning movements.

Overall, it is considered that the proposal is consistent with Objective 15.2.4.

Policy 15.2.4.1 - Scale and form of development

a. Provide for development of a significant scale and form in the core of District Centres and Neighbourhood Centres, and of a lesser scale and form on the fringe of these centres.

b. The scale and form of development in centres shall:

i. reflect the context, character and the anticipated scale of the zone and centre's function;

ii. increase the prominence of buildings on street corners;

iii. for Local Centres, maintain a low rise built form to respect and integrate with their suburban residential context;

iv. for Key Activity Centres and Large Format Centres, enable larger floor plates while maintaining a high level of amenity in the centre; and

v. manage adverse effects on the surrounding environment, particularly at the interface with residential areas, sites of Ngāi Tahu cultural significance identified in Appendix 9.5.6 and natural waterways.

In response to the above it is noted that:

a) All buildings on the site are below the maximum permitted building height of 12 metres;

b) The proposed site layout places the largest structure at the rear of the site to minimum the effects of its bulk when viewed from the street;

c) The site is not located near any street corners;

d) A low rise built form is provided for Buildings A to E to respect and integrate with the suburban residential context located across Prestons Road from the site. While the larges built form on the site is positioned towards the southern site boundary, and next to a residential zone, the building is setback well beyond minimum required building setbacks (3m) and is below specified recession planes.

Overall, it is considered that the proposal is consistent with Policy 15.2.4.1.

Policy 15.2.4.2 - Design of new development

a. Require new development to be well-designed and laid out by:

i. encouraging pedestrian activity and amenity along streets and in adjoining public spaces, to a degree that is appropriate to the location and function of the road;

ii. *providing a principal street facing façade of visual interest that contributes to the character and coherence of a centre;*

iii. *facilitating movement within a site and with the surrounding area for people of all mobilities and ages, by a range of modes of transport through well-defined, convenient, and safe routes;*

iv. *enabling visitors to a centre to orientate themselves and find their way with strong visual and physical connections with the surrounding area;*

v. *promoting a safe environment for people and reflecting principles of Crime Prevention through Environmental Design (CPTED);*

vi. *enabling the re-use of buildings and sites while recognising the use for which the building is designed;*

vii. *incorporating principles of low impact design including energy efficiency, water conservation, the reuse of stormwater, on-site treatment of stormwater and/or integration with the wider catchment based approach to stormwater management, where practicable;*

viii. *achieving a visually attractive setting when viewed from the street and other public spaces, while managing effects on adjoining environments; and*

ix. *providing adequate and convenient space for storage while ensuring it is screened to not detract from the site's visual amenity values.*

b. *Recognise the scale, form, and design of the existing built form within a site and the immediately surrounding area and the functional and operational requirements of activities.*

In response to the above it is noted that the commentary provided for the objectives and policies disused above equally apply. In relation to any other matters, it is noted that:

a) The internal site layout provides pedestrian connectivity between all structures, including for mobility impaired people;

b) The open nature for public areas within the site, combined with site lighting and secure cycle parking follows CPTED design principles;

c) All on site storage areas will be screened from public view.

Chapter 6.8 – Signs

Objective 6.8.2.1 - Signage

a. *Signage collectively contributes to Christchurch's vitality and recovery by:*

i. *supporting the needs of business, infrastructure, and community activities;*

ii. maintaining public safety; and

iii. enhancing the visual amenity values and character of the surrounding area, building or structures.

6.8.2.1.1 Policy - Enabling signage in appropriate locations

a. Enable signage:

i. as an integral component of commercial and industrial environments, strategic infrastructure and community activities throughout the Christchurch District; and

ii. that is necessary for public health and safety and to provide direction to the public.

6.8.2.1.2 Policy - Controlling signage in sensitive locations

a. Ensure the character and amenity values of residential, open space and rural zones are protected from adverse visual and amenity effects from large areas or numbers of signs, or off-site signs within these zones.

6.8.2.1.3 Policy - Managing the potential effects of signage

a. In considering Policies 6.8.2.1.1 and 6.8.2.1.2, ensure that the size, number, height, location, design, appearance, and standard of maintenance of signs:

i. do not detract from, and where possible contribute to, the character and visual amenity of the surrounding area and public realm;

ii. integrate within the façade of the building, do not detract from the integrity of the building design, and maintain the building as the primary visual element;

iii. are in proportion to the scale of buildings and the size of the site; and

iv. enhance the Central City.

6.8.2.1.4 Policy - Transport safety

a. Ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users.

In response to the above it is noted that:

a) The propose signage is intended to support the businesses that will establish on the site. The proposed signage is an integral component of the development;

b) The design of the site signage considers the operational needs of the site, while at the same time presenting coordinated displays at a scale appropriate to the building scale the signage is located upon;

c) The proposed signage has been specifically positioned to minimise the scale of signage when viewed from residential and open space areas;

d) All wall mounted signage has been designed to integrate with the building facades and are in proportion to the scale of buildings and the size of the site;

e) There is no definitive evidence that suggest that the presence of roadside signage has a measurable adverse effect on road safety.

Overall, it is considered that the proposal is consistent with Objective 6.8.2.1 and its supporting policies.

Chapter 7 - Transport

A suitably detailed assessment of the transport related objectives and policies is provided in the transport assessment provided in **Appendix L**. In summary of that assessment:

a) The proposal provides an adequate amount of vehicle parking on-site, functional manoeuvring, and effective access, which is consistent with Policies 7.2.1.3 and 7.2.1.4;

b) The proposal involves a suitable amount of safe, secure, and convenient cycle parking for staff and visitors, as well as good pedestrian and cycle connections (considering the proximity to public transport links), which will help promote public and active transport, consistent with Policy 7.2.1.6, and;

c) The proposal is also consistent with Policy 7.2.1.2 (High trip generating activities) in that the access designs are appropriate for the expected levels of traffic they will carry, and that the effects of site generated traffic on the operation of the surrounding road network are able to be accommodated.

d) Overall, the proposal will contribute to an integrated transport system for Christchurch (Objective 7.2.1).

Chapter 8 - Earthworks

The proposal is consistent with the objectives and policies for earthworks contained in 8.2.4 and 8.2.5. In particular:

- Engineering advice is being obtained to assess potential hazard effects (specifically around flooding and instability) associated with the proposed earthworks.
- Earthworks will occur during standard day-time working hours only to ensure noise and vibration will not be beyond what could be anticipated from the site.
- Traffic associated with the earthworks is unlikely to cause congestion or safety effects on the surrounding road network nor inconvenience persons on neighbouring properties.
- The works will modify the landform; however, they will enable the development of the site for a health care facility which is not out of character or detracting from the visual amenity of the area.

Summary

Overall, the proposed development is consistent with the relevant objectives and policies of the District Plan.

8.0 CONCLUSION

This resource consent application relates to a proposal to redevelop 390-408 Prestons Road to provide for a commercial development as generally anticipated by the Commercial Core zoning of the application site.

The proposal has 11 identified District Plan design non-compliances that relate to tenancy size, urban design, landscape provision, signage, vehicle access width, traffic generation and earthworks. Consent is sought for a **restricted discretionary** activity under the Christchurch District Plan.

These non-compliances have been assessed in terms of the relevant assessment matters for each non-compliances as specified in the District Plan. Taking the above assessment into consideration it is concluded that the effects of the proposal will be less than minor on the wider environment and that adverse effects on any persons will be less than minor.

In terms of section 104(1)(b) of the Act, it is concluded that the proposed works are consistent with the relevant objectives and policies of the Christchurch District Plan.

In terms of section 104(1)(c) of the Act, it is concluded that there are no 'other matters' of significance to this application.

In accordance with sections 104 and 104C of the Act, consent may be granted.

Appendix J: District Plan Compliance Assessment

Rule	Requirement	Compliance
Chapter 15.4 Commercial Core Zone		
15.4.1. Activity Status - Commercial Core Zone		
15.4.1.1 Permitted activities	(P3): Retail activity (P4): Trade supplier	The Mitre 10 Mega activity is a hybrid of a trade supplier and retail activity. The tenancy size is greater than the permitted maximum of 500m² GLFA. **Does not comply**
		The proposed use of buildings A to E is for activities listed under this rule **Complies**
15.4.2. Built Form Standards - Commercial Core Zone		
15.4.2.1 Urban Design	a) Any new building or addition to a building for activities listed in Rule 15.4.1.1 P1 to P24 is a permitted activity where it does not exceed ii. 1,000m² GLFA where located in Neighbourhood Centre identified in Policy 15.2.2.1, Table 15.1.	The proposed development is for greater than 1,000m² GLFA. **Does not comply**
	b) Any new building or addition to a building for activities listed in Rule 15.4.1.1 P1 to P24 that exceed permitted standards a. i or ii and is certified by a qualified urban design expert on a Council approved list as meeting each of the urban design provisions / outcomes in Rule 15.13.1 Urban design (a)(i)-(ix).	An urban design assessment has not been provided with the consent application. **Does not comply**
	c) Any new building or addition to a building that is not a permitted or controlled activity under Rule 15.4.2.1 a or b	**Restricted discretionary activity**
15.4.2.2 Maximum height	The maximum height of any building within 20m of a residential zone shall be 12m	The Mitre 10 Mega building will be a maximum of 10m high. **Complies**
15.4.2.3 Minimum building setback from road boundaries/ street scene	On the road frontage of a site that is not identified as a Key pedestrian frontage on the Planning Maps, all buildings shall: A. be set back a minimum distance of 3 metres from the road boundary unless the building is built up to the road boundary; and B. have visually transparent glazing for a minimum of 40% of the ground floor elevation facing an arterial road or collector road.	The proposed minimum building setback from the road boundary is 3 metres. **Complies** The northern elevation of Buildings A, B, D and E-provides a 40.2% glazed area. **Complies.**
15.4.2.4 Minimum building setback from	The minimum building setback from the internal boundary with a residential zone shall be 3 metres	The southern wall of the Mitre 10 building is setback a minimum

the boundary with a residential zone		11.026m for the southern site boundary. **Complies**
15.4.2.4 Sunlight and outlook at boundary with a residential zone and road	Where an internal site boundary adjoins a residential zone, no part of any building shall project beyond a building envelope contained by a recession plane measured at any point 2.3 metres above the internal boundary in accordance with the relevant diagram in Appendix 15.15.9.	Design sheet C02-1 provided in Appendix C confirms recession plane compliance. **Complies**
15.4.2.6 Outdoor storage of materials	Any outdoor storage areas shall: i. be screened by 1.8 metre high fencing or landscaping from any adjoining site; and ii. not be located within the setback specified in Rule 15.4.2.4.	1.8m fencing is proposed along the eastern, southern, and western site boundaries, and to screen the Building C yard area. **Complies**
15.4.2.7 Landscaping and Trees	i. On sites adjoining a residential zone, trees shall be planted adjacent to the shared boundary at a ratio of at least 1 tree for every 10 metres of the boundary or part thereof ii. On all sites A. One tree shall be planted for every 5 car parking spaces (or part thereof) provided between buildings and the street B. Trees shall be planted within or adjacent to the car parking area at the front of the site.	22 Upright hornbeams are proposed at 8.8m centres along the southern site boundary. **Complies** The total parking supply of 374 spaces requires 75 trees to be planted between buildings and the street. The proposal provides: • 18 English Columnar Oak trees along the road frontage of the site; • 10 English Columnar Oak trees within the car park; • 11 Upright Hornbeams within the car park, and; • 10 Ribbonwoods within the stormwater detention basin alongside the car park and western service vehicle egress (there is a further 6 Ribbonwood trees located between the western side of the Mitre 10 building and the western site boundary). The total tree supply between the buildings and the street is 18 + 10 + 11 + 10 = 49 trees. **Does not comply**

	iii. All landscaping / trees required by these rules shall be in accordance with the provisions in Appendix 6.11.6 of Chapter 6.	The use of Ribbonwoods for the stormwater detention basin area is not listed in Table 2.1 of Appendix 6.11.6. However, Part B of Appendix 6.11.6 is for guidance only. The minimum tree height is required to be 2.0m at time of planting. The proposed English Columnar Oaks, the Upright Hornbeams and Ribbonwoods will be a minimum of 2.0m high at the time of planting. **Complies**
15.4.2.8 Water supply for fire fighting	Provision for sufficient water supply and access to water supplies for firefighting shall be made available to all buildings via Council's urban reticulated system (where available) in accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS: 4509:2008).	The site is connected to the Council's urban reticulated system. It is proposed to volunteer conditions of consent to meet the requirements of this rule. **Complies**

15.4.2.6 Area Specific Rules – Prestons Commercial Core Zone		
15.4.6.2.1 Minimum building setback from road boundaries	The minimum building setback from the Marshland Road boundary shall be 10 metres	The site does not have frontage to Marshland Road. **Complies**
15.4.6.2.2 Minimum building setback from the zone boundary	The minimum building setback from the southern boundary of the zone, adjoining the Rural Urban Fringe Zone, shall be 3 metres	The site does not adjoin the Rural Urban Fringe Zone. **Complies**
15.4.6.2.3 Landscaping	A landscaping strip with a minimum width of 10 metres shall be provided along and adjacent to the boundary with Marshland Road	The site does not have frontage to Marshland Road. **Complies**
15.4.6.2.4 Staging of development to align with intersection upgrades	I No non-residential activities shall occur until upgrade of the Lower Styx Road / Marshland Road (including traffic signals) intersection has commenced.	This roading improvement project has been completed. **Complies**
	No more than 7200m^2 of non-residential activities (comprising 4000m^2 for a supermarket (where an individual tenancy is greater than 1,000m^2 GLFA) and 3200m^2 for other non-residential activities) shall occur until such time as A. Construction of the Northern Arterial and the 4-laning of QEII Drive between Main North Road and Innes Road together with either the Northern Arterial extension or the Hills Road extension has commenced; and	Both roading improvement projects have been completed. **Complies**

	B. The portion of the main primary road linking Prestons Road to Mairehau Road is open to traffic.	
15.4.6.2.6 Maximum retail activity threshold	The maximum GLFA for retail activities within the Commercial Core Zone (Prestons) shall be 12,000m^2	The total retail GLFA in the developed parts of the zone is approximately 5800m². The proposed retail buildings total 3513m². **Complies**
	The maximum GLFA of any single tenancy for a retail activity (excluding a supermarket) within the Commercial Core Zone (Prestons) shall be 150m^2	The proposed retail buildings have a maximum tenancy size of 150m² GLFA. **Complies**

Rule	Requirement	Compliance
Chapter 5 Natural Hazards		
5.5.1 Liquefaction Hazard - Permitted activities	All activities in the Liquefaction Management Area are a permitted activity unless specified in Rules 5.5.2 or 5.5.3	The activity is not listed in 5.5.2 or 5.5.3. **Complies**

Rule	Requirement				Compliance
Chapter 6 General Rules					
6.1 Noise					
6.1.5.2.1 Noise limits outside the Central City	**Zone of site receiving noise from the activity**	**Time (hrs)**	**Noise Limit (dB)**		It is not proposed to have operating hours beyond 10pm. The nature of the proposal is such that it is unlikely to be a significant noise generator. **Complies**
				L_{Amax}	
	All residential zones	07:00-22:00	50	n/a	
		22:00-07:00	40	65	
	All commercial zones	07:00-22:00	55	n/a	
		22:00-07:00	45	70	
6.3 Outdoor lighting					
6.3.4.1 Permitted activities – Control of glare	P1: Any activity involving artificial outdoor lighting, provided that: a. All fixed exterior lighting shall, as far as practicable, be aimed, adjusted and/or screened to direct lighting away from the windows of habitable spaces of sensitive activities…so that the obtrusive effects of glare on occupants are minimised.				Any exterior lighting will meet these requirements through volunteered conditions of consent. **Complies**

	b. Artificial outdoor lighting shall not result in a greater than 2.5 lux spill (horizontal or vertical) into any part of a major arterial road or minor arterial road or arterial route…where this would cause driver distraction.	
6.3.5.1 Permitted activities – Control of light spill	P1: Any activity involving outdoor artificial lighting, complying with the light spill standards in Rule 6.3.6 as relevant to the zone in which it is located – Residential Zones: 4 lux Commercial zones: 10 lux	Any exterior lighting will meet these requirements through volunteered conditions of consent. **Complies**
6.8 Signs		
6.8.4.1.1 Permitted activities	P1: Any sign not specifically provided for as a permitted, controlled, restricted discretionary, discretionary, or non-complying activity, complying with the relevant built form standards in Rule 6.8.4.2.	Proposed signage will not comply with the relevant built form standards, as set out below.
6.8.4.1.3 (RD2d)	Restricted Discretionary Activities. Digital Signs	The proposed pylon signs each contain a digital panel. **Does not comply**
6.8.4.2 Signs built form standards		
6.8.4.2.2 Traffic safety	a. Any sign shall be located so as not to obscure or to detract from the interpretation of any traffic sign or controls. b. No sign shall be located adjacent to a state highway or arterial road where all the following criteria are met: i. the road has a speed limit of 70km per hour or greater; and ii. the sign is located within a road boundary building setback required by a built form standard for the relevant zone; and iii. the sign is located within 100 metres (in urban zones) or 200 metres (in rural or open space zones) in front of any official regulatory or warning sign or traffic signal.	a. The proposed signage will not obscure from traffic signals **Complies** N/A – Prestons Road is an arterial road, but has a speed limit of less than 70km/hr. **Complies**
6.8.4.2.3 Integration with building design	Any sign displayed on wall surfaces, including individual lettering, shall not obscure any window, door, or architectural feature, visible from the exterior of the building.	The proposed signage will not obscure any window or door, or architectural feature, visible from the exterior of the building and will not extend over the road reserve. **Complies**

6.8.4.2.4 Signs attached to buildings	Commercial Core zone: Maximum total area of signs = Length along primary building frontage x 0.5m = 169.53m frontage length x 0.5 = 84.77m² being permitted. Maximum height above ground level at top of sign – 9 metres or façade height, whichever is lower.	The proposed Mitre 10 building has 233.6m² of signage. The proposed retail / commercial buildings have 233.6m² of signage. **Does not comply** All proposed signage has a maximum height of 9.0m apart from the 15% price guarantee which has a height of 9.7m. **Does not comply**
6.8.4.2.6 Free-standing signs	Commercial Core zone: Number of signs per vehicle or pedestrian entrance - 1 for each formed vehicle access and 1 for each formed pedestrian entrance.	There are three vehicle accesses and four pedestrian accesses. Two vehicle entrance signs are proposed. **Complies**
	Relating to vehicle entrances: • Maximum width – 2.5m • Maximum total area of a sign – 18m² Maximum height above ground level at top of sign – 9m	Two pylon signs are proposed with a width of 2.5m, a height of 9m and an area of 18m² each. **Complies**
	Relating to pedestrian entrances: • Maximum width – 1m • Maximum total area of a sign – 2m² Maximum height above ground level at top of sign – 2m	No pedestrian entrance signs are proposed. **Complies**
Rule 6.9.4.1.3 (RD1)	The sale of alcohol between the hours of 23:00 and 07:00 from any site located within 75m of a residential zone is a restricted discretionary activity.	It is not proposed to have operating hours beyond 10pm. Should any of the retail tenancies located within 75m of a residential zone be used for the sale of alcohol, then separate resource consent will be sought at that time. **Complies**

Rule	**Requirement**	**Compliance**
Chapter 7 Transport - 7.4.3 Standards (referencing Appendix 7.5)		
7.4.3.1 Minimum number and dimensions of car parking spaces required	ii. Car parking spaces shall be provided with the minimum dimensions in Table 7.5.1.3 in Appendix 7.5.1. iii. At least the minimum number of mobility parking spaces in accordance with Table 7.5.1.2 in Appendix 7.5.1 – 2 for the first 50 car parking spaces + 1 additional mobility parking space for	The car parking spaces are 2.6m wide by 5m deep with an aisle width of 7-8m. **Complies** A total of 374 parking spaces are proposed. Nine mobility spaces are required and nine are provided. **Complies**

<table>
<tr><td></td><td>every additional 50 car parking spaces or part thereof</td><td></td></tr>
<tr><td>7.4.3.2 Minimum number of cycle parking facilities required</td><td><table>
<tr><th colspan="2" rowspan="2">Activity</th><th colspan="2">Cycle Parking Spaces</th></tr>
<tr><th>Visitors</th><th>Staff</th></tr>
<tr><td>ee.</td><td>Retail activities</td><td>1 space/ 300m² GLFA</td><td>1 space/ 750m² GLFA</td></tr>
</table></td><td>Mitre 10 Mega = 10,532m² GLFA. Five commercial buildings = 3,514m² GFA. Total GFA = 14,046m². 46 visitor cycle parks plus 19 covered staff cycle parks required.
Complies

Stands will be designed to meet the requirements of Appendix 7.5.2 a. ii.-vii. in relation to the stand design and location.
Complies</td></tr>
<tr><td>7.4.3.3 Minimum number of loading spaces required</td><td><table>
<tr><th colspan="2" rowspan="2">Activity</th><th colspan="2">Loading Spaces</th></tr>
<tr><th>HGV</th><th>99%ile</th></tr>
<tr><td>y.</td><td>Retail activities</td><td>1 bay/ 1600m² GLFA for the first 6,400m² GLFA; and 1/ 5,000m² GLFA thereafter.</td><td>Nil</td></tr>
</table></td><td>Mitre 10 Mega = 10,532m² GLFA. Five commercial buildings = 3,514m² GFA. Total GFA = 14,046m².

7 HGV loading bays required are required. 7 HGV bays are shown.
Complies</td></tr>
<tr><td>7.4.3.4 Manoeuvring for parking areas and loading areas</td><td>a. On-site manoeuvring area shall be provided in accordance with Appendix 7.5.6.

b. Any activity with a vehicle access to:
i. a major or minor arterial road…
On-site manoeuvring area shall be provided to ensure that a vehicle can manoeuvre in a forward gear on to and off a site.</td><td>The car parking layout has compliant on-site manoeuvring to accommodate the 85th percentile motor vehicle and all vehicles can turn around on site.
Complies</td></tr>
<tr><td>7.4.3.5 Gradient of parking areas and loading areas</td><td>Maximum gradient at 90° to parking angle shall be ≤ 1:16 (6.26%).
Maximum gradient parallel to parking angle shall be ≤ 1:20 (5%)
Maximum gradient of mobility parking spaces shall be ≤ 1:50 (2%)</td><td>The site is essentially flat.
Complies</td></tr>
<tr><td>7.4.3.6 Design of parking areas and loading areas</td><td>a. Lighting of non-residential parking and loading areas shall be maintained at a minimum level of two lux, with high uniformity, during the hours of operation.

b. The surface of all car parking areas, loading areas, and associated access areas shall be formed, sealed, and drained and car parking spaces permanently marked.</td><td>The car park will be illuminated to a minimum of 2 lux.
Complies

The car park will be sealed and marked.
Complies</td></tr>
</table>

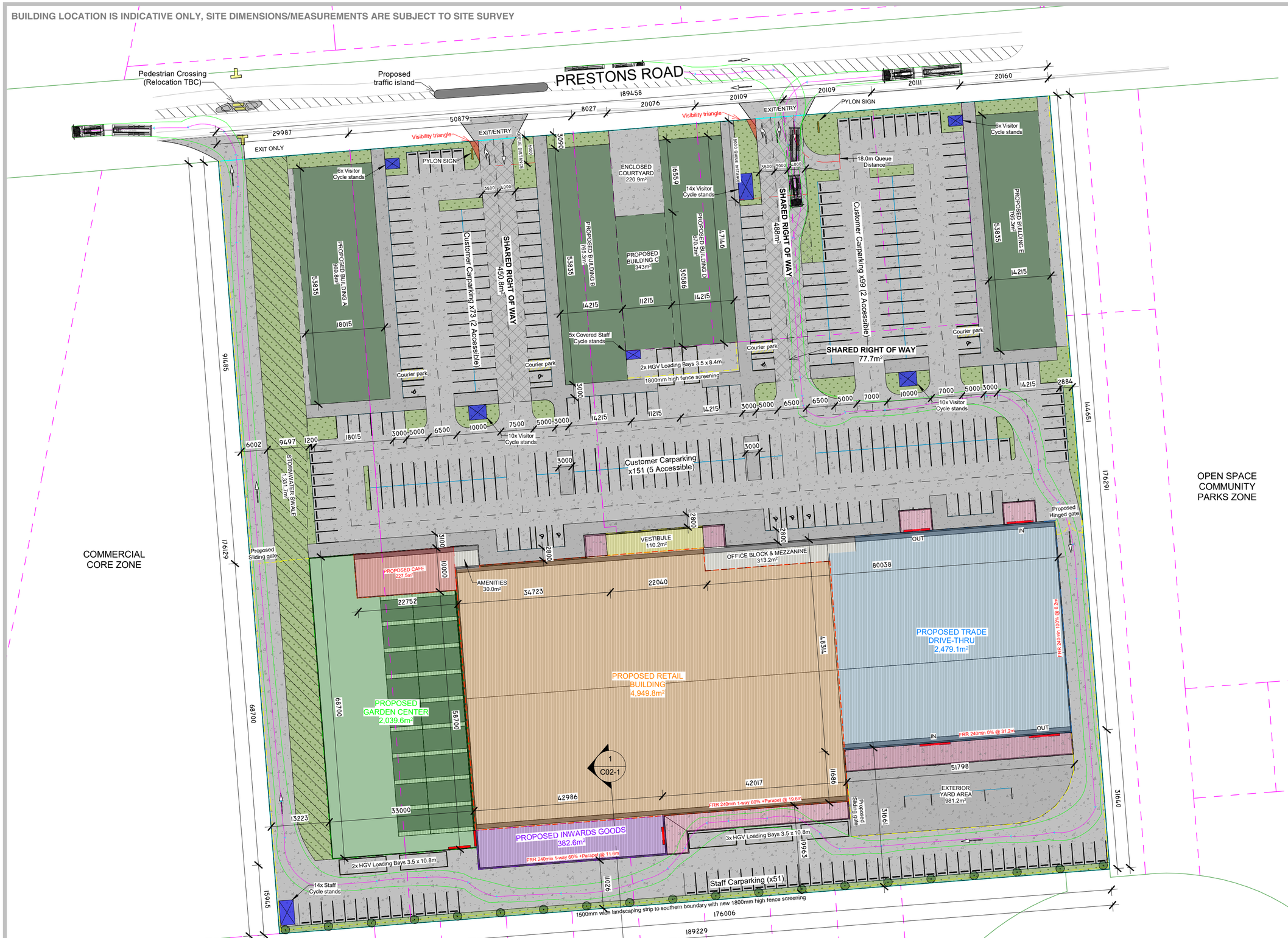
7.4.3.7 Access design - Access	a. Access to be provided in accordance with Appendix 7.5.7 – a. Minimum formed width: 5.5m, maximum formed width: 9m.	The eastern (primary) site access has a formed width of 10.5m. **Does not comply** The central (secondary) site access has a formed width of 7m **Complies** The western southern service area egress has a formed width of 18.5m. **Does not comply**
	c. Where a vehicle access serves nine or more parking spaces and there is no other pedestrian and/or cycle access available to the site then a minimum 1.5 metres wide space for pedestrians and/or cycle shall be provided and the legal width of the access shall be increased by 1.5 metres.	Separate pedestrian and cycle entrances will be provided. **Complies**
	m. Maximum gradient shall be 1 in 5, (minimum 4.0 metres long transition ramps for a change of grade 1 in 8 or greater). p. gradient of first 4.5m shall be no greater than 1 in 10.	Accesses will be essentially flat. **Complies**
7.4.3.7 Access design – Queueing space	b. Any activity providing 4 or more car parking spaces shall provide queuing spaces in accordance with Appendix 7.5.8 – for 21-50 parking spaces = 12m queue space for 51-100 parking spaces = 18m queue space for 151 or over = 24m queue space	A total queue space of 24m is required. The proposed turn restrictions at the western site access means that the eastern (primary) site access is expected to carry 75% of site generated traffic. An 18m queue space is provided at this access point. **Complies** The central (secondary) site access is expected to carry 25% of site generated traffic. A 6m queue space is provided at this access point. **Complies**
7.4.3.7 Access design – Visibility splays	c. Urban road vehicle accesses serving more than 15 parking spaces require either an audio and visual method of warning pedestrians of the presence of vehicles or a visibility splay in accordance with Appendix 7.5.9.	The required 5.0m x x2.0m visibility splay is provided at both car park egress points (it is not required to be provided at the western egress point as it is located alongside a property boundary). **Complies**

	If any part of the access lies within 20m of a Residential Zone any audio method should not operate between 20:00 and 08:00 hours.	
7.4.3.8 Vehicle crossings	a. A vehicle crossing shall be provided constructed from the property boundary to the edge of the carriageway / service lane. e. Maximum number of vehicle crossings on each road frontage shall be in accordance with Table 7.5.11.2 (Outside the Central City) in Appendix 7.5.11:	Vehicle crossings will be provided **Complies** The site frontage length permits two vehicle crossings to Prestons Road, whereas three are proposed. **Does not comply**
	Minimum distance between a vehicle crossing and an intersection shall be in accordance with the Table 7.5.11.4 (outside the Central City) in Appendix 7.5.11: • Arterial road (Prestons Road) to a collector road (Korari Street) – 30m	All proposed vehicle crossings are at least 30m from the Korari Street intersection. **Complies**
7.4.3.10 High trip generators	Resource consent under Rule 7.4.2.2 C1 or Rule 7.4.2.3 RD1 is required for activities with: All other activities – More than 50 vehicle trips per peak hour Table 7.4.4.19.1 - Thresholds for full Integrated Transport Assessments: All other activities – More than 120 vehicle trips per peak hour or 1000 vehicle trips per day (whichever is met first).	The proposed activity is classified as a mixed use activity and will generate more than 50 trips in the weekday evening peak hour. **Does not comply – full ITA required**

Rule	Requirement	Compliance
Chapter 8 Subdivision, development and earthworks		
8.9.2.1 Permitted activities - earthworks	P1: earthworks not for the purpose of the repair of land used for residential purposes and damaged by earthquakes, complying with the activity standards: a. Earthworks shall not exceed the volumes in Table 9 over any 12 month time period - 1000m³/ha in commercial zones b. Earthworks in zones listed in Table 9 shall not exceed a maximum depth of 0.6m, other than in relation to farming activities, quarrying activities or permitted education activities.	Site area is 3.3385 hectares. 3338.50m³ permitted in a 12 month period. Approximately 11,678m³ required. **Does not comply** Earthworks required to create the stormwater detention basin will be up to 1.4m deep. **Does not comply**

	c. Earthworks shall not occur on land which has a gradient that is steeper than 1 in 6. d. - i. relating to vibration, noise, use of clean fill, proximity to electricity lines, and proximity to heritage items.	The area subject to earthworks is essentially flat. **Complies** The proposal will be able to comply with d. – i. where relevant. **Complies**

BUILDING LOCATION IS INDICATIVE ONLY, SITE DIMENSIONS/MEASUREMENTS ARE SUBJECT TO SITE SURVEY



1 Future Development Site Plan
1 : 600

N

S

Site Info

Local authority:	Christchurch City Council
Lot number:	Lot 1,2&3 ,Lot 1,2&3, Lot 1 & Lot 3
Plan number:	DP 81866, 18707, 16442 & 13469
Site area:	33,385m²
Planning zone:	Commercial Core Zone

Gross Leasable Area

Warehouse/Vestibule/Retail:	9,961.3m²
Office/Cafe/WC:	424.7m²
Mezzanine:	146m²
Canopy:	576.8m²
Total GLA:	**11,108.8m²**
Hardstand:	16,931.9m²
Building site coverage:	32.8%
Landscaping:	1,388.9m² (4.2%)
Total Carparks:	x374 Spaces (9 Accessible)
Fencing (lineal meters):	682m

Fire Rating Info

Catagory:	C/VM2
Occupant load:	< 100 people
Storage height (Warehouse Firecell):	< 8.0m
Storage height (Office Firecell):	< 3.0m

Note:
All proposed cycle stands will be designed to meet the requirements of Christchurch District Plan Appendix 7.5.2 a. ii - vii. in relation to stand design and location

PROJECT:
Mitre10 Mega - Retail Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Site Plan	**Sheet No:** C02
Scale @ A2: 1 : 600	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 28/08/2024 4:11:34 pm

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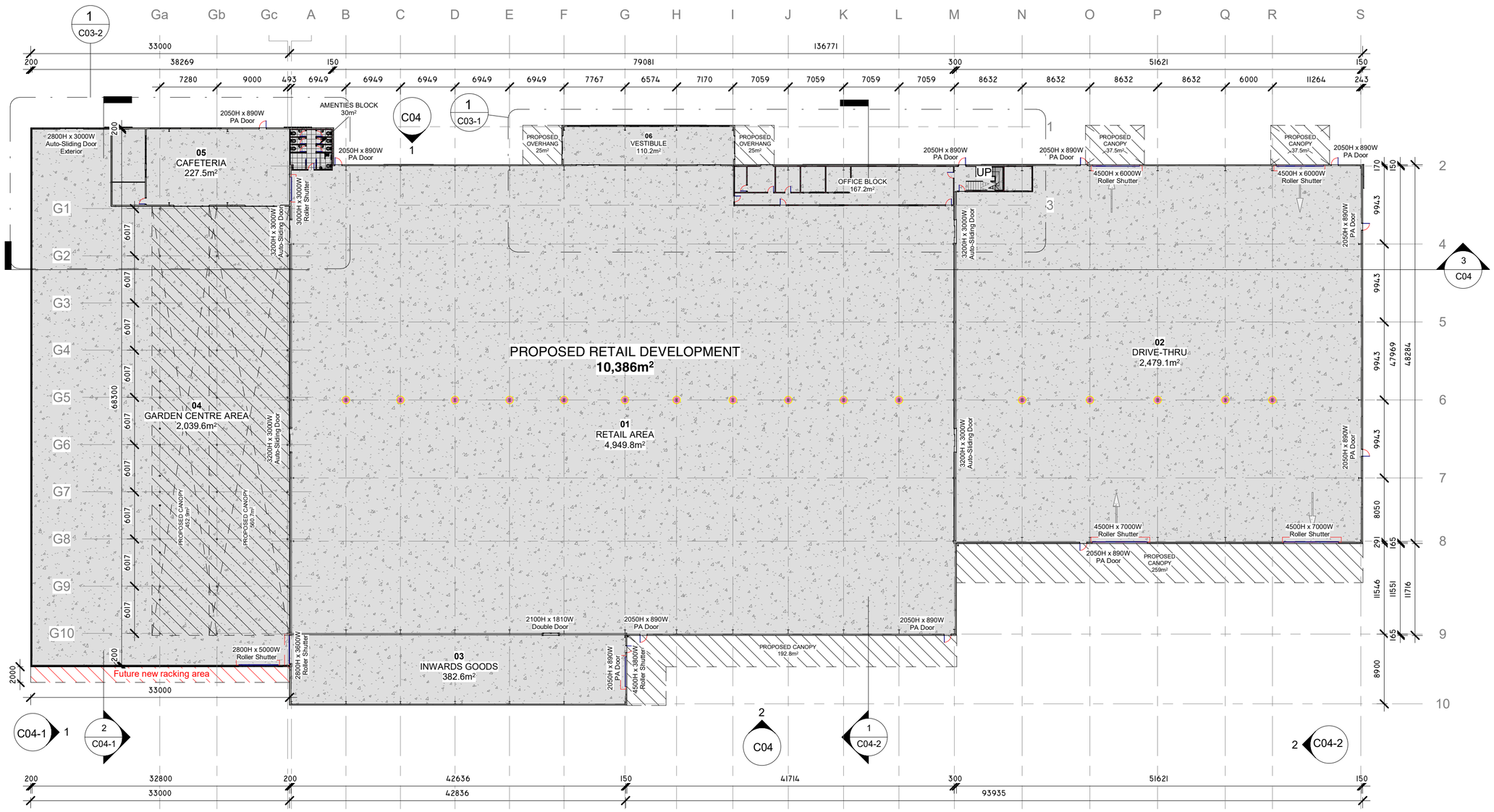

1 Ground Floor
1 : 400

SUB-ACTIVITY	GFA	CANOPY	TOTAL
RETAIL AREA	4,949.8m²		4,949.8m²
DRIVE-THRU AREA	2,479.1m²		2,479.1m²
GARDEN CENTRE AREA	2,039.6m²		2,039.6m²
INWARDS GOODS AREA	382.6m²		382.6m²
CAFETERIA	227.5m²		227.5m²
OFFICE BLOCK	167.2m²		167.2m²
TOILET BLOCK	30.0m²		30.0m²
ENTERANCE VESTIBULE	110.2m²		110.2m²
MEZZANINE	146.0m²		146.0m²
VESTIBULE CANOPIES		50.0m²	50.0m²
DRIVE-THRU CANOPIES (NORTH)		75.0m²	75.0m²
DRIVE-THRU CANOPY (SOUTH)		259.0m²	259.0m²
INWARDS GOODS CANOPY		192.8m²	192.8m²
TOTAL AREA	**10,532m²**	**576.8m²**	**11,108.8m²**

PROJECT:
Mitre10 Mega - Retail
Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Ground Floor **Sheet No:** C03

Scale @ A2: 1 : 400

Scale Conversion: A2 to A3 = 71% A3 to A2 = 141%

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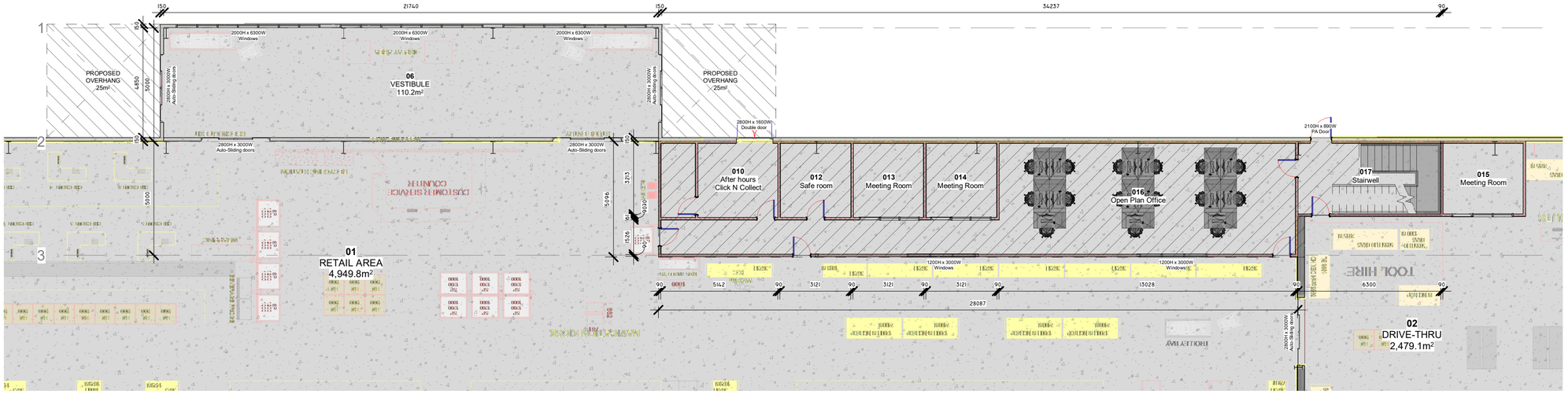
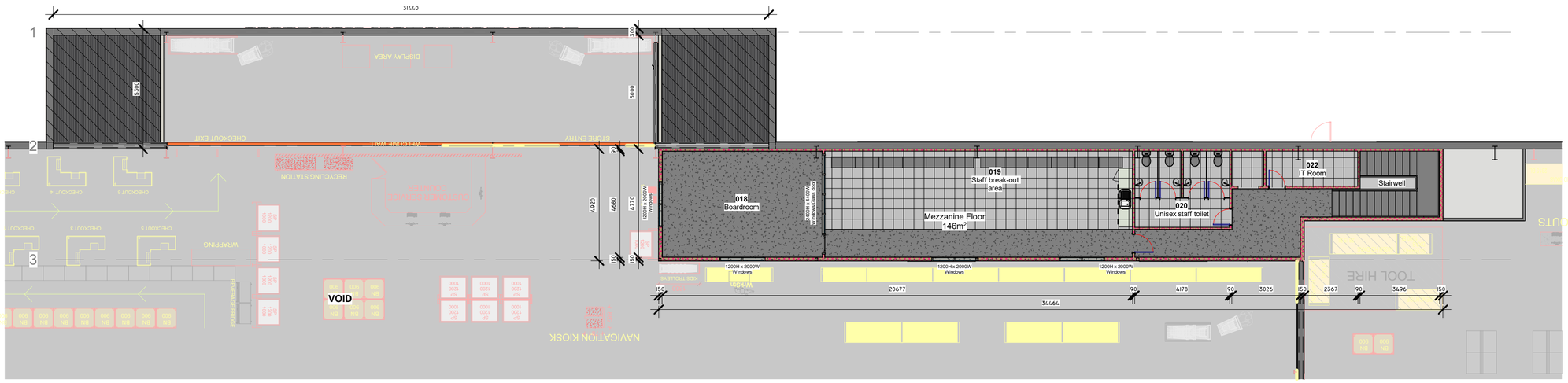


1 Ground Floor Entrance

1 : 150



2 First Floor Office

1 : 150

PROJECT:

Mitre10 Mega - Retail Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Office Callout Plans	**Sheet No:** C03-1
Scale @ A2: 1 : 150	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 28/08/2024 4:18:31 pm

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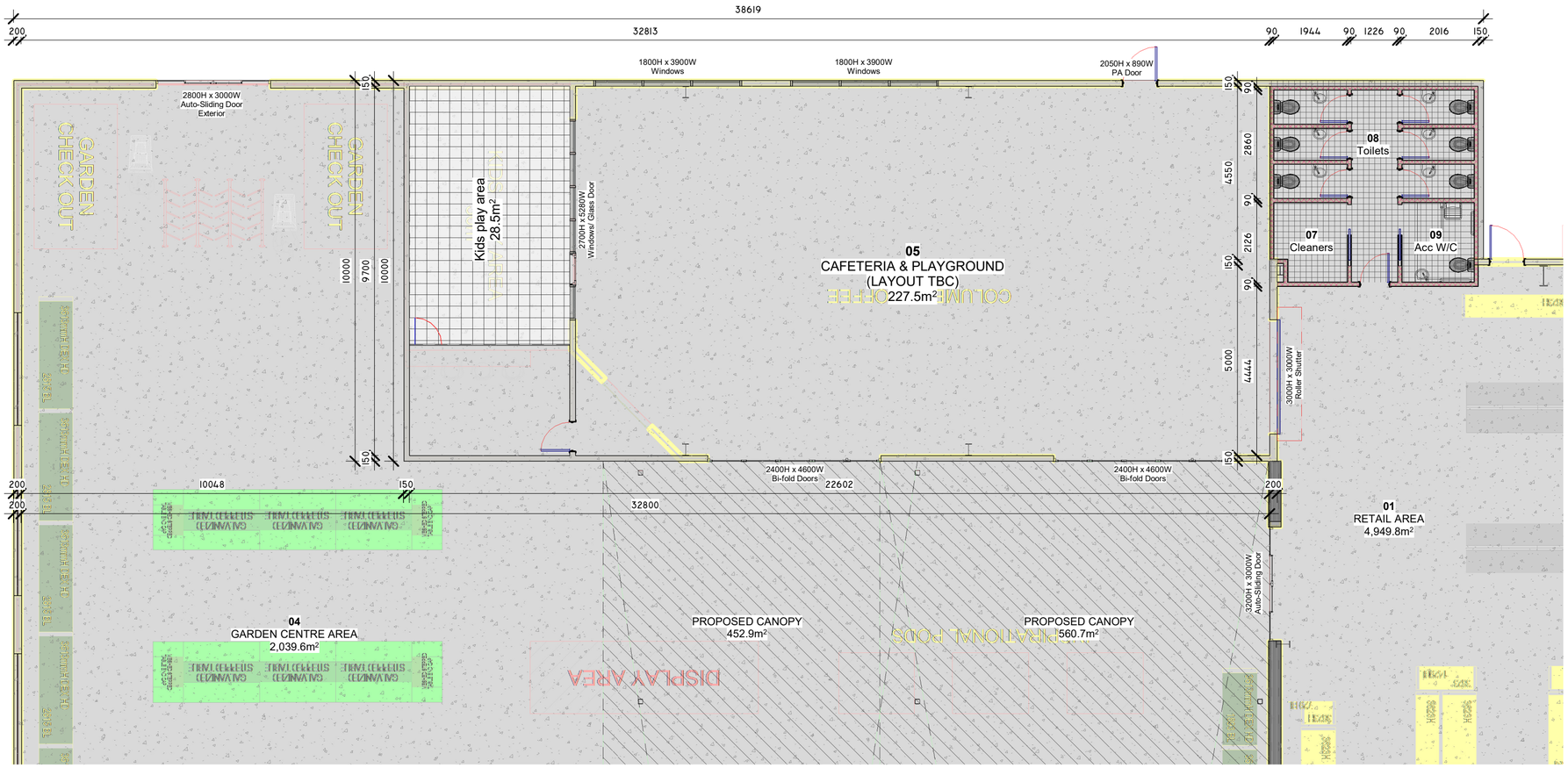

1 Cafeteria Callout

1 : 100

PROJECT:

Mitre10 Mega - Retail
Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Cafeteria Callout	**Sheet No:** C03-2
Scale @ A2: 1 : 100	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 28/08/2024 4:18:34 pm

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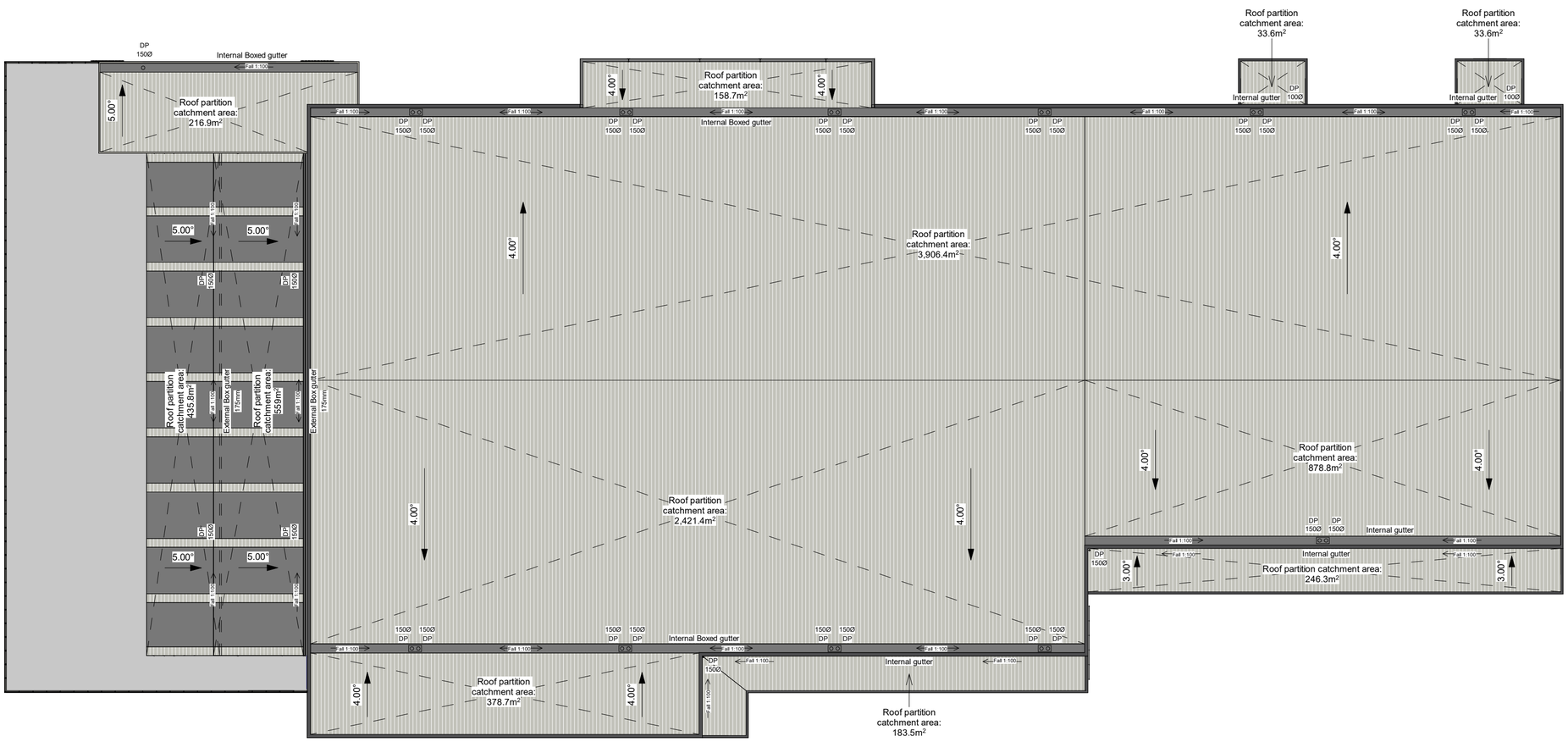

1 Roof View

1 : 400

PROJECT:

Mitre10 Mega - Retail Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

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Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Roof View	**Sheet No:** C03-3
Scale @ A2: 1 : 400	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 28/08/2024 4:18:36 pm

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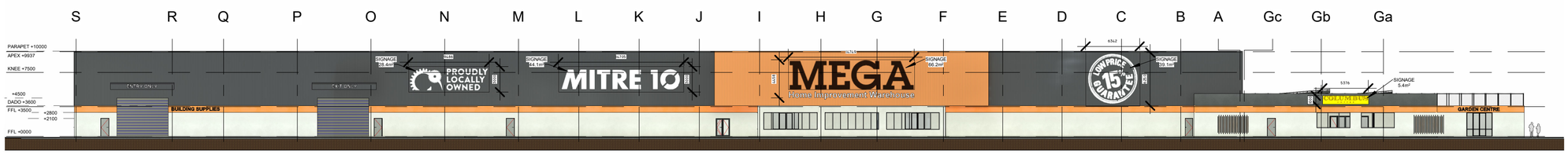
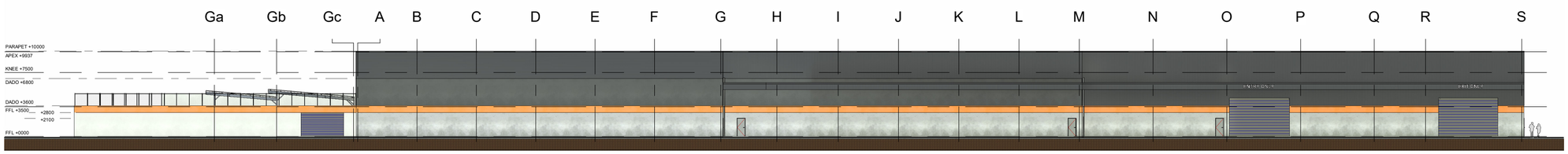


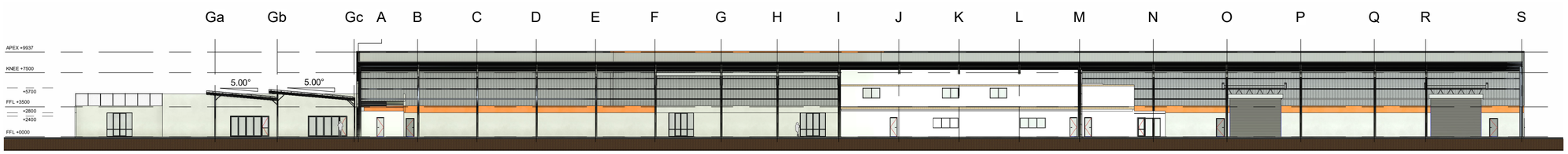
1 North Elevation

1 : 400



2 South Elevation

1 : 400



3 Logitudial Section

1 : 400

PROJECT:

Mitre10 Mega - Retail Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Elevations & Section	**Sheet No:** C04
Scale @ A2: 1 : 400	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 28/08/2024 4:18:51 pm

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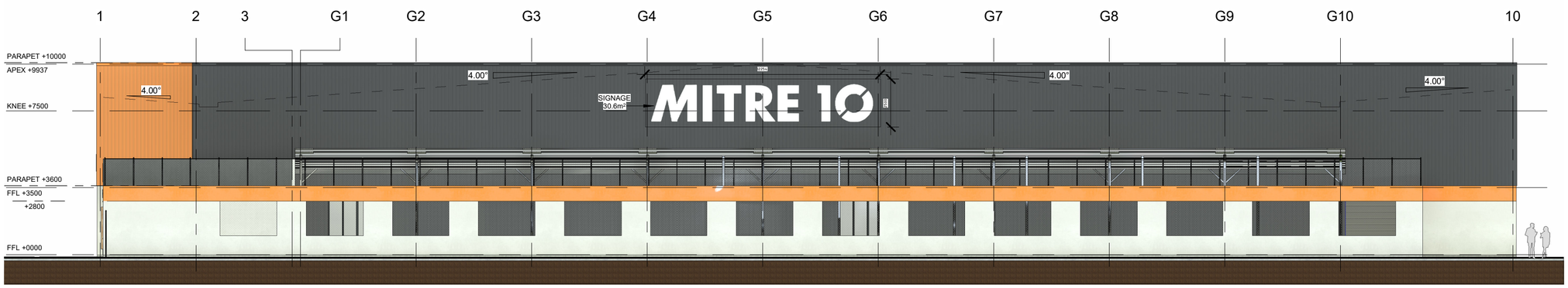
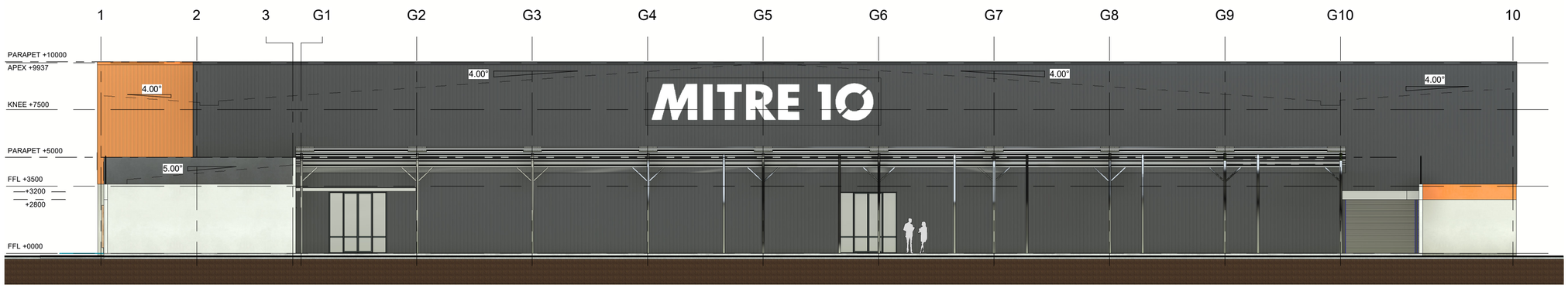


1 West Elevation A

1 : 175



2 West Elevation B

1 : 175

PROJECT:

Mitre10 Mega - Retail Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

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Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Elevations **Sheet No:** C04-1

Scale @ A2: 1 : 175

Scale Conversion: A2 to A3 = 71% A3 to A2 = 141%

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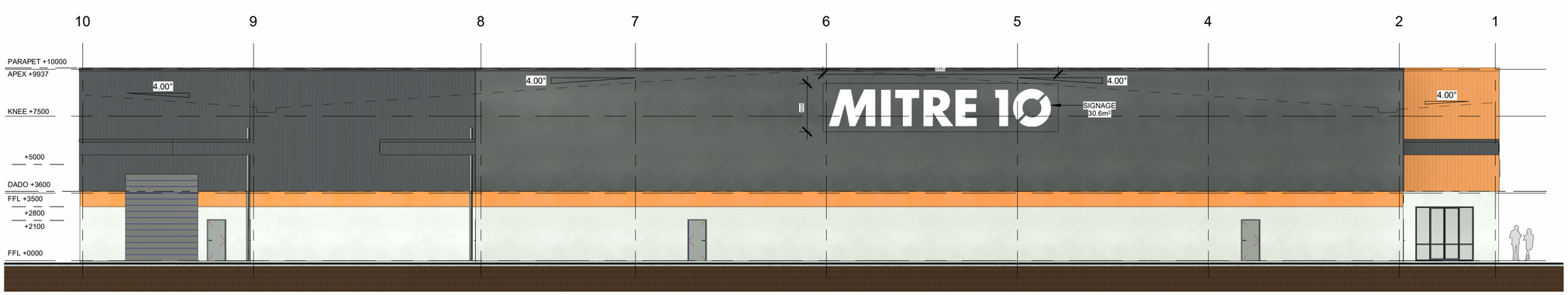
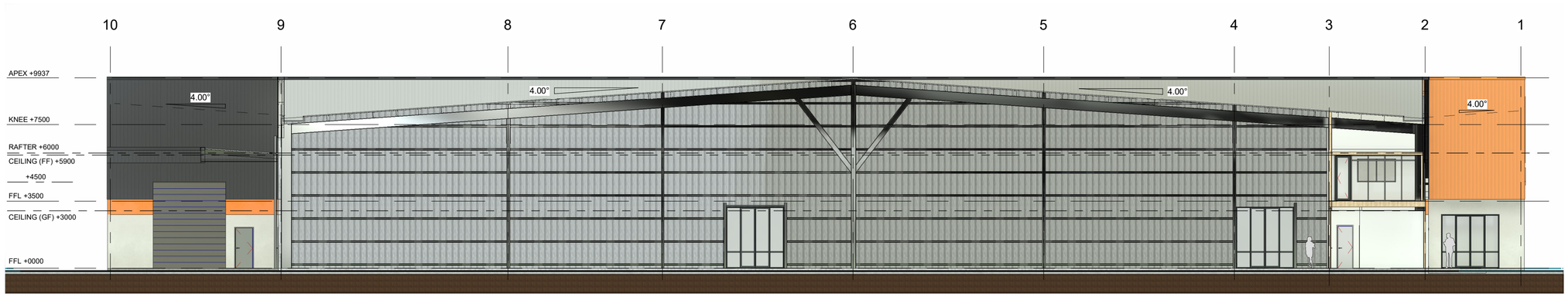


2 East Elevation

1 : 175



1 Cross Section

1 : 175

PROJECT:

Mitre10 Mega - Retail
Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

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Project No: 23-041 R14 **Drawn By:** RES

Sheet: Elevation & Section **Sheet No:** C04-2

Scale @ A2: 1 : 175

Scale Conversion: A2 to A3 = 71%
A3 to A2 = 141%

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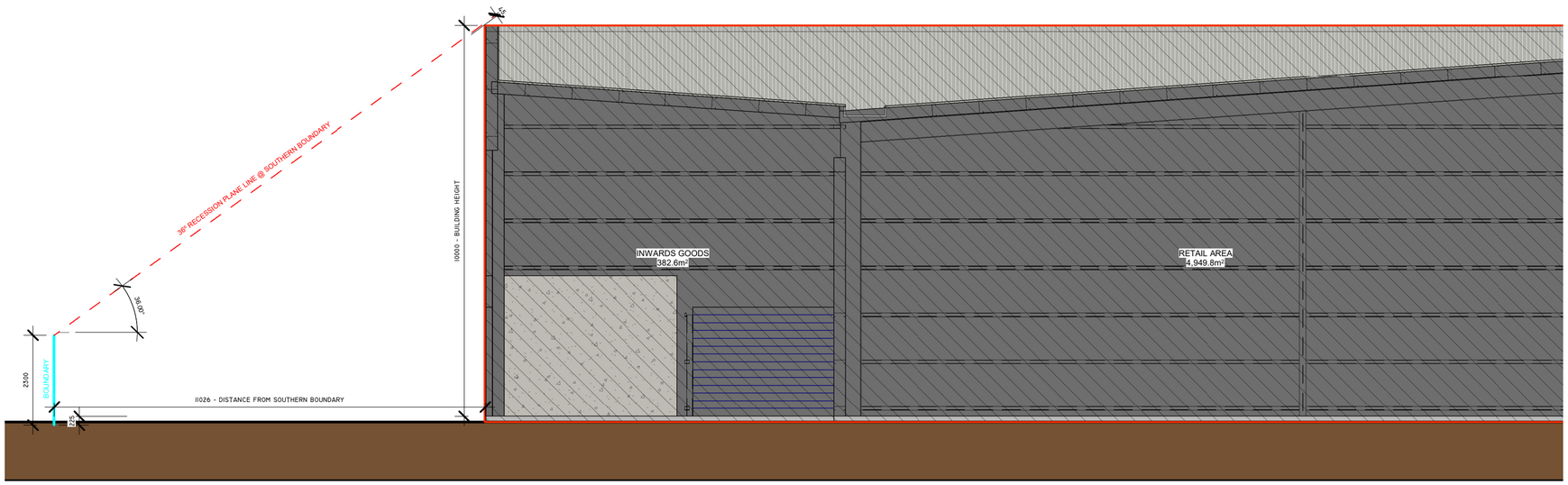

1 Recession Plane (Southern Bdy)

1 : 100

PROJECT:

Mitre10 Mega - Retail
Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

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Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Recession Plane	**Sheet No:** C02-1
Scale @ A2: 1 : 100	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
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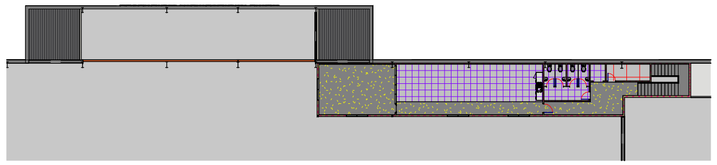
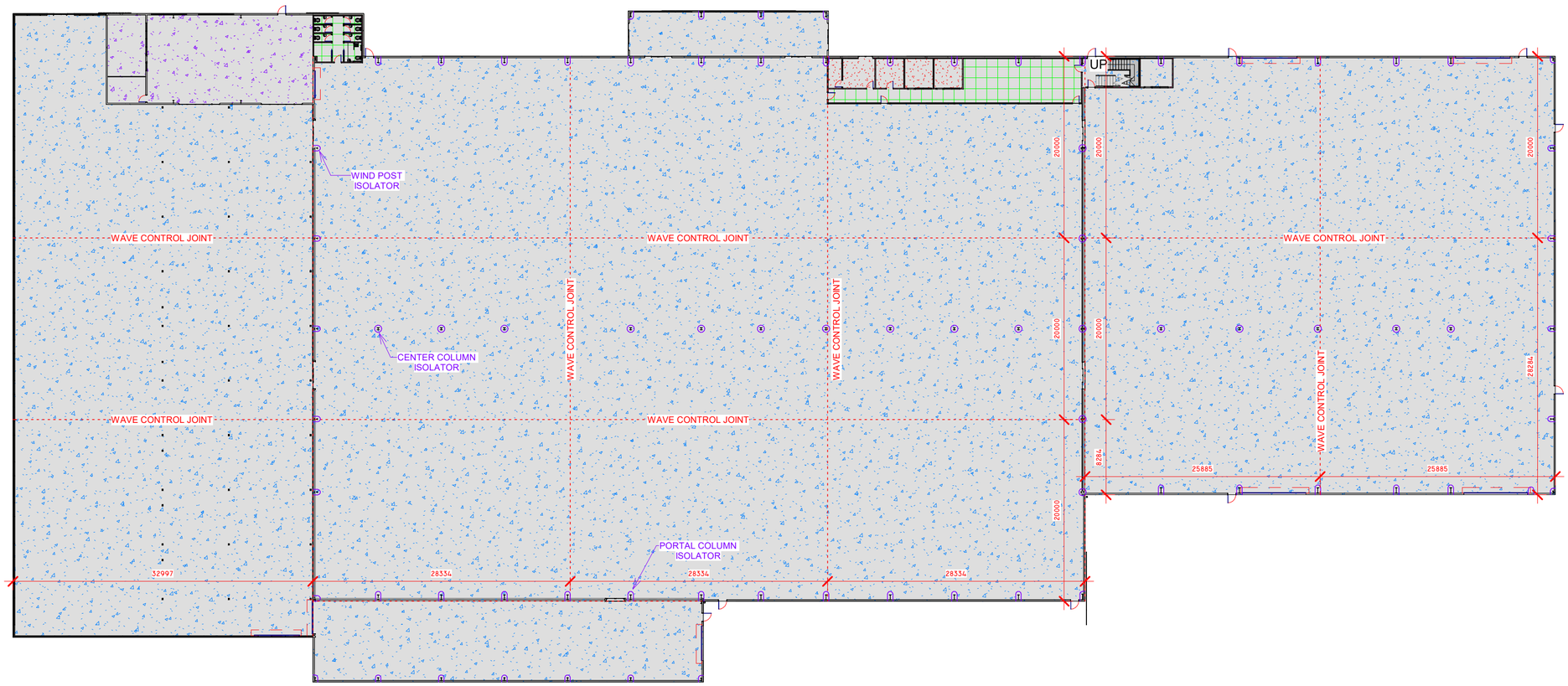
- Commercial grade Carpet tiles with aluminium skirting over Aquron 2000 cure/moisture control - **47.9m²**
- Commercial grade Vinyl with coving over Aquron 2000 cure/moisture control - **111.8m²**
- Concrete Aquron 1000 cure/anti-duster - **9,981.8m²**
- Polished Concrete salt & pepper finish - **219.2m²**
- Commercial grade Carpet tiles with aluminium skirting over plywood & floor framing - **65.1m²**
- Commercial grade Vinyl with coving over plwood & floor framing - **64.2m²**
- Anti-static Vinyl with aluminium skirting over plwood & floor framing - **6.2m²**



2 First Floor Finishes
1 : 400



1 Ground Floor Finishes
1 : 400

PROJECT:
Mitre10 Mega - Retail
Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
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Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Floor Finishes Plan	**Sheet No:** C05-1
Scale @ A2: 1 : 400	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
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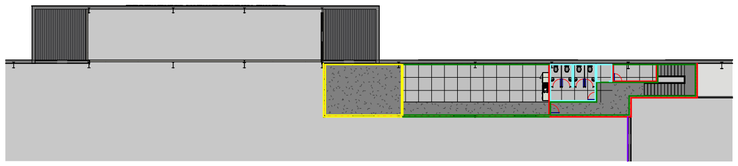
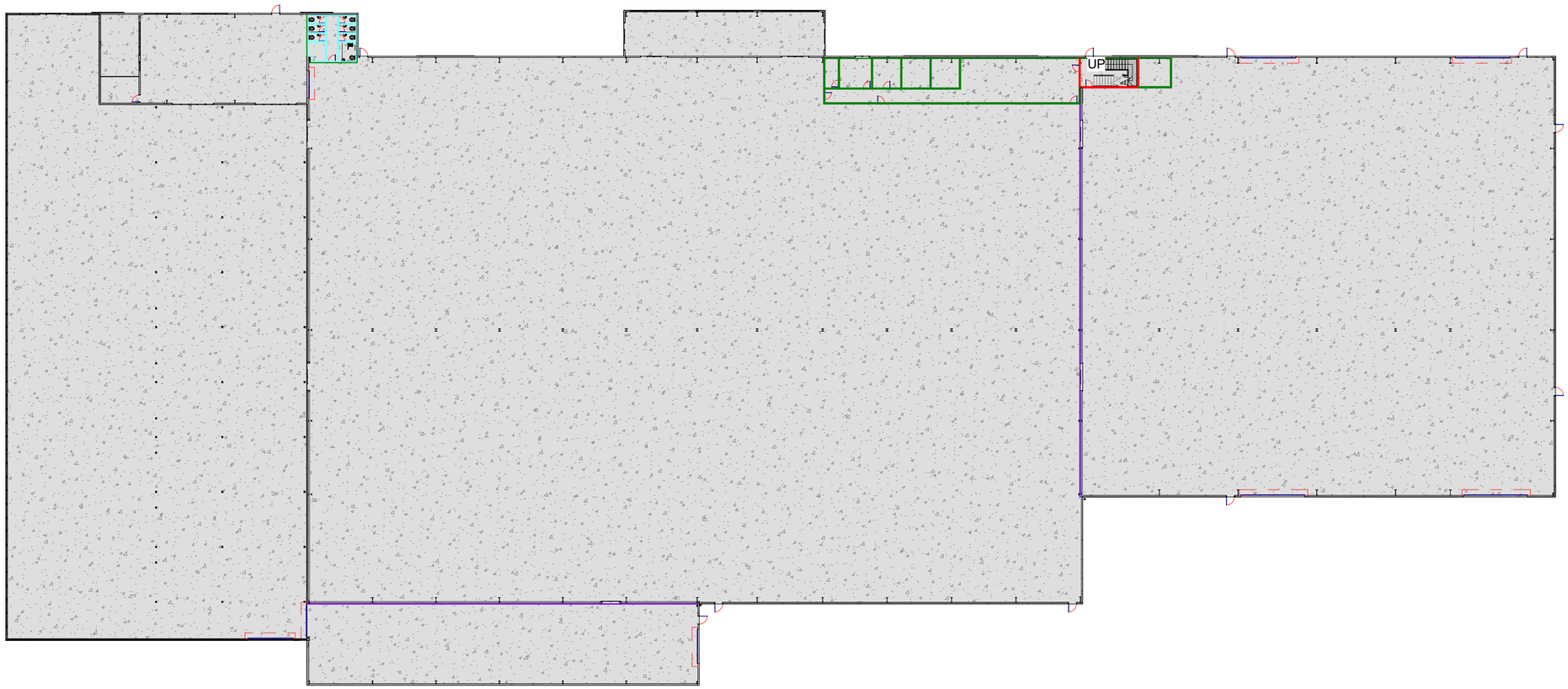
- Water resistant 13mm Plasterboard
- Acoustic noise control 13mm Plasterboard
- 30min Fire-resistant 13mm Plasterboard
- 27mm Plumbdek cladding (full height)



2 First Floor Wall Linings
1 : 400



1 Ground Floor Wall Linings
1 : 400

PROJECT:
Mitre10 Mega - Retail Development concept plans

CLIENT:
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SITE ADDRESS:
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Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Wall Linings Plan **Sheet No:** C05-2

Scale @ A2: 1 : 400

Scale Conversion: A2 to A3 = 71%, A3 to A2 = 141%

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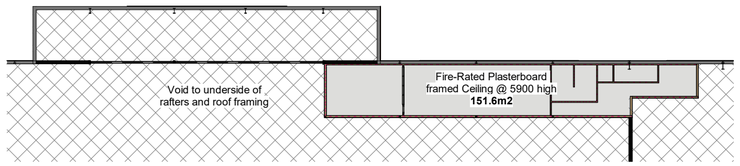
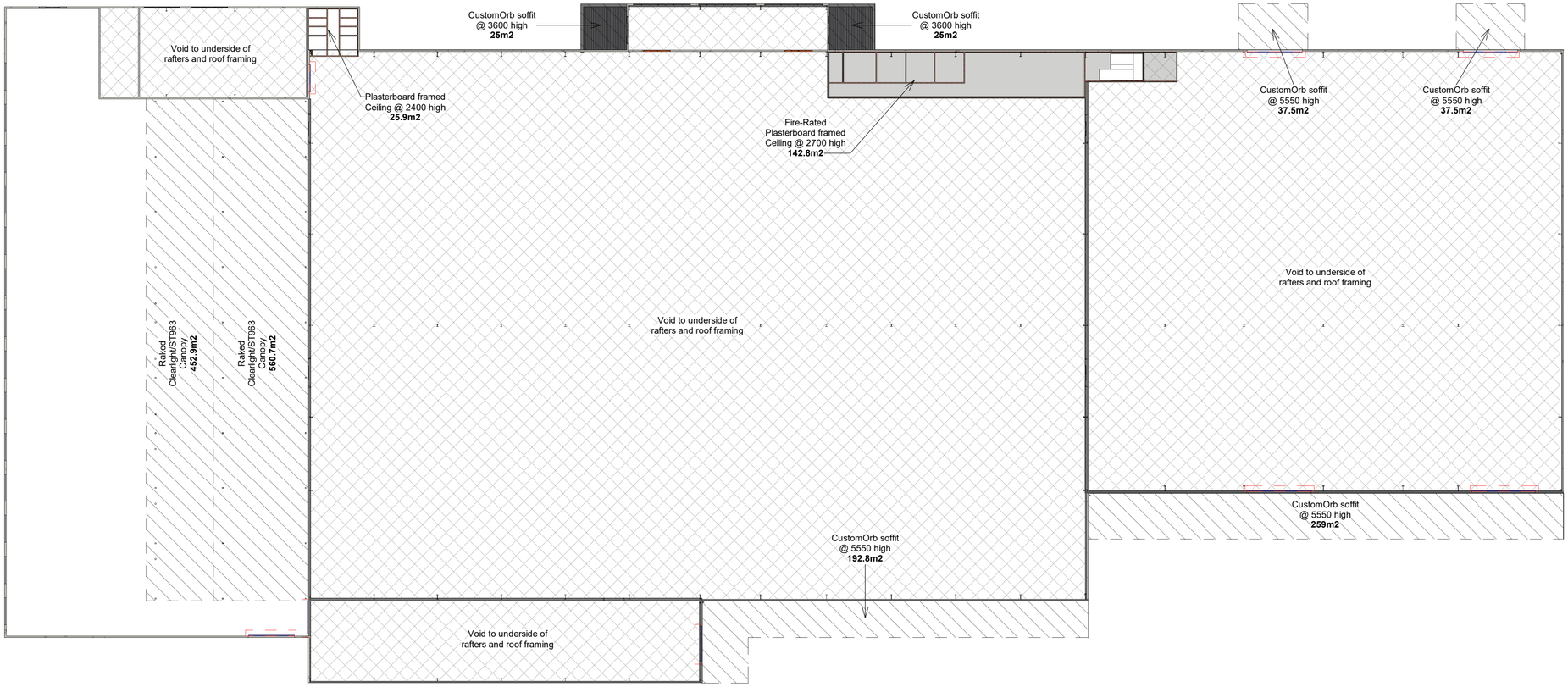


2 First Floor Ceiling Plan

1 : 400



1 Ground Floor Ceiling Plan

1 : 400

PROJECT:
Mitre10 Mega - Retail
Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Ceiling Plan **Sheet No:** C05-3

Scale @ A2: 1 : 400

Scale Conversion:
A2 to A3 = 71%
A3 to A2 = 141%

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Project No: 23-041 R14 Sheet No: C01-1

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MITRE 10

ENTRY ONLY

EXIT ONLY

ARTIST IMPRESSION ONLY

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Project No: 23-041 R14 Sheet No: C01-3

ARTIST IMPRESSION ONLY

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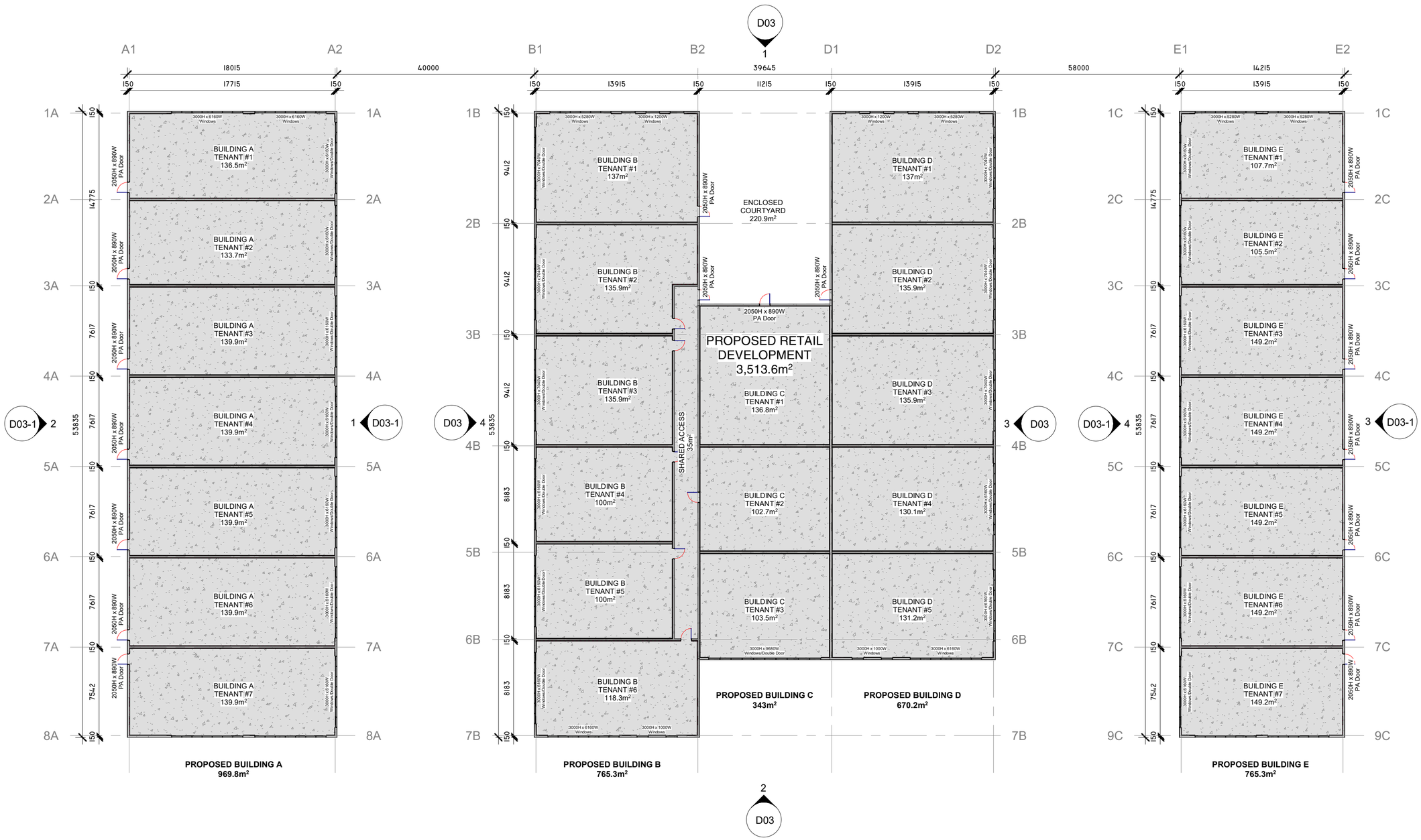
MEGA

Home Improvement Warehouse

MITRE

PROUDLY LOCALLY OWNED

EXIT ONLY



1 Future Development Ground Floor

1 : 250

0m 5m 25m

PROJECT:
Mitre10 Mega - Retail Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Ground Floor	**Sheet No:** D02
Scale @ A2: 1 : 250	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
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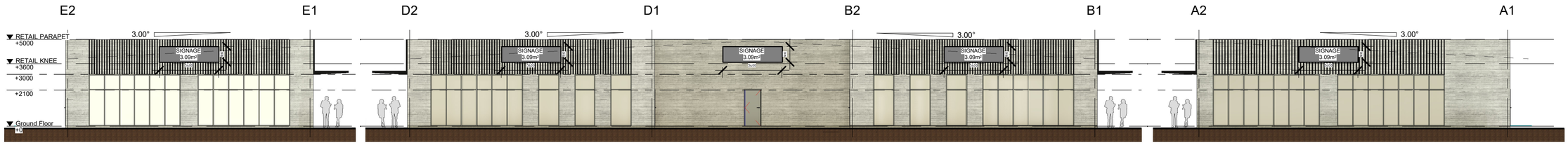
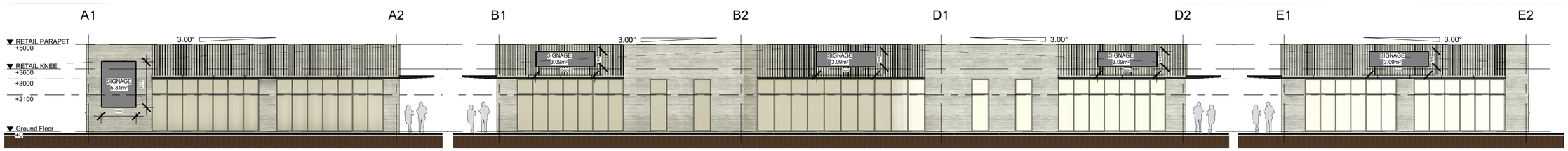


1 Retail Elevation North

1 : 175

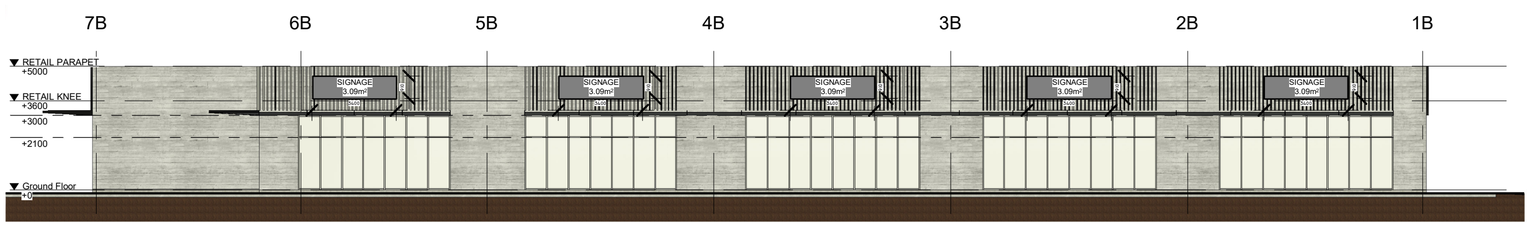
Retail Elevation North - Road Boundary

	m²	Wall %
Total Wall area:	303.29	100%
Total Glazing area:	121.92	40.2%



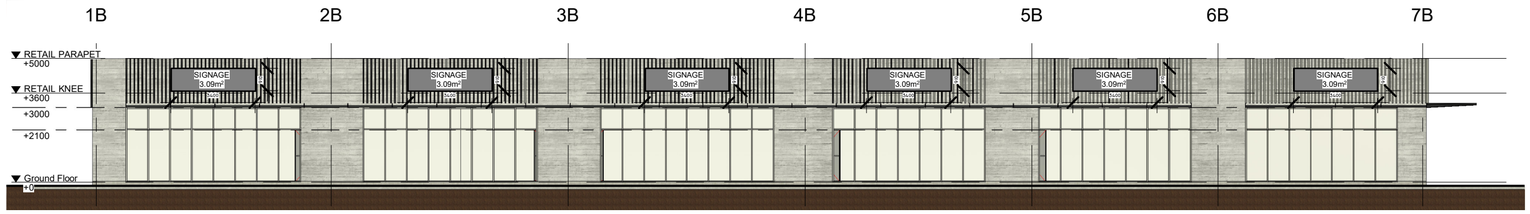
2 Retail Elevation South

1 : 175



3 Building D East

1 : 175



4 Building B West

1 : 175

PROJECT:
Mitre10 Mega - Retail Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
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Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Elevations **Sheet No:** D03

Scale @ A2: 1 : 175

Scale Conversion: A2 to A3 = 71% A3 to A2 = 141%

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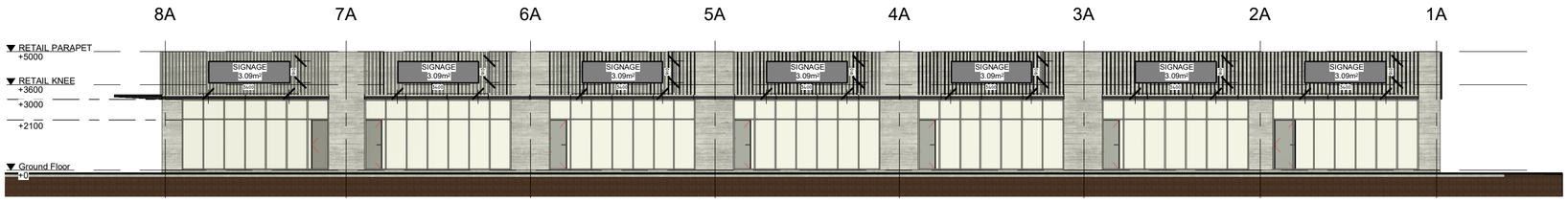
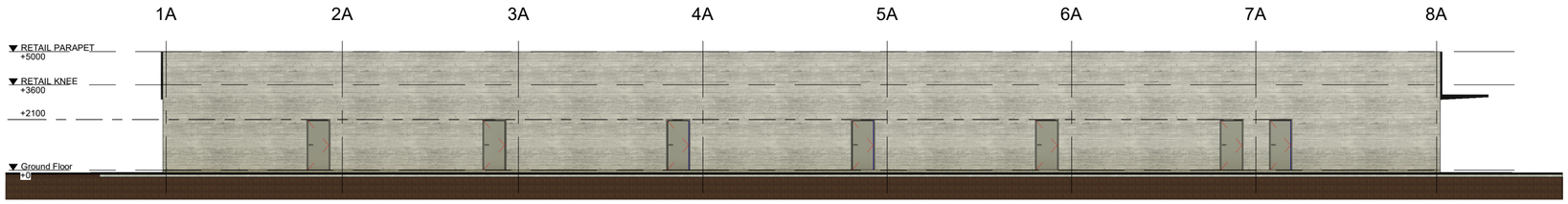


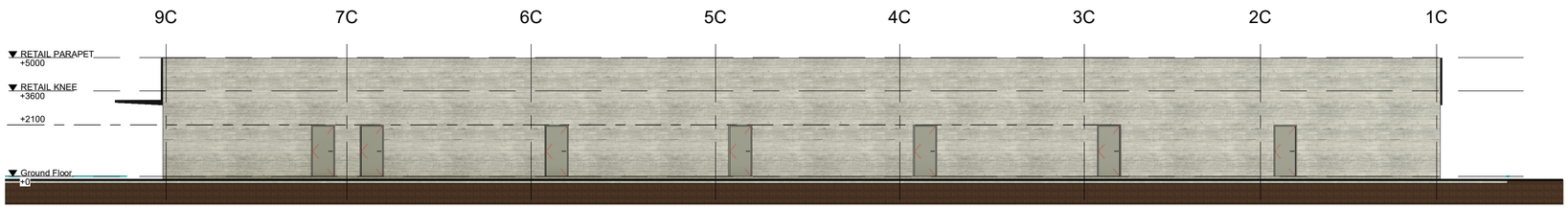
1 Building A East

1 : 175



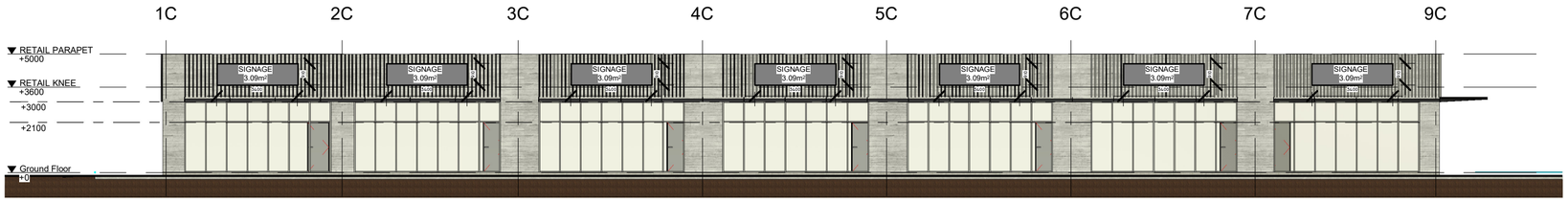
2 Building A West

1 : 175



3 Building E East

1 : 175



4 Building E West

1 : 175

PROJECT:

Mitre10 Mega - Retail Development concept plans

CLIENT:

Miles Andrews

SITE ADDRESS:

Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14 **Drawn By:** RES

Sheet: Elevations **Sheet No:** D03-1

Scale @ A2: 1 : 175

Scale Conversion: A2 to A3 = 71% A3 to A2 = 141%

Date: 13/10/2022 **Rev Date:** 28/08/2024 4:13:46 pm

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Project No: 23-041 R14

Sheet No: D01

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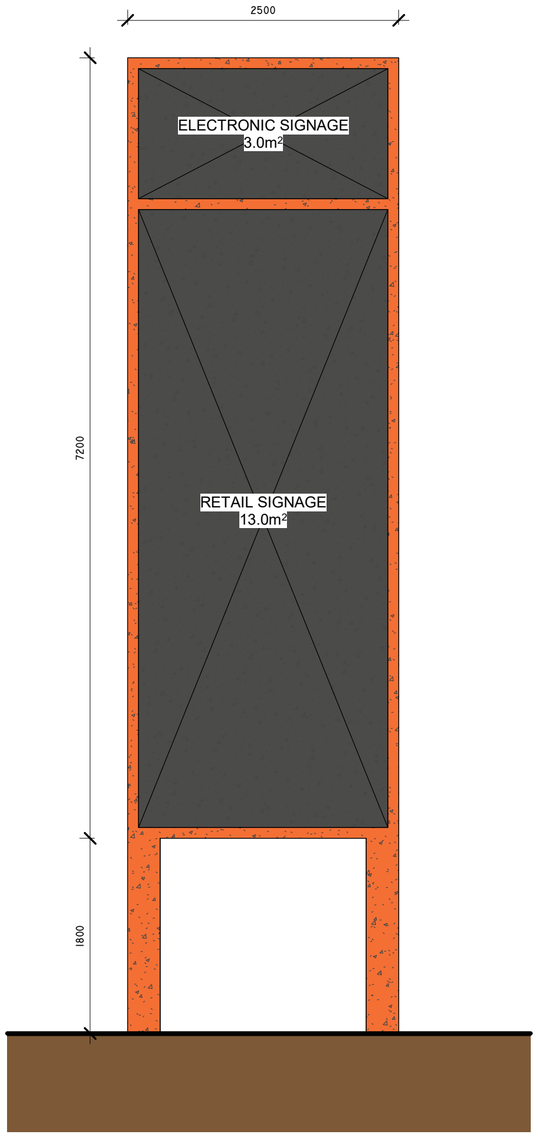
Project No: 23-041 R14 Sheet No: D01-1



1 Signage Pylon Elevation
1 : 40

PROJECT:
Mitre10 Mega - Retail
Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Pylon Elevation	**Sheet No:** C05-4
Scale @ A2: 1 : 40	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 27/08/2024 2:15:05 pm

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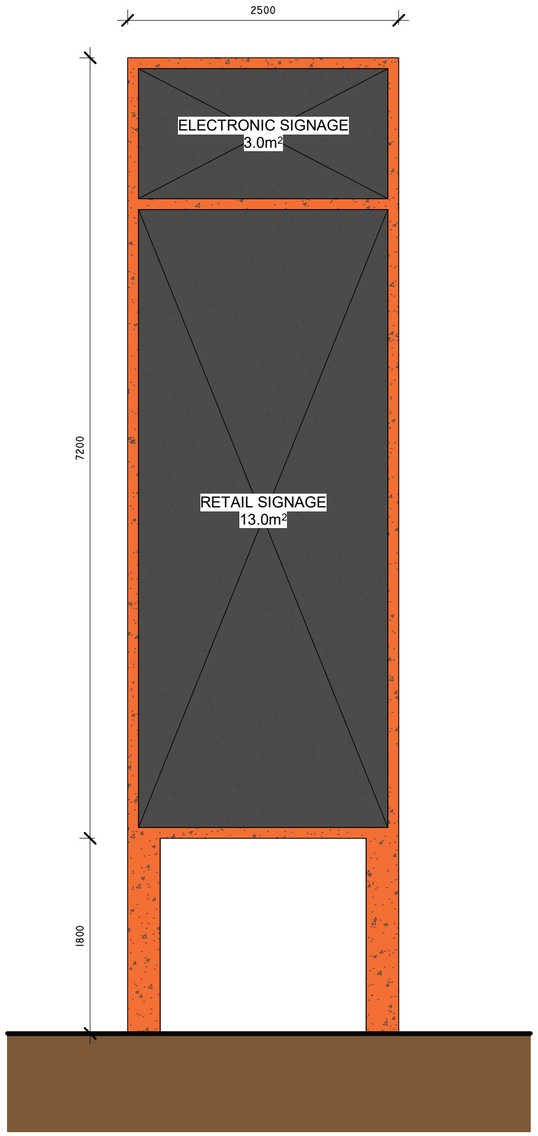

1 Signage Pylon Elevation
1 : 40

PROJECT:
Mitre10 Mega - Retail
Development concept plans

CLIENT:
Miles Andrews

SITE ADDRESS:
Prestons Road, Marshland
Christchurch, New Zealand

Project No: 23-041 R14	**Drawn By:** RES
Sheet: Pylon Elevation	**Sheet No:** C05-4
Scale @ A2: 1 : 40	**Scale Conversion:** A2 to A3 = 71% A3 to A2 = 141%
Date: 13/10/2022	**Rev Date:** 27/08/2024 2:15:05 pm

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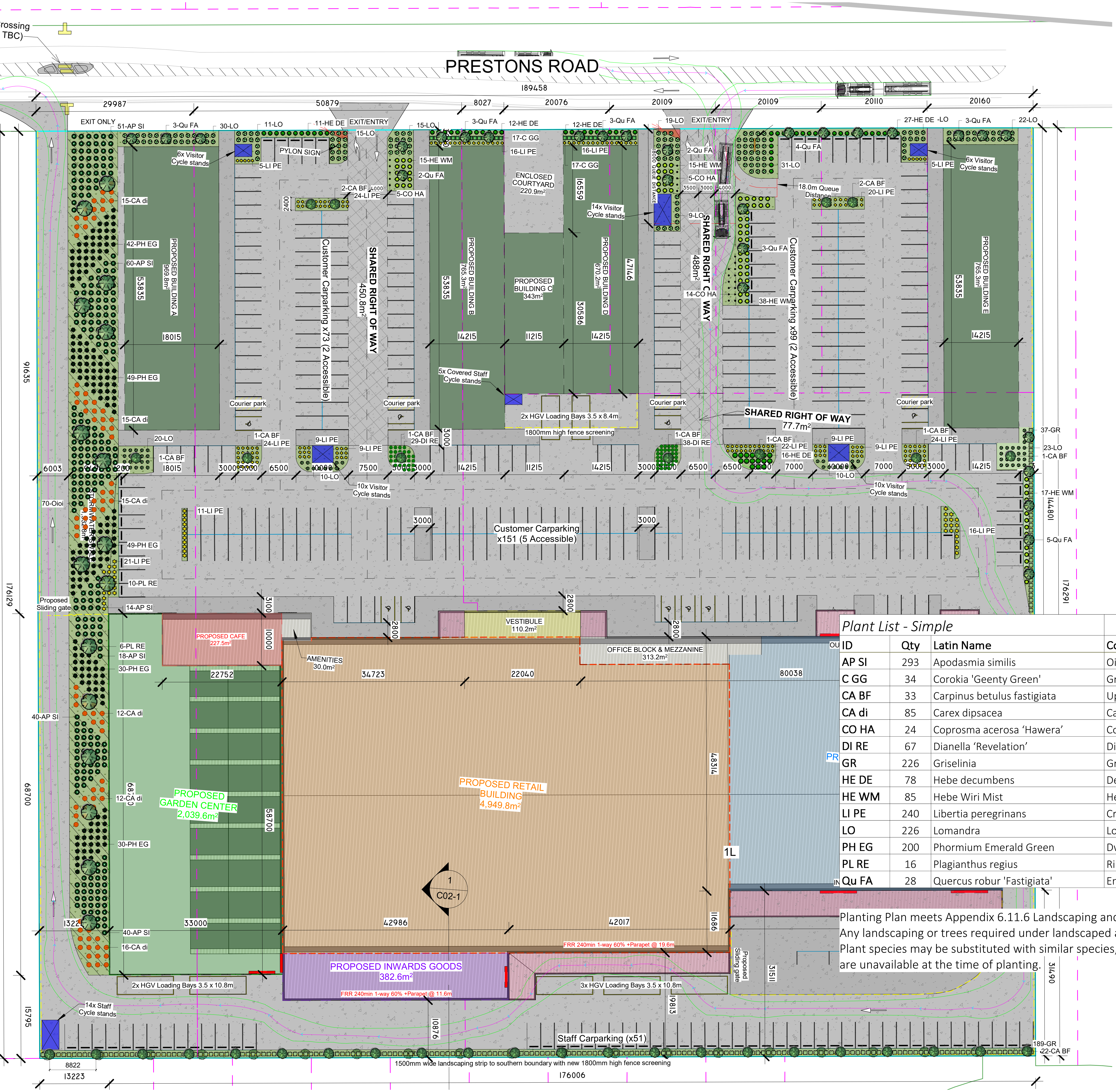


Plant List - Simple

ID	Qty	Latin Name	Common Name	Scheduled Size	Size at time of planting
AP SI	293	Apodasmia similis	Oioi	1L	350mm
C GG	34	Corokia 'Geenty Green'	Green Corokia	2L	300mm
CA BF	33	Carpinus betulus fastigiata	Upright Hornbeam	35/45L	Min. 2.0m
CA di	85	Carex dipsacea	Carex	1L	400mm
CO HA	24	Coprosma acerosa 'Hawera'	Coprosma	1L	GC
DI RE	67	Dianella 'Revelation'	Dianella	1L	250mm
GR	226	Griselinia	Griselinia	2L	350mm
HE DE	78	Hebe decumbens	Decumbent Hebe	1L	250mm
HE WM	85	Hebe Wiri Mist	Hebe Wiri Mist	1L	300mm
LI PE	240	Libertia peregrinans	Creeping Iris	1L	150mm
LO	226	Lomandra	Lomandra	1L	250mm
PH EG	200	Phormium Emerald Green	Dwarf Flax	1L	400mm
PL RE	16	Plagianthus regius	Ribbonwood	35/45L	Min. 2.0m
Qu FA	28	Quercus robur 'Fastigiata'	English Columnar Oak	35/45L	Min. 2.0m

Planting Plan meets Appendix 6.11.6 Landscaping and Tree Planting - Rules.
Any landscaping or trees required under landscaped area shall be maintained, and if dead, diseased, or damaged, shall be replaced.
Plant species may be substituted with similar species, subject to approval from the Landscape Architect, if the original plant species are unavailable at the time of planting.

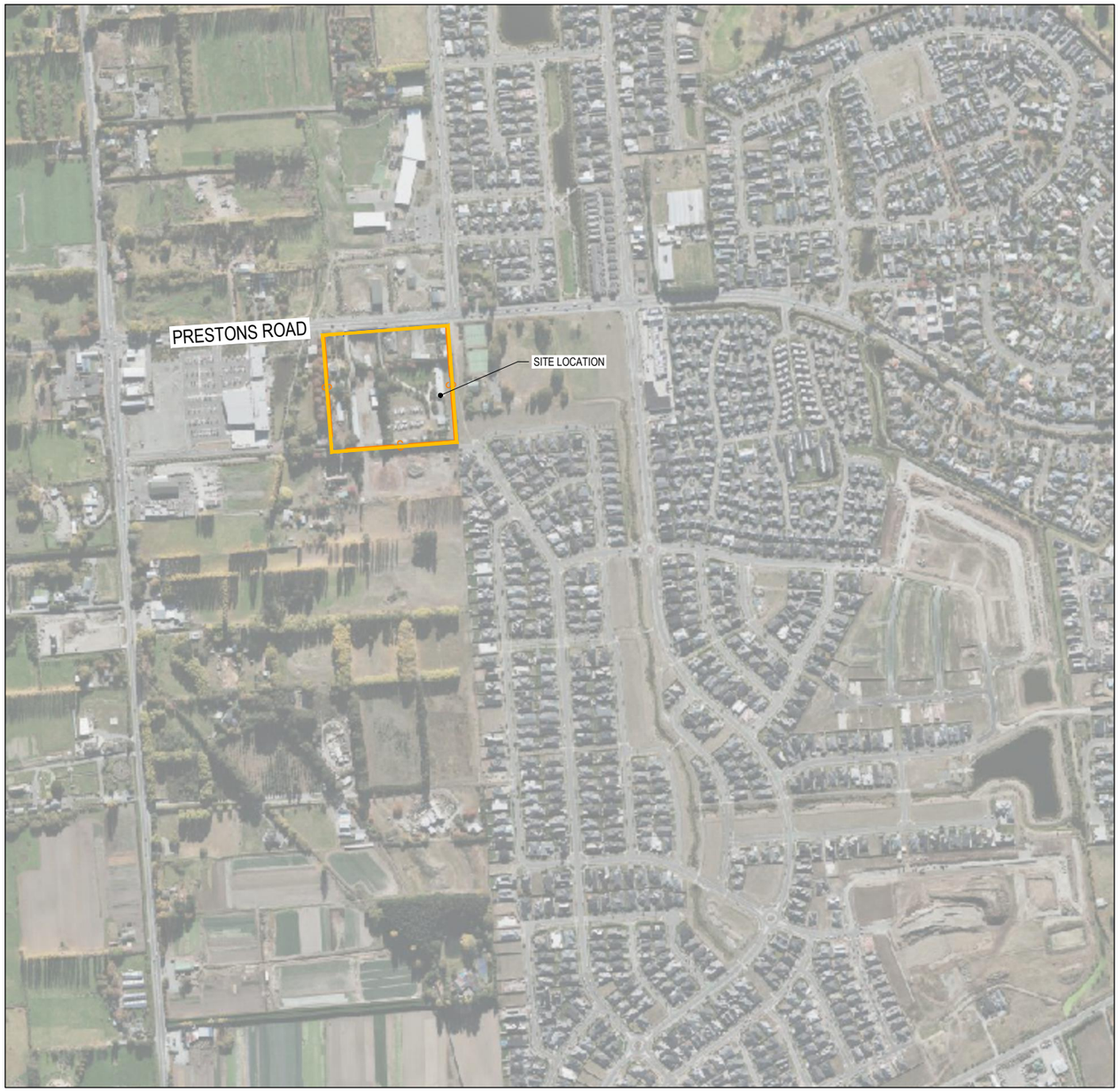
MITRE 10 - RETAIL DEVELOPMENT
PRESTONS ROAD, MARSHLANDS
PLANTING PLAN

SCALE 1:500 @A2 REVISION DATE 27.08.24
DESIGNER: D DORE PAGE 1 OF 1 REVISION D

OUTERSPACE

PRESTONS ROAD, MARSHLANDS
CONCEPT DESIGN
MITRE 10 MEGA DEVELOPMENTS

DRAWING LIST		
DRAWING NUMBER	REVISION	DRAWING NAME
C101	1	DRAWING COVER
C102	1	EXISTING SITE FEATURES
C201	1	EARTHWORKS
C202	1	EROSION AND SEDIMENT CONTROL
C203	1	EROSION AND SEDIMENT CONTROL



SITE LOCATION PLAN
(NOT TO SCALE)

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JOB No: 67048
DATE: 2024.08.07
DWG No: C101
REV: 1

CONCEPT DESIGN

PRESTONS ROAD, MARSHLANDS
AREA = 33,385m2
LOT 1, 2 & 3 DP 81866, LOT 3 DP 13469
LOT 1, 2 & 3 DP 18707 & LOT 1 DP 16442

LEGEND:

- EXISTING STORMWATER LINE
- EXISTING WASTEWATER LINE
- EXISTING WATER LINE
- EXISTING WATER METER
- LOT BOUNDARY
- 14.0 MAJOR CONTOUR
- 14.4 MINOR CONTOUR

REV	DESCRIPTION	DATE	DRN BY	DES	APP
1	CONCEPT DESIGN	2024.08.07	CW	CZ	---

DRAWING REVISIONS

N
TRUE NORTH

CONCEPT DESIGN

MITRE 10 MEGA DEVELOPMENTS

PRESTONS ROAD, MARSHLANDS

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DRAWING TITLE:
EXISTING SITE FEATURES PLAN

CONCEPT DESIGN
2024.08.07

	DATE	INITIAL
DESIGNED	CW	2024.08.07
DRAWN	CW	2024.08.07
DESIGN CHECK	CZ	2024.08.07
DRAWING CHECK	CZ	2024.08.07
APPROVED		

SCALE:
A3 SCALE 1:750

JOB NO:
67048

DWG NO: C102
REV: 1

NOTES:
1. PLAN IS IN TERMS OF MOUNT PLEASANT 2000
2. LEVELS IN TERMS OF NZVD 2016
3. UNDERGROUND SERVICES INVERTS ARE FROM CHRISTCHURCH CITY COUNCIL GIS AND ARE INDICATIVE ONLY.
4. THE POSITION OF ALL EFFECTED UNDERGROUND SERVICES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION WORKS COMMENCING
5. NOT ALL PRE-EXISTING PUBLIC AND PRIVATE DRAINAGE IS NECESSARILY SHOWN
6. FEATURES SHOWN ARE DIAGRAMMATIC AND MAY NOT BE TO SCALE
7. NOT ALL EASEMENTS, COVENANTS, REGISTERED INTERESTS OR ENCUMBRANCES ON THE PROPERTY MAY BE REPRESENTED.
8. ALL ON SITE WORKS ARE TO COMPLY WITH NZ BUILDING CODE. ALL PUBLIC ASSET WORKS ARE TO COMPLY WITH CHRISTCHURCH CITY COUNCIL

PRESTONS ROAD, MARSHLANDS
AREA = 33,385m2
LOT 1, 2 & 3 DP 81866, LOT 3 DP 13469
LOT 1, 2 & 3 DP 18707 & LOT 1 DP 16442

EARTHWORKS NOTES :

ALL FILL SUBGRADES TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO ANY FILL PLACEMENT.

ALL CUT MATERIAL TO BE INSPECTED AND TESTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT AS FILL TO ENSURE COMPLIANCE WITH SPECIFICATION.

FINISHED CUT SURFACES TO BE INSPECTED BY GEOTECHNICAL ENGINEER TO CONFIRM ANY UNDERCUTTING REQUIREMENTS.

ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AND APPROVED BY THE ENGINEER PRIOR TO ANY WORKS COMMENCING ON SITE. SEE DRAWINGS C202 - C203 FOR EROSION AND SEDIMENT CONTROL MEASURES AND DETAILS.

ALL EXISTING SERVICES ARE TO BE LOCATED AND PROTECTED PRIOR TO ANY WORKS COMMENCING ON SITE.

IN TERMS OF LOCATION AND LEVELS, ALL WORKS ARE TO BE SET OUT FROM 3D DWG INFORMATION AS SUPPLIED BY BABBAGE. THIS PLAN IS FOR INFORMATION ONLY AND SHALL NOT BE USED FOR SET OUT.

EARTHWORKS LOWER VALUE		UPPER VALUE		COLOUR
-1.6	to	-1.4	m	
-1.4	to	-1.2	m	
-1.2	to	-1	m	
-1.0	to	-0.8	m	
-0.8	to	-0.6	m	
-0.6	to	-0.4	m	
-0.4	to	-0.2	m	
-0.2	to	0	m	
0	to	0.20	m	
0.20	to	0.4	m	
0.4	to	0.6	m	
0.6	to	0.8	m	
0.8	to	1	m	

	WHOLE SITE		
	CUT (m3)	FILL (m3)	BALANCE (m3)
STAGE 1 - FROM EXISTING SITE TO SUBGRADE (FGL - 300mm)	-5107	1659	-3448
STAGE 2 - FROM SUBGRADE TO FINISHED	0	10019	10019
TOTAL	-5107	11678	6571

LEGEND:

LOT BOUNDARY

REV	DESCRIPTION	DATE	DRN BY	DES CHK	APP
1	CONCEPT DESIGN	2024.08.07	CZ	CW	

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TRUE NORTH

CONCEPT DESIGN

MITRE 10 MEGA DEVELOPMENTS

PRESTONS ROAD, MARSHLANDS

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DRAWING TITLE:

EARTHWORKS
CUT AND FILL
PLAN

CONCEPT DESIGN
2024.08.07

	DATE	INITIAL
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DRAWN	CZ	2024.08.07
DESIGN CHECK	CW	2024.08.07
DRAWING CHECK	CW	2024.08.07
APPROVED		

SCALE:
A3 SCALE 1: 750

JOB NO:
67048

DWG NO:
C201

REV:
1

PRESTONS ROAD, MARSHLANDS
AREA = 33,385m2
LOT 1, 2 & 3 DP 81866, LOT 3 DP 13469
LOT 1, 2 & 3 DP 18707 & LOT 1 DP 16442

LEGAL BOUNDARY
14.0 MAJOR CONTOUR
14.4 MINOR CONTOUR
S STANDARD SILT FENCE

STABILISED ENTRANCE TO RUN 10m INTO ACCESSWAY, REFER TO DRAWING C203 FOR DETAILS

SPOIL STOCKPILE

EXISTING OVERHEAD POWER TO BE REMOVED

EXISTING BUILDINGS TO BE REMOVED

DECANTING EARTH BUND TO HAVE MINIMUM VOLUME OF 170m3, REFER TO DRAWING C203 FOR DETAILS. EXACT LOCATION TO BE AGREED ON SITE WITH CONTRACTOR

INSTALL SILT FENCE AS REQUIRED, DEPENDANT ON SITE ELEVATIONS AND CONSTRUCTION PROCESS, REFER TO DRAWING C203 FOR DETAILS.

EXISTING Y-JUNCTION
IL = 12.83mRL

DECANTING EARTH BUND AT LOW POINT MINIMUM VOLUME OF 170m3, REFER TO DRAWING C203 FOR DETAILS. EXACT LOCATION TO BE AGREED ON SITE WITH CONTRACTOR

INSTALL SILT FENCE AS REQUIRED, DEPENDANT ON SITE ELEVATIONS AND CONSTRUCTION PROCESS, REFER TO DRAWING C203 FOR DETAILS.

200mmØ PE100 VACUUM
225mmØ RCRRJ
63mmØ MDPE80
355mmØ PE100 WATERMAIN
EXISTING SINGLE SUMP
63mmØ MDPE80 SUBMAIN
90mmØ PE100 VACUUM
EXISTING SINGLE SUMP
560mmØ PE100 TRUNKMAIN
225mmØ uPVC
90mmØ PE100 VACUUM
150mmØ uPVC GRAVITY
300mmØ uPVC MAIN
280mmØ PE100 VACUUM
125mmØ PE100 VACUUM

REV	DESCRIPTION	DATE	DRN BY	DES	APP
1	CONCEPT DESIGN	2024.08.07	CW	CZ	

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CONCEPT DESIGN

MITRE 10 MEGA DEVELOPMENTS

PRESTONS ROAD, MARSHLANDS

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DRAWING TITLE:
EROSION AND SEDIMENT CONTROL PLAN

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DESIGN CHECK	CZ	2024.08.07	
DRAWING CHECK	CZ	2024.08.07	
APPROVED			

SCALE:
A3 SCALE 1: 750

JOB NO:
67048

DWG NO: C202
REV: 1

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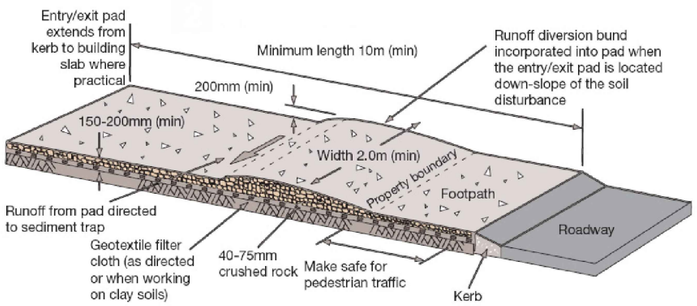
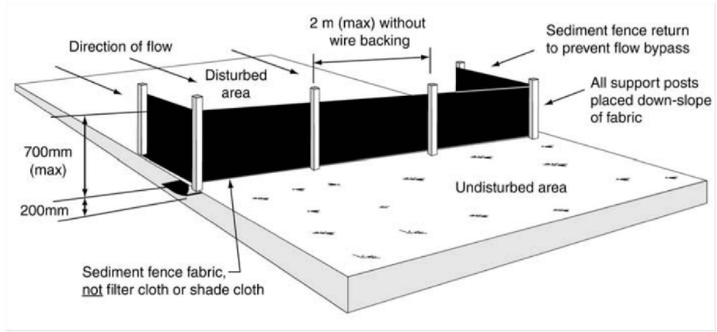
STABILISED ENTRY/EXIT (ROCK PADS)

- STABILISED ENTRY/EXITS CONSIST OF A SHORT LENGTH OF ROADWAY COVERED WITH CRUSHED ROCK ALSO CALLED "ROCK PADS"
- ROCK PADS ON BUILDING SITES PRIMARILY ACT AS ALL-WEATHER PARKING SURFACES THAT AIM TO MINIMISE THE ATTACHMENT OF DIRT AND MUD TO TYRES.
- ROCK PADS ON CONSTRUCTION SITES PRIMARILY ACT AS SEDIMENT TRAPS SURFACES THAT AIM TO STRIP FROM TYRES ANY DIRT AND MUD.
- STABILISED CONSTRUCTION ENTRY/EXIT POINTS ARE REQUIRED DURING BOTH DRY AND WET WEATHER.
- ROCK PADS REQUIRE REGULAR MAINTENANCE, INCLUDING PLACEMENT OR ADDITION OF MORE ROCK.
- A SQUARE-EDGED SHOVEL AND LARGE STIFF-BRISTLED BROOM MUST BE AVAILABLE ON-SITE FOR MAINTENANCE.
- AVOID PLACING ROCK PADS ON STEP GRADES.
- THE STABILISED ENTRY/EXIT POINT MAY NOT NECESSARILY BE PLACED AT THE PERMANENT SITE ENTRY/EXIT POINT.
- SEDIMENT TO BE REGULARLY REMOVED FROM THE ROCK PAD AS MAINTENANCE.
- IF ENTRY/EXIT POINT IS DOWN-SLOPE OF THE SOIL DISTURBANCE OR PART OF THE ACCESS ROAD, THEN THE ROCK PAD MUST CONTAIN A FLOW CONTROL BERM TO DEFLECT SEDIMENT-LADEN RUNOFF TO AN ADJACENT SEDIMENT TRAP.
- ROCK PADS CAN BE INEFFECTIVE IF SOILS ARE HIGHLY COHESIVE (STICKY) CLAYS.
- THE ROCK MUST BE PLACED ON A HEAVY DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH ('BIDIM' A24 OR EQUIVALENT) IF PLACED ON CLAYEY OR UNSTABLE SOILS.



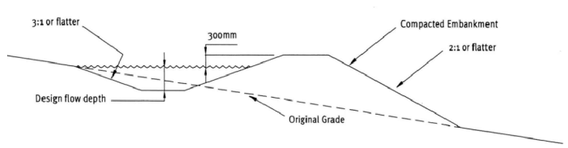
SEDIMENT FENCE (SILT FENCE)

- SEDIMENT FENCES SHOULD BE LOCATED DOWNSLOPE OF THE DISTURBANCE, AND IDEALLY ALONG A LINE OF CONSTANT LAND LEVEL TO PREVENT CONCENTRATION OF STORMWATER RUNOFF.
- IN AREAS WHERE IT IS IMPRACTICAL TO BURY THE LOWER EDGE OF THE SEDIMENT FENCE, THE LOWER 200 MM (MIN) PORTION OF THE FABRIC SHOULD BE PLACED ON THE GROUND UP SLOPE OF THE FENCE AND BURIED UNDER A 100 MM (MIN LAYER OF COARSE AGGREGATE, 20-40 MM)

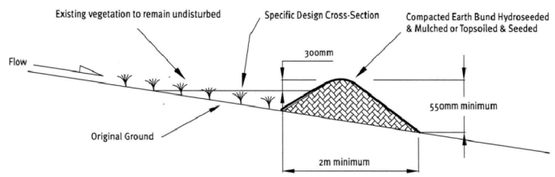


DIVERSION BERMS & CHANNELS

- DIVERSION BERMS & CHANNELS ARE USED AROUND THE PERIMETER OF AN EARTHWORKS ACTIVITY SITE, TO ISOLATE THE SITE AND PREVENT SEDIMENT FROM LEAVING THE AREA.
- DESIGN TO CARRY THE FLOW FOR AT LEAST A 20 YEAR RETURN PERIOD STORM, ALLOWING FOR A MINIMUM 300MM FREEBOARD.
- WHERE CATCHMENTS OF EITHER CLEAN OR DIRTY WATER RUNOFF DIVERSION CHANNELS EXCEED 5.0 HECTARES IN SIZE THEN FORMAL DESIGN (SIZING, SHAPE AND OUTFALL) IS REQUIRED.
- CONSTRUCT RUNOFF DIVERSION CHANNELS WITH A TRAPEZOIDAL CROSS-SECTIONAL SHAPE FOR THE CHANNEL. ENSURE THE INTERNAL SIDES OF THE BUND ASSOCIATED WITH THE RUNOFF DIVERSION CHANNELS ARE NO STEEPER THAN 3:1, AND THE EXTERNAL SIDES NO STEEPER THAN 2:1.
- CLEAN WATER RUNOFF DIVERSION CHANNELS SHOULD BE CONSTRUCTED USING MATERIAL FROM WITHIN THE EARTHWORKS SITE, MINIMISING DISTURBANCE TO EXISTING GROUND COVER WHERE THE CLEAN RUNOFF WATER WILL FLOW.



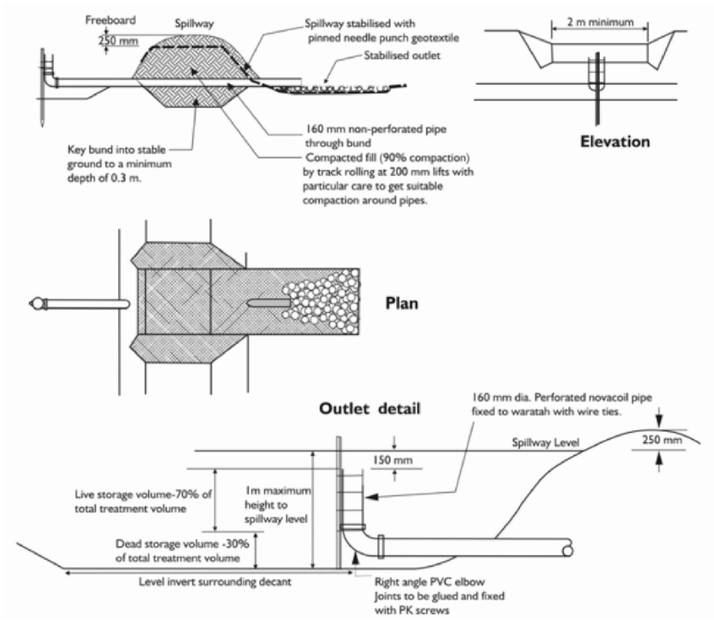
DIRTY WATER RUNOFF DIVERSION CHANNEL DESIGN DETAILS



CLEAN WATER RUNOFF DIVERSION CHANNEL DESIGN DETAILS

DECANTING EARTH BUND (DEB)

- DECANTING EARTH BUNDS NEED A CONSTRUCTED OUTLET STRUCTURE AND EMERGENCY SPILLWAY AS DESIGNED FOR SEDIMENT RETENTION PONDS.
- PROVIDE AN EMERGENCY SPILLWAY TO A STABILISED OUTFALL 150MM ABOVE THE LEVEL OF THE TOP OF THE DECANTING PIPE. THIS CAN BE A TRAPEZOIDAL SPILLWAY WITH A MINIMUM INVERT LENGTH OF 2 METRES WHICH IS SMOOTH, HAS NO VOIDS AND IS LINED WITH A SOFT NEEDLE PUNCHED GEOTEXTILE TO THE STABILISED OUTFALL. ENSURE THE GEOTEXTILE IS PINNED AT 0.5 METRE CENTRES.
- THE EMERGENCY SPILLWAY IS TO HAVE A MINIMUM FREEBOARD OF 250MM, I.E. BETWEEN THE INVERT OF THE SPILLWAY TO THE LOWEST POINT OF THE TOP OF THE BUND.
- THE IMPOUNDMENT AREA OF THE DECANTING EARTH BUND IS TO BE LEVEL AND HAVE A LENGTH TO WIDTH RATIO FOR THE MAIN INFLOWS OF BETWEEN 3:1 AND 5:1.
- THE DECANTING EARTH BUND IS TO HAVE A MINIMUM BASE WIDTH OF 3 METRES AND A MAXIMUM BATTER GRADE OF 1:1.
- DECANTING EARTH BUNDS ARE SIZED IN A SIMILAR WAY TO SEDIMENT RETENTION PONDS, EXCEPT THAT THEIR MAXIMUM CAPACITY IS LIMITED TO 90M3/ (3M³ PER 100M²).



PRESTONS ROAD, MARSHLANDS
AREA = 33,385m2
LOT 1, 2 & 3 DP 81866, LOT 3 DP 13469
LOT 1, 2 & 3 DP 18707 & LOT 1 DP 16442

REV	DESCRIPTION	DATE	DRN BY	DES	APP CHK
1	CONCEPT DESIGN	2024.08.07	CW	CZ	

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CONCEPT DESIGN

MITRE 10 MEGA DEVELOPMENTS

PRESTONS ROAD, MARSHLANDS

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DRAWING TITLE:
EROSION AND SEDIMENT CONTROL DETAILS

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DESIGNED	CW	2024.08.07
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DESIGN CHECK	CZ	2024.08.07
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APPROVED		

SCALE:
A3 SCALE 1:50

JOB NO:
67048

DWG NO:
C203

REV:
1

PROPERTY ECONOMICS

MITRE 10 MEGA

PRESTONS ROAD

ECONOMIC ASSESSMENT

Project No: 52376

Date: August 2024

Client: PMG Funds Limited and Pacific Property Fund Ltd

W: www.propertyeconomics.co.nz E: tim@propertyeconomics.co.nz M: 021 557713 PO: Box 315596, Silverdale 0944

SCHEDULE

Code	Date	Information / Comments	Project Leader
52376.4	August 2024	Report	Tim Heath / Phil Osborne

DISCLAIMER

This document has been completed, and services rendered at the request of, and for the purposes of PMG Funds Limited and Pacific Property Fund Limited only.

Property Economics has taken every care to ensure the correctness and reliability of all the information, forecasts and opinions contained in this report. All data utilised in this report has been obtained by what Property Economics consider to be credible sources, and Property Economics has no reason to doubt its accuracy. Property Economics shall not be liable for any adverse consequences of the client's decisions made in reliance of any report by Property Economics. It is the responsibility of all parties acting on information contained in this report to make their own enquiries to verify correctness.

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Web: www.propertyeconomics.co.nz

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF TABLES

1. INTRODUCTION

Property Economics have been commissioned by PMG Funds Limited and Pacific Property Fund Ltd (**PMG and PPF**) to assess the retail economic implications of the proposed development of a Mitre 10 MEGA (**M10M**) store within the Prestons Road Commercial Centre zone. The centre is currently home to a New World supermarket and a variety of predominately convenience retail activities and services.

As large-scale Hardware Stores are a Restricted Discretionary Activity in the centre's Commercial Core Zone, there is a need to understand the effect the proposal will have on the ability for the Prestons Commercial Centre to play its intended role and function on the balance of the commercial zone land in the future.

The primary focus of this assessment is the analysis of the local commercial network, projecting future commercial land demand and the resulting balance of supply of commercial land within the catchment and centre. This will help decision makers understand the implications of the proposal for the long-term prospects of the centre.

The economic analysis also provides commentary on the changing nature of hardware, building supply and home improvement stores, the effect this has on their role, function, position in the market and locational requirements, and how this is likely to impact the potential trade competition and retail distribution effects of the proposed store.

1.1. OBJECTIVES

The core objectives of this economic assessment are to:

- Core Trade Area: Delineate and map the geospatial extent of the proposed M10M's core economic market and the Preston Centre's location and position within the surrounding competitor network and hierarchy from a localised and Christchurch City perspective.
- Population and Household Growth: Quantify the current population base of M10M's core economic market, and project this out to 2038 based on StatsNZ Medium and High series population and household projections.
- Commercial Land Requirements: · Forecast of the future demand for commercial land (ha) requirements within the catchment by 2038 based on projected population and employment growth.
- Vacant Land Supply: Map and quantify the existing capacity of vacant commercial land (ha) within the catchment, based on the current and expected centre network.
- Trade vs Distribution Effects: Identify the difference between trade competition impacts and retail distribution effects in the context of the RMA and discuss the changing face of hardware and home improvement store types and their general unsuitability for many existing centre locations.
- Centre Impacts: Assess the potential for adverse economic impacts to be generated on the centre and its role and function in the market in the context of the RMA. This includes insights as to the potential impact of the proposed M10M store on Prestons ability to achieve its role and function in the market.
- Economic Costs & Benefits: Identify higher-level economic costs and benefits of the proposed development.

1.2. INFORMATION & DATA SOURCES

Information has been obtained from a variety of data sources and publications available to Property Economics including:

- Business Frame Employment Data – Stats NZ
- Centre Activity Assessment – Property Economics
- Google Maps NZ
- Household and Population Projections – Stats NZ

- NZ Census of Population and Dwellings - Stats NZ
- Christchurch District Plan – CCC
- Meshblock Boundaries – Stats NZ
- Zone Land Area – LINZ, CCC and Google Maps
- Centre Visit – Property Economics
- Site Concept Plan – Tuatara Structures

2. PROPOSED DEVELOPMENT OVERVIEW

PMG and PPF are proposing to establish a new Mitre 10 MEGA store on around 2.5ha of the 3.3ha subject site within the Commercial Core Zone of the Prestons Large Neighbourhood Centre. The zone extent covers 10ha although currently the main commercial activities are located on the western edge, at the intersection of Preston Road and Marshland Road.

As shown by the site map in Appendix 1, the proposed M10M will be setback from the Prestons Road on land currently used for rural land activities.

The proposed M10M store will be similar to other M10M stores developed around the country in recent years, occupying a relatively large land area in retail centre terms and offering a diverse range of hardware, building supply, home improvement and gardening related goods and services. Specifically, the proposed M10M store covers a total footprint (including canopies) of around 11,110sqm, which primarily includes:

- 4,950sqm Retail Building
- 2,479 Trade Drive-Thru
- 2,040sqm Garden Centre
- 228sqm Café (as part of the Garden Centre)

In addition to the proposed M10M store, PMG and PPF are proposing to develop five retail buildings (i.e., proposed buildings A-E, totalling around 3,510sqm – refer Appendix 2) fronting Prestons Road. These five retail buildings will accommodate tenancies ranging from 100sqm to 290sqm each.

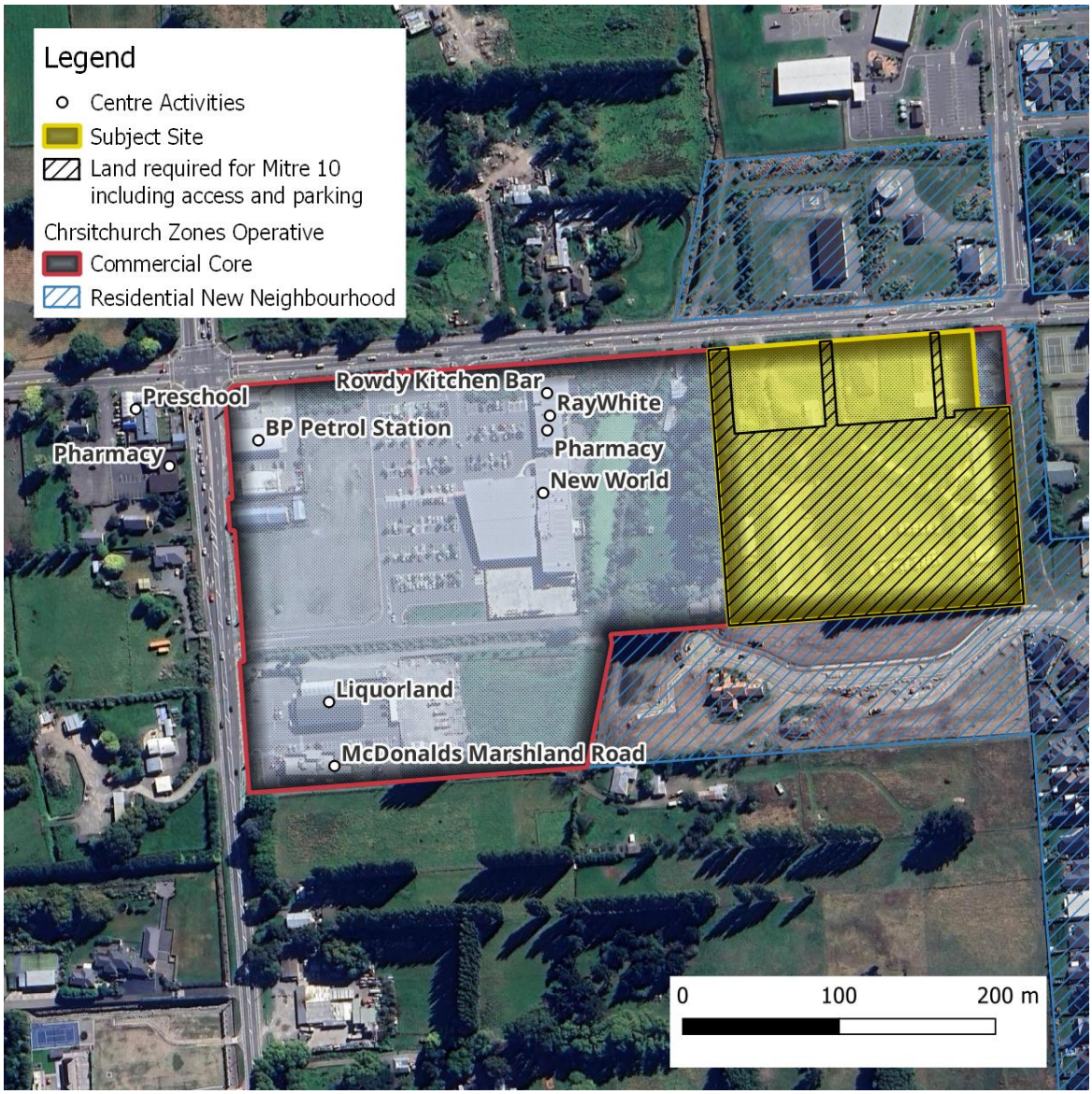
Figure 1 shows a map of the proposed site and the Local Centre Zone in which it would sit. To the south and east of the site is a Residential New Neighbourhood Zone while the remaining area is Rural Urban Fringe.

The balance of the Prestons Road Centre at present contains:

- New World Supermarket (3,100sqm)
- Pharmacy, Ray White real-estate office and Rowdy Kitchen Bar (860sqm)
- BP Petrol Station (including a Wildbean Café)
- McDonalds Restaurant (510sqm); and
- Liquorland (800sqm)
- Small Specialty Tenancy (200sqm)

Just outside of the Centre Zone on the opposite side of Marshlands Road is a Pharmacy and Preschool.

FIGURE 1: SUBJECT SITE AND MEGA CENTRE



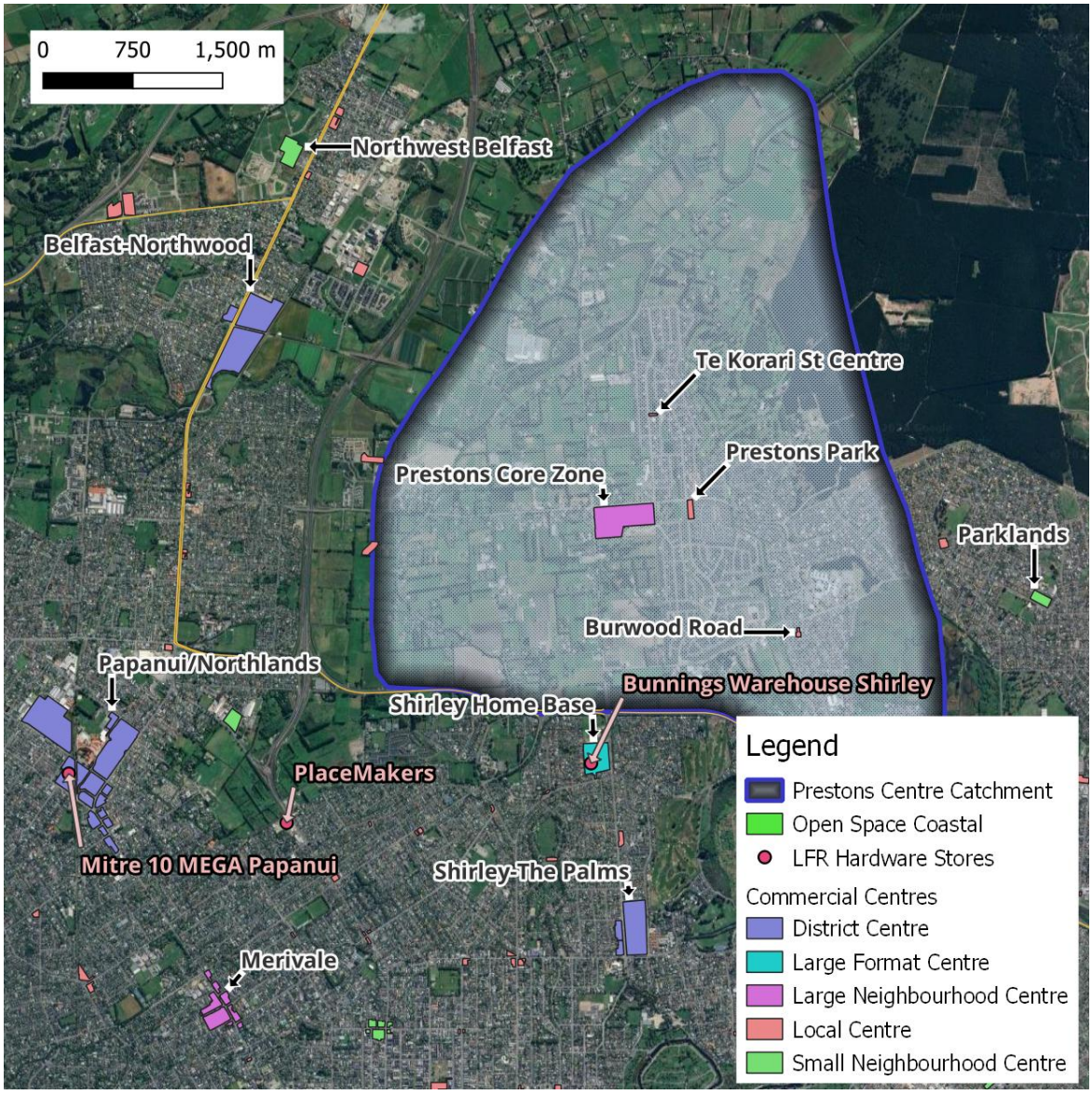
Source: Christchurch City Council, Google Maps, Property Economics

3. CORE ECONOMIC MARKET

In order to evaluate the impact of the proposed M10M store on the ability for the Prestons Local Centre to accommodate its future growth requirements, it is first necessary to identify the core economic catchment of the centre. The core economic market or retail catchment is essentially the geographic area from which the centre is likely to derive the majority of its sales or the area the centre is designed to primarily service, and where the centre is considered to have a strategic locational advantage in terms of proximity over other centres with a similar or higher role and function in the market.

Figure 2 illustrates the geospatial extent of the Prestons Centre core economic market.

FIGURE 2: PRESTONS ROAD CENTRE CORE ECONOMIC MARKET



Source: Stats NZ, Google Maps, Property Economics,

The determination of the core economic market has been based on the existing commercial network and hierarchy of centres in the northern Christchurch market, location of natural and physical geographical barriers and the professional opinion of Property Economics based on known shopping patterns and trade area dynamics for similar retail centres across New Zealand.

It is important to note that this catchment is not intended to represent the catchment for the M10M store. Large modern-day hardware and home improvement stores generally draw from a relatively extensive geographical areas given their role in the market and a less frequent number of stores in a market compared to convenience centres.

This is due to the focus of this assessment being on the consumption of Commercial Core Zone land for a convenience centre by a non-convenience store type that services a broader market than the local area, and the consequences of this on the future potential of the centre rather than the impact on the Building Supply and Hardware market.

The Prestons Local Centre catchment is defined by the competing centres in close proximity. There is a large Future Urban Zone[1] that drives a large portion of the projected growth for the area. Property Economics has taken half of this area, noting that the local population will likely be split centre usage between the Prestons Centre and the other nearby centres including Homebase and Belfast Northwood.

Similarly, the geospatial extent of the catchment to the east is limited by the Parklands neighbourhood centre, which accommodates a Fresh Choice Supermarket. The Prestons New World is larger, and therefore has a greater pull on the local market. The catchment has been defined to reflect this.

Within the identified catchment, Figure 2 denotes several existing and planned small convenience centres. Although these centres compete for convenience retail activities, the Prestons Core Commercial centre plays a higher role and function in the market being anchored by the New World supermarket. The following section discusses this commercial hierarchy and its implications.

[1] *The Future Urban Zone is a Notified Zone as part of Plan Change 14. It is zoned Residential New Neighbourhood Zone in the Operative Plan. The Future Urban from PC14 is shown however as this better distinguishes areas that are yet to developed.*

3.1. COMMERCIAL HIERARCHY

The proposed development is located in the Commercial Core Zone under the Operative District Plan but is notified as a Local Centre Zone under the CCC's Plan Change 14. Within this zone, Trade Suppliers (such as M10M) over 500qm are considered a Restricted Discretionary Activity. The council will consider the extent to which the scale of the activity.

- Affects the recovery of the Central City; and;
- Supports the intended role of the Centre having regard to the Centres Hierarchy.

The centres hierarchy in Christchurch City, like many urban areas, is a planning and urban design concept used to organise and distribute services, amenities, and commercial activities across the city. This hierarchical structure aims to ensure that residents have access to necessary services, facilities and amenities within a reasonable distance from their homes, while also managing urban growth and transportation needs efficiently.

- Central City: At the top of the network hierarchy, Christchurch's Central City is the primary commercial, cultural, and civic centre for the city. It hosts a wide range of services, including major retail stores, offices, entertainment venues, cultural institutions, public transport nexus and government services. The CBD is designed to be highly accessible and is a crucial focal point for the entire region.
- Key Activity Centres / District Centres: These are significant hubs of activity that are designed to service residents from across the city. In Christchurch, examples include the centres of Riccarton, Papanui, and Hornby, which have large shopping malls and commercial areas. These centres provide a mix of retail, services, and sometimes residential development.
- Large Format Retail Centres: Standalone retail centres comprising of stores with large tenancy footprints. Although there are many Large Format Retailers in the District Centres, the LFRC provide an alternative location where space is not otherwise available in larger centres. They are also have the ability to accommodate yard and trade based suppliers such as Home Improvement stores (albeit this does not preclude M10M from locating elsewhere). As opposed to other centres, the LFRC are more car oriented and often based around carparking areas.
- Neighbourhood Centres: These are smaller scale centres designed to cater to the day-to-day needs of the local community, however the CCC does distinguish between Large Neighbourhood Centres and Small Neighbourhood Centres. Many of these centres are anchored by a supermarket and include a range of convenience activities, entertainment, small-scale offices and other commercial activities.
- Local Shops and Services: Scattered throughout residential areas, these are often standalone shops or small clusters of services designed to provide basic necessities of their immediate surrounds. They offer the highest level of convenience and accessibility for nearby residents but have a limited range of goods and services. This

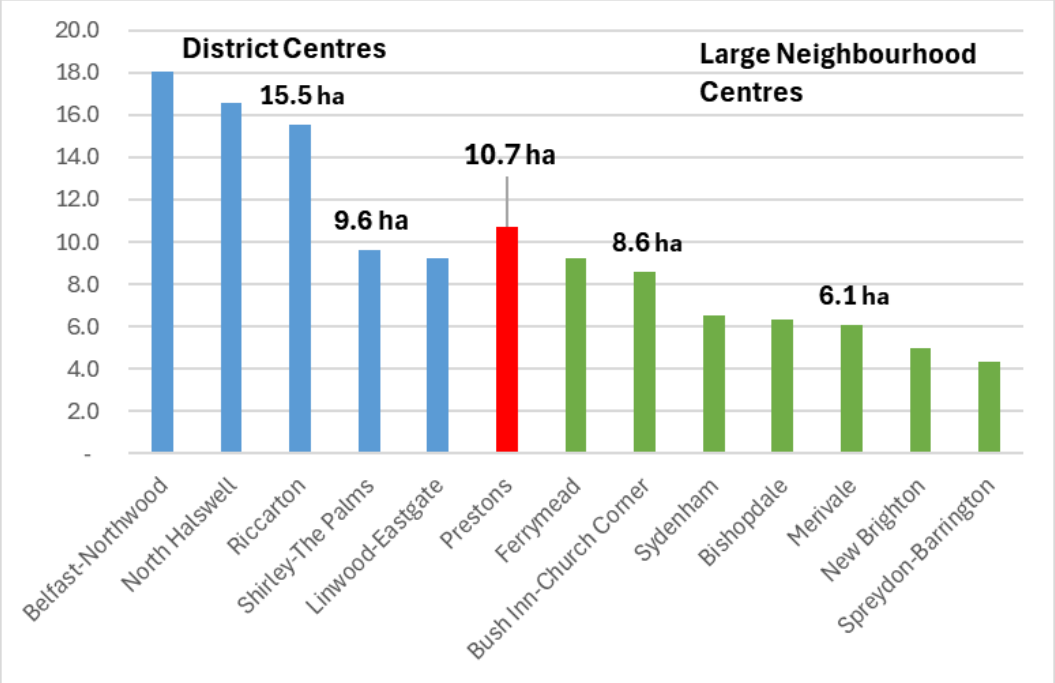
includes the two convenience centres within Prestons Park and those identified on the edge of the catchment to the west.

CCC defines the Prestons Commercial Core Zone to be a Large Neighbourhood Centre. Figure 3 shows a comparison of the Zoned Land Area for District and Large Neighbourhood centres. This illustrates that the total zoned extent of Prestons Core Commercial Zone is larger than all other Large Neighbourhood Centres by some margin, and is in fact also larger than both Shirley-The Palms and Linwood-Eastgate district centres.

Despite that, in the Operative District Plan, the Prestons Commercial Core zone has a special requirement that limits the total retail floorspace to a maximum of 12,000sqm of retail floorspace and the maximum GLFA of any single tenancy for a retail activity (excluding supermarket) is 150sqm[2]. In Plan Change 14 these rules have been retained.

It should be noted that the definition of Retail activity in the plan excludes the service station, trade suppliers and yard-based suppliers.

FIGURE 3: COMPARISON OF ZONED LAND AREA FOR DISTRICT AND LARGE NEIGHBOURHOOD CENTRES



Source: Christchurch City Council, Property Economics

These restrictions limit the ability for the Prestons Centre to expand beyond a predominately convenience role and function. There is instead a Large Format Centre in the form of Shirley Home Base to the south which has recently received consent to expand, and two District

[2] *It should also be noted that rules 15.4.6.2.4 provide limits of 7,200sqm for non-residential activities prior to specific infrastructure upgrades. The latter of the two may yet be uncomplete (see Stuff) but we assume that it is likely to be finished within the projection period.*

Centres within close proximity, The Palms and Papanui / Northlands. Consequently, the market assessment predominately considers the convenience spend available in the local market.

Furthermore, the centre is limited to a maximum retail tenancy size of 150sqm (excluding the Supermarket)

It would appear, that the Commercial Core Zone was originally zoned with the intention of it serving as a more substantial retail hub in the future once the Marshlands / Prestons area had been fully developed. As it currently stands, only the western side is zoned for Future Urban growth with the remainder of the Marshland area between Redwood and Prestons remaining unplanned for growth.

As Property Economics understands, much of this Future Urban Area in Marshland has flooding risks based on updated flood mapping. While not fatal to development, it does adversely affect mitigation costs, development feasibilities and ultimately potential residential yield for the area. Furthermore, if PC14 is approved, this could shift the focus away from greenfield expansion to urban densification which may slow growth of the area. Consequently, its future as a major retail destination is questionable, particularly within the next 30 years.

It should also be noted that there are two existing small local centres within the Prestons Park development and two planned (non-supermarket) commercial centres in the Future Urban Zone on the western edge of the catchment. All of these centres are (or will be) comparatively more convenient to the local population that surrounds them compared to the Prestons Core Zone which is located on the current urban edge.

Finally, there is also a small local convenience centre on Burwood Road opposite Burwood Hospital with an estimated 10 small stores.

3.2. TRAFFIC FLOWS CHANGES

When the Prestons Local Centre was first planned, the Christchurch Northern Corridor did not exist (i.e. the section of motorway that bypasses Belfast to the east which was completed in 2020). Prior to this motorway, Marshland Road would have been one of the primary routes for residents living on the eastern side of Christchurch. Now that the motorway exists, Google Maps suggests that State Highway 74 is the fastest route to the north for all but those living in Prestons and Parklands.

Christchurch City Council surveys the vehicle traffic at select intersections in Christchurch Figures 4 and 5 following compares the vehicle counts at the Marshland / Prestons Intersection on two specific weekdays during 2019 (i.e. before the Northern Corridor was completed) and 2023. Unfortunately, because the council has only surveyed one particular day, the average traffic results should be used as a guide only.

FIGURE 4: INTERSECTION TRAFFIC SURVEYED 26/08/2019

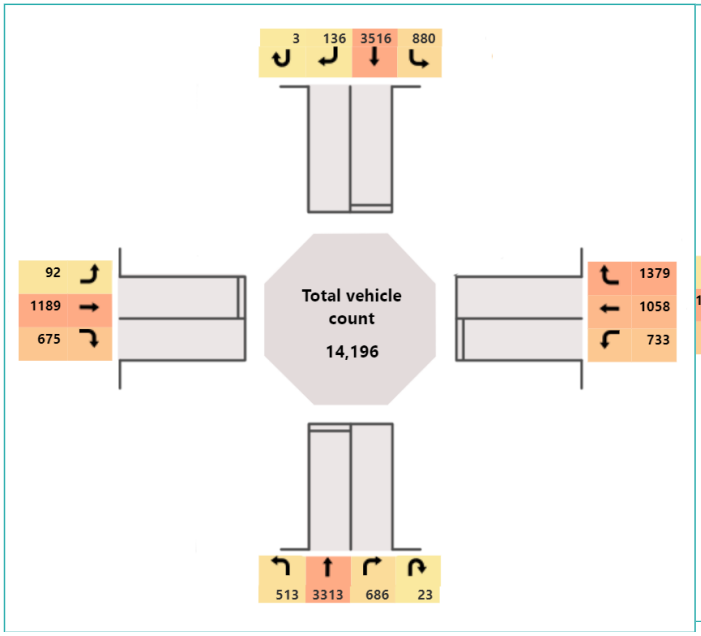
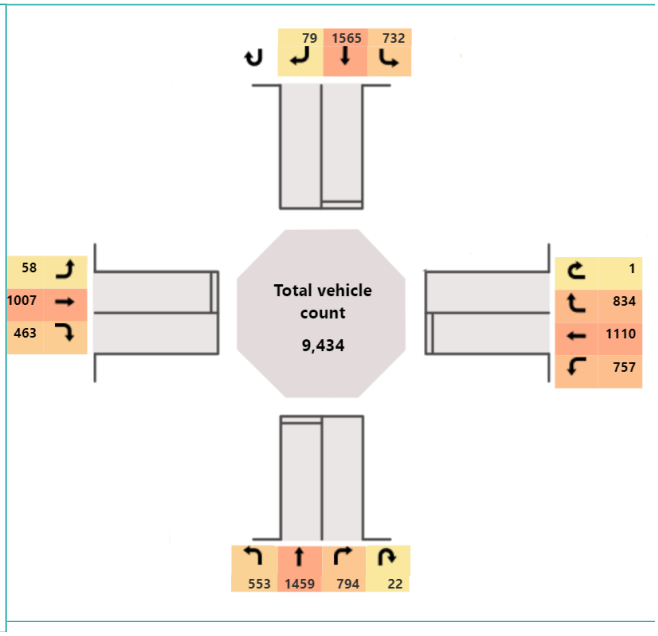


FIGURE 5: INTERSECTION TRAFFIC SURVEYED ON 27/06/2023



Source: Christchurch City Council [Intersection traffic counts dashboard : Christchurch City Council (ccc.govt.nz)]

The difference in the measured traffic flow is significant with the total daily traffic dropping by 34% from 14,196 in 2019 to only 9,434 in 2023. Since there has been a roughly 10% increase in population within the identified catchment over this time, in absence of any change to the transport network, Property Economics would have anticipated the comparative 2019 traffic baseline to increase over the period.

More significantly, where the traffic heading straight through along Prestons Road has remained the same, the traffic heading straight through the intersection along Marshlands Road has dropped from 6,829 in 2019 down to 3,024 in 2023.

Suffice to suggest that the new Northern Motorway has removed some of the potential 'drive-by' traffic from the Prestons Road Centre market lowering its sales potential and sustainable GFA requirement compared to the pre-Northern Motorway potential.

4. TRADE COMPETITION AND RETAIL DISTRIBUTION EFFECTS

In the previous section it is noted that focus of the assessment is on the potential impacts of M10M consuming Commercial Core Zone land. Typically, consents for unanticipated retail activities require assessments to show that the proposal will not result in adverse impacts on the exiting centre network, specifically the Central City and District Centres.

This section provides economic rationale for Property Economics position that Trade Retail stores such as the proposed M10M have no meaningful propensity to create significant adverse retail distribution effects on centres, i.e. those effects beyond trade competition effects, which by themselves a consent authority must not have regard to under the RMA.

To assist in understanding differences between trade and retail activity effects, and the general ability of trade and building activity to generate consequential economic impacts under the RMA, there is first a need to differentiate between trade competition effects and flow-on retail distribution effects.

Trade competition effects (in a generalised retail sense) are the retail trade impacts of retail activity on other similar or 'like' retail activity. It basically reflects a direct cause / effect relationship as a result of a simple repatriation of retail sales among retail operators. In essence, it represents a redistribution of retail sales as opposed to a loss to the community brought about by the relocation of those sales.

By themselves, trade competition effects must not be relied upon by a consent authority when considering a retail application under the RMA, unless they are of a level that generates significant adverse flow-on retail distribution effects on the existing centre network of the area. It is within this broader context that the relative merits of this resource consent, in terms of retail impacts, needs be considered under the RMA.

Retail distribution effects are generated as the result of consequential trade competition effects. These effects can range across the spectrum (positive and negative) depending on the level of effects generated, which is heavily dependent on the scale, type and location of the proposed retail activity, among other attributes.

Where the patterns of performance, amenity and commercial activity within an existing centre (or associated flow-on benefits from retail activity within that location) would not change significantly within a locality, then the retail distribution effects are not considered to be significant in a RMA context.

Put another way, retail distribution effects would occur where a new business (or cluster of businesses) affects an existing centre to such a degree that it would erode a centre's viability, causing a decline in its function and amenity, and disenabling the people and communities who rely upon those existing (declining) centres for their social and economic wellbeing.

4.1. CHANGING FACE OF BUILDING SUPPLY STORES

In recent years hardware, building supply and home improvement stores have changed in terms of the goods and services they offer and their functional role in their respective market. The way that these goods and services are delivered to the market is changing, and therefore, so are the locational attributes required to service the market efficiently and effectively.

Under many 1st generation district plans, hardware stores and more traditional 'town centre' retail activity were all categorised as retail stores, primarily because they had similar locational requirements at that time, sought 'centre' locations, and focused on direct retail sales to the general public.

However, the traditional hardware stores have evolved and grown in size over the last 10-15 years to 'mega' stores (in a NZ retail context) as a result of broadening their product range and refocusing their attention on the trade and building supply market. This has led to their store footprint requirements increasing by 5-10 times compared to the older stand-alone hardware store (e.g. Hammer Hardware), resulting in them no longer being able to easily '*fit into*' a centre environment (either spatially, or by comparison to other types of retail within that environment).

Hardware and building supply stores, like M10M, no longer compete directly with retail stores, but increasingly with traditional trade and construction business activities that were or are generally sited in industrial locations (e.g. ITM, Carters, Plumbing World, Resene Paints, Electrical stores, kitchen showrooms, etc.). As a result, trade competition effects have begun to fall into the category of trade sector activity as opposed to retail activity.

Hardware and building supply stores generate sales from both the general public (predominantly sourced through DIY sales) and trade-based sales. Trade-based activity (or business-to-business transactions) includes activities that place a heavy reliance on the 'trade market' (such as builders, contractors, sub-contractors, construction companies, project managers and developers) to purchase their products and less on the general public as a proportion of total store sales.

Trade activity store types would include stores such as plumbing stores, electrical stores, building supply and home improvement stores, bathroom and kitchen showrooms, tile warehouses, carpet showrooms and paint outlets. These activities are not 'typical' town centre / main street store types in today's retail environment. As such, most commercial centres in Christchurch do not rely on these store types to remain viable / vibrant centres or to perform their envisaged role and function.

As shown in Figure 2 there are three Large Format Hardware Centres within the vicinity of the proposed M10M Store at Prestons. The PlaceMakers on Cranford Street is not part of a commercial centre but rather located next to more industrial activities. There is a M10M located within the Papanui / Northlands District Centre while the closest store is a Bunnings Warehouse located as part of the Home Base Large Format Retail Centre.

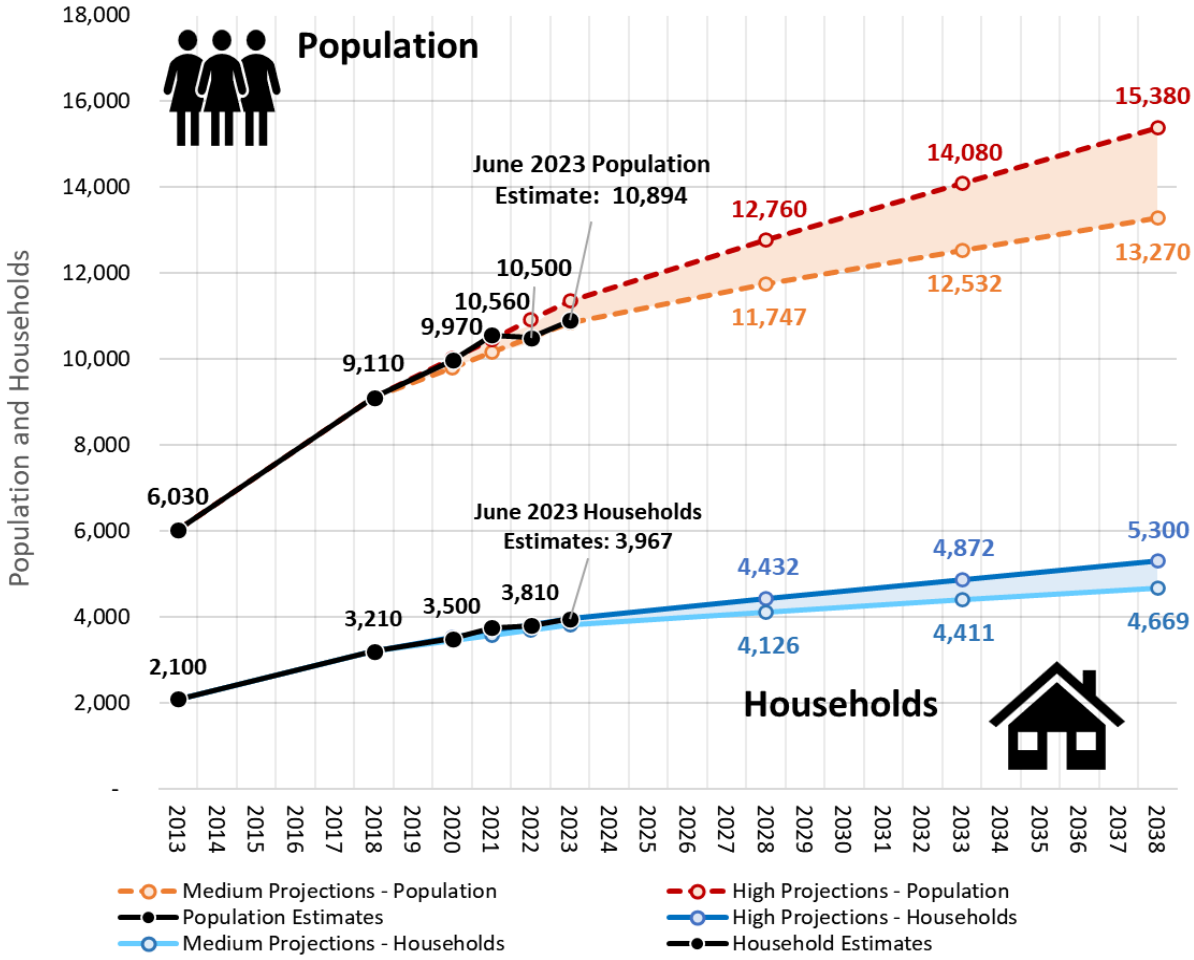
In Property Economics opinion, the closure of any of these stores is highly unlikely. The proposed Prestons store is also well located to capitalise on the high volume of construction activity that is likely to occur across the Future Urban Zone in the local area.

For these aforementioned reasons, Property Economics are not concerned about the potential for any adverse retail impacts on the existing commercial network as no existing centre would have its role, function, amenity and future potential undermined.

5. POPULATION PROJECTIONS

Figure 6 displays the population growth projections for the core economic market as shown in Figure 2. This includes actual growth from 2013-2023, and projected growth over the next 15-year period to 2038. The projections shown are based on Stats NZ most recently Medium and High growth projection scenarios.

FIGURE 6: CORE ECONOMIC CATCHMENT - POPULATION PROJECTIONS



Source: Stats NZ, Property Economics,

Figure 3 shows that the current population within the identified catchment as of June 2023 is around 10,900 residents. This represents a population that is +80% higher than its 2013 population estimate, thereby exhibiting considerable growth. Most of this growth has been driven by Prestons Park which is currently in its latter stages of development.

Figure 3 also shows that the catchment growth was tracking along its high growth projection until 2022 when recalibrated growth estimates taking into account the COVID-19 pandemic and international border closures were released. The growth between 2022 and 2023 is similar to that of the average annual level prior to 2021.

Under this Stats NZ High Growth scenario, the population of the identified catchment is anticipated to grow by an additional 4,485 residents over the next 15 years to 15,380 residents. This equates to a growth rate of 2.23% per annum or a total increase of +41% from the current 2023 population base. If, however, realised growth is at a rate similar to the Medium projection scenario the catchment would grow by a slower rate of 2,375 residents, growth of +22%.

This growth under the High scenario equates to an increase of approximately 1,320 dwellings over the next 15 years. Given Prestons Park has fewer than 130 dwellings remaining[3], most of the growth in the immediate area will likely arise from the Future Urban area.

Property Economics notes that the latest net migration data from Stats NZ indicates net migration into NZ is at record levels reflecting a strong post-COVID rebound with NZ still being viewed as an attractive country for people to permanently migrate. High net migration puts increased pressure on constrained housing markets which are already under significant pressure and amplifies the need for new residential capacity to be injected into the supply pipeline over the short term.

If high levels of net migration are sustained, the current population growth projections for the catchment and wider Christchurch, which is the most significant urban environment / migrant residing destination in the South Island, could be conservative.

[3] *"As of September 2023, Prestons Park is down to its last stages with an estimated 130 sections still available".* *Miles-Premises-Ltd-883-2100-Evidence-Michael-Blackburn-28-September-2023.pdf (ihp.govt.nz) (pg37)*

6. RETAIL MARKET EXPENDITURE

This section sets out the projected retail expenditure and future commercial land requirement for the Prestons Road Centre. The forecasts have been based on both High and Medium population and household growth projections utilising the new 2023 base and have been prepared using Property Economics' Retail Model.

6.1. RETAIL MODEL

The following flow chart provides an illustrative representation of the Property Economics Retail Model to assist in better understanding the methodology and key inputs utilised.

FIGURE 7: PROPERTY ECONOMICS RETAIL GROWTH MODEL OUTLINE

GROWTH IN REAL RETAIL EXPENDITURE

For the purposes of projecting retail expenditure, growth in real retail spend has been incorporated into the model at a rate of 1% per annum over the forecast period. This 1% rate is based on the level of debt retail spending, interest rates and changes in disposable income levels, and is the average inflation adjusted increase in spend per household over the assessed period.

LAYERED RETAIL CATCHMENTS

It is important to note that the retail expenditure generated in the identified markets do not necessarily equate to the sales within that particular area. Residents can freely travel in and out of the area, and they will typically choose the centres with their preferred range of stores, products, brands, proximity, accessibility and price points. A good quality offering will attract customers from beyond its core market, whereas a low-quality offering is likely to experience retail expenditure leakage out of its core market.

Therefore, the retail expenditure generated in an area represents the sales centres or retail stores within that area could potentially achieve and is the key influence on what the market can potentially sustain. This should not be interpreted as a negative for any potential retail activity at the Prestons Centre, but simply represents normal commercial market mechanisms (competition) and is a consideration that needs to be appropriately accounted for in any retail economic analysis.

EXCLUDED ACTIVITIES

The retail expenditure figures below are in 2023 NZ dollars and exclude the following retail activities, as categorised under the ANZSIC categorisation system:

- Accommodation (hotels, motels, backpackers, etc.)
- Vehicle and marine sales & services (petrol stations, car yards, boat shops, caravan sales, and stores such as Repco, Super Cheap Autos, tyre stores, panel beating, auto electrical and mechanical repairs, etc.)
- Hardware, home improvement, building and garden supplies retailing (e.g., Mitre 10, Hammer Hardware, Bunnings, PlaceMakers, ITM, Kings Plant Barn, Palmers Garden Centres, etc.)

The above retail sectors have been excluded because they are not considered to be core retail or convenience expenditure, nor fundamental retail centre activities in terms of visibility, location, viability or functionality, particularly convenience centres like the Prestons Centre. Although the proposal seeks to establish a M10M, this store is set outside of the core retailing centre (i.e. the western area of the Commercial Core Zone with the New World at the intersection).

CONVENIENCE STORES

Convenience retailing can be generally defined as stores used for quick stop and frequently required shopping, used primarily due to their close proximity and easy accessibility for the customer. These stores are not exclusive to any one retail category with examples of such stores including, dairies, bakeries, fruit & vegetable stores, cafes and restaurants.

Supermarkets, albeit being a large footprint tenancy, are also classified as convenience stores given they predominantly service more localised catchments, the products sold are largely

homogenous between supermarket stores and they tend to be fairly evenly distributed right across an area's urban fabric.

SUSTAINABLE GFA

This assessment uses a sustainable footprint approach to assess retail demand. Sustainable floorspace in this context refers to the level of floor space proportionate to an area's retainable retail expenditure that is likely to result in an appropriate quality and offer in the retail environment. This does not necessarily represent a financial 'break even' point, but a level of sales productivity ($/sqm) based on net (and GFA) retail floorspace that allows retail stores in their respective sectors to trade profitably and provide a good quality retail environment, and thus economic well-being and amenity.

Many stores may trade comfortably above or below the sustainable level as many do, but its designed to provide an average lower level *'line in the sand'* or minimum standard productivity level to enable stores to not only trade but trade to a level that enables a reasonable level of quality (stores, performance and environment).

Some stores trade below these levels, and in my experience, they are lower quality stores comparatively in-built form, fit out, performance and environment which affects the level of amenity for shoppers, and are often stores not viable for an extended period of time.

It is necessary to separate the Gross Floor Area into:

- Net retail floorspace (**Sustainable Floorspace);** and
- Back office floorspace that does not generate any retail spend (Back Office Floorspace).

A store's net retail floor area (or retail trading area) only includes the area which displays the goods and services sold and represents the area to which the general public has access. By contrast, the Gross Floor Area typically represents the total floor area leased or developed by the retailer. Back Office Floorspace in a retail store is the area used for storage, warehousing, staff facilities, prep areas, office, or toilets and other 'back office' uses.

These activities typically occupy around 25-30% of a store's GFA but can vary (higher and lower) between individual retailers based on operational and functional requirements. It is important to separate out such back office floorspace from sustainable floorspace because back office floorspace does not generate any retail spend. For the purposes of this analysis an average 30% ratio has been applied.

6.2. RETAIL EXPENDITURE

Table 1 breaks down the total retail expenditure on an annualised basis of the Prestons catchment from 2023 till 2038. The table displays the projected retail expenditure based on both the Medium and High Growth Projection and utilises the existing demographic composition and household income levels of those currently living in the identified catchment.

Based on the existing and anticipated activities of the Prestons Neighbourhood Centre (limited to 150sqm retail stores), Property Economics has limited the scope of retailing to focus on convenience and Supermarket retail spend. This retailing activity represents the spending typically done within a localised area and consumers are less willing to travel for, thereby giving the retail in Prestons a competitive advantage over the larger district centres. It is also the retail spend attributable to the commercial centres within the catchment.

TABLE 1: ANNUAL PRESTONS CATCHMENT CONVENIENCE RETAIL EXPENDITURE ($M)

		2023	2028	2033	2038
Medium	Total Convenience Retail Expenditure	$54	$61	$68	$75
	Convenience (Excluding Supermarket)	$13	$15	$17	$18
	Supermarket	$41	$46	$51	$56
High	Total Convenience Retail Expenditure	$54	$66	$76	$86
	Convenience (Excluding Supermarket)	$13	$16	$19	$21
	Supermarket	$41	$50	$57	$65

Source: Property Economics

The total retail expenditure generated by the Local Catchment applicable to the core retailing activities of the Prestons Centre is $54m. This includes $40.5m in spend attributable to supermarkets and $13.5m of Convenience spend. Under the Medium Projection this is anticipated to grow to a total of $75m, while under the High Projection the local retail market is anticipated to grow to $86m.

6.3. CENTRE LAND REQUIREMENTS

Table 2 following illustrates the total sustainable land requirements for the Prestons Centre that includes a Supermarket and a variety of Convenience Retailers and Commercial services. Note that this does not include any Hardware activity (such as the proposed M10M) or the Service Station as these activities are not included in the retail model, so are additional to this land requirement assessment.

The sustainable convenience retail floorspace for the catchment is shown in the following table based on the current (2023) and projected market by 2038 under both the Medium and High projection scenarios. It also shows the land requirement of a centre with 12,000sqm, that being the maximum retail limit imposed by the Christchurch Operative District Plan.

The analysis excludes land for urban parks, roads, reserves, playgrounds, community, education facilities or any other non-commercial land uses anticipated for the centre. It also assumes the developable areas of the Commercial Zone land will be developed efficiently.

Additionally, for this localised convenience centre:

- Non-Retail Commercial Service land requirement is assumed to be 50% of the retail land requirement, and;
- Given the distribution of convenience centres around the catchment, it has optimistically been assumed that the catchment would capture all convenience spend. Conversely, approximately one-third (30%) of generated Supermarket spend is assumed to leave the catchment.
- Commercial service GFA is assumed to be built all at ground floor level. Typically, some commercial services are located above ground but the current centre is all single level. These assumptions therefore provide a higher requirement of commercial land demand for surety that enough land is provided than what the market may require.

TABLE 2: SUSTAINABLE CONVENIENCE LAND REQUIREMENTS WITHIN CATCHMENT

Prestons Catchment	**2023**	**2038 Medium**	**2038 High**	**Prestons Core Max**
Supermarket Store Demand ($m)	$28.4	$39.4	$45.5	
Supermarket Floorspace	3,240	4,500	5,200	
Convenience Retail Demand ($m)	$13.5	$18.4	$21.0	
Convenience Retail GFA (sqm)	2,750	3,750	4,290	
Total Retail (sqm)	5,990	8,250	9,490	**12,000**
Non-Retail Commercial Service (sqm)	3,000	4,130	4,750	6,000
Total Retail / Commercial Service Requirement (sqm)	**8,990**	**12,380**	**14,240**	**18,000**
Retail Land (sqm)	13,310	18,330	21,090	26,670
Non-Retail Commercial Service Land (sqm)	6,670	9,180	10,560	13,330
Total Retail / Commercial Service Requirement (sqm)	**19,980**	**27,510**	**31,650**	**40,000**
Likely Land Requirement (ha)	2.00	2.75	3.17	4.00
Likely Land Requirement (ha) + NPS Buffer	**2.30**	**3.30**	**3.64**	**4.60**

Source: Property Economics

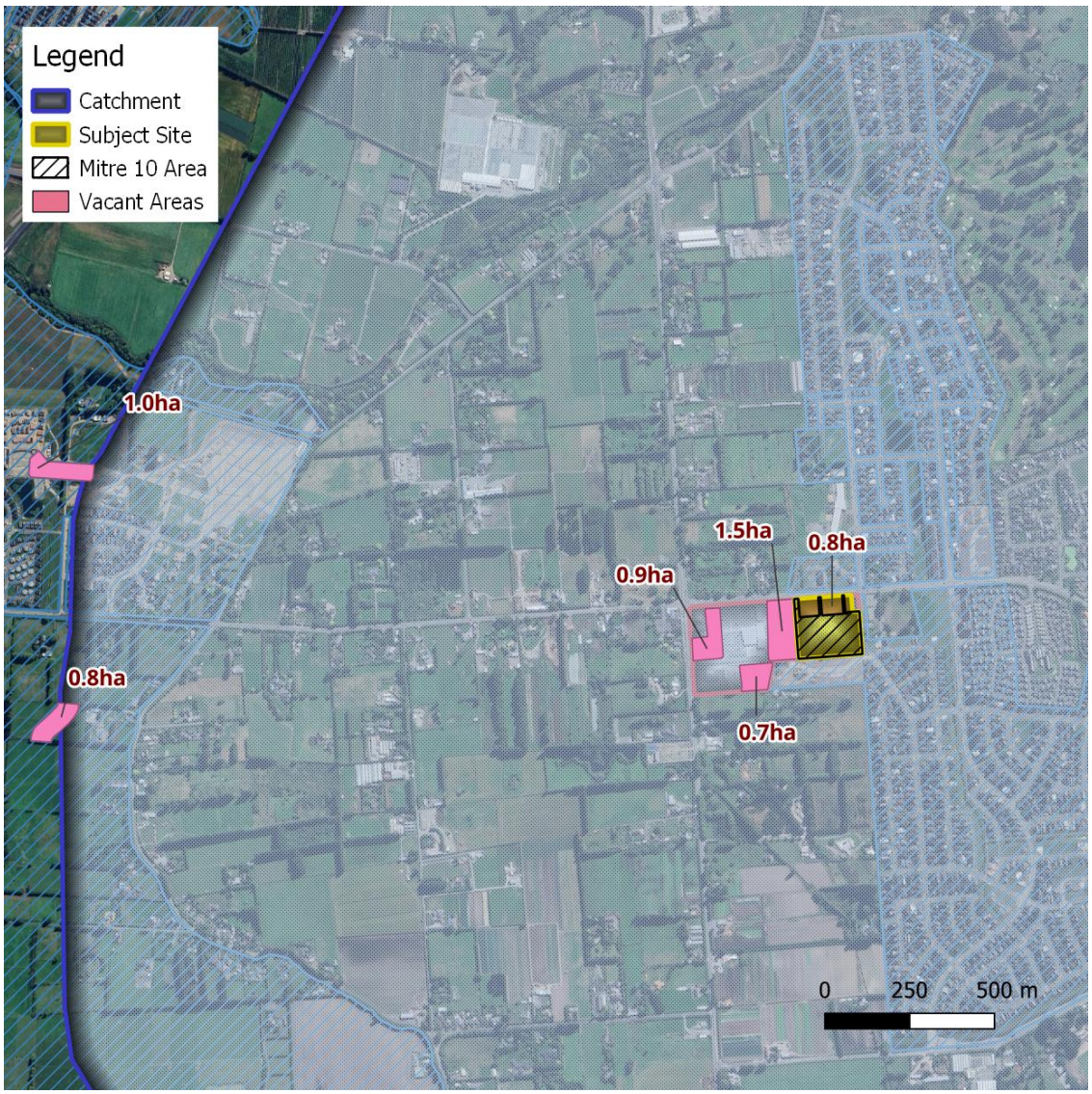
The economic analysis on convenience demand within the catchment indicates a total land requirement for retail and commercial service of between 3.3ha and 3.64ha for the Medium and High growth scenarios respectively.

Applying the Operative District Plan maximum of 12,000sqm retail for the Prestons Road centre, and allowing for commercial services and a buffer, the analysis indicates a total land requirement of 4.6ha for the Prestons Road Centre.

6.4. CURRENT VACANT LAND SUPPLY

Figure 8 shows a map of the estimated vacant zoned land supply and the vacant commercial zoned land in the Future Urban Zone in the west.

FIGURE 8: MAP OF COMMERCIAL AREA VACANCY AROUND PRESTONS CENTRE



Source: Property Economics

The Marshlands Future Urban Zone on the edge of the catchment to the west contains provision for two small convenience centres. These cumulatively total 1.8ha of land area and are designed to accommodate most of the convenience demand arising from growth within this greenfield area.

The Prestons Road Commercial Core Zone encompasses approximately 10ha of land. Property Economics analysis of future convenience demand and land requirements equate to 3.64ha under the High growth scenario and 4.6ha applying the Operative District Plan maximum retail cap for the centre. Utilising the higher District Plan cap as the land requirement baseline there is a residual 5.4ha of Commercial Core Zone land in the Prestons Road Centre available for other land uses.

Given existing retail stores are also designed to accommodate growth in sales, i.e. they were established and scaled knowing market growth was imminent, means not all growth will require a commensurate amount of new retail GFA. This in effect slows the rate of new store development with a significant proportion of convenience stores already established in the centre. Furthermore, some of the developed sites also have more potential to develop additional GFA on the land improving the centre's development and land use efficiency.

All the existing Prestons Commercial Core Zone vacant land provision is not required to satisfy its role and function in the market. Put simply, the Commercial Zone provision of the centre is too large for its role and function and cannot be fully utilised as a result of the Operative District Plan retail cap and the future size of the market. As such, other land use activities should be considered for the residual Commercial Core Zone land of the centre to improve it functionality and amenity afforded the community.

M10M proposes to occupy only part of the centre's current vacant Commercial Core Zone provision at circa 2.5ha. This includes associated carparking, service areas and accessways. The remaining land of the wider subject site (0.8ha in front of the proposed Mitre 10 MEGA store) will accommodate the proposed five retail buildings, which aligns with the anticipated development outcome for the Commercial Core Zone land.

As a result, there remains additional capacity for other anticipated uses, both within the subject site and throughout the rest of the Commercial Core zone, to be integrated into the Prestons Road centre in the future.

Importantly, the economic analysis show the proposed M10M store will not undermine the Prestons Road Centre or compromise its development potential in the future. The M10M would add diversity, vibrancy and amenity to the centre's offering and create efficiencies by complementing the centre and draw additional shoppers / tradies on a more frequent basis improving the economic performance of the centre overall.

Consequently, Property Economics foresee no potential adverse effects of the proposal on the future of the Prestons Neighbourhood Centre and its potential to play its envisaged role and function in the market.

Property Economics has also considered implications of Rule 15.4.6.2.6, the maximum GLFA of any single tenancy for a retail activity (excluding a supermarket) within the Prestons Commercial Core Zone shall be 150sqm. While a few vacancies within the proposed retail buildings A-E (refer to Appendix 2) have a GLFA exceeding this 150sqm threshold, Property Economics considers this does not pose any potential adverse impact on the surrounding commercial environment and the role and function of other existing commercial centres.

Specialty tenancies range in size up to 400sqm GFA in local centres around the country without causing significant adverse effects or change the role and function of the centre, as long as the number of these 'larger' specialty tenancies are not pronounced. In this instance, Property Economics understands only a few tenancies are above 200sqm which raises no economic concerns from an economic effects perspective.

7. ECONOMIC COST / BENEFIT ANALYSIS

The proposal has the potential to result in a variety of economic costs and benefits on the local and wider community. Establishing the degree of these economic costs and benefits and the extent to which they affect the community is important in determining the overall impact of a potential development.

This section addresses economic costs and benefits associated with the proposed M10M development and determines at a high level whether a net economic benefit or cost is likely to result on the community.

A summary of the primary economic benefits associated with the development include:

- Increased Centre Activity

  With the Prestons Neighbourhood Centre facing increasing competition from smaller convenience centres located in the greenfield development areas and will require additional land uses to '*fill up*' its 10ha Commercial Core Zone. Although the M10M does not directly contribute to the localised function of the Prestons Centre, it does provide an activity that will attract both residents and business customers to the centre and significantly increase activity in the centre.

  Furthermore, the new M10M will also offer additional retail choice, competition, amenities and improve accessibility to hardware and home improvement materials. This will assist local construction sector efficiency in delivering the homes and infrastructure needed to support growth in Northern Christchurch and the surrounding area.

- Increased Economic Activity / Local Employment

  Construction and ongoing operation of the proposed M10M would generate increased employment opportunities for the local community. The increased employment base as a result of the development will be a net gain for the local economy and could catalyse further development and growth in the local area.

  The proposed M10M would also internalise more expenditure in the local economy better supporting jobs and growth by reducing spending outflow to other hardware and building supply stores in more distant locales.

- Enhanced Community Shopping Experience

  The new M10M has the potential to enhance the community shopping environment and experience by broadening Prestons Road Centre's offering and improve amenities. The increased variety of activities on offer caters to diverse community demands, making the centre a more compelling and attractive destination for the local market.

A summary of the primary economic costs associated with the development include:

- Loss of Commercial Core Zone Land (limited to the M10M store portion of the site)

  The use of Commercial Core Zone land for a land use that is not relevant to serving the role and function of the centre. However, this potential economist cost is offset by the extensive nature of the commercial core zone provision in the centre and the requirement for around only half the zone to meet future community convenience requirements. This indicates there is significant residual commercial zoned land capacity in the centre that other land uses will be required to utilise.

Given the above overview of the economic costs and benefits, Property Economics are of the opinion that the proposed development will result in a net economic benefit and a positive economic impact on the Prestons local market, surrounding community, and the overall performance of the Prestons Neighbourhood Centre.

8. SUMMARY

In summary, Property Economics considers the proposed M10M is an appropriate activity for the site and will not undermine the potential for the Prestons Commercial Core Zone to accommodate the projected convenience demands of the community it serves.

The 10ha Commercial Core Zone is considerably large compared to other "Large Neighbourhood Centre" but most of the zone remains either vacant or underdeveloped (i.e. retains current rural land uses). The commercial network analysis shows considerable commercial zone land vacancy in the surrounding area also that would dampen demand for the Prestons Road Centre in the future.

Projections of population growth over the next 15 years suggest that total land demand for convenience activities will reach 3.6ha under the High Projection. Furthermore, the Prestons Core Zone has a provision in the Operative Plan that limits the total retail to 12,000sqm. A centre of this size would take up less than half of the zoned area (circa 4.6ha).

Hardware stores such as the proposed M10M compete more with trade and construction businesses than direct convenience retail competitors. M10M relies heavily on the trade market, including builders, contractors, and construction companies – separate from local community convenience retail demand. Consequently, Property Economics does not consider there is any consequential potential for adverse retail impacts on either the Prestons Centre or other commercial centres to occur as a result of the proposal.

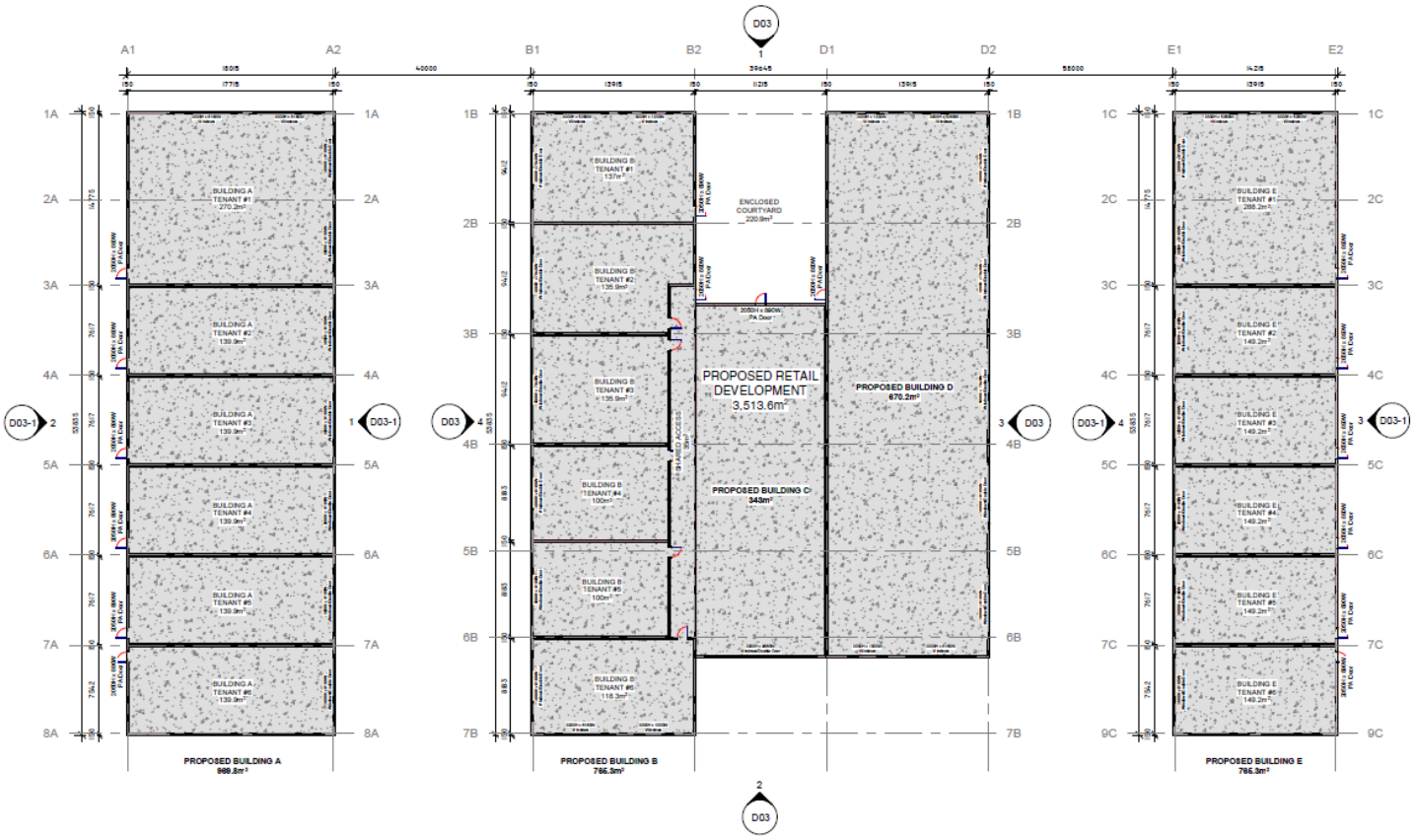
The proposed M10M is well-positioned to complement the Prestons Road Centre offer and has the potential to catalyse development and growth of the centre overall. The proposal also generates significant local employment opportunities in the centre that would not be easily replicated elsewhere in the zone and improve the centre's land use efficiency.

The proposed retail buildings, with a couple of tenancies exceeding the 150sqm GLFA threshold, cause no meaningful economic effects concern. This is unlikely to undermine the centre or affect the role and function of other commercial centres in the wider network.

As such, Property Economics supports the proposed M10M development and the proposed retail buildings from an economic perspective in the context of the RMA and Christchurch District Plan.

APPENDIX 1: TUATARA PRESTONS CONCEPT PLAN

APPENDIX 2: PRESTONS ROAD RETAIL BUILDING CONCEPT PLAN



PRELIMINARY AND DETAILED SITE INVESTIGATION (PSI / DSI)

- Mitre 10 Development

390 – 406 Prestons Road, Marshland, Christchurch

February 2024

Prepared for Tuatara Structures Ltd

Prepared by: KPES Ltd

KPES Ltd accepts no liability with regard to the use of this report other than by Tuatara Structures Ltd; notwithstanding the report may be forwarded other persons for application, permission or approval for purposes of legal requirements. This report has been prepared for Tuatara Structures Ltd.

Prepared by: Klaus Prusas, Director, KPES Ltd

Signed: 

Date: 5 February 2024

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Executive Summary

KPES Ltd investigation findings / comments with respect the Mitre 10 Development at 390-406 Prestons Road conclude as follows:-

(a) The soil values not only meet commercial / industrial criteria appropriate for this land use, but also for comparison purposes, meet residential soil value criteria (other than at 2 locations).

The results also indicate that the values are at or close to meeting background values. (NB: the background values for this soil class are below acceptance disposal criteria of cleanfill sites).

(b) Having stated the above there are nevertheless site matters and land issues where further sampling / investigation is required.

It is concluded and recommended that these issues can be achieved and managed by way of a Site Management Plan (SMP) as provided in Section 8.1 of this report. It is suggested the SMP be imposed as a condition of consent.

The SMP would deal to all the remaining contaminated soil matters relating to the development in a staged manner.

These matters include:

(i) Asbestos surveys of all above ground structures prior to demolition / removal / disposal of asbestos contaminating material and land. If found present the asbestos be deconstructed out of the building, and removed / disposed appropriately before the demolition commences.

On completion of the asbestos survey an Asbestos Clearance Certificate is both issued if free of asbestos, and in the case of where asbestos is found such a certificate is issued post successful removal and disposal. The asbestos survey / removal / disposal shall be undertaken by an approved person, and

Sampling undertaken in the area where asbestos has been found, to better delineate the existing asbestos identified area.

(ii) Sampling of the land areas to which access was restricted during the October 2023 sampling.

(iii) Sampling the land parcels at 400 – 406 Prestons Road. This land was not included part of the development in October 2023.
It is acknowledged that Sephira Environmental carried out some sampling but this was for a different purpose. The Sephira Environmental information is nevertheless valuable.

(iv) Determining whether an underground fuel storage tank(s) (UST) exists at the south end of the dwelling at 396 Prestons Road (e.g. a ‘bowser’ is sited there).

(v) Determine whether and what soil (and values) require to be removed from the site, if any.
While no soil requires to be removed from the site, it is suggested in this case that the identified area of compliant asbestos containing soil be noted on plans as to its area and location for future reference.

(vi) The significance of the soil values from a disposal off site perspective, in principle are as follows:

- Soils at or below background values can be considered as clean fill and disposed at facilities permitted to receive such soils.
- Soils from areas above background should be able to be accepted by facilities capable of receiving such soils.
- The contractor involved shall be conversant with such protocols.
- Soil disposal facilities are available in the Christchurch City/ Canterbury area. At this time no approaches have been made to these facilities.

(vii) The sequence of work shall be as follows:

(a) Asbestos survey.
Results will dictate the above ground structure removal action as discussed in (i) above. Demolition then follows.

(b) Soil sampling commences post structure removal and/or in areas not impacted by structure removal. Preference would be a clear site.

(c) Decisions made on final earthwork soil movement and plans / levels prepared.

(viii) It is anticipated for legislative purposes that conservatively 60% of the 32,333m^2 land parcel may be 'disturbed' within NES-CS terms.

(ix) An Ecan Resource Consent application process for a Construction Phase Discharge Consent is considered **NOT** required given that residential values are met. These matters can be managed via the CCC's Global consent process.

(x) KPES considered within NES-CS terms, the land is of very low environmental risk. The information thus far confirms this position.

- Overall, a very much better result than was initially anticipated**.**

Potentially more asbestos was expected to be found.

KPES was advised by the previous owner of 396 Prestons Rd the historic poultry houses (with asbestos sheeting) were deconstructed and removed to ensure the potential asbestos contamination was eliminated. The sampling this far appears to confirm this position.

- Environmental matters are considered all manageable and will become clearer once final building and earthworks design are finalized.

- Soil disposal/ destination options exist within CHCH environs.

- Based on present information no soil needs to be removed from the site (if able to be retained/managed on site). This may alter when the other areas are sampled.

(xi) On completion of the work a Site Validation Report will it is anticipated be required by Christchurch City.

Tuatara Structures Ltd
Preliminary and Detailed Site Investigation
390 – 460 Prestons Road, Marshland
Christchurch

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Appendices

1.0 Introduction

Tuatara Structures Ltd engaged KPES Ltd to carry out a Preliminary and Detailed Site Investigation assessment (PSI / DSI) of land at 390 – 406 Prestons Road, Marshland, Christchurch (Figure 1.1) within the terms of the Resource Management (National Environmental Standard for Assessing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES), and consistent with the Ministry for the Environment Contaminated Land Guidelines.

Figure 1:1 – Site Location – 390 – 406 Prestons Road (subject land parcel in red)

The purpose of the PSI / DSI investigation assessment is to:

(i) assess and determine the suitability of the land for a commercial land use, and to that end,

(ii) assist and progress any statutory consenting application process for the establishment, and construction of structures associated with this proposed major Mitre 10 development as depicted in Figure 1.2.


-Artist Impression only.
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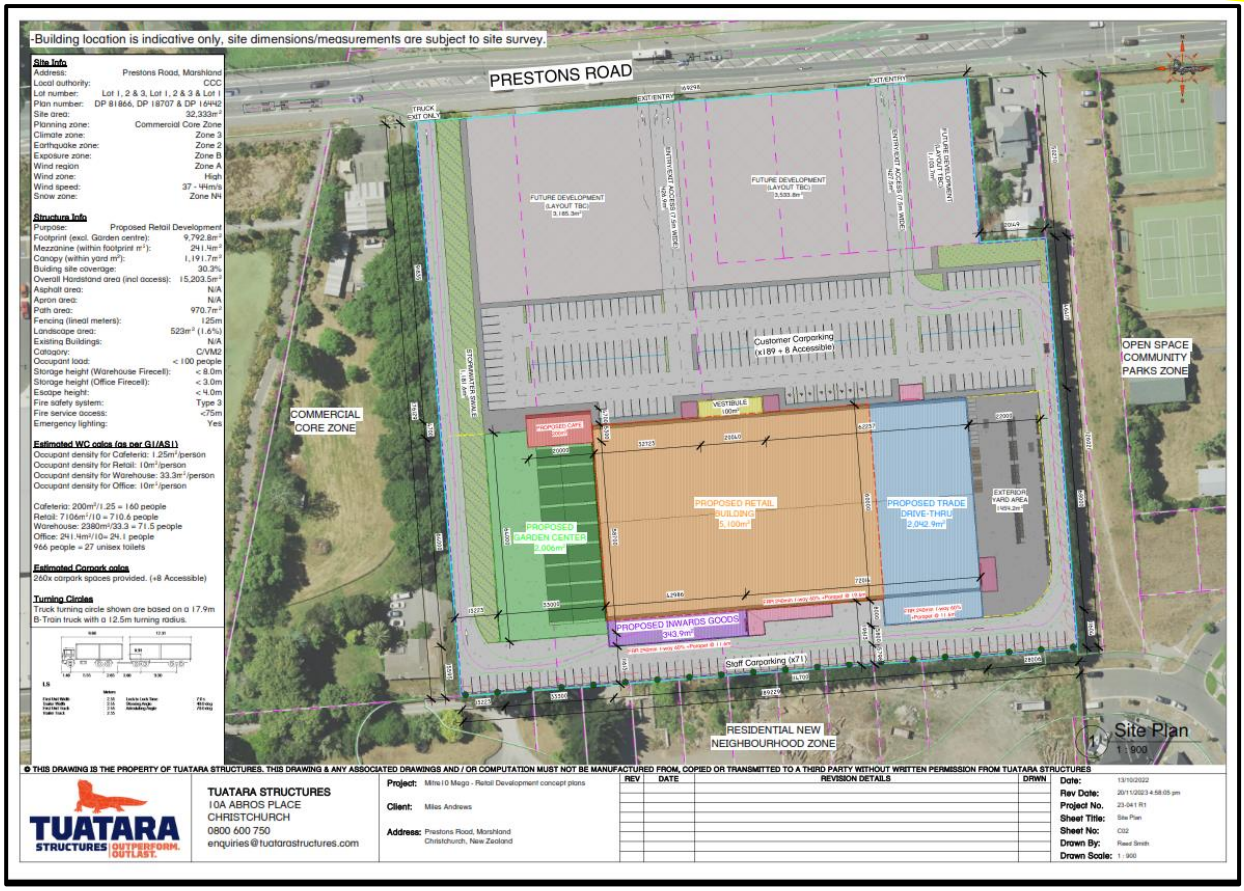

Figure 1.2– Proposed Site Development

2.0 Background

2.1 Location

This site (Lots 1, 2, & 3, Lot 1, 2, &, 3 and Lot 1 DP81816, DP18707 and DP16442), 390 to 406 Prestons Road is located in an area of Christchurch known as Marshland.

The proposed development land area is 32,333m^2.

The property is zoned Commercial Core Zone and is bounded by the commercial core zone on the west boundary, residential New Neighbourhood Zone to the north and an open space Community Parks Zone to the east.

2.2 Geology / Site Notifications / Site History

2.2.1 Geology

Environment Canterbury's (ECan) information advises the soil type is Sandy Loam – Waimakariri *f* deep sand.

2.2.2 Site Notification

Ecan's Listed Land Use Register notes the development land parcel as having an A11 – Pest Control (Not Investigated) classification for the properties (see Appendix C)

The HAIL states that from pre 1955 to pre-2004 – *Pest control including the premises of commercial pest control operators, or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application*

The applicability of this notification will be discussed in Section 2.2.3 below.

2.2.3 Site History

Appendix A (aerials) depicts the historical journey of the land, from grassland/ pastoral farming in the 1940's evolving into a major poultry farm operation and its demise, and then changing to its present activity, soon to change into a major commercial development when approved. Some contamination of significance in some areas had been potentially expected.

At the time of soil sampling on 11 October 2023 the land was occupied as follows:

390 Prestons Road –

A substantial residence with associated lawn and landscaping occupied the front half of the property (fronting Prestons Road). The rear half housed an engineering / car repair/scrap yard workshop and parts storage facilities. Some motor vehicle parts were visible on the ground. The extreme rear of the property was overgrown with grass / vegetation.

394 Prestons Road –

The area fronting Prestons Rd was vacant and gravelled for parking. A large tree had been removed to ground level some time previously in this area. Moving southward, a house then followed (used as an office) serving the engineering business to its rear. The area comprised of storage buildings / workshops on the west and east boundaries. The balance of the ground was gravelled for vehicle parking and movement.

396 Prestons Road –

An open-air caravan / boat storage area (on grass) covered approximately half of the rear south of the property. A large garage was sited in the rear east corner. The front half of the property was well maintained lawn, landscaped with a residential dwelling sited along in the north and east boundary. A petrol 'bowser' was noted at the south end of the dwelling.

400 to 406 Prestons Road –

These land parcels at October 2023 were not officially confirmed as part of the development and as hence were not sampled/ investigated. These land parcels were unoccupied properties, one with a house and others vacant.

Now returning to the LLUR discussed in Section 2.2.2 above.

The LLUR infers that a past pest control management company operation was undertaken on the land. This assertion is believed to be incorrect as no records appear to justify this comment. KPES Ltd considers that the references to pest control would/should/could relate more to the management of pests associated with operating a poultry farm (by the owners).

Sephira Environmental in their November 2019 PSI (402 – 406 Prestons Rd) also come to a similar conclusion suggesting the HAIL classification should be A10. Sephira Environmental had been engaged by their client (not associated with this development) in relation to 402 – 406 Prestons Rd. Sephira also completed a DSI (December 2019) in which lead and asbestos (analytes considered of significance) were tested (see Appendix B – Sephira PSI/DSI). A SVR is discussed as having been prepared in which it presumably indicates that the non-compliant asbestos identified was removed. The SVR was however unable to be provided by Ecan to KPES. [Note: KPES recommends 402-406 Prestons requires additional soil testing in relation to this development.]

KPES included “cyanide” (because of its use in pest control) to the analysis soil sampling investigation mix.

1940 – 1944	Vacant / Pastoral Land
1945 – 1949	Vacant / Pastoral Land
1955 – 1959	Poultry Farm commences at 390 / 394 / 396 Prestons. A dwelling appears at 406 Prestons. Otherwise, the land is vacant.
1960 – 1964	House at 402 Prestons appears more poultry houses plus some free range coups appear.
1965 – 1969	Poultry farm continues but coups removed
1970 – 1974	Engineering workshop appears to commence on 390
1975 – 1979	Poultry farm continues but coups removed. New large poultry house erected
1980 – 1984	Poultry houses increased plus grain silo introduced storage building erected
1990 – 1994	Poultry farm continues / houses erected on 396 Prestons
1005 – 1999	Poultry farm continues / houses erected on all properties
2000 – 2004	Poultry houses removed / houses exist on all properties
2010 – 2014	On 394 / 396 Prestons Engineering / business structures appear. Dwelling remains plus considerable open space
2015 – 2019	Engineering / business structure 394 /396 residence and open space remains. 396 commences caravan / boat storage park. This continues until present day.

Table 2.1 Summary of Site

3.0 Guidelines

The guidelines applicable to this proposed development are:

- MfE Soil Contaminated Land Guideline Protocols (Guidelines 1 to 5)
- National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES) (1 January 2012 and,
- The investigation was carried out within terms of the NES as a permitted activity.

4.0 Sampling Locations and Methodology

4.1 Sample Location Selections

The basis for the selection of sampling locations was to ensure that an appropriate number of sampling locations were chosen, and the number of samples were taken to represent an assessment of the proposed development.

During the October 2023 some areas / land was unable to be sampled because of access restrictions and non-inclusion in the development. These areas will now require to be sampled. Discussion on this will follow in subsequent sections of this report.

A patterned approach, associated to likely contamination sources/ locations were chosen and soil samples taken at surface and depth at each location (surface, 0.5m bgl and 1.0m bgl).

- Figure 4.0 – Sample Locations, shows the location of sampling undertaken, and identifies the areas still to be sampled.
- Discrete sampling analysis was carried out.
- Table 4.1 provides the GPS Co-ordinates for the sample locations.
- Analyte samples taken for analysis were Heavy Metals, TPH (Total Petroleum Hydrocarbons), organochlorine, asbestos and cyanide.
- Sampling was carried out at fifteen locations involving 69 samples analysed (includes asbestos).
- Appendix D – Provides the Test pit photographs.

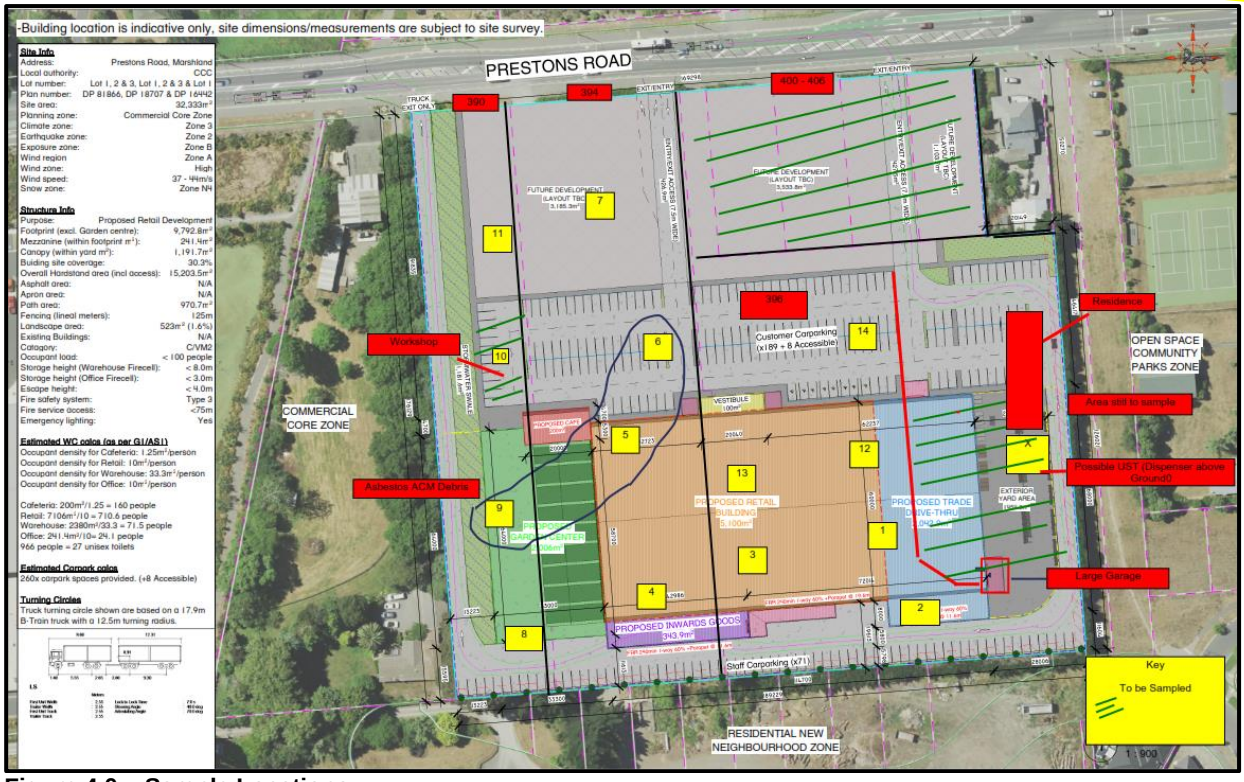

Figure 4.0 – Sample Locations

Location	Sample Nos	Depth (m)	Time	Latitude	Longitude	Comments
1	P1 P1/1 P1/2	Surface 0.5 1.00	9.30 9.32 9.35	43^{0}285300	172^{0}399214	- mix dark sand / gravels - sand clay - sand clay
2	P2 P2/1 P2/2	Surface 0.5 1.00	9.40 9.42 9.45	43^{0}285311	172^{0}399264	- gravel / sand - sand - sand
3	P3 P3/1 P3/2	Surface 0.5 1.00	10.05 10.07 10.10	43^{0}285353	172^{0}399098	- gravel / sand - sand - sand
4	P4 P4/1 P4/2	Surface 0.5 1.00	11.25 11.27 11.30	43^{0}285327	172^{0}399518	- gravels - gravels - gravels
5	P5 P5/1 P5/2	Surface 0.5 1.00	12.00 10.02 12.05	43^{0}284105	172^{0}398537	- soil - soil – tree roots - soil – tree roots
6	P6 P6/1	Surface 0.5	12.30 12.32	43^{0}284864	172^{0}398575	- gravel / soil - gravel / soil
7	P7 P7/1	Surface 0.5	12.45 12.47	Not taken		- gravel / sand - gravel / sand
8	P8 P8/1 P8/2	Surface 0.5 1.00	13.10 13.12 13.15	43^{0}285289	172^{0}398294	- soil - sand / soil - sand
9	P9 P9/1 P9/2	Surface 0.5 1.00	13.20 13.22 13.25	43^{0}285148	172^{0}398220	- sand - sand - sand
10	P10	Surface	14.05	43^{0}284903	172^{0}398214	- gravel (oil stains)
11	P11 P11/1	Surface 0.5	14.14 14.17	43^{0}284544	172^{0}398260	- soil (loam) - sand
12	P12 P12/1 P12/2	Surface 0.5 1.00	14.40 14.42 14.45	43^{0}285076	172^{0}399909	- soil - sand - sand
13	P13 P13/1 P13/2	Surface 0.5 1.00	15.15 15.17 15.20	43^{0}285039	172^{0}398889	- soil - sand - sand
14	P14 P14/1	Surface 0.5	15.30 15.37	43^{0486220}	172^{0}399005	- soil - sand

Table 4.1 – GPS Co-ordinates

4.2 Methodology

Sampling at each location was carried out using an excavator to dig to the required depth. Soils were removed from the excavator bucket wearing disposal gloves, transferred into glass jars and then placed into a chilly bin containing ice for transport to Hill Laboratories Ltd under chain of custody documentation.

5.0 Sample Results

Table 5.1 provides a summary of the laboratory results. The full R.J Hill Laboratories Ltd analysis results are detailed in Appendix D.

(i) Overview

The soil sampling results indicate the following guideline values were met:

- **industrial / commercial** guideline values (including asbestos) appropriate for this land use proposal, and for comparison purposes,

- also met, **residential** (other than at 2 Locations P5/1 (arsenic at 22mg/kg at 0.5mbgl and P10 (arsenic 24 mg/kg at surface). However, in the context of the size of the property and comparison with the other values it is suggested the land would b**e considered at or below residential criteria, and**

- also met **recreational** guideline values, and

- while **background values** for this land soil type classification were not met in some locations, the values were close to being met. Further discussion on the “significance” of this will follow in the conclusion section.

(ii) **Asbestos**

Asbestos was detected **(in soil)** at Locations 5,6,9 primarily at surface. Its presence probably relates to the historical demolition / removal of buildings existing post the poultry farm closure (wall cladding containing asbestos), and also at Location 9 related to historic motor vehicle brake lining repair.

While the asbestos criteria are met for the proposed land use activity, for potential health / safety reasons and soil disposal reasons more sampling is recommended to better delineate the "asbestos" area.

Disposal destinations at these values are available if removal off site is deemed required.

(iii) **TPH** (Total Petroleum Hydrocarbons)
TPH presence was detected in the following locations

-location 4 (@ surface to 1.0m bgl) – minor (394 Prestons)

-location 5 (@ 0.5mbgl) – minor (394 Prestons)

-location 6 (@ surface) – minor (394 Prestons)

-location 8 and 9 and 10 (@ surface) – minor (390 Prestons) – i.e Motor vehicle parts / motors lying around (scrap yard) and workshop.

Further sampling investigation, post above ground structures removal is recommended to delineate the extent and level of “contamination” in this area.

Table 5.1 Sampling Analysis, Prestons Road

Address	396			396			396			394				
Description of Address	Grass – Caravans / Boats			Grass – Caravans / Boats			Grass – Caravans / Boats			Business Area				
Sample Location	1			2			3			4				
Sample Ref	P1	P1/1	P1/2	P2	P2/1	P2/2	P3	P3/1	P3/2	P4	**Industrial Commercial Guidelines**	**Residential Guidelines**	**Recreational Guidelines**	**Background Values (YBS Soil)**
Sample Depth (m)	Surface	0.5	1.0	Surface	0.5	1.0	Surface	0.5	1.0	Surface				
Dry Matter														
Total Cyanide	0.11	<0.10	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	8.0[4]	0.9[4]	0.9[4]	
Heavy Metals														
Total Arsenic	7	2	<2	14	<2	<2	7	<2	<2	5	70[1]	20[1]	80[1]	3.5
Total Cadmium	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	1300[1]	3.0[1]	400[1]	0.08
Total Chromium	11	8	8	15	7	8	14	7	8	15	>10000/6300[1]	>10000/460[1]	>10000/1500[1]	12.4
Total Copper	8	<2	<2	7	<2	<2	6	<2	3	13	>10000[1]	>10000[1]	>10000[1]	7.9
Total Lead	11.0	7.4	5.8	11.3	6.2	5.5	10.2	4.9	6.7	26	3300[1]	210[1]	880[1]	39.0
Total Nickel	6	7	7	5	5	6	8	7	7	10	1800[2]	130[2]	600[2]	9.6
Total Zinc	65	26	23	56	21	23	51	22	25	87	35000[2]	7000[2]	1400[2]	58.8
Oganochlorine Pesticides Screening in Soil Listed results greater than detection limits (See Hill Laboratories Analysis Report)														
2,4'-DDD														
4,4'-DDD														
2.4'-DDE														
4,4'-DDE				0.015										
2,4'-DDT														
4,4'-DDT				0.012										
Total DDT Isomers											1000[1]	45/70/240[1]	400[1]	0.456[3]
Total Petroleum Hydrocarbons in Soil														
C7 – C9	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500/500[5]	500/500[5]		
C10 – C14	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	1700/2200[5]	510/670[5]		
C15 – C36	<40	<40	<40	<40	<40	<40	<40	<40	<40	320	NA	NA		
Total hydrocarbons (C7 – C36)	<80	<80	<80	<80	<80	<80	<80	<80	<80	330				

Notes [1]- means NES-CS soil guidelines values
[2]- means MFE soil value guidelines
- means exceeds background values

Address	394		394			394		394		390				
Description of Address	Business Area									Residential at front, workshop and Scrap Yard to Rear				
Location	4		5			6		7		8				
Sample Ref	P4/1	P4/2	P5	P5/1	P5/2	P6	P6/1	P7	P7/1	P8	**Industrial Commercial Guidelines**	**Residential Guidelines**	**Recreational Guidelines**	**Background Values (YBS Soil)**
Sample Depth (m)	0.5	1.0	Surface	0.5	1.0	Surface	0.5	Surface	0.5	Surface				
Dry Matter														
Total Cyanide	0.11	<0.10	0.18	0.30	<0.10	<0.10	0.13	0.30	<0.10	0.38	8.0[4]	0.9[4]	0.9[4]	
Heavy Metals														
Total Arsenic	4	4	8	**22**	<2	13	7	9	<2	12	70[1]	20[1]	80[1]	3.5
Total Cadmium	0.11	<0.10	0.18	0.30	<0.10	0.25	0.12	<0.10	<0.10	<0.10	1300[1]	3.0[1]	400[1]	0.08
Total Chromium	14	9	12	17	9	13	14	14	8	13	>10000/6300[1]	>10000/460[1]	>10000/1500[1]	12.4
Total Copper	14	6	8	10	2	16	55	10	<2	8	>10000[1]	>10000[1]	>10000[1]	7.9
Total Lead	30	14.5	14.8	22	7.0	29	36	18.9	6.2	12.8	3300[1]	210[1]	880[1]	39.0
Total Nickel	10	4	6	5	7	6	10	7	6	5	1800[2]	130[2]	600[2]	9.6
Total Zinc	90	34	83	70	29	142	87	98	24	78	35000[2]	7000[2]	1400[2]	58.8

Oganochlorine Pesticides Screening in Soil
Listed results greater than detection limits
(See Hill Laboratories Analysis Report)

2,4'-DDD														
4,4'-DDD		0.013												
2.4'-DDE														
4,4'-DDE		0.014		0.054		0.035	0.014							
2,4'-DDT				0.017										
4,4'-DDT				0.065		0.090					1000[1]	45/70/240[1]	400[1]	0.456[3]

Total Petroleum Hydrocarbons in Soil

C7 – C9	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500/500[5]	500/500[5]		
C10 – C14	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	1700/2200[5]	510/670[5]		
C15 – C36	290	100	69	108	<40	100	55	69	<40	177	NA	NA		
Total hydrocarbons (C7 – C36)	300	116	<80	115	<80	109	<80	<80	<80	192				

Oganochlorine Pesticides Screening in Soil
results LESS than detection limits
(See Hill Laboratories Analysis Report)

Notes
[1] - means NES-CS soil guidelines values
[2] - means MFE soil value guidelines
[3] - means Ecan values
[5] - means GAMPHCS (NZ) means
[6] - means Canadian Guidelines
Bold - means exceeds residential soil guideline value
- - means exceeds background soil guideline value

Address	390		390			390			396					
Description of Address	Residential at front – workshop / scrap yard at rear													
Location	8		9			10	11		12					
Sample Ref	P8/1	P8/2	P9	P9/1	P9/2	P10	P11	P11/1	P12	P12/1	**Industrial Commercial Guidelines**	**Residential Guidelines**	**Recreational Guidelines**	**Background Values (YBS Soil)**
Sample Depth (m)	0.5	1.0	Surface	0.5	1.0	Surface	Surface	0.5	Surface	0.5				
Dry Matter														
Total Cyanide	<0.10	<0.10	0.38	<0.10	<0.10	-	0.14	<0.10	0.40	0.37	8.0[4]	0.9[4]	0.9[4]	
Heavy Metals														
Total Arsenic	4	<2	6	<2	<2	**24**	3	<2	9	9	70[1]	20[1]	80[1]	3.5
Total Cadmium	<0.10	<0.10	0.16	<0.10	<0.10	1.45	<0.10	<0.10	<0.10	<0.10	1300[1]	3.0[1]	400[1]	0.08
Total Chromium	10	9	10	9	9	25	9	9	11	11	>10000/6300[1]	>10000/460[1]	>10000/1500[1]	12.4
Total Copper	3	3	9	2	2	37	5	<2	14	<2	>10000[1]	>10000[1]	>10000[1]	7.9
Total Lead	8.0	9.7	25	7.6	8.1	54	21	7.4	27	9.6	3300[1]	210[1]	880[1]	39.0
Total Nickel	5	6	6	7	8	16	6	7	6	7	1800[2]	130[2]	600[2]	9.6
Total Zinc	39	28	162	33	30	520	45	33	124	25	35000[2]	7000[2]	1400[2]	58.8

Oganochlorine Pesticides Screening in Soil
Listed results greater than detection limits
(See Hill Laboratories Analysis Report)

2,4'-DDD														
4,4'-DDD							0.014							
2.4'-DDE							0.016							
4,4'-DDE			0.027				2.3	0.023						
2,4'-DDT							0.38							
4,4'-DDT			0.44				1.19							
Total DDT Isomers			0.08				3.9				1000[1]	45/70/240[1]	400[1]	0.456[3]
Total Petroleum Hydrocarbons in Soil														
C7 – C9	<20	<20	<20	<20	<20	<20	<20	<20			500/500[5]	500/500[5]		
C10 – C14	<20	<20	<20	<20	<20	<20	<20	<20			1700/2200[5]	510/670[5]		
C15 – C36	<40	<40	<40	<40	<40	660	57	<40			NA	NA		
Total hydrocarbons (C7 – C36)	<80	<80	<80	<80	<80	690	<80	<80						

Oganochlorine Pesticides Screening in Soil
results LESS than detection limits
(See Hill Laboratories Analysis Report)

Notes
[1] - means NES-CS soil guidelines values
[2] - means MFE soil value guidelines
[3] - means Ecan values
[5] - means GAMPHCS (NZ) means
[6] - means Canadian Guidelines
Bold - means exceeds residential soil guideline value
- - means exceeds background soil guideline value

Address	396	396			396					
Description of Address	Grass									
Location	12	13			14					
Sample Ref	P12/2	P13	P13/1	P13/2	P14	P14/1	**Industrial Commercial Guidelines**	**Residential Guidelines**	**Recreational Guidelines**	**Background Values (YBS Soil)**
Sample Depth (m)	1.0	Surface	0.5	1.0	Surface	0.5				
Dry Matter										
Total Cyanide	<0.10	0.23	<0.10	<0.10	0.16	<0.10	8.0[4]	0.9[4]	0.9[4]	
Heavy Metals										
Total Arsenic	<2	7	2	<2	6	<2	70[1]	20[1]	80[1]	3.5
Total Cadmium	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1300[1]	3.0[1]	400[1]	0.08
Total Chromium	8	13	9	9	10	9	>10000/6300[1]	>10000/460[1]	>10000/1500[1]	12.4
Total Copper	<2	9	<2	<2	7	<2	>10000[1]	>10000[1]	>10000[1]	7.9
Total Lead	6.5	49	7.9	9.0	15.5	5.3	3300[1]	210[1]	880[1]	39.0
Total Nickel	6	7	7	6	5	6	1800[2]	130[2]	600[2]	9.6
Total Zinc	22	192	30	31	89	28	35000[2]	7000[2]	1400[2]	58.8

Oganochlorine Pesticides Screening in Soil
Listed results greater than detection limits
(See Hill Laboratories Analysis Report)

2,4'-DDD										
4,4'-DDD										
2,4'-DDE										
4,4'-DDE										
2,4'-DDT										
4,4'-DDT										
Total DDT Isomers										

Oganochlorine Pesticides Screening in Soil
results LESS than detection limits
(See Hill Laboratories Analysis Report)

Notes
[1] - means NES-CS soil guidelines values
[2] - means MFE soil value guidelines
[3] - means Ecan values
[5] - means GAMPHCS (NZ) means
[6] - means Canadian Guidelines
Bold - means exceeds residential soil guideline value
- - means exceeds background soil guideline value

Address	396			396			396			394			394		
Description of Address	Grass – Caravans / Boats			Grass – Caravans / Boats			Grass – Caravans / Boats			Business Area			Business Area		
Sample Location	1			2			3			4			5		
Sample Ref	PH1	PH1/1	PH1/2	PH2	PH2/1	PH2/2	PH3	PH3/1	Ph3/2	PH4	PH4/1	PH4/2	PH5	PH5/1	PH5/2
Sample Depth	Surface	0.5	1.0	Surface	0.5	1.0	Surface	0.5	1.0	Surface	0.5	1.0	Surface	0.5	1.0

Asbestos in Soil

Asbestos Presence / Absence	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected	Asbestos NOT detected	Asbestos NOT detected
Description of Asbestos Form													ACM Debris		
As Received Weight g	695.9	922.2	863.8	773.4	846.2	864.0	896.7	881.5	798.0	921.7	939.5	759.0	739.6	813.9	927.4
Dry Weight g	617.6	880.9	821.2	680.6	813.5	832.2	811.8	827.3	756.4	847.64	873.0	626.2	579.6	656.8	813.9
9M6o5i8sture %	11	4	5	12	4	4	9	6	5	8	7	17	22	19	12
Asbestos in ACM as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Combined Fibrous Asbestos + Asbestos Fines as % of total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Fibrous Asbestos as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Asbestos Fines as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sample Fraction>10mm g	2.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	340.2	391.6	<0.1	5.4	23.3	<0.1
Sample Fraction<10mm to 2mm g	3.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	287.7	304.9	16.2	34.8	106.4	0.6
Sample Fraction <2mm g	610.8	880.8	821.1	679.4	812.9	832.1	789.8	827.2	756.3	219.0	175.8	609.6	538.8	526.8	813.2
<2mm Subsample Weight g	53.1	51.8	57.6	55.7	58.7	56.3	56.2	51.7	55.4	54.4	56.5	53.5	52.0	52.3	55.0
Weight of Asbestos in ACM (Non-Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Fibrous Asbestos (Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Asbestos Fines (Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Notes [1]- means NES-CS soil guidelines values
[2]- means MFE soil value guidelines
- means exceeds background values

Address	394		394		390			390			390		396		
Description of Address	Business Area				Residential at front, workshop and Scrap Yard to Rear								Grass		
Sample Location	6		7		8			9			11		12		
Sample Ref	PH6	PH6/1	PH7	PH7/1	PH8	H8/1	PH8/2	PH9	PH9/1	PH9/2	PH11	PS11/1	PJ12	PH12/1	PH12/2
Sample Depth	Surface	0.5	Surface	0.5	Surface	0.5	1.0	Surface	0.5	1.0	Surface	0.5	Surface	0.5	1.0
Asbestos in Soil															
Asbestos Presence / Absence	Chrysotile (White Asbestos) detected	Amosite (Brown Asbestos), Chrysotile (White Asbestos) and Crocidolite (Blue Asbestos) detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Chrysotile (White Asbestos) detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected
Description of Asbestos Form	Loose fibres	ACM debris and Loose fibres						ACM Debris							
As Received Weight g	799.5	734.6	796.7	816.8	758.7	873.1	863.6	620.8	766.5	890.5	725.8	845.4	662.3	815.8	818.6
Dry Weight g	663.3	579.2	614.8	790.0	582.3	816.3	797.1	490.0	705.0	771.2	611.0	789.0	514.1	756.0	779.4
Moisture %	17	21	23	3	23	7	8	21	8	13	16	7	22	6	5
Asbestos in ACM as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Combined Fibrous Asbestos + Asbestos Fines as % of total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Fibrous Asbestos as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Asbestos Fines as % of Total Sample % w/w	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sample Fraction>10mm g	36.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.1	<0.1	<0.1
Sample Fraction<10mm to 2mm g	65.3	26.4	4.1	<0.1	3.6	<0.1	<0.1	4.4	<0.1	<0.1	4.2	<0.1	26.0	<0.1	<0.1
Sample Fraction <2mm g	560.4	551.7	610.3	789.9	577.9	815.8	796.8	484.7	704.7	771.0	606.0	788.8	482.8	764.6	779.2
<2mm Subsample Weight g	59.9	56.5	55.8	57.1	52.4	50.5	51.6	53.5	55.7	59.9	54.8	59.2	51.1	53.8	58.7
Weight of Asbestos in ACM (Non-Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Fibrous Asbestos (Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Asbestos Fines (Friable) g	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Address	396			395	
Description of Address	Grass				
Sample Location	13			14	
Sample Ref	PH13	PH13/1	PH13/2	PH14	PH14/1
Sample Depth	Surface	0.5	1.0	Surface	0.5

Asbestos Presence / Absence		Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected	Asbestos NOT detected
Description of Asbestos Form						
As Received Weight	g	713.9	839.6	836.0	763.8	887.9
Dry Weight	g	559.7	780.7	760.5	616.2	837.1
Moisture	%	22	7	9	19	6
Asbestos in ACM as % of Total Sample	% w/w	<0.001	<0.001	<0.001	<0.001	<0.001
Combined Fibrous Asbestos + Asbestos Fines as % of total Sample	% w/w	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Fibrous Asbestos as % of Total Sample	% w/w	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos as Asbestos Fines as % of Total Sample	% w/w	<0.001	<0.001	<0.001	<0.001	<0.001
Sample Fraction>10mm	g	6.9	<0.1	4.9	55.4	<0.1
Sample Fraction<10mm to 2mm	g	25.3	6.3	9.1	47.8	<0.1
Sample Fraction <2mm	g	526.0	773.9	745.7	512.0	836.8
<2mm Subsample Weight	g	51.5	50.6	56.3	54.6	53.4
Weight of Asbestos in ACM (Non-Friable)	g	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Fibrous Asbestos (Friable)	g	<0.001	<0.001	<0.001	<0.001	<0.001
Weight of Asbestos as Asbestos Fines (Friable)	g	<0.001	<0.001	<0.001	<0.001	<0.001

6.0 Legislation

It Is accepted that a HAIL activity has or has likely to have occurred on the land, and therefore the NES-CS legislation applies to this development (Reg. 5(7). The soil sampling results and reporting confirm this.

Further, while it is inevitable that the 'soil disturbance' (Reg 8 (3) (c) and 'soil removal' (Reg 8(3) (d) permitted volume criteria may be exceeded, the exact exceedance volume is not available / known at this time, particularly soil removal because none needs to be removed off site. It understood there is a high likelihood that this may occur – i.e none will be removed and the soil will be managed on site.

This matter will therefore require inclusion in the planning consent application and be considered as a 'controlled activity' it is expected.

7.0 Conceptual Site Model (CSM)

A CSM is provided below to represent potential source contaminants, their exposure pathways and receptors. The CSM is presented in two stages of the development

(i) initial desktop assessment phase prior to soil testing, and then

(ii) re-evaluation post sampling results.

The initial desktop review suggested the potential contaminants of concern, exposure pathways and potential receptors were likely to be of potentially some significance in some areas based on the historical data. The results post sampling proved this not to be the case.

(i) Initial Desktop

Source	- Site history
Contaminant of Concern	- Heavy Metals, Organochlorine, TPH, Cyanide
Pathway	- Inhalation of dust, Ingestion, Dermal Contact, Water
Receptors	- Contractors, Future occupants, Ground water

(ii) Post Soil Sampling

Source	- see Tables 5.1 & 5.2 - Analysis Results and report discussion
Contaminant of Concern Soil	- soil values meet commercial/ industrial and residential guidelines, and are in many locations at or close to background values – Figure 4.1
Pathway	- Normal industry operational mitigation protocols apply
Receptors	- Contractors, Future occupants

8.0 Discussion and Conclusion / Recommendations

KPES Ltd investigation findings/comments conclude as follows:

(a) The soil values not only meet commercial / industrial criteria appropriate for this land use, but also for comparison purposes, meet residential soil value criteria (other than at 2 locations).

The results also indicate that the values are at or close to meeting background values. (NB: the background values for this soil class are below acceptance disposal criteria of cleanfill sites).

(b) Having stated the above there are nevertheless site matters and land issues where further sampling / investigation is required.

It is concluded and recommended that these issues can be achieved and managed by way of a Site Management Plan (SMP) as provided in Section 8.1 of this report. It is suggested the SMP be imposed as a condition of consent.

The SMP would deal to all the remaining contaminated soil matters relating to the development in a staged manner.

These matters include:

(ii) Asbestos surveys of all above ground structures prior to demolition / removal / disposal of asbestos contaminating material and land. If found present the asbestos be deconstructed out of the building, and removed / disposed appropriately before the demolition commences.

On completion of the asbestos survey an Asbestos Clearance Certificate is both issued if free of asbestos, and in the case of where asbestos is found such a certificate is issued post successful removal and disposal. The asbestos survey / removal / disposal shall be undertaken by an approved person., and

Sampling undertaken in the area where asbestos has been found, to better delineate the existing asbestos identified area.

(ii) Sampling of the land areas to which access was restricted during the October 2023 sampling.

(iii) Sampling the land parcels at 400 – 406 Prestons Road. This land was not included part of the development in October 2023.
It is acknowledged that Sephira Environmental carried out some sampling but this was for a different purpose. The Sephira Environmental information is nevertheless valuable.

(iv) Determining whether an underground fuel storage tank(s) (UST) exists at the south end of the dwelling at 396 Prestons Road (e.g. a ‘bowser’ is sited there).

(v) Determine whether and what soil (and values) require to be removed from the site, if any.
While no soil requires to be removed from the site, it is suggested in this case that the identified area of compliant asbestos containing soil be noted on plans as to its area and location for future reference.

(vi) The significance of the soil values from a disposal off site perspective, in principle are as follows:

- Soils at or below background values can be considered as clean fill and disposed at facilities permitted to receive such soils.
- Soils from areas above background should be able to be accepted by facilities capable of receiving such soils.
- The contractor involved shall be conversant with such protocols.
- Soil disposal facilities are available in the Christchurch City/ Canterbury area. At this time no approaches have been made to these facilities.

(vii) The sequence of work shall be as follows:

(b) Asbestos survey.
Results will dictate the above ground structure removal action as discussed in (i) above. Demolition then follows.

(b) Soil sampling commences post structure removal and/or in areas not impacted by structure removal. Preference would be a clear site.

(c) Decisions made on final earthwork soil movement and plans / levels prepared.

(viii) It is anticipated for legislative purposes that conservatively 60% of the 32,333m^2 land parcel may be 'disturbed' within NES-CS terms.

(ix) An Ecan Resource Consent application process for a Construction Phase Discharge Consent is considered **NOT** required given that residential values are met. These matters can be managed via the CCC's Global consent process.

(x) KPES considered within NES-CS terms, the land is of very low environmental risk. The information thus far confirms this position.

- Overall, a very much better result than was initially anticipated**.**

Potentially more asbestos was expected to be found.

KPES was advised by the previous owner of 396 Prestons Rd the historic poultry houses (with asbestos sheeting) were deconstructed and removed to ensure the potential asbestos contamination was eliminated. The sampling this far appears to confirm this position.

- Environmental matters are considered all manageable and will become clearer once final building and earthworks design are finalized.

- Soil disposal/ destination options exist within CHCH environs.

- Based on present information no soil needs to be removed from the site (if able to be retained/managed on site). This may alter when the other areas are sampled.

(xi) On completion of the work a Site Validation Report will it is anticipated be required by Christchurch City.

9.0 Site Management Plan (SMP) – 390 – 406 Prestons Road, Marshland, Christchurch

The following SMP can be used and shall become familiar to all parties involved in the establishment and construction of the Mitre 10 development and shall be read in conjunction with the entirety of this report.

- It is incumbent on all contractors undertaking the works and construction, to comply with the provisions of this SMP, plus applicable conditions of any Resource Consent granted. (Resource Consent conditions take precedence).
- The work shall be undertaken as detailed in section 8(b) of this report
- Soil shall not be removed from the development land parcel without prior approval of the site manager.
- The disposal destination of soil shall be at locations/facilities approved, capable and accepting of receiving this material (with documentation proving the same).
- The soil shall NOT be disposed at any other destination without consultation and approval.
- The contractor shall keep a reconciliation record of weight and destination of the soil and be available for later verification and reporting.
- All construction companies / workers engaged in the construction of the development shall agree to adhere to the Health and Safety Management Plan, prepared by the principal contractor before being permitted to work on / enter the work site.
- The principal contractor shall undertake to ensure all contractors and their employees are familiar with the PSI and SMP, as it may impact on their work.
- An environmental consultant (SQEP) shall be consulted and be available in the event of any unusual / adverse event occurring or developing, related to land contamination, during the operation
- All speed shall be made to complete the earthworks to the point where clean cover material covers the entire site.

  At that point the SMP will cease subject to no further subsurface work being undertaken.
- The development/construction work shall be undertaken subject to the conditions of the Resource Consent granted.
- The contractor will during the earthworks ensure all practical measures are undertaken to prevent and control the emission of dust, surface water discharge off site including the tracking of soil off the site on the wheels of vehicles.
- A Site Validation Report (SVR) shall be prepared at the conclusion of the works and forwarded to Christchurch City Council.

10.0 Limitations

Tuatara Structures Ltd agrees to indemnify KPES Ltd (including payment of legal costs incurred in its defence) against any claims brought by a third party against KPES LTD arising out of the provision of the Services.

The Services are prepared for the benefit of Tuatara Structures Ltd and Christchurch City Council only. No third party may rely upon any advice or work done by KPES in relation to the Services.

In preparing the report, KPES has undertaken limited site sampling (as outlined in the report). KPES's findings are based on the results of the soil sampling at each specified location at the time of inspection KPES makes no representation or warranty, express or implied that the remaining area that has not been sampled is not without contamination.

It is acknowledged that the Site may contain contaminated material. Tuatara Structures Ltd agrees that KPES shall have no liability in respect of any contaminated ground or other area. All dealings with contaminated material and areas shall be the responsibility of Tuatara Structures Ltd including any removal or disposal of such material. Further, any matter relating to contamination shall be treated as an event beyond the reasonable control of KPES.

Appendix A: Historical Photos

Historical Photos 396 – 405 Prestons Road

1940 - 1944

1945 - 1949

1955 - 1959

1960 - 1964

1965 - 1969

1970 - 1974

1975 - 1979

1980 - 1984

1990 – 1994

1995 - 1999

2000 – 2004

2010 - 2014

2015 - 2019

Appendix B: Sephira Environmental PSI / DSI

Preliminary Site Investigation

402-406 Prestons Road, Marshland

Prepared for:	McCracken and Associates Limited
Prepared by:	Sephira Environmental Limited
Date:	November 2019
Document No:	MAL-A0454-002R-v0

Sephira ENVIRONMENTAL

Summary

Sephira Environmental Limited has undertaken a Preliminary Site Investigation (PSI) of the property located at 402-406 Prestons Road in Marshland to satisfy the requirements of the Christchurch City Council and the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS 2011) prior to a change of land use at the site.

Review of available information which included Environment Canterbury's Listed Land Use Register, Christchurch City Council property files, title records, and historical aerial photographs; observation of the site conditions during a site walkover, and information gathering during an interview with the landowner were undertaken to identify historic land uses that may have discharged contamination to the land.

A review of the property files has indicated two existing residential dwellings constructed at the site in the early 1960's and 70's, one similarly aged demolished historic accessory buildings at 402 Prestons Road and a historic garage at 406 Prestons Road all present a potential source of lead and/or arsenic which may have been discharge to the land. This land use is associated with the Ministry for the Environment Hazardous Activity and Industry List category "I - any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment".

No other areas of concern with potential contamination have been identified by this Preliminary Site Investigation.

It is recommended that a Detailed Site Investigation (DSI) be undertaken, targeting the areas in and around the footprints of the historic buildings, and around the existing dwellings in order to assess if lead and/or asbestos exist in the surface soil at concentrations that present a risk to workers during the site development, or to occupants of the land during its future commercial use. The test results would be used to assess the applicability of the NESCS 2011 as discussed above, and also provide characterisation for any surplus soil generated during the development of the site that may need to be removed from the site and reused at another site or disposed of at an appropriate off-site facility (e.g., clean fill, managed fill or landfill).

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Acronyms and Abbreviations

DSI – Detailed Site Investigation

ECan – Environment Canterbury (Canterbury Regional Council)

HAIL – Hazardous Activities and Industries List

LINZ – Land Information New Zealand

LLUR – Listed Land Use Register

MfE – Ministry for the Environment

NESCS - Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. Came in force on 1 January 2012.

PSI – Preliminary Site Investigation

CCC – Christchurch City Council

1.0 INTRODUCTION

McCracken and Associates Limited (McCracken) engaged Sephira Environmental Limited (Sephira Environmental) to undertake a Preliminary Site Investigation (PSI) of land located at 402-406 Prestons Road, Marshland, legally known as Lot 1 DP 16442 and Lot 1 and Lot 2 DP 18708, hereafter referred to as the "site" (Figure 1).

The site is currently developed as two residential properties, one of which (404-406 Prestons Road) is also operating as a landscaping business. McCracken intends to develop the three lots as a commercial retail complex. This represents a change of land use from the existing residential dwellings. A PSI is therefore required in accordance with the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS 2011) to identify if an activity on the Ministry for the Environment (MfE) Hazardous Industries and Activities List (HAIL) is or was present on the site. The presence of a HAIL activity would indicate that the NESCS would apply to the project and the implications could then be assessed.

The PSI undertaken by Sephira Environmental and reported herein included review of Environment Canterbury's Listed Land Use Register (LLUR), Christchurch City Council (CCC) property files, historic land titles and historical aerial photographs. It also involved a site inspection and an interview with the current landowner. The work was undertaken in accordance with MfE Contaminated Land Management Guidelines (updated 2011), NESCS (2011), and is subject to the report limitations in Section 5.

Figure 1. Site Location (base map source: canterburymaps.govt.nz)

2.0 SITE DESCRIPTION

2.1 Land Use

The subject property (Lot 1 DP 16442 and Lot 1 and Lot 2 DP 18708) is zoned as "Commercial Core" according to Environment Canterbury GIS database (Figure 2). The total site area is 3,036 m^2. The land is flat and contains two residential dwellings, and several accessory buildings including a large, commercial utility building used by a landscaping company that formerly operated at 406 Prestons Road. According to the proposed development plan (Figure 3), the development will involve the demolition of existing structures, the construction of commercial retail buildings and paved carpark area.

Figure 2. Recent Site Conditions (base image source: canterburymaps.govt.nz)

2.2 Groundwater and Surface Water Conditions

According to records held by Environment Canterbury, the groundwater table in the site vicinity is approximately 1 m below ground level. The deeper groundwater is part of the coastal confined gravel aquifer system and is likely to flow to the east. The site is approximately 100 m downgradient of three community drinking water supply points and associated protection zones. There is also a 30 m deep domestic supply well currently on-site. The site falls within the Horseshoe Lake Outlet

catchment and the nearest body of downgradient surface water is a small drain 480 m east of the site. The Travis Wetland Reserve is approximately 2.5 km southeast of the site.

Figure 3. Development Plan (source: McCracken and Associates Limited)

3.0 SITE HISTORY

The site history has been established from a variety of sources including Environment Canterbury's Listed Land Use Register (LLUR), Christchurch City Council (CCC) property files, title records and historical aerial photographs. The records viewed are summarised below.

3.1 Environment Canterbury Listed Land Use Register

A search of Environment Canterbury's (ECan) LLUR was made to gather the available records for the site. The search indicated that the property was not listed as having a Hazardous Activity and Industry List (HAIL) activity associated with it.

The LLUR documents the presence of a nearby HAIL site (Site 229277) immediately to the south of the site. That HAIL site, located at 394-396 Prestons Road, was noted by ECan during review of historic aerial photographs to have a long barn on its western edge in photos from 1955 to 1984. The barns were speculated to have been used as part of a poultry farm. The long barn on the west was demolished by a 2000 to 2004 photograph and a new long barn or shed had been constructed by this time on the eastern side of the property. The LLUR lists the site as being subject to the HAIL activity 'A11 – Pest control' in association with the possible poultry farm. It is probable that the HAIL

activity assigned to this site on the LLUR is likely an error and that the actual activity should be 'A10 – Persistent pesticide bulk storage or use', since pesticides are known to be used to control infestation of poultry, and there is no evidence that the site was a commercial pest control company. Based on the distance of the historic commercial buildings to the area of this investigation it is unlikely that they have had an environmental impact on the subject site.

The LLUR documents the presence of two nearby HAIL sites (Site 29299 and Site 73804) to the north of the site. Site 29299 is listed due to the presence of what are apparently long barns associated with a possible poultry farm noted in aerial photographs between 1973 and 2011. The LLUR lists this site as being subject to HAIL activities 'A11 – Pest control' in association with the possible poultry farm (also likely 'A10 – persistent pesticide storage or use'). Also, a 2019 investigation report for the site 20299 indicated broken asbestos-containing material was present on the ground surface.

Site 73804 was listed on the LLUR due to the presence of a number of glass houses and a stockpile apparently contaminated with trace levels of petroleum hydrocarbons. The HAIL land use for this site was 'A17 – Storage tanks or drums for fuel, chemicals or liquid waste'. Prior to the redevelopment of the site in 2014-2015 several investigations were undertaken. ECan has categorised the site as 'below guideline values – residential'. It is unlikely that this site has had an environmental impact of the subject site.

A copy of the LLUR site information statement is included as Appendix A of this report.

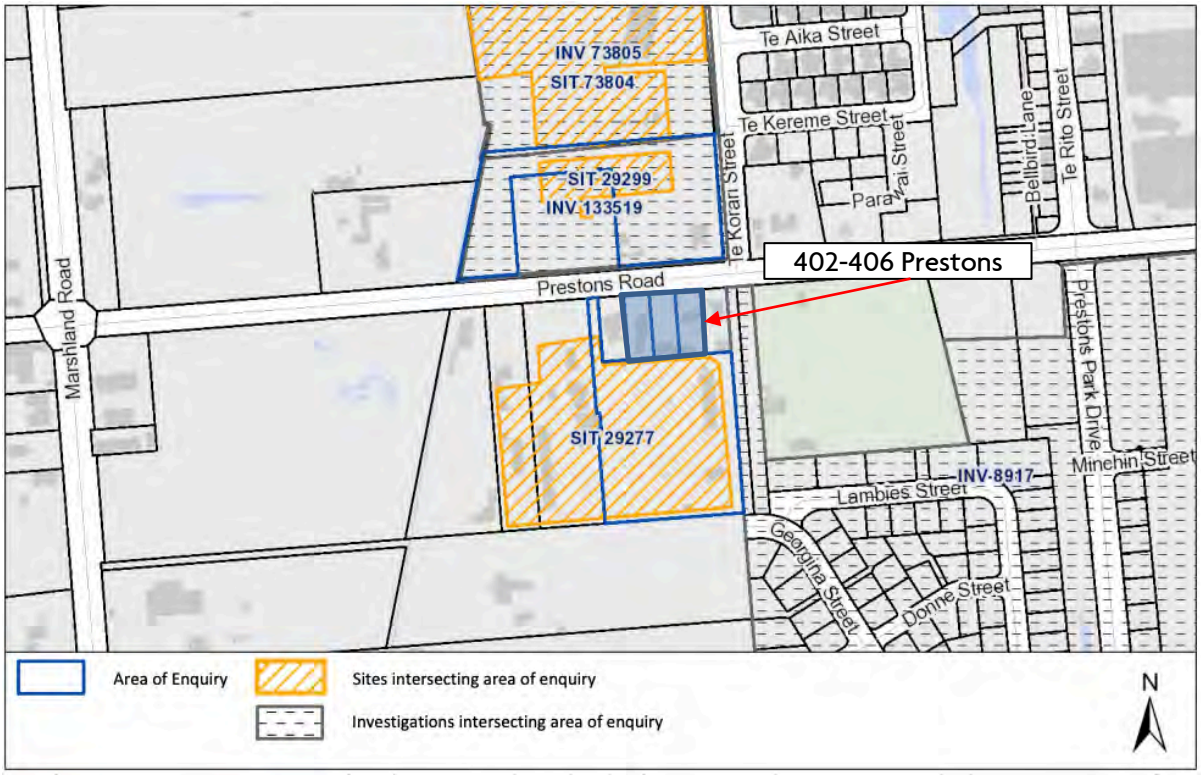


Figure 4. LLUR map of property (source: Environment Canterbury Listed Land Use Register)

3.2 Historical Aerial Photographs

Historical aerial photographs of the site available on the ECan website (www.mapviewer.canterburymaps.govt.nz) were reviewed. The relevant portions of the historical aerial photographs reviewed are presented in Appendix B.

These photographs indicate that the site was undeveloped pasture, as indicated from a photograph from between 1940 and 1944, until between 1945 and 1955 when the first residential dwelling and associated external garage was constructed at 406 Prestons Road (the eastern side of the site). This initial garage was removed and replaced sometime between 1964 and 1969 and removed and replaced again between 1980 and the present. The dwelling itself has undergone several additions but has remained in place until the present day.

In the early 1960s a residential dwelling was also constructed on 402 Prestons Road (western side of the site). This dwelling included two external accessory buildings on its southeast corner. As with 406 Prestons Road, this dwelling has remained in place. The two accessory buildings that were constructed with the original dwelling were demolished and replaced with a number of large sheds sometime between 1980 and approximately 1995.

In the early 2000s, a large commercial shed was constructed at the south end of 404 Prestons Road, appearing to be associated with the dwelling at 406. Around the same time, the garage that was present at the 406 Prestons Road property was demolished. The large commercial shed has remained unchanged to present and is assumed to be associated with the landscaping business currently operating at 404-406 Prestons Road.

3.3 Christchurch City Council Property Files

An inquiry was made by Sephira Environmental to CCC to review the property file for the site.

A number of the property files reviewed pertained to building consents associated with accessory buildings and extensions to existing dwellings at 402 and 406 Prestons Road. Building plans indicate that the residential dwelling currently existing at the 402 Prestons Road was initially constructed using the asbestos cladding product, Fibrolite, in the soffits, porch ceiling, and porch walls when it was built in the early 1960's.

The CCC file included documentation that described the construction of a garage at 406 Prestons Road in 1965. The plans described the exterior of the garage as being clad with Poilite, an asbestos building product.

The CCC file included plans that indicate that an extension of the dwelling situated at 402 Prestons Road was constructed using Durock asbestos facia boards in 1975.

No property files were available relating to the construction or demolition of the initial two accessory buildings located at 402 Prestons Road that were constructed at the same time as the

dwelling in the early 1960's. The construction of the dwelling at 406 Prestons Road between 1945 and 1955 is also undocumented in the property file.

No other potential source environmental contamination was identified during a review of the property files available.

3.4 Historic Land Titles

Historic land records were obtained through Land Information New Zealand (LINZ).

Review of the available historic title records provided information about the land ownership and potential land use of the site dating back to 1927, at which point a reference to a prior title record is unavailable.

Review of the historic title records indicates that sections of the land has been in the ownership of people with the occupation 'farmer' various times throughout the whole available history of the land's ownership. While farming can be associated with HAIL activities, without further indication of an activity known to be associated with use of persistent pesticides such as orchardist or berry farmer, this finding on its own represents a relatively low risk of potential discharge of contaminants to soil.

The title records also described ownership of the land by a 'coppersmith'. Again, this finding on its own represents a relatively low risk of potential discharge of contaminants to soil.

No other potential source environmental contamination was identified during a review of the available historic title records.

A copy of the title records reviewed is presented in Appendix C.

3.5 Site Walkover, Owner Interview and Sampling

A site walkover was completed on 12 November 2019 by Sephira Environmental personnel.

The residential dwellings at the both 402 and 404-406 Prestons Road presently have brick exterior walls and no evidence of asbestos cladding material was noted. At the time of the site walkover it was unclear whether the soffits at 402 Prestons Road contain asbestos material.

The site walkover began with the property located at 404-406 Prestons Road where a residential dwelling is present and an associated large utility shed and shingle yard formerly used for a landscaping business. The residential dwelling at the 406 Prestons Road property was observed to have brick exterior walls and a metal roof. It was unclear whether the soffits were constructed of asbestos-containing material, as indicated by the property files. A paved concrete area exists adjacent to the dwelling along the southern side of the building.

The shingle yard consisted of approximately 50 mm of coarse gravel on top of compacted sandy silt. The large utility shed consisted of several vehicle bays and workshops and was constructed with wooden frames, metal sidings and roof. The floor of this structure was made of concrete and a concrete pad extended out of the vehicle bays into the shingle area. A small electrical board, possibly containing asbestos material was observed within one of the workshop areas. No fuel, chemicals, paint or treated timber was currently being stored in the building. No major staining was observed on the concrete pad.

A small green, metal-clad shed was observed in the southeast corner of the property. The shed had a compacted gravel floor and was empty at the time of the site walkover. No staining was observed on the shed floor materials.

A small garden and paved area exist north of the dwelling. No other sources of potential environmental contamination were observed during the inspection of this portion of the site (404-406 Prestons Road). An interview conducted with the current landowner of 404-406 Prestons Road indicated that, to his knowledge, there was no large amount of fuel, pesticides, or treated timber stored at the site during its use as a store yard for the landscaping business.

The residential dwelling at 402 Prestons Road was observed to be constructed with brick exterior cladding and concrete roof tiles. This property contains a small grassed area with trees to the north of the dwelling and a paved patio area with a small, in-ground swimming pool along the western side of the building. A series of adjoined sheds adjoin the south of the dwelling. Review of the historic aerial photographs indicates that these sheds additions were constructed in approximately 1995. The sheds are currently used for storage of household items and have concrete floors, metal roofing and siding. Several large containers of hydraulic fluid and two small containers of glyphosate-based herbicide were observed in one of the sheds. No staining was observed on the floor of the shed.

The remains of a small shed exist in the southeast corner of the site underneath a large tree. The shed is constructed with wooden frames and a metal roof, the sides are currently open. The location and apparent vintage of this shed is consistent with the construction of the dwelling and two accessory buildings at the property in the 1960's. In 1995 one of the accessory buildings was demolished. It was initially assumed that both accessory buildings were demolished but evidently the view of the shed in the 1995 vintage aerial photograph was obstructed by a tree and the shed is actually still present at the site.

A large black plastic tank exists within the area of the shed. The tank is empty and there is no clear indication of what was previously contained in it. The tank had no pipe work or dispensing equipment attached to it. No specific odour was noted. There were no petroleum or oil stains on the ground in or around the shed.

Photos taken during the site walkover are presented in Appendix D.

4.0 SUMMARY AND CONCLUSIONS

A Preliminary Site Investigation of the land located at 402-406 Prestons Road in Marshland (legally known as Lot 1 DP 16442 and Lot 1 and Lot 2 DP 18708) was undertaken to satisfy the requirements of the CCC and NES (NESCS 2011) prior to the change of land use of the site.

Review of available information, which included ECan's LLUR, CCC property files, title records, and historical aerial photographs, and a site walkover and interview with the landowner identified historic land use that may have discharged contamination to the land.

A review of the property files has indicated that a garage constructed in 1965 at 406 Prestons Road was constructed with asbestos cladding material. This garage was demolished in the early 2000's. There is no record of the demolition available, so it is unknown whether the asbestos was removed prior to demolition. The garage may have also been painted with a lead paint that may have been discharged to ground, along with asbestos, during the demolition of the building.

Property files relating to the construction and extension of the residential dwelling at 402 Prestons Road in early 1960's and 1975 respectively, indicate the presence of asbestos building material which may still be present. The adjoined sheds and storage areas to the south of the dwelling at 402 Prestons Road have a number of files available relating to their construction, none of which describe any asbestos building materials.

The use and construction materials of the original two accessory buildings, constructed at the same time as the residential dwelling at 402 Prestons Road is unknown. One of these buildings was demolished in approximately 1995, the other appears to still be still existing at the site.

There were no property files available relating to the initial construction of the residential dwelling at 406 Prestons Road.

The two existing residential dwellings, one demolished historic accessory building at 402 Prestons Road and a historic garage at 406 Prestons Road all present a potential source of environmental contamination within the site soil in the form of lead paint and asbestos. This land use is associated with the HAIL category "I - any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment".

No other areas of concern with potential contamination have been identified by this Preliminary Site Investigation.

It is recommended that a Detailed Site Investigation (DSI) be undertaken, targeting the areas in and around the footprints of the historic buildings, and around the existing dwellings in order to assess if lead and/or asbestos exist in the surface soil at concentrations that present a risk to workers during the site development, or to occupants of the land during its future commercial use. The test results

would be used to assess the applicability of the NESCS 2011 as discussed above, and also provide characterisation for any surplus soil generated during the development of the site that may need to be removed from the site and reused at another site or disposed of at an appropriate off-site facility (e.g., clean fill, managed fill or landfill).

Sampling of these areas of concern would provide further information which could be used to assess the applicability of the NESCS 2011 and might result in the standard not being applicable to the site (if the soil was found to be below expected background conditions), or depending on the concentrations of contaminants in the soil, the activity may be able to be considered a permitted, controlled, or restricted discretionary activity.

Without further sampling and confirmation that no soil contaminants exist in association with possible discharge of lead or asbestos fibres in association with the former and current buildings at the site, any earthworks relating to the proposed development would likely be considered a discretionary activity under the NESCS (2011) and a consent application would be required that explains how potential contaminants in soil in the areas of concern will be tested and as appropriate remediated or managed.

5.0 REPORT LIMITATIONS

1. This document was prepared based on a site-specific scope agreed between the client and Sephira Environmental Limited which has a specific purpose and it is not intended to be used for any other purpose. This document should be read in full and we accept no responsibility for use of any part of it.
2. The methods used are those described in the report and methods not specified cannot be assumed to have been undertaken.
3. The results are based on published information and data from the site and we provide no warrantee that the conditions will be exactly as represented in the report. Due to the variability of site conditions the document cannot be held to represent a complete understanding of the site conditions and we assume no responsibility for unexpected conditions which may be discovered.
4. The document only describes the site conditions at the time the report was prepared. Changes to the site or near the site due to the effects of time or changes in legislation may occur which render the report conclusions as inapplicable.
5. The document was prepared with the standard of care generally accepted at the time it was prepared and no other warrantee is expressed or implied in regard to the conclusions of this report.
6. We accept no responsibility for the information provided to us for use in the document. It is assumed to be accurate as received regardless of the source. We have made no independent verification of the data received, beyond the agreed scope of the work.
7. We accept no responsibility to any third party or their actions related to reliance on this document. We prepared the document for the client only or for specific third parties who are authorised in the report.

8. This report does not include legal advice, which should be gained from professional practitioners.

6.0 REFERENCES

Environment Canterbury 2017. mapviewer.canterburymaps.govt.nz.

Ministry for the Environment (MfE) 2011: Contaminated Land Management Guidelines No. 1 - Guidelines for Reporting on Contaminated Sites in New Zealand.

NESCS 2011. Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. Came in force on 1 January 2012.

Appendix A – Environment Canterbury LLUR Report

Sephira ENVIRONMENTAL

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Dear Sir/Madam

Thank you for submitting your property enquiry in regards to our Listed Land Use Register (LLUR) which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The LLUR statement provided indicates the location of the land parcel(s) you enquired about and provides information regarding any LLUR sites within a radius specified in the statement of this land.

Please note that if a property is not currently entered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the LLUR. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact and Environment Canterbury Contaminated Sites Officer if you wish to discuss the contents of the LLUR statement, or if you require additional information.
For any other information regarding this land please contact Environment Canterbury Customer Services.

Yours sincerely

Contaminated Sites Team

Property Statement
from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

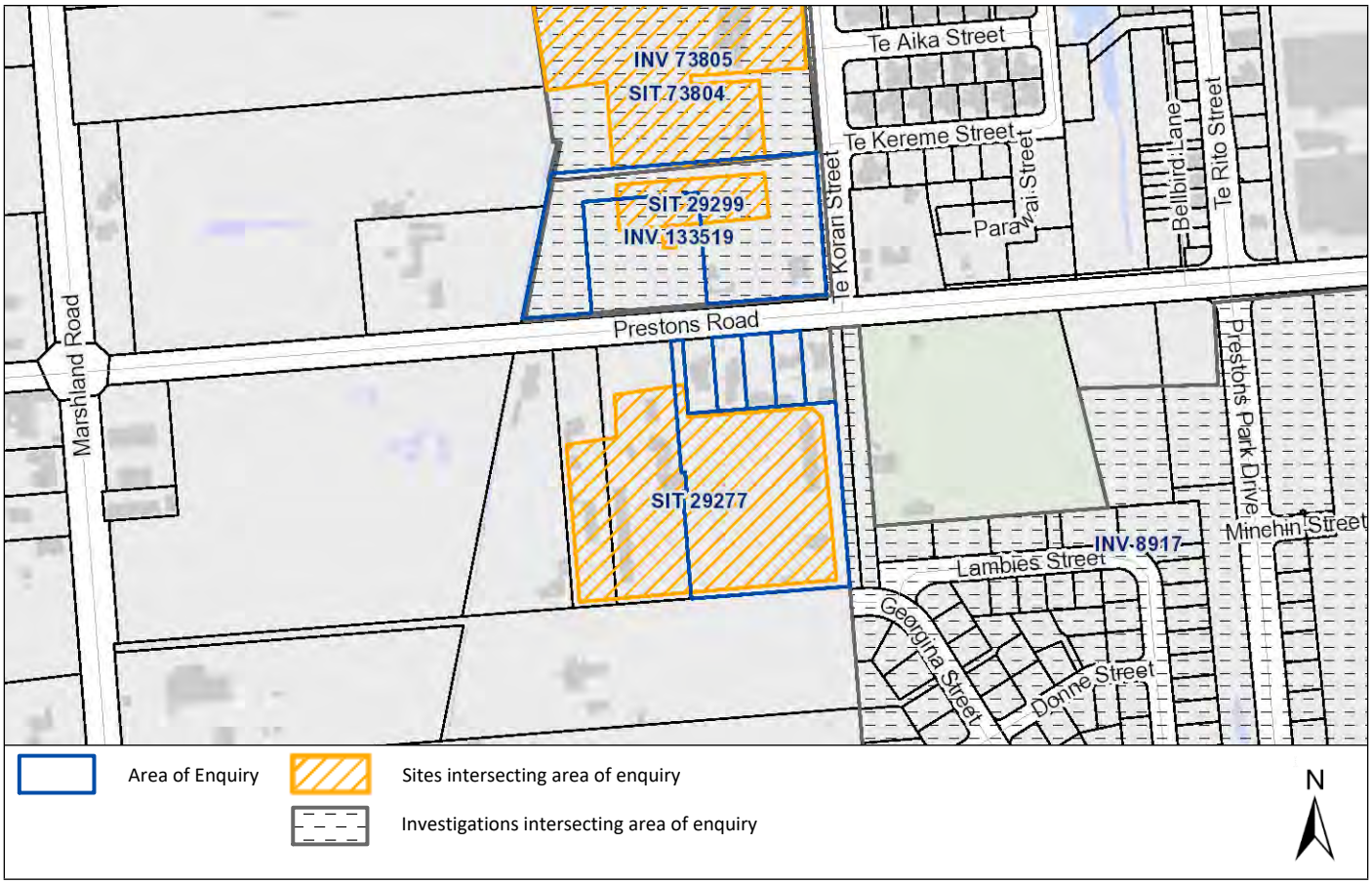
Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date:	04 November 2019	
Land Parcels:	Lot 2 DP 18707	Valuation No(s): 2180050300
	Lot 1 DP 16442	Valuation No(s): 2180050400
	Lot 3 DP 81866	Valuation No(s): 2180050102
	Lot 1 DP 18707	Valuation No(s): 2180050400
	Lot 3 DP 488684	Valuation No(s): 2180051703



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Summary of sites:

Site ID	Site Name	Location	HAIL Activity(s)	Category
29277	29277	Marshland	A11 - Pest control;	Not Investigated
29299	381 Prestons Road, Marshlands - Poultry Sheds	Prestons Road, Marshland	A11 - Pest control;	Yet to be reviewed
73804	381 Prestons Road, Redwood - Parklands	381 Prestons Road, Redwood - Parklands	A17 - Storage tanks or drums for fuel, chemicals or liquid waste;	Below guideline values - Residential

Please note that the above table represents a summary of sites and HAILs intersecting the area of enquiry only.

Information held about the sites on the Listed Land Use Register

Site 29277: 29277 (Intersects enquiry area.)

Site Address:	Marshland
Legal Description(s):	Lot 1 DP 81866,Lot 2 DP 81866,Lot 3 DP 81866

Site Category:	Not Investigated
Definition:	Verified HAIL has not been investigated.

Land Uses (from HAIL):

Period From	Period To	HAIL land use
Pre 1955	Pre 2004	Pest control including the premises of commercial pest control operators or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application

Notes:

3 Oct 2013 Area defined from: 1955- 2004 ECan Aerial Photo

Note: A poultry farm was noted in aerial photographs reviewed.

Investigations:

There are no investigations associated with this site.

Site 29299: 381 Prestons Road, Marshlands - Poultry Sheds (Intersects enquiry area.)

Site Address:	Prestons Road, Marshland
Legal Description(s):	Lot 2 DP 42373

Site Category:	Yet to be reviewed
Definition:	Investigation reports have been received for this site, but we have not yet reviewed them.

Land Uses (from HAIL):

Period From	Period To	HAIL land use
Pre 1973	2011	Pest control including the premises of commercial pest control operators or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application

Notes:

3 Oct 2013 Area defined from: 1973- 2011 ECan Aerial Photographs.

Note: A poultry farm was noted in the aerial photographs reviewed.

18 Sep 2019 Asbestos containing material was identified outside of soil sampling locations during a detailed site investigation. There is potential for further fragments to be identified on the surface of soils during proposed works and future use of the site. Due to the lack of asbestos fibres present in the soil samples collected, it is anticipated the risks posed by unexpected surface contamination discovery can be sufficiently managed by undergoing a surface visual inspection of the site prior to works commencing.

Investigations:

1 Dec 2011 **INV 8917: Environmental Site Assessment - Prestons Road Development, Prestons Road, Christchurch**
(Detailed Site Investigation)
Pattle Delamore Partners Ltd

Summary of investigation(s):

An Assessment of Environmental Effects was made to support the large residential subdivision of 153 hectares of largely agricultural land on the north side of Christchurch. The land extended north and south of the east end of Prestons Road. Previous site investigations were reviewed and soil sampling

occurred at areas of interest. Elevated concentrations of arsenic were found at defined locations and have been remediated. These areas have been given a site number with details on what has occurred at that location on Environment Canterbury's Listed Land Use Register. The remaining areas of the majority of the development found no likely sources of contamination.

1 Apr 2015 **INV 133519: 391 Prestons Road - Detailed Site investigation** (Detailed Site Investigation)
Montgomery Watson Harza

Summary of investigation(s):

Report(s) have not yet been audited.

Site 73804: 381 Prestons Road, Redwood - Parklands (Intersects enquiry area.)

Site Address:	381 Prestons Road, Redwood - Parklands
Legal Description(s):	Lot 2 DP 42373

Site Category:	Below guideline values - Residential
Definition:	Investigation results demonstrate that hazardous substances present at the site, but below applicable guidelines. - Residential

Land Uses (from HAIL):

Period From	Period To	HAIL land use
Unknown	Unknown	Storage tanks or drums for fuel, chemicals or liquid waste

Notes:

Investigations:

1 Dec 2011 **INV 8917: Environmental Site Assessment - Prestons Road Development, Prestons Road, Christchurch** (Detailed Site Investigation)
Pattle Delamore Partners Ltd

Summary of investigation(s):

An Assessment of Environmental Effects was made to support the large residential subdivision of 153 hectares of largely agricultural land on the north side of Christchurch. The land extended north and south of the east end of Prestons Road. Previous site investigations were reviewed and soil sampling occurred at areas of interest. Elevated concentrations of arsenic were found at defined locations and have been remediated. These areas have been given a site number with details on what has occurred at that location on Environment Canterbury's Listed Land Use Register. The remaining areas of the majority of the development found no likely sources of contamination.

3 Mar 2014 **INV 73805: 381 Prestons Road, Detailed Site Investigation (Contamination)** (Detailed Site Investigation)
Beca Carter Hollings and Ferner Ltd

Summary of investigation(s):

Beca Carter Hollings and Ferner Ltd were engaged to complete a detailed site investigation (DSI) at 381 Prestons Road, Burwood for the development of the property into a Primary School. At the time of the investigation the property contained a number of glasshouses used for vegetable production and a large soil stockpile (approx. 3-5 m high).

Test pits across the main site were excavated to a depth of 0.3 metres below ground level (m bgl) and soil samples were collected from 0 - 0.15 m bgl. These samples were analysed for heavy metals (arsenic, cadmium, copper, lead, mercury, nickel and zinc) and organochlorine, organonitrogen and organophosphate pesticides. Within the stockpile, test pits were excavated to 2 - 3.1 m bgl and two or three soil samples were collected from each locations. A photoionisation detector (PID) was also used to screen soil samples. Stockpile soil samples were analysed for heavy metals, total petroleum hydrocarbons (TPH) and pesticide residues.

Results were compared with National Environmental Standard (NES) Soil Contaminant Standards (SCS) for residential land use. Soil sample results from the main test site and soil stockpile were below residential SCS, with the exception of one sample collected from the stockpile where lead was detected exceeding the applicable SCS (210 mg/kg) at 360 mg/kg.

Additional soil samples were collected from beneath the stockpile following its removal in February 2015. Six test pits were excavated (a map of the test pit locations was not provided) and soil samples collected from 0.05 and 0.5 m bgl at each one. Soil samples were analysed for heavy metals and TPH. All results were below residential standards. The fate of the stockpile material was not discussed in the reports but subsequent discussions with the consultant indicated that the soil was deposited at 329 Prestons Road.

The site has been categorised as 'below guideline values - residential'

Justification: The stockpiled soil has been excavated and removed from the site. Soil remaining in-situ across the footprint of the former stockpile has been validated. Although a sample map of the validation soil sample locations was not provided, the location of the stockpile was indicated in the original DSI. The site is considered to be adequately investigated.

1 Apr 2015 **INV 133519: 391 Prestons Road - Detailed Site investigation** (Detailed Site Investigation)
Montgomery Watson Harza

Summary of investigation(s):

Report(s) have not yet been audited.

Information held about other investigations on the Listed Land Use Register

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ246736.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Listed Land Use Register

What you need to know

Everything is connected

What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Section 30 of the Resource Management Act (RMA, 1991) requires Environment Canterbury to investigate, identify and monitor contaminated land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MfE). This is called the Hazardous Activities and Industries List (HAIL)[1]. The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

We have two main ways of identifying HAIL sites:

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

[1] The Hazardous Activities and Industries List (HAIL) can be downloaded from MfE's website www.mfe.govt.nz, keyword search HAIL

How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR. The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

Please refer to the Site Categories and Definitions factsheet for further information.

What does Environment Canterbury do with the information on the LLUR?

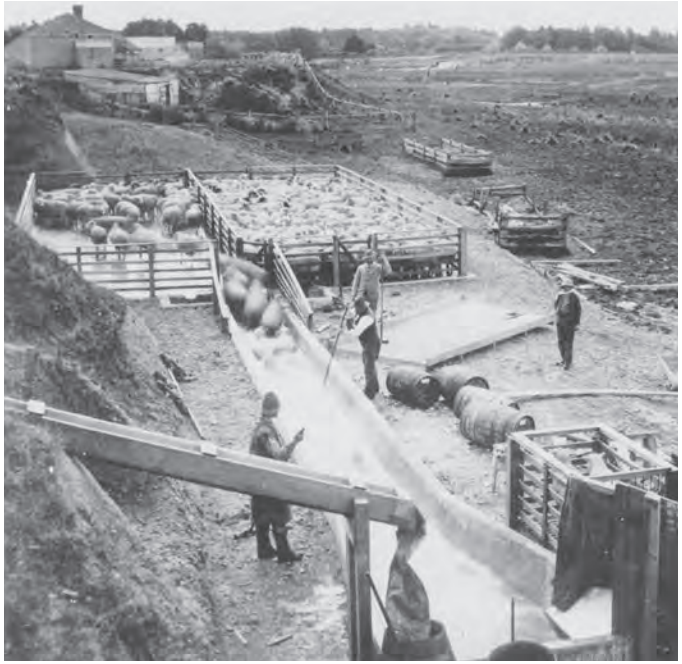
The LLUR is available online at www.llur.ecan.govt.nz. We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit www.ecan.govt.nz/HAIL.

IMPORTANT!

The LLUR is an online database which we are continually updating. A property may not currently be registered on the LLUR, but this does not necessarily mean that it hasn't had a HAIL use in the past.



Sheep dipping (ABOVE) and gas works (TOP) are among the former land uses that have been identified as potentially hazardous. (Photo above by Wheeler & Son in 1987, courtesy of Canterbury Museum.)

My land is on the LLUR – what should I do now?

IMPORTANT! Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn't necessarily mean it's contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on www.ecan.govt.nz/HAIL.

I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (eg. a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will be not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.

Contact us

Property owners have the right to look at all the information Environment Canterbury holds about their properties.

It is free to check the information on the LLUR, online at www.llur.ecan.govt.nz.

If you don't have access to the internet, you can enquire about a specific site by phoning us on (03) 353 9007 or toll free on 0800 EC INFO (32 4636) during business hours.

Contact Environment Canterbury:

Email: ecinfo@ecan.govt.nz

Phone:
Calling from Christchurch: (03) 353 9007
Calling from any other area: 0800 EC INFO (32 4636)

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Everything is connected

Promoting quality of life through balanced resource management.

www.ecan.govt.nz E13/101

Listed Land Use Register

Site categories and definitions

When Environment Canterbury identifies a Hazardous Activities and Industries List (HAIL) land use, we review the available information and assign the site a category on the Listed Land Use Register. The category is intended to best describe what we know about the land use.

If a site is categorised as **Unverified** it means it has been reported or identified as one that appears on the HAIL, but the land use has not been confirmed with the property owner.

If the land use has been confirmed but analytical information from the collection of samples is not available, and the presence or absence of contamination has therefore not been determined, the site is registered as:

Not investigated:

- A site whose past or present use has been reported and verified as one that appears on the HAIL.
- The site has not been investigated, which might typically include sampling and analysis of site soil, water and/or ambient air, and assessment of the associated analytical data.
- There is insufficient information to characterise any risks to human health or the environment from those activities undertaken on the site. Contamination may have occurred, but should not be assumed to have occurred.

If analytical information from the collection of samples is available, the site can be registered in one of six ways:

At or below background concentrations:

The site has been investigated or remediated. The investigation or post remediation validation results confirm there are no hazardous substances above local background concentrations other than those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterise the site.

Below guideline values for:

The site has been investigated. Results show that there are hazardous substances present at the site but indicate that any adverse effects or risks to people and/or the environment are considered to be so low as to be acceptable. The site may have been remediated to reduce contamination to this level, and samples taken after remediation confirm this.

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Managed for:

The site has been investigated. Results show that there are hazardous substances present at the site in concentrations that have the potential to cause adverse effects or risks to people and/or the environment. However, those risks are considered managed because:

- the nature of the use of the site prevents human and/or ecological exposure to the risks; and/or
- the land has been altered in some way and/or restrictions have been placed on the way it is used which prevent human and/or ecological exposure to the risks.

Partially investigated:

The site has been partially investigated. Results:

- demonstrate there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment; or
- do not adequately verify the presence or absence of contamination associated with all HAIL activities that are and/or have been undertaken on the site.

Significant adverse environmental effects:

The site has been investigated. Results show that sediment, groundwater or surface water contains hazardous substances that:

- have significant adverse effects on the environment; or
- are reasonably likely to have significant adverse effects on the environment.

Contaminated:

The site has been investigated. Results show that the land has a hazardous substance in or on it that:

- has significant adverse effects on human health and/or the environment; and/or
- is reasonably likely to have significant adverse effects on human health and/or the environment.

If a site has been included incorrectly on the Listed Land Use Register as having a HAIL, it will not be removed but will be registered as:

Verified non-HAIL:

Information shows that this site has never been associated with any of the specific activities or industries on the HAIL.

Please contact Environment Canterbury for further information:

(03) 353 9007 or toll free
on 0800 EC INFO (32 4636)
email ecinfo@ecan.govt.nz

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

E13/102

Appendix B – Historical Aerial Photographs

Sephira ENVIRONMENTAL

Figure B-1. 1940-1944 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-2 1955-1960 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-3 1960-1964 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-4 1965-1969 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-5 1970-1974 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-6 1980-1984 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

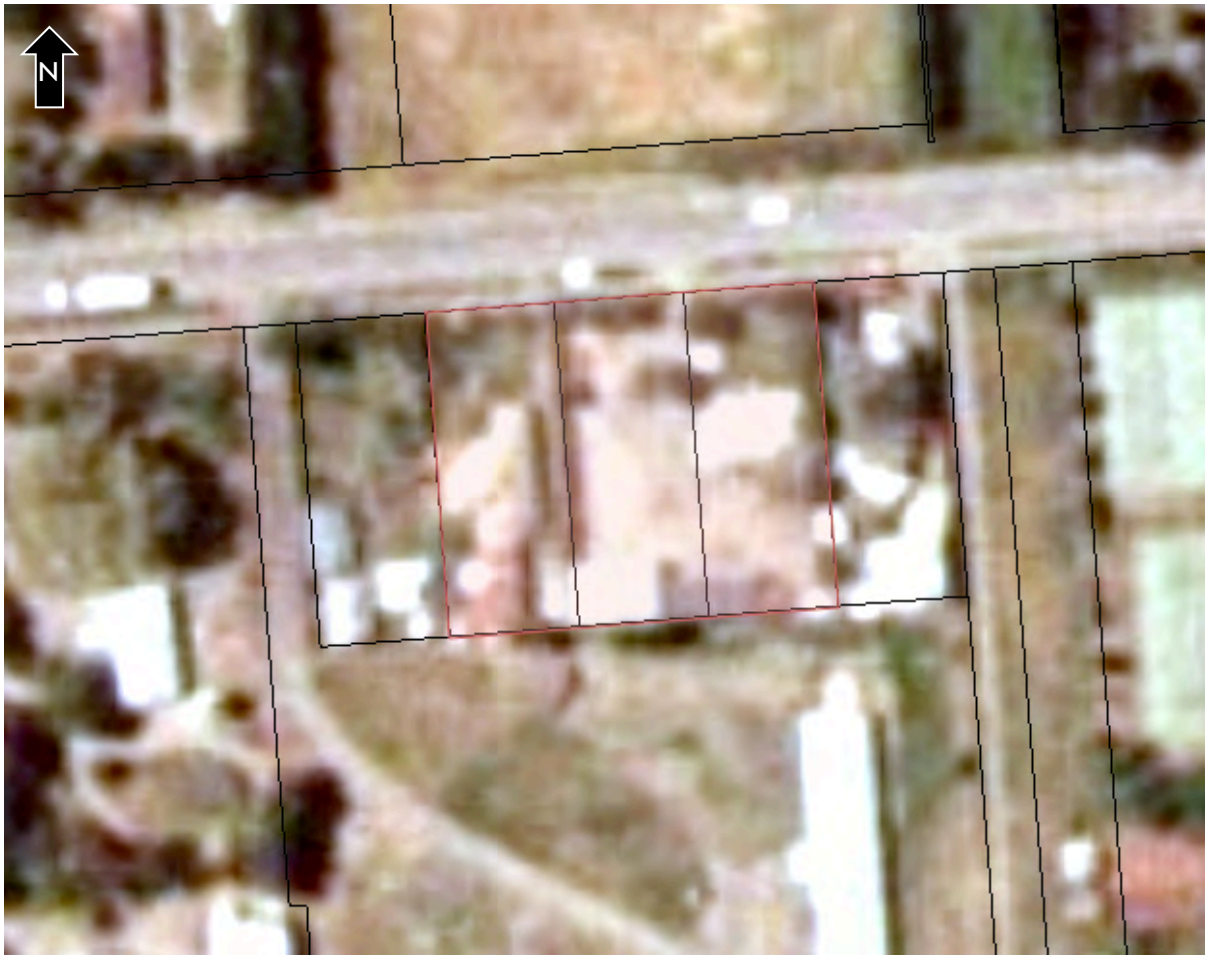


Figure B-7 2000-2004 Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Figure B-8 Latest Imagery Aerial Photograph 402-406 Prestons Road, Marshland (source: canterburymaps.govt.nz)

Appendix C – LINZ Title Records

Sephira ENVIRONMENTAL

NEW ZEALAND.

Reference: Land Transfer (Compulsory Registration of Titles) Act, 1924.
Deeds Index. 8C/3.1065
Application No. C. 4739

Register-book,
Vol. 392 , folio 109
~~PART~~ CANCELLED.

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

LIMITED AS TO PARCELS AND ~~TITLE~~

CANCELLED

This Certificate, dated the Twenty-second day of March one thousand nine hundred and Twenty-seven under the hand and seal of the District Land Registrar of the Land Registration District of Canterbury Witnesseth that JOSEPH ERNEST ALEXANDRE and FRANCIS GEORGE HORACE ALEXANDRE both of Marshlands Farmers and WALTER HENRY ALEXANDRE of Southbridge Farmer are

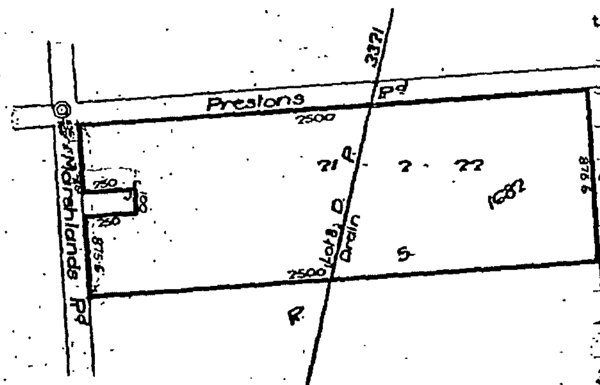
is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial under written or endorsed hereon, subject also to any existing right of the Crown to take and lay off roads under the provisions of any Act of the General Assembly 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 TWENTY-ONE ACRES TWO ROODS AND TWENTY-TWO PERCHES or thereabouts situated in Blocks VII and VIII of the Christchurch Survey District being part of Rural Section 1682 and Lot 8 on plan deposited in the Land Registry Office at Christchurch as No. 3321 part of Rural Section 1682

F. W. Broughton
District Land Registrar.

Image Quality due to Condition of Original

Outstanding Deed of Conveyance No. 76325 (116/890) registered 28th April 1887 at 3 p.m. creating Drainage Rights over part and appurtenant to the whole of the above described land F. W. Broughton D.L.R.

Outstanding Grant of Easement No. 112306 (178/209) registered 9th January 1912 at 3.30 p.m. creating Drainage Rights over Lot 8 plan 3321 and appurtenant to the whole of the above described land Henry Alexandre to The Christchurch Drainage Board F. W. Broughton D.L.R.



Lease 8406 produced 8 September 1927 at 2.50 pm Joseph Ernest Alexandre Francis George Horace Alexandre and Walter Henry Alexandre to Allan Firth Roberts for 5 years from 1 January 1928 with Right of Renewal

Lease 9291 produced 23 June 1931 at 2.45 pm Joseph Ernest Alexandre, Francis George Horace Alexandre and Walter Henry Alexandre to Clarence Douglas Palmer for 7 years from 1 January 1931

SURRENDERED

Plan 17069

Scale 5 Chains to an Inch.

over

342/109

Lease 10213 produced 16th October 1936 at 11.55 am Joseph Ernest Alexandre, Francis George Horace Alexandre, and Walter Henry Alexandre to Francis William Palmer for 5 years from 1st July 1936.

Transfer 261823 produced 17 April 1945 entered 19 ... at 11.50 am. Joseph Ernest Alexandre and others to Jack Irvington Isley of Lot ... Plan 13647 Freed from the above limitation as to Parcels.

484/157

PART CANCELLED.

* Transfer 279108 produced 26 August 1947 at 2.35 pm Joseph Ernest Alexandre and others to Frank Stewart Sanders and John Keith Sanders of Lot 1 Plan 13469 as tenants in common in equal shares. Freed from Limitation as to Parcels.

506/42

* The above limitation as to Title has been removed this 15 day of September 1947

315761 Transfer of Lot 2 plan 13469 the above proprietors to Alexander McKie Gibbs of Christchurch Contractor produced 22 December 1948 at 12.2 pm

315762 Transfer of part Lot 2 plan 13469 Alexander McKie Gibbs to Keith James Kerr produced 22 December 1948 at 12.3 pm

526/103

Cancelled as to balance of Lot 2 plan 13469 and new C.T. Vol 525 fol 104 issued (N/C 315763)

438720 Transmission as to balance to the above named Walter Henry Alexandre and Francis George Horace Alexandre entered 28 May 1956 at 3 pm

Transmission 478774 to the above named Francis George Horace Alexandre entered 30/4/1958 at 12.20 p. Balance

Transfer 478775 Francis George Horace Alexandre to the said Francis George Horace Alexandre and Geoffrey Beauchamp Sanders of Christchurch Law Clerk produced 30/4/1958 at 12.25 pm Balance

C/T 753/20

Cancelled

(Land and Deeds—4.

Form B.

NEW ZEALAND

Reference: Vol. 392, Folio 109; Transfer No. 315762; Application No.; Order for N/C No.

Register-book. Vol. 525, folio 103

PART CANCELLED.

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

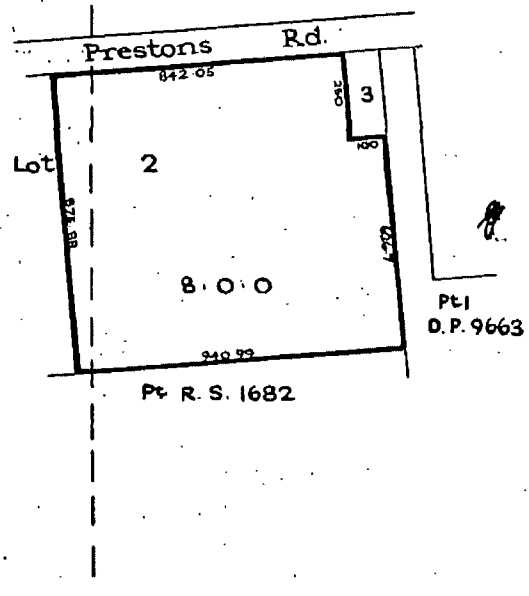
This Certificate, dated the Twenty-second day of December, one thousand nine hundred and forty-nine under the hand and seal of the District Land Registrar of the Land Registration District of Canterbury Witnesseth that KEITH JAMES KERR of New Brighton Coppersmith

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 EIGHT ACRES or thereabouts situated in Blocks VII and VIII of the Christchurch Survey District being part of Lot 2 on Deposited Plan No. 13469 part of Rural Section 1682

CANTERBURY DISTRICT LAND REGISTRY NEW ZEALAND

Assistant District Land Registrar.

Christchurch S.D.



Scale. 3 chains to an inch.

Subject to and together with the Drainage Rights created by Conveyance 76325 (116/890)

A.L.R.

319191 Mortgage Keith James Kerr to the State Advances Corporation of New Zealand produced 5 April 1950 at 2.47 p.m.

330282 Memorandum of the terms of Mortgage 319191 to the State Advances Corporation of New Zealand produced 27th October 1950 at 11.26 a.m.

330283 Mortgage Keith James Kerr to the State Advances Corporation of New Zealand produced 27th October 1950 at 11.26 a.m.

371274 Transfer of Lot 1 Plan 16402 Keith James Kerr to Leslie Bruce Nibbard produced 28th December 1952 at 10.20 a.m.

Fencing Covenant (discharged from Mortgages 319191, 330282 and 330283) 568774

Part Cancelled

Cancelled as to Balance and N.C. Vol. 572 Folio 42 issued

N.C.O. 373004

(Land and Deeds—4.

NEW ZEALAND

Form B.

Reference: Vol. 392, Folio 109; Transfer No. 315762; Application No.; Order for N/C No.

Register-book. Vol. 525, folio 103

PART CANCELLED.

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

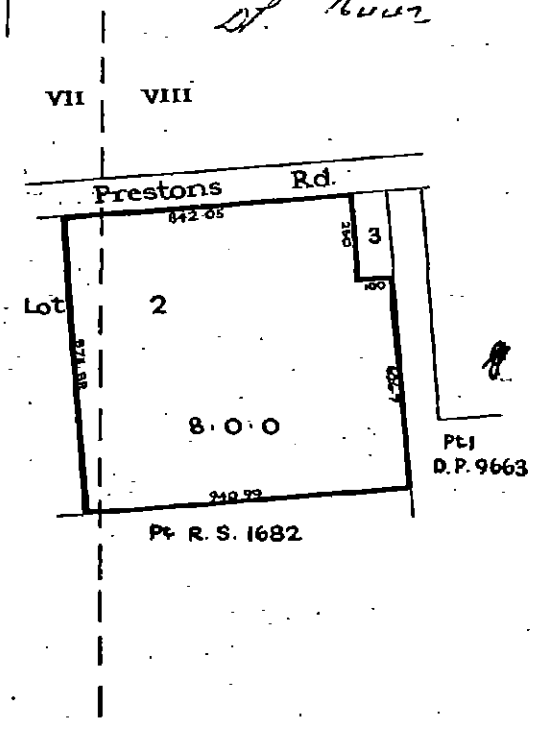
This Certificate, dated the Twenty-second day of December, one thousand nine hundred and forty-nine under the hand and seal of the District Land Registrar of the Land Registration District of Canterbury Witnesseth that KEITH JAMES KERR of New Brighton Cornersmith

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 EIGHT ACRES or thereabouts situated in Blocks VII and VIII of the Christchurch Survey District being part of Lot 2 on Deposited Plan No. 13469 part of Rural Section 1682

CANTERBURY DISTRICT LAND REGISTRY NEW ZEALAND

Assistant District Land Registrar.

Christchurch S. D.



Scale 3 chains to an inch.

Subject to and together with the Drainage Rights created by Conveyance 76325 (116/890) A.L.R.

319191 Mortgage Keith James Kerr to The State Advances Corporation of New Zealand produced 5 April 1950 at 2.47 p.m.

330282 Memorandum of the terms of Mortgage 319191 the above to The State Advances Corporation of New Zealand produced 27th October 1950 at 11.26 a.m.

330283 Mortgage Keith James Kerr to The State Advances Corporation of New Zealand produced 27th October 1950 at 11.26 a.m.

371274 Transfer of Lot 1 Plan 16402 Keith James Kerr & Leslie Bruce Kibbard produced 23rd December 1952 at 10.20 a.m. Fencing Covenant (Discharged from Mortgages 319191, 330282 and 330283) 568/14

Part Cancelled

Cancelled as to Balance and N.C. Vol. 572 Folio 42 issued

M.C.O. 373004

Cancelled.

Land and Deeds—4
FORM No. 2

Reference: Vol. 572, Folio 42
Transfer No.
Order for N/C No. 453701

Register-book,
Vol. 707, folio 80

NEW ZEALAND

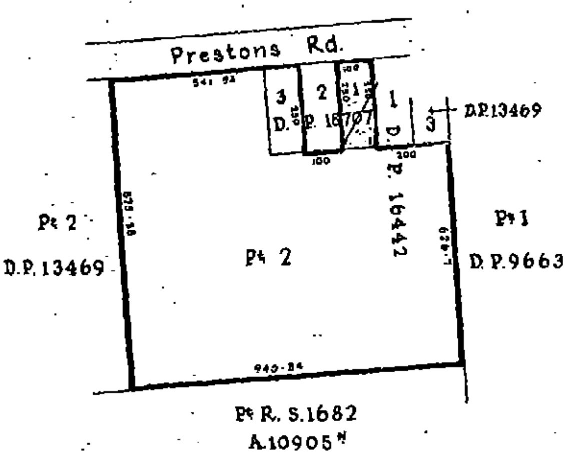
CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate, dated the Twentieth day of February, one thousand nine hundred and fifty-seven under the hand and seal of the District Land Registrar of the Land Registration District of Canterbury Witnesseth that KEITH JAMES KERR of New Brighton Coppersmith ———

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 SEVEN ACRES ONE ROOD THIRTY-NINE PERCHES AND NINE-TENTHS OF A PERCH or thereabouts situated in Blocks VII and VIII of the Christchurch Survey District being part Lot 2 on Deposited Plan 16442 and Lots 1 and 3 on Deposited Plan No. 18707 part of Rural Section 1682 ———

District Assistant Land Registrar.

CANCELLED
[illegible] COLOURED [illegible]



Total Area: 7·1·39 9/10

Scale: 3 chains to an inch

Subject to and together with the Drainage Rights created by Conveyance 76325 (116 D 890)
A.L.R.

319191 Mortgage, Keith James Kerr to The State Advances Corporation of New Zealand Produced 5 April, 1950 at 2.47 p.m.
A.L.R.

330282 Mortgage, Varying the terms of Mortgage 319191 Keith James Kerr to The State Advances Corporation of New Zealand Produced 27 October, 1950 at 11.26 a.m.
A.L.R.

330283 Mortgage Keith James Kerr to The State Advances Corporation of New Zealand Produced 27 October, 1950 at 11.28 a.m.
DISCHARGE PRODUCED
A.L.R.

437143 Caveat Against Lots 1 and 3 D.P. 18707 by The Chairman, Councillors and Inhabitants of the County of Waimairi Entered 2 Nov. 1956 at 12.10 p.m.
A.L.R.

Transfer 509202 of Lot 3 D.P. 18707 discharging from Mortgages 319191 and 330282 Keith James Kerr to Leslie Bruce Hibbard (Grazing Licensee) produced 25/9/1959 at 9.57 am
811/49
A.L.R.

Mortgage 603552 to Gladys Noel Martin 28.6.1963 at 9.43 a.m.
A.L.R.

Discharge of Mortgage 603552 as to Lot 3 D.P. 18707 herein. 26.8.1968 at 2.55 pm.
A.L.R.

over

707/80

Discharge of Mortgage 391191 as to lot 3 D.P. 18707 herein - 26·8·1968 at 2·55 pm

A. Thomas ALR.

Discharge of Mortgage 330282 as to lot 3 D.P. 18707 herein - 26·8·1968 at 2·55 pm

A. Thomas ALR

Transfer 744794 of Lot 3 D.P. 18707 herein to Kevin James Kerr - (Fencing Covenant) - 26·8·1968 at 2·55 pm

~~8A/1938~~
8B/218

A. Thomas ALR

NCO 744272 26·8·1968 - Cancelled as to balance (lot 2 DP 16442 herein) and new C.T. 8A/1319 issued

A. Thomas A.L.R.

Cancelled
Duplicate Destroyed

[Land and Deeds—4
FORM B.

Register-book,
Vol. 572 , folio 42

— ~~PART~~ CANCELLED —

Reference: Vol. 525 , Folio 103
Transfer No.
Order for N/C No. 373004

NEW ZEALAND

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate, dated the Thirteenth day of February , one thousand nine hundred and fifty-three under the hand and seal of the District Land Registrar of the Land Registration District of Canterbury Witnesseth that KEITH JAMES KERR of New Brighton Coppersmith ——

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 SEVEN ACRES TWO ROODS THIRTY-NINE PERCHES AND NINE-TENTHS OF A PERCH or thereabouts situated in Blocks VII and VIII of the Christchurch Survey District being Lot 2 on Deposited Plan No. 16442 part of Rural Section 1682 ——

CANTERBURY DISTRICT LAND REGISTRAR NEW ZEALAND

[signature] Assistant ~~District~~ Land Registrar.

Subject to and together with the Drainage Rights created by Conveyance 76325 (116/890).

[signature] A.L.R.

319191 Mortgage Keith James Kerr to The State Advances Corporation of New Zealand produced 5 April 1950 at 2.47 p.m.

[signature] A.L.R.

330282 Mortgage Variation of the terms of Mortgage 319191 Keith James Kerr to The State Advances Corporation of New Zealand produced 27 October 1950 at 11.26 a.m.

[signature] A.L.R.

330283 Mortgage Keith James Kerr to The State Advances Corporation of New Zealand produced 27 October 1950 at 11.28 a.m.

[signature] A.L.R.

437143 Caveat by The Chairman Councillors and Inhabitants of The County of Waimairi entered 2 May 1956 at 12.10 pm Affects Lots 1 & 3 Plan 18707.

[signature]

449278 Transfer of Lot 2 Plan 18707 Discharged from Mortgages 319191, 330282 and 330283 Keith James Kerr to Kevin Hugh Shanks Produced 22 November 1956 at 10.44 a.m. (Fencing Covenant) CT 699/53 issued.

[signature] A.L.R.

— PART CANCELLED —

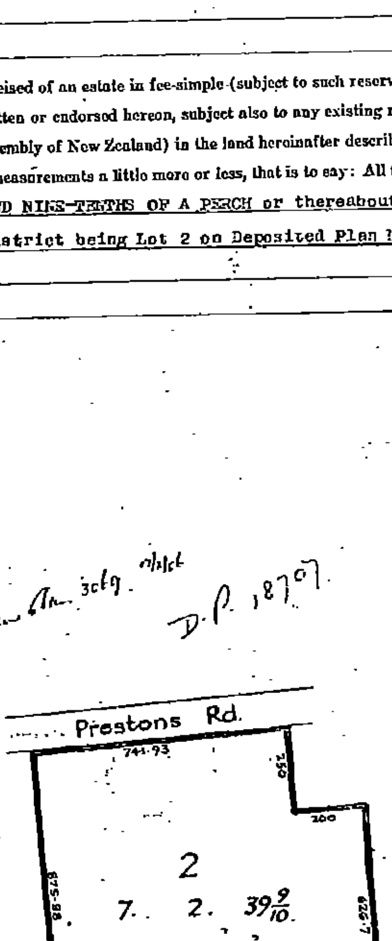
Cancelled as to balance and CT Vol 707 Folio 80 issued
Ref 453701 – 20/2/57

[signature] A.L.R.

Cancelled

Selw. An. 3069 [illegible]

D.P. 18707



Scale: 3 chains to an inch.

572/042

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB8B/218**
Land Registration District	**Canterbury**
Date Issued	26 August 1968

Prior References
CB707/80

Estate	Fee Simple
Area	1012 square metres more or less
Legal Description	Lot 3 Deposited Plan 18707
Registered Owners	

Prestons Road Investments Limited

Interests

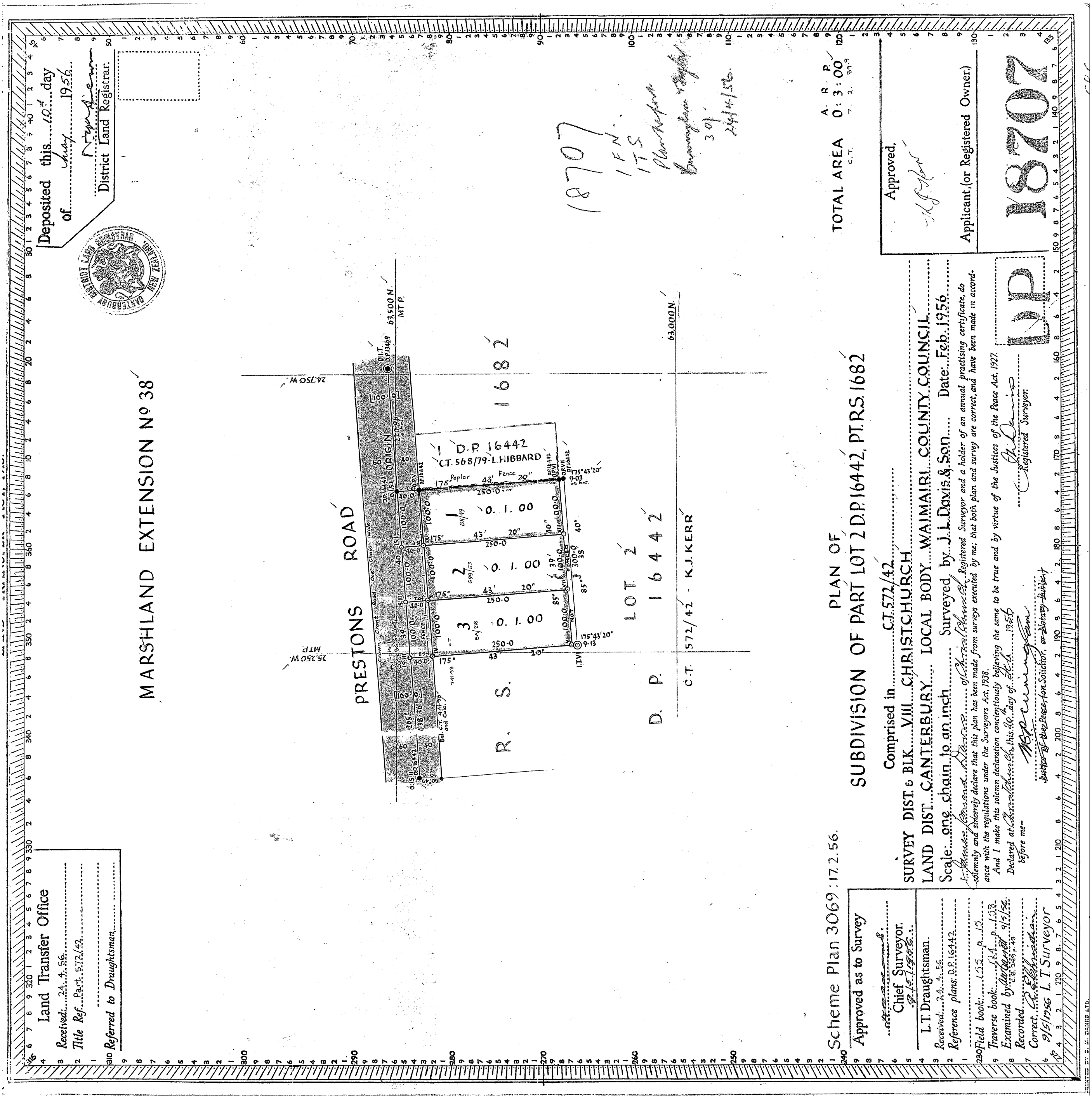
Subject to drainage rights over the within land created by Deed of Easement 76325 (116 D 890)

Appurtenant hereto are drainage rights created by Deed of Easement 76325 (116 D 890)

Fencing Provision in Transfer 744794 - 26.8.1968

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by YEC 76325 - 15.9.2015 at 2:38 pm

12941514.3 Mortgage to ASB Bank Limited - 8.3.2024 at 1:37 pm


MARSHLAND EXTENSION No 38
PRESTONS ROAD
R. S. 1682
D. P. 16442
LOT 2
C.T. 572/42 - K.J. KERR
D.P. 16442
C.T. 568/79 - L. HIBBARD
0. 1. 00
PLAN OF
SUBDIVISION OF PART LOT 2 D.P. 16442, PT. R.S. 1682
Comprised in C.T. 572/42
SURVEY DIST. & BLK. VIII CHRISTCHURCH
LAND DIST. CANTERBURY LOCAL BODY WAIMAIRI COUNTY COUNCIL
Scale: one chain to an inch Surveyed by J. L. Davis & Son Date: Feb. 1956
TOTAL AREA 0 : 3 : 00
Approved,
Applicant, (or Registered Owner.)
DP 18707
Deposited this 10th day of May 1956
District Land Registrar.
Land Transfer Office
Approved as to Survey
Chief Surveyor.
L.T. Draughtsman.
L.T. Surveyor
Scheme Plan 3069 : 17.2.56.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier **CB47B/264**

Land Registration District **Canterbury**

Date Issued 16 December 1999

Prior References
CB8A/1319

Estate Fee Simple

Area 5286 square metres more or less

Legal Description Lot 1 Deposited Plan 81866

Registered Owners

Ferrymead Properties Limited

Interests

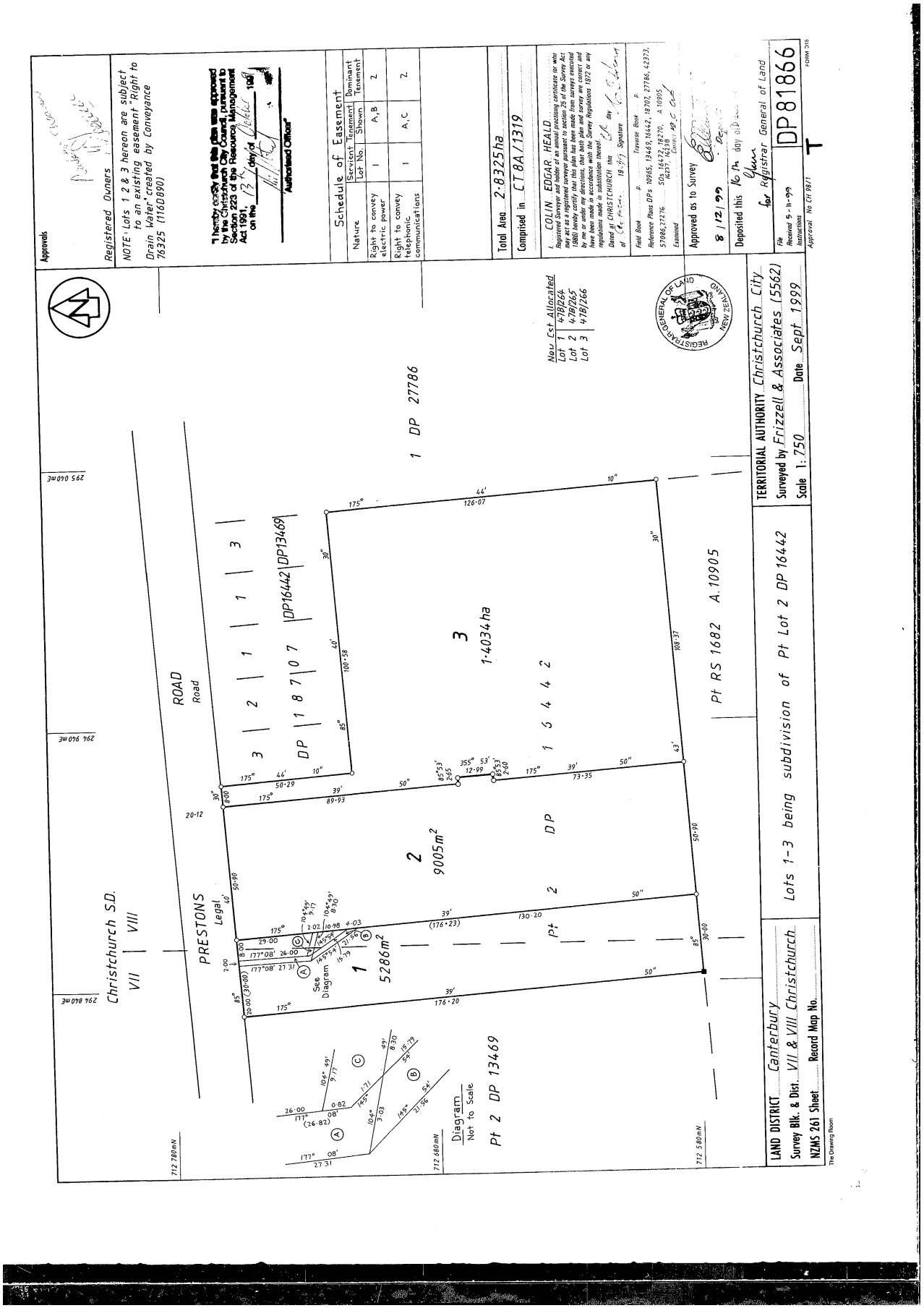
Appurtenant hereto is a right to drain water created by Deed of Easement 76325 (116 D 890)

Subject to a right to drain water over part herein created by Deed of Easement 76325 (116 D 890)

A437743.2 Easement Certificate specifying the following easements - produced 10.12.1999 at 9.00 am and entered 16.12.1999 at 2.06 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Electric power	Lot 1 Deposited Plan 81866 - herein	A DP 81866	Lot 2 Deposited Plan 81866 - CT CB47B/265	
Electric power	Lot 1 Deposited Plan 81866 - herein	B DP 81866	Lot 2 Deposited Plan 81866 - CT CB47B/265	
Telephonic communications	Lot 1 Deposited Plan 81866 - herein	A DP 81866	Lot 2 Deposited Plan 81866 - CT CB47B/265	
Telephonic communications	Lot 1 Deposited Plan 81866 - herein	C DP 81866	Lot 2 Deposited Plan 81866 - CT CB47B/265	

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by YEC 76325 - 15.9.2015 at 2:38 pm


Approvals
Registered Owners
NOTE: Lots 1 2 & 3 hereon are subject to an existing easement "Right to Drain Water" created by Conveyance 76325 (116D890)
"I hereby certify that this plan was approved by the Christchurch City Council, pursuant to Section 223 of the Resource Management Act 1991, on the 12th day of October 1999"
Authorised Officer
Schedule of Easement
Nature | Servient Tenement Lot No. | Dominant Tenement Shown
Right to convey electric power | 1 | A,B | 2
Right to convey telephonic communications | 1 | A,C | 2
Total Area 2·8325ha
Comprised in CT 8A/1319
I COLIN EDGAR HEALD
Dated at CHRISTCHURCH this 19th day
Field Book p Traverse Book p
Reference Plans DPs 10965, 13469, 16442, 18707, 27786, 42373, 57086, 27276 SOs 16472, 18270, A 10905, 16297, 16238
Examined
Approved as to Survey
8/12/99
Deposited this 16th day
for Registrar General of Land
File
Received 5-11-99
Instructions
Approval No CH 98/1
DP 81866
FORM 315
TERRITORIAL AUTHORITY Christchurch City
Surveyed by Frizzell & Associates (5562)
Scale 1:750
Date Sept 1999
LAND DISTRICT Canterbury
Survey Blk. & Dist. VII & VIII Christchurch
NZMS 261 Sheet Record Map No.
Lots 1-3 being subdivision of Pt Lot 2 DP 16442
New Cst Allocated
Lot 1 478/264
Lot 2 478/265
Lot 3 478/266
1 DP 27786
DP 18707 DP16442 DP13469
DP 15442
Pt RS 1682 A.10905
Pt 2 DP 13469
ROAD
Road
PRESTONS
Legal
Christchurch S.D.
VII VIII
1 5286m²
2 9005m²
3 1·4034ha
Diagram
Not to Scale
See Diagram
The Drawing Room

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General of Land

Identifier **CB47B/265**
Land Registration District **Canterbury**
Date Issued 16 December 1999

Prior References
CB8A/1319

Estate Fee Simple
Area 9005 square metres more or less
Legal Description Lot 2 Deposited Plan 81866
Registered Owners
Ferrymead Properties Limited

Interests

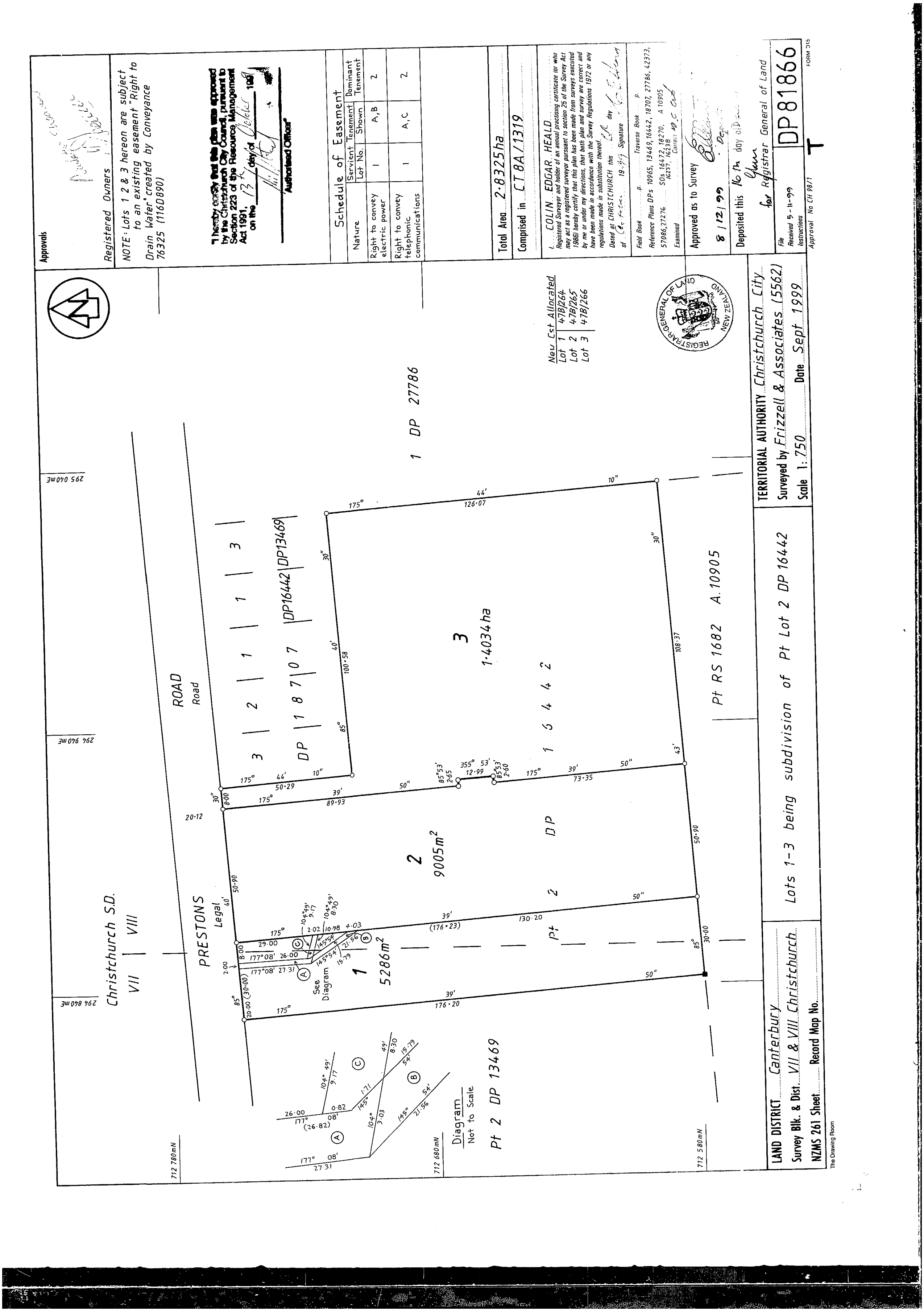
Appurtenant hereto is a right to drain water created by Deed of Easement 76325 (116 D 890)

Subject to a right to drain water over part herein created by Deed of Easement 76325 (116 D 890)

A437743.2 Easement Certificate specifying the following easements - 16.12.1999 at 2.06 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Telephonic communications	Lot 1 Deposited Plan 81866 - CT CB47B/264	A DP 81866	Lot 2 Deposited Plan 81866 - herein	
Telephonic communications	Lot 1 Deposited Plan 81866 - CT CB47B/264	C DP 81866	Lot 2 Deposited Plan 81866 - herein	
Electric power	Lot 1 Deposited Plan 81866 - CT CB47B/264	A DP 81866	Lot 2 Deposited Plan 81866 - herein	
Electric power	Lot 1 Deposited Plan 81866 - CT CB47B/264	B DP 81866	Lot 2 Deposited Plan 81866 - herein	

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by YEC 76325 - 15.9.2015 at 2:38 pm


DP 81866
Lots 1-3 being subdivision of Pt Lot 2 DP 16442
TERRITORIAL AUTHORITY Christchurch City
Surveyed by Frizzell & Associates (5562)
Scale 1: 750
Date Sept 1999
LAND DISTRICT Canterbury
Survey Blk. & Dist. VII & VIII Christchurch
NZMS 261 Sheet
Record Map No.
Total Area 2·8325 ha
Comprised in CT 8A/1319
Schedule of Easement
Nature
Servient Tenement Lot No.
Shown
Dominant Tenement
Right to convey electric power
1
A, B
2
Right to convey telephonic communications
1
A, C
2
NOTE: Lots 1 2 & 3 hereon are subject to an existing easement "Right to Drain Water" created by Conveyance 76325 (116D890)
Registered Owners
Approvals
Authorised Officer
New Cst Allocated
Lot 1 47B/264
Lot 2 47B/265
Lot 3 47B/266
COLIN EDGAR HEALD
Approved as to Survey
8/12/99
Deposited this 16th day of
for Registrar General of Land
PRESTONS ROAD
Legal 40
Christchurch S.D.
VII
VIII
1 DP 27786
3 DP 18707
DP16442
DP13469
1
5286 m²
2
9005 m²
3
1·4034 ha
Pt 2 DP 15442
Pt RS 1682 A.10905
Pt 2 DP 13469
Diagram Not to Scale
See Diagram

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB47B/266**
Land Registration District	**Canterbury**
Date Issued	16 December 1999

Prior References
CB8A/1319

Estate	Fee Simple
Area	1.4034 hectares more or less
Legal Description	Lot 3 Deposited Plan 81866
Registered Owners	

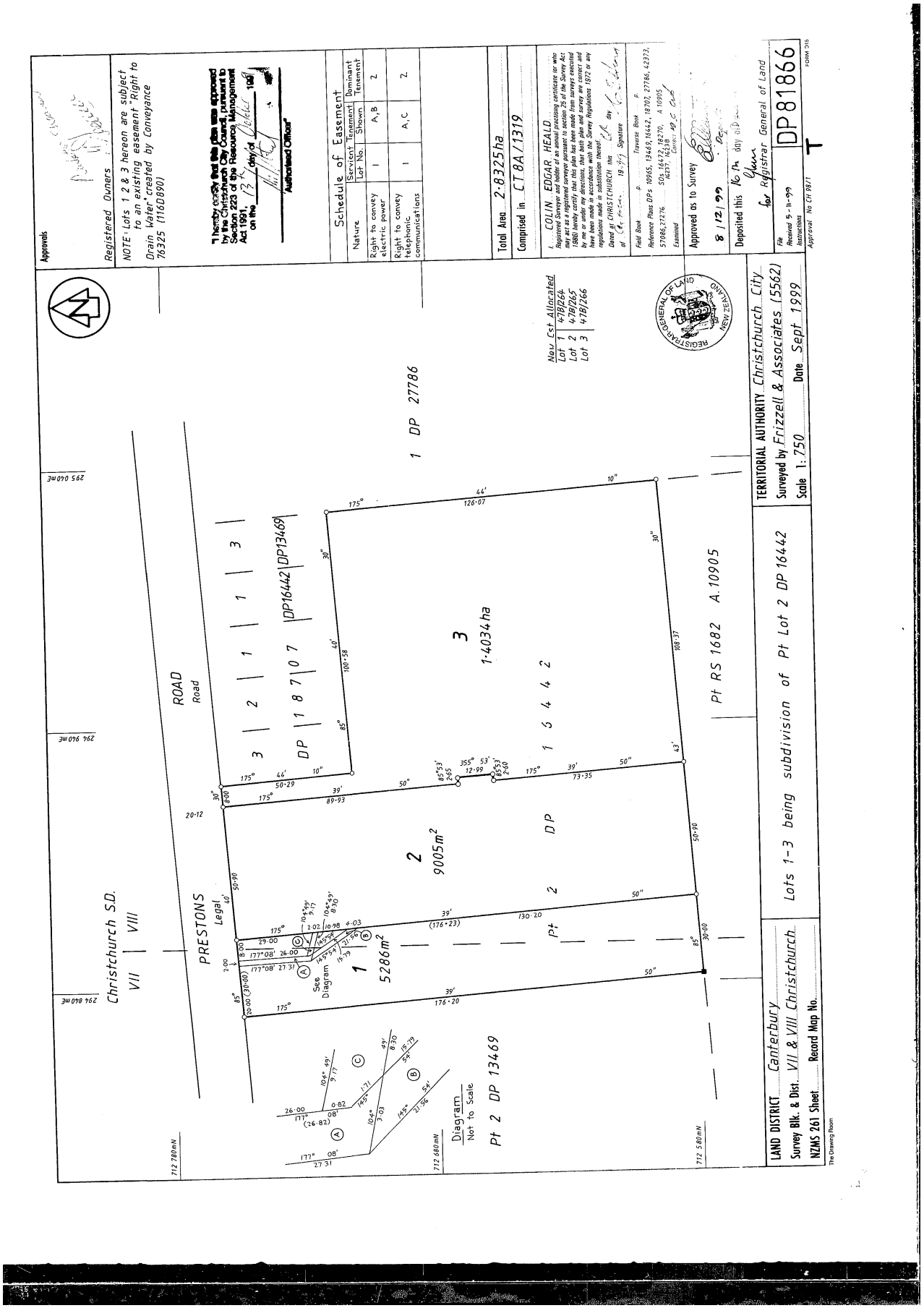
Ferrymead Properties Limited

Interests

Appurtenant hereto is a right to drain water created by Deed of Easement 76325 (116 D 890)

Subject to a right to drain water over part herein created by Deed of Easement 76325 (116 D 890)

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by YEC 76325 - 15.9.2015 at 2:38 pm


Approvals
Registered Owners
NOTE: Lots 1 2 & 3 hereon are subject to an existing easement "Right to Drain Water" created by Conveyance 76325 (116D890)
"I hereby certify that this plan was approved by the Christchurch City Council, pursuant to Section 223 of the Resource Management Act 1991, on the 12th day of October 1999"
Authorised Officer
Schedule of Easement
Nature | Servient Tenement Lot No. | Dominant Tenement Shown
Right to convey electric power | 1 | A,B | 2
Right to convey telephonic communications | 1 | A,C | 2
Total Area 2·8325ha
Comprised in CT 8A/1319
I COLIN EDGAR HEALD
Registered Surveyor and holder of an annual practising certificate or who may act as a registered surveyor pursuant to the Chief Surveyor Act 1908 hereby certify that this survey was made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof
Dated at CHRISTCHURCH this 19th day of
Signature
Field Book p Traverse Book p
Reference Plans DPs 10965, 13469, 16442, 18707, 27786, 42373, 57086, 27276 SOs 16472, 18270, A.10905
Examined 16237, 16238
Approved as to Survey
8/12/99
Deposited this 16th day of October 1999
for Registrar General of Land
File
Received 5-11-99
Instructions
Approval No CH 98/1
DP 81866
FORM 315
New Cst Allocated
Lot 1 478/264
Lot 2 478/265
Lot 3 478/266
REGISTRAR-GENERAL OF LAND NEW ZEALAND
TERRITORIAL AUTHORITY Christchurch City
Surveyed by Frizzell & Associates (5562)
Scale 1:750
Date Sept 1999
LAND DISTRICT Canterbury
Survey Blk. & Dist. VII & VIII Christchurch
NZMS 261 Sheet Record Map No.
Lots 1-3 being subdivision of Pt Lot 2 DP 16442
Diagram Not to Scale
Pt 2 DP 13469
1 DP 27786
DP 18707 DP16442 DP13469
DP 15442
Pt RS 1682 A.10905
ROAD Road
PRESTONS
Christchurch S.D.
VII VIII
1 5286m²
2 9005m²
3 1·4034ha
712 780mN
712 680mN
712 580mN
294 840mE
294 940mE
295 040mE
The Drawing Room

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB568/79**
Land Registration District	**Canterbury**
Date Issued	23 December 1952

Prior References
CB525/103

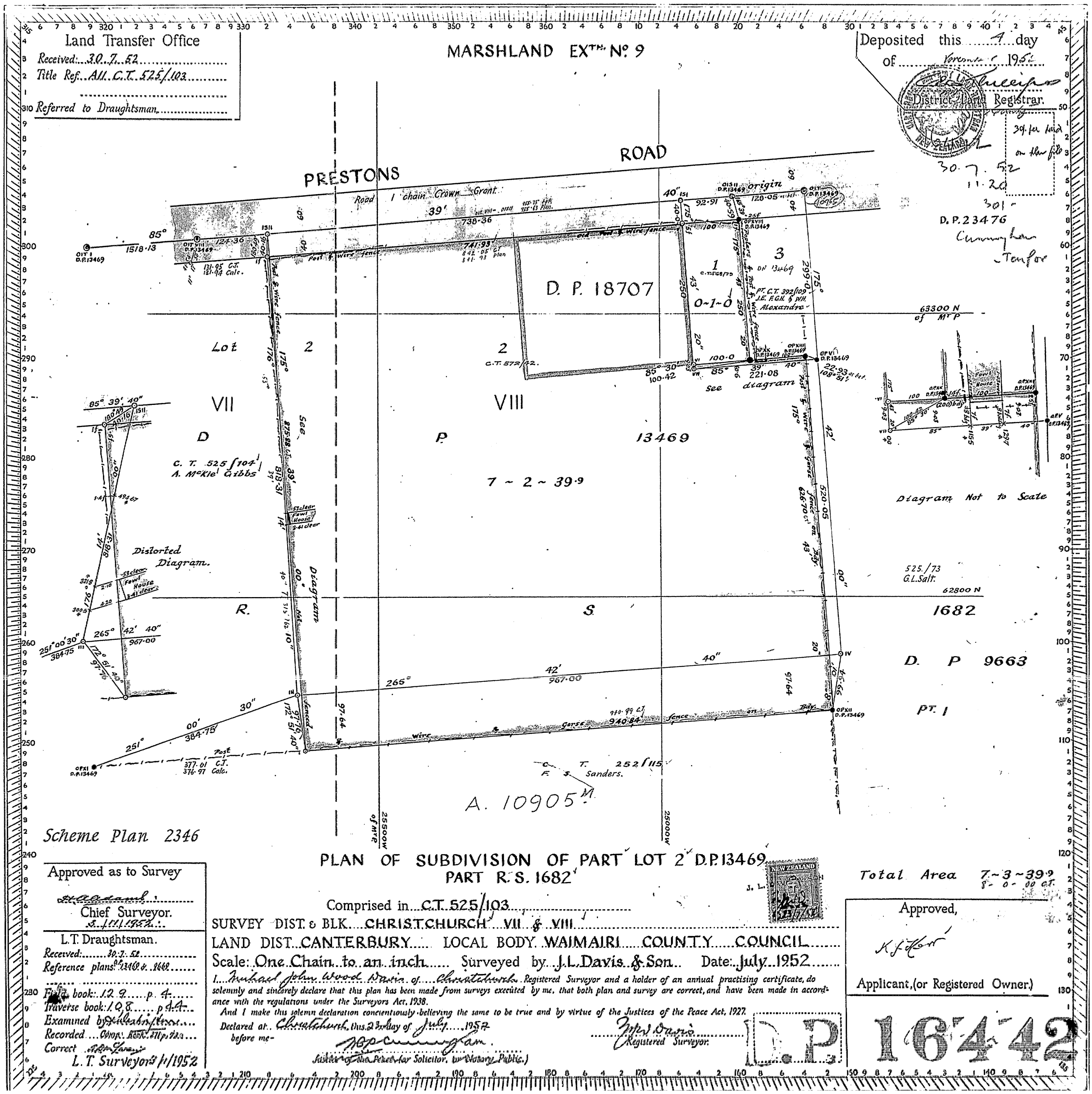
Estate	Fee Simple
Area	1012 square metres more or less
Legal Description	Lot 1 Deposited Plan 16442
Registered Owners	

Prestons Road Investments Limited

Interests

Subject to and together with the Drainage Rights created by Conveyance 76325 (116D890)

A325249.1 CERTIFICATE PURSUANT TO SECTION 37 BUILDING ACT 1991 (AFFECTS CST CB811/49 AND CB568/79) - 6.11.1997 AT 1.05 PM


Land Transfer Office
Received: 30.7.52
Title Ref. All C.T. 525/103
Referred to Draughtsman
MARSHLAND EXTN. No. 9
Deposited this 4 day
District Land Registrar.
PRESTONS ROAD
Road 1 chain Crown Grant
D. P. 18707
0-1-0
Lot 2
VII
VIII
D P 13469
7 ~ 2 ~ 39·9
R. S 1682
D. P 9663
Distorted Diagram.
Diagram Not to Scale
See diagram
A. 10905 M
Scheme Plan 2346
PLAN OF SUBDIVISION OF PART LOT 2 D.P. 13469.
PART R.S. 1682
Total Area 7-3-39·9
Approved as to Survey
Chief Surveyor.
L.T. Draughtsman.
Comprised in C.T. 525/103
SURVEY DIST. & BLK. CHRISTCHURCH VII & VIII
LAND DIST. CANTERBURY LOCAL BODY WAIMAIRI COUNTY COUNCIL
Scale: One Chain to an inch Surveyed by J.L. Davis & Son. Date: July 1952
Registered Surveyor and a holder of an annual practising certificate, do solemnly and sincerely declare that this plan has been made from surveys executed by me, that both plan and survey are correct, and have been made in accordance with the regulations under the Surveyors Act, 1938.
And I make this solemn declaration conscientiously believing the same to be true and by virtue of the Justices of the Peace Act, 1927.
Declared at Christchurch this 23 day of July 1952
before me
Justice of the Peace (or Solicitor, or Notary Public.)
Registered Surveyor.
Approved,
Applicant, (or Registered Owner.)
D.P. 16442

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB699/53**
Land Registration District	**Canterbury**
Date Issued	22 November 1956

Prior References
CB572/42

Estate	Fee Simple
Area	1012 square metres more or less
Legal Description	Lot 2 Deposited Plan 18707
Registered Owners	

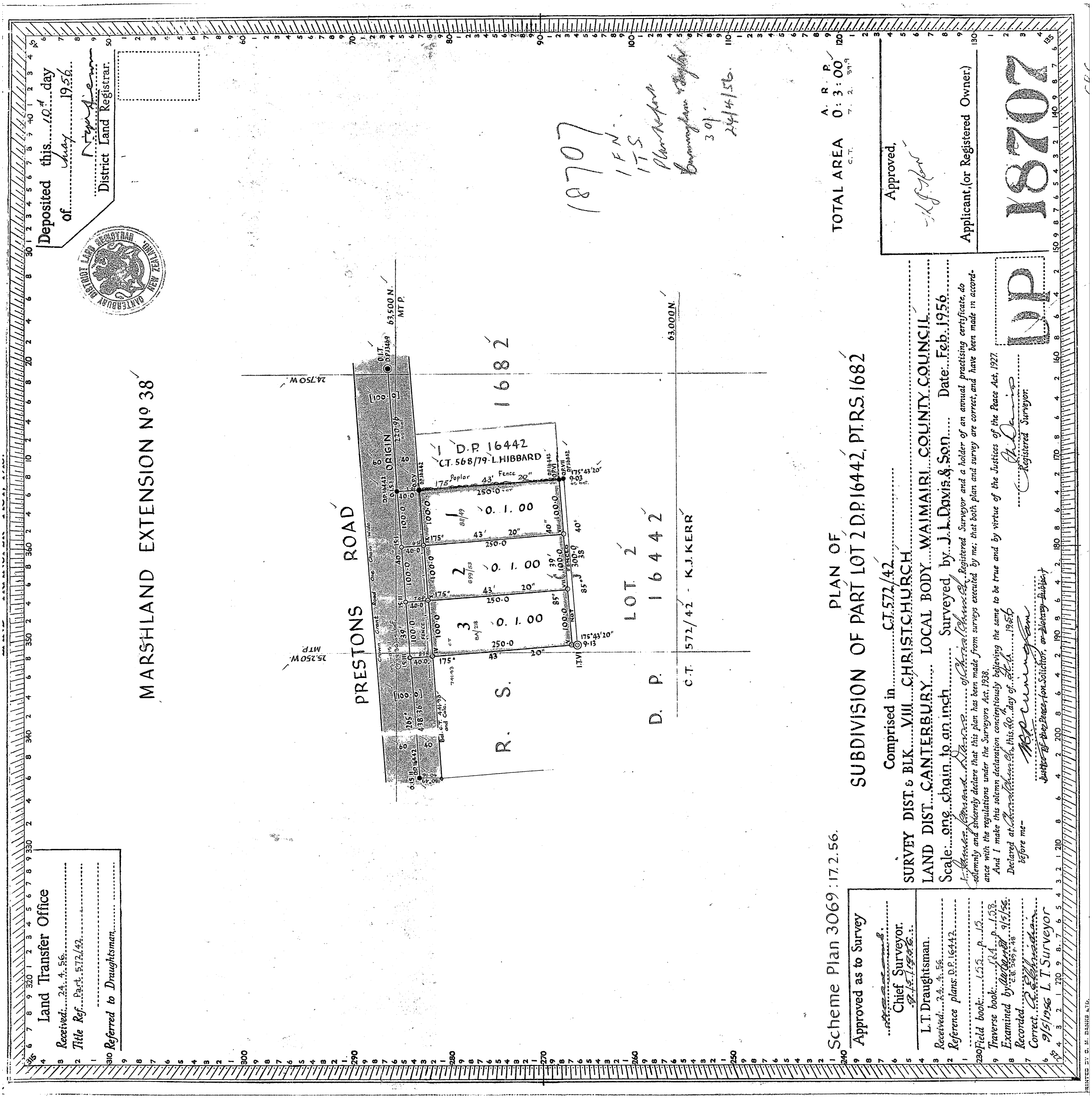
Prestons Road Investments Limited

Interests

Appurtenant hereto are drainage rights created by Conveyance 76325 (116/890) - 28.4.1887 at 3.00 pm

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by CVY 76325 - 15.9.2015 at 2:38 pm

12941514.4 Mortgage to ASB Bank Limited - 8.3.2024 at 1:37 pm


MARSHLAND EXTENSION No 38
PRESTONS ROAD
R. S. 1682
D.P. 16442
LOT 2
D. P. 16442
PLAN OF
SUBDIVISION OF PART LOT 2 D.P. 16442, PT. R.S. 1682
SURVEY DIST. & BLK. VIII CHRISTCHURCH
LAND DIST. CANTERBURY
LOCAL BODY WAIMAIRI COUNTY COUNCIL
TOTAL AREA 0 : 3 : 00
Land Transfer Office
Scheme Plan 3069 : 17.2.56
Approved as to Survey
DP 18707

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB753/20**
Land Registration District	**Canterbury**
Date Issued	30 April 1958

Prior References
CB392/109

Estate	Fee Simple
Area	1012 square metres more or less
Legal Description	Lot 3 Deposited Plan 13469
Registered Owners	

Cathryn Anne Hide and Murray Ian Withers

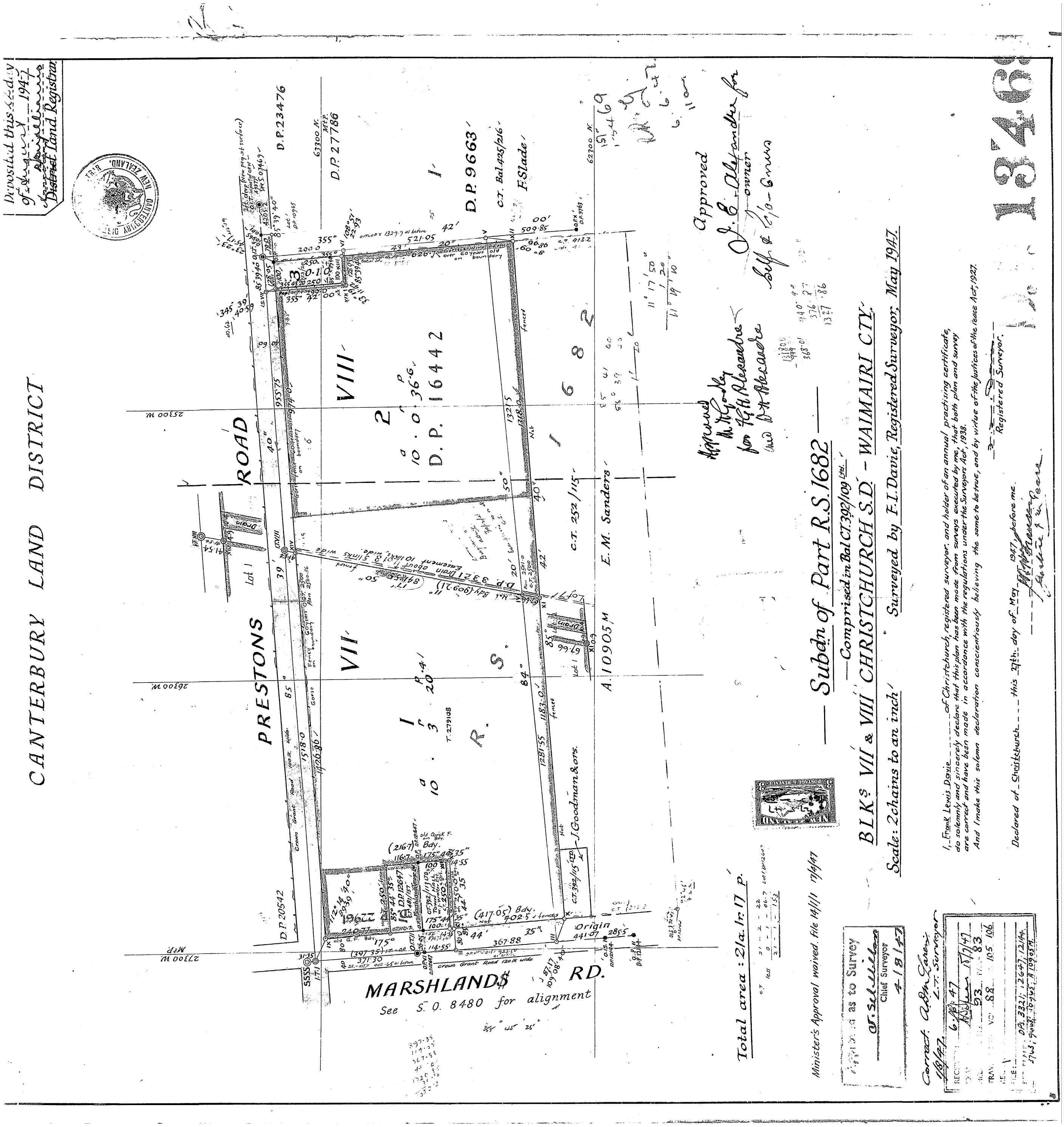
Interests

Appurtenant hereto are drainage rights created by Deed of Easement 76325 (116/890) - 28.4.1887 at 3.00 pm

8101612.1 Mortgage to Bank of New Zealand - 17.3.2009 at 11:55 am

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by CVY 76325 - 15.9.2015 at 2:38 pm

Appurtenant hereto is a right of way created by Easement Instrument 11579765.1 - 25.5.2020 at 2:19 pm


CANTERBURY LAND DISTRICT
PRESTONS ROAD
MARSHLANDS RD.
See S.O. 8480 for alignment
D.P. 16442
D.P. 9663
D.P. 23476
D.P. 27786
D.P. 20542
F. Slade
E.M. Sanders
J. Goodman & ors.
C.T. 252/115
Total area: 21a. 1r. 17p.
Minister's Approval waived. File 14/1/1 17/9/47
Subdn of Part R.S. 1682
Comprised in Bal C.T. 392/109
BLKs VII & VIII CHRISTCHURCH S.D. - WAIMAIRI CTY.
Scale: 2 chains to an inch
Surveyed by F.L. Davie, Registered Surveyor, May 1947.
Approved
District Land Registrar

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**CB811/49**
Land Registration District	**Canterbury**
Date Issued	25 September 1959

Prior References
CB707/80

Estate	Fee Simple
Area	1012 square metres more or less
Legal Description	Lot 1 Deposited Plan 18707
Registered Owners	

Prestons Road Investments Limited

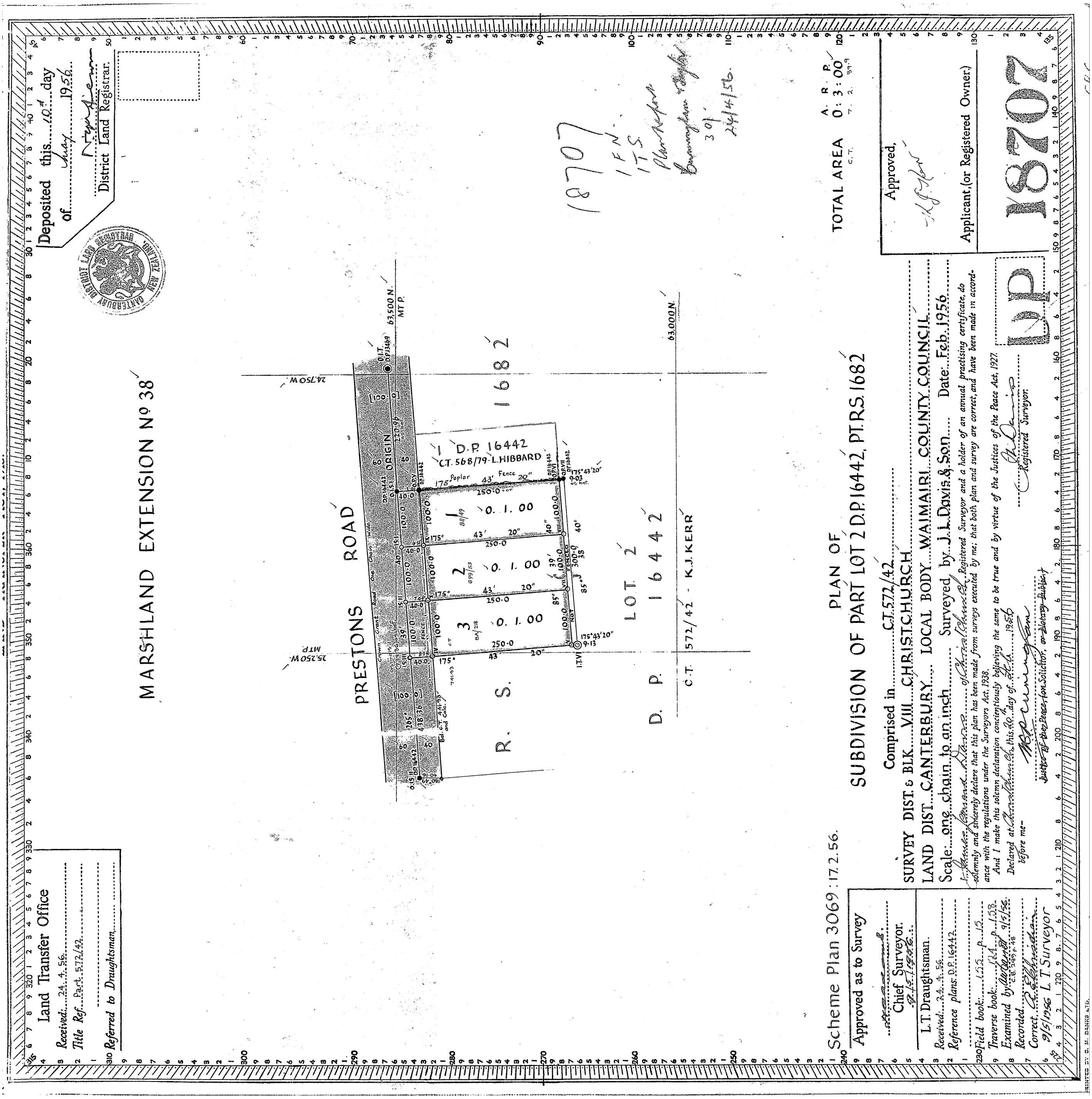
Interests

Subject to drainage rights created by Conveyance 76325 (116 D 890)

Appurtenant hereto are drainage rights created by Conveyance 76325 (116 D 890)

A325249.1 CERTIFICATE PURSUANT TO SECTION 37 BUILDING ACT 1991 (AFFECTS CST CB811/49 AND CB568/79) - 6.11.1997 AT 1.05 PM

10190542.1 Court Order pursuant to Section 317 Property Law Act 2007 extinguishing the drainage easements shown on DRP 3953 to the extent that they burden CTs 625607, 625857, 625858, 381181, 647815, CB9K/366, CB9K/367 and CB4A/1261, created by CVY 76325 - 15.9.2015 at 2:38 pm



Deposited this 10th day of May 1956
District Land Registrar.
MARSHLAND EXTENSION No 38
PRESTONS ROAD
R. S. 1682
D. P. 16442
LOT 2
C.T. 572/42 - K.J. KERR
1 D.P. 16442
C.T. 568/79 - L. HIBBARD
ORIGIN
63,500 N.
63,000 N.
0.1.00
0.1.00
0.1.00
TOTAL AREA A. R. P. 0 : 3 : 00
Approved,
Applicant, (or Registered Owner)
DP 18707
PLAN OF
SUBDIVISION OF PART LOT 2 D.P. 16442, PT. R.S. 1682
Comprised in C.T. 572/42
SURVEY DIST. & BLK. VIII CHRISTCHURCH
LAND DIST. CANTERBURY LOCAL BODY WAIMAIRI COUNTY COUNCIL
Scale: one chain to an inch Surveyed by J. L. Davis & Son Date Feb. 1956
Registered Surveyor.
Scheme Plan 3069 : 17.2.56.
Approved as to Survey
Chief Surveyor.
L.T. Draughtsman.
Land Transfer Office
Received 24.4.56.
Title Ref. Part 572/42.
Referred to Draughtsman

Appendix D – Site Visit Photographs

Sephira ENVIRONMENTAL

Figure D-1. Large utility building at 404-406 Prestons Road.

Figure D-2. Shed in southeast corner of 406 Prestons Road.

Figure D-3. South end of dwelling at 406 Prestons Road.

Figure D-4. North end of dwelling at 402 Prestons Road.

Figure D-5. Adjoined sheds at rear of dwelling 402 Prestons Road.

Figure D-6. Shed in southeast corner of 402 Prestons Road.

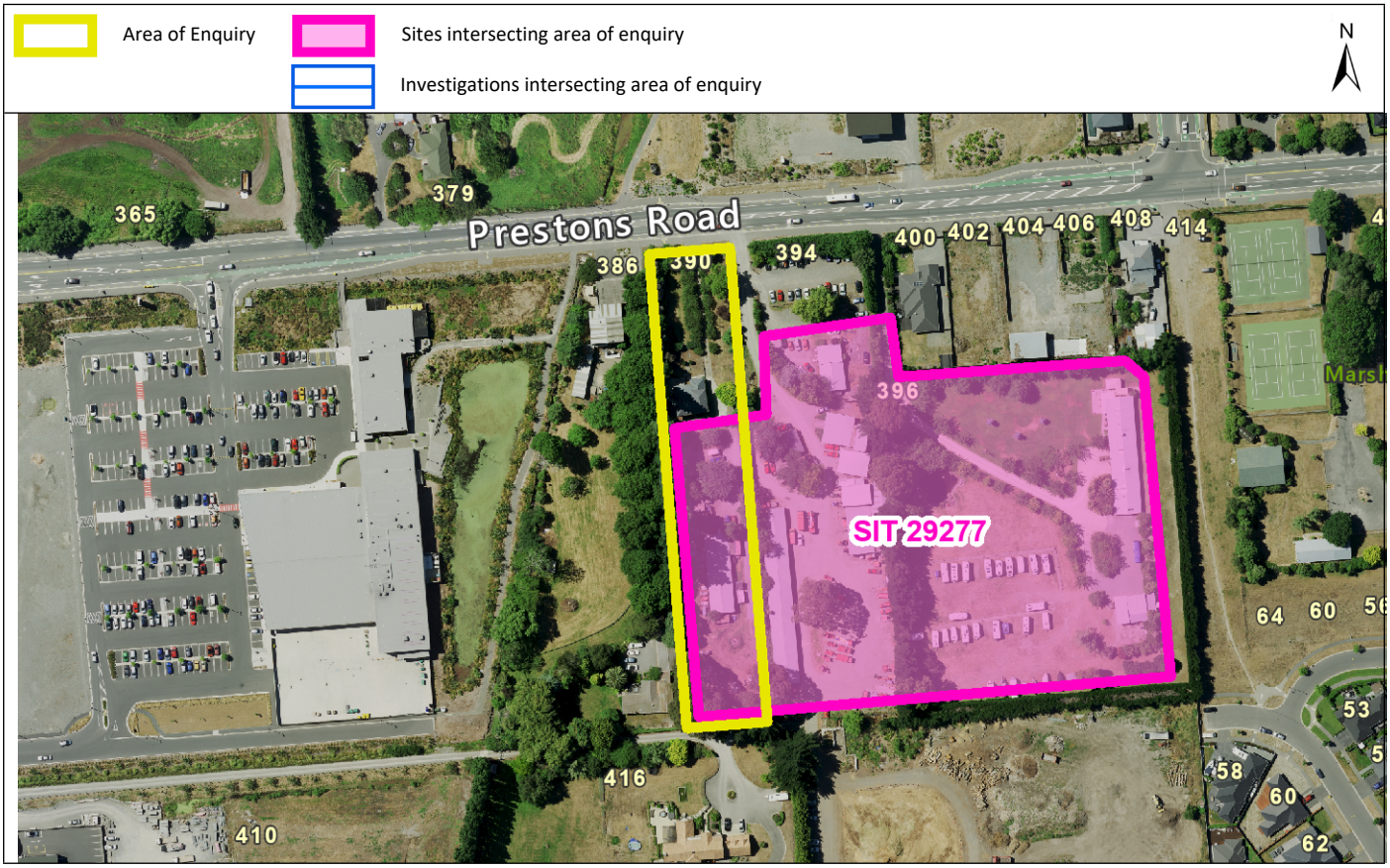
Figure D-7. Tank contained in remains of shed, 402 Prestons Road.

Appendix C: Ecan LLURs

Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ354999

Date generated: 22 September 2023
Land parcels: Lot 1 DP 81866



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

Site number	Name	Location	HAIL activity(s)	Category
29277	29277	Marshland	A11 - Pest control;	Not Investigated

More detail about the sites

Site 29277: 29277 (Intersects enquiry area.)
Category: Not Investigated
Definition: Verified HAIL has not been investigated.

Location: Marshland
Legal description(s): Lot 1 DP 81866,Lot 2 DP 81866,Lot 3 DP 81866

HAIL activity(s):

Period from	Period to	HAIL activity
Pre 1955	Pre 2004	Pest control including the premises of commercial pest control operators

		or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application

Notes:

3 Oct 2013 Area defined from: 1955- 2004 ECan Aerial Photo

Note: A poultry farm was noted in aerial photographs reviewed.

Investigations:

There are no investigations associated with this site.

Disclaimer

The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987.

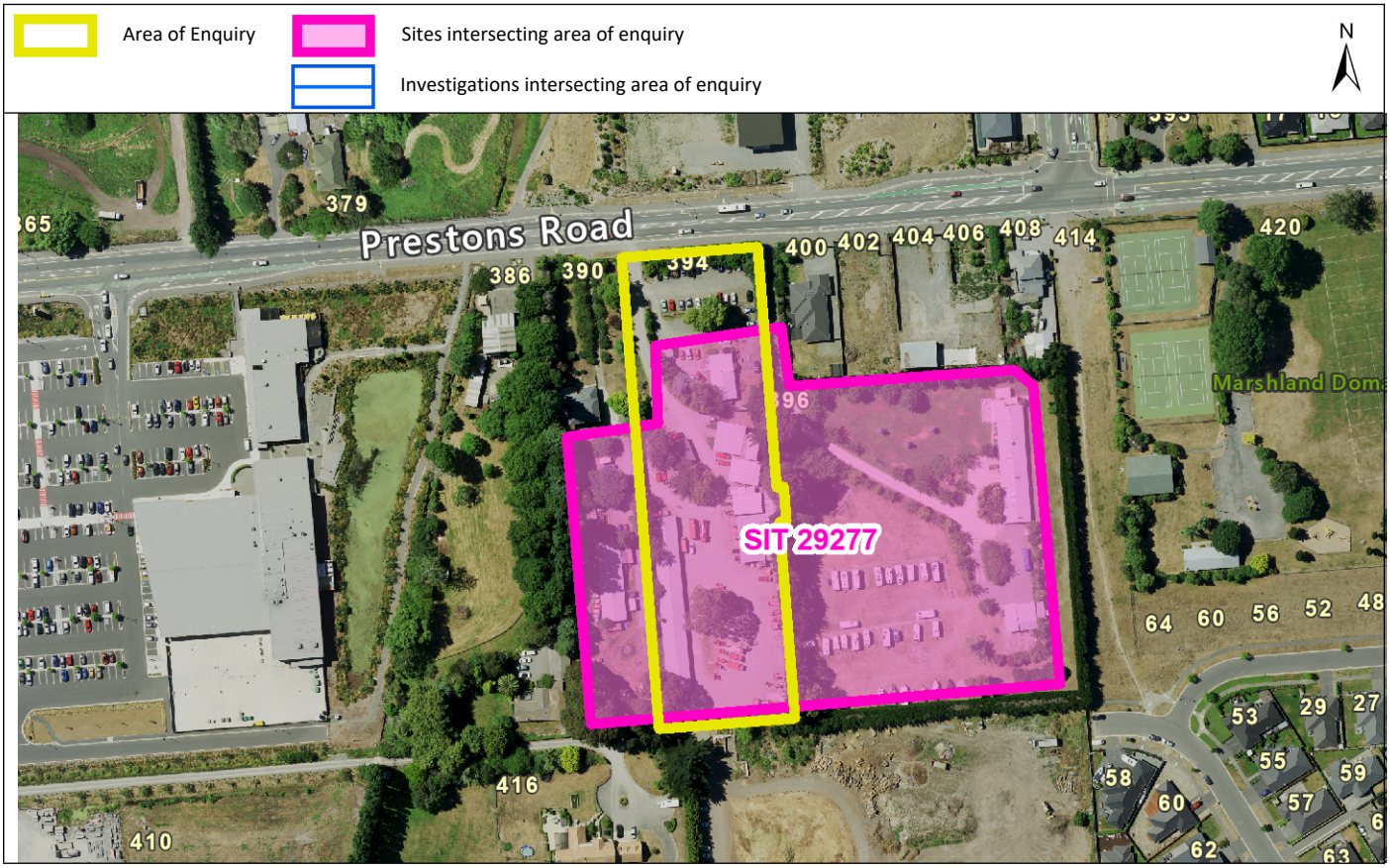
The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.

Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ354998

Date generated: 22 September 2023
Land parcels: Lot 2 DP 81866



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

Site number	Name	Location	HAIL activity(s)	Category
29277	29277	Marshland	A11 - Pest control;	Not Investigated

More detail about the sites

Site 29277: 29277 (Intersects enquiry area.)

Category: Not Investigated
Definition: Verified HAIL has not been investigated.

Location: Marshland
Legal description(s): Lot 1 DP 81866,Lot 2 DP 81866,Lot 3 DP 81866

HAIL activity(s):

Period from	Period to	HAIL activity
Pre 1955	Pre 2004	Pest control including the premises of commercial pest control operators

		or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application

Notes:

3 Oct 2013 Area defined from: 1955- 2004 ECan Aerial Photo

Note: A poultry farm was noted in aerial photographs reviewed.

Investigations:

There are no investigations associated with this site.

Disclaimer

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Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ355001

Date generated: 22 September 2023
Land parcels: Lot 2 DP 18707

The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

Site number	Name	Location	HAIL activity(s)	Category
267184	402 - 406 Prestons Road, Marshland	402 - 406 Prestons Road, Marshland	I - Any other land;	Yet to be reviewed

More detail about the sites

Site 267184: 402 - 406 Prestons Road, Marshland (Intersects enquiry area.)

Category: Yet to be reviewed
Definition: Investigation reports have been received for this site, but we have not yet reviewed them.

Location: 402 - 406 Prestons Road, Marshland
Legal description(s): Lot 1 DP 16442,Lot 1 DP 18707,Lot 2 DP 18707

HAIL activity(s):

Period from	Period to	HAIL activity

1965	2000	Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment

Notes:

4 Nov 2020 Elevated lead and fibrous asbestos identified in an investigation by Sephira Environmental.

Investigations:

INV 267186 **Preliminary Site Investigation - 402 - 406 Prestons Road, Marshland**
Sephira Environmental Ltd - Preliminary Site Investigation
1 Nov 2019

Summary of investigation(s):

Environment Canterbury has received a Preliminary Site Investigation report that includes all or part of the property you have selected.

A Preliminary Site Investigation seeks to identify potential sources of contamination resulting from current and historical land uses.

The preliminary site investigation may not have found any potential sources of contamination on the property you have enquired about. Where potential sources of contamination have been identified, a site identification number (e.g. SIT 1234) and land uses from the Hazardous Activities and Industries List (HAIL) will be shown on your statement.

This investigation has not been summarised.

INV 267188 **Detailed Site Investigation - 402 - 406 Prestons Road, Marshland**
Sephira Environmental Ltd - Detailed Site Investigation
23 Dec 2019

Summary of investigation(s):

Environment Canterbury has received a Detailed Site Investigation report that includes all or part of the property you have selected.

A DSI seeks to identify the type, extent and level of contamination (if any) in an area. Soil, soil-gas or water samples will have been collected and analysed.

This investigation has not been summarised.

INV 297735 **Soil Validation Report - Asbestos – 402-406 Prestons Road, Marshland**
ENGEO - Site Validation Report
30 Sep 2021

Summary of investigation(s):

Environment Canterbury has received a Site Validation Report that includes all or part of the property you have selected.

A Site Validation Report is an assessment of the success of a remedial action relative to previously established remedial goals. Soil, soil-gas or water samples will have been collected and analysed. It will be stated whether remediation goals have been met and whether further remediation, management or investigation is required.

This investigation has not been summarised.

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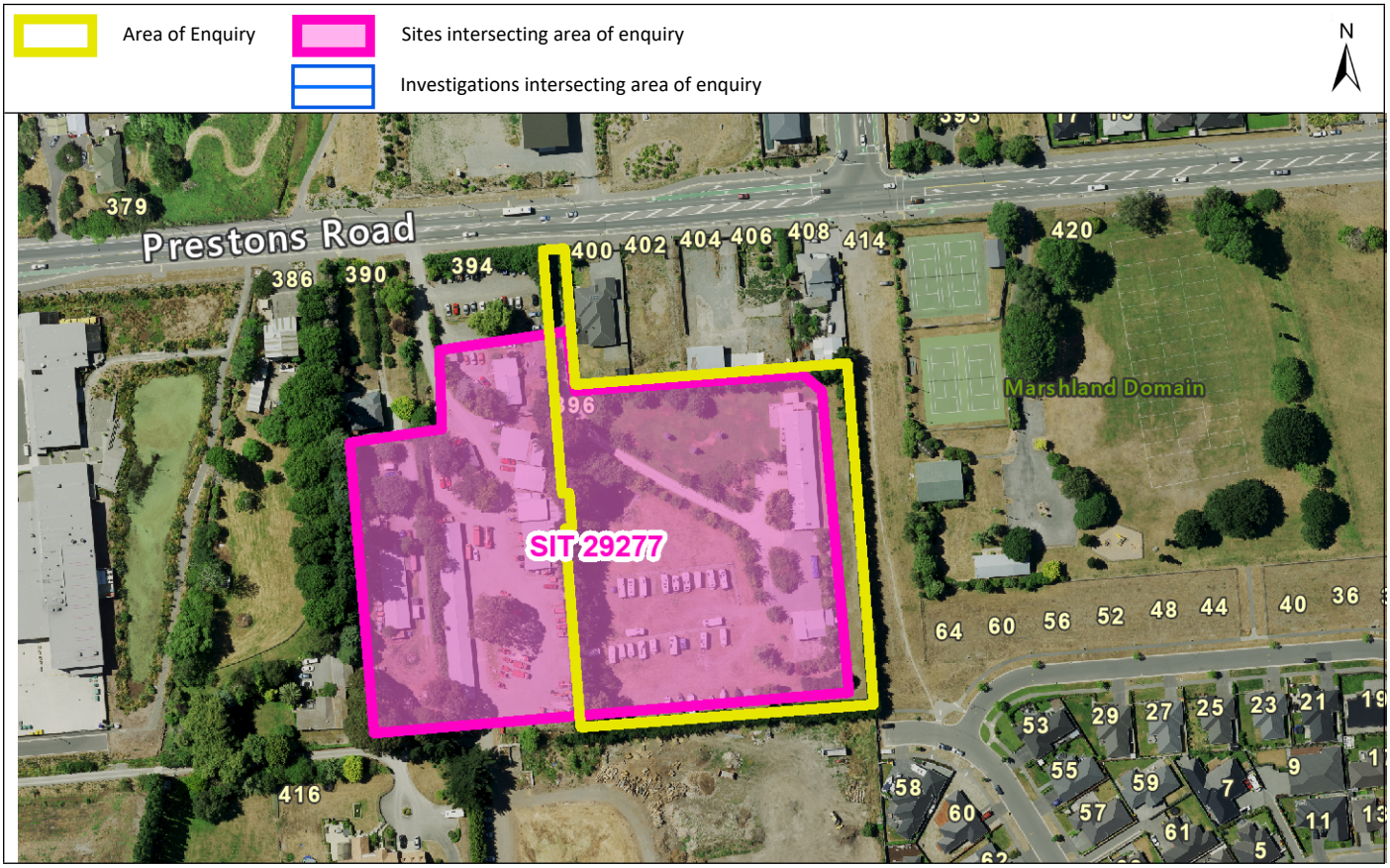
Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ354997

Date generated: 22 September 2023
Land parcels: Lot 3 DP 81866



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

Site number	Name	Location	HAIL activity(s)	Category
29277	29277	Marshland	A11 - Pest control;	Not Investigated

More detail about the sites

Site 29277: 29277 (Intersects enquiry area.)

Category: Not Investigated
Definition: Verified HAIL has not been investigated.

Location: Marshland
Legal description(s): Lot 1 DP 81866,Lot 2 DP 81866,Lot 3 DP 81866

HAIL activity(s):

Period from	Period to	HAIL activity
Pre 1955	Pre 2004	Pest control including the premises of commercial pest control operators

		or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application

Notes:

3 Oct 2013 Area defined from: 1955- 2004 ECan Aerial Photo

Note: A poultry farm was noted in aerial photographs reviewed.

Investigations:

There are no investigations associated with this site.

Disclaimer

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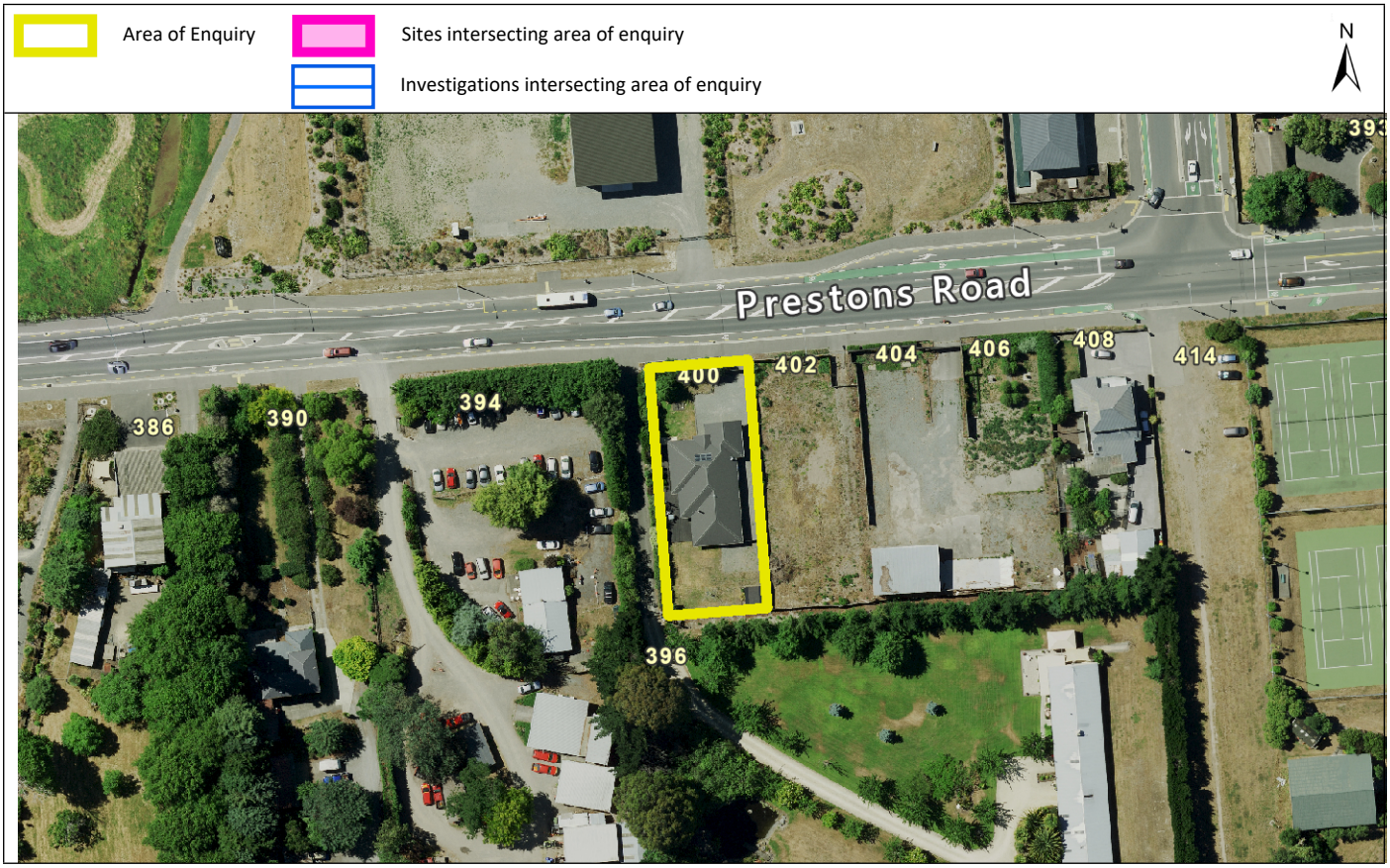
Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ354995

Date generated: 22 September 2023
Land parcels: Lot 3 DP 18707



The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

There are no sites associated with the area of enquiry.

More detail about the sites

There are no sites associated with the area of enquiry.

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Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ355002

Date generated: 22 September 2023
Land parcels: Lot 1 DP 16442
Lot 1 DP 18707

The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

Site number	Name	Location	HAIL activity(s)	Category
267184	402 - 406 Prestons Road, Marshland	402 - 406 Prestons Road, Marshland	I - Any other land;	Yet to be reviewed

More detail about the sites

Site 267184: 402 - 406 Prestons Road, Marshland (Intersects enquiry area.)

Category: Yet to be reviewed
Definition: Investigation reports have been received for this site, but we have not yet reviewed them.

Location: 402 - 406 Prestons Road, Marshland
Legal description(s): Lot 1 DP 16442,Lot 1 DP 18707,Lot 2 DP 18707

HAIL activity(s):

Period from	Period to	HAIL activity
1965	2000	Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment

Notes:

4 Nov 2020 Elevated lead and fibrous asbestos identified in an investigation by Sephira Environmental.

Investigations:

INV 267186 **Preliminary Site Investigation - 402 - 406 Prestons Road, Marshland**
Sephira Environmental Ltd - Preliminary Site Investigation
1 Nov 2019

Summary of investigation(s):

Environment Canterbury has received a Preliminary Site Investigation report that includes all or part of the property you have selected.

A Preliminary Site Investigation seeks to identify potential sources of contamination resulting from current and historical land uses.

The preliminary site investigation may not have found any potential sources of contamination on the property you have enquired about. Where potential sources of contamination have been identified, a site identification number (e.g. SIT 1234) and land uses from the Hazardous Activities and Industries List (HAIL) will be shown on your statement.

This investigation has not been summarised.

INV 267188 **Detailed Site Investigation - 402 - 406 Prestons Road, Marshland**
Sephira Environmental Ltd - Detailed Site Investigation
23 Dec 2019

Summary of investigation(s):

Environment Canterbury has received a Detailed Site Investigation report that includes all or part of the property you have selected.

A DSI seeks to identify the type, extent and level of contamination (if any) in an area. Soil, soil-gas or water samples will have been collected and analysed.

This investigation has not been summarised.

INV 297735 **Soil Validation Report - Asbestos – 402-406 Prestons Road, Marshland**
ENGEO - Site Validation Report
30 Sep 2021

Summary of investigation(s):

Environment Canterbury has received a Site Validation Report that includes all or part of the property you have selected.

A Site Validation Report is an assessment of the success of a remedial action relative to previously established remedial goals. Soil, soil-gas or water samples will have been collected and analysed. It will be stated whether remediation goals have been met and whether further remediation, management or investigation is required.

This investigation has not been summarised.

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Property Statement
from the Listed Land Use Register

Visit ecan.govt.nz/HAIL for more information or
contact Customer Services at ecan.govt.nz/contact/ and quote ENQ354996

Date generated: 22 September 2023
Land parcels: Lot 3 DP 13469

The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.

Sites at a glance

Sites within enquiry area

There are no sites associated with the area of enquiry.

More detail about the sites

There are no sites associated with the area of enquiry.

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Appendix D: Hill Laboratories Ltd – Analysis Report

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Certificate of Analysis

Client:	KPES Limited	**Lab No:**	3383753	SPv1
Contact:	Klaus Prusas C/- KPES Limited 25 Kaka Road South Bay Kaikoura 7300	**Date Received:**	11-Oct-2023	
		Date Reported:	20-Oct-2023	
		Quote No:	126575	
		Order No:		
		Client Reference:	Prestons	
		Submitted By:	Klaus Prusas	

Sample Type: Soil

Sample Name:		P1 - S 11-Oct-2023 9:30 am	P1/1 - 0.5 11-Oct-2023 9:32 am	P1/2 - 1.0 11-Oct-2023 9:35 am	P2 - S 11-Oct-2023 9:40 am	P2/1 - 0.5 11-Oct-2023 9:42 am
Lab Number:		3383753.1	3383753.2	3383753.3	3383753.4	3383753.5
Individual Tests						
Dry Matter	g/100g as rcvd	89	94	96	88	97
Total Cyanide*	mg/kg dry wt	0.11	< 0.10	< 0.10	0.15	< 0.10
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	2	< 2	14	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	11	8	8	15	7
Total Recoverable Copper	mg/kg dry wt	8	< 2	< 2	7	< 2
Total Recoverable Lead	mg/kg dry wt	11.0	7.4	5.8	11.3	6.2
Total Recoverable Nickel	mg/kg dry wt	6	7	7	5	5
Total Recoverable Zinc	mg/kg dry wt	65	26	23	56	21
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
alpha-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
beta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
delta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
cis-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
trans-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
2,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
4,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
2,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
4,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	< 0.011	0.015	< 0.011
2,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
4,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	< 0.011	0.012	< 0.011
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Dieldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endosulfan I	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endosulfan II	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endosulfan sulphate	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endrin aldehyde	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Endrin ketone	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Heptachlor	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Heptachlor epoxide	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Hexachlorobenzene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011
Methoxychlor	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.012	< 0.011

Sample Type: Soil						
Sample Name:		P1 - S 11-Oct-2023 9:30 am	P1/1 - 0.5 11-Oct-2023 9:32 am	P1/2 - 1.0 11-Oct-2023 9:35 am	P2 - S 11-Oct-2023 9:40 am	P2/1 - 0.5 11-Oct-2023 9:42 am
Lab Number:		3383753.1	3383753.2	3383753.3	3383753.4	3383753.5
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 80	< 80	< 80	< 80

Sample Name:		P2/2 - 1.0 11-Oct-2023 9:45 am	P3 - S 11-Oct-2023 10:05 am	P3/1 - 0.5 11-Oct-2023 10:07 am	P3/2 - 1.0 11-Oct-2023 10:10 am	P4 - S 11-Oct-2023 11:25 am
Lab Number:		3383753.6	3383753.7	3383753.8	3383753.9	3383753.10
Individual Tests						
Dry Matter	g/100g as rcvd	97	91	95	95	83
Total Cyanide*	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	0.11
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	7	< 2	< 2	5
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	0.11
Total Recoverable Chromium	mg/kg dry wt	8	14	7	8	15
Total Recoverable Copper	mg/kg dry wt	< 2	6	< 2	3	13
Total Recoverable Lead	mg/kg dry wt	5.5	10.2	4.9	6.7	26
Total Recoverable Nickel	mg/kg dry wt	6	8	7	7	10
Total Recoverable Zinc	mg/kg dry wt	23	51	22	25	87
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
alpha-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
beta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
delta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
cis-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
trans-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
2,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
4,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
2,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
4,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
2,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
4,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.07	< 0.07	< 0.07	< 0.08
Dieldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endosulfan I	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endosulfan II	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endosulfan sulphate	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endrin	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endrin aldehyde	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Endrin ketone	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Heptachlor	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Heptachlor epoxide	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Hexachlorobenzene	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Methoxychlor	mg/kg dry wt	< 0.011	< 0.011	< 0.011	< 0.011	< 0.012
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	320
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 80	< 80	< 80	330

Sample Type: Soil						
Sample Name:		P4/1 - 0.5 11-Oct-2023 11:27 am	P4/2 - 1.0 11-Oct-2023 11:30 am	P5 - S 11-Oct-2023 12:00 pm	P5/1 - 0.5 11-Oct-2023 12:02 pm	P5/2 - 1.0 11-Oct-2023 12:10 pm
Lab Number:		3383753.11	3383753.12	3383753.13	3383753.14	3383753.15
Individual Tests						
Dry Matter	g/100g as rcvd	87	79	81	77	89
Total Cyanide*	mg/kg dry wt	0.11	< 0.10	0.18	0.30	< 0.10
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	4	8	22	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.11	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	14	9	12	17	9
Total Recoverable Copper	mg/kg dry wt	14	6	8	10	2
Total Recoverable Lead	mg/kg dry wt	30	14.5	14.8	22	7.0
Total Recoverable Nickel	mg/kg dry wt	10	4	6	5	7
Total Recoverable Zinc	mg/kg dry wt	90	34	83	70	29
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
alpha-BHC	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
beta-BHC	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
delta-BHC	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
cis-Chlordane	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
trans-Chlordane	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
2,4'-DDD	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
4,4'-DDD	mg/kg dry wt	< 0.012	0.013	< 0.013	< 0.013	< 0.012
2,4'-DDE	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
4,4'-DDE	mg/kg dry wt	< 0.012	0.014	< 0.013	0.054	< 0.012
2,4'-DDT	mg/kg dry wt	< 0.012	< 0.013	< 0.013	0.017	< 0.012
4,4'-DDT	mg/kg dry wt	< 0.012	< 0.013	< 0.013	0.065	< 0.012
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.08	< 0.08	0.14	< 0.07
Dieldrin	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endosulfan I	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endosulfan II	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endosulfan sulphate	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endrin	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endrin aldehyde	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Endrin ketone	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Heptachlor	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Heptachlor epoxide	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Hexachlorobenzene	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Methoxychlor	mg/kg dry wt	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	290	100	69	108	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	300	116	< 80	115	< 80

Sample Name:		P6 - S 11-Oct-2023 12:30 pm	P6/1 - 0.5 11-Oct-2023 12:32 pm	P7 - S 11-Oct-2023 12:45 pm	P7/1 - 0.5 11-Oct-2023 12:47 pm	P8 - S 11-Oct-2023 1:10 pm
Lab Number:		3383753.16	3383753.17	3383753.18	3383753.19	3383753.20
Individual Tests						
Dry Matter	g/100g as rcvd	76	83	75	96	77
Total Cyanide*	mg/kg dry wt	0.36	0.13	0.30	< 0.10	0.38
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	13	7	9	< 2	12
Total Recoverable Cadmium	mg/kg dry wt	0.25	0.12	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	13	14	14	8	13
Total Recoverable Copper	mg/kg dry wt	16	55	10	< 2	8
Total Recoverable Lead	mg/kg dry wt	29	36	18.9	6.2	12.8

Sample Type: Soil						
Sample Name:		P6 - S 11-Oct-2023 12:30 pm	P6/1 - 0.5 11-Oct-2023 12:32 pm	P7 - S 11-Oct-2023 12:45 pm	P7/1 - 0.5 11-Oct-2023 12:47 pm	P8 - S 11-Oct-2023 1:10 pm
Lab Number:		3383753.16	3383753.17	3383753.18	3383753.19	3383753.20
Heavy Metals, Screen Level						
Total Recoverable Nickel	mg/kg dry wt	6	10	7	6	5
Total Recoverable Zinc	mg/kg dry wt	142	87	98	24	78
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
alpha-BHC	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
beta-BHC	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
delta-BHC	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
gamma-BHC (Lindane)	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
cis-Chlordane	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
trans-Chlordane	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
2,4'-DDD	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
4,4'-DDD	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
2,4'-DDE	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
4,4'-DDE	mg/kg dry wt	0.035	0.014	< 0.014	< 0.011	< 0.013
2,4'-DDT	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
4,4'-DDT	mg/kg dry wt	0.090	< 0.013	< 0.014	< 0.011	< 0.013
Total DDT Isomers	mg/kg dry wt	0.15	< 0.08	< 0.08	< 0.07	< 0.08
Dieldrin	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endosulfan I	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endosulfan II	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endosulfan sulphate	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endrin	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endrin aldehyde	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Endrin ketone	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Heptachlor	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Heptachlor epoxide	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Hexachlorobenzene	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Methoxychlor	mg/kg dry wt	< 0.013	< 0.013	< 0.014	< 0.011	< 0.013
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	100	55	69	< 40	177
Total hydrocarbons (C7 - C36)	mg/kg dry wt	109	< 80	< 80	< 80	192

Sample Name:		P8/1 - 0.5 11-Oct-2023 1:12 pm	P8/2 - 1.0 11-Oct-2023 1:15 pm	P9 - S 11-Oct-2023 1:20 pm	P9/1 - 0.5 11-Oct-2023 1:22 pm	P9/2 - 1.0 11-Oct-2023 1:25 pm
Lab Number:		3383753.21	3383753.22	3383753.23	3383753.24	3383753.25
Individual Tests						
Dry Matter	g/100g as rcvd	88	93	79	93	87
Total Cyanide*	mg/kg dry wt	< 0.10	< 0.10	0.38	< 0.10	< 0.10
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	< 2	6	< 2	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.16	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	10	9	10	9	9
Total Recoverable Copper	mg/kg dry wt	3	3	9	2	2
Total Recoverable Lead	mg/kg dry wt	8.0	9.7	25	7.6	8.1
Total Recoverable Nickel	mg/kg dry wt	5	6	6	7	8
Total Recoverable Zinc	mg/kg dry wt	39	28	162	33	30
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
alpha-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
beta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
delta-BHC	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012

Sample Type: Soil						
Sample Name:		P8/1 - 0.5 11-Oct-2023 1:12 pm	P8/2 - 1.0 11-Oct-2023 1:15 pm	P9 - S 11-Oct-2023 1:20 pm	P9/1 - 0.5 11-Oct-2023 1:22 pm	P9/2 - 1.0 11-Oct-2023 1:25 pm
Lab Number:		3383753.21	3383753.22	3383753.23	3383753.24	3383753.25
Organochlorine Pesticides Screening in Soil						
cis-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
trans-Chlordane	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
2,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
4,4'-DDD	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
2,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
4,4'-DDE	mg/kg dry wt	< 0.011	< 0.011	0.027	< 0.011	< 0.012
2,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
4,4'-DDT	mg/kg dry wt	< 0.011	< 0.011	0.044	< 0.011	< 0.012
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.07	0.08	< 0.07	< 0.07
Dieldrin	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endosulfan I	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endosulfan II	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endosulfan sulphate	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endrin	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endrin aldehyde	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Endrin ketone	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Heptachlor	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Heptachlor epoxide	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Hexachlorobenzene	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Methoxychlor	mg/kg dry wt	< 0.011	< 0.011	< 0.013	< 0.011	< 0.012
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40	136	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 80	144	< 80	< 80

Sample Name:		P10 - S 11-Oct-2023 2:00 pm	P11 - S 11-Oct-2023 2:15 pm	P11/1 - 0.5 11-Oct-2023 2:17 pm	P12 - S 11-Oct-2023 2:40 pm	P12/1 - 0.5 11-Oct-2023 2:42 pm
Lab Number:		3383753.26	3383753.27	3383753.28	3383753.29	3383753.30
Individual Tests						
Dry Matter	g/100g as rcvd	73	84	93	78	92
Total Cyanide*	mg/kg dry wt	-	0.14	< 0.10	0.40	0.37
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	24	3	< 2	9	9
Total Recoverable Cadmium	mg/kg dry wt	1.45	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	25	9	9	11	11
Total Recoverable Copper	mg/kg dry wt	37	5	< 2	14	< 2
Total Recoverable Lead	mg/kg dry wt	54	21	7.4	27	9.6
Total Recoverable Nickel	mg/kg dry wt	16	6	7	6	7
Total Recoverable Zinc	mg/kg dry wt	520	45	33	124	25
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
alpha-BHC	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
beta-BHC	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
delta-BHC	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
cis-Chlordane	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
trans-Chlordane	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
2,4'-DDD	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
4,4'-DDD	mg/kg dry wt	-	0.014	< 0.011	< 0.013	< 0.011
2,4'-DDE	mg/kg dry wt	-	0.016	< 0.011	< 0.013	< 0.011
4,4'-DDE	mg/kg dry wt	-	2.3	0.023	< 0.013	< 0.011
2,4'-DDT	mg/kg dry wt	-	0.38	< 0.011	< 0.013	< 0.011
4,4'-DDT	mg/kg dry wt	-	1.19	< 0.011	< 0.013	< 0.011

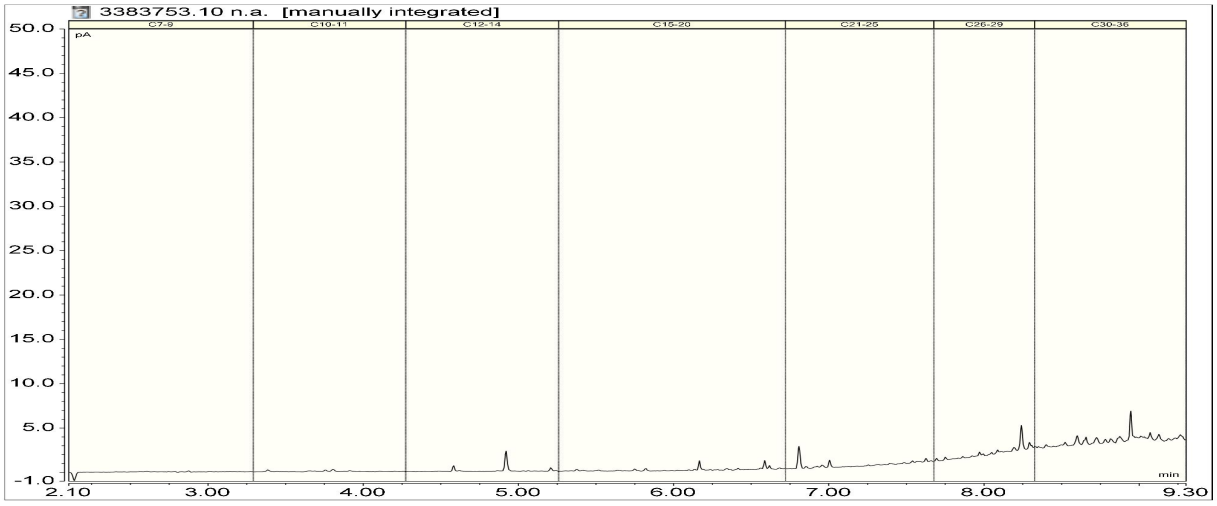
Sample Type: Soil						
Sample Name:		P10 - S 11-Oct-2023 2:00 pm	P11 - S 11-Oct-2023 2:15 pm	P11/1 - 0.5 11-Oct-2023 2:17 pm	P12 - S 11-Oct-2023 2:40 pm	P12/1 - 0.5 11-Oct-2023 2:42 pm
Lab Number:		3383753.26	3383753.27	3383753.28	3383753.29	3383753.30
Organochlorine Pesticides Screening in Soil						
Total DDT Isomers	mg/kg dry wt	-	3.9	< 0.07	< 0.08	< 0.07
Dieldrin	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endosulfan I	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endosulfan II	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endosulfan sulphate	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endrin	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endrin aldehyde	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Endrin ketone	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Heptachlor	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Heptachlor epoxide	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Hexachlorobenzene	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Methoxychlor	mg/kg dry wt	-	< 0.012	< 0.011	< 0.013	< 0.011
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 20	< 20	< 20	-	-
C10 - C14	mg/kg dry wt	29	< 20	< 20	-	-
C15 - C36	mg/kg dry wt	660	57	< 40	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	690	< 80	< 80	-	-

Sample Name:		P12/2 - 1.0 11-Oct-2023 2:45 pm	P13 - S 11-Oct-2023 3:15 pm	P13/1 - 0.5 11-Oct-2023 3:17 pm	P13/2 - 1.0 11-Oct-2023 3:20 pm	P14 - S 11-Oct-2023 3:30 pm
Lab Number:		3383753.31	3383753.32	3383753.33	3383753.34	3383753.35
Individual Tests						
Dry Matter	g/100g as rcvd	95	78	93	94	78
Total Cyanide*	mg/kg dry wt	< 0.10	0.23	< 0.10	< 0.10	0.16
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	7	2	< 2	6
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	8	13	9	9	10
Total Recoverable Copper	mg/kg dry wt	< 2	9	< 2	< 2	7
Total Recoverable Lead	mg/kg dry wt	6.5	49	7.9	9.0	15.5
Total Recoverable Nickel	mg/kg dry wt	6	7	7	6	5
Total Recoverable Zinc	mg/kg dry wt	22	192	30	31	89
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
alpha-BHC	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
beta-BHC	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
delta-BHC	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
gamma-BHC (Lindane)	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
cis-Chlordane	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
trans-Chlordane	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
2,4'-DDD	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
4,4'-DDD	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
2,4'-DDE	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
4,4'-DDE	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
2,4'-DDT	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
4,4'-DDT	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.08	< 0.07	< 0.07	< 0.08
Dieldrin	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	0.155
Endosulfan I	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Endosulfan II	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Endosulfan sulphate	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Endrin	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Endrin aldehyde	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Endrin ketone	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013

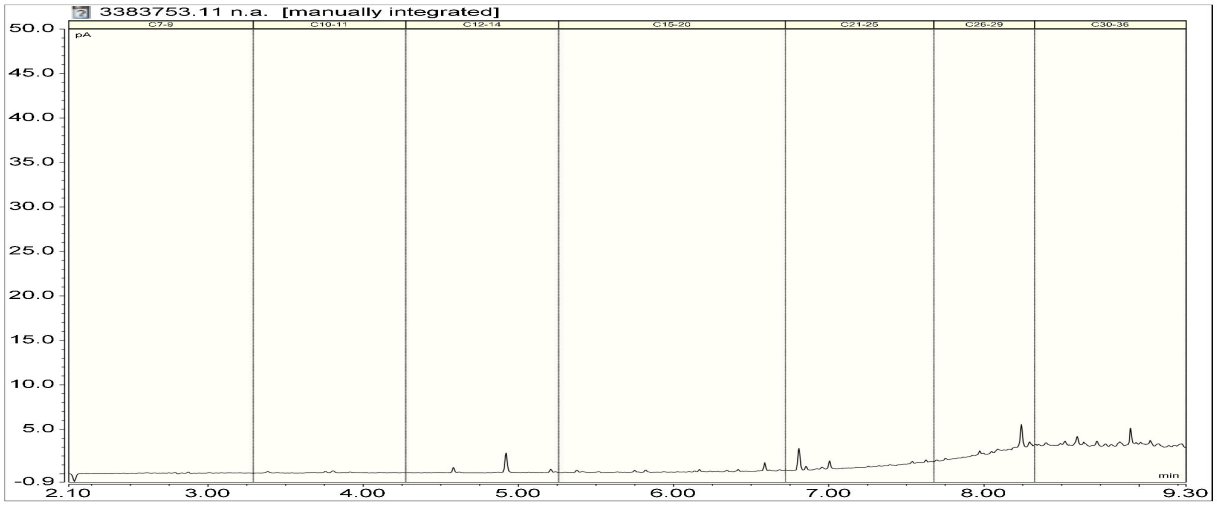
Sample Type: Soil						
Sample Name:		P12/2 - 1.0 11-Oct-2023 2:45 pm	P13 - S 11-Oct-2023 3:15 pm	P13/1 - 0.5 11-Oct-2023 3:17 pm	P13/2 - 1.0 11-Oct-2023 3:20 pm	P14 - S 11-Oct-2023 3:30 pm
Lab Number:		3383753.31	3383753.32	3383753.33	3383753.34	3383753.35
Organochlorine Pesticides Screening in Soil						
Heptachlor	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Heptachlor epoxide	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Hexachlorobenzene	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013
Methoxychlor	mg/kg dry wt	< 0.011	< 0.013	< 0.011	< 0.011	< 0.013

Sample Name:		P14/1 - 0.5 11-Oct-2023 3:32 pm
Lab Number:		3383753.36
Individual Tests		
Dry Matter	g/100g as rcvd	95
Total Cyanide*	mg/kg dry wt	< 0.10
Heavy Metals, Screen Level		
Total Recoverable Arsenic	mg/kg dry wt	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10
Total Recoverable Chromium	mg/kg dry wt	9
Total Recoverable Copper	mg/kg dry wt	< 2
Total Recoverable Lead	mg/kg dry wt	5.3
Total Recoverable Nickel	mg/kg dry wt	6
Total Recoverable Zinc	mg/kg dry wt	28
Organochlorine Pesticides Screening in Soil		
Aldrin	mg/kg dry wt	< 0.011
alpha-BHC	mg/kg dry wt	< 0.011
beta-BHC	mg/kg dry wt	< 0.011
delta-BHC	mg/kg dry wt	< 0.011
gamma-BHC (Lindane)	mg/kg dry wt	< 0.011
cis-Chlordane	mg/kg dry wt	< 0.011
trans-Chlordane	mg/kg dry wt	< 0.011
2,4'-DDD	mg/kg dry wt	< 0.011
4,4'-DDD	mg/kg dry wt	< 0.011
2,4'-DDE	mg/kg dry wt	< 0.011
4,4'-DDE	mg/kg dry wt	< 0.011
2,4'-DDT	mg/kg dry wt	< 0.011
4,4'-DDT	mg/kg dry wt	< 0.011
Total DDT Isomers	mg/kg dry wt	< 0.07
Dieldrin	mg/kg dry wt	< 0.011
Endosulfan I	mg/kg dry wt	< 0.011
Endosulfan II	mg/kg dry wt	< 0.011
Endosulfan sulphate	mg/kg dry wt	< 0.011
Endrin	mg/kg dry wt	< 0.011
Endrin aldehyde	mg/kg dry wt	< 0.011
Endrin ketone	mg/kg dry wt	< 0.011
Heptachlor	mg/kg dry wt	< 0.011
Heptachlor epoxide	mg/kg dry wt	< 0.011
Hexachlorobenzene	mg/kg dry wt	< 0.011
Methoxychlor	mg/kg dry wt	< 0.011

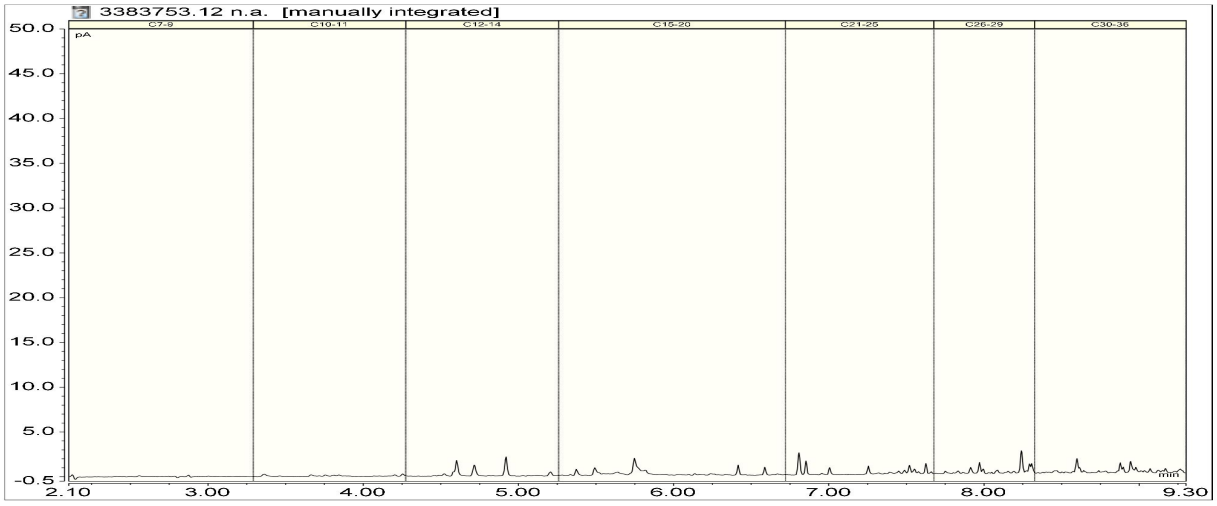
3383753.10
P4 - S 11-Oct-2023 11:25 am
Client Chromatogram for TPH by FID



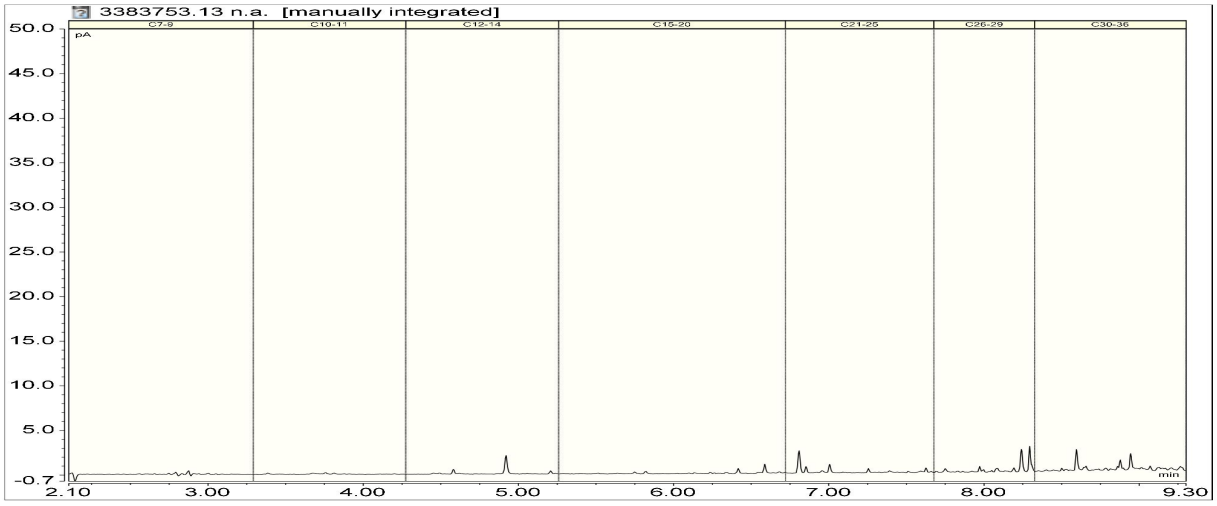
3383753.11
P4/1 - 0.5 11-Oct-2023 11:27 am
Client Chromatogram for TPH by FID



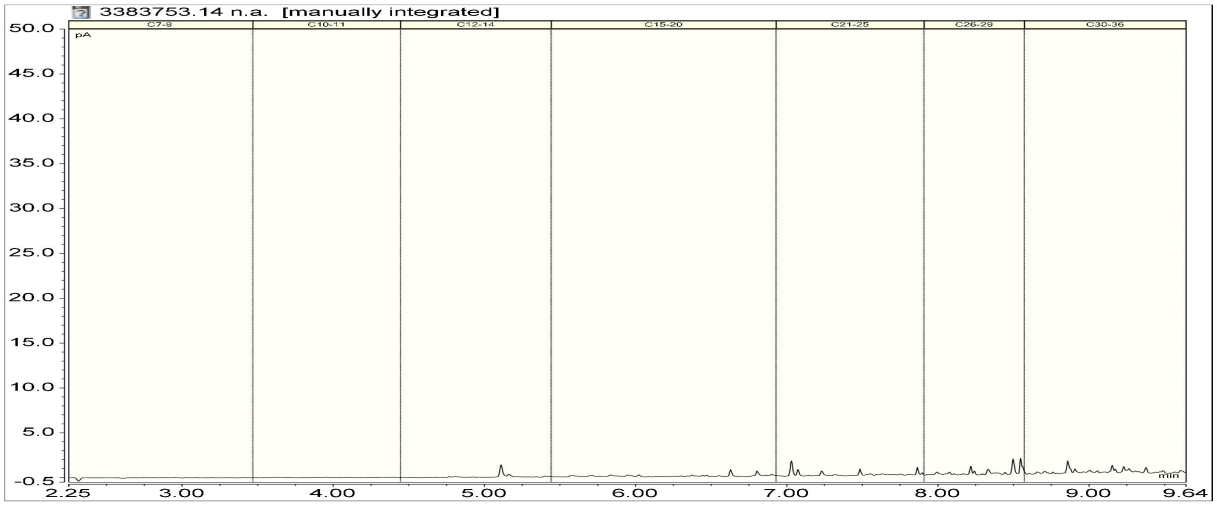
3383753.12
P4/2 - 1.0 11-Oct-2023 11:30 am
Client Chromatogram for TPH by FID



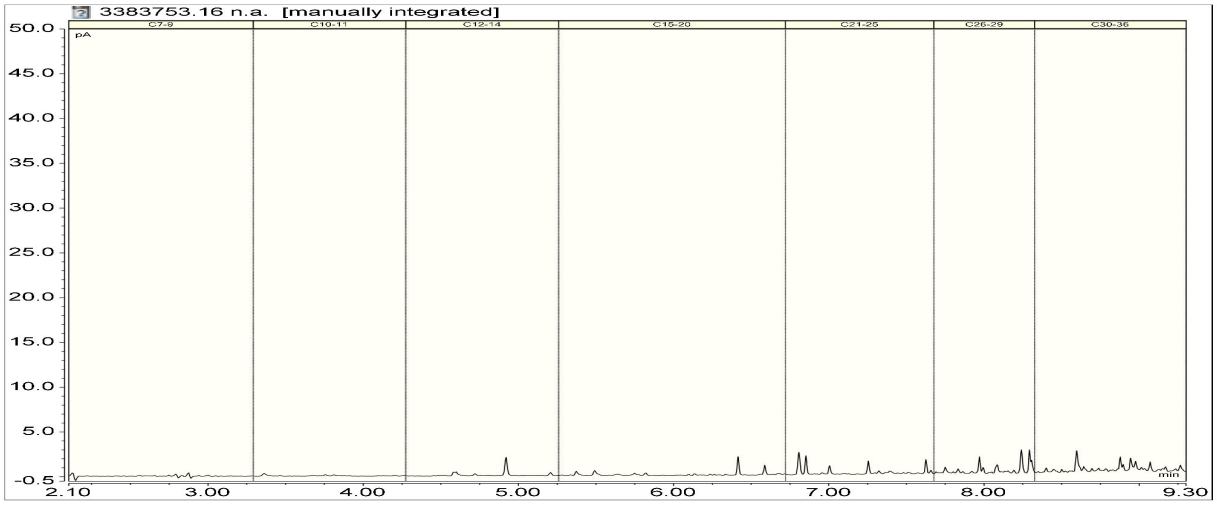
3383753.13
P5 - S 11-Oct-2023 12:00 pm
Client Chromatogram for TPH by FID



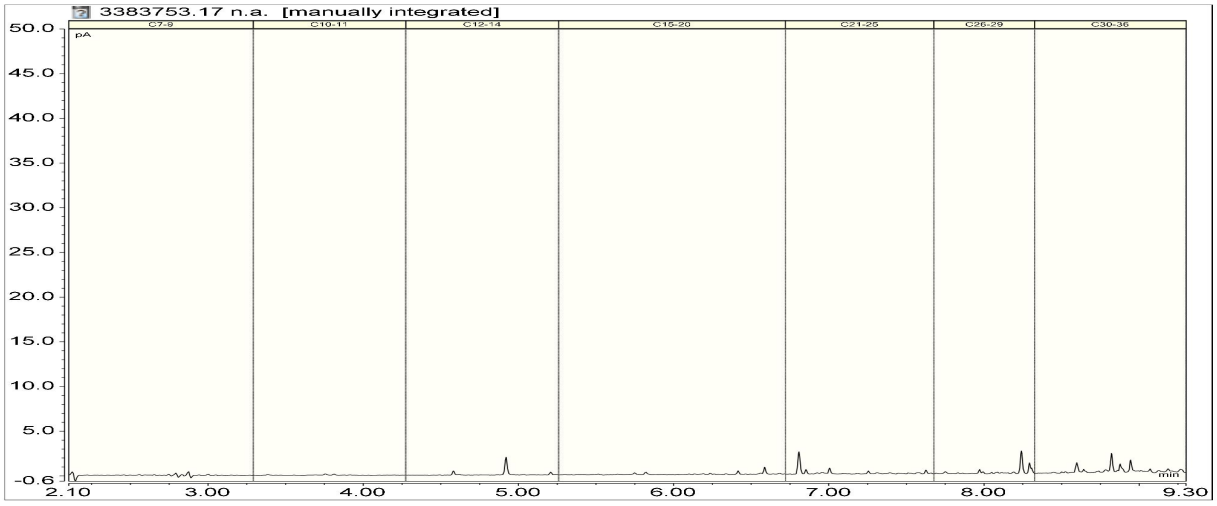
3383753.14
P5/1 - 0.5 11-Oct-2023 12:02 pm
Client Chromatogram for TPH by FID



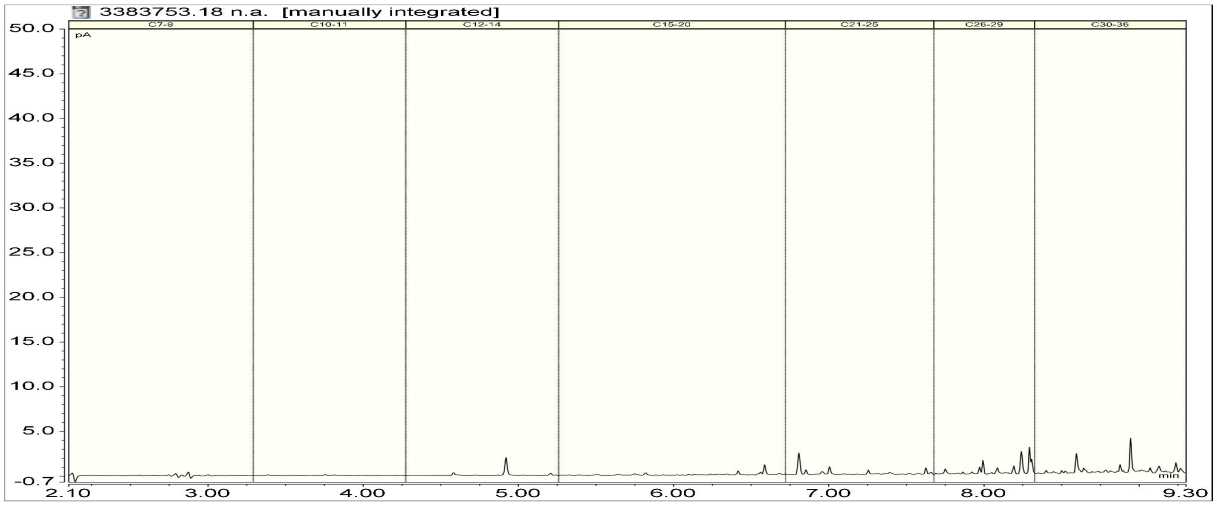
3383753.16
P6 - S 11-Oct-2023 12:30 pm
Client Chromatogram for TPH by FID



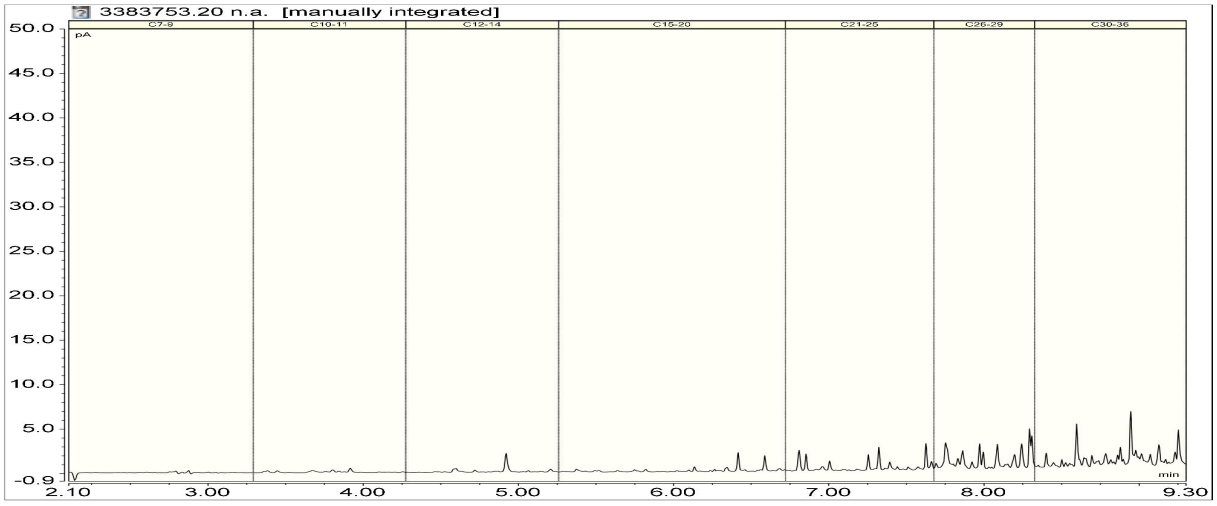
3383753.17
P6/1 - 0.5 11-Oct-2023 12:32 pm
Client Chromatogram for TPH by FID



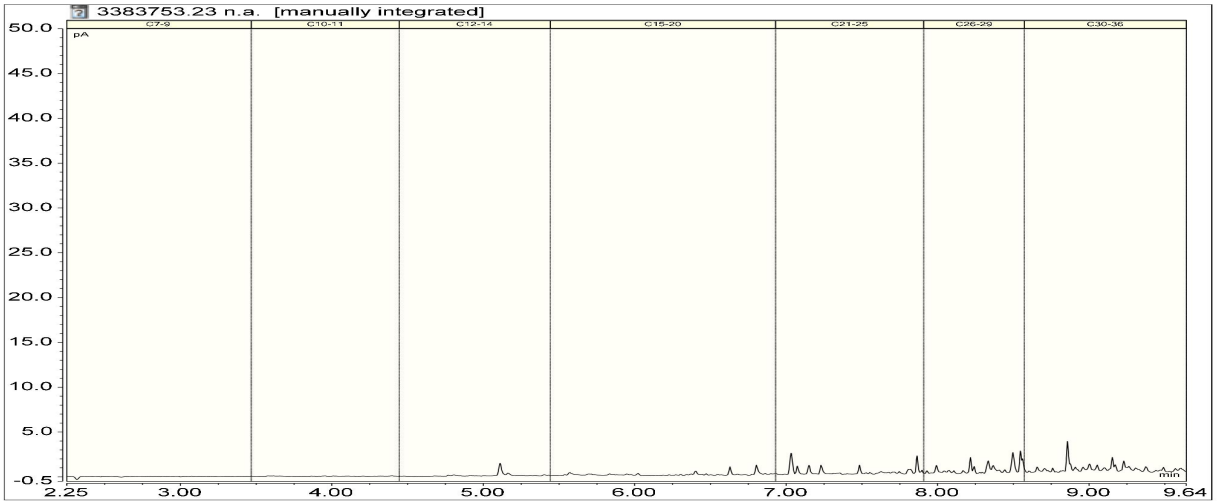
3383753.18
P7 - S 11-Oct-2023 12:45 pm
Client Chromatogram for TPH by FID



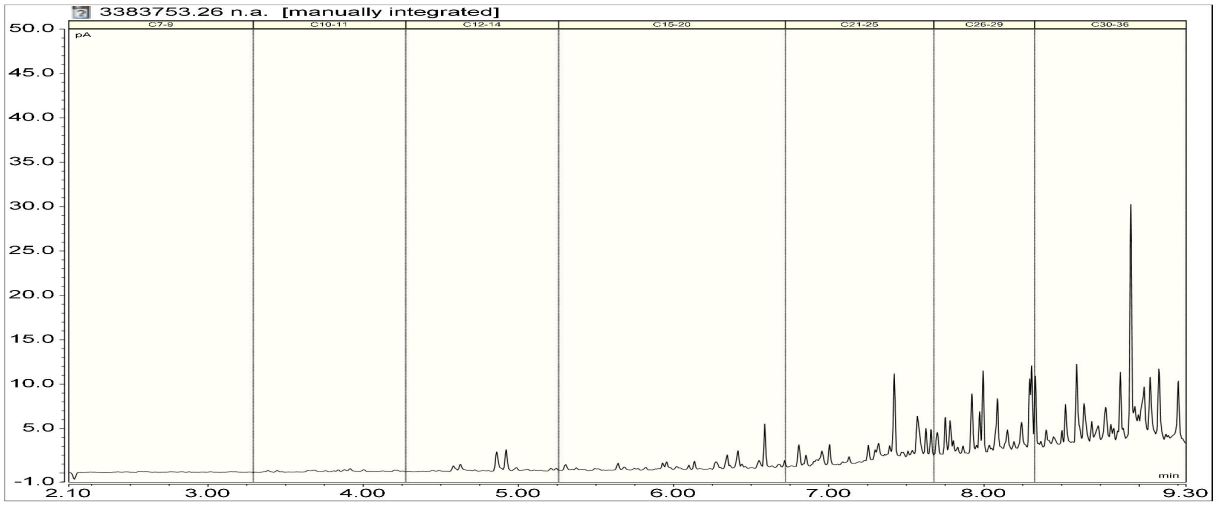
3383753.20
P8 - S 11-Oct-2023 1:10 pm
Client Chromatogram for TPH by FID



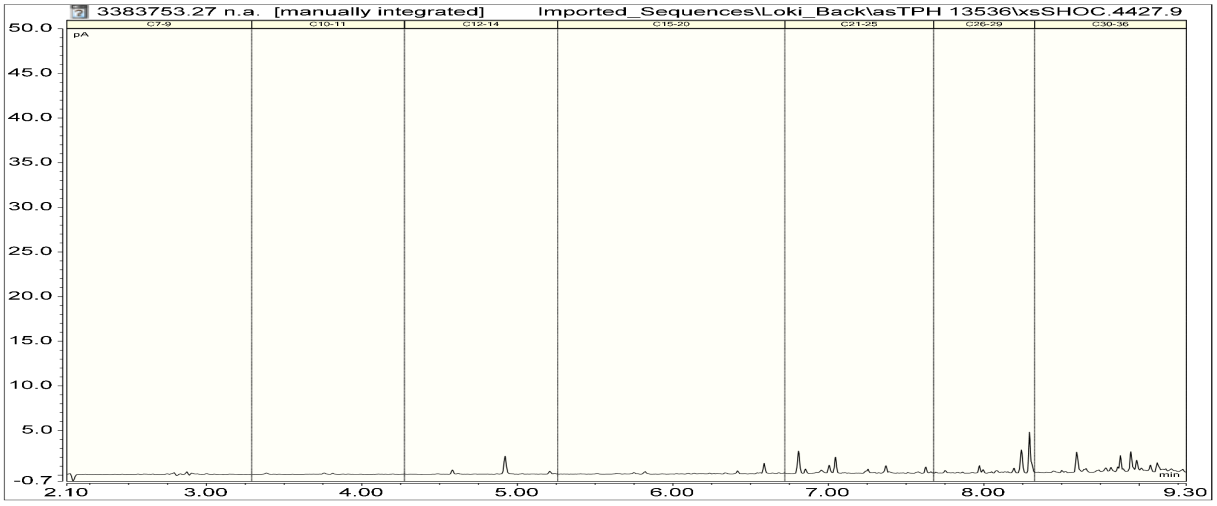
3383753.23
P9 - S 11-Oct-2023 1:20 pm
Client Chromatogram for TPH by FID



3383753.26
P10 - S 11-Oct-2023 2:00 pm
Client Chromatogram for TPH by FID



3383753.27
P11 - S 11-Oct-2023 2:15 pm
Client Chromatogram for TPH by FID



Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-36
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	1-36
Total Cyanide Distillation*	Distillation of sample as received. APHA 4500-CN^- C (modified) : Online Edition.	-	1-25, 27-36
Total Cyanide*	Distillation, colorimetry. APHA 4500-CN^- C (modified) : Online Edition & Skalar Method I295-004(+P14). ISO 14403:2012(E).	0.10 mg/kg dry wt	1-25, 27-36
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1-36
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	1-25, 27-36
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	10-14, 16-18, 20, 23, 26-27
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	20 mg/kg dry wt	1-28
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	1-28
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	1-28
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	1-28

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

Testing was completed between 12-Oct-2023 and 20-Oct-2023. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Kim Harrison MSc
Client Services Manager - Environmental

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Certificate of Analysis

Client:	KPES Limited	**Lab No:**	3383754	A2Pv1
Contact:	Klaus Prusas	**Date Received:**	11-Oct-2023	
	C/- KPES Limited	**Date Reported:**	19-Oct-2023	
	25 Kaka Road	**Quote No:**	126575	
	South Bay	**Order No:**		
	Kaikoura 7300	**Client Reference:**		
		Submitted By:	Klaus Prusas	

Sample Type: Soil

Sample Name:		PH1 S 11-Oct-2023 9:30 am	PH1/1 0.5 11-Oct-2023 9:32 am	PH1/2 1.0 11-Oct-2023 9:35 am	PH2 S 11-Oct-2023 9:40 am	PH2/1 0.5 11-Oct-2023 9:42 am
Lab Number:		3383754.1	3383754.2	3383754.3	3383754.4	3383754.5
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	695.9	922.2	863.8	773.4	846.2
Dry Weight	g	617.6	880.9	821.2	680.6	813.5
Moisture*	%	11	4	5	12	4
Sample Fraction >10mm	g dry wt	2.7	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	3.9	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <2mm	g dry wt	610.8	880.8	821.1	679.4	812.9
<2mm Subsample Weight	g dry wt	53.1	51.8	57.6	55.7	58.7
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:		PH2/2 1.0 11-Oct-2023 9:45 am	PH3 S 11-Oct-2023 10:05 am	PH3/1 0.5 11-Oct-2023 10:07 am	PH3/2 1.0 11-Oct-2023 10:10 am	PH4 S 11-Oct-2023 11:25 am
Lab Number:		3383754.6	3383754.7	3383754.8	3383754.9	3383754.10
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	864.0	896.7	881.5	798.0	921.7
Dry Weight	g	832.2	811.8	827.3	756.4	847.6

Sample Type: Soil						
Sample Name:		PH2/2 1.0 11-Oct-2023 9:45 am	PH3 S 11-Oct-2023 10:05 am	PH3/1 0.5 11-Oct-2023 10:07 am	PH3/2 1.0 11-Oct-2023 10:10 am	PH4 S 11-Oct-2023 11:25 am
Lab Number:		3383754.6	3383754.7	3383754.8	3383754.9	3383754.10
Moisture*	%	4	9	6	5	8
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	< 0.1	< 0.1	340.2
Sample Fraction <10mm to >2mm	g dry wt	< 0.1	21.7	< 0.1	< 0.1	287.7
Sample Fraction <2mm	g dry wt	832.1	789.8	827.2	756.3	219.0
<2mm Subsample Weight	g dry wt	56.3	56.2	51.7	55.4	54.4
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:		PH4/1 0.5 11-Oct-2023 11:27 am	PH4/2 1.0 11-Oct-2023 11:30 am	PH5 S 11-Oct-2023 12:00 pm	PH5/1 0.5 11-Oct-2023 12:02 pm	PH5/2 1.0 11-Oct-2023 12:10 pm
Lab Number:		3383754.11	3383754.12	3383754.13	3383754.14	3383754.15
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	ACM debris	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	939.5	759.0	739.6	813.9	927.4
Dry Weight	g	873.0	626.2	579.6	656.8	813.9
Moisture*	%	7	17	22	19	12
Sample Fraction >10mm	g dry wt	391.6	< 0.1	5.4	23.3	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	304.9	16.2	34.8	106.4	0.6
Sample Fraction <2mm	g dry wt	175.8	609.6	538.8	526.8	813.2
<2mm Subsample Weight	g dry wt	56.5	53.5	52.0	52.3	55.0
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	0.00076	< 0.00001	< 0.00001

Sample Name:		PH6 S 11-Oct-2023 12:30 pm	PH6/1 0.5 11-Oct-2023 12:32 pm	P7 S 11-Oct-2023 12:45 pm	P7/1 0.5 11-Oct-2023 12:40 pm	P8 S 11-Oct-2023 1:10 pm
Lab Number:		3383754.16	3383754.17	3383754.18	3383754.19	3383754.20
Asbestos Presence / Absence		Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos), Chrysotile (White Asbestos) and Crocidolite (Blue Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		Loose fibres	ACM debris and Loose fibres	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Sample Type: Soil						
Sample Name:		PH6 S 11-Oct-2023 12:30 pm	PH6/1 0.5 11-Oct-2023 12:32 pm	P7 S 11-Oct-2023 12:45 pm	P7/1 0.5 11-Oct-2023 12:40 pm	P8 S 11-Oct-2023 1:10 pm
Lab Number:		3383754.16	3383754.17	3383754.18	3383754.19	3383754.20
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	799.5	734.6	796.7	816.8	758.7
Dry Weight	g	663.3	579.2	614.8	790.0	582.3
Moisture*	%	17	21	23	3	23
Sample Fraction >10mm	g dry wt	36.8	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	65.3	26.4	4.1	< 0.1	3.6
Sample Fraction <2mm	g dry wt	560.4	551.7	610.3	789.9	577.9
<2mm Subsample Weight	g dry wt	59.9	56.5	55.8	57.1	52.4
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	0.00034	0.00738	< 0.00001	< 0.00001	< 0.00001

Sample Name:		P8/1 0.5 11-Oct-2023 1:12 pm	P8/2 1.0 11-Oct-2023 12:15 pm	P9 S 11-Oct-2023 1:20 pm	P9/1 0.5 11-Oct-2023 1:22 pm	P9/2 1.0 11-Oct-2023 1:25 pm
Lab Number:		3383754.21	3383754.22	3383754.23	3383754.24	3383754.25
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	ACM debris	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	0.001	< 0.001	< 0.001
As Received Weight	g	873.1	863.6	620.8	766.5	890.5
Dry Weight	g	816.3	797.1	490.0	705.0	771.2
Moisture*	%	7	8	21	8	13
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	< 0.1	< 0.1	4.4	< 0.1	< 0.1
Sample Fraction <2mm	g dry wt	815.8	796.8	484.7	704.7	771.0
<2mm Subsample Weight	g dry wt	50.5	51.6	53.5	55.7	59.9
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	0.00657	< 0.00001	< 0.00001

Sample Name:		P11 S 11-Oct-2023 2:15 pm	P11/1 0.5 11-Oct-2023 2:17 pm	P12 S 11-Oct-2023 2:40 pm	P12/1 0.5 11-Oct-2023 2:42 pm	P12/2 1.0 11-Oct-2023 2:45 pm
Lab Number:		3383754.26	3383754.27	3383754.28	3383754.29	3383754.30
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Sample Type: Soil						
Sample Name:		P11 S 11-Oct-2023 2:15 pm	P11/1 0.5 11-Oct-2023 2:17 pm	P12 S 11-Oct-2023 2:40 pm	P12/1 0.5 11-Oct-2023 2:42 pm	P12/2 1.0 11-Oct-2023 2:45 pm
Lab Number:		3383754.26	3383754.27	3383754.28	3383754.29	3383754.30
As Received Weight	g	725.8	845.4	662.3	815.8	818.6
Dry Weight	g	611.0	789.0	514.1	765.0	779.4
Moisture*	%	16	7	22	6	5
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	2.1	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	4.2	< 0.1	26.0	< 0.1	< 0.1
Sample Fraction <2mm	g dry wt	606.0	788.8	482.8	764.6	779.2
<2mm Subsample Weight	g dry wt	54.8	59.2	51.1	53.8	58.7
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:		P13 S 11-Oct-2023 3:15 pm	P13/1 0.5 11-Oct-2023 3:17 pm	P13/2 1.0 11-Oct-2023 3:20 pm	P14 11-Oct-2023 3:30 pm	P14/1 0.5 11-Oct-2023 3:32 pm
Lab Number:		3383754.31	3383754.32	3383754.33	3383754.34	3383754.35
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form		-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As Received Weight	g	713.9	839.6	836.0	763.8	887.9
Dry Weight	g	559.7	780.7	760.5	616.2	837.1
Moisture*	%	22	7	9	19	6
Sample Fraction >10mm	g dry wt	6.9	< 0.1	4.9	55.4	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	25.3	6.3	9.1	47.8	< 0.1
Sample Fraction <2mm	g dry wt	526.0	773.9	745.7	512.0	836.8
<2mm Subsample Weight	g dry wt	51.5	50.6	56.3	54.6	53.4
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Glossary of Terms

• Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
• Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
• ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
• ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
• Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
• Trace - Trace levels of asbestos, as defined by AS4964-2004.
For further details, please contact the Asbestos Team.

Please refer to the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.
https://www.branz.co.nz/asbestos

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-35
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-35
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-35
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-35
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-35
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-35
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-35
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-35
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-35
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-35
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-35
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-35
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-35
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-35
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-35

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

Testing was completed on 19-Oct-2023. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Rhodri Williams BSc (Hons)
Technical Manager - Asbestos

Appendix E: Site Photographs

Prestons Road – Photos

1.0 390 Prestons – Workshop

2.0 390 Prestons – Rear workshop (Storage Building)

3.0 390 Prestons – Car body

4.0 390 Prestons – Sundry Parts

5.0 390 Prestons – Rear

6.0 396 Prestons – “bowser”

7.0 396 Prestons – Caravan/ Boat Park

8.0 396 Prestons – Caravan / Boat Park

9.0 396 Prestons – Caravan/ Boat Park

10.0 396 Prestons – Lawn / Landscaped

11.0 396 Prestons – Dwelling

12.0 394 Prestons – House / Office

13.0 394 Prestons – House/ office (looking North)

14.0 394 Prestons – Driveway

15.0 394 Prestons – Mid-property

16.0 394 Prestons Rd – Looking south (building west boundary)

17.0 394 Prestons – Building east boundary

18.0 394 Prestons – Building east boundary

19.0 Test Pit – Prestons Road

20.0 Test Pit – Prestons Road

21.0 Test Pit – Prestons Road

22.0 Test Pit – Prestons Road

23.0 Test Pit – Prestons Road

24.0 Test Pit – Prestons Road

25.0 Test Pit – Prestons Road

26.0 Test Pit – Prestons Road

27.0 Test Pit – Prestons Road

28.0 Test Pit – Prestons Road

29.0 Test Pit – Prestons Road

30.0 Test Pit – Prestons Road

30.0 Test Pit – Prestons Road

31.0 Test Pit – Prestons Road