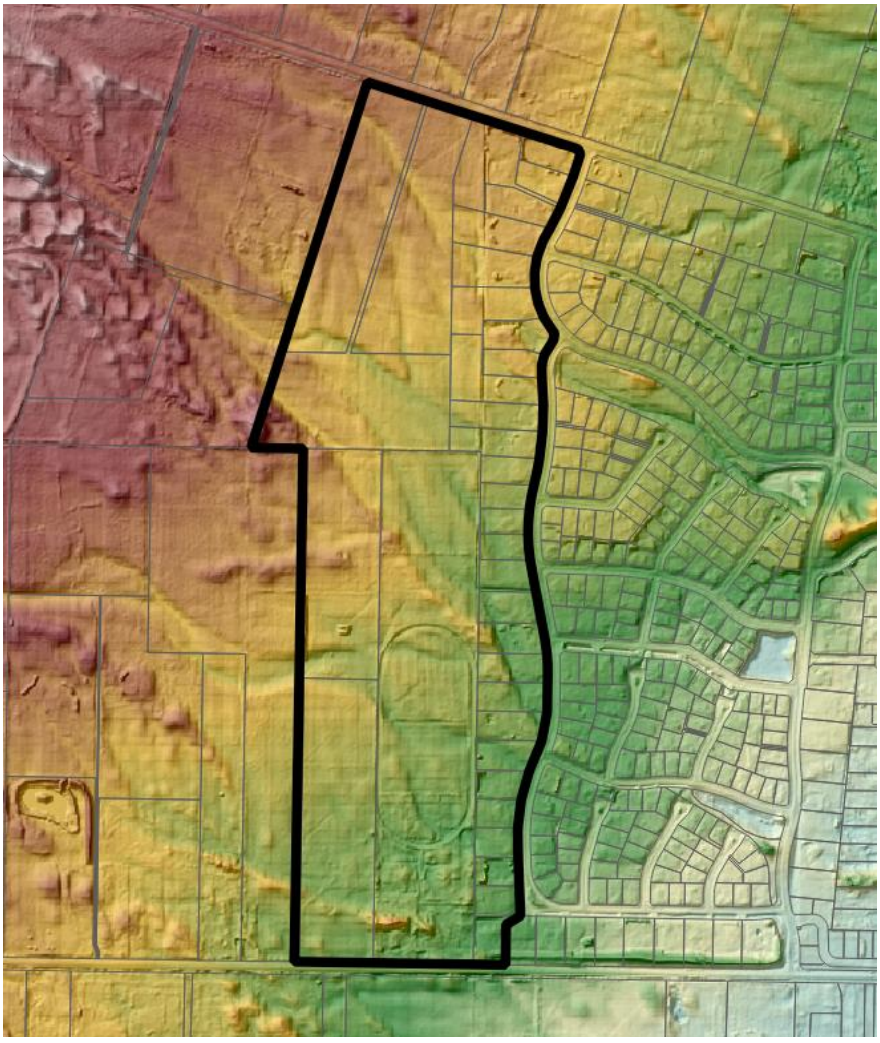
MARAMA TE WAI LTD

11 December 2020

1234 WEST COAST ROAD PLAN CHANGE APPLICATION

Infrastructure Report



e2 environmental
CONSULTING ENGINEERS

MARAMA TE WAI LTD

11 December 2020

1234 WEST COAST ROAD PLAN CHANGE APPLICATION

Infrastructure Report

Quality Control			
Author	*Daniel McMullan, Daryll Pinfold*	Client	*Marama Te Wai Ltd*
Reviewed by	*Andrew Tisch*	Date Issued	*11 December 2020*
Approved by	*Andrew Tisch*	Revision No.	*2*
Doc Name/Location	rpt 201211 Infrastructure Report West Melton PC v3		

e2environmental CONSULTING ENGINEERS

Table of Contents

Project Personnel

Developer:

Owner	Marama Te Wai Ltd C/- Aston Consultants Ltd Resource Management and Planning PO Box 1435 Christchurch 8140

Principal Designers:

Name	Andrew Tisch, Principal Engineer, Daniel McMullan, and Daryll Pinfold, Assistant Engineers
Company	e2Environmental Ltd
Address	P O Box 31159, Ilam, Christchurch 8044
Phone	021 90 65 38
Email	andrew.tisch@e2environmental.com

1 Introduction

This report details the infrastructure requirements for a proposed 525 lot residential development across the block, as shown in the Outline Development Plan (ODP) in Figure 1 below. The lot yield is comprised as follows:

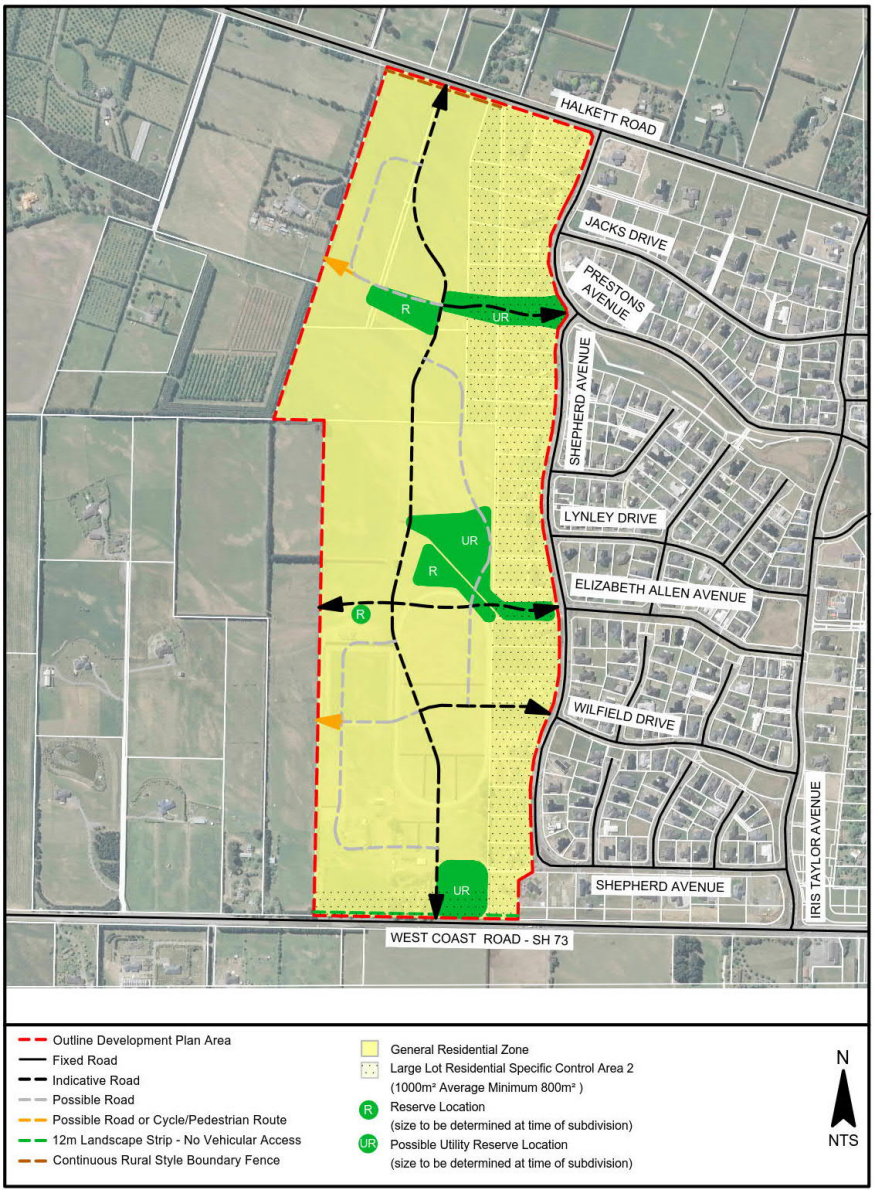
Greenfield Area = 35.5ha
Utility Reserves total area = 3.3ha
Net Area = 32.2ha @ 12hh/ha = 386hh

Relief Area = 14.5ha
Utility Reserves total area = 0.8ha
Net Area = 13.7ha @ minimum 1000m² average = 137hh

Total households = 525

Figure 2 provides details on the land parcels located inside the Plan Change Area.

Figure 1 ODP of the Site



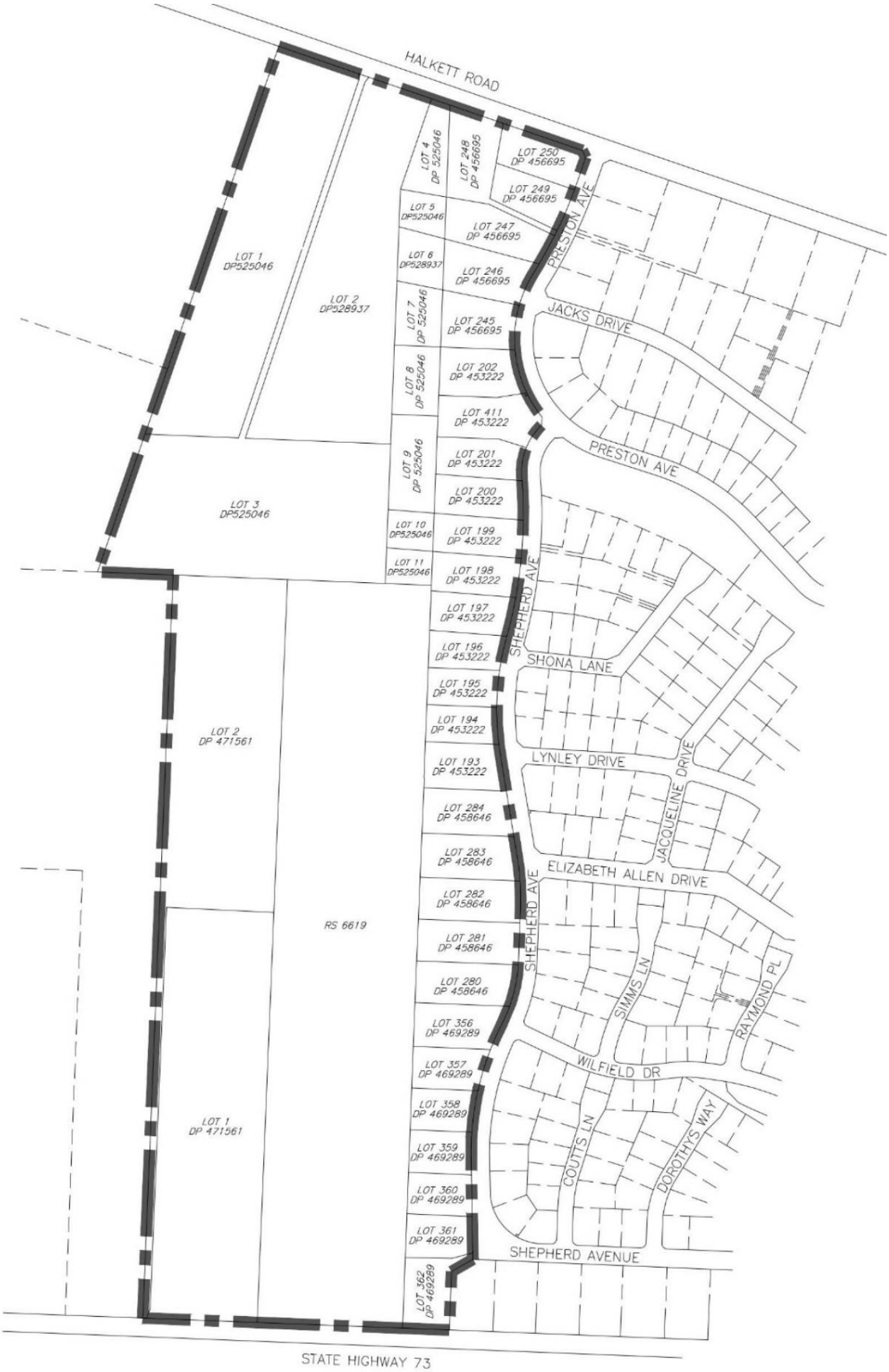


Figure 2 Legal Description of Land Parcels in the Plan Change Application

The site is bounded by Halkett Road to the North, Prestons Downs subdivision to the west, West Coast Road to the south, and rural properties to the west.

The site comprises open pastures that have typically been used for farming activities. The land gently slopes to the southeast at 0.6%, from an approximate ground surface elevation of 98.0m in the northwest site corner to 93.0m (NZVD 2016) in the lower southeast corner. There is a ridge running roughly northwest to southeast, and there are two low areas in each of the areas created by the ridge.

The site geology has been previously reported by Pattle Delamore Partners Ltd (PDP)[1] as being underlain by 'grey river alluvium beneath plains or low-level terraces.' Their report noted that groundwater would be expected at 30 m below ground level and would generally flow to the east.

1.1 Surface Water

Surface water bodies within site and surrounding areas comprise water races, private ponds, and stormwater management areas. There are two local/lateral water races in the north of the site that are part of the Paparua Water Race Scheme. One of the private ponds is located in the mid-portion of the rural land area (adjacent to one of the water race laterals), while three other ponds are located in the existing residential properties to the east. A pond is also located in neighbouring land approximately 350 m to the west, as shown in Figure 3 below and in Appendix A.

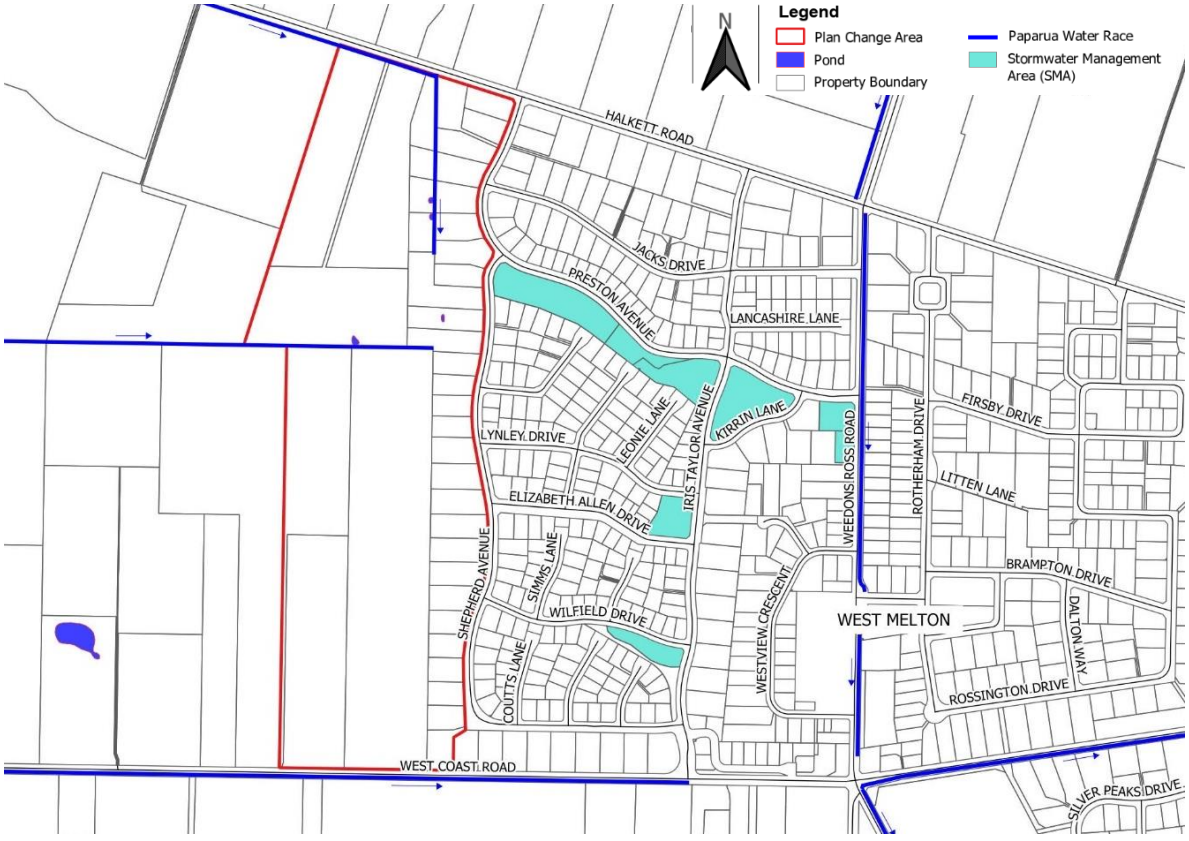


Figure 3 Local Waterbodies

[1] Pattle Delamore Partners. (August 2018). Detailed Site Investigation – 1234 West Coast Road, West Melton.

1.2 Site Contamination

Two investigations have been completed across the block as summarised below and included in Appendix C. There is no information available on Environment Canterbury's (ECan) Listed Lan Use Register (LLUR). See Appendix B for further LLUR details.

1.2.1 Detailed Site Investigation – 1234 West Coast Road, West Melton, PDP Ltd, 31 August 2018.

Key findings:

- 'In summary, the reviewed information and the site inspection shows the only potential HAIL activity at the site relates to the imported fill material used to form the horse training track in the central portion of the site. '
- 'The soil sampling investigation was undertaken, which included the collection of six soil samples from the fill material used to construct the horse training track. Concentrations of the tested analytes (i.e. heavy metals) were measured below the standards/guidelines for residential land use while asbestos was not detected in any of the samples. As such, there is considered to be an acceptably low risk to excavation workers and future land users (e.g. residents) and there is considered to be no restrictions on the reuse or disposal of the surplus soils generated as part of any future redevelopment of the site.'

1.2.2 Preliminary Site Investigation – West Coast Rd & Halkett Rd, West Melton. Malloch Environmental Ltd, December 2020.

Key findings:

- 'The investigations undertaken have indicated two risk area on the subject site, both within 1234 West Coast Road (RS 6619). There is a risk of contamination by heavy metals from current and historical activities including:
    I. Old buildings potentially painted with lead-based paints
    II. A burn area
- 'The rest of the subject site has been used for general pasture for its known history or until being recently developed for rural residential or residential use. These uses are highly unlikely to have caused a risk to human health or the environment. There is no evidence of HAIL activities or industries having occurred on the rest of the subject site, now or in the past. The rest of the subject site is considered suitable for residential use with no further investigations required.'

2 Earthworks

A geotechnical report for the site was completed by Landtech Consulting Ltd and is provided in Appendix D. The soil testing consisted of machine excavated holes, soakage tests, and penetrometers.

Key findings:

1. The soil typically consists of 200 to 300 mm of topsoil overlaying silt and sand. Gravel was found at 0.5m below ground (mid-point of the site) to 1 m depth (south of the site).
2. Soil bearing capacity is generally 'good' in terms of the NZS3604 definition.
3. The liquefaction vulnerability is very low for the site when subjected to a significant earthquake event. There is also a very low risk of liquefaction-induced ground damage following a significant seismic event.
4. The ground soakage rate in the gravel strata at 2.5 m depth varies between 0.2 m/hr near West Coast Road and 4.2 m/hr near the site mid-point. Further investigation is required to understand the variability.

2.1 Suitability for Development

2.1.1 Filling

The soil types encountered will be suitable for both engineered filling (deeper than 300 mm) and non-engineered filling. No dewatering, dig-outs of poor material, or consolidation is likely to be required.

2.1.2 Foundation Soils

While on-site testing on each lot is recommended for foundation design on future buildings, the soils encountered in the geotechnical study could be classified as 'good' under the NZS3604 definition. Therefore, conventional shallow foundations are likely to be suitable for residential buildings.

2.1.3 Service Trenching

The geotechnical report showed that the soils tested are likely to be suitable for conventional service trenching since they consist of silt, sand and gravel, will not be in groundwater, and have a low liquefaction risk.

2.1.4 Erosion, Sediment and Dust Control

An Erosion, Sediment and Dust Control plan will be required at the construction stage to mitigate the risks of sediment runoff and dust. At a high level, the plan is expected to address:

- *Sediment-laden runoff.* This is likely to be discharged to ground via constructed soak holes. A construction stormwater discharge consent from ECan will be required to authorise this activity.
- *Mitigation of airborne dust during earthworks operations*. This will be covered in a Dust Control plan submitted to ECan under the Canterbury Air Regional Plan (CARP) rule 7.32. It is likely to include measures to prevent dust beyond the property boundary by wetting via water carts, irrigation, or dust suppressing polymers.

2.2 Consent Requirements

Consent from both ECan and SDC are likely to be required for earthworks at the site relating to any future subdivision construction as follows.

2.2.1 ECan – Canterbury Land and Water Regional Plan (LWRP)

Rule 5.175 applies since the site is located over unconfined and semi-confined aquifers. Any subdivision work is likely to require more than 100 m^3 of excavation work limited under this rule, and therefore consent will be needed.

2.2.2 SDC – District Plan

Consent is required to meet clause SUB-REQ12.1 since the land disturbance is likely to exceed 1,000 m^2.

3 Roading

The trunk roading network will generally be as shown on the ODP. As described in the Stormwater section, some trunk roads will be designed to convey overland flow. Where required, roadside swales will provide secondary flow paths for conveyance into downstream stormwater networks. These secondary flow paths will need to safely convey floodwaters to their existing flow path locations at the boundary of the proposed development (i.e., the management of secondary flow paths should maintain the site's hydraulic neutrality).

The minor roading network will be developed in detail at the subdivision consent stage. The location of the stormwater management areas, as discussed in the Stormwater section, may influence the location of some roads.

3.1 Road Pavement

The soils encountered in the geotechnical study are likely to be suitable for road construction because:

- The bearing capacity is good, and so the pavement type and depth are likely to be conventional;
- Groundwater is deep, so dewatering will not be required during construction, neither will groundwater control be needed during the operational phase;
- There is a low liquefication potential, so there will be no special pavement requirements to deal with that risk.

4 Stormwater and Flooding

4.1 Introduction

This section focusses on the following:

- Management of on-site stormwater in the first flush and large rainfall events; and
- Management of overland flow paths and ponded water in large flood events.

4.2 Report Purpose

The purpose of this section is to document the high-level analysis undertaken by e2 for the concept design of stormwater management areas. This section demonstrates how the proposed stormwater management meets legislative requirements and documents the methodology behind the calculations.

4.3 Design Specifics

4.3.1 Legislative Requirements Specific to the Design

Stormwater discharge in West Melton needs to be authorised by one of the approval options outlined below:

1. A rule in the Environmental Canterbury (Ecan) Land and Water Regional Plan (LWRP). *This activity will not meet the relevant rule(s) in the LWRP*.
2. An existing global stormwater consent held by SDC. *The global consent CRC167467 covers an area east of the site and therefore cannot be used*.
3. A site-specific discharge consent from Ecan. *This is the only approval route available for the proposed site discharges.*

As much of the site is near the west boundary of the SDC global consent area we have assumed that the stormwater treatment and attenuation conditions in the consent will be appropriate for the site.

Relevant design requirements from the global consent include:

- The stormwater drainage network to have capacity to convey stormwater from the contributing catchment from events up to and including a 10% AEP;
- Provide overland flow paths for secondary flows in excess of a 10% AEP event away from habitable buildings;
- Not exacerbate flooding on existing sites;
- Provide retention for all events up to a 2% AEP for discharges to land;
- Roof soakpits to have the capacity to discharge stormwater from a 10% AEP 1hr storm;
- Stormwater treatment to include at least one of a treatment swale, infiltration basin, or detention basin;
- Design of all devices to allow for climate change in scenario RCP8.5 out to the years 2081 to 2100; and
- The ‘first flush’ rainfall depth for water quality treatment of 20 mm.

Additional design performance requirements have been specified based on Christchurch City Council's (CCC) Waterways, Wetlands, and Drainage Guide (WWDG).

4.3.2 Catchments

The site for the proposed development has been split into two catchments identified as the northern catchment, and as the southern catchment. These catchments have been defined based on a natural ridge that runs northwest / southeast, connecting with Shepherd Avenue at its intersection with Wilfield Drive. Refer to Figure 4 for a plan showing the catchment extents, and Table 1 which provides assorted catchment details.

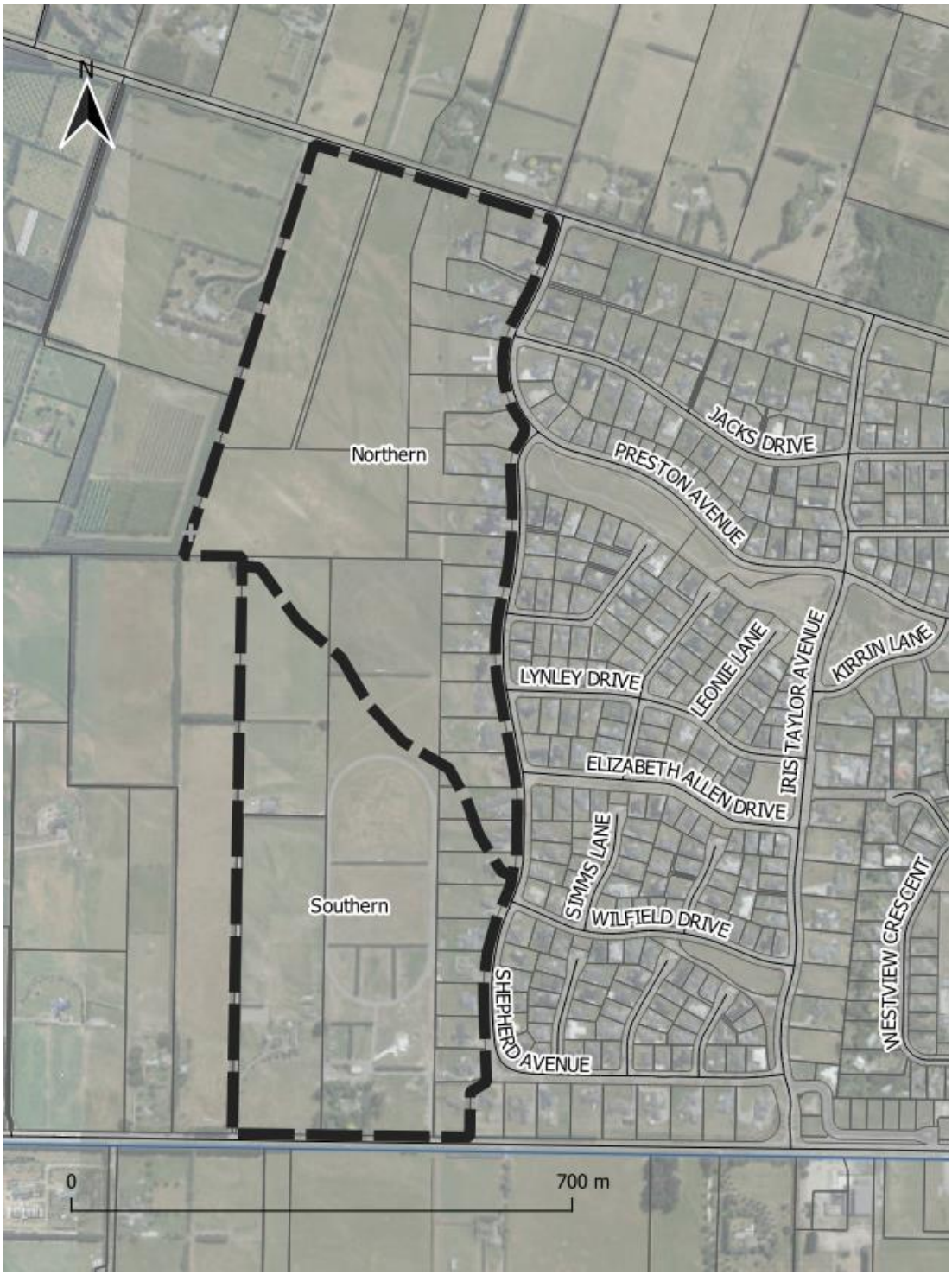


Figure 4 Site catchments (defined by black dashed line)

Table 1 Catchment details

Catchment:	Northern Catchment	Southern Catchment	Source
Area:	28.1 ha	21.8 ha	GIS / 2016 LiDAR
Assumed existing drainage:	Well-drained	Moderately well-drained	Canterbury Maps
Estimated time of concentration (approximate):	1 hour	1 hour	Calculations based on WWDG

4.3.3 Design Philosophy

The design of the stormwater management area (SMA) has followed the process laid out in the WWDG (CCC, 2012). The SMA will consist of:

- A first flush / infiltration basin to capture and remove total suspended solids in the runoff generated by the first 20 mm of rainfall on the catchment (primary treatment);
- A detention basin to provide water quantity attenuation in large rainfall events greater than the first flush event, but up to the 2% AEP in all durations. This basin will be connected to the first flush basin via an overflow weir;
- A large rapid soakage chamber under the detention basin to discharge stormwater to ground and provide additional storage within the voids of the chamber.

This is presented in a conceptual diagram in Figure 5 below.

A SMA is proposed for each of the two catchments.

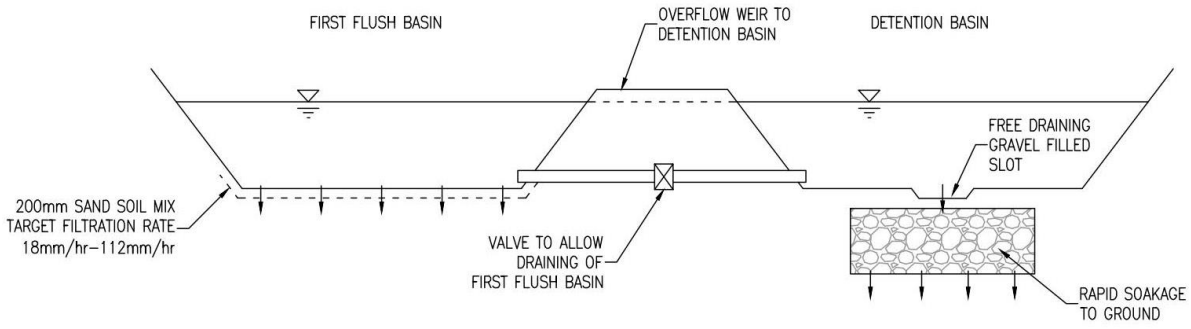


Figure 5 Conceptual stormwater management area

4.3.4 Stormwater Management Areas

The required volumes and areas for each catchment's SMA has been estimated using a high-level rational method calculation (refer to Table 2). Due to the high-level approach, there is some inherent uncertainty for the stormwater runoff volumes; however, the approach taken is expected to be conservative and suitable for the requirements of this report. Further analysis will be required for the detailed design of these SMAs.

Table 2 Stormwater management area details

	Northern Catchment			Southern Catchment		
	Storage Volume	**Area**	**Depth**	**Storage Volume**	**Area**	**Depth**
First Flush Basin	2,020 m³	1,935 m²	1.5 m	1,570 m³	1,565 m²	1.5 m
Detention Basin	1,410 m³	1,430 m²	1.5 m	1,090 m³	1,155 m²	1.5 m
Rapid Soakage	610 m³	805 m²	2.0 m	480 m³	630 m²	2.0 m
Design SMA Totals	3,430 m³	4,050 m²	-	2,660 m³	3,380 m²	-

The following assumptions have been made:

- First flush basins have been assumed to have an average depth of 1.5 m of live storage;
- Detention basins have been assumed to have an average depth of 1.5 m of storage;
- The basins will have 4:1 (h:v) side slopes;
- The basins will require a 5 m wide maintenance strip around the perimeter of the SMA;
- That water can be conveyed to each of these stormwater management areas from their contributing catchments;
- That roofs will be able to discharge to ground at a rate based on the 10% AEP 1hr storm;
- That the proposed development will have a density approximately equivalent to the Residential New Neighbourhood in CCC's district plan and outlined in the WWDG (CCC, 2020). This is a convenient way of establishing a runoff coefficient.
- That the stormwater management areas can also be utilised for flood storage in the 0.5% and 0.2% AEP flood events;
- That soakage to ground will be possible – i.e., there is sufficient depth to groundwater, and the soil profile is suitable for soakage (see relevant ECan well logs in Appendix B); and
- That design rainfall depths and intensities are consistent across the development.

4.3.5 Qualitative Flood Management

Flood management is required to ensure that floodwaters in the 0.5% AEP and 0.2% AEP flood events are safely managed away from people and property. These events have been modelled by SDC in a large catchment-wide two-dimensional hydraulic model which represents the floodplain by a 10 m coarse rectangular grid[2]. Detailed model results showing extent and flood depth are available to view on SDC's website, and is shown below in Figure 6.

[2] The model simplifies the topography of the land into a grid with cells that are 10m wide by 10m long, where each cell has an average elevation of the true topography in the extent of the cell. This means that small drains common on farms are not as well represented.

In general, ground levels on lots will be set above road levels so that in large flood events the roads act as secondary flow paths. Where required, roadside swales will be provided as designated secondary flow paths which will connected into the downstream stormwater network. These secondary flow paths will need to safely convey floodwaters to their existing flow path location at the boundary of the proposed development (i.e., the management of secondary flow paths should maintain the site's hydraulic neutrality).

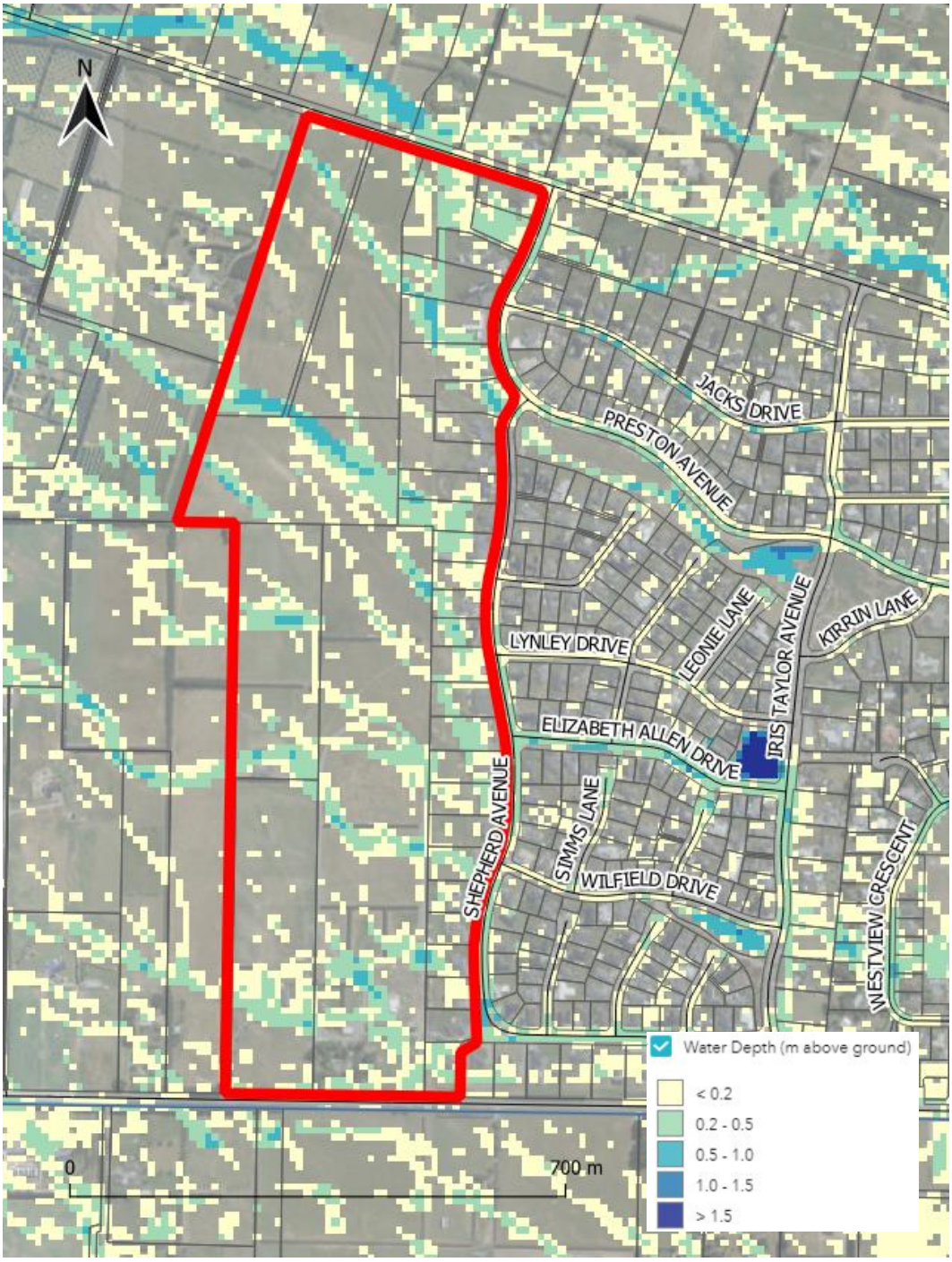


Figure 6 SDC's flood modelling results in a 0.2% AEP flood event [3]

[3] Selwyn District Council. (2019). *Selwyn's flooding and coastal hazards*. Retrieved December 2, 2020 from https://apps.canterburymaps.govt.nz/SelwynNaturalHazards/

A Section 106 (of the Resource Management Act) assessment is required where land proposed for development may be at significant risk from natural hazards such as flooding. In general, the Section 106 assessment should include:

- a combined assessment of the likelihood of the natural hazards occurring;
- the material damage that would result from natural hazards to the development site, other land or structures;
- any likely subsequent use of the land that would accelerate or worsen the damage predicted from a natural hazard; and
- Proposed finished floor levels.

A geotech Section 106 assessment will be completed by Landtech Consulting Ltd.

4.3.6 Additional Information

Table 3 below details the rainfall depths sourced from HIRDS V4 used in the analysis.

Table 3 HIRDS V4 rainfall depths (mm) – RCP8.5 for the period 2081-2100

ARI	AEP	1h	2h	6h	12h	24h	48h	72h	96h	120h
2	**50%**	13.3	18.9	32.3	44.4	59.3	76.4	86.6	93.6	98.7
5	**20%**	19.0	26.8	45.2	61.5	81.2	104	117	126	132
10	**10%**	23.7	33.1	55.4	74.9	98.2	125	140	150	158
50	**2%**	36.4	50.3	82.4	110	142	177	198	211	220

5 Wastewater

5.1 Existing Wastewater System: Wastewater Rising Main Outfall and treatment plant

The following is key background information on the West Melton Council's Eastern Selwyn Sewerage Scheme (ESSS)[4]:

- The scheme was developed in 2007 to serve the Gainsborough subdivision and future developments. Untreated sewage is pumped via a rising/gravity main to the Pines Treatment Plant (WWTP). As a result of significant earthquake damage to septic tanks and the Preston Downs development, connection to the reticulated sewerage scheme by the majority of the township has now occurred.
- Population served in 2018: 1686 (624 households at 2.7 pph)
- There are two pump stations
- There are 25 km of pipes comprised of a falling pressure main and a gravity main, as shown in Figure 7 below.
- All treatment is at the Pines WWTP in Rolleston
- Average daily demand: 314 cu.m (503 L/household/day); peak daily: 426 cu.m; minimum daily: 210 cu.m.

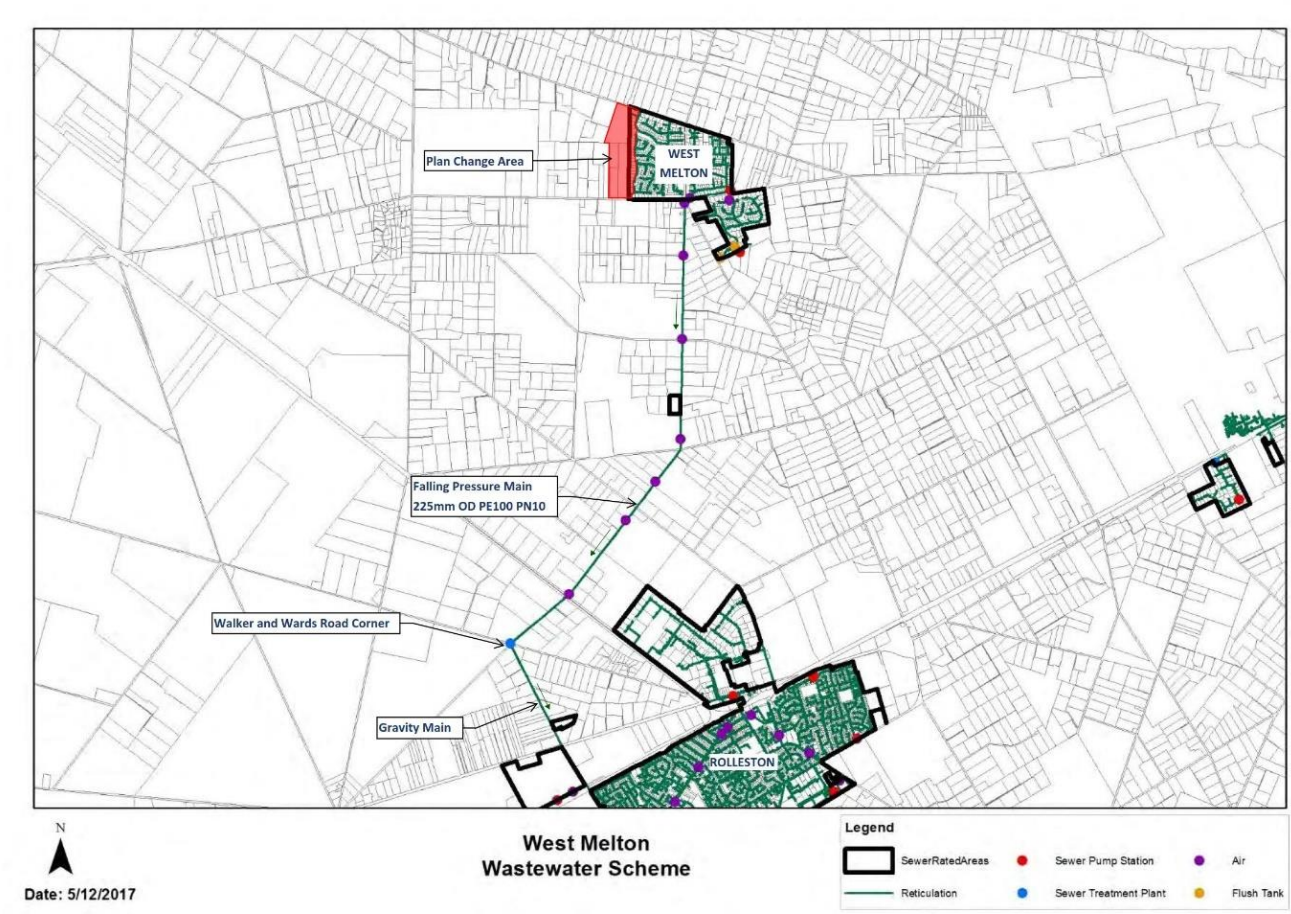


Figure 7 West Melton Wastewater Scheme (SDC AMP)

[4] SDC Wastewater Activity Management Plan (AMP) Volume 3. 2018

5.2 Current Constraints

The Wastewater AMP notes that 'System discharge capacity is limited by Rolleston reticulation' and that 'All future development shall be required to assess remaining capacity and mitigate peak flows'.

This plan change application is one of several applications currently being considered by the SDC for residential growth in West Melton. Therefore, upgrades to the West Melton to WWTP reticulation may be required, as discussed below.

Recent discussions with the SDC[5] have confirmed that:

1. The WWTP currently serves a population of approximately 42,000 but has capacity for 60,000. The SDC's 2021 to 2031 Long Term Plan (LTP) has earmarked funding to upgrade the plant to a population equivalent of 120,000.
2. The main constraint for West Melton is the reticulation from West Melton to the WWTP. One bottleneck is that the pipe is PN10 pressure class. This limits the additional flow and resulting pressure rise that can be generated during peak pumping times. The biggest bottleneck is the gravity main, which is currently near capacity, and is likely to be under capacity with future peak flows from proposed developments in West Melton.
3. The SDC has commissioned a study to calculate actual inflow/infiltration in the network. Council believes that the SDC Code of Practise calculation is likely to over-predict inflow/infiltration in the network because of the deep groundwater and lack of surface water flooding in the catchment. Therefore, calculations based on the SDC Code of Practise may overestimate flow generated by new residential development.
4. Options for upgrading the West Melton to WWTP reticulation include:

    - Upgrade of the gravity section specifically to serve West Melton;
    - Upgrade the proposed final section of pipe as part of the proposed Darfield Wastewater scheme by extending the pressure main to Aylesbury Rd and all the way to the WWTP. The capacity of existing pressure main still needs to be checked. The Darfield scheme is currently at the consultation phase. The scheme is likely to include wastewater pumping from Darfield to the Pines WWTP in Rolleston. As part of that scheme, the under-capacity gravity section in the West Melton to WWTP could be upgraded.
    - Leave reticulation as is and pump from new developments outside peak time: see the discussion in Section 5.3 below.

[5] Murray England SDC Asset Manager Water Services, Zani van der Westhuizen, SDC Water Services meeting with Andrew Tisch e2Evironmental Ltd Principal Engineer, 8 December 2020. Murray has made the following declaration of conflict of interest:
"*I own property and live on land subject to this enquiry. My ownership of this property has not had any influence on the information I have provided in relation to this land as an employee of Selwyn District Council. To ensure transparency at our end, Zani has observed all discussions to date*.'

5. SDC are not currently planning to upgrade the West Melton to WWTP reticulation but are likely to formulate plans as part of the plan change assessment process driven by development capacity needs.

5.3 Proposed Wastewater: On-Site and Rising Main

Based on the existing capacity and current constraints discussion above, we have identified four feasible servicing options. All require installing a new pressure main along the West Coast Rd to connect to the existing pressure main at the West Melton Road/West Melton Rd intersection.

1. Local pressure sewer system (LPSS) with storage and IOTA controllers for each lot. The controller will be set to pump into the pressure main outside peak times when capacity is available.

2. Each lot gravitates to an SDC vested pump station with storage. The pump station will be set to pump into the pressure main outside peak times when capacity is available.

3. LPSS option is similar to 1 above but without off-peak pumping. This option would be suitable following any SDC initiated West Melton to WWTP reticulation upgrades.

4. Gravity to pump station option similar to 2 above but without off-peak pumping. This option would be suitable following any SDC initiated West Melton to WWTP reticulation upgrades.

5.3.1 Feasibility of the Wastewater Proposal

- As SDC would own the network downstream of the boundary box Option 1 requires owners to be responsible for the operation of the pump, wet well and storage on their lots. There would need to be a mechanism in place for Council to be confident that pumping outside peak times was maintained while capacity constraints in the West Melton to WWTP reticulation existed.
- Option 2 has some advantages over Option 1 because it enables Council to control storage and pumping times since the pump station would be part of the SDC infrastructure. Conversely, it required Council to own and operate a pump station.
- All options, including options 3 and 4 (where off-peak pumping is not required) are likely to require pumping from the site to the existing pressure main.

6 Water Supply

6.1 Existing Water Supply Network

The following is key background information on West Melton Water Supply Scheme[6]:

- The original scheme was formed in 1984 and expanded in 2011;
- The population served in 2018 was 1,831 (678 households at 2.7pph);
- The SDC website https://www.selwyn.govt.nz/community/living-in-selwyn/selwyn-stats-And-facts notes the 2016 population as 1,884 and estimates the 2025 population at 2,256. This implies that at least 53 people in the town are not on the scheme (1,884 - 1,831);
- Water treatment/disinfection is by filtration (turbidity control via 1-micron filtration) and UV;
- There are 3 pump stations;
- There are 36.4 km of pipes;
- The average daily demand is 1,050 cu.m (1,549L/household/day); peak daily: 3,085 cu.m; minimum daily: 427 cu.m;
- There are 4 bores/intakes in the scheme; one near Royston Common in Halkett Grove, a second on Elizabeth Drive in Preston Downs, a third on Jacqueline Drive in Preston Downs and a fourth in Wilfield, which is connected to the Rossington reservoir site.

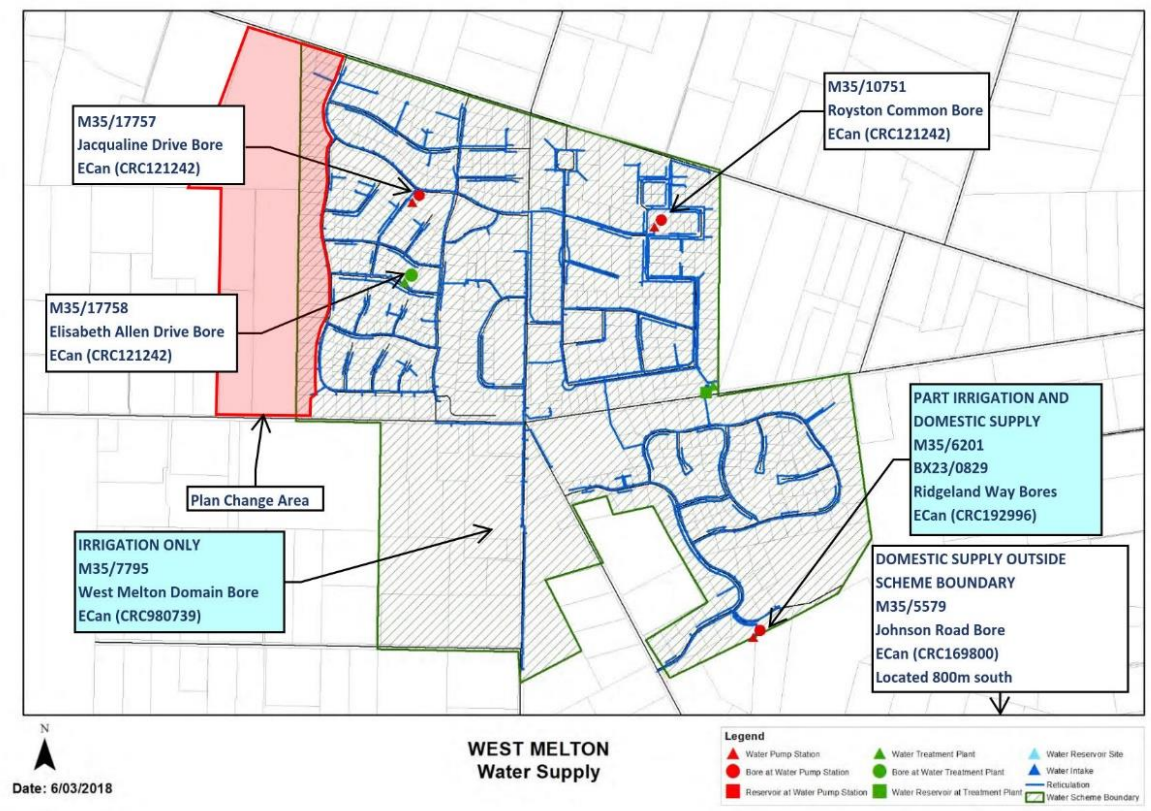


Figure 8 West Melton Water Supply Scheme (SDC AMP, modified by e2 to show well details)

[6] All information from SDC Water Supplies Activity Management Plan (AMP) Volume 2. 2018, unless noted otherwise.

6.2 Water Capacity Constraints

The key constraint in the West Melton water supply network capacity is the availability of consented extraction volumes and rates, as shown in Table 4 below.

Table 4 Key Authorised Groundwater Extractions for West Melton

Consented abstractions relevant to Plan Change Area				**Max. Flow**	**Maximum Volume**		**Consent Expiry Date**
Consent CRC#	**Well**	**Owner**	**Type**	**(L/s)**	**(m^3/day)**	**(m^3/yr)**	
121242	M35/17757	SDC	Drinking	18	Combined 2,563	Combined 373,176	13 Mar 2047
	M35/17758		Drinking	18			
	M35/10751		Drinking	13.5			
192996[1]	M35/6201	SDC	Drinking	26	Consecutive 7-day limit 15,071	Combined 176,295[2] 322,950[3]	26 Feb. 2026
	BX23/0829		Drinking Irrigation	70			
SDC West Melton Scheme				**75.5**[5]		**549,471**[5]	
169800	M35/5579	SDC	Drinking	15	Consecutive 7-day limit 9,072	194,400	14 June 2038
SDC Rural West Melton Development				**15**		**194,400**	
980739	M35/7795	SDC	Irrigation	5	Consecutive 7-day limit 476	no condition	23 Dec. 2032
940293.1	M35/6939	Private-1266 West Coast Rd	Irrigation	11.8[4]	510[4]	no condition	17 Nov. 2028
174423	M35/9779	Private-1266 West Coast Rd	Irrigation	10[4]	272[4]	no condition	1 Nov. 2030

Notes:
1. Consent allows for land irrigation in certain areas.
2. Community supply annual limit only.
3. Community and irrigation supply annual combined limit.
4. Consent conditions will limit capacity if the standing water level drops below certain elevations.
5. Drinking water only (excludes irrigation). 7-day limits averaged to daily totals.

6.3 Options to Upgrade Water Supply and Firefighting Water

We have worked on the principle that provided the water is available, reservoirs, treatment, pumping and piped reticulation can be added as part of developer lead upgrades. The proposed plan change block at ultimate development will require an additional water source and treatment plant. On this basis there are several possible scenarios for supplying future demand.

1. Connection to the Edendale scheme. Currently, the bulk pipeline has been installed but connection work and reticulation upgrades are yet to be completed.
2. Upgrade of Wilfield bore. This work is now complete.
3. Transfer water allocation to SDC from a consented bore(s). Council has indicated[7] that they would use this allocation to supplement existing well extractions or provide a new bore to service the plan change area.

[7] Murray England SDC Asset Manager Water Services, meeting with Andrew Tisch e2Evironmental Ltd Principal Engineer, 8 December 2020.

7 Water Races

The Paparua Water Race Scheme map, Appendix B, shows that lateral/local races are located within the proposed plan change area. There are two main options for these water races in future development:

I. Apply to have them removed. This requires consent from SDC and will require the support of 80% of ratepayers in the West Melton area. Recent surveys show that a significant proportion of ratepayers want the water races to remain.

II. Pipe the water races through the site as required to facilitate development.

III. Use the water races to feed professionally designed water features in the proposed development. Council has indicated that they would support this[8] provided the water features do not present an unreasonable operation and maintenance burden to the SDC. In particular, the Applicant needs to ensure that the features are lined and do not "leak", leading to features drying-up.

8 Power and Telecommunications

Chorus Ltd have confirmed that they are able to service the proposed development for telecommunications:

'I can confirm that we have infrastructure in the general land area that you are proposing to develop. Chorus will be able to extend our network to provide connection availability.'

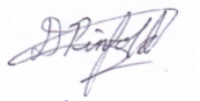
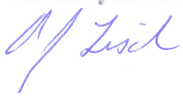
A copy of the confirmation email is included in Appendix E.

Orion New Zealand Ltd have confirmed that they are able to supply the proposed development for electrical servicing.

A copy of the confirmation letter is included in Appendix E.

9 Report Approvals

This report has been:

Task	Initial	Signature	Date
Prepared by:	Daniel McMullan, e2		10 December, 2020
	Daryll Pinfold, e2		10 December, 2020
Reviewed by:	Andrew Tisch, e2		10 December, 2020
Approved by:	Andrew Tisch, e2		10 December, 2020

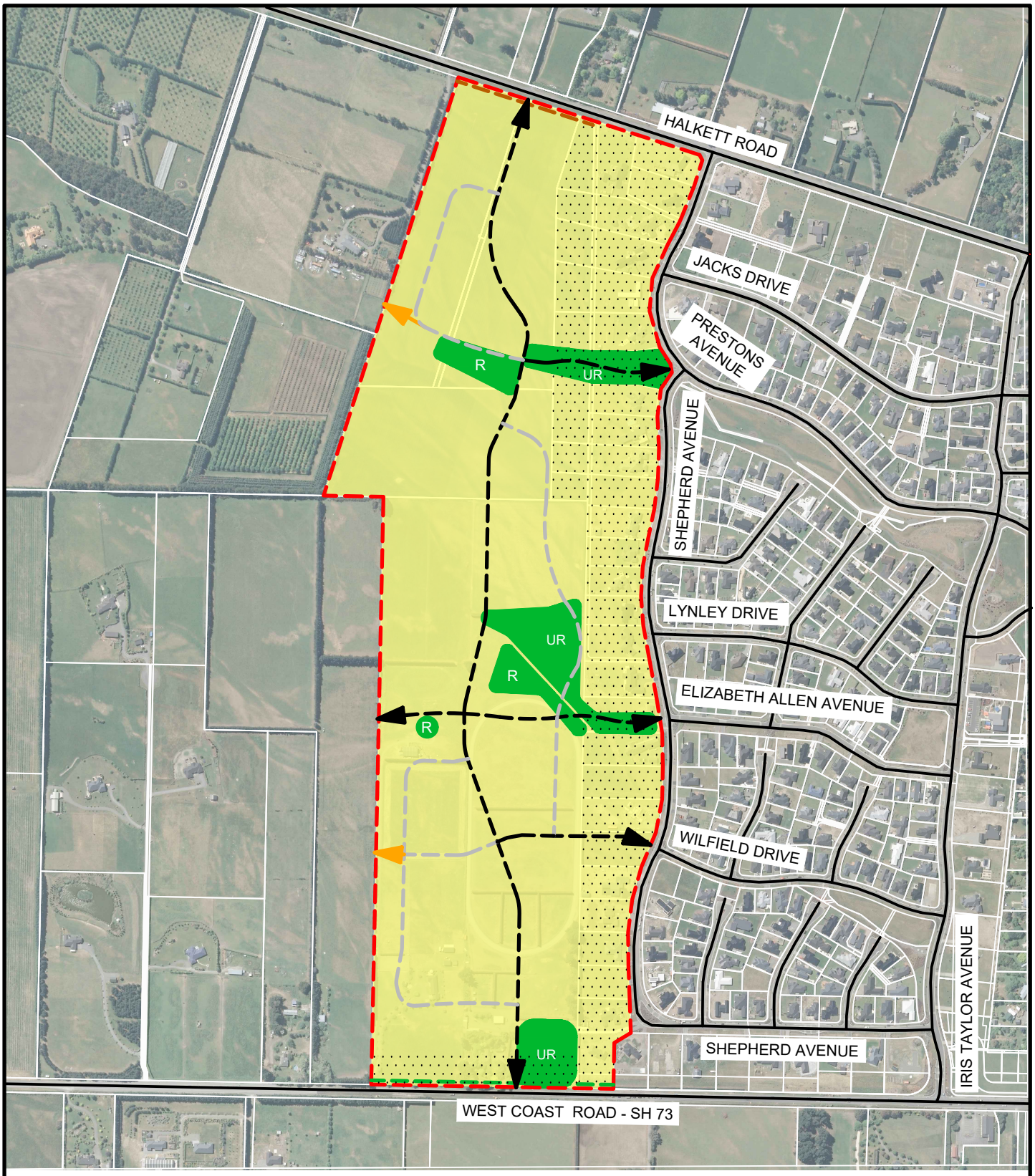
[8] Murray England SDC Asset Manager Water Services, meeting with Andrew Tisch e2Evironmental Ltd Principal Engineer, 8 December 2020

Appendix A

Concept Plans

- ODP
- Existing Topographical plan
- Surface Waterbodies
- Stormwater and Flooding

West Coast Road Rezoning - West Melton Development Area



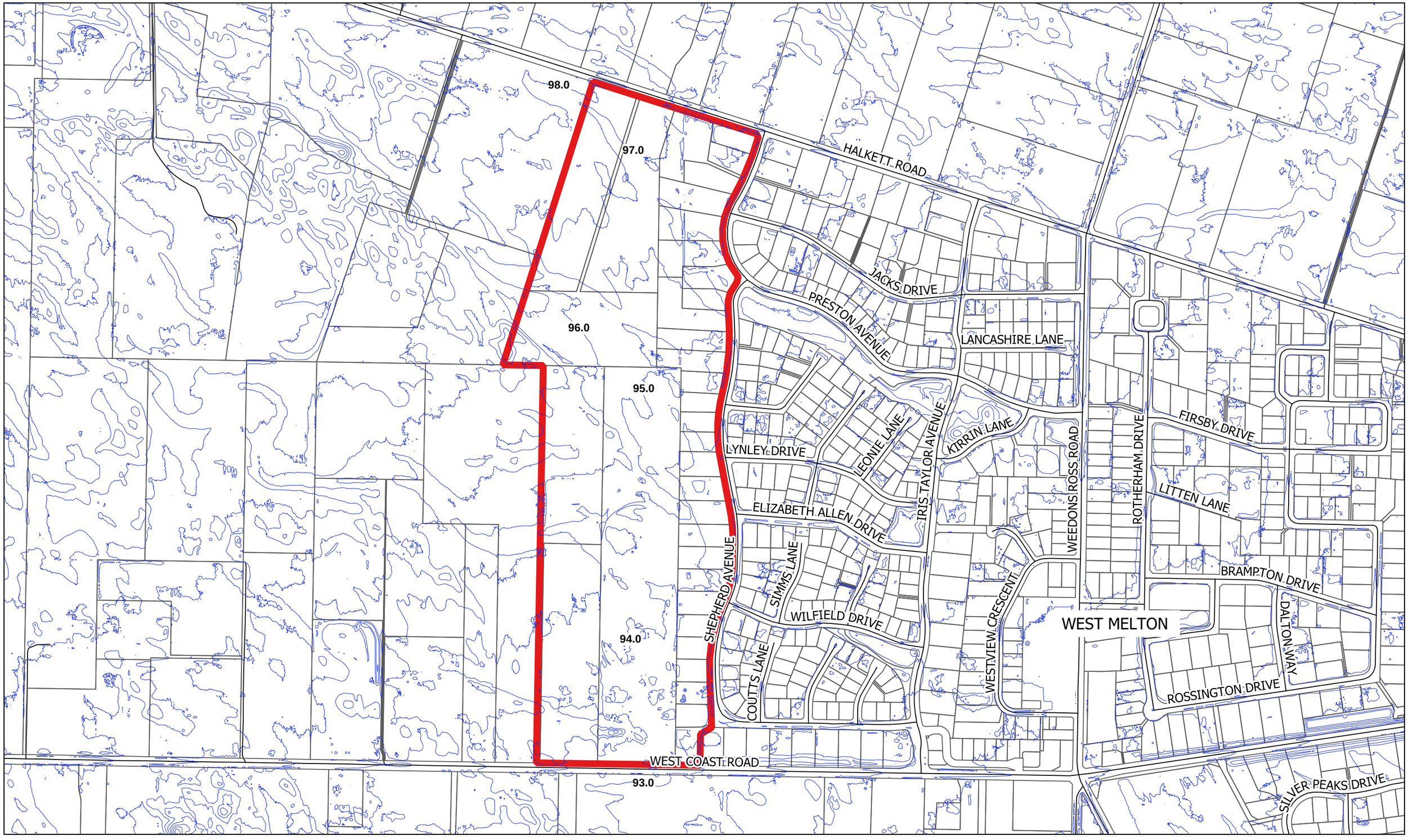
- Outline Development Plan Area
- Fixed Road
- Indicative Road
- Possible Road
- Possible Road or Cycle/Pedestrian Route
- 12m Landscape Strip - No Vehicular Access
- Continuous Rural Style Boundary Fence

- General Residential Zone
- Large Lot Residential Specific Control Area 2 (1000m² Average Minimum 800m²)
- R — Reserve Location (size to be determined at time of subdivision)
- UR — Possible Utility Reserve Location (size to be determined at time of subdivision)

N

NTS

Cadastral Information derived from Land Information New Zealand's Digital Cadastral Database (DCDB)



Paper Size A3

300 0 300 600 900 1200 m

Map Projection: Transverse Mercator
Horizontal Datum: NZGD 2000
Grid: NZGD 2000 New Zealand Transverse Mercator

N

Legend

- 1.0 m Contours (2016 LiDAR, NZVD2016)
- Plan Change Area
- Property Boundary

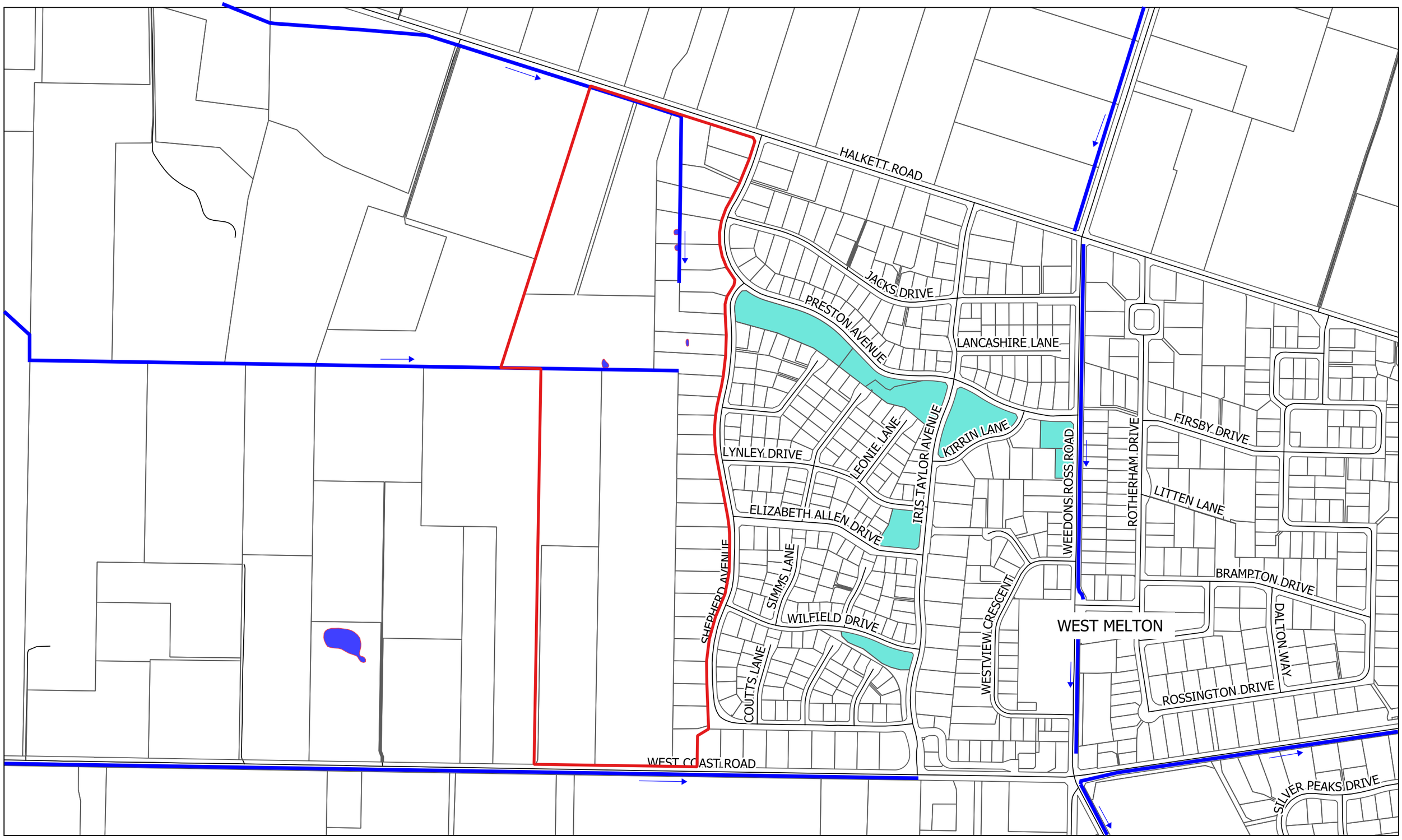
e2 environmental CONSULTING CIVIL ENGINEERS

MARAMA TE WAI
WEST MELTON PLAN CHANGE

FIGURE A1: SITE LOCATION AND CONTOUR PLAN

Job Number	20066
Revision	0
Date	2020/12/11

e2 Environmental Ltd, Unit 1/46 Acheron Drive PO Box 31159, ChristchurchP 64 3 358 4955 W www.e2environmental.com



Paper Size A3

300 0 300 600 900 1200 m

Map Projection: Transverse Mercator
Horizontal Datum: NZGD 2000
Grid: NZGD 2000 New Zealand Transverse Mercator

N

Legend

- Plan Change Area
- Pond
- Property Boundary
- Paparua Water Race
- Stormwater Management Area (SMA)

e2 environmental CONSULTING CIVIL ENGINEERS

MARAMA TE WAI
WEST MELTON PLAN CHANGE

Job Number	20066
Revision	0
Date	2020/12/11

FIGURE A2: EXISTING SURFACE WATER BODIES

e2 Environmental Ltd, Unit 1/46 Acheron Drive PO Box 31159, ChristchurchP 64 3 358 4955 W www.e2environmental.com

Legend

Stormwater Management Area

Approximate Catchment Extent

2016 LiDAR (m NZVD2016)

90

91.5

93

96

99

105

HALKETT ROAD

Northern Catchment

Southern Catchment

JACKS DRIVE

PRESTON AVENUE

SHONA LANE

JACQUELINE DRIVE

LEONIE LANE

IRIS TAYLOR AVENUE

KIRRIN LANE

LYNLEY DRIVE

ELIZABETH ALLEN DRIVE

SIMMS LANE

WILFIELD DRIVE

SHEPHERD AVENUE

COUTTS LANE

DOROTHYS WAY

ASHTON RISE

WEST COAST ROAD

Paper Size A3

50 0 50 100 150 200 m

Scale: 1 : 5000 (A3)
Horizontal Datum: NZGD 2000
Grid: NZGD 2000 New Zealand Transverse Mercator

N

e2 environmental CONSULTING CIVIL ENGINEERS

MARAMA TE WAI
WEST MELTON PLAN CHANGE

Figure A3: Proposed Stormwater Management Areas

Job Number	20066
Revision	1
Date	2020/12/08

e2 Environmental Ltd, Unit 1/46 Acheron Drive PO Box 31159, ChristchurchP 64 3 358 4955 W www.e2environmental.com

Appendix B

Council Information

- Well Data
- Well Consents
- LLUR
- Global Stormwater Consent CRC167467 for Area East of Site
- Paparua Water Race Scheme

Appendix B – Council Information - Well Data

canterbury maps

Existing Active/Terminated/Lapsed Wells from ECan Canterbury Maps
West Melton

N

0 0.09 0.17 0.26 0.34 Kilometres

Scale: 1:6,000 @A3

Map Created by Canterbury Maps on 7/12/2020 at 2:58 PM

LEGEND

- ECan Well Records
- Active Private Groundwater Takes referred to in Main Report
- Plan Change Area
- Community Drinking Water Protection Zone

Bore or Well No	BX23/0912
Well Name	Halkett Road
Owner	G Jordan

Well Number	BX23/0912	File Number	
Owner	G Jordan	Well Status	Active (exist, present)
Street/Road	Halkett Road	NZTM Grid Reference	BX23:48344-82092
Locality	West Melton	NZTM X and Y	1548344 - 5182092
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Selwyn - Waihora	Use	Domestic Supply,
Groundwater Allocation Zone	Selwyn-Waimakariri	Water Level Monitoring	--
Depth	63.00m	Water Level Count	1
Diameter	150mm	Initial Water Level	27.80m below MP
Measuring Point Description	Top of Casing	Highest Water Level	27.80m below MP
Measuring Point Elevation		Lowest Water Level	27.80m below MP
Elevation Accuracy		First reading	01 Jul 2019
Ground Level	0.40m below MP	Last reading	01 Jul 2019
Strata Layers	8	Calc Min 80%	
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	01 Jul 2019	Max Tested Yield	
Driller	East Coast Drilling	Drawdown at Max Tested Yield	
Drilling Method	Air Rotary	Specific Capacity	0.52 l/s/m
Casing Material	Steel	Last Updated	14 Oct 2019
Pump Type		Last Field Check	01 Jul 2019
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	61.5	63			100	500

Step Tests

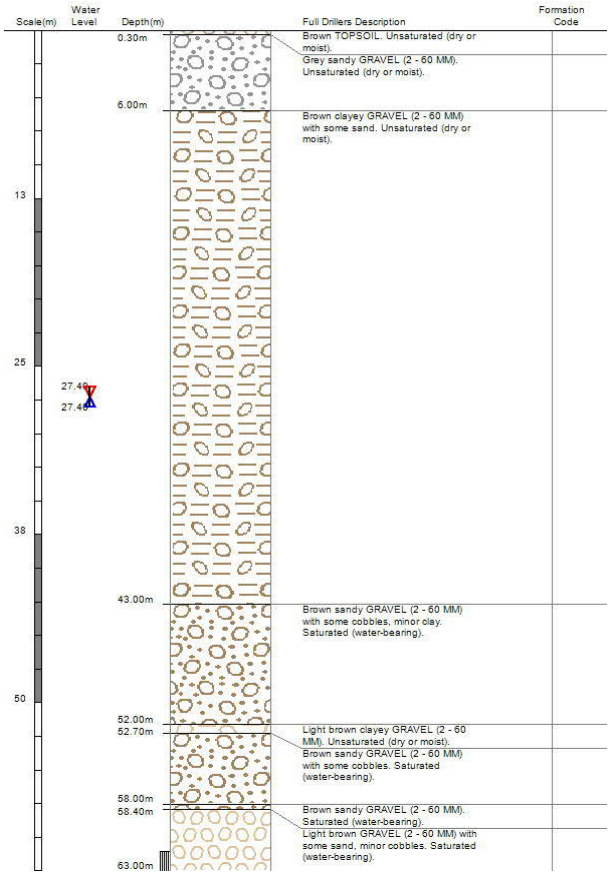
Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
01 Jul 2019	1	4	52.7927361	7.7	3

Comments

Comment Date	Comment
14 Oct 2019	Owner name from on-line borecompletion form
14 Oct 2019	Location name from on-line borecompletion form

Bore Log

Borelog for well BX23/0912
Grid Reference (NZTM): 1548344 mE, 5182092 mN
Location Accuracy: 50 - 300m
Ground Level Altitude: m +MSD Accuracy:
Driller: East Coast Drilling
Drill Method: Air Rotary
Borelog Depth: 63.0 m Drill Date: 01-Jul-2019



Bore or Well No	BX23/0913
Well Name	Halkett Road
Owner	P & J McLeod

Well Number	BX23/0913	File Number	
Owner	P & J McLeod	Well Status	Active (exist, present)
Street/Road	Halkett Road	NZTM Grid Reference	BX23:48157-82018
Locality	Christchurch	NZTM X and Y	1548157 - 5182018
Location Description		Location Accuracy	50 - 300m
CWMS Zone	Selwyn - Waihora	Use	Domestic and Stockwater,
Groundwater Allocation Zone	Selwyn-Waimakariri	Water Level Monitoring	--
Depth	60.00m	Water Level Count	1
Diameter	150mm	Initial Water Level	28.00m below MP
Measuring Point Description	Top of Casing	Highest Water Level	28.00m below MP
Measuring Point Elevation		Lowest Water Level	28.00m below MP
Elevation Accuracy		First reading	25 Jun 2019
Ground Level	0.40m below MP	Last reading	25 Jun 2019
Strata Layers	6	Calc Min 80%	
Aquifer Name		Aquifer Tests	0
Aquifer Type		Yield Drawdown Tests	1
Drill Date	25 Jun 2019	Max Tested Yield	
Driller	East Coast Drilling	Drawdown at Max Tested Yield	
Drilling Method	Air Rotary	Specific Capacity	0.47 l/s/m
Casing Material	Steel	Last Updated	14 Oct 2019
Pump Type		Last Field Check	25 Jun 2019
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	58.5	60			100	500

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
25 Jun 2019	1	4.2	55.43237	9	6

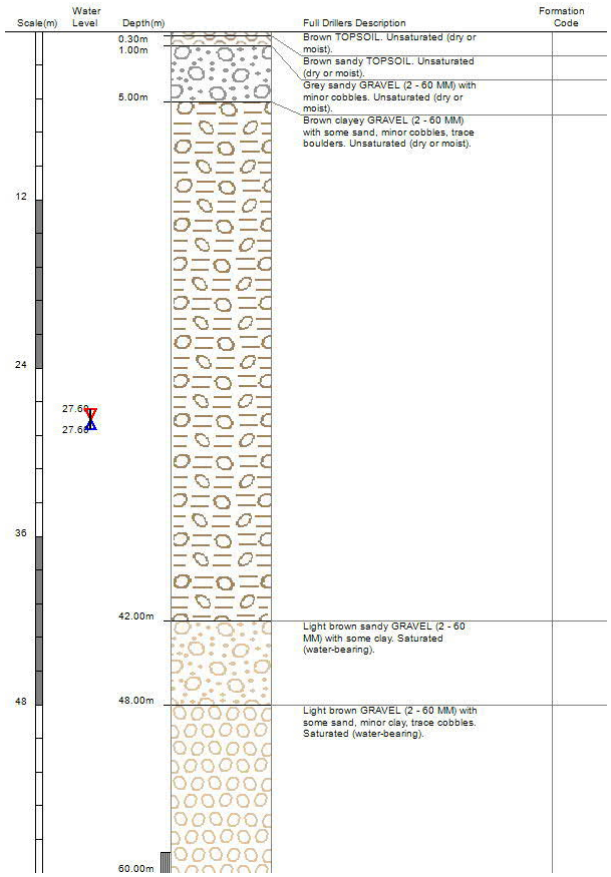
Comments

Comment Date	Comment
14 Oct 2019	Owner name from on-line borecompletion form
14 Oct 2019	Location name from on-line borecompletion form

Bore Log

Borelog for well BX23/0913

Grid Reference (NZTM): 1548157 mE, 5182018 mN
Location Accuracy: 50 - 300m
Ground Level Altitude: m +MSD Accuracy:
Driller: East Coast Drilling
Drill Method: Air Rotary
Borelog Depth: 60.0 m Drill Date: 25-Jun-2019



Bore or Well No	BX23/0853
Well Name	Halkett Road
Owner	S Searle

Well Number	BX23/0853	**File Number**	
Owner	S Searle	**Well Status**	Active (exist, present)
Street/Road	Halkett Road	**NZTM Grid Reference**	BX23:48088-81960
Locality	Rolleston	**NZTM X and Y**	1548088 - 5181960
Location Description		**Location Accuracy**	10 - 50m
CWMS Zone	Selwyn - Waihora	**Use**	Domestic Supply,
Groundwater Allocation Zone	Selwyn-Waimakariri	**Water Level Monitoring**	--
Depth	60.00m	**Water Level Count**	1
Diameter	150mm	**Initial Water Level**	24.60m below MP
Measuring Point Description	Top of Casing	**Highest Water Level**	24.60m below MP
Measuring Point Elevation		**Lowest Water Level**	24.60m below MP
Elevation Accuracy		**First reading**	17 Aug 2018
Ground Level	0.40m below MP	**Last reading**	17 Aug 2018
Strata Layers	8	**Calc Min 80%**	
Aquifer Name		**Aquifer Tests**	0
Aquifer Type		**Yield Drawdown Tests**	1
Drill Date	17 Aug 2018	**Max Tested Yield**	
Driller	East Coast Drilling	**Drawdown at Max Tested Yield**	
Drilling Method	Air Rotary	**Specific Capacity**	0.39 l/s/m
Casing Material	Steel	**Last Updated**	31 Aug 2018
Pump Type		**Last Field Check**	17 Aug 2018
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	56	57.5			100	500
2	Slotted steel	57.5	60			100	

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
17 Aug 2018	1	4.2	55.43237	10.8	2

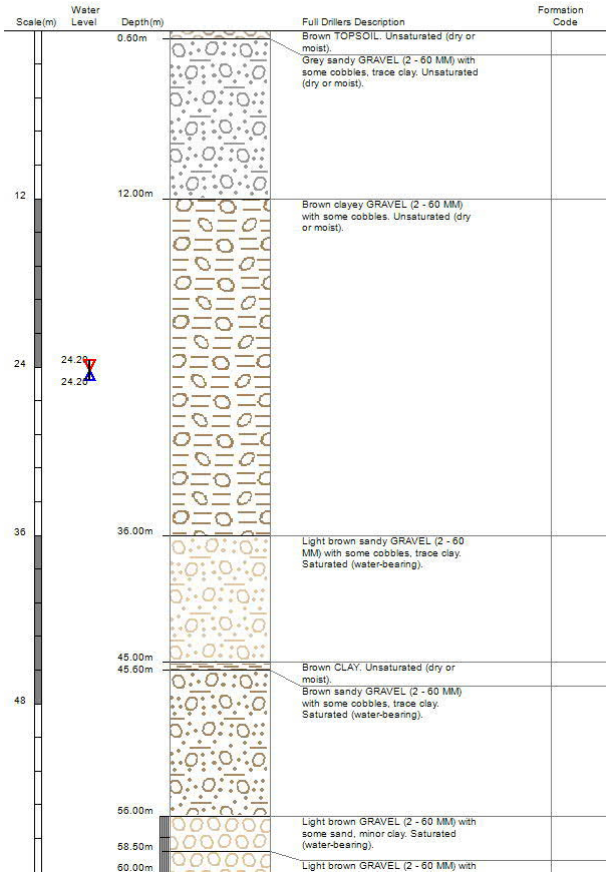
Comments

Comment Date	Comment
31 Aug 2018	Owner name from on-line borecompletion form
31 Aug 2018	Location name from on-line borecompletion form

Bore Log

Borelog for well BX23/0853

Grid Reference (NZTM): 1548088 mE, 5181960 mN
Location Accuracy: 10 - 50m
Ground Level Altitude: m +MSD Accuracy:
Driller: East Coast Drilling
Drill Method: Air Rotary
Borelog Depth: 60.0 m Drill Date: 17-Aug-2018



Bore or Well No	M35/8386
Well Name	LAIRD PLACE
Owner	BACON, BE

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Well Number	M35/8386	**File Number**	CO6C/0256
Owner	BACON, BE	**Well Status**	NI Info Expired Boreconsent
Street/Road	LAIRD PLACE	**NZTM Grid Reference**	BX23:48297-81386
Locality	WEST MELTON	**NZTM X and Y**	1548297 - 5181386
Location Description		**Location Accuracy**	< 50m
CWMS Zone	Selwyn - Waihora	**Use**	Public Water Supply
Groundwater Allocation Zone	Selwyn-Waimakariri	**Water Level Monitoring**	--
Depth	70.00m	**Water Level Count**	0
Diameter	260mm	**Initial Water Level**	
Measuring Point Description		**Highest Water Level**	
Measuring Point Elevation		**Lowest Water Level**	
Elevation Accuracy		**First reading**	
Ground Level	0.00m above MP	**Last reading**	
Strata Layers	0	**Calc Min 80%**	
Aquifer Name		**Aquifer Tests**	0
Aquifer Type		**Yield Drawdown Tests**	0
Drill Date		**Max Tested Yield**	
Driller	not known	**Drawdown at Max Tested Yield**	
Drilling Method	Unknown	**Specific Capacity**	
Casing Material		**Last Updated**	16 Mar 1999
Pump Type		**Last Field Check**	
Water Use Data	No		

No screen data for this well

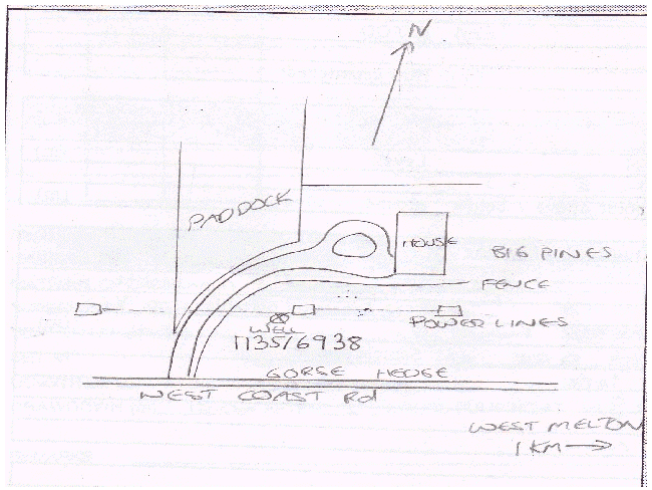
No step tests for this well

Comments

Comment Date	Comment
08 Jul 2009	Well Status changed to NI - No Information received but boreconsent Expired on 18/03/2002

Bore or Well No	M35/6938
Well Name	WEST COAST ROAD
Owner	Mr W G Rochford

Well Number	M35/6938	File Number	CO6C/03988
Owner	Mr W G Rochford	Well Status	Active (exist, present)
Street/Road	WEST COAST ROAD	NZTM Grid Reference	BX23:48009-80902
Locality	WEST MELTON	NZTM X and Y	1548009 - 5180902
Location Description		Location Accuracy	2 - 15m
CWMS Zone	Selwyn - Waihora	Use	Irrigation, Domestic Supply
Groundwater Allocation Zone	Selwyn-Waimakariri	Water Level Monitoring	--
Depth	52.00m	Water Level Count	0
Diameter	150mm	Initial Water Level	30.00m below MP
Measuring Point Description	Hole on top	Highest Water Level	
Measuring Point Elevation	94.72m above MSL (Lyttelton 1937)	Lowest Water Level	
Elevation Accuracy	< 5 m	First reading	
Ground Level	0.20m below MP	Last reading	
Strata Layers	7	Calc Min 80%	24.30m below MP (Estimated)
Aquifer Name		Aquifer Tests	0
Aquifer Type	Unknown	Yield Drawdown Tests	1
Drill Date	23 Jun 1994	Max Tested Yield	5 l/s
Driller	Smiths Welldrilling	Drawdown at Max Tested Yield	12 m
Drilling Method	Rotary Rig	Specific Capacity	0.42 l/s/m
Casing Material		Last Updated	08 Nov 2013
Pump Type	Submersible	Last Field Check	02 Mar 1998
Water Use Data	No		



Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	49	50.5				
2	Slotted Casing	50.5	52				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
23 Jun 1994	1	5	65.99092	12	1

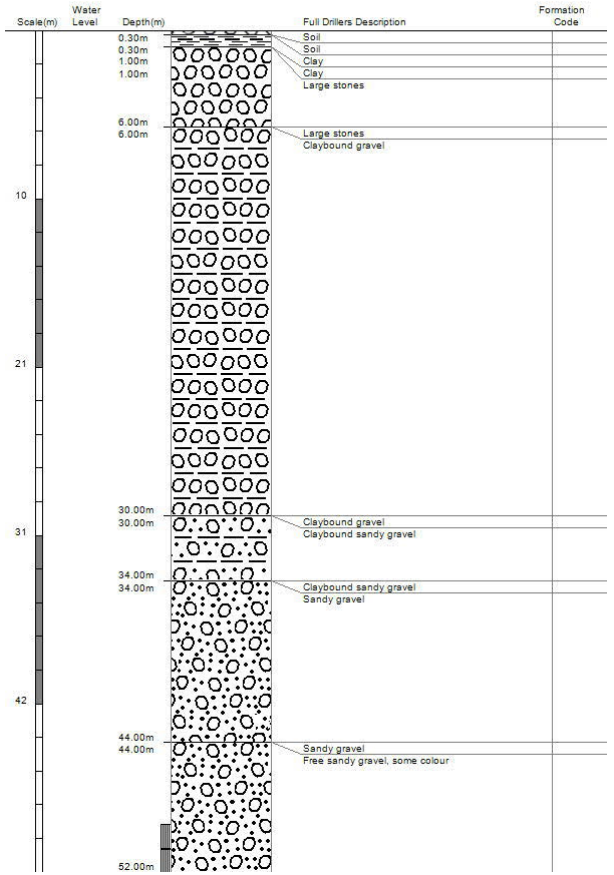
Comments

Comment Date	Comment
	Was owned by DG Feast.
21 Jul 2011	Previous owner LAU, SW & TANG, II

Bore Log

Borelog for well M35/6938

Grid Reference (NZTM): 1548010 mE, 5180902 mN
Location Accuracy: 2 - 15m
Ground Level Altitude: 94.5 m +MSD Accuracy: < 0.5 m
Driller: Smiths Welldrilling
Drill Method: Rotary Rig
Borelog Depth: 52.0 m Drill Date: 23-Jun-1994



Bore or Well No	M35/1014
Well Name	S.H.73
Owner	REDMOND, R.

Well Number	M35/1014	**File Number**	
Owner	REDMOND, R.	**Well Status**	Active (exist, present)
Street/Road	S.H.73	**NZTM Grid Reference**	BX23:48107-80887
Locality	WEST MELTON	**NZTM X and Y**	1548107 - 5180887
Location Description		**Location Accuracy**	50 - 300m
CWMS Zone	Selwyn - Waihora	**Use**	Domestic Supply,
Groundwater Allocation Zone	Selwyn-Waimakariri	**Water Level Monitoring**	–
Depth	30.00m	**Water Level Count**	0
Diameter		**Initial Water Level**	
Measuring Point Description		**Highest Water Level**	
Measuring Point Elevation	93.83m above MSL (Lyttelton 1937)	**Lowest Water Level**	
Elevation Accuracy	< 5 m	**First reading**	
Ground Level	0.00m above MP	**Last reading**	
Strata Layers	0	**Calc Min 80%**	29.50m below MP (Estimated)
Aquifer Name		**Aquifer Tests**	0
Aquifer Type	Unknown	**Yield Drawdown Tests**	0
Drill Date		**Max Tested Yield**	
Driller	not known	**Drawdown at Max Tested Yield**	
Drilling Method	Unknown	**Specific Capacity**	
Casing Material		**Last Updated**	18 Oct 2006
Pump Type	Unknown	**Last Field Check**	
Water Use Data	No		

No screen data for this well

No step tests for this well

Comments

Comment Date	Comment
	PUMP 24m DOWN WELL

Bore or Well No	M35/5509
Well Name	1234 West Coast Road
Owner	Moore

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Well Number	M35/5509	File Number	
Owner	Moore	Well Status	Active (exist, present)
Street/Road	1234 West Coast Road	NZTM Grid Reference	BX23:48149-80841
Locality	West Melton	NZTM X and Y	1548149 - 5180841
Location Description	Next to pumpshed in trees, on left just after entrance	Location Accuracy	1 - 2m
CWMS Zone	Selwyn - Waihora	Use	Domestic and Stockwater,
Groundwater Allocation Zone	Selwyn-Waimakariri	Water Level Monitoring	--
Depth	54.00m	Water Level Count	39
Diameter	150mm	Initial Water Level	27.50m below MP
Measuring Point Description	Top of casing	Highest Water Level	16.45m below MP
Measuring Point Elevation	94.10m above MSL (Lyttelton 1937)	Lowest Water Level	35.83m below MP
Elevation Accuracy	< 0.1 m	First reading	07 Oct 1999
Ground Level	0.23m below MP	Last reading	22 Oct 2020
Strata Layers	0	Calc Min 80%	32.04m below MP (Estimated)
Aquifer Name		Aquifer Tests	0
Aquifer Type	Unknown	Yield Drawdown Tests	1
Drill Date	16 May 1984	Max Tested Yield	2 l/s
Driller	McMillan Drilling Ltd	Drawdown at Max Tested Yield	3 m
Drilling Method	Rotary Rig	Specific Capacity	0.53 l/s/m
Casing Material	Steel	Last Updated	29 Sep 2020
Pump Type	Unknown	Last Field Check	22 Oct 2020
Water Use Data	No		

Screens

Screen No.	Screen Type	Top (m)	Bottom (m)	Slot Size (mm)	Slot Length (mm)	Diameter (mm)	Leader Length (mm)
1	Stainless steel	52.5	54				

Step Tests

Step Test Date	Step	Yield	Yield GPM	DrawDown	Step Duration
16 May 1984	1	1.7	22.4369125	3.2	1.5

Comments

Comment Date	Comment
	NO LOG EXISTS
29 Aug 2003	Gridref changed from: M35:5816-4260
25 Aug 2008	NZMG update from air photo Aug 2008, gridref changed from M35:58145-42494
20 May 2016	NZTM Easting/Northing updated from:1548151-5180841 shifted 2m. From Waimakariri Piezo QA Summer 2015/2016. Other well details also updated.
06 Jul 2016	NZTM Easting/Northing updated from:1548150-5180838 shifted 2m. Following differential GPS Survey for Waimakariri Piezo Survey 2016. See C16C/112143. Reference Level MP updated from 93.57m QAR H 4.

Appendix B – Council Information - Well Consents

Details for CRC121242

RMA Authorisation Number	CRC121242	**Client Name**	Selwyn District Council
Consent Location	Weedons Ross Road and Halkett Road, WEST MELTON	**State**	Issued - Active
To	take and use water		
Date Consent Number Issued	14 Mar 2012		
Expiry Date	13 Mar 2047		

- **1**
  Water may be taken only from bore:
  a. M35/17757, 250 millimetres diameter and 101 metres deep, at map reference NZTM 2000 BX23:48667-81586 (NZMS 260 M35:58660-43200);
  b. M35/17758, 200 millimetres diameter and 100 metres deep, at map reference NZTM 2000 BX23:48645-81294 (NZMS 260 M35:58638-42908);
  c. M35/10751, 300 millimetres diameter and 78 metres deep, at map reference NZTM 2000 BX23:4956-8148 (NZMS 260 M35:5956-4310).
- **2**
  Water may be taken:
  a. at a rate not exceeding:
     i. 18 litres per second from bore M35/17757
     ii. 18 litres per second from bore M35/17758
     iii. 13.5 litres per second from bore M35/10751

  b. with a combined volume not exceeding 2,563 cubic metres per day, and 373,176 cubic metres between 1 July and the following 30 June.
- **3**
  The following restrictions based on the water level in trigger level bore M35/5696 located at map reference NZTM 2000 BX23:49524-79842 (NZMS 260 M35:59517-41455) shall apply to the taking of water in terms of this permit:
  a. The volume of water taken in terms of this permit shall not exceed 2056 cubic metres per day whenever the standing water level in bore M35/5696 is lower than 28.2 metres below ground level (55.78 metres above mean sea level);
  b. The volume of water taken in terms of this permit shall not exceed 1549 cubic metres per day whenever the standing water level in bore M35/5696 is lower than 28.7 metres below ground level (55.28 metres above mean sea level);
  c. The taking of water in terms of this permit shall not exceed 600 cubic metres whenever the standing water level in bore M35/5696 is lower than 29.1 metres below ground level (54.88 metres above mean sea level).
- **4**
  Water shall only be used for:
  a. community water supply; and
  b. irrigation of reserve areas;
  as described in the application, within the areas shown on attached plan CRC121242 which forms part of this consent.
- **5**
  The consent holder shall, before first exercise of this consent:
  a. Install and maintain a water metering device that is capable of measuring the rate and volume of water taken to an accuracy of not less than ±5%; and which is suitable for use with an electronic recording device; and
  a. Install a tamper-proof electronic recording device such as a data logger that records or logs the pulse totals at hourly intervals and has the capacity to hold at least one years water use data; and
  a. The water measuring devices shall be immediately available to the Canterbury Regional Council (on request) for the purposes of inspection and/or data retrieval.
- **6**
  The consent holder shall provide to the Canterbury Regional Council, at least on an annual basis or upon reasonable request, auditable recorded water usage data in a CSV format specified by Canterbury Regional Council that demonstrates compliance with conditions (2) and (3) of this consent.
- **7**
  The consent holder shall:
  a. have the accuracy of the measuring device installed in accordance with Condition (4) verified within 24 months of commencement of consent, and at five yearly intervals thereafter; and
  a. provide the results of this verification to the Canterbury Regional Council within one month of the results being received by the consent holder.
- **8**
  a. The consent holder shall submit a copy of its Standard Operating Procedures to the Canterbury Regional Council prior to the first exercise of this consent. This shall be reviewed on a five yearly basis thereafter and a further copy provided to the Canterbury Regional Council if the procedures change; and
  a. The Standard Operating Procedures shall include but not be limited to information that demonstrates compliance with Condition (5) of this consent; and
  a. The installation and maintenance of the device installed in accordance with Condition (5) shall be carried out in accordance with the Standard Operating Procedures.
- **9**
  Prior to the first exercise of this consent the consent holder shall surrender resource consents CRC052839.1, CRC080102.2, and CRC010887.
- **10**
  The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be informed immediately on first exercise of this consent by the consent holder.
- **11**
  If the reticulation system is used to distribute any added contaminants the consent holder shall ensure:

a. An effective backflow prevention device is installed and operated within the pump outlet plumbing or within the mainline to prevent the backflow of contaminants into the water source; and
b. The backflow prevention device is tested at the time of installation and annually thereafter by a suitably qualified or certified person in accordance with Canterbury Regional Council approved test methods for the device used; and
c. The test report is provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager within two weeks of each inspection.

- **12**
  The consent holder shall take necessary steps to:
  a. Ensure that water is used efficiently by all households being supplied with water under this consent; and
  b. Avoid leakage from pipes and structures.
- **13**
  The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
- **14**
  The lapsing date for the purposes of section 125 shall be 31 March 2017.

Details for CRC192996

RMA Authorisation Number	CRC192996	**Client Name**	Selwyn District Council
Consent Location	cnr Westcoast Road (SH73) and Weedons Ross Road, West Melton	**State**	Issued - Active
To	To take and use groundwater.		
Date Consent Number Issued	10 Jul 2019		
Expiry Date	26 Feb 2026		

- **1**

  Water shall only be taken from:
  a. bore M35/6201, 220 millimetres diameter and 83 metres deep, at map reference NZTM 2000 1549894 mE 5180030 mN; and
  b. bore BX23/0829, 300 millimetres diameter and 202 metres deep, at map reference NZTM 2000 1549898 mE 5180032 mN.
- **2**

  Water shall only be used for:
  a. community water supply including irrigation of reserve areas; and
  b. irrigation of crops and pasture for grazing stock on the area of land shown in attached plan CRC192996A, which forms part of this consent.
- **3**

  Water shall only be taken:
  a. From bore M35/6201 at a rate not exceeding 26 litres per second;
  b. From bore BX23/0829 at a rate not exceeding 70 litres per second;
  c. With a combined volume not exceeding 15,071 cubic metres in any period of seven consecutive day;
  d. With a volume for community supply purposes not exceeding 176,295 cubic metres between 1 July and the following 30 June; and
  e. With a combined volume of water for community supply and irrigation purposes 322,950 cubic metres between 1 July and the following 30 June.
- **4**

  The consent holder shall take all practicable steps to:

  a. Ensure that water is used efficiently by all households being supplied with water under this consent;
  b. Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity;
  c. Avoid leakage from pipes and structures; and
  d. Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.
- **5**

  Prior to the first exercise of this consent, the Consent Holder shall install a concrete plinth around the well head of bore M35/6201 and BX23/0829. The plinth shall:
  a. have a minimum size of 2 metres by 2 metres; and
  b. shall grade away from the bore casing.

  The concrete plinth shall be maintained to the above specifications so that any potential contaminant flows ware directed away from the well head.
- **6**

  The consent holder shall, before the first exercise of this consent, install an easily accessible straight pipe(s), with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system.
- **7**

  The consent holder shall before the first exercise of this consent:
  a.
     i. install a water meter(s) that has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus five percent as part of the pump outlet plumbing, or within the mainline distribution system, at a location(s) that will ensure the total take of water is measured; and
     ii. install a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 60 minutes, and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).
  b. The recording device(s) shall:
     i. be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and
     ii. store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; and
     iii. shall be connected to the Selwyn District Council telemetry system which collects and stores all of the data continuously with that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.
  c. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
  d. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
  e. All practicable measures shall be taken to ensure that the water meter and recording device(s) are fully functional at all times.
- **8**

  Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention: Regional Manager, RMA Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:

a. The measuring and recording device(s) has been installed in accordance with the manufacturer's specifications; and
b. Data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition (7).

- **9**

  The Consent Holder shall ensure that the ground surface around bores M35/6201 and BX23/0829 and the concrete plinth is contoured to direct any rainfall run-off away from the bore head and to prevent any nearby ponding of surface water.

- **10**

  If the irrigation system is used to distribute diluted effluent, fertiliser or added contaminants the consent holder shall ensure:
  a. An effective backflow prevention device is installed and operated within the pump outlet plumbing or within the mainline to prevent the backflow of contaminants into the water source; and
  b. The backflow prevention device is tested at the time of installation and annually thereafter by a suitably qualified or certified person in accordance with Canterbury Regional Council approved test methods for the device used; and
  c. The test report is provided to the Canterbury Regional Council Attention: Regional Manager, RMA Monitoring and Compliance, within two weeks of each inspection.

- **11**

  Water Supply Asset Management Strategy:

  a. The consent holder shall manage water demand in accordance with the Water Supply Strategy which forms part of this consent;
  b. The Water Supply Strategy shall include measures to manage water demand and conserve water; and
  c. The consent holder shall provide a copy of any amendments of their Water Supply Strategy to the Canterbury Regional Council: RMA Monitoring and Compliance Manager, within seven days of the amendments occurring.

- **12**

  The Community Drinking Water Supply protection zone established for bore M35/6201 and BX23/0829 shall be within the area direction as shown on Plan CRC192996B.

- **13**

  Prior to 1 March 2021, the consent holder shall provide a report to Canterbury Regional Council - Attention: Regional Leader, which determines a site specific Community Drinking-water Supply Protection Zone for bores M35/6201 and BX23/0829.

- **14**

  There shall be no storage of any hazardous substance within the Community Drinking-water supply Protection Zone for bores M35/6201 and BX23/0829.

- **15**

  Prior to the first exercise of this consent, the Consent Holder shall prepare a safety plan to address any spills of hazardous substances that may occur within the Community Drinking-water Supply Protection Zone for bores M35/6201 and BX23/0829. A copy of the safety plan shall be made available to the Canterbury Regional Council on request.

- **16**

  The Canterbury regional Council may, serve notice of its intention to review the Community Drinking Water Supply Protection Zone to ensure adequate protection of bores M35/6201 and BX23/0829.

- **17**

  The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent.

- **18**

  If this consent is not exercised before 31 March 2019 it shall lapse in accordance with section 125 of the Resource Management Act 1991.

Details for CRC169800

RMA Authorisation Number	CRC169800	**Client Name**	Selwyn District Council
Consent Location	Johnson Road, West Melton	**State**	Issued - Active
To	To take and use groundwater.		
Date Consent Number Issued	14 Jun 2018		
Expiry Date	14 Jun 2038		

- **SCOPE**
- **1**

  Water may be taken only from Bore M35/5579, 228 millimetres diameter and 92.5 metres deep, at map reference NZTM2000: 1550418 mE 5179188 mN.

- **2**

  Water may be taken from Bore M35/5579 at a rate not exceeding 15 litres per second, with a volume not exceeding 9,072 cubic metres in any period of 7 consecutive days; and a volume not exceeding 194,400 cubic metres between 1 July and the following 30 June.

- **3**

  Water shall only be used for Community Supply Purposes. For the purposes of this consent, Community Supply Purposes is defined as water taken primarily for community drinking-water supply, and includes that also used for institutional, industrial, processing or stockwater purposes, or amenity irrigation use and fire-fighting activities.

- **GENERAL**
- **4**

  The Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, shall be informed within five days of first exercise of this consent by the consent holder.

- **5**

  The consent holder shall, before the first exercise of this consent, install an easily accessible straight pipe(s), with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system.

- **6**

  Access to allow water level measurements to be taken in the bore shall be established, and maintained, via a bung and socket with a minimum diameter of 20 millimetres installed in the bore casing or headworks.

  Advice note: *Any monitoring work on this well requires the pre-approval of Selwyn District Council. All equipment shall be disinfected and suitable for use on a community drinking water supply.*

- **7**

  The consent holder shall take all practicable steps to avoid leakage from pipes and structures.

- **8**

  The consent holder shall maintain and adhere to a Water Supply Strategy that addresses all of the matters in Schedule CRC169800. The Water Supply Strategy shall be updated as necessary and supplied to Canterbury Regional Council Attention: Regional Leader - Monitoring and Compliance on request.

  Advice note: *The Water Supply Strategy does not need to be a stand alone document for this consent and the matters in Schedule CRC169800 could be addressed in other Selwyn District Council documents. When a copy of the Water Supply Strategy is requested by Canterbury Regional Council, this could be provided by sending an electronic link to the document(s) on Selwyn District Council's website with notes advising where each of the matters addressed under Schedule CRC169800 can be found in the document(s).*

- **AQUIFER TESTING**
- **9**

  Within 12 months of the granting of this consent, the consent holder shall:

  a. Conduct and analyse a step test in accordance with Schedule 11 of the Land and Water Regional Plan, to measure the maximum sustainable rate of take from bore M35/5579, and the self-induced drawdown with the results supplied to Canterbury Regional Council: attention Regional Leader- Monitoring and Compliance.
  b. The results of the step test drawdown assessment are to be corrected for annual low water level (the level at which water is above 80% of the time, after allowing for 20% interference effects), to determine if the self-induced drawdown exceeds available drawdown at low water levels.

- **WATER METERING**
- **10**

  The consent holder shall before the first exercise of this consent:

a.
   i. install a water meter that has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus five percent as part of the pump outlet plumbing, or within the mainline distribution system, at a location that will ensure the total take of water is measured; and
   ii. install a tamper-proof electronic recording device such as a data logger that shall time stamp a pulse from the flow meter at least once every 15 minutes, and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).

b. The recording device shall:
   i. be set to wrap the data from the measuring device such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and
   ii. store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or
   iii. shall be connected to the Selwyn District Council telemetry system which collects and stores all of the data continuously with that made data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device shall be deliberately changed or deleted.

c. The water meter and recording device(s) shall be made available to the Canterbury Regional Council at all times for inspection and/or data retrieval.
d. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e. All practicable measures shall be taken to ensure that the water meter and recording device(s) are fully functional at all times.

- **11**

Within one month of the installation of the measuring or recording devices, or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:

a. The measuring and recording devices has been installed in accordance with the manufacturer's specifications; and
b. Data from the recording device can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition (10).

- **COMMUNITY DRINKING WATER SUPPLY PROTECTION ZONE**

- **12**

The Community Drinking-water Supply Protection Zone for bore M35/5579 shall be 100 metres in any direction as shown on Plan CRC169800, attached to and forming part of this consent.

Advice note: *The purpose of this condition is to provide an adequately sized zone around the bore to assist in ensuring adequate protection of the Community Drinking-water Supply from the effects of other activities.*
It is not expected that this condition will be assessed for compliance.

- **13**

Prior to 1 January 2019, the consent holder shall provide a report to Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, which determines a site specific Community Drinking-water Supply Protection Zone for M35/5579. The assessment shall include site specific information but shall not be limited to:

a. The topography, geography and geology of the site;
b. depth of the bore;
c. the construction of the bore;
d. pumping rates;
e. the type of aquifer;
f. the types of actual or potential contaminants;
g. the level of treatment that the abstracted water will receive; and
h. any potential risks to water quality.

- **14**

If the site specific Community Drinking-water Supply Protection Zone determined in accordance with condition (13) is different to that defined by condition (12), the consent holder shall apply for a change of conditions to this consent to update condition (12), or a replacement consent to reflect the site specific Community Drinking-water Supply Protection Zone. Any application required for a change of conditions, or a replacement consent, required shall be submitted and receipted by Canterbury Regional Council within six months of the report being provided in accordance with condition (13).

- **ADMINISTRATION**

- **15**

The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:

a. dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage;
b. reviewing the rate and volume of abstraction as set out in Condition 2, based on the maximum pumping rate established by the step drawdown test carried out in accordance with Condition 9.

- **16**

If this consent is not exercised before 30 June 2021 then it shall lapse in accordance with section 125 of the Resource Management Act.

Details for CRC980739

RMA Authorisation Number	CRC980739	**Client Name**	Selwyn District Council
Consent Location	Rolleston Road, WEST MELTON	**State**	Issued - Active
To	to take groundwater at or about map reference M35:5902-4207 for irrigaton of up to six hectares.		
Date Consent Number Issued	07 Jan 1998		
Expiry Date	23 Dec 2032		

- **1**
  The rate at which water is taken from bore M35/7795, 150 millimetres diameter and 60 metres deep, shall not exceed five litres per second, with a volume not exceeding 476 cubic metres in any period of seven consecutive days.
- **2**
  (a) The volume of water taken in terms of this permit from bore M35/7795 shall not exceed 317 cubic metres in any seven consecutive day period whenever the standing water level in bore M35/5696 (at map reference M35:595-415) is lower than 28.2 metres below ground level (55.78 metres above mean sea level).(b) The volume of water taken in terms of this permit from bore M35/7795 shall not exceed 159 cubic metres in any seven consecutive day period whenever the standing water level in bore M35/5696 (at map reference M35:595-415) is lower than 28.7 metres below ground level (55.28 metres above mean sea level).PROVIDED THAT Whenever the Canterbury Regional Council, in consultation with the Water Users Committee representing all water users who are subject to this condition, has determined upon a water sharing regime which limits the total daily abstraction from the resource in accordance with the limits set out in these conditions then the taking of water in accordance with that determination shall be deemed to be a compliance with parts (a) and (b) of this condition.(c) The taking of water in terms of this permit from bore M35/7795 shall cease whenever the standing water level in bore M35/5696 (at map reference M35:595-415) is lower than 29.1 metres below ground level (54.88 metres above mean sea level).
- **3**
  When requested in writing by the Canterbury Regional Council, the hours and rate at which water is taken shall be recorded to within an accuracy of 10 percent. A copy of the records shall be provided to the Canterbury Regional Council when requested.
- **4**
  The Canterbury Regional Council may annually, on the last working day of June, serve notice of its intention to review the conditions of this consent for the purposes of:(a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage; or(b) complying with the requirements of a relevant rule in an operative regional plan.
- **5**
  Charges, set in accordance with section 36 of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of resource consents and for the carrying out of its functions under section 35 of the Act.

Details for CRC940293.1

RMA Authorisation Number	CRC940293.1	**Client Name**	Private Landowner
Consent Location	West Coast Road, WEST MELTON	**State**	Issued - Active
To	to take groundwater, at or about map reference NZMS 260 M35:580-425, for irrigation of up to 11.8 hectares.		
Date Consent Number Issued	24 Apr 1998		
Expiry Date	17 Nov 2028		

- **1**
  The rate at which water is taken from bore M35/6939, 150 millimetres diameter and approximately 50 metres deep, shall not exceed 11.8 litres per second, with a maximum volume not exceeding 510 cubic metres per day.
- **2**
  The Canterbury Regional Council may annually, on or about the last working day of March each year, serve notice of its intention to review the conditions of this consent for the purpose of complying with the requirements of a regional plan.
- **3**
  The hours and rate at which water is taken shall be measured to within an accuracy of 10 percent and recorded monthly in a log kept for that purpose, and a copy of the records submitted to the Canterbury Regional Council before 31 January each year, for the previous period August-December inclusive and before 31 May each year for the previous period January-April inclusive.
- **4**
  a. The number of days on which water is taken in terms of this permit from bore M35/6939 shall reduce to four out of five consecutive days whenever the standing water level in bore M35/5696 (at map reference NZMS 260 M35:595-415) is lower than 28.2 metres below ground level (55.78 metres above mean sea level).
  b. The number of days on which water is taken in terms of this permit from bore M35/6939 shall reduce to two out of five consecutive days whenever the standing water level in bore M35/5696 (at map reference NZMS 260 M35:595-415) is lower than 28.7 metres below ground level (55.28 metres above mean sea level).
  PROVIDED THAT Whenever the Canterbury Regional Council, in consultation with the Water Users Committee representing all water users who are subject to these conditions, has determined upon a water sharing regime which limits the total daily abstraction from the resource in accordance with the limits set out in these conditions then the taking of water in accordance with that determination shall be deemed to be a compliance with parts a) and b) of this condition.
  c. The taking of water in terms of this permit from bore M35/6939 shall cease whenever the standing water level in bore M35/5696 (at map reference NZMS 260 M35:595-415) is lower than 29.1 metres below ground level (54.88 metres above mean sea level).
- **5**
  Charges, set in accordance with section 36(2) of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 of the Act.

Details for CRC174423

RMA Authorisation Number	CRC174423	**Client Name**	Private Landowner
Consent Location	377 Halkett Road, WEST MELTON	**State**	Issued - Active
To	to take and use groundwater		
Date Consent Number Issued	02 Dec 2016		
Expiry Date	01 Nov 2030		

- **1**
  The rate at which water is taken from proposed bore M35/9779, 150 millimetres diameter and 50 metres deep at or about map reference M35:5781-4349, shall not exceed 10 litres per second, with a combined volume not exceeding 272 cubic metres per day.

- **2**
  a. The volume of water taken in terms of this permit from proposed bore M35/9779 shall not exceed 181 cubic metres per day whenever the standing water level in bore M35/1000 (at map reference NZMS 260 M35:522-421) is lower than 40.0 metres below ground level (65.49 metres above mean sea level).
  b. The volume of water taken in terms of this permit from bore M35/9779 shall not exceed 91 cubic metres per day whenever the standing water level in bore M35/1000 (at map reference NZMS 260 M35:522-421) is lower than 43.5 metres below ground level (61.99 metres above mean sea level).

     PROVIDED THAT Whenever the Canterbury Regional Council, in consultation with the Water Users Committee representing all water users who are subject to these conditions, has determined upon a water sharing regime which limits the total daily abstraction from the resource in accordance with the limits set out in these conditions then the taking of water in accordance with that determination shall be deemed to be a compliance with parts (a) and (b) of this condition.
  c. The taking of water in terms of this permit from proposed bore M35/9779 shall cease whenever the standing water level in bore M35/1000 (at map reference NZMS 260 M35:522-421) is lower than 47.0 metres below ground level (58.49 metres above mean sea level).

- **3**
  Water shall be used only for irrigation of the area of land shown on the accompanying plan CRC952715.2.
- **4**
  On the sale of the property the consent holder shall arrange for the transfer of this resource consent to the new owner.
- **5**
  If required by notice in writing by the Canterbury Regional Council measurements of the rate of abstraction to within an accuracy of plus or minus five percent shall be taken for the period specified and the measurements of the hours of abstraction shall also be recorded. A copy of the records shall be provided to the Canterbury Regional Council in accordance with the requirement.
- **6**
  The Canterbury Regional Council may, on any of the last five working days of June each year, serve notice of its intention to review the conditions of this consent for the purposes of:
  a. dealing with any adverse effect on the environment which may arise from the exercise of the consent not foreseen at the time of granting the consent and is therefore appropriate to deal with later; or
  b. complying with the requirements of a regional plan.
- **7**
  Charges, set in accordance with section 36 of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of resource consents and for the carrying out of its functions under section 35 of the Act.

Appendix B – Council Information - LLUR

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:	02 December 2020	
Land Parcels:	Lot 2 DP 528937	Valuation No(s): 2354128203

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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

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 ENQ269530.

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 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

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.

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:	02 December 2020	
Land Parcels:	Lot 3 DP 525046	Valuation No(s): 2354128204

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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

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 ENQ269519.

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 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

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.

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

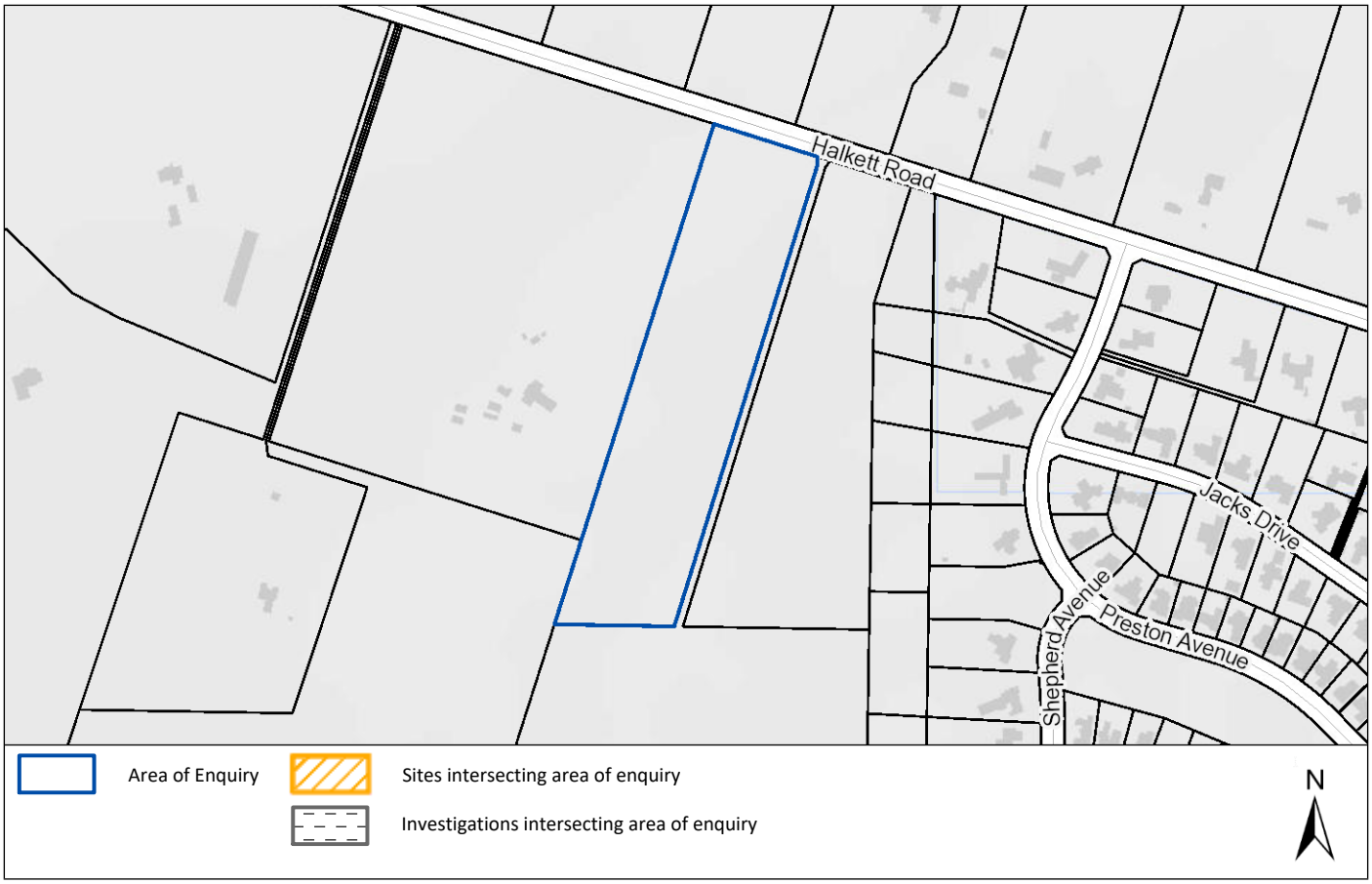
Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date:	02 December 2020
Land Parcels:	Lot 1 DP 525046 Valuation No(s): 2354128202



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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

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 ENQ269520.

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 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

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.

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

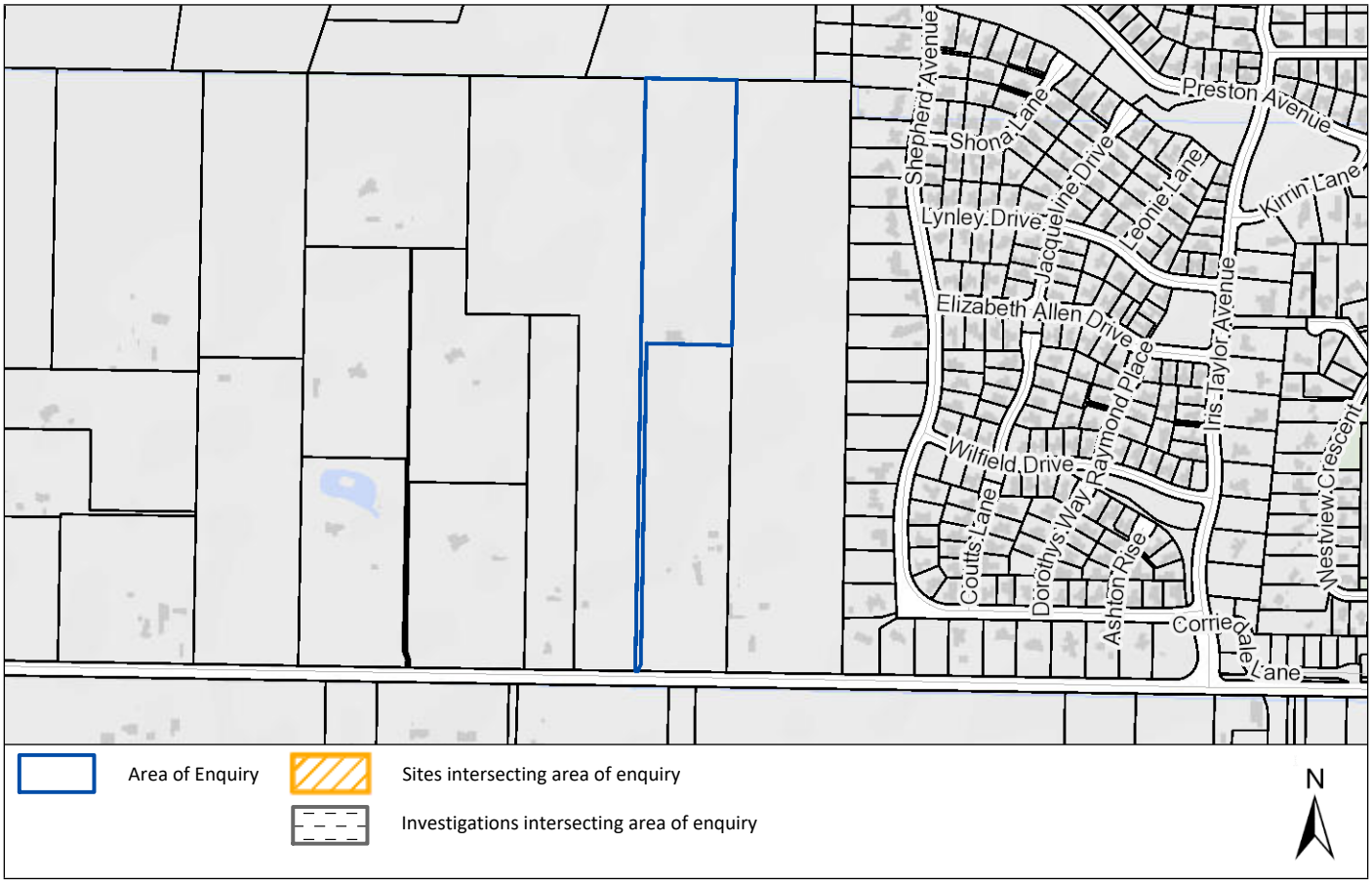
Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date:	02 December 2020	
Land Parcels:	Lot 2 DP 471561	Valuation No(s): 2354128105,2354128113
	Lot 2 DP 471561	Valuation No(s): 2354128105,2354128113



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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

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 ENQ269526.

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 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

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.

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

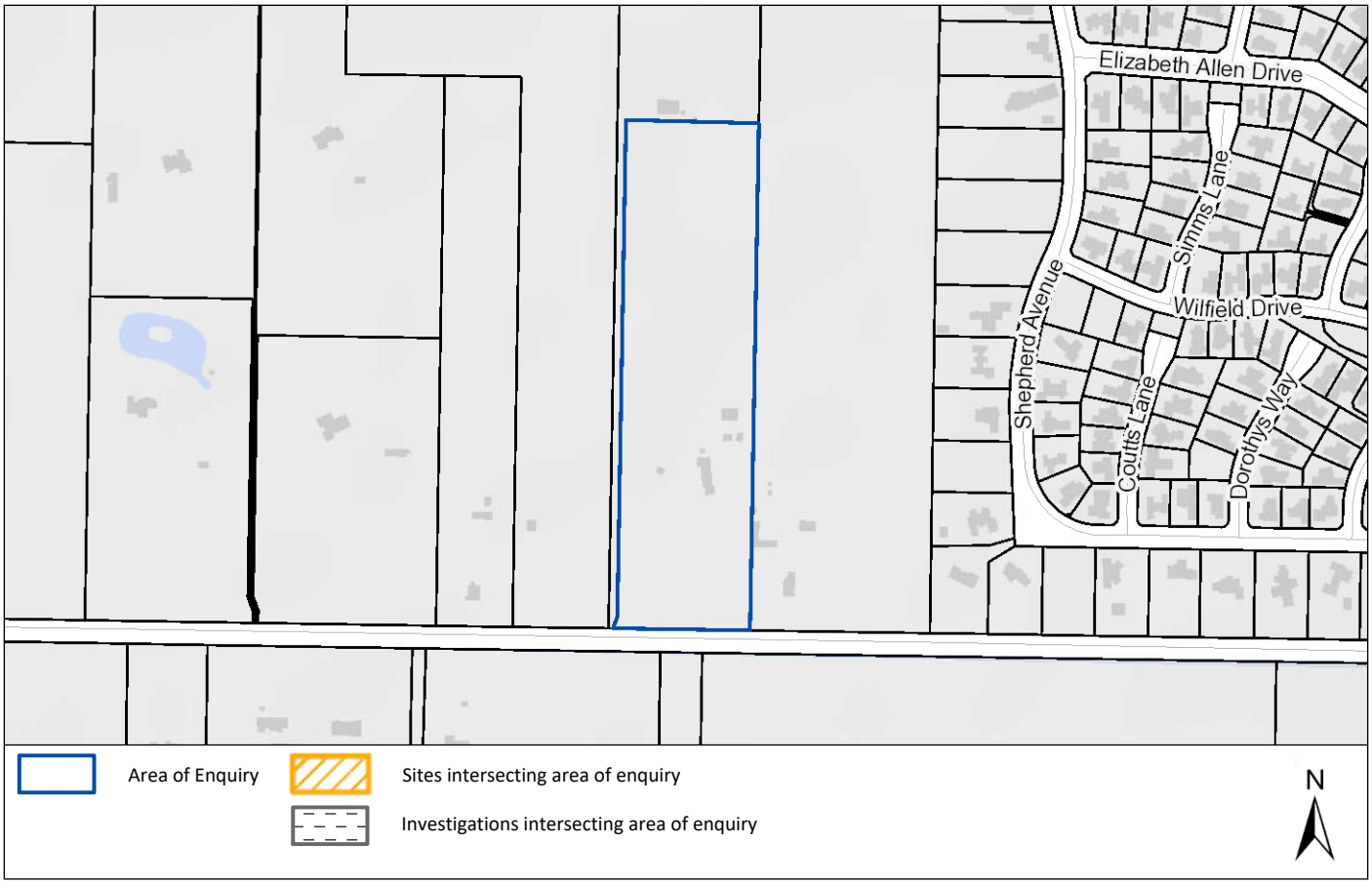
Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date:	02 December 2020	
Land Parcels:	Lot 1 DP 471561	Valuation No(s): 2354128105



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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

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 ENQ269528.

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 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

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.

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

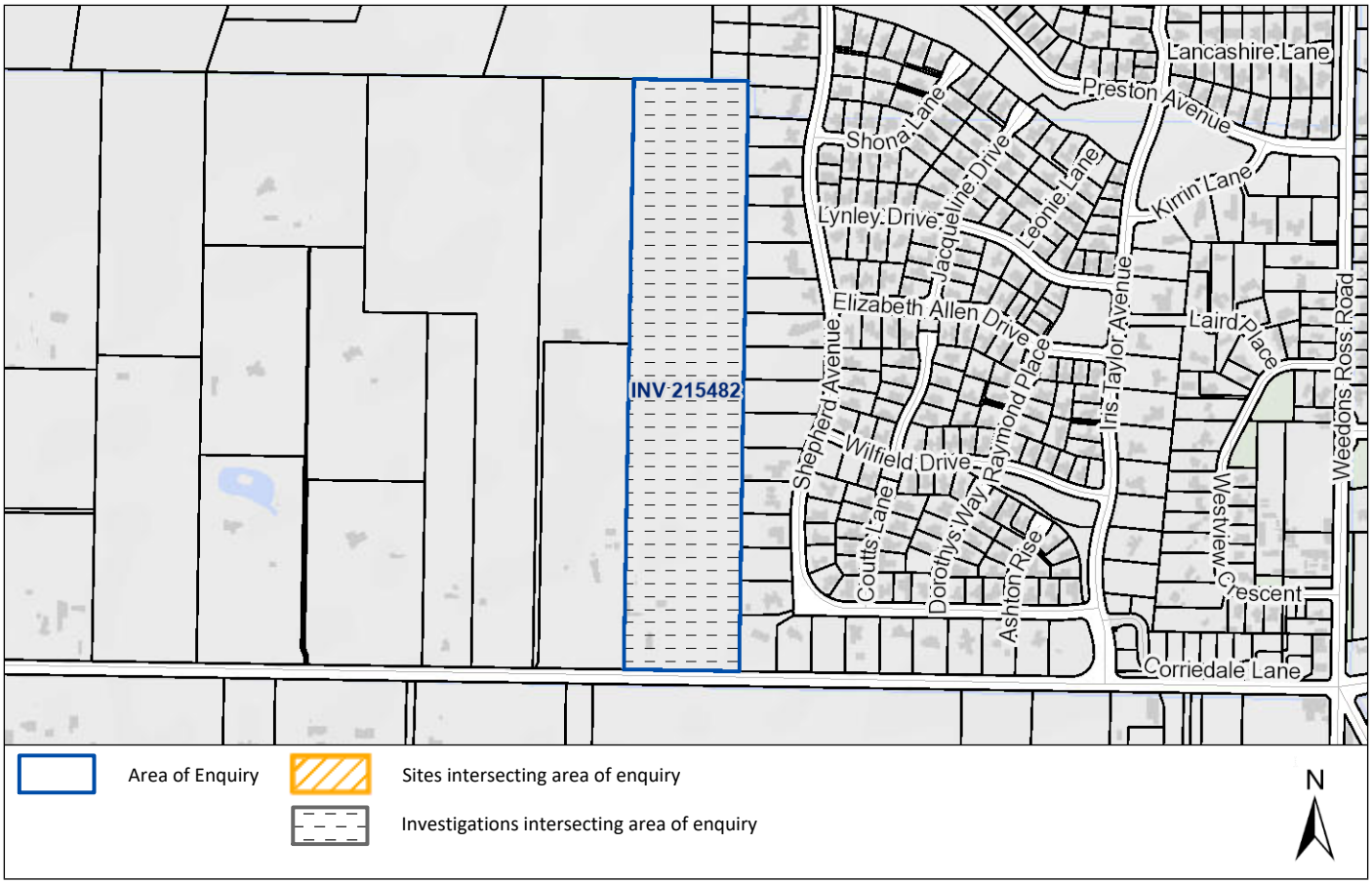
Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date:	02 December 2020	
Land Parcels:	RS 6619	Valuation No(s): 2354128300



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:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

Information held about other investigations on the Listed Land Use Register

31 Aug 2018 **INV 215482: Detailed Site Investigation - 1234 West Coast Road, West Melton** (Detailed Site Investigation)
Pattle Delamore Partners Ltd

Summary of investigation(s):

The property is currently a lifestyle block and comprises farm buildings, paddocks and a horse training track. It is understood that the site is proposed to be subdivided into three separate rural residential lots. Previous use of the site was predominantly pastoral farming with the establishment of a horse training track in the 1960s.

The objective of the investigation was to identify any potential source of soil contamination and assess the applicability of the NESCS, due to the proposed land use change and soil disturbance associated with the proposed subdivision.

Six soil samples were collected from the surface of a horse training track and analysed for the suite of heavy metals (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc) and asbestos. Concentrations of all samples complied with the soil contaminant standard for residential use. No samples had detectable amounts of asbestos, and all heavy metal concentrations were below regional background values.

The investigation has been categorised as 'Below Guideline Values – Rural-Residential land use'

Adequate sampling has been completed around the race track, no asbestos has been detected and heavy metal values are below relevant NESCS guidelines and the expected regional background concentrations. Because contamination was at background levels no site or activity has been created on the LLUR.

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ269529.

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.

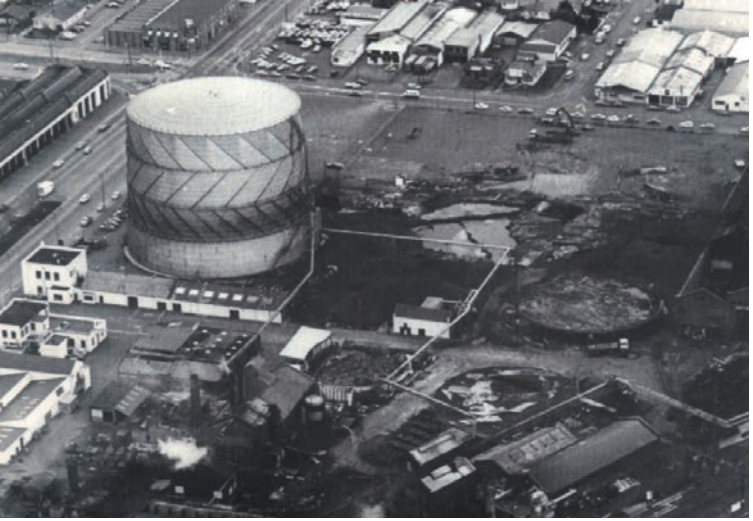
Please refer to the Site Categories and Definitions factsheet for further information.

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.

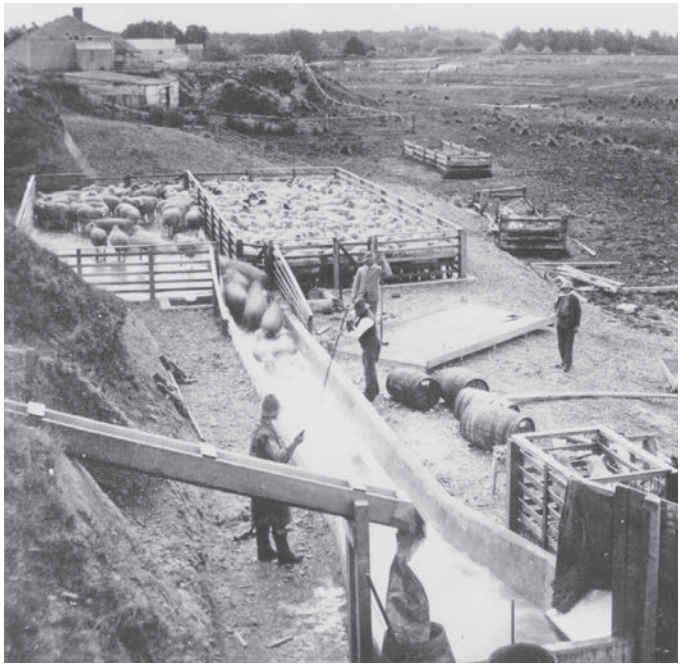
We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

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.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

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 – Council Information - Global Stormwater Consent CRC167467 for Area East of Site

12 April 2017

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

Selwyn District Council
Attn: Joanne Golden
PO Box 90
Rolleston 7643

Dear Sir/Madam

Notice of Resource Consent Decision

Record Number(s): CRC167467
Applicant Name: Selwyn District Council
Activity Description: to discharge contaminants into and onto land
Decision: Granted

Decision

The decision of Environment Canterbury is to grant your application on the terms and conditions specified in the attached resource consent document. The reasons for the decision are:

1. The activity will achieve the purpose of the Act.
2. The activity is consistent with the policies of the regional plan or national policy statement.

Commencement of consent

Your resource consent commences from the date of this letter advising you of the decision.
If you object to or appeal this decision, the commencement date will then be the date on which the decision on the appeal is determined.

Lapsing of consent

This resource consent will lapse if the activity is not established or used before the lapse date specified on your consent document. Application may be made under Section 125 of the Resource Management Act 1991 to extend this period.

Your rights of objection and appeal

- **Objection to Decision**
  If you do not agree with the decision of the consent authority, you may object to the whole or any part in accordance with Section 357A(1)(g) of the Resource Management Act 1991 (RMA). Notice of any objection must be in writing and lodged with Environment Canterbury **within 15 working days** of receipt of this decision in accordance with Section 357C(1) of the RMA.

- **Right to Appeal**
  You may appeal the decision of the consent authority to the Environment Court in accordance with section 12 of the RMA. , The notice of appeal must be lodged with the Court within 15 working days of receipt of this decision, at PO Box 2069, Christchurch. A copy of the appeal should also be forwarded to Environment Canterbury within the same timeframe.

If you are in any doubt about the correct procedures, you should seek legal advice.

- **Objection to Costs**
  Section 357B of the RMA allows you to object to costs. Your objection must be received **within 15 working days** of the date on which you receive your invoice. Your objection must be in writing and should clearly explain the reasons for your objection as detailed in section 357C of the RMA.

Monitoring of conditions

It is important that all conditions of consent are complied with, and that the consent holder continues to comply with all conditions, to ensure that the activity remains lawfully established.
You can find online Information regarding the monitoring of your consent at www.ecan.govt.nz/monitoringconsent.pdf.

Charges, set in accordance with section 36 of the Resource Management Act 1991, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of resource consents and for the carrying out of its functions under section 35 of the Act.

Further information about your consent

For some activities a report is prepared, with officer recommendations, to provide information to the decision makers. If you require a copy of the report please contact our Customer Services section. You can find online information about your consent document at www.ecan.govt.nz/yourconsent.pdf.

Queries

For all queries please contact Customer Services Section quoting your CRC number noted above.

Thank you for helping us make Canterbury a great place to live

Yours sincerely

Consents Planning Section

cc:

RESOURCE CONSENT CRC167467

Pursuant to Section 104 of the Resource Management Act 1991

The Canterbury Regional Council (known as Environment Canterbury)

GRANTS TO:	Selwyn District Council
A DISCHARGE PERMIT (S15):	to discharge contaminants into and onto land
COMMENCEMENT DATE:	12 Apr 2017
EXPIRY DATE:	12 Apr 2052
LOCATION:	West Melton, Selwyn

SUBJECT TO THE FOLLOWING CONDITIONS:

0 **Definitions**

For the purpose of this consent the following definitions and abbreviations shall apply to all conditions and attached Schedules:

'Annual Exceedance Probability (AEP)' is the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of 40 cubic metres per second has an AEP of 2%, it means there is a 2% chance (i.e. one-in-fifty) of a peak flood discharge of 40 cubic metres a second or larger occurring in any one year. AEP is the inverse of return period expressed as a percentage.

'Best practicable option' means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to:
(a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and
(b) the financial implications, and the effects on the environment, of that option when compared with other options; and
(c) the current state of technical knowledge and the likelihood that the option can be successfully applied.

'Commercial Development' means a business providing personal, property, financial, household, private or business services to the general public as a commercial activity.

'Community Drinking Water Supply Protection Zone' means the protection zone for a drinking-water supply that is recorded in the drinking-water register maintained by the Chief Executive of the Ministry of Health (the Director-General) under section 69J of the Health Act 1956 that provides no fewer than 25 people with drinking-water for not less than 60 days each calendar year.

'Construction' means all earthworks associated with the maintenance of the SDC

stormwater network.

'Critical duration' means the time taken during a storm event for peak water levels to be reached in the receiving waters as determined by the most up-to-date information and modelling.

'Design storm' means the theoretical rainfall event that the analysis is based on for a particular probability. The design storm is based on certain assumptions, including rainfall distribution and intensity, and the storm rainfall profile shape for the critical duration.

'**Earthworks'** means the disturbance of land surfaces by blading, contouring, ripping, moving, removing, placing or replacing soil and earth, or by excavation, or by cutting or filling operations.

'Existing site' means any site that discharges its stormwater into the SDC stormwater network at the date of commencement of this resource consent.

'Key sump' means any sump which directly discharges to the final stormwater management device i.e. where the discharge has no other form of primary treatment.

'Recognised Design Guidelines' refers to the Auckland Regional Council, Stormwater Management Devices: Design Guidelines Manual, May 2003, Technical Publication No.10; and/or Christchurch City Council, Waterways, Wetlands and Drainage Guide, Part B: Design, February 2003; and/or the On-Site Stormwater Management Guideline, October 2004, New Zealand Water Environment Research Foundation, or any updates to these documents.

'Re-development' means a change to a developed site or a site activity that results in a stormwater discharge that is not the same in scale, intensity or character to the discharge that existed prior to the commencement of this consent.

'SDC' means Selwyn District Council.

'Stabilised' means an area inherently resistant to erosion such as rock (excluding sedimentary rocks), or rendered resistant to erosion by the application of aggregate, geotextile, vegetation or mulch. Where vegetation is to be used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once 80 percent vegetation cover has been established.

'Stormwater' means runoff water and entrained contaminants arising from precipitation on the external surface of any structure or any land modified by human action, and that has been collected, channelled, diverted, intensified or accelerated by human intervention. This definition excludes discharges of spilled or deliberately released hazardous substances and/or washdown activities.

Advice Note: With respect to sites or collection areas where stormwater is sourced from land not in the ownership of the Consent Holder (being the SDC), the point of discharge is where the contaminant or water leaves the effective control of the discharger, which includes but is not limited to the point of entry into the SDC stormwater network. It is therefore the responsibility of individual owners and/or occupiers of land, for example

private industrial sites, to ensure that their discharge of stormwater into the SDC stormwater network complies with the above definition of stormwater.

'Stormwater network' 'means the reticulated piped and open network, including kerb and channel, sumps, pipes, swales and manholes; and any stormwater conveyance and mitigation system for which SDC are responsible for operation, maintenance, and upgrade.

'Stormwater treatment system' means a constructed or proprietary device which by function attenuates, detains or treats stormwater.

'Surface water' means water above the ground surface and within a lake, river, artificial watercourse or wetland, but does not include water in the sea, snow or rain or water vapour in the air.

'Tangata Whenua' means representatives of Te Ngai Tuahuriri Runanga, Te Taumutu Runanga and Te Runanga o Ngai Tahu.

Limits

1 The discharge shall be only:

a. Stormwater generated from roofs, roads and hardstand areas (impervious areas) and pervious areas associated with:

i. development that existed prior to the commencement of this consent ('existing sites');

ii. re-development of 'existing sites';

iii. new residential development; and

iv. new commercial development; and

b. Sediment laden discharges generated during maintenance of any Selwyn District Council stormwater infrastructure;

located within the West Melton Stormwater Management Area, as shown on Plan CRC167467 and Schedule CRC167467A, attached to and forming part of this consent.

Advice Note: Selwyn District Council approval is required prior to any activity operating under this consent. Approval is subject to evidence being provided to satisfy Selwyn District Council that the activity will meet the conditions of this consent.

2 Stormwater shall be discharged onto or into land within the Stormwater Management Area shown in Schedule CRC167467A.

Exclusions

3 Notwithstanding Condition (1), discharges from sites in one or more of the following categories are excluded from this consent:

a. Industrial or trade premises as defined in Section (2)(1) of the Resource Management Act 1991;

b. Sites on which activities or industries listed, and which are not excluded by the criteria set out in Schedule CRC167467D, attached to and forming part of this consent;

c. Sites on which the quantity of hazardous substances listed below are stored or handled in a quantity of substance that exceed the following volumes:

   i. Diesel, Petrol, Kerosene 5,000 litres; and

   ii. All other specified hazardous substances 1,000 litres;

d. Sites that have been registered by the Canterbury Regional Council on its Listed Land Use Register (LLUR) as 'not investigated', 'below guideline values for', 'managed for', 'partially investigated', 'significant adverse environmental effects' or 'contaminated for';

e. Sites which hold an existing stormwater discharge consent with current non-compliances;

f. Sites that are located on, or adjacent to, land that has been historically used as a landfill; and

g. Sites for which another stormwater consent is currently held, including the State Highway network.

Advice notes:
(1) Although discharges from the sites listed above may not discharge under this consent, discharges from sites listed above may discharge via the system authorised under this consent provided that a separate resource consent for the site is obtained and the SDC has authorised the discharge into the system.
(2) For the avoidance of doubt, 'industrial and trade premises' excludes those activities defined as a 'commercial service' in the Selwyn District Plan.

Stormwater Management Area

4 If the Consent Holder accepts consented operational stormwater discharges from stormwater networks located outside of the Stormwater Management Area, the Consent Holder shall update Schedule CRC167467A and provide a revised version to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance within 20 working days of acceptance of the discharge.

5 The Consent Holder shall review the Stormwater Management Area shown in Schedule CRC167467A at least every five years from commencement of the consent to ensure that it accurately shows:

a. The Stormwater Management Area boundary;

b. The stormwater treatment and disposal systems that discharge operational stormwater under this consent; and

c. All Community Drinking Water Supply Protection Zones within the Stormwater Management Area boundary.

6 If an update to Schedule CRC167467A is required to meet Condition (5), the Consent Holder shall revise and provide the updated Schedule CRC167467A to Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance within 20 working days of the review.

Advice note: An operational stormwater network may be accepted by the Consent Holder after a maintenance period. The Consent Holder holds the right not to accept the stormwater network based on historical compliance, design or at its own discretion, so is not automatically transferred without the written approval of Selwyn District Council.

Stormwater System Design

7 The stormwater network constructed before the commencement of this consent shall be maintained to ensure that stormwater generated under the authority of this consent from all rainfall events up to and including a 24 hour duration 2 percent exceedance probability rainfall event does not enter a habitable building.

8 Stormwater systems designed and constructed after the commencement of this consent shall:

a. Have the capacity to convey and discharge stormwater to land from the contributing catchment for all rainfall events up to and including a critical duration 10 percent annual exceedance probability (AEP) event;

b. Be designed to ensure that stormwater for all rainfall events up to and including a 24 hour duration two percent AEP event does not enter a habitable building as a result of stormwater generated under the authority of this consent; and

c. Not exacerbate flooding on existing sites.

9 Stormwater systems designed and constructed after the commencement of this consent that receive runoff from roads, hardstand areas and/or commercial sites, and that have a stormwater infiltration/discharge system located within any Community Drinking Water Supply Protection Zone or within 50 metres of any well used for domestic supply purposes shall:

a. Include at least one of the following stormwater treatment devices which shall be designed in accordance with recognised New Zealand design guidelines and with Schedule CRC167467B, which forms part of this consent:

i. Treatment swale;

ii. Infiltration basin; and

iii. Detention basin; and

b. Not discharge stormwater to land within 50 metres of any well used for community drinking water supply, and within 20 metres of any other bore used for water abstraction.

Advice notes:
(1) For the purposes of this condition, runoff from commercial sites includes stormwater generated from all areas including pervious areas and roof runoff.
(2) For the purposes of this condition, a stormwater infiltration/discharge system includes but is not limited to treatment swales, infiltration basins, detention basin and soakage pits.
(3) This condition does not apply to residential roof runoff that discharges directly to a soakpit via a sealed system that excludes all other stormwater.

10 At least one month prior to commencement of construction of a stormwater system under this consent within any Community Drinking Water Supply Protection Zone, excluding those located on private property, the Consent Holder shall submit to the Canterbury Regional Council Attention: Regional Leader – Monitoring and Compliance, design plans of the stormwater system to be installed. The design of the stormwater system shall demonstrate compliance with conditions the relevant treatment requirements of Schedule CRC167467B of this consent.

Stormwater Management Plan

11 The Consent Holder shall prepare a Stormwater Management Plan for the West Melton Stormwater Management Area, as shown in Schedule CRC167467A, to demonstrate how the catchments, watercourses, and stormwater infrastructure within the Stormwater Management Area will be managed to avoid, remedy or mitigate adverse effects on the environment, and to ensure the continued and efficient operation of the stormwater network. The Stormwater Management Plan shall include, but not be limited to:

a. Stormwater management objectives;

b. A description of the Stormwater Management Area, including catchment details, watercourses, Community Drinking Water Supply Protection Zones and existing and future land use;

c. Consideration of cultural values;

d. Information on quantity and quality of existing and future stormwater discharges to land and water;

e. A description of the existing stormwater system, including waterways, drainage systems and network infrastructure;

f. A stormwater management strategy, that includes but is not limited to:

    i. Level of Service requirements and design standards for new development;

    ii. Treatment method preferences;

    iii. Mitigation measures;

    iv. Consideration of construction discharges; and

    v. Contingency measures;

g. Plans or processes for implementation of the Stormwater Management Plan;

h. Operations and Maintenance Schedules;

i. Design requirements for new and replacement stormwater systems;

j. Details of the monitoring programmes required by Condition (17); and

k. Reporting requirements and review procedures.

12 The Stormwater Management Plan shall be submitted to Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, for certification that it complies with Condition (11) within six months of the commencement of this consent.

13 The Consent Holder shall review the Stormwater Management Plan at least every five years from the date of initial certification under Condition (12), and at any other time deemed necessary as a result of changes to legislation or regional rules that may affect the management of stormwater.

14 Any amendments to the Stormwater Management Plan shall not replace the certified version until the amended Stormwater Management Plan has been submitted to Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, for certification that it complies with Condition (11).

Engagement with Tangata Whenua

15 The Consent Holder shall provide Tangata Whenua an opportunity to contribute to the development and review of the Stormwater Management Plan undertaken in accordance with Condition (13). The Consent Holder shall:

a. Allow at least 30 working days for Tangata Whenua to provide feedback, and shall communicate this timeframe to Tangata Whenua at the start of the process; and

b. Provide Tangata Whenua and Canterbury Regional Council a written response to all Tangata Whenua feedback within 20 working days.

Advice note: 'Tangata Whenua' means the representative(s) of Te Ngai Tuahuriri Runanga, Te Taumutu Runanga and Te Runanga o Ngai Tahu.

Maintenance

16 Stormwater systems within the Stormwater Management Area, excluding those located on private property, shall be maintained in accordance with the SDC Stormwater Maintenance Schedule, Schedule CRC167467C, which forms part of this consent. All swales shall be maintained at the minimum frequency specified for 'urban' swales in the Stormwater Maintenance Schedule. In addition to the maintenance undertaken in accordance with Schedule CRC167467C the following maintenance shall occur:

a. Swales, infiltration basins, and detention basins shall be:

   i. Maintained so that vegetation and/or grass is in a healthy and uniform state, with the exception of seasonal browning off;

   ii. Replanted where erosion or die-off has resulted in bare or patchy soil cover; and

   iii. Where grassed, mown to ensure grass is generally at a length between 40 and 150 millimetres.

b. Hydrodynamic separators shall be inspected at least once annually, and:

   i. Cleaned at least annually or when filled to a depth of at least 200 millimetres with sediment and/or floating hydrocarbons, whichever is the most frequent;

   ii. Cleaned out following any spills; and

   iii. Maintained in accordance with the manufacturers' instructions.

c. Oil interceptors shall be:

   i. Cleaned at least annually;

   ii. Cleaned out following any spills; and

   iii. Maintained in accordance with the manufacturers' instructions.

Monitoring and Performance Standards

17 Where a Community Drinking Water Supply Protection Zone exists within the Stormwater Management Area, the Consent Holder shall prepare a soil and stormwater monitoring programme in accordance with the requirements of Conditions (20) to (26), to investigate the effects of stormwater discharges on groundwater quality and soil quality. The monitoring programme shall assess for and discuss any trends in soil and stormwater quality.

18 The monitoring programme shall be submitted to Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance for certification that it complies with Condition (17) of this consent within six months of the commencement of this consent.

19 The monitoring programme may be amended at any time. Any amendments to the monitoring programme may not replace the certified version until the amended programme has been certified by Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance as complying with the requirements of Condition (17).

20 Soil samples shall be taken from representative infiltration basins, detention basins and swales within each Community Drinking Water Supply Protection Zone, as shown on Schedule CRC167467A:

a. At least once every five years;

b. From a depth of between zero and 50 millimetres below the ground surface at the point of lowest elevation;

c. By a person who has at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study and has at least two years environmental investigation professional work experience post-qualification; and

d. In general accordance with Ministry for the Environment (2004) 'Contaminated Land Management Guidelines - Site Investigation and Analysis of Soils'.

21 Soil samples shall be analysed by a laboratory accredited for that method by International Accreditation New Zealand or an equivalent accreditation body:

a. For the following contaminants in milligrams per litre (mg/L) using the United States Environmental Protection Agency method 1312, Synthetic Precipitation Leaching Procedure (SPLP), using reagent water:

i. Copper;

ii. Lead; and

iii. Zinc; and

b. For the following contaminants in in milligrams per kilogram (mg/kg) using total matrix method:

i. Benzo(a)pyrene;

ii. Naphthalene; and

iii. Pyrene.

22 The analyses undertaken in accordance with Condition (21) shall be carried out with detection limits of a maximum of 10 percent of the trigger levels set out in Condition (23).

23 The results of analyses undertaken in accordance with Condition (21) shall be compared against the following trigger concentrations:

Contaminant	Leachate Trigger Concentration (milligrams per litre)	Trigger Concentration (milligrams per kilogram)
Copper	40[1]	
Lead	0.2[1]	
Zinc	30[2]	
Naphthalene		>10,000[3]
Pyrene		>10,000[3]
Benzo(a)pyrene		>10,000[3, 4]

Table references:

(1) 20 x MAV (Maximum Acceptable Value) for determinand of health significance

(2) 20 x GV (Guideline Value) for aesthetic determinand

(3) Guideline value from MfE Oil Industry Guidelines 1999 (Table 4.20)

(4) Benzo[a]pyrene refers to Benzo[a]pyrene only (not Benzo[a]pyrene equivalent concentration).

24 If any of the trigger concentrations listed in Condition (23) are exceeded, the soils shall be considered to be contaminated. Within 60 working days of the Consent Holder receiving the results of analyses showing contaminated soils:

a. Additional sampling shall be carried out to determine the lateral and vertical extent of contamination, with respect only to the contaminant(s) that exceeded a trigger concentration;

b. Additional sampling of two other devices within the same Community Drinking Water Supply Protection Zone shall be carried out in accordance with Conditions (20) to (23), with respect only to the contaminant(s) that exceeded a trigger concentration;

c. All soils identified as contaminated shall be removed; and

d. The affected infiltration basin(s) and/or retention basin(s) and/or attenuation swale(s) shall be reconstructed.

25 Stormwater samples shall be taken from a representative urban road, within the Stormwater Management Area, every five years and test for the following contaminants:

a. Total Suspended Solids;

b. Total Copper;

c. Total Lead;

d. Total Zinc;

e. Total Nitrogen; and

f. Total Petroleum Hydrocarbons

26 The results of analyses undertaken in accordance with Condition (25) shall be compared against previous sampling and any trends discussed in the Annual Report in accordance with Condition (29).

Construction Phase Stormwater Discharges

27 Discharges of sediment laden water during earthworks shall be via best practicable erosion and sediment control measures undertaken to minimise the discharge of sediment-laden stormwater into surface water and private property; and

a. All erosion and sediment control measures shall be constructed and maintained in accordance with Environment Canterbury's Erosion and Sediment Control Guidelines or an equivalent New Zealand industry guideline; and

b. All exposed surfaces shall be stabilised once earthworks are complete or if earthworks of exposed areas is not to be undertaken for a period of 14 days or more.

Disposal of Material

28 Any contaminated material removed, including sediment and hydrocarbons, in the exercising of this consent shall be disposed of at a facility authorised to receive such material.

Recording and Reporting

29 The Consent Holder shall provide an Annual Report to Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, and to representatives of Te Ngai Tuahuriri Runanga and Te Taumutu Runanga. The report shall detail the following from monitoring undertaken within the prior 12 month period, and shall include:

a. Maintenance works undertaken in accordance with Condition (16);

b. Updates to the monitoring programme developed in accordance with Condition (17);

c. Results of monitoring carried out each year, including;

i. The name of the person(s) who collected the samples, the date and time the samples were collected;

ii. The rainfall data associated with stormwater sampling events, including, but not limited to, date, time, duration and rainfall depth of the storm event;

iii. The laboratory analysis results;

iv. An interpretation of trends including comparisons to previous years' monitoring; and

v. Documentation of trigger value exceedances and further action taken in response to exceedances;

d. A summary of any remedial or improvement works carried out to improve the quality of stormwater discharges from each year;

e. A description of any future stormwater system proposals, including retrofitting of existing stormwater systems, to improve the management of stormwater within the Stormwater Management Area as shown on Schedule CRC167467A;

f. Any updated information as a result of further site investigations, including but not limited to the extent of the Stormwater Management Area boundaries, groundwater levels, and a discussion of the implications of the updated information.

Administration

30 The Canterbury Regional Council may, on any of the last five days of September each year, serve notice of its intention to review the conditions of the consent for the purposes of:

a. Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage;

b. Requiring the Consent Holder to adopt the best practicable option to remove or reduce any adverse effect on the environment; or

c. Requiring the Consent Holder to carry out monitoring and reporting instead of, or in addition to that required by the consent.

Issued at Christchurch on 12 April 2017

Canterbury Regional Council

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Plan CRC167467

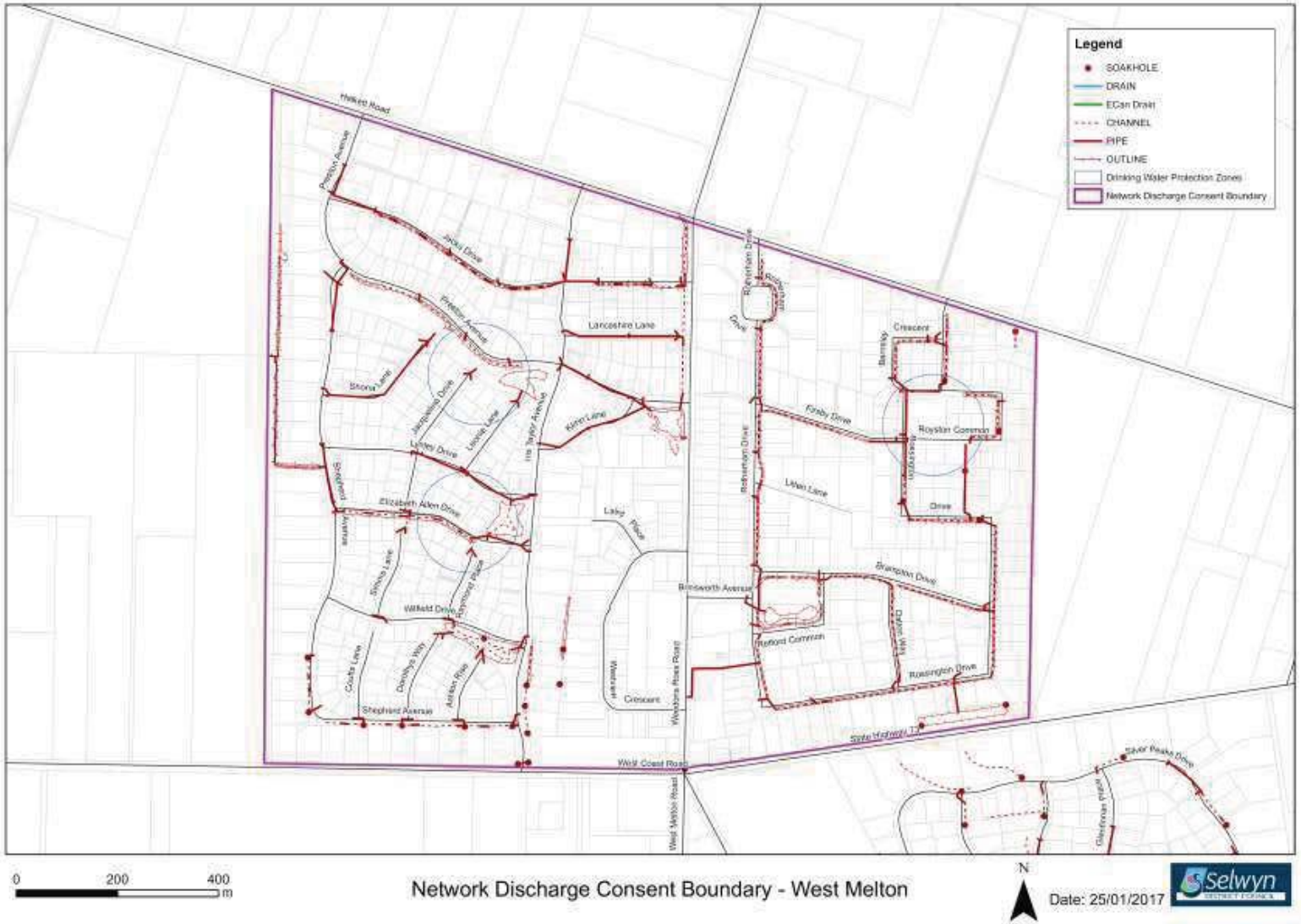
N

0 1 2 3 4 Kilometres

Scale: 1:100,000 @A4

Map Created by Environment Canterbury on

Schedule CRC167467A –Stormwater Management Area for West Melton



Schedule CRC167467B – Design of Stormwater Systems

Stormwater Design Parameters

DEVICE	REQUIREMENTS FOR DESIGN AND CONSTRUCTION
Key sump	Shall be fitted with submerged or trapped outlet capable of trapping hydrocarbons
Treatment swale	Shall have a hydraulic residence time of at least nine minutes during design rainfall intensity of 10 millimetres per hour
Infiltration basin	Shall contain and treat all stormwater generated from the first 20 millimetres of rain on in the contributing catchment.
	Shall detain and dispose of all stormwater generated from a 2 percent annual exceedance probability rain event of any duration
	Shall have an infiltration rate not exceeding 112 millimetres per hour and not less than 18 millimetres per hour as determined using a double ring infiltrometer test, or not exceeding 75 millimetres and not less than 12 millimetres per hour as determined using a flooded basin test
	Shall be designed to minimise groundwater mounding where necessary, by oversizing the basin, or constructing multiple basins or other methods
	Shall not have stormwater ponding within it for longer than 72 hours following the cessation of a rainfall event.
Detention basin (including an attenuation swale)	Shall contain and treat all stormwater generated from the first 20 millimetres of rain on the contributing catchment.
	Shall, either alone or in combination with other devices, attenuate flows so that the post development flows do not exceed pre-development flows for events up to a 2 percent annual exceedance probability rain event of any duration.
	Shall be designed to minimise groundwater mounding where necessary, by oversizing the basin, or constructing multiple basins
	Shall not have stormwater ponding within it for longer than 72 hours following the cessation of a rainfall event.
Treatment wetland	Shall attenuate flows, either alone or in combination with other devices, so that the post-

	development peak discharge rate does not exceed the pre-development discharge rate for the 50 percent, 10 percent and 2 percent annual exceedance probability design storm events for durations up to and including 12 hours.
	Shall contain and treat all stormwater generated from the first 20 millimetres of rain on hardstand and roading in the contributing catchment.
	Shall provide an average hydraulic residence time of at least 24 hours
Hydrodynamic separator	Shall be capable of treating at least the flows generated by rainfall of 10 millimetres per hour on the contributing catchment before bypassing
Oil interceptor	Shall be an API or Coalescing Plate type Interceptor, or similar device capable of removing the same or greater amounts of hydrocarbons from stormwater
	Shall be capable of treating at least the flows generated by rainfall of 10 millimetres per hour on the contributing catchment before bypassing
	Shall reduce the concentration of total petroleum hydrocarbons in the discharge to below 15 milligrams per litre averaged over a rainfall event
Outlet structure	Shall minimise scour and erosion
Soakpit	Shall have the base sunk into free draining substrate
	Roof soakpits shall have the capacity as a minimum to dispose of stormwater generated on the contributing catchment by the ten percent annual exceedance probability one hour duration storm.
	Roof soakpits shall have the base no deeper than the highest groundwater level reasonably expected at the site.

Selwyn District Council STANDARD STORMWATER MAINTENANCE SCHEDULE

Task	Minimum frequency of maintenance visit					
	Sumps			Swales		Infiltration and dry basins
	Key sumps	Non-key sumps	To soakage chambers	Urban	Rural-residential	
Removal of debris, and litter likely to adversely affect the operation of the system, within 10 working days of the maintenance visit	Yearly	Two Yearly	Yearly	6 monthly	Yearly	6 monthly
Removal of sediment likely to adversely affect the operation of the system, within 10 working days of the maintenance visit	Yearly	Two Yearly	Yearly	N/A	N/A	N/A
Removal of hydrocarbons that are visible over a total area of greater than 0.5 square metres (swales and basins) or a layer greater than 5 millimetres thick (sumps), within 10 working days of the maintenance visit	N/A	N/A	6 monthly	6 monthly	Yearly	6 monthly
Repair or stabilisation of erosion and scour, within 20 working days of the maintenance visit	N/A	N/A	N/A	6 monthly	Yearly	6 monthly
Replanting, where bare or patchy soil cover or sediment build up is greater than 10 square metres, or a total of five percent of the area of the device, whichever is the lesser, within 10 working days of the maintenance visit	N/A	N/A	N/A	6 monthly	Yearly	6 monthly
Weed control	N/A	N/A	N/A	6 monthly	Yearly	6 monthly

Schedule 3 Hazardous Industries and Activities

A. Chemical manufacture, application and bulk storage

1. Agrichemicals including commercial premises used by spray contractors for filling, storing or washing out tanks for agrichemical application
2. Chemical manufacture, formulation or bulk storage
2. Commercial analytical laboratory sites
3. Corrosives including formulation or bulk storage
4. Dry-cleaning plants including dry-cleaning premises or the bulk storage of dry-cleaning solvents
5. Fertiliser manufacture or bulk storage
6. Gasworks including the manufacture of gas from coal or oil feedstocks
7. Livestock dip or spray race operations
8. Paint manufacture or formulation (excluding retail paint stores)
9. Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds
10. 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
11. Pesticide manufacture (including animal poisons, insecticides, fungicides or herbicides) including the commercial manufacturing, blending, mixing or formulating of pesticides
12. Petroleum or petrochemical industries including a petroleum depot, terminal, blending plant or refinery, or facilities for recovery, reprocessing or recycling petroleum-based materials, or bulk storage of petroleum or petrochemicals above or below ground
13. Pharmaceutical manufacture including the commercial manufacture, blending, mixing or formulation of pharmaceuticals, including animal remedies or the manufacturing of illicit drugs with the potential for environmental discharges
14. Printing including commercial printing using metal type, inks, dyes, or solvents (excluding photocopy shops)
15. Skin or wool processing including a tannery or fellmongery, or any other commercial facility for hide curing, drying, scouring or finishing or storing wool or leather products
16. Storage tanks or drums for fuel, chemicals or liquid waste
17. Wood treatment or preservation including the commercial use of anti-sapstain chemicals during milling, or bulk storage of treated timber outside

B. Electrical and electronic works, power generation and transmission

1. Batteries including the commercial assembling, disassembling, manufacturing or recycling of batteries (but excluding retail battery stores)
2. Electrical transformers including the manufacturing, repairing or disposing of electrical transformers or other heavy electrical equipment
3. Electronics including the commercial manufacturing, reconditioning or recycling of computers, televisions and other electronic devices

4. Power stations, substations or switchyards

C. Explosives and ordinances production, storage and use

1. Explosive or ordinance production, maintenance, dismantling, disposal, bulk storage or re-packaging
2. Gun clubs or rifle ranges, including clay targets clubs that use lead munitions outdoors
3. Training areas set aside exclusively or primarily for the detonation of explosive ammunition

D. Metal extraction, refining and reprocessing, storage and use

1. Abrasive blasting including abrasive blast cleaning (excluding cleaning carried out in fully enclosed booths) or the disposal of abrasive blasting material
2. Foundry operations including the commercial production of metal products by injecting or pouring molten metal into moulds
3. Metal treatment or coating including polishing, anodising, galvanising, pickling, electroplating, or heat treatment or finishing using cyanide compounds
4. Metalliferous ore processing including the chemical or physical extraction of metals, including smelting, refining, fusing or refining metals
5. Engineering workshops with metal fabrication

E. Mineral extraction, refining and reprocessing, storage and use

1. Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition
2. Asphalt or bitumen manufacture or bulk storage (excluding single-use sites used by a mobile asphalt plant)
3. Cement or lime manufacture using a kiln including the storage of wastes from the manufacturing process
4. Commercial concrete manufacture or commercial cement storage
5. Coal or coke yards
6. Hydrocarbon exploration or production including well sites or flare pits
7. Mining industries (excluding gravel extraction) including exposure of faces or release of groundwater containing hazardous contaminants, or the storage of hazardous wastes including waste dumps or dam tailings

F. Vehicle refuelling, service and repair

1. Airports including fuel storage, workshops, washdown areas, or fire practice areas
2. Brake lining manufacturers, repairers or recyclers
3. Engine reconditioning workshops
4. Motor vehicle workshops
5. Port activities including dry docks or marine vessel maintenance facilities
6. Railway yards including goods-handling yards, workshops, refuelling facilities or maintenance areas
7. Service stations including retail or commercial refuelling facilities
8. Transport depots or yards including areas used for refuelling or the bulk storage of hazardous substances

G. Cemeteries and waste recycling, treatment and disposal

1. Cemeteries
2. Drum or tank reconditioning or recycling
3. Landfill sites
4. Scrap yards including automotive dismantling, wrecking or scrap metal yards
5. Waste disposal to land (excluding where biosolids have been used as soil conditioners)
6. Waste recycling or waste or wastewater treatment

H. Any land that has been subject to the migration of hazardous substances from adjacent land in sufficient quantity that it could be a risk to human health or the environment.

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.

Appendix B – Council Information - Paparua Water Race Scheme

Paparua Water Race Scheme

N

Waimakariri District

Christchurch City

Courtenay Road
Homebush Road
Woolshed Road
Intake Road
Old West Coast Road
Highfield Road
Painters Road
West Coast Road
Station Road
Sharps Road
Hayes Road
Sandy Knolls Road
Fyffe Road
McKays Road
Bells Road
Weedons Ross Road
Langdales Road
Adams Road
Halkett Road
State Highway 73
Lawford Road
Jowers Road
Ivey Road
Finlays Road
West Melton Road
Neave Road
Newtons Road
Wild Road
Curraghs Road
Alpineview
Railway Road
Rossendale Road
Hoskyns Road
Knights Road
Maddisons Road
McClelland Road
Jones Road
Justine Drive
Trents Road
Blakes Road
Marshs Road
Bealey Road
Miles Road
Wards Road
Tresillian Drive
Detroit Drive
Izone Drive
Hynds Drive
Iport Drive
Larcombs Road
Block Road
Waterholes Road
Hamptons Road
Birchs Road
Trices Road
Kivers Road
Aylesbury Road
Kerrs Road
Walkers Road
Rolleston Drive
Levi Road
Glenbogle Drive
Grange Road
Two Chain Road
Runners Road
Dunns Crossing Road
Lowes Road
Springston Rolleston Road
Goulds Road
Longcot Drive
Selwyn Road
Springs Road
Robinsons Road
Ellesmere Road
Leadleys Road
Burdons Road
Godley Road
Burnham School Road
State Highway 1
Telegraph Road
Edwards Road
Rattletrack Road
Weedons Road
Shands Road
Boundary Road
Hayes Road
Tai Tapu Road
Burkes Bush Road
Summit Road
Coaltrack Road
Main South Road
Thomsons Road
Brookside Road
Ellesmere Junction Road
Tancreds Road
Voss Road
State Highway 75
Holmeswood Rise
North Belt
Farm Road
Southfield Drive
Barnes Road
Norwood Road
Park Street
Bethels Road
Leighs Road
Moirs Lane
Lincoln Tai Tapu Road
Old Tai Tapu Road
Heaton Drive
Boundary Creek Road
Selwyn Lake Road
Swamp Road
Chamberlains Road
Corbetts Road
Collins Road
Leeston Road
Days Road
Poplar Lane
Goodericks Road
Carters Road
Gilmours Road
Cossars Road
Gerkins Road

Legend

Water Race Lines

- LATERAL
- LOCAL
- MAIN
- OBSOLETE

Date: 2/10/2018

Appendix C

Preliminary/Detailed Site Reports

- Detailed Site Investigation – 1234 West Coast Road, West Melton, PDP Ltd, 31 August 2018
- Malloch Environmental Ltd, December 2020

Appendix D

Landtech Consulting Ltd Geotech Report, December 2020

THIS REPORT IS PENDING.
ANDREW TISCH 16:25, 10 DEC 20
DELETE THIS ONCE ADDED

Appendix E

Power and Communication Providers

Direct: +64 3 363 9534
Email: Steve.Hancock@oriongroup.co.nz
Ref **ES: 431547**

2 December 2020

Paterson Pitts Group
Unit 1 55 Epsom Road
PO Box 160094 Hornby
CHRISTCHURCH 8441

Attention: Will Salmond

Dear Will,

Proposed Sub-Division connection to the Orion network – R/No 1234 West Coast Road, West Melton

The letter is not suitable for Section 224 Title Clearance.

I refer to your letter and the above-named property. I have investigated your request and comment as follows;

1. Orion has the capacity on the upper network to supply the proposed subdivision of the above lot(s).
2. To comply with Orion's network security conditions, an alternative feed from adjoining developments may also be required.
3. There are presently no specific connections available for this Sub-Division; however,
4. Connection(s) could be made available with alteration / addition to the Orion network.
5. There will be costs associated with providing the connection(s). These will be in line with our 'Extensions and Connections Policy'.
6. This type of work would be a typical design build project. If you proceed; please have your designer forward their proposal to Orion for approval.

The terms and conditions presented will encompass Orion's policies and practices current at the time.

Please don't hesitate to contact me on (*03*) *363 9534*, or email me at: *Steve.Hancock@oriongroup.co.nz*

Yours faithfully

Steve Hancock
Contract Manager Sub-Divisions

Orion New Zealand Ltd
565 Wairakei Road
PO Box 13896
Christchurch 8141
+64 3 363 9898
oriongroup.co.nz

From: Chorus Property Developments <develop@chorus.co.nz>
Sent: Thursday, 10 December 2020 11:02 am
To: Will Salmond <will.salmond@ppgroup.co.nz>
Subject: Chorus Confirmation Estimate: ROL61645 - West side Preston Ave & West side Sheperd Ave, 173 Lots

Hi Will

Thank you for providing an indication of your development plans in this area. I can confirm that we have infrastructure in the general land area that you are proposing to develop. Chorus will be able to extend our network to provide connection availability. However, please note that this undertaking would of course be subject to Chorus understanding the final total property connections that we would be providing, roll-out of property releases/dates and what investment may or may not be required from yourselves and Chorus to deliver the infrastructure to and throughout the site in as seamless and practical way as possible.

The cost involved would be a minimum of our current standard fee of $1600 per lot excluding GST. This cost can only be finalised at the time that you are ready to proceed.

Chorus is happy to work with you on this project as the network infrastructure provider of choice. What this ultimately means is that the end customers (business and home owners) will have their choice of any retail service providers to take their end use services from once we work with you to provide the physical infrastructure.

Please reapply with a detailed site plan when you are ready to proceed.

Kind Regards

Catherine Maher
Property Development Coordinator

T 0800 782 386 (Opt 1)
E develop@chorus.co.nz

CHORUS

Please consider the environment before printing this email