IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a hearing on submissions to Plan Change 19 of the Central Otago District Plan (Stage 2 – Zoning)

STATEMENT OF EVIDENCE OF MR JAKE WOODWARD (PLANNING) ON BEHALF OF LOWBURN VITICULTURE LIMITED (SUBMITER 19/123)

16 May 2023

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1.0 Introduction

1.1 My name is Jake Woodward. I am an independent resource management planning consultant based in Cromwell, Central Otago. I have over 11 years resource management experience, with the previous seven years working as a consultant in the Central Otago and Southern Lakes Districts. Prior to this, I worked at both Auckland Council and Queenstown Lakes District Council in various resource management planning roles.

1.2 I hold the qualifications of a Bachelor of Social Sciences Majoring in Environmental Planning and a Post Graduate Diploma in Environmental Planning, both obtained from the University of Waikato. I am an associate member of the New Zealand Planning Institute.

1.3 Throughout my professional career, I have been involved in a range of resource consenting matters, particularly in relation to rural and urban land use consents and subdivisions, including large scale and contentious projects. I have made numerous appearances in front of various district Councils both as the Council reporting officer and as an independent planning witness.

1.4 I am generally familiar with the direction of growth and development in Cromwell and Central Otago more generally through my involvement in resource management matters over the past seven years practising in the District. This has included providing planning evidence before independent commissioners on a range of high profile subdivisions including the subdivision of the Cromwell Top 10 Holiday Park (173 Lots) along with various rural and rural lifestyle subdivisions, and I have been involved in extensive due diligence projects of varying scales.

1.5 I am very familiar with the Central Otago District Plan, including Proposed Plan Change 19 (PC19). I have advised and prepared submissions on behalf of a number of submitters, and have prepared and presented evidence in the Stage 1 (provisions) and now Stage 2 (rezonings) hearings.

Code of Conduct

1.6 Whilst this is not an Environment Court hearing I confirm that I have read and agree to comply with the Environment Court Consolidated Practice Note 2023 for expert

witnesses. I confirm that this statement is within my area of expertise except where stated otherwise. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express in this statement of evidence.

Involvement in this project

1.7 I was engaged by and prepared a submission on behalf of Lowburn Viticulture Limited (Submitter 19/123) on PC19. This evidence addresses the relief sought in that submission.

1.8 Through its submission, the Submitter seeks the rezoning of an approximately 5.6 ha site located at Section 27 Block V Cromwell SD, Lowburn (the **Site**) from Rural Resource Area (**RRA(5)**) to Large Lot (Precinct 2) Residential (**LLR(P2)**).

1.9 I have visited the Site on numerous occasions, including prior to preparing the Submitter's submission and when preparing my evidence for this hearing. I am thus very familiar with the Site. I describe its characteristics shortly.

Documents Review

1.10 The documents I have reviewed in preparing this evidence are as follows:

a. The notified Plan Change 19 documentation including the notified text, Council's Section 32 analysis and proposed amendments to the planning maps;
b. The Cromwell Spatial Plan;
c. The Resource Management Act 1991;
d. The Partially Operative Otago Regional Policy Statement 2019 (PORPS19) and the Proposed Otago Regional Policy Statement 2021 (pORPS21);
e. The National Policy Statement for Urban Development 2020;
f. The National Policy Statement for Highly Productive 2022 (and associated implementation guide);
g. The Council's section 42A report prepared by Ms Liz White and associated attachments for both PC19 Stage 1 (Provisions) and 2 (Rezonings), including the 2022 Growth Projections prepared by Rationale and their updated

Cromwell Yield Assessment and Ms Julie Muir's assessment on infrastructure capacity;

h. The Submitter's submission and associated reports being:
   i. Desktop Infrastructure Assessment, prepared by Kirk Roberts[1];
   ii. Landscape Assessment, prepared by Rough Milne Mitchell Landscape Architects[2];
i. Other submissions and further submissions;
j. The evidence of:
   i. Mr Henry Van der Velden, on behalf of the Submitter;
   ii. Mr Andy Carr, in relation to traffic and transportation matters; and
   iii. Dr Reece Hill in relation to highly productive land matters.

k. Economics Report, prepared by Insight Economics, submitted as part of Plan Change 21 proceedings.

Scope of evidence

1.11 My evidence will address the following:

a. Site description;
b. Overview of PC19;
c. Overview of the submission;
d. Summary of the section 42A report, as it relates to the submission;
e. The statutory tests for evaluating the submission;
f. The relevant Zoning "options" for the Commission's consideration;
g. An evaluation of the options in accordance with the statutory tests; and
h. Conclusion.

2.0 Site Description

2.1 The Submitter owns the land (the **Site**) legally described as Section 27 Block V Cromwell SD as contained in Record of Title OT353/37 and illustrated in Figure 1 below. The site is located approximately 1.3 kilometres north-west of the Lowburn Valley Road and State Highway 6 intersection.

[1] Dated 2 September 2022 and referenced as 2210649.
[2] Dated 1 September 2022

Figure 1: Site location (Image Source: CODC PC19 GIS).

2.2 The yellow shaded area in Figure 1 denotes the proposed LLR(P2) zoning, which encapsulates the existing residential area at Lowburn, which the Site adjoins.

2.3 The Site has a total land area of 5.597 hectares (more or less) and is presently vacant.

2.4 The Site has a significant elevational change with a difference of 85 metres from the top of the site down to the road boundary.

2.5 The Site is characterised by incised gullies and a steep “drop-off” near the northern portion.

2.6 The flatter, albeit gently undulating portion of the Site adjacent to the road has been used as an area to hold surplus fill associated with the earlier stages of the Lowburn Valley residential development located (and adjoining) to the south-east of the site (Turner Terrace and Judare Drive).

2.7 Access to the site is via Lowburn Valley Road itself (although there is no formed access presently), or via the recently constructed Turner Terrace/Judare Drive.

2.8 The Submitter has owned the Site since 2003, during which time it has not been used for productive purposes.

2.9 The subject Site is zoned **Rural Resource Area** under the Central Otago District Plan (Operative Plan). No change to this zoning was proposed by PC19 as notified, however, as I have noted earlier, the Submitter made a submission seeking an LLR(P2) zoning. I address this further shortly in my evidence.

2.10 The Site is located to the immediate northwest of the operative Residential Resource Area (5) (RRA(5)) which encompasses the wider Lowburn residential settlement. The typical lot sizes in this area is no smaller than 3,000m^2, per the requirements of operative RRA(5) zoning. The resulting character of the area is low density, standalone residential dwellings with expansive views to the north over the Lowburn Valley floor.

2.11 Under PC19 as notified, this existing RRA(5) zoned area is proposed to be rezoned as **Large Lot (Precinct 2) Residential** (LLR(P2)). I discuss the nature of this proposed Zone later in my evidence.

Overview of PC19

2.12 PC19 has been driven by, and is intended to implement the direction set out in, the Vincent and Cromwell Spatial Plans, in relation to the District's residential areas. These plans have been prepared by the Council in an endeavour to respond to demand for residential land and housing affordability concerns in the District, and in order to plan for the anticipated growth over the next 30 years[3]. The Spatial Plans, and subsequent PC19 has been informed by a series of growth projections and capacity assessments undertaken by engineering and advisory firm, Rationale[4].

2.13 PC19 involves aligning the existing Residential Resource Areas with the National Planning Standards, identification of new residential areas, and Future Growth Areas. The proposed Zonings under PC19 are as follows:

a. Medium Density (MRZ) – 200m^2 minimum Lot Size;
b. Low Density (LRZ) - 500m^2 minimum Lot Size;

[3] Paragraph 4, PC19 s32 Report.
[4] 2018 Cromwell Housing and Business Capacity Assessment, 2022 Growth Projections, and 2022 Cromwell Yield Assessment.

c. Large Lot (LLR) – 2,000m^2 minimum Lot size;

d. Large Lot (Precinct 1) (LLR(P1)) – 1,000m^2 minimum Lot size;

e. Large Lot (Precinct 2) (LLR(P2)) – 3,000m^2 minimum Lot size; and

f. Large Lot (Precinct 3) (LLR(P3)) – 6,000m^2 minimum Lot size.

2.14 One of the key mechanisms for providing for growth in the Cromwell Ward is the "up-zoning" of existing Residential Resource Areas within the Cromwell township to Medium Density[5]. Otherwise, aside from the inclusion of Freeway Orchard (Rural Resource Area to MRZ), Domain Road Vineyard (Rural Resource Area to Large Lot Residential), and Richards Beach Road (Rural Residential Notation to Large Lot Residential), no new growth areas have been provided in the Cromwell Ward. Of relevance to this submission, no new growth areas are identified for Lowburn. Otherwise, PC19 simply replaces existing residential zones with comparable zones under the National Planning Standards.

The submission

2.15 The Submitter's original submission seeks a LLR(P2) zoning for the Site. This would effectively extend the proposed LLR(P2) zoning further north-west along Lowburn Valley Road, so that it terminates just before the slight curve in the road and closing in of the valley.

2.16 In the LLR(P2), the minimum lot size is 3000m^2, with a corresponding density requirement. Theoretically, if applied to the Site this would allow the creation of 18 lots through subdivision, however, a more likely yield would be lower, perhaps around 14 lots, taking account of topography and access requirements.

2.17 The Submitter's submission was supported by a landscape and infrastructure assessment, which were lodged with and formed part of the submission. In very broad terms, the landscape assessment was that the relief sought by the Submitter comprises a logical extension to the existing residential area, which would be appropriately contained and align with landscape and topographical features, and would not give rise to adverse effects. The infrastructure assessment concludes that further detailed design and modelling for servicing will be required at the time of subdivision.

[5] Para 6, PC19 s32

Section 42A report

2.18 Council's consultant planner, Ms Liz White, has undertaken a review of all of the relevant submissions relating to PC19 and details her recommendations in the Section 42A report, dated 1 May 2023.

2.19 In her report, Ms White considers that rezoning the Site to LLRZ (P2), as sought by the Submitter, would provide a logical expansion of the current urban boundary and notes that the impacts of this expansion have been assessed in detail and determined as being appropriate through the landscape assessment provided with the submission. Ms White concludes that the rezoning would be consistent with the current amenity and character of the Lowburn township[6].

2.20 Ms White notes that the Cromwell Spatial Plan (which informed notified PC19) did not identify any growth areas in Lowburn but notes that specific "Key Moves" of the Spatial Plan identified for Lowburn included supporting growth of housing balanced with the current section sizes and retaining the landscape character of the Lowburn valley and surrounding slopes. Ms White considers that the relief sought for this Site is generally consistent with this.

2.21 Notwithstanding, Ms White recommends the retention of the Site's operative Rural Resource Area zoning on the basis that:

a. The Site is subject to the NPS-HPL due to a portion of the site classified as LUC 3 (I discuss this in further detail later); and

b. There are presently wastewater constraints at Lowburn that are currently being resolved and the Site could be serviced (for wastewater) from 2029 onwards, however, until then, a Future Growth Overlay (FGO) is recommended, or a rule limiting any further development until after the specific upgrade identified by Ms Muir is undertaken[7].

2.22 I will address the perceived constraints identified noted by Ms White later in my evidence.

3.0 The Statutory Tests

[6] Paragraph 222, s42A
[7] Paragraph 226, s42A.

3.1 Various statutory tests are to be applied when considering the most appropriate provisions for the District Plan. Matters to consider are as follows:

a. whether the provisions (in this case, the proposed zoning) accord and assist the Council in carrying out its functions and achieve the purpose of the Act (section 74(1) of the Act);
b. whether the provisions accord with Part 2 of the Act (section 74(1)(b));
c. whether the provisions give effect to the regional policy statement (section 75(3)(c));
d. whether the provisions give effect to a national policy statement (s75(3)(a));
e. whether the provisions have regard to the actual or potential effects on the environment, including, in particular, any adverse effect (s76(3);
f. the extent to which the objectives are the most appropriate way to achieve the purpose of the Act (s32(1)(a));
g. whether the policies and methods (in this case, the zoning is the method) are the most appropriate way to achieve the objectives, having regard to their efficiency and effectiveness (s32(1)(b)) and taking into account (under s32(2):

    i. the benefits and costs of the proposed policies and methods; and
    ii. the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules of other methods.

3.2 Where changes are proposed to a proposal after the first section 32 evaluation has been undertaken (where changes are proposed to a notified plan change for example), a further evaluation of the changes is required under section 32AA. This further evaluation is only required in relation to the changes that are proposed to be made since the first evaluation report was completed.[8] The further evaluation is to be undertaken in accordance with section 32(1) to (4) of the Act.

3.3 The assessment contained in my evidence addresses the changes proposed to PC19 since it was notified, namely the proposed rezoning of the Submitters' Site from Rural Resource Area to LLR(P2), and effectively comprises a section 32AA evaluation.

[8] Section 32AA(1)(b)

3.4 I assess the statutory tests set out in paragraph 3.1 above for the Submitter's zoning proposal in the sections of my evidence that follow. Firstly, however, I identify the zoning options that are before the Commission, which are to be assessed in accordance with these tests. I then assess the effects of the options, and whether they achieve the relevant National Policy Statements (NPS-UD and NPS-HPL), as these assessments inform other aspects of my evaluation.

4.0 The Zoning options

4.1 There are two zoning options before the Commission for its consideration. These are:

a. Option A: The status quo, being the operative **Rural Resource Area** zoning; and
b. Option B: The submitter's requested Zoning, being the **Large Lot (Precinct 2) Residential Zone**.

4.2 I briefly describe the available options below.

Option A – Rural Resource Area

4.3 The Operative Central Otago District Plan describes the Rural Resource Area zone as comprising of the Districts "rural environment". The District Plan describes the amenity values of this environment dominated by Central Otago's unique, semi-arid landscape of broad basins separated by low mountain ranges with sparse vegetation, covered in tussock grassland and exotic pasture, and broken by schist rock outcrops. The District Plan further explains[9] that "activities" that locate within the Rural Resource Area generally do so for the following reasons:

a. They are reliant upon the resource of the rural area;
b. They need to be close to an activity that is reliant upon the resource of that area;
c. They need a large open space where they can generate effects without significantly affecting more sensitive activities; or
d. Persons wish to enjoy the lifestyle opportunities offered by its open space, landscape and natural character amenity values.

[9] Section 4.1 of the Rural Resource Area Chapter, Central Otago District Plan.

4.4 The Rural Resource Area permits farming, agricultural, horticultural and viticultural activities, and associated ancillary uses. Buildings associated with farming and non-residential activities are also permitted. General earthworks of up to 2,000m^2 in area or 3,000m^3 in volume in association with a rural activity on any one site are also permitted. The planting of indigenous and exotic vegetation[10] is also a permitted activity and the establishment of crops, vines and orchards are permitted, including structures incidental to agricultural activities such as bird netting/support structures, pivot irrigators/sprinklers and other similar equipment.

4.5 Residential development in the Rural Resource Area requires, at a minimum, a restricted discretionary resource consent[11] subject to compliance with the Standards stipulated under Rule 4.7.6 and so long as the number of dwellings per lot is no more than one[12].

4.6 Subdivision in the Rural Resource Area requires at a minimum, a discretionary consent pursuant to Rule 4.7.4(iii)(b) of the Central Otago District Plan, so long as the minimum allotment size created is no less than 2 hectares and an average lot size of 8 hectares is achieved across the entire subdivision. Failure to comply with this rule constitutes a non-complying activity under Rule 4.7.5(iii).

4.7 As the Submitter's Site is just under 5.6ha, one residential dwelling could be established as a restricted discretionary activity, however, any subdivision of the Site or the establishment of additional dwellings would be non-complying activities.

Option B – Large Lot (Precinct 2) Residential Zone

4.8 The purpose of the LLR zone is to provide for lower density residential living, providing for detached houses on large sites and maintaining a high open space to built form ratio. Generous setbacks are also provided from the road and neighbouring boundaries.

4.9 The LLR is further divided into "Precincts" (three in total) to reflect the existing patterns of development in which the Precinct applies. Lowburn is located in proposed Precinct

[10] provided the exotic vegetation is not listed as a prohibited species in the District Plan.
[11] Rule 4.7.7(vii) of the District Plan.
[12] Rule 4.7.3(vii)(b) of the District Plan.

2 (LLR(P2)) in which a 3,000m^2 minimum lot size is proposed, which generally reflects the densities of the operative RRA(5) zone that applies to the existing residential area at Lowburn.

4.10 The LLRZ(P2) provides for residential activities as a permitted activity[13]. As alluded to earlier, the zone provides for a residential density with allotment sizes of no smaller than 3,000m^2. A subdivision that complies with the minimum density is assessed as a restricted discretionary activity[14] while non-compliance with the density triggers consideration as a non-complying activity[15].

4.11 As noted earlier, under the LLRZ (P2) Zone, the site could yield up to 18 residential allotments based on a minimum of 3,000m^2 allotment, although in reality, a more likely yield is around 14 allotments.

5.0 Whether the provisions (zonings) have regard to the actual and potential adverse effects on the environment, including, in particular, any adverse effect

5.1 I consider the most relevant categories of effects on the environment are as follows:

a. Effects on landscape values
b. Effects on amenity values
c. Effects on productive capacity of the subject site
d. Reverse sensitivity effects
e. Traffic and transportation effects
f. Infrastructure and servicing effects
g. Positive Effects

5.2 My assessment of a) to g) primarily focusses on Option B, an LLR(P2) zoning for the Site, as Option A does not alter the status quo.

Effects on landscape values

[13] Rule LLRZ-R1
[14] Rule SUB-R4
[15] Rule SUB-S1

5.3 Option A (Rural Resource Area Zone) would continue the status quo and thus result in little or no change to the landscape, albeit that the Site could be modified in a number of ways as part of a permitted farming activity, including substantial earthworks.

5.4 For Option B (a LLR(P2) zoning) the Submitter engaged landscape architect firm Rough Milne Mitchell Landscape Architects Ltd to assess the suitability of the zoning, including to assess the landscape and visual effects that would arise if the land were to be developed in accordance with the zoning (the Landscape Assessment). A copy of the Landscape Assessment was attached to and formed part of the submission. For ease of reference, it is also attached to my evidence as **Appendix [A].**

5.5 The Landscape Assessment notes that the key landscape values of the receiving environment include the highly legible landforms of the surrounding Sugar Loaf and Lowburn terraces, open character associated with the valley floor and undeveloped scarp faces and the mix of horticultural, pastoral farming activities in conjunction with the established residential environment that characterises the eastern extent of the Lowburn Valley.

5.6 It finds that the Site is visually contained within a distinctive catchment that is directly associated with the existing residential environment (i.e. existing zoned area) to the south-east. This containment is largely attributed to the distinct topographical change at the north-eastern end of the Site, consisting of a spur and incised gullies which physically and visually delineates the site from the more rural like land uses that sits beyond (to the north-east). This containment is supplemented by a bend in the Lowburn Valley Road such that upon passing the bend, the viewer is then situated in a completely separate viewing catchment.

5.7 This physical and visual containment is also achieved to the south-west, where the upper boundary of the site adjoins the QEII covenanted land which also includes a Significant Amenity Landscape (SAL) Overlay.

5.8 The north-east of the site is bound by the road itself and beyond this is that of the flood plains associated with the Low Burn stream.

5.9 The south-eastern extent of the site is bordered by that of the stark and arbitrary transition to the residential enclave of Lowburn.

5.10 This containment on three of the Site's boundaries ensures that landscape and visual effects associated with residential activities if the Site were to be rezoned LLR(P2) would also be contained and would not intrude into or adversely affect the prominent landforms, noting that the QEII covenanted open space that borders the upper extent of the Site precludes domestication near the terrace edges.

5.11 The visual and physical containment of the Site also means that the consequential development of this area will be viewed as a logical and coherent extension to the existing residential area, which presently terminates arbitrarily at the Site boundary without any clear landscape basis for the transition between the zonings. Coupled with the implementation of the LLRZ(P2) bulk and location rules (which are essentially a replica of the current standards[16]) including setbacks, building coverage, and height, the subsequent built environment will appear consistent with the prevailing character and density of the existing Lowburn residential enclave.

5.12 Relying on the landscape assessment, I consider the application of a LLR(P2) zoning to the Site (Option B) forms a direct and logical extension to the existing residential environment that will generate no more than a low degree of adverse landscape and visual effects on the wider environment. Ms White confirms her agreement to this assessment in her section 42A report.

Effects on amenity values

5.13 Amenity values is defined in the Act as, *"…those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes".*

5.14 Option A maintains the status quo rural zoning, and is likely to result in no change to amenity values.

5.15 For Option B, as discussed above, the Submitter's landscape assessment finds that the Site is visually contained and reads in direct association with the existing residential environment to the south-east. This containment is largely attributed to the distinct topographical change at the north-eastern end of the site, consisting of a spur and

[16] Although building coverage under the Operative Plan permits up to 40% coverage whereas PC19 reduces this to 30%.

incised gullies which physically and visually delineates the site from the more rural like land uses that sits beyond.

5.16 Recognising this visual containment and the association that the Site has with the existing residential environment, and also the low density of development that would be enabled under a LLR(P2) zoning, I consider that the extension of the LLRZ(P2) will not result in any undue adverse effects on amenity values. Rather, the Site and its eventual development will read as a logical extension to that of the existing residential enclave of the Lowburn Valley residential environment.

Effects on productive capacity of the subject site

5.17 As outlined in the evidence of Mr Van der Velden, the Site has not been used for productive purposes in recent times, and is not an economic farming unit in its own right in any case. As such, the Site has an inconsequential role in supporting the District's rural economy and serves no benefit to the wider population base. Its rezoning for residential purposes (Option B) will not result in any adverse effect on productive capacity, in my view.

5.18 Drawing form Mr Van der Velden's evidence, I further note that:

a. Due to its size and topographical constraints the block does not lend itself to a useful grazing block of any great capacity. While the site is approx. 5.6 hectares in area, a proportion of this land is rendered unusable by the various steep incised gullies and cliffs which characterises the site. The area available coupled with the location of the site is unlikely to present as a viable option for farmers looking for a grazing paddock.

b. There is a lack of a reliable source of irrigation water to support intensive horticulture and is not supported by any consented water take. Referring to Otago Regional Council's allocation status for the Lowburn Alluvial Ribbon Aquifer (refer to Figure 2 below), it is noted that the aquifer is overallocated. As will be discussed later, Policy 3.1.3 of the Partially Operative Regional Policy Statement 2019 seeks to avoid over-allocation of the water resource.

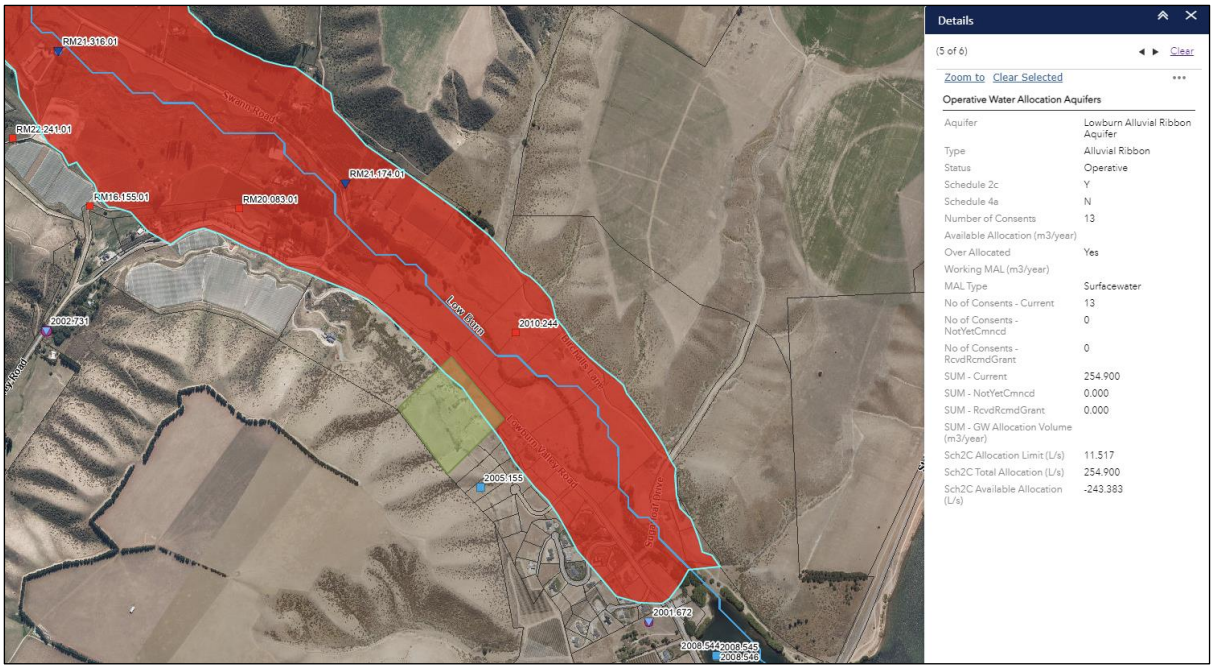

Figure 2: Extract of ORC GIS detailing water allocation status.

5.19 Accordingly, retaining the status quo (Option A) is unlikely to promote rural/productive use of the Site, so there is little difference between Option A and Option B in terms of productive capacity.

5.20 The NPS-HPL is dealt with later in this evidence.

Reverse sensitivity effects

5.21 At present, the transition from residential to rurally zoned land is defined by an arbitrary cadastral boundary. Reverse sensitivity effects have not arisen to date because the rurally zoned Site has not been utilised in a manner that could give rise to adverse effects on nearby residential activities. The lack of any "rural" use of the Site is largely attributed to the constraints to these activities I have detailed earlier. The extension of the LLR (P2) Zone boundary to encapsulate the Site would relocate the interface between the residential and rural environment, albeit that the interface would be clearly defined by topographical features rather than by the cadastral boundaries that arbitrarily define it presently.

5.22 I note that the land to the north-west of the Site, which is zoned Rural Resource Area has similar topographical constraints to that of the Site and is not used for any obvious primary production purpose. Figure 2 above indicates that this adjoining block is also subject to the same water constraints as the Submitter's Site, and it does not appear to have a consented water take. Thus, whilst zoned for rural purposes, this adjoining

site is unlikely to be used for any productive purposes. For these reasons, I consider it unlikely that any reverse sensitivity effects will arise from extending the LLRZ(P2) (Option B) as requested by the Submitter.

Traffic and transportation effects

5.23 The effects of the proposed LLR(P2) zoning on associated transportation issues are addressed in the evidence prepared by Mr Andy Carr, Traffic Consultant. Mr Carr concludes that the traffic generated by the development under a LLR (P2) zoning for the Site can be accommodated on the adjacent roading network without generating any noticeable effects on capacity or efficiency of the roading network, that no issues of safety arise, that access to the Site is available, and that roads and accessways can be upgraded, as and if necessary, at the time of subdivision.

5.24 Mr Van der Velden advises that land can be obtained to undertake any necessary widening of Judare Drive to access the newly zoned lots should this be required.

5.25 Relying on Mr Carr's assessment and Mr Van der Velden's evidence, I consider that the extension of the LLRZ(P2) (Option B) will not result in any adverse effects on the roading network and that appropriate practical and legal access to the Site is achievable and can be appropriately engineered at the time of subdivision.

5.26 I further note that detailed design around access and the application of the Council's roading standards can occur at detailed design stage for subdivision.

Infrastructure and servicing effects

5.27 The Site in its current form has no consented water take or existing infrastructure to support rural or residential development. The Site is, however, located immediately adjacent to Council's existing public reticulation for water, wastewater, along with power and telecom.

5.28 A high-level assessment of the feasibility of servicing the Site for residential use was undertaken to determine whether the existing servicing in the adjoining residential area could theoretically accommodate the future residential development that would be enabled by the proposed rezoning of the Submitter's Site. The resulting report was attached to the Submission. The report is also contained in **Appendix [B]** of my evidence, for ease of reference.

5.29 The report concludes that further detailed design and modelling for servicing will be required at the time of subdivision.

5.30 Since the report was prepared, confirmation has been provided by Aurora that up to 18 residential allotments can be reticulated for power. This confirmation is attached in **Appendix [C].**

5.31 In terms of domestic water supply, Ms Muir confirms that there is existing capacity to service the Site[17].

5.32 In terms of wastewater, Ms Muir states that the reticulated wastewater main for Lowburn Valley was not initially designed to carry the level of development that has occurred in this area, which is resulting in issues with the pumpstation and odour. She states that the Lowburn wastewater main and pumpstation requires reconfiguration to enable it to operate effectively and to provide additional capacity. Ms Muir confirms that funding has been included in the Draft National Transition Unit 2024 budgets to enable this to occur between 2026 and 2028, and that this will provide increased capacity to accommodate growth[18].

5.33 As Mr Van der Velden has detailed in his evidence, during the development of Turner Terrace, being the residential subdivision adjacent to the Site, there was extensive correspondence with the Council to confirm the necessary requirements to upgrade the Lowburn Pumpstation. Development contributions were paid to Council as part of the Turner Terrace development, where Council at the time confirmed that this contribution would be used to improve the existing wastewater infrastructure at Lowburn to accommodate growth and storage capacity. It is not clear whether this contribution has been allocated to upgrades. Ms Muir's report suggests it may not have.

5.34 Notwithstanding, it is clear from Ms Muir's report that there is an intent to upgrade Lowburn's wastewater capacity between 2026 and 2028, i.e., essentially within two to four years.

5.35 On this basis, I consider that the availability of wastewater infrastructure is not a proper reason to refrain from rezoning the land for residential purposes now, as sought by the Submitter. That is because, if zoned, the land cannot physically be developed until

[17] Refer to Ms Julie Muir's Table appended to the end of her evidence.
[18] Paragraph 46, Ms Muir's evidence.

subdivision consent is obtained, including all the necessary detailed design and engineering works and approvals that form part of that. The process of subdivision (obtaining consent and engineering approvals) will likely take some years, by which time, on the basis of Ms Muir's report, the wastewater upgrades will be well underway, if not commissioned.

5.36 I further note that the ability to service the land is a matter that can properly be considered at the time of subdivision, noting under PC19 as notified, subdivision in the LLR zone would require a restricted discretionary consent (SUB-R4), with discretion reserved over the '*the provision of adequate network utility services… including the location design and construction of these services'* (SUB-R4(2)) and '*the ability to lawfully dispose of wastewater and stormwater'* (SUB-R4(3)). This ensures that the Council retains control over outcomes and timing.

5.37 Additionally, all subdivision consents are generally conditional upon the requirement to have an approved and operational means of wastewater disposal before records of title can be issued. So, while subdivision consent and detailed design may coincide with the planning and design of the wastewater, the creation of future individual Lots will be conditional on the formal connection to the wastewater network.

5.38 Furthermore, I note the possibility that the upgrades may be brought forward, if funding is secured sooner for example.

5.39 At this juncture, it is appropriate to address Ms White's recommendations (which I described in paragraphs 2.18 to 2.22 above). While she generally supports the LLR(P2) zoning (subject to the NPS-HPL, which I address shortly), she recommends that a Future Growth Overlay (FGO) is applied until such time as the wastewater upgrades detailed by Ms Muir have been carried out, or that a bespoke rule is applied that achieves the same outcome.

5.40 I do not agree an FGO is necessary or appropriate. I have addressed timing issues above. If a FGO is applied, a further plan change process will be required to uplift the overlay and apply an LLR zoning before the Site can be development for residential purposes. This is notwithstanding that it is generally accepted presently that a LLR zoning and resulting development is appropriate. Under the RMA a plan change must be notified, with the opportunity for submissions to be made. Detailed Council reports are required. The process can take 18 months to two years and is a costly process for

either the applicant (if a private plan change request), or the rate payer (if Council initiated).

5.41 In my experience, FGOs (effectively deferred zonings) are typically utilised when there are longer term constraints to developing land, including those which may not be resolved within the life of the District Plan. In this case, there is a clear intention to overcome the 'constraints' - by undertaking the necessary infrastructure upgrades – within roughly the next 2 - 4 years. In my view, a deferred zoning is not warranted or appropriate in these circumstances, particularly given the realistic timeframe for completing the subdivision of the land, which will likely align with the planned upgrades, and the ability for the Council to consider the suitable provision of wastewater infrastructure via the subdivision rules. In my view, a deferred zoning/FGO will add unnecessary and undue cost and delay to developing the land in these circumstances.

5.42 Furthermore, zoning the Site now provides certainty for the landowner to begin detailed design work and be in a position to provide additional land in line with the NPS-UD within the medium term (I address the NPS-UD in further detail shortly), rather than waiting until 2029 for the wastewater to come online, then go through another Plan Change process, and then subsequent consenting and detailed design, which could push development of the Site into early - mid 2030. I consider that there is sufficient confidence in the planned upgrades (noting Ms Muir confirms these are happening), to support the immediate rezoning of the Site.

5.43 For similar reasons, I do not support a bespoke rule, noting again there is already an ability to consider infrastructure provision and servicing through the subdivision consenting process, via proposed subdivision rule SUB-R4. A further rule is not necessary.

National Environmental Standard for Managing and Assessing Contaminants in Soils to protect human health (NES-CS)

5.44 I have reviewed the District Council and Regional Council databases, from which it appears that the Site is not identified as a HAIL site. I also note Mr Van der Velden's evidence that since the Site has been in his ownership, it has not been actively farmed other than for low intensity pastoral activities, and that this was also the case prior to his ownership. Historical photos from as early as 1958 verify this (refer to Figure 3, below, where the Site can be compared with land further to the right of the photo and opposite, which appears to be in pasture):

Figure 3: Historical aerial from 1958. Site extent approximate only (Image Source: Retrolens).

5.45 I further note my understanding, drawing from Mr Van der Velden's evidence, that the lower portion of the Site adjacent to the road has been used for excess fill during the construction of the earlier stages of Lowburn residential subdivision (RC160414). Following a review of the decision for RC160414[19], a review of the NES-CS was undertaken which confirms that the earlier subdivided land in which the fill originates from, was not a HAIL site and therefore the NES-CS was not applicable.

5.46 Accordingly, I conclude that the Submitter's Site is not a HAIL site and therefore the NES-CS is not applicable.

Positive Effects

5.47 Option A would have a minor public benefit in retaining the land as open space, although at some point it is likely that a dwelling would likely change the current open space outlook across the Site, given the Site is not suited to any rural productive use.

[19] Being the resource consent which established the adjacent residential subdivision of Turner Terrace and Judare Drive.

5.48 Option B contributes, more so than Option A, to residential housing supply in Lowburn where presently no areas of growth has been provided. Economic benefits would result in terms of employment associated with construction and redevelopment of the site along with home ownership for future residents. Benefits for the community includes additional housing with high amenity, within an existing and established residential environment.

Summary of effects on the environment

5.49 The statutory test under section 76(3) is whether the provisions have regard to the actual or potential effects on the environment, including, in particular, any adverse effect.

5.50 Regarding the effects of the operative zoning (the status quo - Option A), there would be little to no change as compared with the existing situation. A dwelling could be established as a restricted discretionary activity, which would change the landscape somewhat, but it would not be out of context with the adjacent residential development. Farming and related uses are permitted, which can give rise to adverse effects, however the land is not well suited to productive uses so adverse effects associated with rural activities such as farming are unlikely to arise. There are few positive effects arising from the status quo, other than the fact that the land will remain undeveloped, however this is of little consequence given the Site is not identified as an ONL, ONF or SAL.

5.51 Option B, although enabling more change, would have an acceptable level of effects when taking into account the assessment on the environment undertaken above. This effects assessment, informed by the various experts, concludes that the adverse effects of re-zoning the land will be no more than minor, noting that Option B has more tangible positive effects than that of Option A in so far as it would contribute to housing supply and choice within the Cromwell Ward, and efficiently utilise a Site that is not suited to productive uses.

5.52 On balance, I conclude that while neither Option A nor Option B give rise to any adverse effects, Option B has more positive effects and is ‘better’ in this regard, overall.

6.0 Whether the provisions (zonings) give effect to a national policy statement (s75(3)(a))

6.1 There are two national policy statements that are of relevance to this proposal;

a. The National Policy Statement for Urban Development 2020 (NPS-UD); and
b. The National Policy State for Highly Productive Land (NPS-HPL)

NPS-UD

6.2 The NPS-UD applies to all local authorities that have all or part of an "urban environment" within their district or region, that is, Tier 1, 2 and 3 authorities.

6.3 The NPS-UD lists Tier 1 and 2 authorities in an Appendix. Central Otago District Council is not listed as a Tier 1 or 2 authority.

6.4 Tier 3 authorities are more broadly defined as being (my emphasis added):

> *"a local authority that has all or part of an **urban environment** within its region or district, but is not a tier 1 or 2 local authority…"*

6.5 The NPS-UD defines an "urban environment" as (emphasis added):

> *"any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that:*
> *(a) is, or is intended to be, predominantly urban in character; and*
> *(b) is, **or is intended to be**, part of a housing and labour market of at least 10,000 people"*

6.6 The NPS-UD contains directives for Tier 1 and 2 authorities in relation to providing for urban growth in their districts. For Tier 3 authorities, it 'strongly encourages' them to do the things that Tier 1 and 2 authorities are obligated to do, and also contains some directives for these authorities. Broadly speaking, these include (relevantly):

a. Providing sufficient development capacity for housing;

b. Development is "plan-enabled", either by being appropriately zoned for housing in the short term[20], or identified for future urban development for housing in the medium to long term[21];

c. Local authorities to be satisfied infrastructure to service development capacity is likely to be available.

6.7 A purpose of PC19 is to provide for predicted growth. I understand that the plan change is premised on the basis of catering for predicted population growth over and beyond the life of the District Plan (30 years), but that it does not take express account of the NPS-UD because the Central Otago District Council considers the District does not contain an "urban environment" as defined in the NPS-UD[22].

6.8 In her section 42A report for Stage 1 of PC19, Ms White also assumes that the NPS-UD does not apply, however, seemingly on the basis of the advice provided to her by CODC, as she does not herself assess the NPS-UD[23].

6.9 I consider that the Central Otago District Council is Tier 3 local authority and that the NPS -UD does apply to this inquiry. I set out my reasoning in the paragraphs that follow.

6.10 I have reviewed the April 2022 Growth Projections prepared by Rationale (the 'April 2022 Report') which expands on Rationale's Housing and Business Capacity Assessment 2018 which underpins PC19 (noting however, that I have not seen a copy of the 2018 report as this is not publicly available). The April 2022 Report indicates that the collective "usually resident population" of Cromwell, Pisa Moorings and Bannockburn in 2021 was 8,090[24]. The Report projects that in 2024, this is population is likely to be around 8,962, and by 2034, around 11,444 people. The Report details that in the Cromwell Ward, in the period of 2013 to 2020, the average annual growth rate was 4.6%[25]. Applying this annual growth rate to the 2021 figures suggests that Cromwell, Pisa Moorings and Bannockburn would reach a combined "usually resident population" of 10,000 people by 2027. Or, if a lower growth were applied, namely the lower 2.4% "short term forecast" growth rate[26] detailed in the April 2022 Report, a

[20] The NPS-UD defines short term as within the next 3 years.
[21] The NPS-UD defines medium term as within 10 years, and long term as between 10 to 30 years.
[22] Paragraph 24, s32 Report.
[23] Paragraphs 25-30, s42A Report, Stage 1
[24] When combining Tables 5, 7 and 9 of the 2022 Growth Projections
[25] 3.1.1, paragraph 1, Growth Projections 2022.
[26] Refer to Table 6, Growth Projections 2022.

usually resident population of 10,000 would be reached by 2029 across these three settlements (combined).

6.11 On the basis of the growth projections contained in the April 2022 report (low and medium projections) it is highly likely, (if not inevitable), that Cromwell, Bannockburn and Pisa Moorings will collectively reach a population of 10,000 people within the next 4 – 6 years.

6.12 The NPS-UD defines an urban environment as one that is either accommodating 10,000 people, or is ***intended to*** accommodate 10,000 people. The NPS-UD does not further define or explain the meaning of the word "intended" as it is used in the definition, and I consider there is no reason to depart from the ordinary meaning, which is "*expected to be such in the future*".[27] The April 2022 report indicates that while not at the threshold of 10,000 persons currently, the combined population of Cromwell, Bannockburn and Pisa Moorings is expected to reach and exceed 10,000 people within the short-medium term[28], and during the life of the District Plan.

6.13 Under the NPS-UD, an "urban environment" is not to be limited to "size" or "statistical boundaries", but comprises a "housing and labour market" of at least 10,000 people. Bannockburn, Lowburn and Pisa Moorings are all inherently serviced by the Cromwell township itself in terms of employment, schooling, amenities, and infrastructure[29]. They are not self-sustaining settlements of themselves, but are logically all part of the same "housing and labour market" as the Cromwell township. The physical separation of these satellite settlements from the Cromwell township is due to established, existing activities (including longstanding orchards and vineyards) and/or physical features (slope, rivers, the lake etc) that physically separate these areas from the township itself, much as is the case for the areas of Queenstown such as Arthurs Point, Quail Rise, Shotover Country and Lakes Hayes Estate, which are all physically separated from Queenstown proper by some distance, but are all part of the same housing and labour market and are one urban environment (and all within one urban growth boundary).

6.14 Accordingly, on this basis that:

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[27] Merriam Webster online dictionary: https://www.merriam-webster.com/dictionary/intended#:~:text=%3A%20expected%20to%20be%20such%20in,%3A%20intentional

[28] Short-medium term is defined in the NPS-UD as within the next 10 years.

[29] Paragraph 38, Ms Julie Muir's evidence

a. The combined residential population of Cromwell, Bannockburn and Pisa Moorings will exceed 10,00 people within the next 4-6 years, which is within the life of the District Plan; and

b. These three areas are part of the same housing and/or labour market;

6.15 I consider that the NPS-UD definition for an "urban environment" is met and that the Central Otago District Council is a Tier 3 authority for the purposes of the NPS-UD.

6.16 The objective and policy framework of the NPS-UD is therefore a relevant consideration in this inquiry.

6.17 I note that the April 2022 Report fails to include Lowburn and other, smaller urban zoned areas that in my view are part of the same housing and/or labour market as Cromwell, Bannock and Pisa Moorings (Lowburn to located closer to Cromwell than Pisa Moorings) which suggests that the Rationale reporting may have understated the growth projections for the Cromwell Ward.

6.18 I further note that, in considering these matters, I have reviewed the economic assessment of Insight Economics Ltd prepared in August 2022[30] as part of Plan Change 21. For convenience, I have included this report in **Appendix [D].** The Insight Report states that the Rationale investigations[31] have understated growth within the District, noting that Rationale has adopted demand projections that are much lower than Statistics New Zealand population projections.[32]

6.19 Notwithstanding, on the basis of the Rationale projections I consider that the Cromwell Ward will contain an urban environment over the life of the District Plan and that the NPS-UD is therefore relevant presently.

6.20 I have undertaken an assessment of the relevant provisions of the NPS-UD attached in **Appendix [E]**. In summary, my findings are as follows:

a. NPS-UD Objective 2 seeks to "improve" housing affordability by supporting competitive land and development markets, which is further informed by Policy

[30] Dated 25 August 2022.
[31] Housing and Business Capacity Assessment, Rationale, 2018.
[32] Section 6.3 of Insight Economics Report. For example, Insight reference the 2018 Rationale report, which projected that the Cromwell Ward would reach a population of 8,650 by 2023, whereas Statistics New Zealand's official population estimates indicate that this number was already exceeded in 2019.

1(a) which, “as a minimum”, requires territorial authorities to enable a variety of homes that meet the needs, in terms of type, price, and location that meets the demand of different households. I consider that, as notified, PC19 fails to provide for a “variety of homes” that meet the needs, prices and location of different households in the Cromwell Ward. I say this because while PC19 seeks to provide for forecast growth, the primary method for doing so is through upzoning land within Cromwell township from Residential Resource Area to Medium Density Residential Zone (MRZ), which would allow for somewhat increased densities in this zone (200m^2 lots/densities) as compared with the operative zoning (250m^2). Otherwise, PC19 does not propose to alter the status quo, in that, while the zone names of other operative zones will change, their spatial extent and the key provisions that control development outcomes, including density, are mostly not altered. Little additional development capacity is provided for in these other zones under PC19, with no additional capacity provided in the LLR(P2) at Lowburn, which is a zone where lower densities are anticipated, with larger lots and more open space. I think it is fair to say that not everyone wants to live in a 200m^2 lot in the Cromwell township. By way of example, one of the attractions of the Cromwell area are the various recreational offerings including motorsport racing, boating and cycling. These activities can necessitate larger residential sites which can accommodate suitable storage, which is not provided for by the small and intensive scale of the MRZ. There is also a demand to live in the satellite areas outside the Cromwell township, such as Lowburn and other surrounding areas, for the lower density and amenity offerings that these semi-rural areas provide. I consider that rezoning the Submitter’s Site LLR(P2) (Option B), better achieves NPS-UD Policy 2 than the status quo (Option A) in that it provides more choice in housing type and location and site size than the status quo and notified PC19, which takes a homogenous approach to providing for residential growth.

b. Policy 1(d) seeks to limit as much as possible, adverse impacts on competitive operation of land and development markets. My interpretation is that this seeks for enough land to be re-zoned so to ensure sufficient supply and manage the consequential land value. The provision of additional LLR(P2) zoned land, which is currently not provided for under PC19, would go some way to ensuring additional supply and ensuring prices remain competitive.

c. Objective 4 seeks New Zealand's urban environments, including their amenity values, develop and change over time in response to the diverse and changing needs of people, communities, and future generations. I consider that simply accommodating the majority of Cromwell Ward's expected growth through up-zoning land within the Cromwell Township for medium density living does not take account the diverse and changing needs of the community. Recognising the amenities offered in the Cromwell District (motorsport racing, and various other recreational pursuits for example, plus enjoyment of amenity landscapes for example), the provision of a variety of lots, including sufficient larger allotments in a variety of locations, such as those afforded in the LLRZ(P2) at Lowburn, better achieves this objective than the status quo and notified PC19.

d. With regard to Policy 6(d), decision makers are to have particular regard to the contribution that will be made to meeting the requirements of the NPS-UD to provide or realise development capacity. The re-zoning of the land would assist in providing development capacity, albeit at a minor scale in the wider context of the District, but still better than that of the status quo (Option A).

e. Policy 8 requires local authorities to be responsive to plan changes that would add "significant development capacity" even if the development capacity is unanticipated or out-of-sequence with the planned release of land. I consider this is particularly pertinent in situations where rurally-zoned land is not particularly viable in terms of primary production, and therefore lends itself as an under-utilised resource. PC19 fails to identify any potential growth in Lowburn which is nearing being fully developed. Option B, while unanticipated and potentially "out of sequence" with planned release, would provide "significant" development capacity at a localised level (within the Lowburn catchment). I consider this policy supports the Submitter's zoning relief. The status quo does not contribute to significant development capacity.

6.21 The s42A report states that PC19 as notified provides for the anticipated growth and demand as informed by the projections prepared by Rationale[33]. This assertion relies on the uptake of MRZ land, and the increased densities that this allows for (200m2 lots, as compared with 250m2 in the comparable operative zone). I consider it overlooks the fact that the much of the MRZ is already developed, and that achieving

[33] Paragraph 29, PC19 s42A Stage 1.

increased densities within this zone (and thus improving housing supply) requires this existing development to be removed (demolished). This would add significant cost to any redevelopment and intensification of the area, and may discourage landowners and developers from taking advantage of the increased density offering. On this point, in my experience, it is a rare scenario for a developer to contemplate removing existing buildings (particularly given the current housing prices) to accommodate higher density development due to cost implications (with removal and loss of rent), often opting to develop around existing buildings instead. This can lead to inferior development, and it also suggests that the increased densities (and housing supply) anticipated by the MRZ zone land may not be realised. I note that similar and additional points are raised in the Insight Report. That report notes, among other things,[34] that the Rationale projections for housing demand (which have informed PC19) do not account for the growth in second/holiday homes and instead focus on changes in the number of permanent occupied dwellings, and may thus significantly understate the true future demand for living in the Cromwell Ward. The report also states that the methodology adopted by Rationale to predict growth and the ability for this to be accommodated within existing zoned areas (noting again that PC19 does mostly not extend these areas) is too simplistic and overstates the true level of Plan enabled housing capacity, as it fails to take account yard requirements, setbacks, building coverage ratios, recessions places and the like, all of which bear on housing capacity enabled by the Plan (including within the MRZ). The Insight Report further states that the Rationale assessments do not factor in any limitations to development of zoned areas such as infrastructure constraints. The Insight Report moreover states that the Rationale assessment does not estimate the proportion of the zoned areas that are commercially feasible to develop, and that the Rationale assessment may overstate actual feasible capacity by several orders of magnitude. The upshot of all of this is that PC19, as notified, may not provide sufficient zoned capacity to cater for predicted growth over the life of the Plan, and therefore may not fulfil its objectives of providing for such growth, nor the imperatives of the NPS-UD in respect of the same.

6.22 In addition, the basis of meeting the anticipated growth via the MRZ fails to consider the requirements of the NPS-UD which requires provision of a “variety” of housing types to meet the varying needs and requirements of the District’s residents, which of itself the MRZ does not achieve.

[34] In section 6.

6.23 I consider the application of the NPS-UD, an obligation for Tier 3 authorities, is better achieved by the re-zoning of the subject site (Option B) than retaining the status quo (Option A).

NPS-HPL

6.24 Since the close of the initial submission period[35], the NPS-HPL was gazetted on 19 September 2022 and has since been in effect from 17 October 2022. The objective of the NPS-HPL is stated in Section 2.1 as follows (my emphasis added):

> *"**Highly productive land** is protected for use in land-based primary production, both now and for future generations."*

6.25 The NPS-HPL directs that territorial authorities who are not Tier 1 or 2 authorities under the NPS UD (i.e., CODC) may only allow urban rezoning of "highly productive land" if the tests in clause 3.6(4) of the NPS-HPL are met.

6.26 "Highly productive land" is land that is mapped as such by a regional council, or where, as here, mapping has not been undertaken, land that (relevantly) is zoned 'general rural' or 'rural production' (with reference to the National Planning Standards for an explanation of these zones types) and is LUC 1, 2, or 3 land (NPS-HPL clause 3.5(7)[36]).

6.27 Ms White considers the Rural Resource Area is a 'general rural' or 'rural production' zone for the purposes of the NPS-HPL. I agree. I also agree that the LLR is an urban zone. Thus, the Submitter's land may only be rezoned as sought if the zoning would meet the tests in clause 3.6(4), or, if it is not LUC 1, 2 or 3 land as defined.

6.28 Soil expert, Dr Reece Hill, has undertaken an assessment of the soils on the Submitter's Site to ascertain their LUC status. He has prepared evidence in which he

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[35] 2 September 2022.

[36] NPS-HPL, clause 3.5(7) provides that highly productive land is land that:

> *"(a) is*
> *(i) zoned general rural or rural production; and*
> *(ii) LUC 1, 2, or 3 land; but*
> *(b) is not:*
> *(i) identified for future urban development; or*
> *(ii) subject to a Council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle."*

concludes that the proper classification of the soils is at best, LUC 4. I accept Dr Hill's evidence.

6.29 On the basis that the soils on the Submitter's Site are LUC 4, the NPS HPL does not apply presently. I understand that legal counsel will address this further.

6.30 In the event that the Commission does not accept Dr Hill's evidence, I have assessed whether the proposed rezoning wound satisfy the tests in clause 3.6(4) of the NPS-HPL. This clause states that:

> *Territorial authorities that are not Tier 1 or 2 may allow urban rezoning of highly productive land only if:*
>
> *(a) the urban zoning is required to provide sufficient development capacity to meet expected demand for housing or business land in the district; and*
>
> *(b) there are no other reasonably practicable and feasible options for providing the required development capacity; and*
>
> *(c) the environmental, social, cultural and economic benefits of rezoning outweigh the environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.*

6.31 In relation to Clause 3.6(4)(a), Ms White states that if the Cromwell Ward is considered as a whole, the housing supply provided by PC19 is anticipated to be more than sufficient to meet expected demand.[37] I have set out why this may not in fact be the case in my discussion regarding the NPS-UD. In any case, I do not agree that the assessment should be approached strictly on a Ward wide basis, reiterating my earlier comment that not everyone wants to live on a 200m^2 lot in the Cromwell Township, and noting that there is and will continue to be demand for a variety of housing types and locations, including larger low density living that is not on offer in the township areas. I also note, as Ms White correctly points out, that the Cromwell Spatial Plan and the Rationale[38] yield assessment relied on by the Council does not include a specific assessment of development capacity/demand for Lowburn. Rather, PC19 seeks to achieve sufficient development capacity within the Ward by up-zoning existing

[37] Para 221, s42A Report Stage 2
[38] Para 221, s42A Report Stage 2

brownfield areas (to MRZ) within the Cromwell township itself. However, as I have noted earlier, this assumes that landowners/developers will develop their sites in accordance with the density, which is often not the case when weighing up the cost of demolishing existing residential homes to accommodate the growth/increased densities. As such, it is my opinion that the development capacity within the existing zoned areas (including any changes proposed via PC19) may not be realised quick enough to ease the pressures of growth. I also refer to Mr Van Der Velden's evidence, where he states that there has been an almost immediate uptake of the residential allotments in Lowburn itself, and that there remain only a few undeveloped Lots within the last stage of Lowburn. I therefore consider that rezoning additional land at Lowburn is required to provide for development capacity to meet expected demand for housing.

6.32 In relation to Clause 3.6(4)(b), I note and agree with Ms White's comments that the topographical and other constraints in the Lowburn area suggest that there are no other reasonably practicable and feasible options for residential development other than on highly productive land.[39] I further note that the Site represents a logical extension to the existing residential Zone by re-establishing the interface of the rural/residential zones as a clearly defined topographical boundary. Beyond this boundary, the environment appears more "rural" in terms of the viewing catchment in which it sits. This may not necessarily lend itself to further extension without compromising rural amenity values. The areas upslope of the Site is protected by way of a QEII covenant. The opposite side of Lowburn Valley Road is subject to a flooding overlay. Accordingly, like Ms White, I consider there are no reasonably practicable and feasible options for providing residential development capacity other than that promoted by Option B.

6.33 In terms of Clause 3.6(4)(c), my evidence evaluates that the environmental, social and economic benefits of Option B (re-zoning) outweigh the costs associated with the retaining the Site for land-based primary production. As detailed, the Site has not, nor will it in future, provide any meaningful contribution to the economy of the District in terms of primary production. This view is equally shared by Ms White[40].

6.34 Accordingly, I consider that the test under Clause 3.6(4) of the NPS-HPL is met.

Summary of NPS

[39] Paragraph 221, s42A of the Act
[40] Paragraph 221, s42A of the Act

6.35 The statutory test is whether the provisions give effect to the national policy statement under section 75(3)(a). Based on my evaluation, I consider that Option B does give effect to the relevant provisions of the NPS-UD while the status quo does not.

6.36 In terms of the NPS-HPL, it has been determined that the site is not "highly productive land" in the context of the NPS-HPL and therefore an evaluation of that document is not necessary. If the NPS-HPL were to apply, I consider the test under Clause 3.6(4) has been sufficiently met.

7.0 Whether the provisions (zonings) accord and assist the Council in carrying out its functions and achieve the purpose of the Act (section 74(1) of the Act)

7.1 The Council's functions are set out in section 31 of the Act and include, of relevance to this case, the establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district[41]; and the establishment, implementation, and review of objectives, policies, and methods to ensure that there is sufficient development capacity in respect of housing and business land to meet the expected demands of the district[42].

7.2 In relation to the integrated management of the use, development and protection of land and associated natural resources (section 31(1)(a)), as has been discussed earlier in this evidence, the Site contributes little to the District in the way of primary production. The productive capacity is generally constrained by soils, access to water, and topography and size, and to date, the Site has contributed in no way to the rural economy. The inability to utilise the Site in any meaningful primary productive capacity suggests that retaining the Rural Resource Area zoning is not the most efficient and best use of the site. In addition, the soil capacity is assessed as not being "highly productive" and therefore does not warrant the level of protection suggested by the NPS-HPL. I consider that utilising the land resource for an alternative offering in terms of residential living, that provides a housing choice for a different demographic to that promoted by the more intensive Zones in the District, while retaining the character and amenity of the area, is a more appropriate use of the land resource in question.

[41] S31(1)(a)
[42] S31(1)(aa)

7.3 In relation to ensuring sufficient development capacity (section 31(1)(aa)), Option B would contribute, albeit in a relatively small way, to the additional residential living land supply in the District in a manner that does not result in adverse effects on the environment. Option A, being the retention of the Rural Resource Area Zoning, does little if anything in the way of contributing to development capacity due to the restrictions imposed on subdivision development generally within the Rural Resource Area. Accordingly, I consider Option B is superior in achieving Council's functions under section 31(1)(aa) as compared with the status quo. It also better achieves the objectives of the NPS-UD, regarding housing variety and choice, as I have discussed earlier.

7.4 In terms of effects (section 31(b)), the assessment set out earlier in my evidence establishes that neither Option A nor Option B will give rise to adverse environmental effects, while Option B will have more positive effects. Option B is superior in this regard.

7.5 Overall, I consider that Option B better fulfils the Council's functions under section 31 than Option A.

8.0 Whether the provisions (zonings) accord with Part 2 of the Act (section 74(1)(b))

Part 5

8.1 Part 5 of the Act states the purpose of the Act, being to promote the sustainable management of natural and physical resources. Sustainable management is further defined as:

> *"…managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—*
>
> *(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
>
> *(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment."*

8.2 Retaining the status quo retains the Site as it appears today. As discussed previously, the land historically and currently does not provide any meaningful contribution to primary production in any way. It has been determined that the soil is not “highly productive” with the Site further constrained by a lack of access to water, size and topographical constraints which preclude any viable means of primary production. No other public benefit, other than perhaps the retention of open space (but for a site that has no significance in this regard), would result from retaining the Site as it appears today.

8.3 The proposed re-zoning (Option B) on the other hand, represents a coherent and logical extension to an established residential enclave at densities appropriate for the area such that the site represents an appropriate use of the land resource. The proposal accords to the Council’s obligations under the NPS-UD in terms of promoting sufficient development capacity and in a manner that promotes alternative densities and typologies to cater for the varied demand and expectations of the District.

8.4 In my opinion, retaining a piece of land in a current largely “barren” state that offers no obvious or meaningful contribution to the wider primary production realm does not represent a sustainable use of a resource. I consider that the Site more appropriately lends itself to forming the logical extent of the existing Lowburn Valley residential enclave which in turn, establishes a clear and coherent boundary as defined by the topographical features of the site. Accordingly, I consider Option B better accords with Part 2 of the Act.

Section 6

8.5 Section 6 requires that all persons exercising functions and powers under the Act, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for matters of national importance.

8.6 No section 6 matters arise in relation to the rezoning proposal.

Section 7

8.7 Section 7 requires all persons exercising functions and powers under the Act, to have particular regard to (where relevant):

(b) the efficient use and development of natural and physical resources:

(c) the maintenance and enhancement of amenity values:

(f) maintenance and enhancement of the quality of the environment:

8.8 As I have described above in relation to Section 5 of the Act, I consider retaining a piece of land in a largely "barren" state that offers no obvious or meaningful contribution to the wider primary production realm does not represent a sustainable, nor efficient, use of a resource. I consider that the Site more appropriately lends itself to residential use where it would form the logical extent of the existing Lowburn Valley residential enclave, establishing a clear and coherent boundary for the settlement area that is defined by identifiable topographical features as opposed to arbitrary cadastral boundaries. I consider this represents a more efficient use of natural and physical resources in the context of s7(b). Furthermore, the re-zoning does not result in a loss of highly productive land resources (in the context of s7(g)) recognising the status of the soil LUC Class as determined by Dr Hill and also the evidence of Mr Van der Velden.

8.9 Amenity values are defined in the Act as, *"those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes".* While the adoption of a residential Zone would result in a change to the way the Site presently appears, such a change would not be inherently adverse in terms of amenity values, which in this area are derived from low density residential living in a largely rural environment, views, and open space, all of which would be maintained by the proposed LLR(P2) zoning. The LLR(P2) zoning would present as a logical and coherent extension to the existing residential area, and would not upset the established character and amenity of the area.

8.10 With respect to the maintenance and enhancement of the environment, the provision of residential development that can be suitably serviced and integrated into the receiving environment is not considered to be a degradation of the environment. All environmental effects can be suitably managed by the LLR rules that would apply to any development of the Site. Future subdivision consents will equally require effects on the environment to be considered and suitably avoided, remedied or mitigated. Doing so would at the very least maintain environmental quality.

Section 8

8.11 In achieving the purpose of this Act, all persons exercising functions and powers under it, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

8.12 The public participatory process of Plan Change 19 seeks an opportunity for mana whenua to consider and submit on the process. No further submissions have been received in relation to this submission nor would such be expected in that the site is not known to hold any areas of wahi tapu or areas of cultural significant.

Summary of Part 2

8.13 The statutory test is whether the provisions accord with Part 2 of the Act, under s74(1)(b). From the foregoing evaluation I consider that Option B better achieves the purpose and principles of the Act because it can contribute to providing for public and private wellbeing, and is a more sustainable and efficient use of the Site, while and maintaining the quality of the environment and amenity values, and not generating any undue adverse effects.

9.0 Whether the provisions (zonings) give effect to the regional policy statement (section 75(3)(c))

9.1 There are two regional policy statements that are of relevance to this proposal:

a. The Partially Operative Otago Regional Policy Statement 2019 (POORPS2019); and
b. The Proposed Otago Regional Policy Statement 2021.

9.2 The POORPS was declared partially operative on 15 March 2021.

9.3 The proposed RPS was notified on 26 June 2021 and is currently proceeding through the hearing process. This impacts the weight that it can be afforded, although I note that the themes in the relevant provisions of both documents are broadly similar in any case.

9.4 I have undertaken an analysis of the relevant provisions of each document in **Appendix [F].** In brief, my findings are as follows:

a. In terms of the elements of the RPS that relates to the soil resource, the Site is not being used for any meaningful primary production other than low

intensity grazing. The rezoning will not adversely affect the wider Rural Resource Area that surrounds the township recognising that the Site sits cohesively with that of the Lowburn Residential Zone. As such, while urban development may in some instances result in the loss of productive use of the soil resources, that is note the case here, given the soils are largely unproductive. I further note that the use of the Site for productive purposes is inconsequential in the wider issue of economic wellbeing of Cromwell and the District, given its size, and lack of productivity to date. I consider urban development of this Site does not offend this policy direction of the RPS.

b. In terms of the RPS direction on considering economic and social wellbeing, Option A does not provide economic wellbeing to the same extent as Option B. Option B provides for economic and social wellbeing in the sense of providing residential capacity and is a more efficient use of the land resource, while adequately managing potential adverse effects on the environment;

c. With respect to the efficient and sustainable management of infrastructure and utilities, the LLRZ(P2) zoning would coordinate with infrastructure development such that infrastructure is provided in an efficient and effective way. Retention of the site as Rural has the potential to result in inferior management and coordination of infrastructure through ad-hoc resource consenting development, given that the Site is not suitable for productive uses and is likely to come under pressure to be development for residential use regardless of zoning. In my opinion, Option B far outweighs Option A in terms of coordinating infrastructure and utilities.

d. In terms of providing for urban growth, as I have detailed throughout, the Site more appropriately lends itself to urban development as opposed to remaining as rural. The Site forms a logical extension to the residential environment and promotes the various objectives and policies of the RPS in terms of the sustainable and efficient management of infrastructure, consideration of the most appropriate use of the land resource as well as considering effects on the environment. Option B better gives effect to providing for urban growth compared with Option A.

9.5 The statutory test is whether the provisions give effect to the RPS, under section 75(3)(c). The status quo provisions (Option A) in my view generally give effect to the relevant RPS provisions but do not address the RPS provisions to use resources

sustainably to promote economic wellbeing by ensuring that there is sufficient housing land development capacity available. I consider that the extension of the LLRZ(P2) (Option B) better gives effect to the relevant RPS provisions**.**

10.0 The extent to which the objectives are the most appropriate way to achieve the purpose of the Act (s32(1)(a))

10.1 The proposed objectives and policies for the LLRZ have been assessed under s32(1)(a) in Council's s32 evaluation and are not proposed to be altered by the Submitter's proposal. I have reviewed this assessment and am generally in agreement with it.

10.2 However, in terms of the spatial extent of the zoning (method) to implement the objectives and policies, I have assessed that Option B, extending the LLRZ(P2) Zone to encompass the Submitter's land is more appropriate in achieving the purpose of the Act than that of the status quo zoning (Option A).

11.0 Whether the policies and methods (zonings) are the most appropriate method for achieving the objectives / efficiency and effectiveness / benefits and costs / risk of acting or not acting (s32(1)(b))

11.1 I have evaluated the options in **Appendix [G]** in the context of the higher order (District Wide and Urban Areas Chapter of the District Plan). In terms of the objectives of PC19, for the purposes of my assessment, I consider it appropriate to assess the zoning options against the purpose of PC19 (refer section 32(6)), as an assessment against the LLRZ objectives would be somewhat self-serving.

11.2 The objective of PC19 is to respond to the demand for residential land and housing affordability concerns in the District in order to plan for anticipated growth over the next 30 years[43]. Based on my evaluations covered throughout, my key findings are as follows:

a. Extending the LLR(P2) Zone to encapsulate the Site will not affect but will maintain the character and amenity values of the surrounding area, a view that

[43] Paragraph 4, s32 report

Ms White generally shares[44]. The re-zoning would effectively change the landscape and visual amenities however this is an appropriate change recognising that the Site more appropriately reads as part of residential environment. The amendment to the LLR(P2) Zone boundary would achieve a cohesive and logical arrangement representing an improved and coherent development patterning for the area. As such, there are no costs associated with the re-zoning of the land.

b. The land resource of the Site is not currently used, and has not been used for any meaningful productivity for at least 20 years. While the development of the site for residential purposes would effectively remove any ability to utilise the land for primary production, this is of little consequence to the economic well-being of the District, given the Site's unsuitability for primary productive uses. These uses are constrained by the lack of water, topography, soils and shape, which preclude the ability for the Site to operate in any effective and viable capacity. Accordingly, the re-zoning outweighs the cost of not retaining the land for rural purposes, and represents a more sustainable use of the land resource.

c. The residential use of the Site enables its more sustainable and efficient use than retention of the existing rural zoning. This has the benefit of providing for residential capacity within Lowburn on land that is determined as most appropriate for this purpose. I consider this demonstrates the efficiency and effectiveness of the proposed re-zoning in achieving the purpose of PC19.

11.3 With respect to the status quo (Option A), the costs include the inefficient use of a land resource that serves no benefit to the community in terms of primary production and precludes housing. The benefits of Option A are considered limited to the retention of open space, although this is a minor benefit as the Site is not notable for its open space offering in any case (not being and ONFL or SAL). The under-utilisation of the land resource is considered an inefficient outcome.

11.4 With respect to Option B, extending the LLR(P2) Zone, there are no obvious costs in that the change in land use would not result in any greater loss of productive capacity than is presently the case and environmental effects can be mitigated. The benefits however are obvious in terms of providing additional residential capacity and better utilisation of the land resource. As detailed throughout, the residential use of the Site

[44] Paragraph 222, s42A report.

is considered more efficient in the sense that the activity is an efficient use of the land resources.

11.5 The statutory test under section 32 is whether the provisions (zonings) are the most appropriate method for achieving the objectives or purpose of the Plan (in this case, the Plan Change), having regard to their efficiency and effectiveness and taking into account the benefits and costs of the proposed policies and methods (zonings); and the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules of other methods (zonings). Based on my evaluation above, I consider that Option B, incorporating the land into the LLRZ(P2) achieves the objectives/purpose of PC19, while Option A (retain the land as is) does not.

12.0 Summary and Conclusions

12.1 In summary, Ms White and I are in agreement that the Site represents a logical expansion to the proposed LLR(P2) zoning of the existing Lowburn residential area, and that the rezoning of the Site would be consistent with the current amenity and character of the Lowburn settlement[45]. Where I disagree with Ms White is as follows:

a. Ms White has applied the NPS-HPL as required where a Site is subject to LUC Class 3 soils. I acknowledge that when preparing her report, Ms White did not have the benefit of Dr Hill's evidence, and therefore relied on the New Zealand Land Resource Inventory classification. However, Dr Hill nonetheless concludes that the soils are not to be considered LUC 3 but rather are LUC 4 at best. As such, the NPS-HPL does not apply. Notwithstanding, I have evaluated the test under Clause 3.6(4) and consider this has been met.

b. Ms White suggests the provision of a Future Growth Area or rule as a possible mechanism to enable the development of the Site at a time when the wastewater network has been constructed and commissioned so as to cater for the expected demand. I agree the FGOs can be an appropriate method in some circumstances, but I do not agree an FGO is warranted here, given it is highly likely that the timescales in which the upgrades are expected to occur will coincide with the time period associated with the design and consenting works

[45] Paragraph 222, s42A Report.

required for subdivision under a LLR zoning. The Site will require extensive preparatory works in anticipation for development along with a time period in which to undertake detailed design and engineering approvals. I consider that the timescales promoted for the planned wastewater upgrades are not sufficiently long enough to warrant a further plan change within the next 5 years (as would be required if an FGO was applied), which comes at significant cost to both the Submitter and Council to facilitate. I consider it is appropriate to endorse the re-zoning as part of PC19, providing the Submitter with certainty to plan and initiate preparatory works and be ready to contribute to land supply at the time wastewater infrastructure is available. A mechanism on the resource consent, such as a condition of consent, would be sufficient in making sure the subdivision comes online only when it can be serviced. An additional rule is not necessary.

12.2 In light of the above, I disagree with Ms White's recommendation to retain the Rural Resource Area zone as it applies to the submitter's land, and consider that the issues raised by Ms White can be effectively resolved, such that the LLR re-zoning of the Site better achieves the purpose of the Act.

J Woodward
16 May 2023

RMM

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Landscape Assessment Report

PC19 Residential Rezoning Lowburn Valley 1 September 2022

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Document Quality Assurance

Bibliographic reference for citation:
Rough Milne Mitchell Landscape Architects Limited. Landscape Assessment Report. PC19, Residential Rezoning. 1 September 2022.

Date: 1 September 2022
Status: For Submission on CODC's PC19

Prepared for: Lowburn Viticulture Ltd

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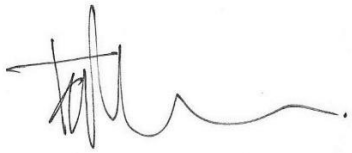

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1 Introduction

1.1 Purpose and Scope

Rough Milne Mitchell Landscape Architects (**RMM**) has been engaged by Lowburn Viticulture Ltd (**the Submitter**) to assist in the preparation of a submission on Plan Change 19 of the Central Otago District Plan. The purpose of this report is to identify and assess the potential landscape and visual effects of a proposed extension to the Large Lot Residential Zone - Precinct 2 (**LLRZ–P2**) within Section 27 Block V Cromwell SD (**the site**), refer to **GA Sheet 3.**

The site is approximately 5.6ha in area, is currently zoned Rural Resource Area and is located to the immediate northeast of the proposed LLRZ–P2, situated on the southern side of Lowburn Valley Road, Refer to **GA Sheet 5**.

1.2 Methodology

This report sets out a landscape analysis and assessment to provide a basis for justification of the potential future development opportunities and to determine if the LLRZ–P2 rezoning request is appropriate. A critical component of this assessment is the determination of the site's landscape sensitivity rating / landscape absorption capacity, which provides a basis for potential activity status of future development in relation to the LLRZ–P2 provisions.

The methodology and terminology used in this report has been informed by the Aotearoa New Zealand Landscape Assessment Guidelines[1].

This report is tailored to suit the nature of the project and its context including the framework of the governing legislation.

Essentially the following have been utilised to guide my assessment:

- Scaled aerial photographs and contour mapping of the site and immediate context
- Identification, description and mapping of the site's attributes and values
- Identification of opportunities and constraints of the site
- Contextual panoramic photographs of the site
- Assessment of landscape effects on values and character of the site and its setting

I am familiar with the Lowburn Valley and its landscape context, as I have worked on numerous projects in the area. I undertook a site-specific site visit on 21 August 2022 to assist in the preparation of this report. This assisted in understanding the landscape character and values within the receiving environment and assessing the actual and potential landscape and visual effects of the proposed rezoning of the site.

1 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'. [Final Draft subject to final editing, graphic design, illustrations, approved by Tuia Pito Ora/NZILA 5 May 2021].

1.3 Proposal

It is proposed to extend the LLRZ-P2 over the site, that is 5.6ha in area. The LLRZ-P2 will provide for an extension of residential living properties along Lowburn Terraces northern hillside within the site.

The minimum allotment size for properties within the LLRZ-P2 is 3,000m^2. Therefore, theoretically the proposed re-zoning will provide for up to 18 properties with the site. However, from experience, the site is more likely to accommodate 12 – 13 properties when taking into consideration roading, services, and landform constraints.

Under the LLRZ-P2 rules, as a permitted activity, each property can contain:

- One dwelling (LLRZ-R1), one minor residential unit up to 70m^2 or 90m^2 including a garage (LLRZ-R2), and accessory buildings.
- These buildings shall be no taller than 7.5m tall (LLRZ-S2) and shall be in accordance with the setback rules (LLRZ-S5 and S6).
- All built form within the site will not exceed 15% of the overall net area of the site (LLRZ-S4). Based on the minimum lot size of 3,000m^2, the combined floor area of a dwelling, minor residential unit and accessory building shall not exceed 450m^2 in area.

The proposed excavation rules LLRZ-R10(2) as a permitted activity limits earthworks to an area of 200m^2 per annum. Based on personal and professional experience, it is highly likely that all future properties within the LLRZ-P2, including the site will require a *restricted discretionary* consent for earthworks when it comes time to build their dwelling, driveway, and outdoor spaces, including patios, decks, lawns, and gardens.

2 Relevant Policy Provisions

2.1 Operative Central Otago District Plan

Under the Operative Central Otago District Plan the site is currently zoned Rural Resource Area and is situated outside the Outstanding Natural Landscape (**ONL**) of the Pisa Range and the Significant Amenity Landscape (**SAL**) of the Lowburn Terrace. The ONL and SAL are not proposed to be altered through the PC19 process.

The site is located immediately northwest of the Residential Resource Area 5 and immediately northwest of the Significant Amenity Landscape associated with the Lowburn Terrace. Refer to **GA Sheet 4**.

2.2 Cromwell Spatial Plan

The Cromwell Spatial Plan which was prepared in 2019 addresses how and where to accommodate residential growth within the Central Otago District for the next 30 years. Objectives 2 ,4 and 7 of the Cromwell Spatial Plan are relevant to an assessment of this plan change in the Lowburn Valley.

- *"Objective 2: manage urban form and settlement to achieve an effective and efficient pattern of development*

- *Objective 4: acknowledging community, authentic local character and identity*
- *Objective 7: rural productive environments, landscape and amenity values"*[2]

Additionally, a description of the Key Moves within Lowburn to support further growth while maintaining the landscape character and amenity of the area is included below.

"Key Moves:

- *Support growth of housing balanced with the current section sizes and retaining the landscape character of the Lowburn valley and surrounding slopes,*
- *Undertake further investigation on the provision of freedom camping areas, and how this offering interacts with Lowburn,*
- *There is the opportunity to provide a more definitive arrangement to community activities within the Lowburn public realm and potentially to include a small convenience store, coffee/hospitality concession."*[3]

PC19 has been driven by and is intended to implement the direction set out in, the Vincent and Cromwell Spatial Plans, in relation to the District's existing residential areas, but also identifying new areas (which are typically Zoned Rural Resource Area) for residential growth.

3 Landscape Description

3.1 Description of the Receiving Environment

The receiving environment is the area that may be affected by the proposed rezoning of the site. In this instance, it is relatively limited and includes the Lowburn Valley, Lowburn Terraces north facing slopes, Sugar Loafs south facing slopes, and the Lowburn Inlet.

Lowburn is situated off SH6 on the west side of Lake Dunstan, just five kilometres north from the Cromwell township. Lowburn Valley is enclosed to the north by Sugar Loaf Terrace, to the south by the Lowburn Terrace and in part to the west by the Pisa Range.

The flat-topped glacial river terraces, in particular Sugar Loaf, are distinctive and well known/recognised features. They *"stand out clearly in the view from State Highway 8 and from the bridge across to Cromwell and from the State Highways 6 and 8 on the way to Tarras and Luggate. These terraces have flat tops and steep side slopes.*

They are covered in a very sparse cover of grass, in places green on the tops, and brown on the slopes, with rose briar on the lower slopes. There are vineyards on the side slope just north of Lowburn and on the Bendigo terrace.

2 Cromwell 'Eye to the Future' Masterplan – Spatial Framework. Stage 1: Spatial Plan. 29 May 2019. Page 22 – 25.

3 Cromwell 'Eye to the Future' Masterplan – Spatial Framework. Stage 1: Spatial Plan. 29 May 2019. Page 45.

The landform of these features is very distinctive, clear and angular, particularly in the early morning or evening light when the angular shape of the terraces cast shadows on the slopes. There are bare stream gullies down the face of the terraced slopes.

The main distinguishing feature of these landscapes is their visual exposure and lack of screening either by large scale vegetation or landform.

These units have moderate to large viewing audiences. The Lowburn and Bendigo terraces are seen from the two State Highways that run past them and Lowburn by parts of Cromwell.

Both of these units have quite high natural character values because of their distinctive landform. Vegetation is highly modified."[4]

A potential threat to these terraces is development being located near the edges of the terraces where buildings or earthworks are likely to be highly visible and will detract from their distinct and highly legible landform. For clarity, the site does not form part of a terrace edge.

The lower half of the Lowburn Terraces northern slopes have been developed over the past 30 - 40 years and contain residential living properties co-located with vineyards. These residential properties are typically around 3,000m2 in area as reflected by the current Residential Resource Area (5) Zone. The internal amenity experienced from these properties stems from their expansive views towards the Pisa Range, Lake Dunstan overlooking the valley and solar gain that is experienced along these north facing slopes. These domestic elements within these residential living properties consist of dwellings, driveways, letterboxes, fences, and established gardens. Roads, lanes, cul-de-sacs, retaining walls and entrance features are all elements that contribute to the landscape character of this environment. These elements are within close proximity of and are clearly evident when travelling along the Lowburn Valley Road and SH6 and form a small part of the overall view from SH8.

Immediately uphill (and adjoining) this development is Lowburn Terraces SAL. A QEII Open Space covenant (Instrument 6823248.1) characterises the upper reaches of the slope and consists of some 100 hectares between the subject site and adjacent residential environment to the top of the terrace. This covenant restricts any development or modification to the hillside.

Beyond these domestic elements to the northeast Lowburn Valley floor is relatively flat descending towards Lake Dunstan. The Low Burn Stream, that is predominantly lined by Willow trees, meanders along the valley floor, through grazed paddocks. Very few dwellings are located along the valley floor primarily because east of Swann Road this land sits in a flood prone area. There is a rural residential subdivision running along the true left back of the Low Burn Stream. The Low Burn Stream is feed by many tributaries form the terraces and the Pisa Range, which all flow into the Lowburn Inlet and lake Dunstan.

When travelling along Lowburn Valley Road the landscape character physically and perceptually changes when travelling a slight but distinctive bend in the road, as a road user passes the site. This character change results from the existing residential living development being subservient to the more rural aesthetic within the Valley. Whereas, east of this bend in the road, the existing development is a key contributor to the character of the valley.

These residential living activities and the more managed farming and horticultural activities are surrounded by the tussock covered and grazed open slopes of the Pisa Range and Lowburn Terrace. These open slopes are relatively devoid of development. Due to the high degree of landscape values

4 LA4 Landscape Architects. Central Otago District Rural Review. Landscape Assessment Report and Recommendations. August 2008. Page 28 – 31.

that they display, the CODC District Plan has identified the Pisa Range and Lowburn Terrace as an ONL and SAL, respectively.

3.2 Description of the Site

The site is a vacant section of land situated on the lower half of the Lowburn Terraces northern slopes.

A key characteristic of the 5.6ha site is its physical containment on all boundaries. To the south-west, the upper south-western boundary adjoins the QEII covenanted areas of the upper slope that includes the SAL. The south-eastern extent of the site is bordered by that of the residential enclave of Lowburn. The north-east of the site is bound by the road itself and beyond this is that of the flood plains associated with the Low Burn Stream. The north-western extent of the site is contained by a distinct topographical change consisting of a spur and incised gullies which physical and visually delineates the site from the more rural land uses that sits beyond. This containment is supplemented by a bend in the Lowburn Valley Road such that upon passing the spur, the viewer is then situated in a separate catchment.

The scarp that the site is situated on descends to the northeast. At a site-specific scale topographically, the site is characterised by a few small undulations and relatively flat areas of land. The underlying landform is comprised of glacial schist gravels, overlying schist rock outcrops and sedimentary deposits of Immature Semiarid clay soils. A prominent disused water race runs across the site along the slope on which it is situated. Manmade escarpments of vertical cliffs and sludge channels within the site reflect previous mining activity, further emphasised by ongoing erosion. A tall escarpment partially bisects the site commencing in a shallow gully which forms the northwest boundary. Adjacent to the north-east boundary of the site a section of flat ground sits below the prominent escarpment which turns into a mostly folded and rolling slope to the south-west.

At present the site displays a generally rural character due to its lack of improvements, consistent with the Lowburn and Sugar Loaf Terraces that stem from its open landform, and vegetation cover is relatively sparse consisting of some dryland pasture grass, and weed species, primarily consisting of briar rose, broom, and gorse. There are a cluster of Walnut trees growing in a linear pattern on the flattest part of the site adjacent by Lowburn Valley Road. No significant native vegetation was observed while on site. Rabbit infestation is relatively obvious, and in terms of vegetative cover the site is relatively denuded in places.

3.3 Landscape Values of the Site and Receiving Environment

The landscape values of the site and the receiving environment (physical, perceptual and associative) form the baseline for an assessment of landscape and visual effects. The landscape values that are relevant to an assessment of the proposed LLRZ-P2 extension are listed below.

- Sugar Loaf and Lowburn Terraces have highly distinctive and highly legible landforms.
- There is a moderate degree of open character that stems from the relatively open and undeveloped scarp faces and valley floor, which also contributes to the rural character.
- The sensory values stem the mix of horticultural and pastoral farming activities, as well as the rural residential activities that occur on the lower north facing hillslopes and valley floor. The site appears alongside the existing residential development, when experienced from the surrounding public places. So much so, that it appears as an undeveloped part of the residential living area, rather than overly contributing to the open and rural character of valley.
- The associative values stem from the well-established residential living activities that have long formed the eastern end of the valley and surrounding the Lowburn Inlet.

4 Assessment of Landscape and Visual Effects

4.1 Potential Issues

The potential landscape and visual effects arising from the proposed re-zoning include the following:

- Effects on rural character and the open space values of the Lowburn Valley.
- Effects on visual coherence that stem from Lowburn Terraces legible landform.

4.2 Assessment of Landscape Effects

"A landscape effect is a consequence of changes in a landscape's physical attributes on that landscape's values. Change is not an effect: landscapes change constantly. It is the implications of change on landscape values that is relevant." [5]

The proposed rezoning will increase the overall net area of residential development and subsequently result in a net loss of rural land use activities within the Lowburn Valley. In essence, the proposal will extend the residential zone by 240 metres to the northwest, and terminate at a logical geographical boundary, rather than the presently arbitrary cadastral boundary.

The location of the proposed re-zoning will form a direct and logical extension to the existing rural residential development. This is because there is no landform feature that defines the existing zonings northwest boundary, and therefore, without a defining edge this existing development lends itself to extend along the hillside. The proposed zone and associated bulk and location rules will result in a built environment that is generally consistent with the existing pattern and density of development, being primarily 3,000m^2 allotments.

The series of incised gullies, that are situated partly within the site and to its northwest, will form a logical boundary to the overall LLRZ-P2, both in a physical and visual sense.

The proposed re-zoning will not extend up the hillside any further than the existing rural residential zoning, refer to **GA Sheet 3,** attributed to the distinct containment achieved by the QEII open space covenant. As a result, the extension to the residential zone will be contained at an elevation consistent with the prevailing residential environment, and essentially extending a pattern along a stretch of land that possesses similar qualities to the residential land that precedes it.

The reduction in rural land use activities will have little impact on the rural character and open space values of the Lowburn Valley. This is because:

- The magnitude of change within the context of the Lowburn Valley is relatively small. In particular the zoning represents an additional 240m of rural residential development along Lowburn Valley Road, that is approximately 2.5kms long.
- The context and compatibility of the proposed zoning will be consistent and in keeping with the settlement patterns of the existing residential development to the immediate southeast.
- The lack of a logical landform form does not limit the spread of development into the valley. However, the incised gullies to the northwest of site form a logical boundary.

5 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'. [Final Draft subject to final editing, graphic design, illustrations, approved by Tuia Pito Ora/NZILA 5 May 2021]. Page 61.

- As assessed below, visibility of this extension is limited to a relatively small viewing catchment. Regarding this, the site is visually and geographically contained such that it appears as an undeveloped extension to the current residential enclave of Lowburn. The redevelopment of the site will mean that residential activities remain within the viewing catchment of the residential zone without appearing to "encroach" or "intrude" into the more rural part of the valley to the north-west. The area to the north-west can essentially be viewed as a separate landscape and visual catchment.

Overall, the proposed re-zoning of the site will have a **low degree** of effect on the landscape values of the receiving environment.

4.3 Assessment of Visibility and Visual Effects

"*Visual effects are a subset of landscape effects. They are consequences of change on landscape values as experienced in views. They are one technique to understand landscape effects*."[6]

In principle, the most significant visual effects will correspond to greatest change in landscape character. The significance of the visual effect is influenced by the visibility, distance, duration of the view, the scale, nature and duration of the proposal, its overall visual prominence, the context in which it is seen, and the size of the viewing audience.

Whether the proposal is considered appropriate is determined by the visual effect on the receiving environment and whether the visual amenity values attributed to this landscape setting are retained or whether, if adversely affected, effects can be satisfactorily mitigated. In general, amenity values include rural outlook (openness), the legibility and visual coherence of the landscape and the views to the distant mountains.

Due to its topography and current visibility constraints the proposed LLRZ-P2 within the site can be considered as having three viewing catchments. These are referred to as the '*Lowburn Valley Catchment*', the '*State Highway 6 Catchment*', and the '*State Highway 8 Catchment*'. It is from these catchments that observers have the potential to have their views or visual amenity affected by the proposed re-zoning.

Lowburn Valley Catchment – Viewpoint Locations Photographs 1 - 8

People travelling along Lowburn Valley Road and within this catchment mostly consist of locals who live in the area and people working on farms and in orchards in the valley. The site forms part of the lower slope of the Lowburn Terrace and can be seen from within the valley. Within the Lowburn valley catchment a moderate degree of visual amenity is experienced. This stems from the long views out to the Pisa and Dunstan Mountain ranges which form a backdrop to the landform of the Lowburn and Sugarloaf terraces, that enclose the valley. Also, contributing to the visual amenity of this setting is the landscapes rural aesthetic, including its relative openness broken by scattered exotic vegetation used in agricultural and horticultural activities, and the scattered clusters of dwellings frame views from elevated locations over the open water across Lake Dunstan.

The visibility of the site changes throughout the valley due to changes in topography and the location of existing vegetation and dwellings. However, in general, future development enabled by the plan change within the site will be seen/experienced in a similar manor to the existing development east of the site.

6 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'. [Final Draft subject to final editing, graphic design, illustrations, approved by Tuia Pito Ora/NZILA 5 May 2021]. Page 61.

Viewpoint photographs 1 - 8 of the Graphic Attachment represent the variety of views valley users gain of the site. Future development within the site will visually blend into the existing development to the east as it will not extend further up the hillside, rather it extends along the hillslope at a consistent elevation and will be contained at the sites western edge by the existing escarpment and incised gully topography.

In doing so, future development will not be visually prominent, it will not break the line or form of the hillside, nor will it interfere with views to the key landscape features that are seen. Although there will be a change in the quantity of development within the valley, overall, the proposed rezoning will not impact on people's views and amenity as it will in time blend into the existing development to the east and will appear as a logical and coherent extension to an existing residential environment.

Overall, the proposed zoning will have a **low degree** of visual effects when experienced by people within the Lowburn Valley.

State Highway 6 Catchment – Viewpoint Locations Photograph 9

State Highway 6 (**SH6**) road users include both locals and tourists generally travelling between Cromwell and Luggate / Wanaka. A moderate-high degree of amenity is experienced through the sequence of views when travelling along SH6. This amenity is primarily derived from the long views out to the Pisa and Dunstan Mountain Ranges which form a backdrop to the legible landforms of the Lowburn and Sugarloaf Terraces, including their rural aesthetic, and framing the views out over Lake Dunstan. A small number of nodes of development interrupt the predominately rural aesthetic, that include Pisa Moorings and the Lowburn settlement.

The view into the Lowburn Valley and towards the site form part of the sequence of views when traveling north and south along SH6, as illustrated on Viewpoint Photograph 9. This view is relatively fleeting, when experienced from both a car and a bicycle.

The proposed rezoning will be briefly seen at the far end of the existing development. It will be visually integrated into the existing development as it will not extend up the hillside, rather it extends along the hillslope. In doing so, future development will not be visually prominent, will not break the line of form of the hillside, nor will it interfere with views to the key landscape features that are seen. Due to this, most road users will not notice a difference to the overall scene that they experience. Future development in this location will not detract from Lowburn Terraces highly legible landform.

Overall, the proposed zoning will have a **very low degree to no** visual effects when experienced by people travelling along SH6.

State Highway 8 Catchment – Viewpoint Locations Photograph 10

State Highway 8 (**SH8**) road users include both locals and tourists generally travelling between Cromwell and Tarras, and further afield locations. The view towards the site and into Lowburn Valley (**Viewpoint Photograph 10**) forms part of a sequence of views when traveling along SH8. These views, similar to that experienced along SH6 provide a road user with a moderate-high degree of visual amenity.

Future development provided for by the proposed zoning, although prolonged, when experienced from both a car and a bicycle, will not be prominent within the wider expanse of the view gained.

Similar to SH6 road users, future development enabled by the proposed zoning will be briefly seen at the far end of the existing development. It will appear visually integrated into the existing development as it will not extend further up the hillside, rather it extends along the hillslope. In doing so, future development will not be visually prominent, will not break the line of form of the hillside, nor

will it interfere with views to the key landscape features, and it will not detract from Lowburn Terraces highly legible landform. Due to this, most road users will not notice a difference to the overall scene that they experience.

Overall, the proposed zoning will have a **very low degree to no** visual effects when experienced by people travelling along SH8.

5 Conclusion

The site is proposed to be zoned LLRZ-P2, which provide for future residential development that will be consistent with and appear as a direct extension to the existing residential living activities within the Lowburn settlement.

In summary, future development provided for by the proposed zoning is considered appropriate for the following reasons:

- The site appears alongside the existing residential development, when experienced from the surrounding public places, so much so, that it appears as an undeveloped part of the residential living area, rather than contributing to the open and rural character of valley.
- The relatively small 240m extension of residential zoning will terminate at a logical geographical boundary rather than an arbitrary cadastral boundary.
- The redevelopment of the site will mean that residential activities will remain within the viewing catchment of the existing residential zone without appearing to “encroach” or “intrude” into the more rural part of the valley.
- Future development within the site will visually blend into the existing development to the east as it will not extend up the hillside, rather it extends along the hillslope and will be contained at the sites western edge by the existing escarpment and incised gully topography.
- Future development will not be visually prominent as it will not break the line or form of the hillside, nor will it interfere with views to the key landscape features that are seen.
- The proposed rezoning will not impact on people’s views and amenity as it will in time blend into the existing development to the east and will appear as a logical and coherent extension to an existing residential environment.

Overall, the proposed zoning will have a **low degree** of adverse effects on the landscape values of the receiving environment, including a **very low to low degree** of adverse visual effects when seen from the surrounding public places.

KIRK ROBERTS CONSULTING

find better ways.

Desktop Infrastructure Assessment Report

LOWBURN VALLEY ROAD

State Highway 6, Cromwell

JOB No.: 2210649
DATE: 2 September 2022
ISSUE: 1

EXISTING 3-WATERS DESKTOP INFRASTRUCTURE ASSESSMENT

QUALITY CONTROL

Title	Existing 3-Waters InfrDesktop Civil Infrastructure Assessment
Client	Lowburn Terraces Ltd
Filename	2210649 Desktop Infrastructure Assessment Report Issue 1
Version	Issue 1
Status	For Review
Date	2 September 2022
Project Number	2210649
Authors	Name: KC Chu Civil Engineer BE (Hons), ME, MEngNZ Signature: 
Reviewed By	Name: Lance Hope Civil Engineering Technician *NZDE, MEngNZ* Signature: 
Approved By	Name: Michael Gordon Senior Technical Director – Civil *CPEng, IntPE(NZ), APEC Engineer,* *CMEngNZ, CEng, MCIHT (UK)* Signature: 

Limitations

This report has been prepared at the specific instructions of our client in connection with the above project.

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Should anyone wish to discuss the content of this report with Kirk Roberts Consulting Engineers Ltd, they are welcome to contact us on 379 8600 and www.kirkroberts.co.nz

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1 INTRODUCTION

Kirk Roberts Consulting was engaged by Henry van der Velden (the client) to conduct a desktop assessment report on the serviceability of 3-waters infrastructure for Section 27 Block V Cromwell SD (herein referred to as 'the site'), on Lowburn Valley Road.

The client seeks to submit an application on Plan Change 19 to Central Otago District Council (CODC) to encompass the 5.62 Ha (more or less) site, for eventual subdivision into 14 sections of about 3000m^2 (as detailed in correspondence with Jake Woodward (Resource Management Planner), 5 August 2022).

As the client has not yet commissioned an existing site survey, or a scheme plan for the proposed subdivision, detailed modelling of 3-waters infrastructure network isn't possible, thus the assessment of existing network's capability to receive proposed development flows has to be deferred. However, characterisation of wastewater design flows, stormwater design flows, and water services requirements (according to SNZ PAS 4509:2008 and CODC guidelines) for the proposed subdivision can be determined.

This report is intended to be a supporting document for the site's Plan Change 19 application. It is intended to be a concept draught, with resource level assessment expected as subdivision design for the site progresses, until such a time that the detail within this report fulfils CODC's 3-waters serviceability requirements for the Plan Change 19 submission.

1.1 SITE DESCRIPTION

The site is 5.6211 Ha more or less and is located on Lowburn Valley Road, appellation (Legal Description) Section 27 Block V Cromwell SD. The site is located approximately 3km to the north of the Cromwell township and is part of the Lowburn rural area bordering a recent development zoned as Rural Residential (RRA (5)) (the site is currently designated rural land (RU) in CODC's District Plan), significant amenity landscape (SAL), to the south and east by Lowburn Terraces (specifically 5-6 Judare Drive). The Clutha River flows into Lake Dunstan approximately 1.4km southeast from the subject site. Directly to the east of the site, the low-lying valley is considered a flood prone area according to local hazard maps of the area (63, 53, 47 Birchalls Lane), with an outstanding natural landscape feature further east.

1.1.1 PROPOSED DEVELOPMENT CHARACTERISTICS

Characterisation of proposed subdivision, number of houses, people per house:

- Characterisation of proposed subdivision (number of houses, people per house, estimate flows, etc).
- Produce a plan showing existing surrounding 3-Waters infrastructure.
- Identifying potential connection points to connect into existing infrastructure.
- Estimation of 3-Waters generated from the proposed development.
- If possible, identify available capacity in existing infrastructure (note modelling is excluded from Stage 1).
- Assessment of additional storage volumes from the development in which the council infrastructure will need to accommodate for the new development.
- Section outlining what further investigations, design, and modelling is required to determine proposed development impacts on existing infrastructure.

1.1.2 SOURCES, WHERE WE'VE LOOKED FOR INFORMATION

- Google, Google Earth
- CODC GIS Maps
- Otago Natural Hazards Portal
- CODC Engineering and Subdivision Standards Policy
- LINZ Data Service
- Ministry for the Environment
- Central Otago District Plan
- CODC Cromwell Community Response Plan
- Cromwell Terrace Aquifer Study, Jens Rekker, Resource Scienc Unit, ORC
- NZS 4404 (2010) Land Development and Subdivision Infrastructure
- NZS PAS 4509 (2008) New Zealand Fire Service Firefighting Water Supplies Code of Practice

2 WASTEWATER DESKTOP ASSESSMENT

Data on existing wastewater infrastructure was obtained from CODC's Intramaps. Wastewater modelling data produced by Rationale (17-May-2017, See Appendix B) as part of the adjacent subdivision Lowburn Terraces, was also used to indicate the current stresses on the wastewater network.

2.1 EXISTING WASTEWATER INFRASTRUCTURE

As shown by Figure 1, the closest existing wastewater reticulation to the site begins at a DN1050 WWMH (Asset ID 20190808220328) on Lowburn Valley Road, situated between 121 and 129 Lowburn Valley Road.

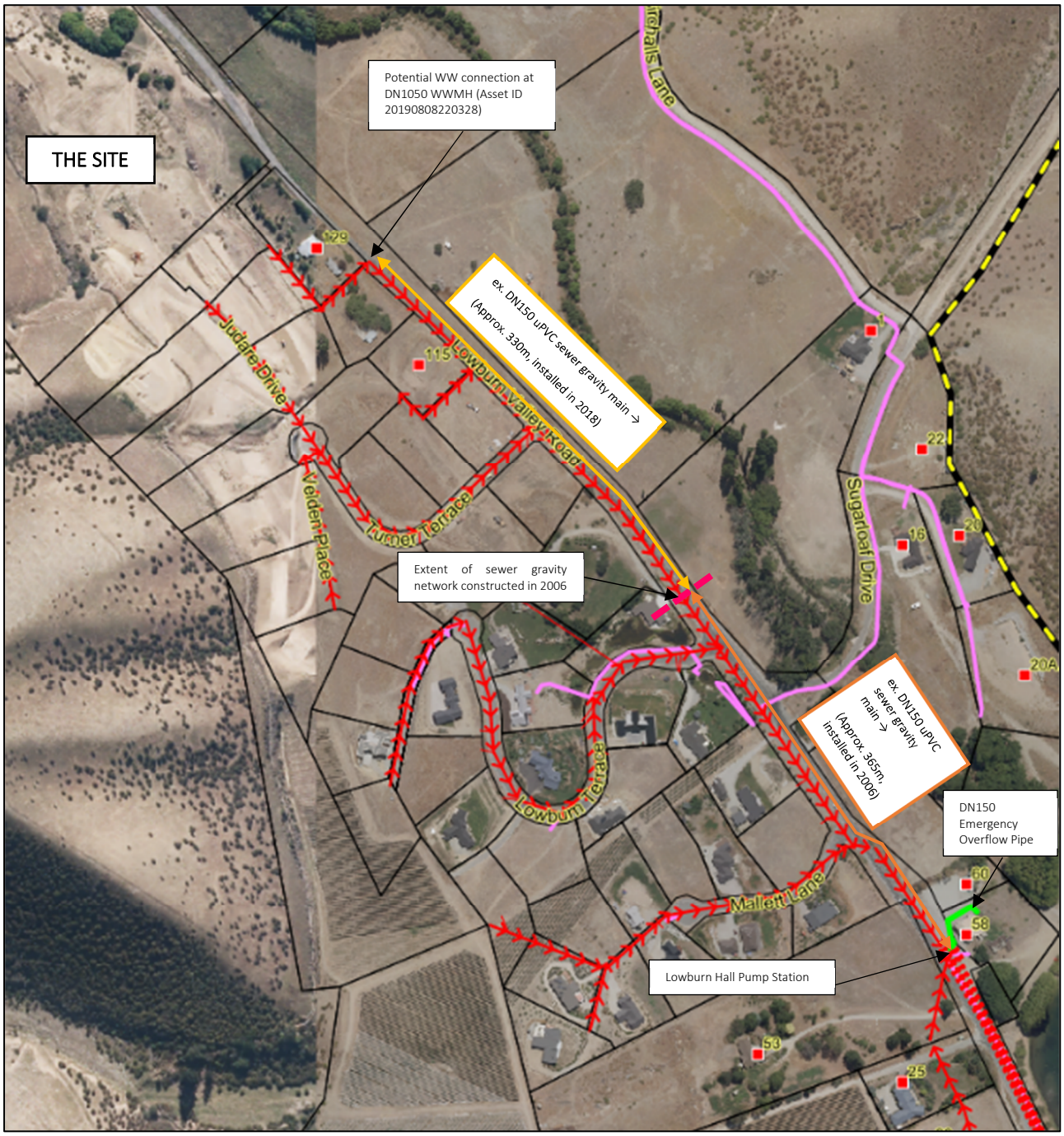


Figure 1. Locality plan and existing wastewater services (image from CODC Intramaps, retrieved on 29-08-2022)

Wastewater is currently reticulated via a public DN150 uPVC gravity sewer main starting from outside property 129, falling south-east along Lowburn Valley Road, towards the Lowburn Hall Pump Station (Asset ID 20030806102858) outside Lowburn Hall.

The construction of the reticulation along Lowburn Valley Road begun in 2006, with a 365m extent of DN150 uPVC sewer gravity main running north-west along Lowburn Valley Road, up to 91 Lowburn Valley Road. This sewer main serviced the properties along Lowburn Valley Road, Lowburn Terrace, Mallet Lane, as well as some private sewer connections along Sugarloaf Drive and Birchalls Lane.

Approximately 330m of DN150 uPVC pipe was constructed in 2018 as part of Lowburn Terraces development, extending wastewater reticulation further north along Lowburn Valley Road.

Lowburn Hall sewer pump station has a 49m DN150 uPVC connection for emergency overflow, routed behind Lowburn Hall. The wastewater modelling report by Rationale (9-May-2017) indicated there is currently sufficient operational capacity within the Lowburn Hall pump station (no spillages occurs), and a maximum of 8 starts per hour (4 per pump); less than the CODC Addendum specifying the maximum 10 allowable pump starts per hour, per pump.

From Figure 2, CODC Intramaps data suggests the pump station at Lowburn Hall receives flows from 4 sewer catchments in the region (as defined in Appendix A):

1) DN150 gravity main from the upper catchment of Lowburn Valley Road (contributing flows from Lowburn Terraces and private connections from Sugarloaf Drive, and Birchalls Lane).
2) DN150 sewer rising main pumped in from the Mount Pisa township area (which runs along Luggate-Cromwell Road).
3) DN50 rising main from the Cromwell Escape accommodation lodge, at 6 Lowburn Valley Road.
4) DN150 gravity main from the lower catchment of Lowburn Valley Road.

The combined flow is pumped from Lowburn Hall pump station via a DN200 uPVC sewer rising main, of invert level 196.57m, at connection to main (CODC Intramaps Info). A flow meter is installed on the DN200 rising main, pumping out from Lowburn Hall pump station.

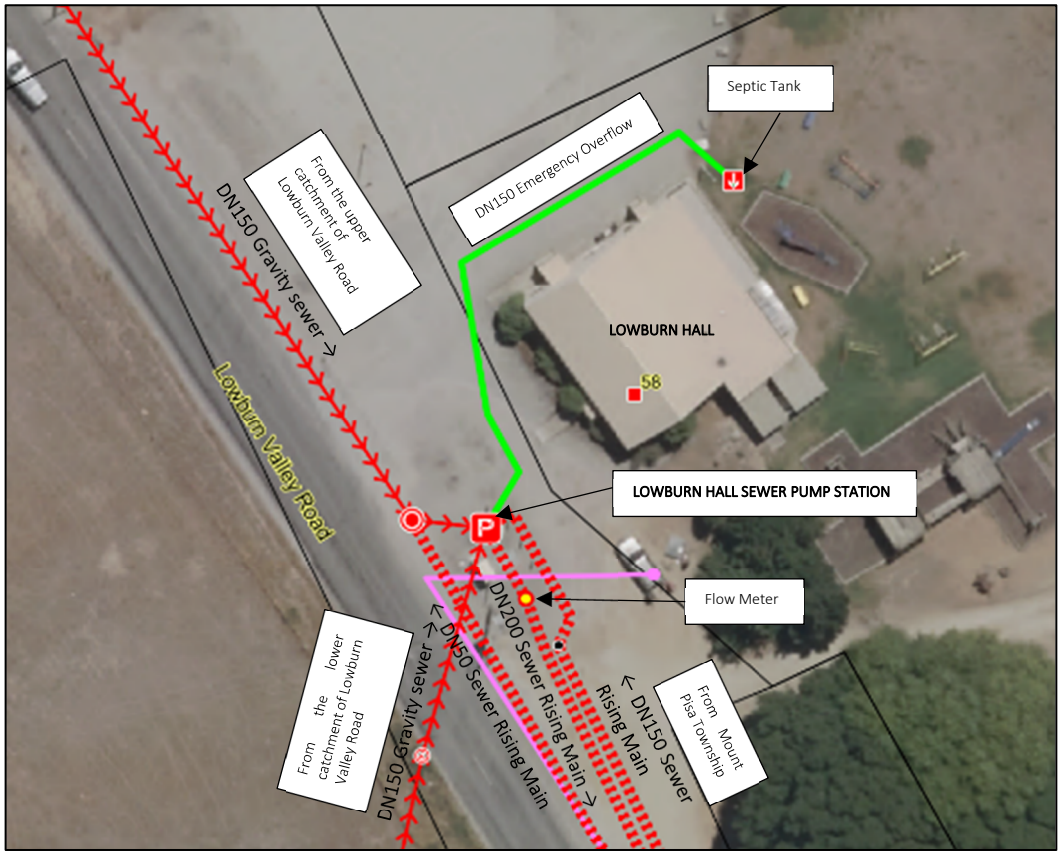


Figure 2. Wastewater infrastructure around Lowburn Hall Pump Station (image from CODC Intramaps, retrieved on 29-08-2022)

2.2 EXISTING WASTEWATER CAPACITY

A request for wastewater capacity data for the existing Lowburn wastewater pump station and upstream pipe infrastructure on Lowburn Valley Road was sent to CODC via email on 24-08-2022. Philippa Bain from CODC replied on 25-08-2022, informing that modelling would likely be required as part of any application in order to determine the existing capacity within Council's infrastructure.

This would infer that specific information on existing wastewater pipe capacities within CODC's own infrastructure is not information they readily have on hand, and would rely on applicants to present modelling information which satisfies their requirements. As such, whether or not the existing wastewater pipes have enough capacity to accommodate the proposed development will be determined at the wastewater modelling.

2.3 WASTEWATER DESIGN FLOW

Design criteria set out in NZS 4404:2004 section 5.3.5.1 suggests the following parameters for residential flows:

Table 1. NZS 4404:2004 5.3.5.1 Residential design flow parameters

Average Dry Weather Flow	180-250 L/day/person
Dry Weather Diurnal PF	2.5
Dilution Infiltration Factor for wet weather	2
Number of people per dwelling	2.5-3.5

From Table 1, a conservative average dry weather flow (ADWF) of 250 liters/day/person, and 3.5 people per dwelling will be adopted for preliminary calculations.

Knowing that 14 lots are proposed for the subdivision of the site, this equates to a ADWF of 12,250 L/day (*0.14 L/s*), with the corresponding Dry Weather Diurnal PF applied, the flow is 30,625 L/day from the proposed subdivision.

Wet weather contributions will be considered during the wastewater modelling stage.

2.4 PROPOSED WASTEWATER INFRASTRUCTURE

The closest point proposed wastewater infrastructure servicing the site can connect into existing reticulation is at the existing DN1050 wastewater manhole (Asset ID 20190808220328), between 121 and 129 Lowburn Valley, as shown by Figure 3.

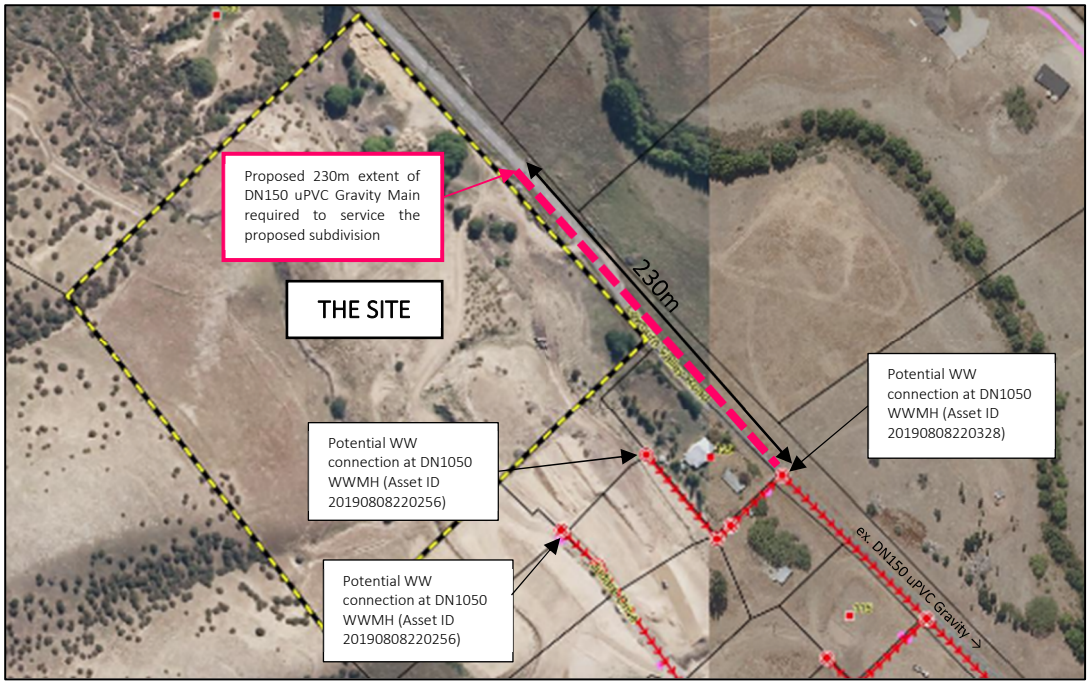


Figure 3. Potential wastewater reticulation connection point (image from CODC Intramaps, retrieved on 29-08-2022)

Assuming the internal road layout of the proposed subdivision will collectively access Lowburn Valley Road from the centre of the site, around 230m of wastewater pipe will need to be installed on Lowburn Valley Road in order to connect the site into existing wastewater reticulation.

Two other potential connection points for wastewater include existing DN1050 MH (Asset ID 20190808220258) within 6 Lowburn Valley Road (Behind 129 Lowburn Valley Road), and existing DN1050 MH (Asset ID 20190808220256) at the end of Judare Drive. Both options are less favourable due to the likelihood of requiring easements over the adjacent property where proposed wastewater pipes would cross the existing residential subdivisions, however, they remain secondary options should the proposed development require it.

2.4.1 EMERGENCY WASTEWATER STORAGE REQUIRED

As per section 5.3.10, j) of CODC's July 2008 Addendum to NZS 4404:2004:

'*Emergency storage shall be provided with capacity accommodate 24 hours of ADWF. Storage to be located at such a level as to prevent overflow from any manhole, gully trap, pump station lid or any other outlet from the system.* '

The proposed development will require an additional 12,250 L of emergency storage.

Wastewater modelling will provide an indication on the existing storage capacity in council infrastructure, and whether upgrades to emergency storage infrastructure are required, in order to meet the guidelines specified in note j, section 5.3.10.

Rationale's modelling report identified 48.15 m^3 of existing storage available at Lowburn Hall, but storage required was 53.25 m^3, a difference of 5.1 m^3. With the contributions of Lowburn Terraces, wastewater modelling determined their emergency storage required as 53.25 m^3 (i.e. 5.1m^3 of additional storage is required to accommodate 24 hours of ADWF from the design flow from Lowburn Terraces).

Assuming no storage upgrades were completed at Lowburn Hall pump station, and it is likely emergency storage upgrades (will be required for the subdivision of the site in order to meet CODC guidelines. Assuming no storage upgrades were conducted during the construction of Lowburn Terraces, potentially 17.35 m^3 of additional storage is required to meet standard with the proposed development.

2.5 FURTHER WASTEWATER INVESTIGATION REQUIRED

An existing ground site survey will be required to establish site topography, and will assist with the production of a scheme plan for the site.

With the proposed scheme plan, wastewater modelling shall be undertaken by the applicant to demonstrate that sufficient capacity and emergency storage is available in the Lowburn Hall Pump Station to accommodate wastewater discharge from the subdivision. Should this not be the case, then existing infrastructure shall be upgraded accordingly.

Historical wastewater flow data (wet and dry weather) collected from the meter installed on the DN200 rising main leaving Lowburn Hall pump station will be useful to accurately model and calibrate current flow demands on the system. Rationale used peak day scenarios including a wet day event from December 2012 to January 2013, more recent flow data from after the construction of Lowburn Terraces will be required to accurately assess the effect of the proposed development on the existing wastewater infrastructure.

Should recent historical flow data from Lowburn Hall pump station not be available, then detailed catchment analysis will need to be comprehensive with all the sub-catchments flowing into Lowburn Hall pump station, consisting of the Mount Pisa township catchment, and the contributing Lowburn Valley Road catchments.

3 STORMWATER DESKTOP ASSESSMENT

In Central Otago, stormwater is usually managed within the grounds of each property. Soils in the district are generally well draining and allow rainwater infiltration. Water is usually drained into a soak pit where it soaks into the ground. This approach is preferred as it minimises the cost to ratepayers when compared with a fully reticulated stormwater disposal system.

As stormwater travels directly to waterways through pipes, natural water courses and open channels, stormwater pollution is a risk to water quality. Currently, stormwater treatment is not required and any pollutants mixed in with stormwater also flow into water sources. It is important to keep stormwater as clean as possible. Clean stormwater means safer swimming, healthier food chains, better fishing, and more attractive riverbanks and coastlines for walking.

3.1 PROPOSED DEVELOPMENT

The development proposes approximately 14 lots and a CODC vested public road. This will generate new impervious areas requiring mitigation so the post development stormwater flows will be the same or less than that of the predevelopment stormwater flows. Opportunities exist within the development to use or replicate the natural overland flow paths or generate stormwater basins to capture the stormwater run-off from the catchment areas of the new impervious areas.

As this area is hilly in topography, without infiltration testing and the potential for shallow bedrock, soak pits may not be an achievable device to mitigate the stormwater for the proposed dwellings and hardstand areas within the new Lots.

We note that an expected probable impervious area for the site generated will be approximately 25% of the total Lot size of ~3000m².

A conservative estimate of the newly generated impervious areas is shown in Table 2 below.

Table 2. Estimates of impervious areas created from the proposed development

Imperious Area Type	Approximate Area (m²)	Total Approximate Area (m²)
New road for access to the Lots (~10% of total site area)	5600	5600
Approximate impervious area generated for each Lot (14 Lots)	750	10500
Total		**16100**

3.2 EXISTING STORMWATER MANAGEMENT

The site currently has no stormwater management as it is undeveloped land with no habitable structures currently existing on the property. The stormwater assets from the adjacent development to the southwest of the site is shown below on Figure 4. On review of the CODC GIS maps and desktop study of the previous development in the area.

The previous development area shown in Figure 4 below has a networked system to manage the stormwater for the new impervious pavement areas generated. This consists of a series of manholes, pipes, and mud tanks which eventually discharges to an appropriate location such as an overland flow path or stormwater swale.

Figure 4 Existing stormwater infrastructure from the adjacent development (image from CODC Intramaps, retrieved on 30-08-2022).

3.3 FLOODING REVIEW

Review of the Otago Natural Hazards Portal, the Central Otago District Plan (Map 18), CODC Intramaps (Figure 5), and the CODC Cromwell Community Response Plan indicated there is no mapped flooding areas close to the site. Studies from the Hawea Dam Break study shows inundation to the southeast of the site closer to the Clutha River tributary entrance and shown on Figure 6.

The potential for flooding is likely closer to the Lowburn Valley Road and the unnamed stream flowing adjacent to the road areas as shown on Figure 7 due to the stormwater catchments from the elevated areas in the west of the low-lying valley.

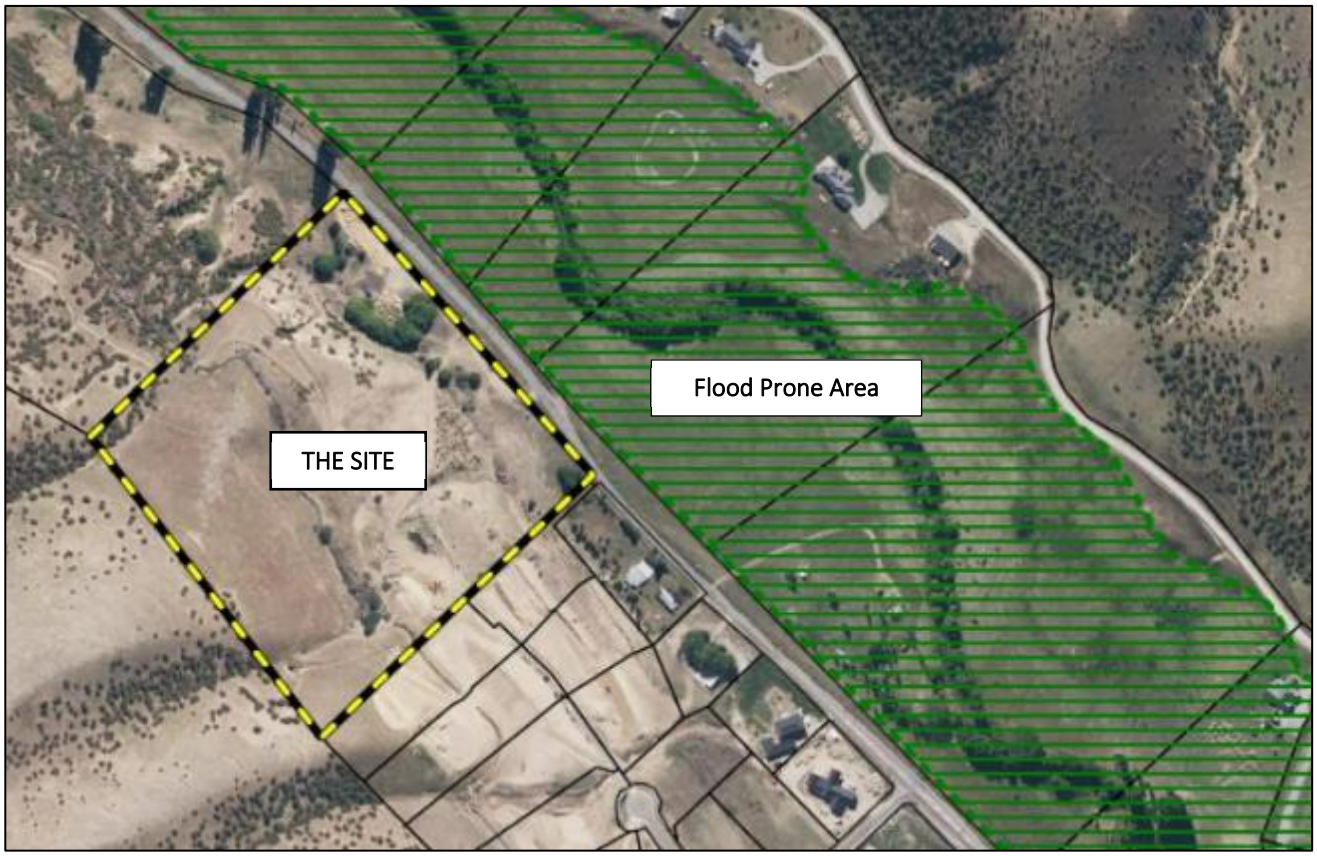


Figure 5. View of the subject in relation to the flood prone areas shown in green (image from CODC Intramaps, retrieved on 30-08-2022).

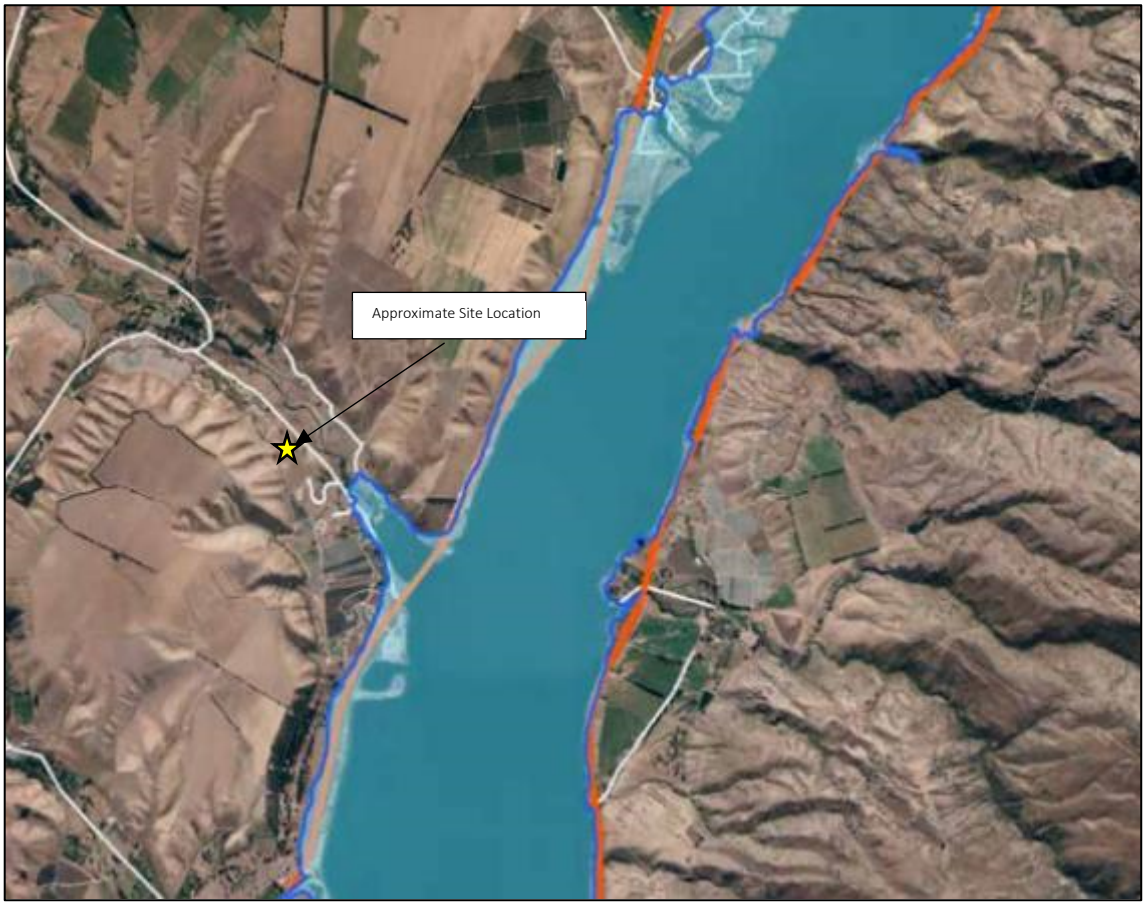


Figure 6. Inundation map based on the Hawea Lake Dam Break Analysis Update Report – 2011 (image from Cromwell Community Response Plan[1]

[1] Cromwell Community Response Plan (https://www.otagocdem.govt.nz/media/1054/codc_community-response-plan_cromwell_july2016-compressed.pdf)

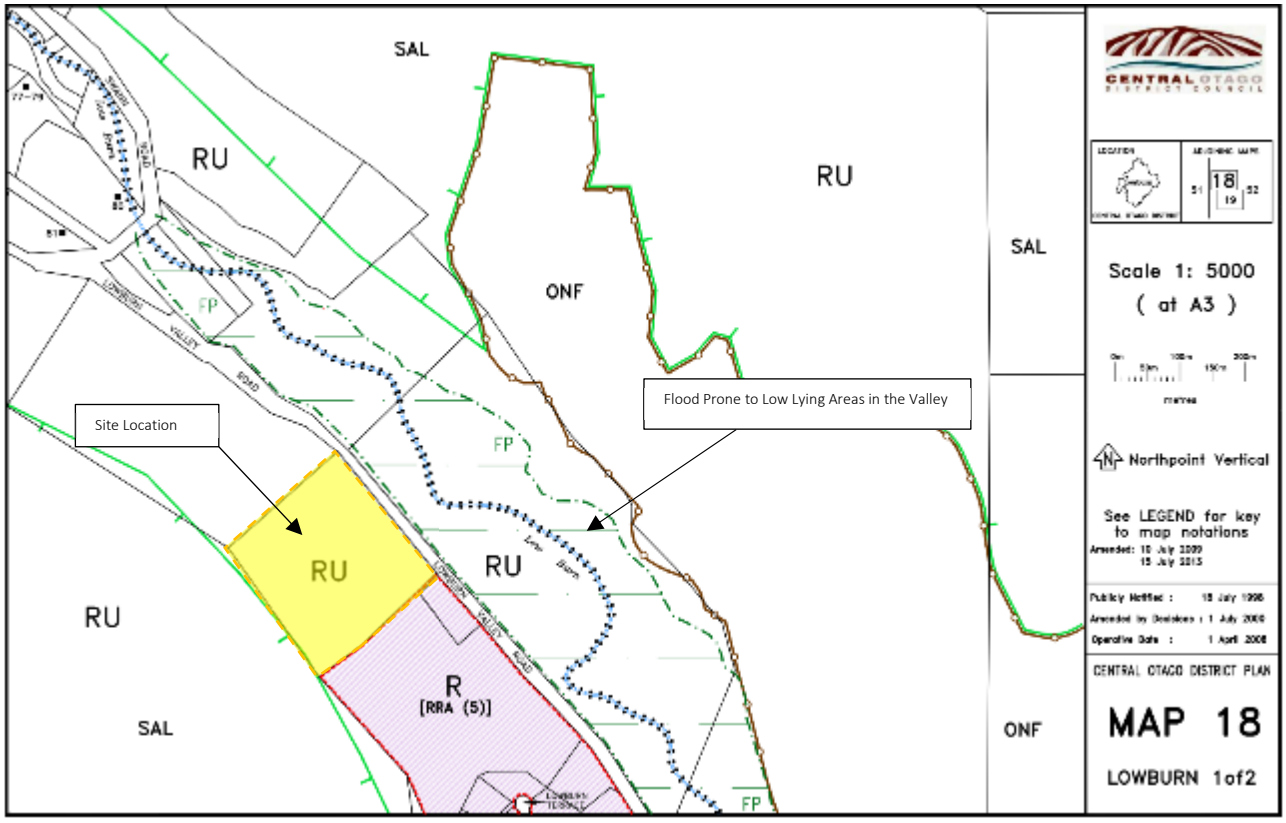


Figure 7. Map 18 of the Central Otago District Plan showing natural hazard areas near the subject site (highlighted yellow). Note FP (green hatch) related to flood prone locations on the map.

3.4 PRE AND POST DEVELOPMENT STORMWATER FLOWS

Preliminary calculations have been undertaken to identify requirements for stormwater modelling for the preliminary design of the subdivision. Calculations are shown below in Table 3 and data has been sourced from NIWA High Intensity Rainfall System V4 for the historical data (pre-development) and RCP 8.5 (period 2081 – 2100) post development analysis for both 10-year 10-minute and 100-year 10-minutes. We note that this is an estimate of the discharges for the areas and stormwater mitigation for the site has not been accounted for.

Table 3. Pre and Post Development Stormwater Flows

	Q Value (Flow) m^3/s
Pre-Development (Historical Data)	
10-year 10-minute storm event	0.26
100-year 10-minute storm event	0.50
Post Development (RCP 8.5 period 2081 – 2100)	
10-year 10-minute storm event	0.44
100-year 10-minute storm event	0.87

3.5 POST DEVELOPMENT STORMWATER MANAGEMENT

Review of the possible treatment devices suitable for the mitigation of storm water run-off effects are as follows:

1. Dwellings/Hardstand
    - Soak pits are required to be site specifically designed if practical for each individual Lot to capture the runoff from the proposed hardstand areas generated if possible. It is noted that silt traps shall be installed in the stormwater system prior to discharge into the soak pit.

- Stormwater from hard standing areas within the new Lots shall be discharged to the stormwater reticulation or a by-wash channel if not the stormwater cannot be discharged to soak pits within each lot.
- Stormwater attenuation devices are recommended such as attenuation tanks, ponds, or swales to reduce the flow in stormwater events.

2. Roads
   - As per the Lowburn Terrace subdivision, stormwater from the development roading system is proposed to be connected via standard mud tanks and capped Y-outlets to a reticulated piped system discharging to the by-wash channel soak pits are required to be site specific. Calculations can be conducted once a proposed scheme plan is obtained.
   - Stormwater basin, ponds, or swales can be utilized for the development of the road for a larger stormwater event to provide additional attenuation prior to discharging into the road profile.

3.6 FURTHER STORMWATER INVESTIGATIONS REQUIRED

As per section 2.5 of this report, a detailed existing topographic survey and scheme plan for the development site will be required to progress with the assessment of effects from stormwater flows.

Geotechnical investigations and soakage tests for the site will ideally be conducted to gain a more site-specific drainage rate, as well as ground water level monitoring data. This will be important to indicate effectiveness of stormwater soakage.

Detailed stormwater modelling can be conducted once detailed road and pavement design has been completed. However, general assumptions can be made at the completion of a scheme plan (with regards to vested road widths, lengths, grades, etc) to get a better estimation on the additional amount of stormwater entering receiving catchments from respective storm events.

4 WATER DESKTOP ASSESSMENT

4.1 EXISTING WATER INFRASTRUCTURE

The current site has no known public water supply servicing the property as identified in the CODC GIS maps. As shown in Figure 8, the adjacent subdivision Lowburn Terraces to the south-east of the site was constructed with a reticulated water supply system consisting of:

- 100mm – 150mm MDPE Principal mains connected by a series of sluice valves where water pipe sizes transition from 150mm to 100mm.
- 20mm MDPE Service Connections with metered Acuflo connections for each individual Lots.
- Fire Hydrants upon DN150 mains for firefighting purposes.

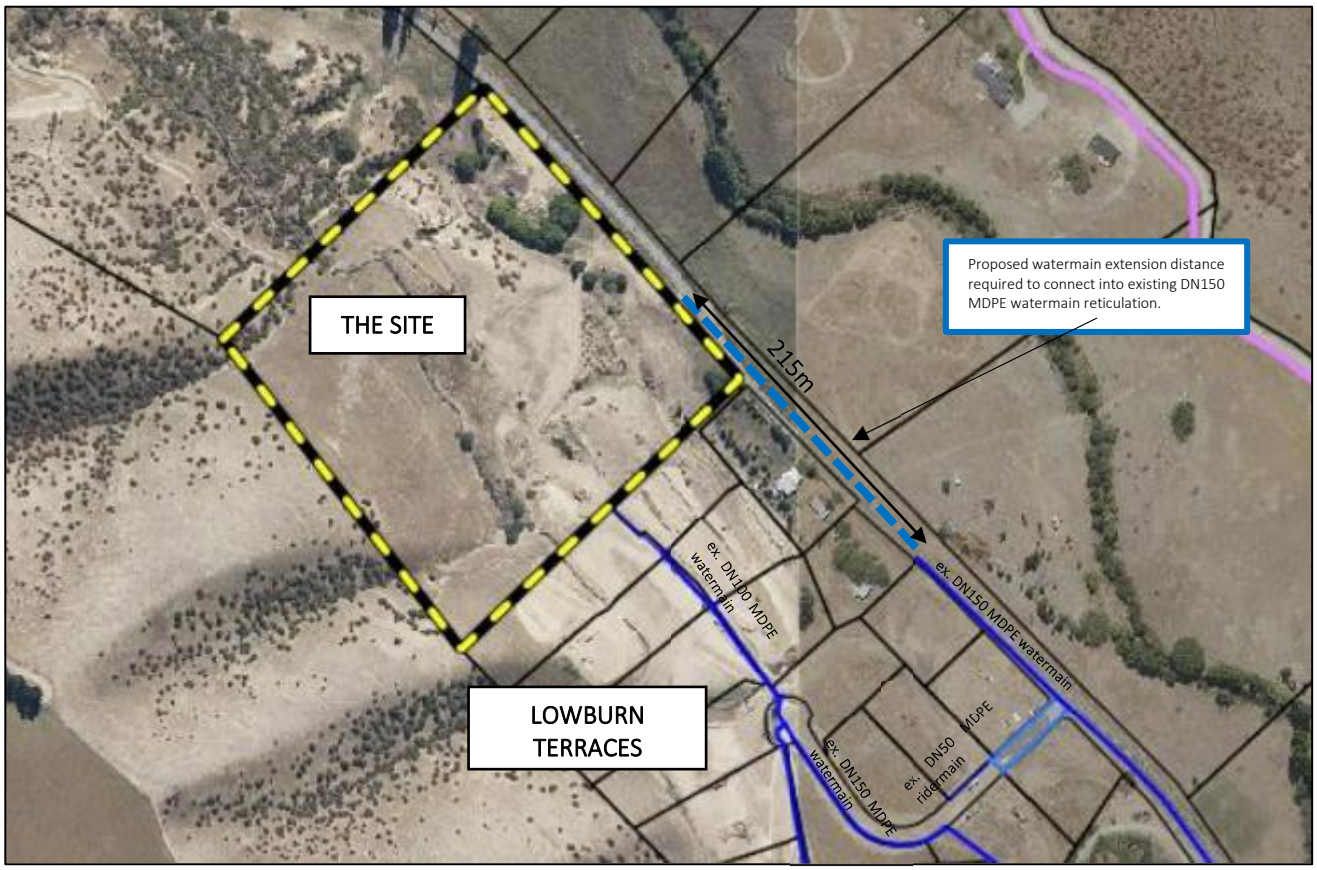


Figure 8. Existing water reticulation around the subject site, and distance to the nearest available public water main (image from CODC Intramaps, retrieved on 30-08-2022).

A potential watermain connection servicing the proposed site can be accessed at the existing DN150 MDPE Principal watermain, outside 121 Lowburn Valley Road (asset id: 20190806220075). This would require a watermain extension of around 215m along Lowburn Valley Road in order to reach the extent of the site.

The existing DN150 MDPE watermain along Lowburn Valley Road is supplied from a DN250 uPVC trunk system, located approximately 1.4km southeast, downstream of the site, on Luggate-Cromwell Road, as shown in Figure 9.

Figure 9. Map of the Council Trunk system in relation to the subject site (image from CODC Intramaps, retrieved on 31-08-2022).

4.2 WATER WELL AND AQUIFER

Cromwell Townships is serviced by a reticulated piped water supply with the source of the water is from a series of bores installed on the edge of the Cromwell Terrace Aquifer, within 30m of the Cromwell arm.

Review of the aquifer information identified two known aquifers close to the subject site. The Lowburn Alluvial Ribbon Aquifer is in the valley directly below the site and the Cromwell Terrace Aquifer is underlying the township is located approximately 2.5km to the southwest of the site shown on Figure 10 below.

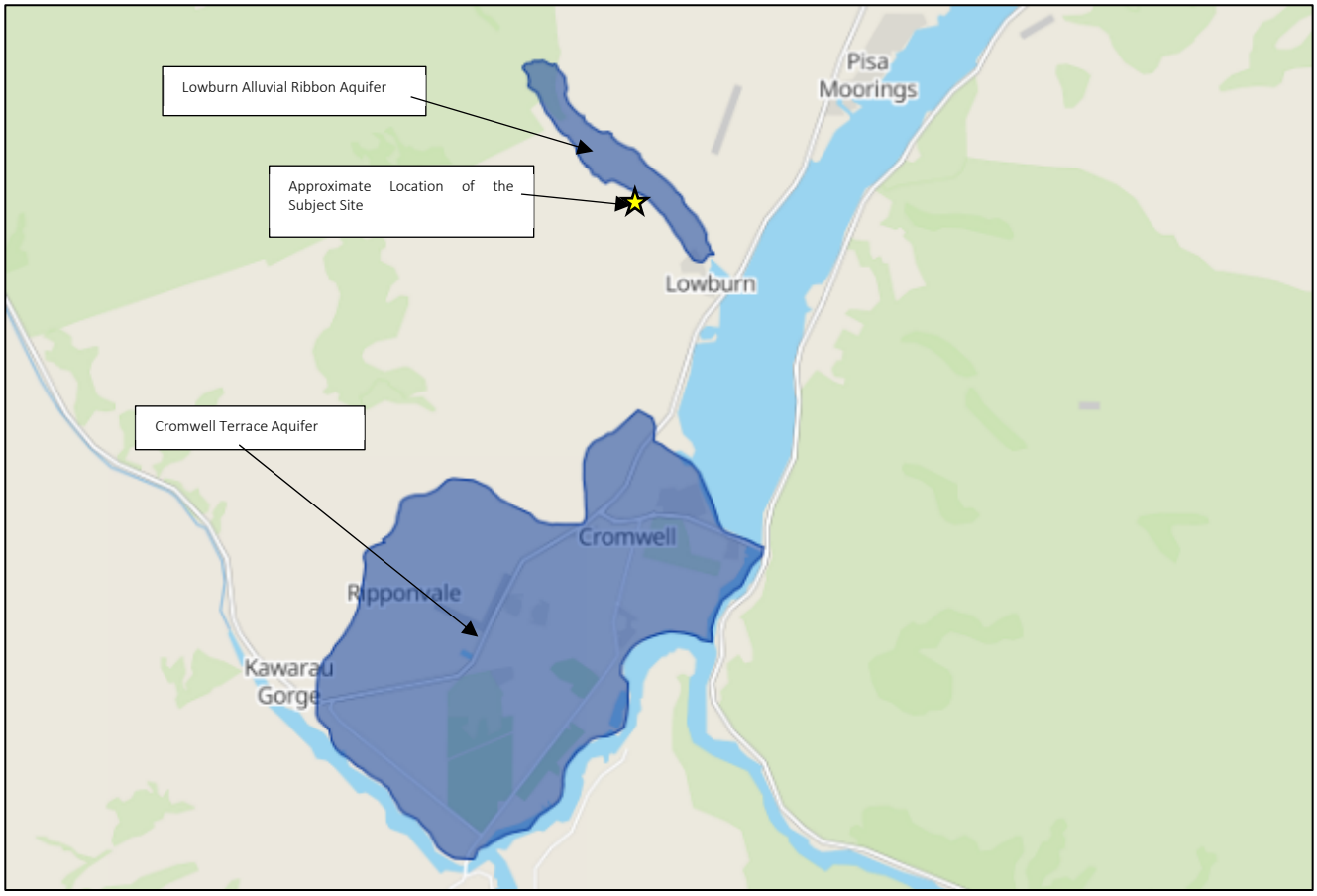


Figure 10. Map of the Council Trunk system in relation to the subject site (image from CODC Intramaps, retrieved on 31-08-2022).

4.3 PROPOSED WATER SUPPLY REQUIRED

4.3.1 PROPOSED WATER SUPPLY

The site is proposed to be subdivided into 14 lots, each with at least one habitable structure. We have used an average occupancy of 3.5 people per dwelling as per CODC and NZS 4404 specifications.

NZS 4404 (2010) estimates a water demand of 250 litres per person per day, thus the total daily demand can be estimated as follows:

250L/p/d x 3.5 (average occupants per Lot) x 14 Lots = **12250 Litres/day**.

The developer is required to demonstrate that the Council Trunk system can accommodate the demand capacity from the proposed subdivision at the point of connection. The adequacy of the existing water supply to service the proposed 14 lots will be determined once a scheme plan and finished ground design has been conducted. A water model can then be designed for the proposed subdivision, incorporating the wider catchment, to assess the response of the existing network from the proposed development.

The network should be designed to maintain appropriate nominal pressures for both peak demand (average daily demand in L/s * peaking factor) and firefighting demand scenarios.

Principal main size should be a minimum size of DN150 and made of similar materials (PE) to suit the existing proposed connection point on Lowburn Valley Road, to comply with the Council Schedule of Approved Fittings and Materials. The location of the water mains should not be constructed within private property with locations on the future scheme plan to reflect this. Water mains are to be laid within the road berms where it is not affected by the carriageway and any drainage features.

The drinking water supply systems are required to be designed to prevent backflow through negative pressure from affecting the operation of hydrants, air valves, and scours to ensure no external water enters the system.

Drinking water supply design should consider minimising the water age from deteriorating of quality as per the recommendations made ion NZS 4404 (2010) section 6.3.

4.3.2 FIREFIGHTING REQUIREMENTS

Firefighting requirements for a reticulated water supply system can be identified as FW2 under the classification system outlined in Table 1 of SNZ PAS 4509:2009. Hydrant access points require **minimum flow rates of 750L/min**, and to be located within 135m and addition **minimum flow rates of 750L/min** within 270m.

4.3.3 CONTAMINATED SITES

It is a requirement from the CODC Engineering and Subdivision Standards Policy to provide a soil or environmental report outlining the history of the site and identifying any potential areas of contamination from past Land uses.

4.3.4 SCHEME PLAN AND DESIGN

As per section 2.5 of this report, a scheme plan and topographical survey is required as part of the design of this development. Pumping mains may be required as the subject site is hilly in topography. With the proposed scheme plan, water supply modelling shall be undertaken by the applicant to demonstrate that sufficient capacity can be achieved for the development.

Appendix A SEWER CATCHMENT PLANS

Figure 11. West side of the Upper Lowburn Valley Road sewer catchment (image from CODC Intramaps, retrieved on 30-08-2022)

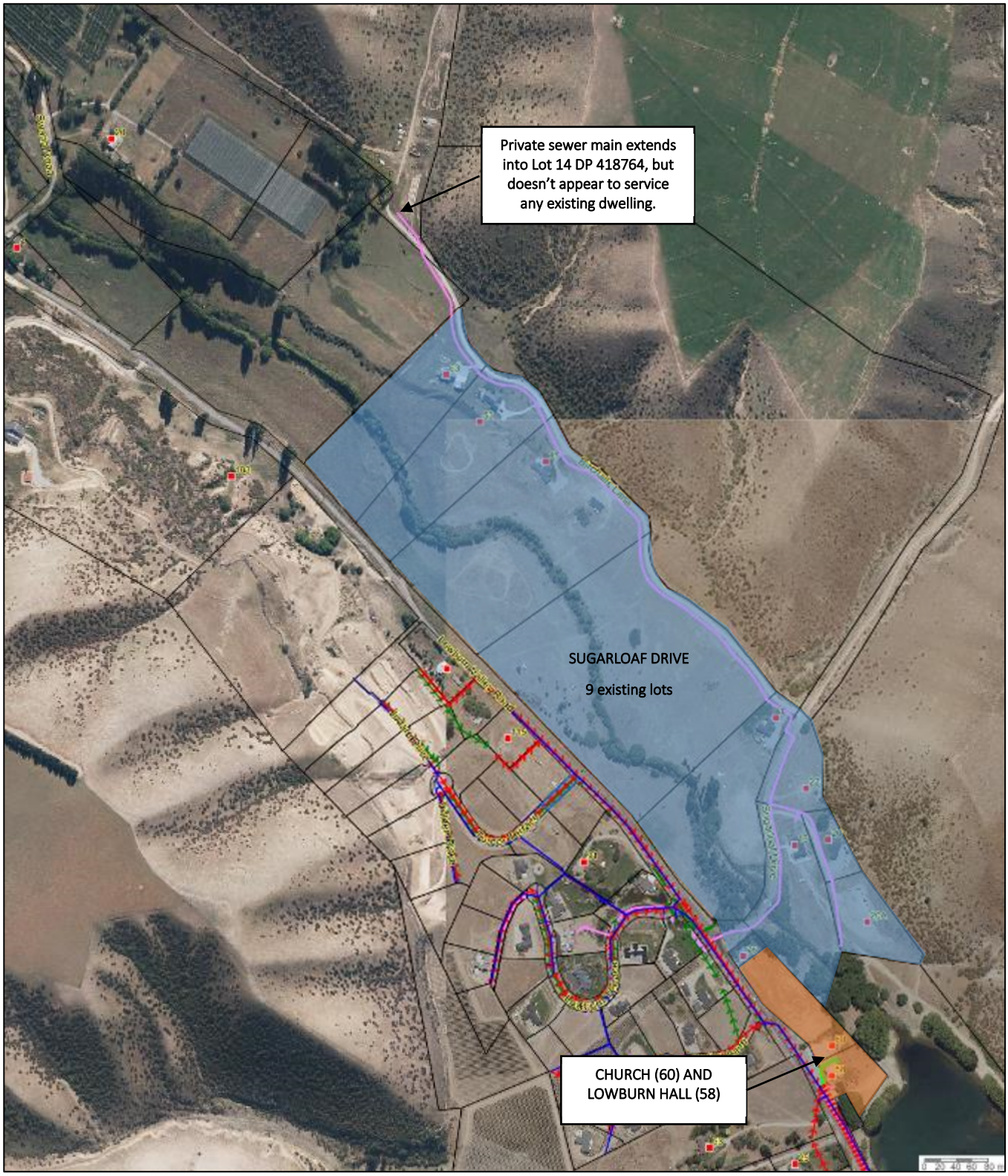


Figure 12. East side of the Upper Lowburn Valley Road sewer catchment (image from CODC Intramaps, retrieved on 30-08-2022)

Figure 13 Lower Lowburn Valley Road sewer catchment (image from CODC Intramaps, retrieved on 30-08-2022)

Appendix B LOWBURN TERRACES REPORTS

9 May 2017

Hamish Weir
Landpro
PO Box 302
Cromwell
9342

Dear Hamish

Re: Lowburn Terraces Proposed Subdivision Lot 18 DP 370066

As per your email of 31 January 2017, we have assessed the proposed water and wastewater infrastructure through the hydraulic models. More specifically:

1. For water, we have assessed the proposed infrastructure against the requirement to supply FW2 Firefighting supply as per SNZ PAS 4509:2008 (the Code of Practice) within the development.
2. The adequacy of the existing downstream network to accommodate wastewater discharge from the proposed development.

In summary, the proposed water infrastructure can service the potential development without adverse effects to the existing network. Specifically, FW2 can be provided to the proposed development.

The existing wastewater network can accept the proposed wastewater load. However, the calculations indicate there is not sufficient emergency wastewater storage at Lowburn Hall Pump Station. The shortfall is 5.1 m^3, based on 24 hours' average dry weather flow.

Water

Water capacity has been assessed using the calibrated Cromwell water supply model v1.1. This model is calibrated to peak, average and minimum demand scenarios from December 2013 to May 2014.

This is outlined in the map below.

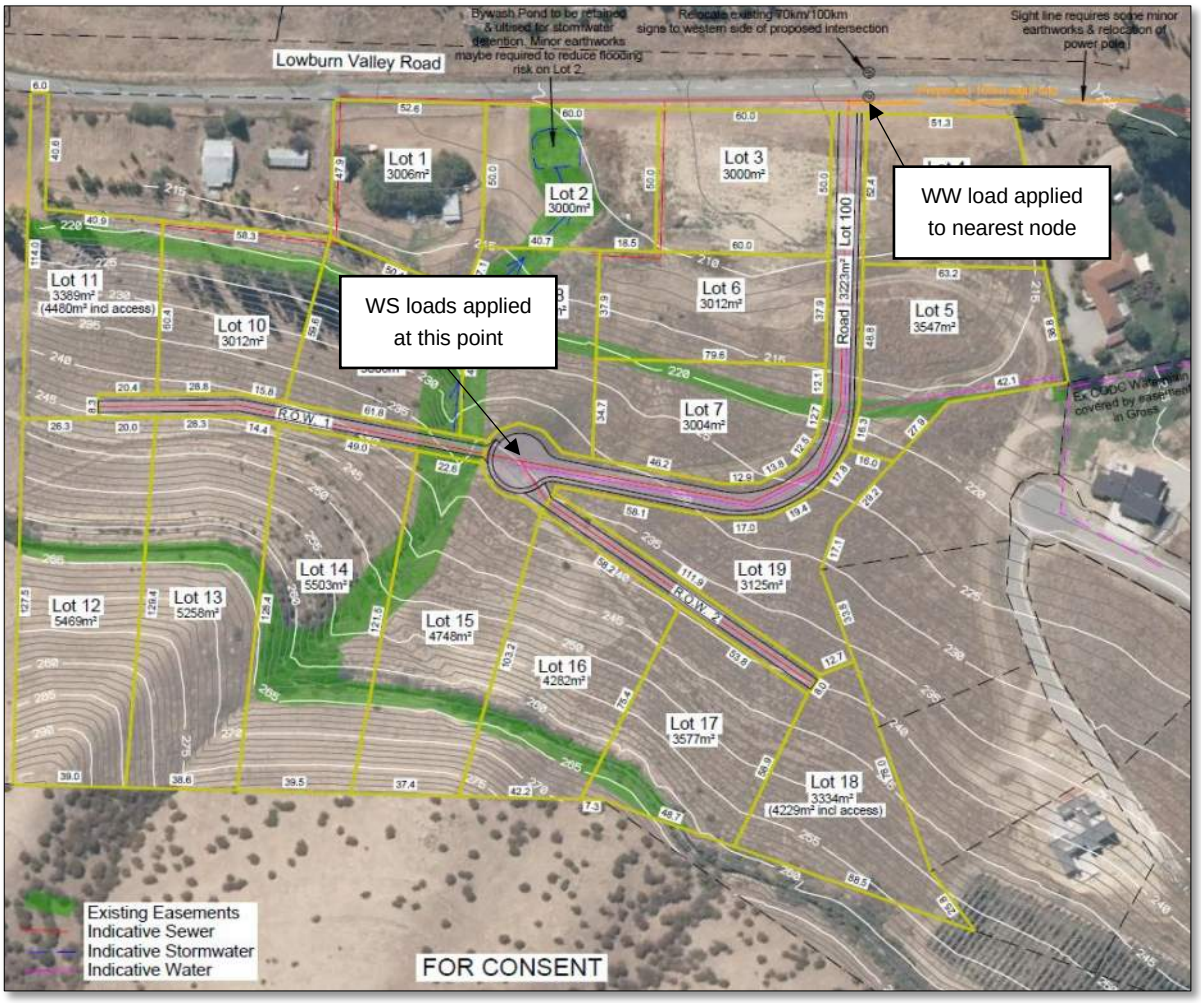


Figure 1: Water Supply

We have completed this investigation based on the completed development potentially containing the following loads:

Table 1: Water supply demand created from proposed development.

Load Type	Total Units	Load/Person /Day (l/d)	People per unit	Peak day factor	Total Demand (l/s)
Residential	19	500	3.0	3.0	0.99

The following assumption were used:

- The firefighting flows have been modelled in addition to the minimum peak demand. The minimum peak demand for the proposed development has been assessed from the Central Otago District Council Addendum to NZS4404:2004 (CODC Addendum).
- The peak hour factor is already incorporated into the model through the daily profile.
- The total demand has been added to the node closest to the proposed development as shown in Figure 1.

- The design of the firefighting requirements within the proposed development site has not been assessed (for example, fire hydrant spacing). It has been assumed there is a fire hydrant at the location shown.

The model has been used to assess the firefighting requirements as per the Code of Practice, which defines fire water classification coverage as per Table .

Table 2 - Definition of FW2 firefighting requirements.

Scenario	Required Water flow within 135 m	Additional water flow within a distance of 270 m	Maximum hydrants to provide flow	Firefighting Time (min)	Volume (m^3)
FW2	12.5 l/s	12.5 l/s	2	30	45

These scenarios have been modelled based on the peak day calibrated model with demand scaled up to 12,000 m^3 per day. The model is currently calibrated to a peak demand of approximately 9,000 m^3 per day. This increased demand scenario has been used to allow for a potential rebound in demand following the significant reductions achieved by demand management, including volumetric charging, in recent years. This level of demand is significantly lower than the total bulk supply exceeding 14,000 m^3 per day experienced in 2009/10 and 2011/12.

- FW2 was modelled with a total firefighting demand of 25 l/s taken from the location as identified in Figure 1.
- The minimum residual (running) pressure required by the Code of Practice is 100 kPa (10.2 m). To provide a margin of safety a residual pressure in the main of less than 20 m during firefighting flows has been assessed as failing to deliver the required LOS.

Modelled Scenarios and Results

The model indicates that the minimum pressure in the proposed infrastructure under minimum peak demand is 138 m. This is a high pressure because the water is boosted through Lowburn pump station. The pump station includes VFD control and pressure switch to prevent over pressurising the main. The detail of this is not within the model, but results show the minimum pressure is meet which is generally more critical. This is deemed to be a sufficient level of service under normal peak season demands. The delivery pressure may reduce if demand increases significantly.

An assessment of capacity for firefighting purposes has been carried out for the following scenarios to determine if the proposed infrastructure is sufficient to service the proposed development based on the above assumptions.

Table3 – Firefighting modelled scenarios

Scenario	Description	Minimum residual Pressure at peak flow.	Minimum Residual Pressure at fire flow.	Result
1	FW2 -25l/s from the critical node within the proposed development.	138 m	53 m	Pass

Detailed maps of the results are also attached to this letter.

The Code of Practice defines that 45 m^3 of firefighting storage is to be reserved specifically for FW2 firefighting purposes. The Cromwell reservoir has an operating capacity of approximately 12,200 m^3 and a normal operating volume of 3,360 m^3. Under normal operating conditions, this results in a reserved storage of 8,880 m^3. This reserved storage is sufficient to supply FW2 fire flows of 45 m^3 in addition to the 8,700 m^3 of normal peak demand over the firefighting period of 60 minutes.

Under FW2 firefighting demand, the model shows an increase of velocity to 1.51 m/s on the adjacent existing pipes which is within the 2.0 m/s allowance as per NZS4404:2004 Land Development and Subdivision engineering.

From the observed results, it can be concluded that the infrastructure proposed to service the development does provide sufficient capacity to attain FW2 firefighting flows.

Wastewater

Wastewater capacity has been assessed using the calibrated Cromwell wastewater supply model v1.0. This model is calibrated to four peak day scenarios including a wet day event from December 2012 to January 2013.

This is outlined in the map below.

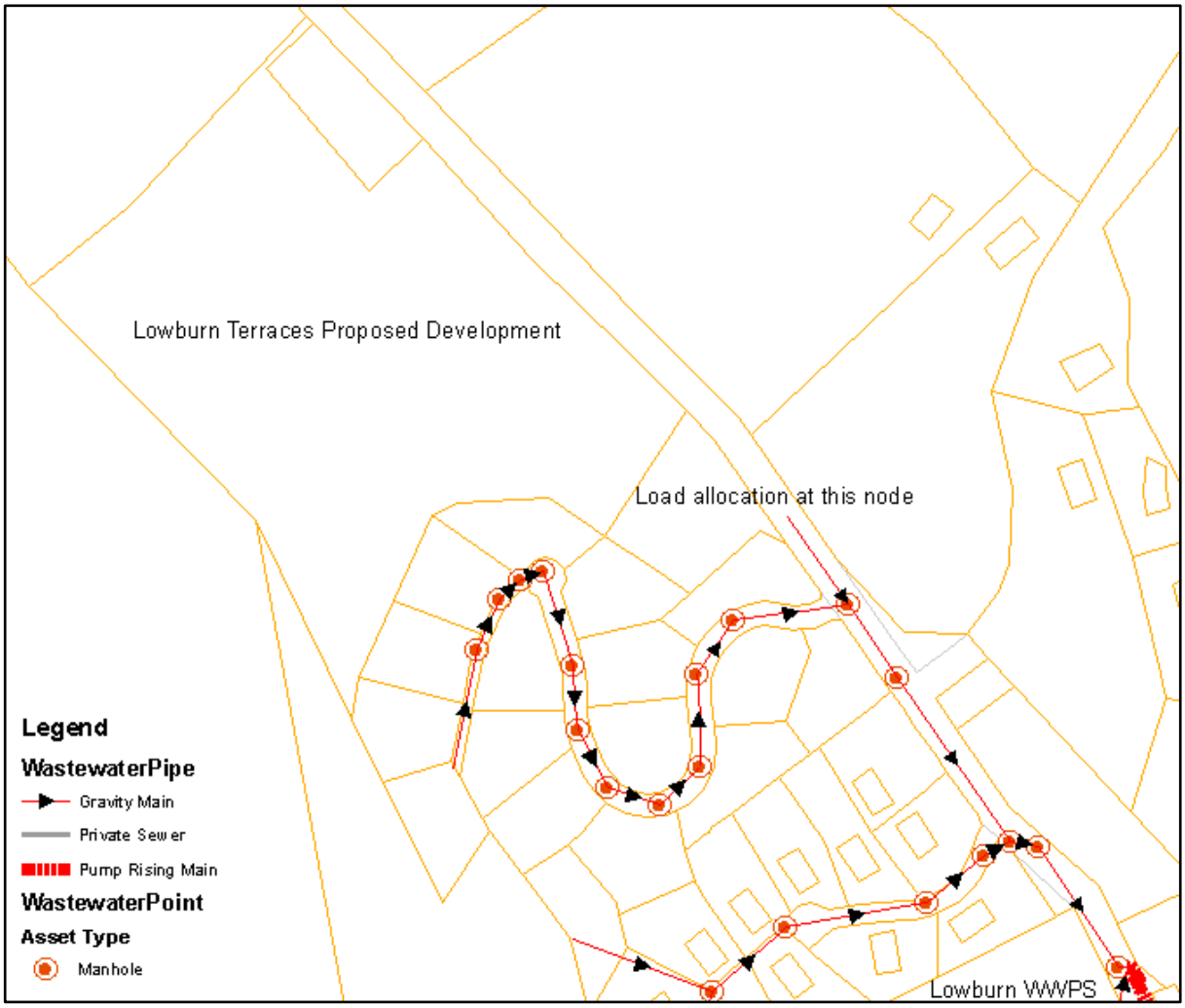


Figure 2: Wastewater

We have conducted this investigation based on the completed development potentially containing the following loads:

Table 4 – Wastewater load details.

Load Type	Units	Total Units	People per unit	Load/Person / Day (l/d)	ADWF (m3/d)	Approx. Peaking Factor	Rainfall Catchment Area (Ha)
Residential	Units	19	3	250	14.25	2.3	N/A

The following assumptions were used:

- The design of the internal reticulation has not been assessed. The total load has been placed on the existing main.
- No additional rainfall catchment area has been added to the model as this area was previously included in the model.

Modelled Scenarios and Results

The model has been run to the following standard.

- 2013 peak day population sanitary loadings and diurnal patterns.
- Residential load, based on water meter usage and a reduction factor added when calibrated, approximate peaking factor of 2.3
- 10-year return, 12-hour duration storm.

All relevant sections of the network have been checked for capacity using the following criteria:

- No overflows allowed at any network element.
- No pump station overflows based on the duty pump capacity.
- Theoretical capacity based on flow and pipe details.

The key findings are shown below and a detailed map of the results are attached to this letter:

- There are no related network elements overflowing.
- There are no sections of main in the surrounds and downstream that have greater than the theoretical capacity.
- There are no pump stations downstream of this development to assess for overflows.

The long section in Figure 3 below shows the maximum water level in red where the loads enter the network and directly downstream, the critical area for capacity issues. This shows there is spare capacity in the main.

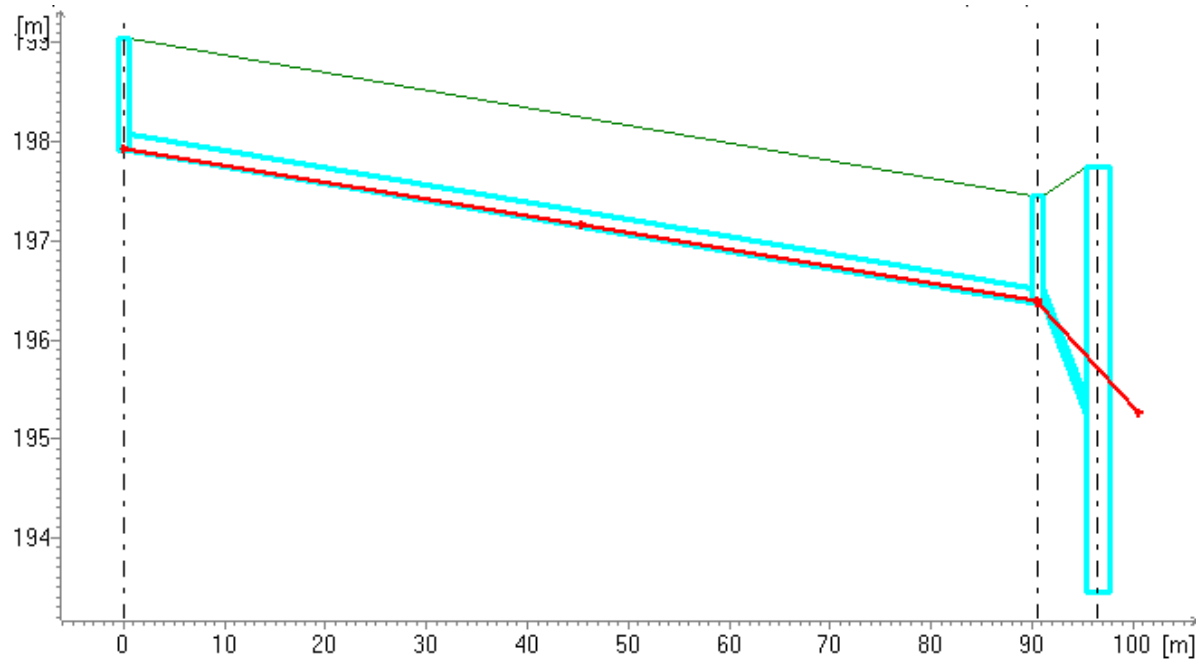


Figure 3: Long section showing impact of development

Detailed maps of the results are attached to this letter.

Modelling of the network from the proposed development through the downstream network indicates that the existing network has sufficient downstream capacity to manage the addition of this development, based on the above assumptions.

The results in Figure 4 below indicates there is sufficient operational capacity within the pump station. The long section shows the pump station doesn't spill and there are a maximum 8 starts per hour (4 per pump) which is considered adequate. The CODC Addendum sets the 10 maximum starts per hour per pump.

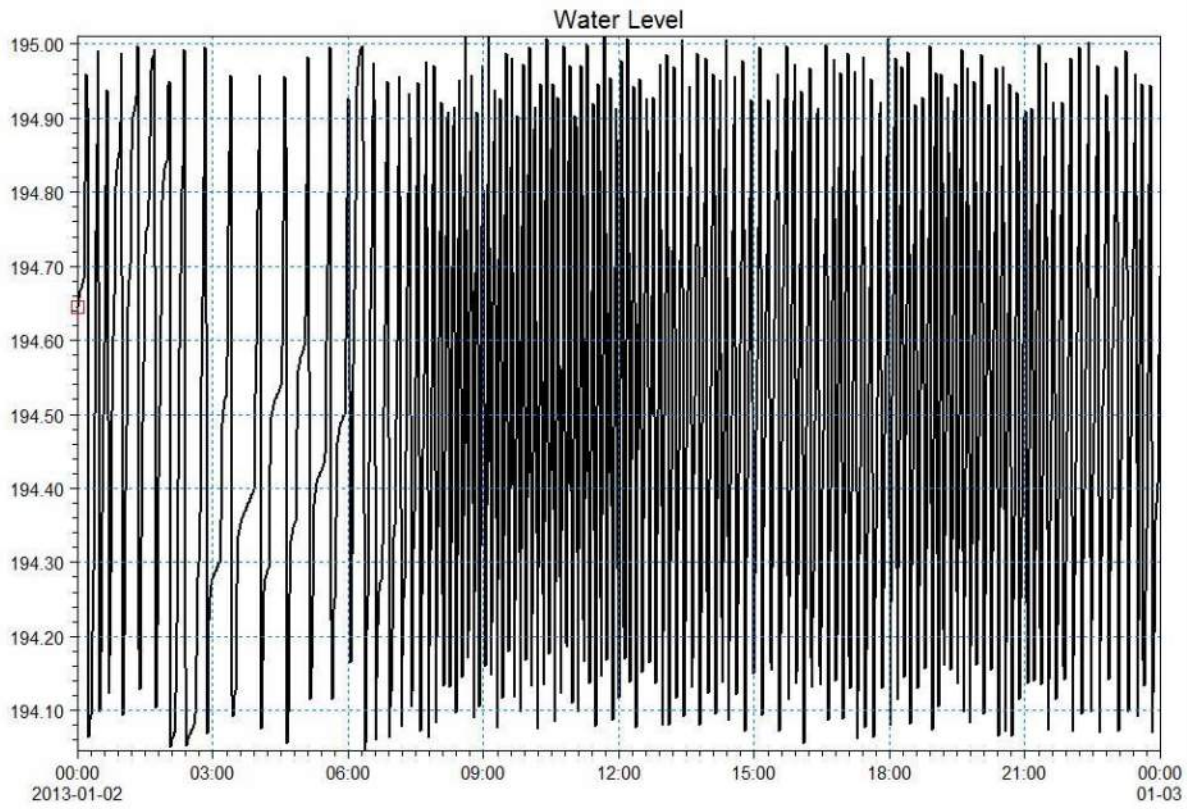


Figure 4: Lowburn Hall Pump Station wet well water level

Storage

Table 4 shows the overall emergency storage required is 5.1 m^3. This is approximately 10% of the 24 hour emergency storage requirement, or 2.4 hours, assuming even inflow.

The existing Lowburn Hall Pump Station includes operational storage and approximately 46.4 m^3 of emergency storage. The as-builts provided show there are four 2.4 m diameter tanks that provide emergency storage, with four 1.05 m diameter manholes for access. The depth of these tanks is not clear from the as-builts, but have been verified on site by Landpro to have an effective depth of 2.0 m and the manholes 1.0 m depth. The lowest manhole in the network has a ground level of 197.46 m. The emergency storage equates to 35.65 m^3 before spilling in the network occurs.

There is also approximately 10.75 m^3 of emergency storage within the wetwell from the standby pump start level to 197.46 m, where network overflows would occur.

A basic assessment of additional emergency storage within the manholes of the pipe network has been completed. It shows the two manholes directly upstream on each gravity main could provide some storage before there was a network overflow. This was calculated at 1.75 m^3, assuming no volume is lost to existing flow.

From GIS it has been calculated there is 71 existing lots that can feed to this pump station directly. This equates to 53.25 m^3/day ADWF. The CODC Addendum requires 24 hours' emergency storage. Therefore the emergency storage required is 5.1 m^3 greater than the current storage provided at the pump station.

Table 4 – Lowburn Hall Pump Station 24 hours Emergency Storage.

Existing storage, m^3	Storage required, m^3	Difference, m^3	Result
48.15	53.25	5.1	Fail

Table 5 – Lowburn Hall Pump Station catchment ADWF details.

Area	Total Residential Units	ADWF (m3/d)
Proposed	19	14.25
Lowburn Tce	16	12.0
Mallet Lane	12	9.0
Lowburn Valley Rd	17	12.75
Sugarloaf Dr	7	5.25
Total	**71**	**53.25**

Summary

The proposed water infrastructure can service the potential development without adverse effects to the existing network. Specifically, FW2 can be provided to the proposed development.

The existing and proposed wastewater reticulation network is sufficient to meet the additional demand created by the development. However there is not sufficient emergency wastewater storage at Lowburn Hall Pump Station. The shortfall is 5.1 m^3, based on 24 hours' average dry weather flow.

It should be noted that the water and wastewater supply models are an attempt to simulate a physical system using hydraulic equations and various assumptions, hence they bear some uncertainty. CODC's GIS data was used to develop the models and we can offer no guarantee on the accuracy of this information. The water demands, diurnal patterns, leakage rates, sanitary loads and infiltration and inflow rates are an approximation of the patterns in the townships that have been agreed with CODC.

Due to the potential changes in demand occurring in this area, the validity of this letter should be checked any time in the future it is used.

Yours sincerely,

Nichola Greaves

Infrastructure Advisor
Rationale Limited

Encl. Results: 148McNulty Water – Peak Day.pdf

Results: 148McNulty Water – FW2.pdf

Results: 148McNulty Wastewater.pdf

RMM

ROUGH MILNE MITCHELL
LANDSCAPE ARCHITECTS

PC19 Residential Rezoning - Lowburn Valley
Graphic Attachment to Landscape Assessment Report

1 September 2022

Document Information

Project
PC19 Residential Rezoning, Lowburn Valley
Address
Section 27 Block V Cromwell SD, Lowburn Valley Road
Client
Lowburn Viticulture Ltd
Document
Graphic Attachment
Format
For PC19 Submission
Revision
1
Prepared By
Rough Milne Mitchell Landscape Architects Ltd
Project Number: 22222
Author: Sophie Harrison and Paul Smith
Peer Reviewed: Tony Milne

Contents

Context Plan

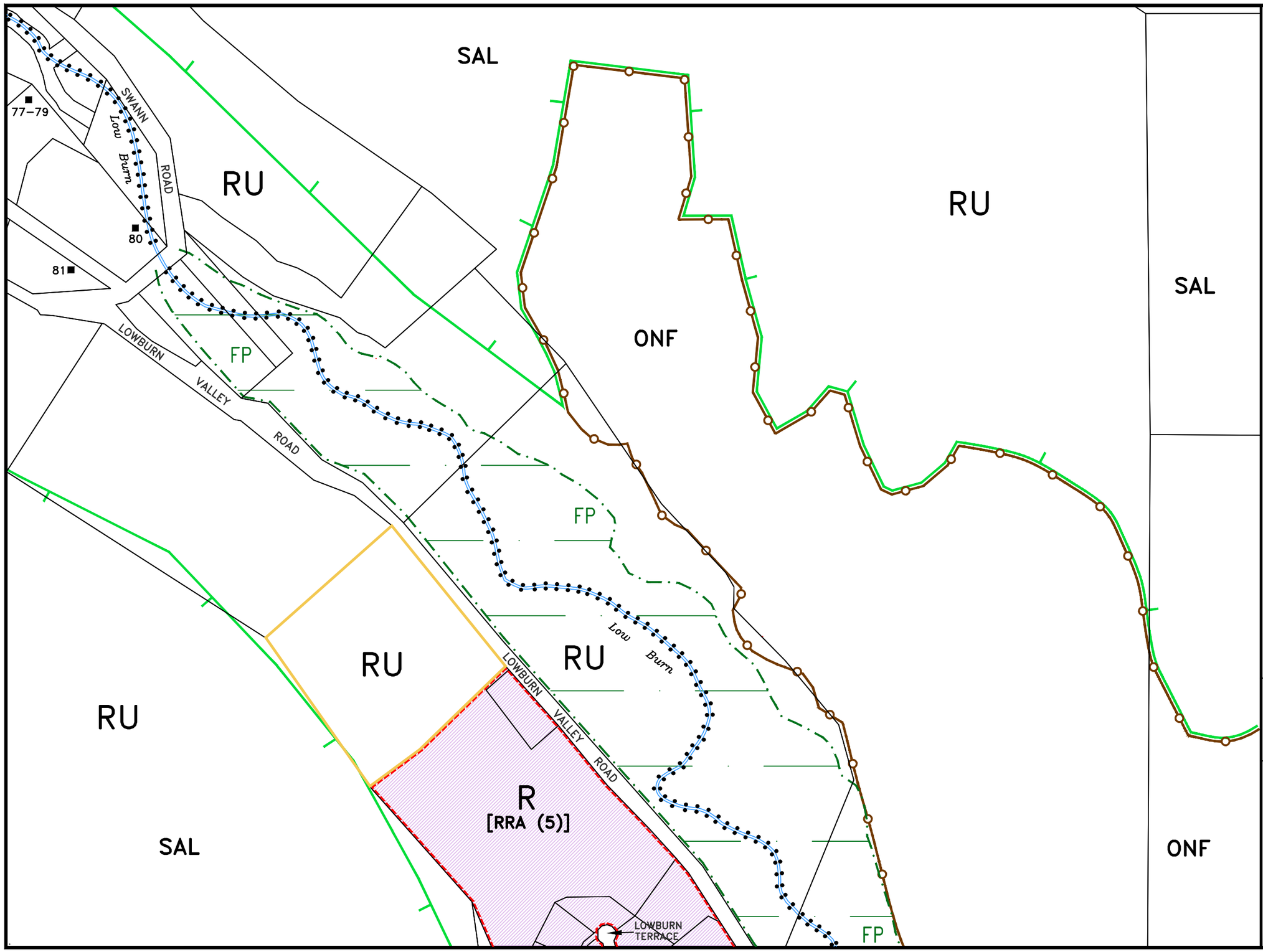
Legend

The Site

CODC Operative District Planning Map 18

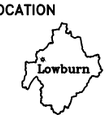
Legend

The Site



CENTRAL OTAGO DISTRICT COUNCIL

LOCATION



CENTRAL OTAGO DISTRICT

ADJOINING MAPS

51 | 18 | 52

19

Scale 1: 5000

(at A3)

0m 50m 100m 150m 200m

metres

Northpoint Vertical

See LEGEND for key to map notations

Amended: 10 July 2009
15 July 2013

Publicly Notified : 18 July 1998

Amended by Decisions : 1 July 2000

Operative Date : 1 April 2008

CENTRAL OTAGO DISTRICT PLAN

MAP 18

LOWBURN 1of2

CODC PC19 GIS Planning Map

Legend

	The Site
	Proposed LLRZ-P2

Scale: 1:7,500 @ A3

Data Source: maps.codc.govt.nz

Viewpoint Location Plan

Legend

The Site

1 Viewpoint Location Photographs

Scale 1:10,000

Viewpoint Location Photographs

Viewpoint Location Photograph 1: View from Swann Road looking south east towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 2: View from Swann Road looking south east towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 3: View from Swann Road looking south east towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 4: View from Lowburn Valley Road looking south towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 5: View from Lowburn Terrace looking north west towards site.

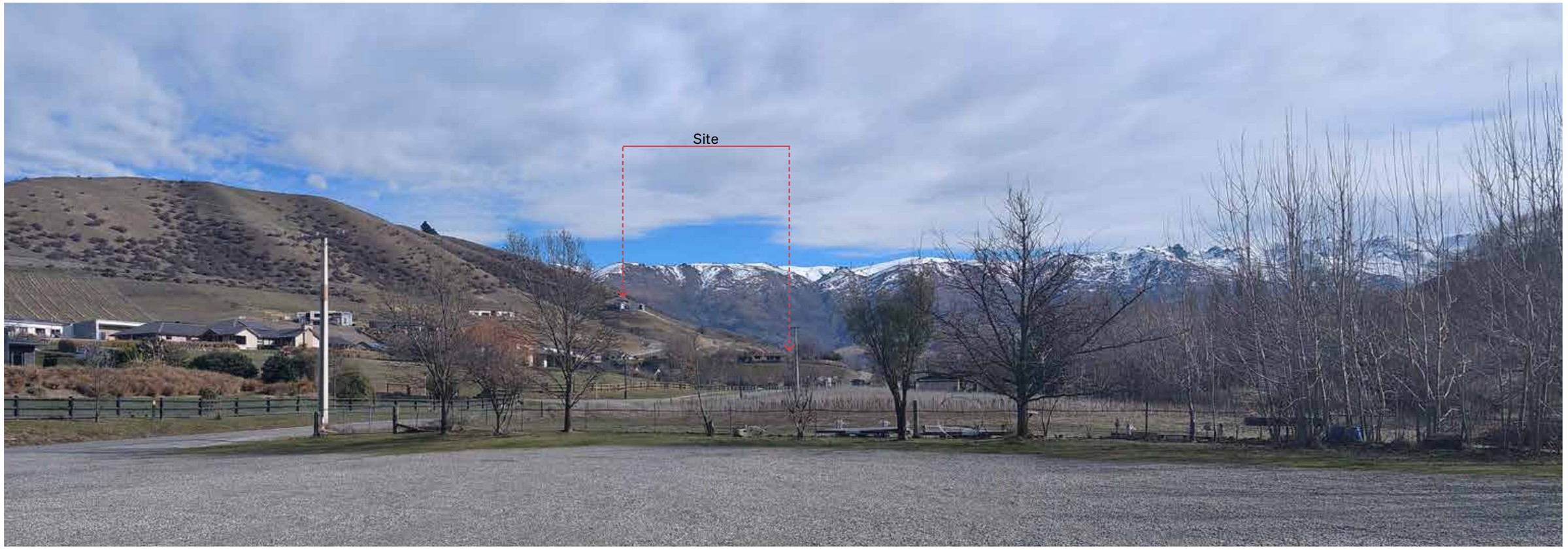
Viewpoint Location Photographs

Viewpoint Location Photograph 6: View from Birchalls Lane looking south towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 7: View from Birchalls Lane looking south west towards site.

Viewpoint Location Photographs



Viewpoint Location Photograph 8: View from Lowburn Community Hall carpark looking west towards site.

Viewpoint Location Photographs

Viewpoint Location Photograph 9: View from SH6 looking north west towards site.

Viewpoint Location Plan

Legend

Site Boundary

1 Viewpoint Location Photographs

Scale 1:10,000

Viewpoint Location Photographs

Viewpoint Location Photograph 10: View from SH8 looking north west towards site from approximately 2.5km.

ROUGH MILNE MITCHELL
LANDSCAPE ARCHITECTS

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AURORA ENERGY LIMITED
PO Box 5140, Dunedin 9058
PH 0800 22 00 05
WEB www.auroraenergy.co.nz

1 May 2023

Jake Woodward
Jake Woodward Resource Management Planner

Sent via email only: jake@jakewoodward.co.nz

Dear Jake,

ELECTRICITY SUPPLY AVAILABILITY FOR A PROPOSED EIGHTEEN LOT SUBDIVISION. LOWBURN VALLEY ROAD, LOWBURN. SECTION 27 BLK V CROMWELLL SD.

Thank you for your inquiry outlining the above proposed development.

Subject to technical, legal and commercial requirements, Aurora Energy can make a Point of Supply[1] (PoS) available for this development.

Disclaimer

This letter confirms that a PoS **can** be made available. This letter **does not** imply that a PoS is available now, or that Aurora Energy will make a PoS available at its cost.

Next Steps

To arrange an electricity connection to the Aurora Energy network, a connection application will be required. General and technical requirements for electricity connections are contained in Aurora Energy's Network Connection Standard. Connection application forms and the Network Connection Standard are available from www.auroraenergy.co.nz.

Yours sincerely

Niel Frear
CUSTOMER INITIATED WORKS MANAGER

[1] Point of Supply is defined in section 2(3) of the Electricity Act 1993.

INSIGHT | ECONOMICS

Draft Report: 25 August 2022

Economic Assessment of Proposed Private Plan Change in Central Otago

Prepared for:

Fulton Hogan Land Development Limited

Authorship

This document was written by Fraser Colegrave.

Contact Details

For further information about this document, please contact us at the details below:

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Disclaimer

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Contents

1. Executive Summary

Fulton Hogan (FH) is one of New Zealand's largest land and infrastructure development businesses, with operations spanning the length of the country. It is currently assessing options to repurpose its Parkburn aggregate quarry in the Central Otago District to enable up to 450 dwellings plus a small amount of supporting commercial activities. To assist, this report assesses the likely economic effects of the proposal compared to the site's ongoing use as an aggregate quarry.

The report begins by identifying and briefly describing the subject site, its zoning, current uses, receiving environment, and the proposed development. Then, it identifies the net impacts of the proposal relative to the site's use as a quarry. Those net effects, which are our focus here, are:

- Housing market impacts;
- Commercial impacts on the Cromwell Town Centre; and
- Foregone quarry production.

To set the scene for our analysis of housing market impacts, we first delineate a study area equal to the Cromwell ward and review its demography, population and dwelling projections, recent building consent trends, and dwelling price and rental trends. In short, Cromwell's population is projected to grow rapidly, with the latest official estimates for 2021 surpassing even the official high projection. Coupled with growth in the number of holiday homes, we project demand for an additional 3,550 dwellings over the next 30 years.

We also note that median study area dwelling prices have increased rapidly over time, from $90,000 in 1993 to nearly $800,000 by the end of 2021. This represents a compound annual growth rate of 8.1%. Over the same period, median weekly rents have risen from $105 to $480, a compound annual growth rate of 5.6%. Accordingly, significant supply boosts are required to help combat price/rental inflation and help make housing relatively more affordable over time.

Next, we assess the need for the plan change under the NPSUD.[1] Although recent work by Rationale for the Council suggests that there may already be sufficient capacity to meet future demand, we respectfully disagree for several reasons. They include that:

- Rationale's demand projections are too low;
- Plan-enabled capacity is coarsely measured, and infrastructure constraints are unclear;
- Feasible dwelling capacity is significantly overstated, and;
- Future market supply is only ever a modest proportion of feasible capacity in any case.

[1] Although the NPSUD does not yet apply to Cromwell because its population is less than 10,000 people, it is widely expected to exceed that in the foreseeable future, with recent work for the Council has also recognising the need to provide enough dwelling capacity to meet projected growth in dwelling demand over time (as per the NPSUD).

When these issues are addressed to provide more reliable estimates of dwelling supply/demand, we consider Cromwell to face significant shortfalls over the short, medium, and longer terms. Accordingly, additional land needs to be identified and rezoned as soon as possible to enable the efficient operation of the local land market.

Having determined an acute need for the plan change to address projected dwelling supply shortfalls, we then assessed the likely economic costs and benefits of the proposal. Overall, we expect it to provide strong economic benefits, including:

- Providing a substantial, direct boost in market supply to meet current and projected future shortfalls;
- Bolstering land market competition, which helps deliver new sections to the market quicker, and at better average prices;
- Improved dwelling choice via the provision of various section sizes and the inclusion of areas earmarked for higher density development; and
- Meeting the needs of an evolving population.

Conversely, the main economic costs of the proposal are possible adverse impacts on the role and function of the Cromwell Town Centre (CTC), plus foregone quarry production. However, the commercial area within the proposed development is 17 times smaller than the CTC, which appears to be doing well currently.

Further, because the proposal's commercial area will be matched by significant increases in retail spending by future residents, the increase in commercial floorspace supply will be swamped by the corresponding increase in demand. As a result, additional demand created onsite – over and above onsite spending – will create significant additional commercial support for other nearby commercial areas, principally the CTC. Accordingly, and noting the high threshold for trade impacts to be deemed significant retail distribution effects, we consider the proposal's commercial elements extremely unlikely to exert any adverse effects on the CTC.

The loss of quarry production will impose economic costs. Although it has about 30 to 40 years of remaining useful life at current extraction rates, this will continue for only the next 7 to 10 years if the proposal proceeds. At that point, quarry operations will cease, and 12 FTEs will be lost along with their annual wage bill of approximately $1 million. However, some will likely transfer to other regional quarries, particularly as their volumes invariably increase to offset the loss of Parkburn.

Perhaps more importantly, the loss of quarry production could adversely affect the various industries that depend on its outputs to enable their own activities. However, Fulton Hogan also inform us that remaining quarries in the area have sufficient capacity to keep supplying local customers at current (or required future) levels even if Parkburn shuts down.

Overall, we consider the proposal to generate significant and enduring economic benefits over the likely alternative use of the site absent it, so we support the plan change on economic grounds.

2. Introduction

2.1. Context & Purpose of Report

Fulton Hogan (FH) is one of New Zealand's largest land and infrastructure development businesses, with operations spanning the length of the country. To supply these core businesses with one of their most critical inputs that are used in virtually every modern road and building – aggregates – FH also operate a handful of aggregate quarries in strategic locations.

Parkburn is one of FH's aggregate quarries, which is located on the western banks of Lake Dunstan, about 10 minutes' drive north of Cromwell in the Central Otago District (CODC). Although the quarry has enough resource to operate for another 30 to 40 years at current extraction rates, FH consider that the site should eventually be repurposed for housing, and are currently working through the planning processes required to enable the proposed new land uses.

To assist, this report assesses the likely economic effects of the proposed rezoning compared to the site's ongoing use as an aggregate quarry.

2.2. Structure of Report

The remainder of this report is structured as follows:

- **Section 3** identifies the subject site, profiles the proposed development, identifies the most likely alternative use of the site absent it (the counterfactual), and defines the net economic effects of the proposal relative to the counterfactual to guide the assessment.

- **Section 4** briefly discusses the strategic and planning context for the proposal.

- **Section 5** delineates a study area, summarises its demography, tabulates the latest population projections, and translates them to dwelling demand projections.

- **Section 6** assesses the need for the plan change under the National Policy Statement on Urban Development (NPSUD) while acknowledging that it does not strictly apply yet.

- **Section 7** analyses the proposal's likely impacts on the local housing market.

- **Section 8** considers potential adverse effects of the proposal's commercial elements on the role, function, health, and vitality of the Cromwell Town Centre.

- **Section 9** examines the economic impacts of foregone quarry production.

- **Section 10** summarises the overall costs and benefits of the proposal relative to the most likely future land use absent it (aka the counterfactual).

3. About the Proposal

This section identifies and describes the subject site, outlines the proposed development, and compares its net effects relative to the most likely use of the land absent it (ongoing quarrying).

3.1. Site Location & Description

The subject site is located at 930 Luggate – Cromwell Road (State Highway 6) on the western banks of Lake Dunstan, about 10 minutes' drive north of Cromwell, as indicated by the yellow outline in the figure below.

Figure 1: Location of Subject Site

The site spans approximately 118 ha, and is bound by State Highway 6 to the west, Lake Dunstan to the east, an aggregate quarry (Downer's) to the north, and a vineyard and the residential enclave of Pisa Moorings to the south. It has operated as Parkburn Aggregate Quarry for many years.

3.2. Zoning and Receiving Environment

Under the Central Otago District Council (CODC) Operative District Plan (ODP), the site is zoned as Rural Resource Area, as is land that adjoins it to the north and west with. The entire southern boundary of the site, conversely, abuts land that is zoned Residential Resource Area (RRA 3), which denotes a minimum site area of 1000m^2.

Most of the land to the south has been developed for residential purposes as the Pisa Moorings community, and contains low-density detached dwellings.

Overall, the character of the area is varied, with a relatively new residential area (Pisa Moorings) to the south, vineyards to the west across State Highway 6, quarries on the subject site and to the north, and Lake Dunstan to the east.

3.3. Proposed Development

The proposed development is a new urban community that forms a natural and viable urban extension of Pisa Moorings, which is located immediately to the south. The figure below provides an illustration of the latest indicative masterplan.

Figure 2: Latest Indicative Masterplan

The development is based around the creation of a new inlet from Lake Dunstan, which also doubles as a key element of the stormwater network. It enables several further inlets on to which residential development will be focussed, providing a high level of amenity for these properties and enhanced recreational use of the waterway.

The development will provide significant additional housing capacity, with 450 to 500 dwellings of varying typologies, from detached through to pockets of higher density in appropriate areas.

Development will be interspersed with wetlands and green links, with the southern and western edges of the site mounded and planted out in native vegetation creating an interesting topography, privacy, and acoustic protection from the adjacent State Highway.

The new community will be supported by minor commercial uses near the confluence of the newly-created inlet and Lake Dunstan. This area will service the day-to-day needs of the community, as indicated by its small overall extent, and will (intentionally and appropriately) remain subordinate to the Cromwell Town Centre, where a far more complete offering is available.

The redevelopment is rounded off to the north by an industrial/business area, which is intended to provide a range of employment options for the community and wider Cromwell area, and will also function as a buffer to the continuing use of the adjacent site to the north as an aggregate quarry for Downers.

Provision is also made for the addition of other community facilities, such as schools, between the residential area and the industrial areas. Overall, the proposal seeks to create a sustainable extension of the Pisa Moorings settlement that will provide further living opportunities close to Cromwell.

3.4. Likely Alternative Use (Counterfactual)

Absent the proposed development described just above, the site will continue to operate as an aggregate quarry, with 30 to 40 years of remaining life at current extraction rates. FH confirm that there are no other realistic uses for the site, either now or at the end of its viable life as a quarry. Accordingly, the site's ongoing use as an aggregate quarry is the counterfactual against which the likely effects of the proposed pan change are assessed herein.

3.5. Net Impacts of Proposal vs Counterfactual

The key economic impacts of the proposal – relative to the ongoing use of the subject site as an aggregate quarry are:

- Housing market impacts;
- Commercial impacts on the Cromwell Town Centre; and
- Foregone quarry production.

Accordingly, these key economic effects form the focus of the rest of this assessment. First, however, we set the scene by reviewing the planning, strategic, and housing context for the proposal.

4. Strategic/Planning Context

4.1. National Policy Statement on Urban Development 2020

The National Policy Statement on Urban Development 2020 (NPSUD) came into effect in August 2020. Like its predecessor, the NPSUDC 2016, the NPSUD requires Councils in high growth areas to provide (at least) sufficient development capacity to meet expected future demand for additional dwellings over the short-, medium-, and long-term. In addition, the NPSUD imposes strict monitoring and reporting requirements to ensure that any likely capacity shortfalls are identified and rectified as soon as possible.

Amongst other things, the NPS-UD defines different tiers of "urban environments" and sets rules accordingly. Under the policy statement, the townships of the Central Otago District are currently too small to be deemed urban environments. Accordingly, CODC is not classified as a Tier 1, Tier 2 or Tier 3 local authority, and the policy statement is not directly applicable.

Nevertheless, we consider that the general intent of the NPSUD is relevant, and further note that Cromwell is likely to exceed the threshold of 10,000 people for inclusion in the NPSUD in the foreseeable future too. For example, the Cromwell Spatial Plan 2019 states that it "provides a clear framework for the future growth of Cromwell from a town of around 5,000 people to approximately 12,000." Accordingly, we consider the general purpose and intent of the NPSUD to be relevant to this plan change application.

4.2. Spatial Plan

The Cromwell Spatial Plan was released in 2019 and gives spatial expression to the prior master planning for Cromwell regarding how and where to accommodate growth to 2050. Aspirations supporting the Spatial Vision include:

- An attractive, vibrant and thriving heart for Cromwell;
- Accommodating growth in a way that secures landscape and visual amenity values;
- Enhancing how Cromwell functions; and
- Housing is affordable and available.

These vision elements are translated into objectives and corresponding key moves, which include:

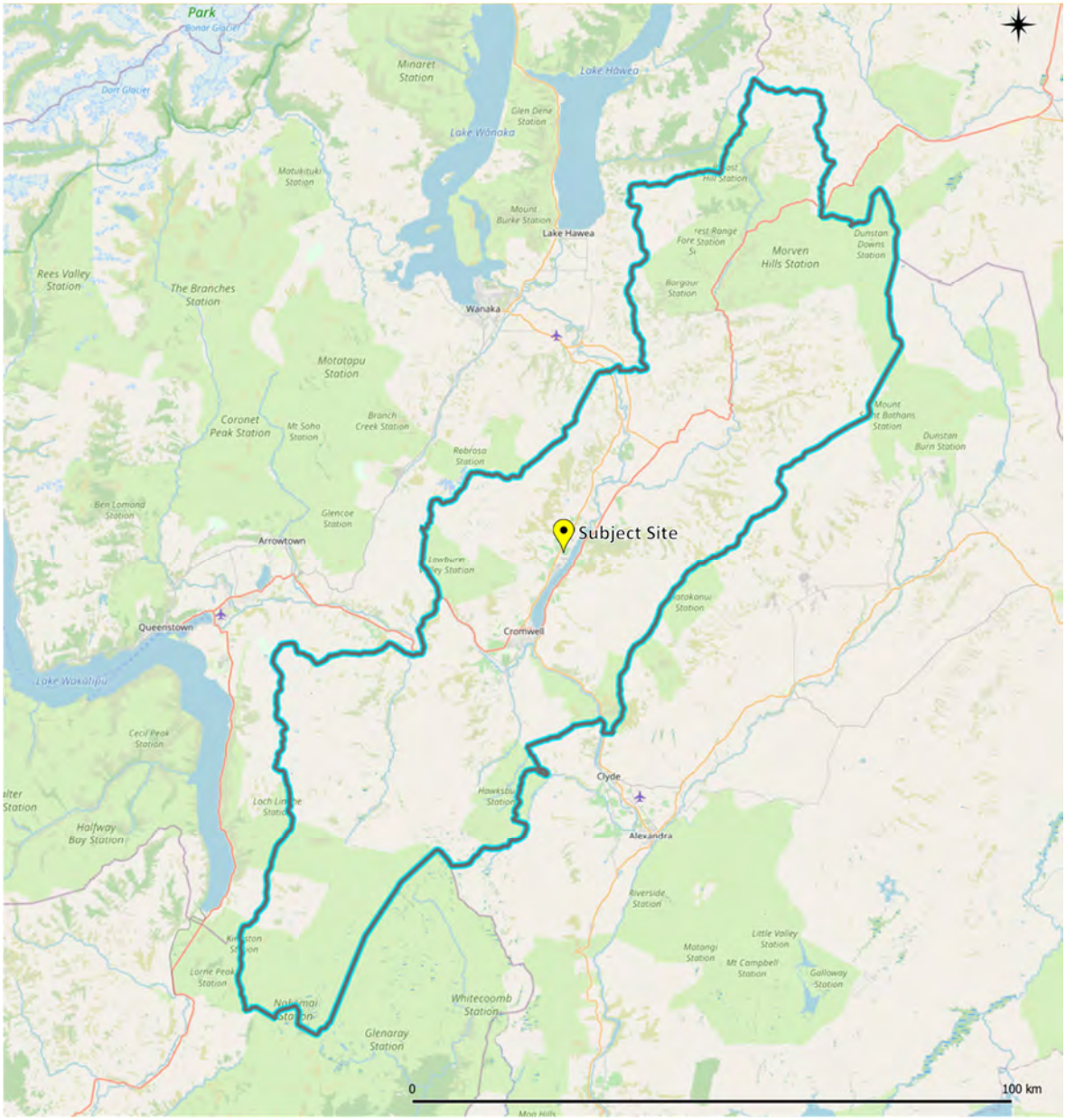
- Delineation of the urban area;
- Hub and spoke framework;
- Accommodation of most new residential growth on greenfield sites; and
- Recognition of other settlements within the Cromwell Basin as forming part of the Cromwell urban area, and articulation of responses specific to each settlement – in relation to Pisa Moorings clear delineation of the extent of the settlement in recognition of the presence of the quarry areas to the north, and support of infill housing.

5. Study Area

5.1. Map and Description

We delineated a study area for the assessment, within which the key economic effects of the proposal will (mostly) be felt. It was derived by first identifying a "long list" of nearby towns/areas and filtering them to reflect statistical boundaries, travel times/distances, the strength of commuting flows with Cromwell, and demographic and housing stock similarities. The blue and grey outline in the map below presents the resulting area, which equals the Cromwell Ward.[2]

Figure 3: Study Area Used in this Assessment



[2] The Cromwell ward, in turn, conveniently maps to three statistical areas (Cromwell West, Cromwell West, and Lindis- Nevis Valley), which allowed us to readily summarise key statistical information, as set out in subsequent sections of this report.

5.2. Demographic Summary

We used Census 2018 data to profile study area residents and dwellings. Overall, they reflect the district/regional averages. However, compared to the rest of the district, study area residents:

- Live in slightly larger households (3.14 people vs 3.09).
- Are slightly younger (with only 19% aged 65 or older compared to 25% elsewhere).
- Are more likely to be partnered.
- Are more likely to be in full time employment (60% vs 50%).
- Earn higher personal incomes (18% earn at least $70,000 vs 13%.
- Are more likely to rent their home (29% vs 24%).
- Own slightly more motor vehicles.
- Have lived at their current residence for a shorter average period, and
- Pay significantly higher average rents.

5.3. Population Projections

Next, we used Statistics New Zealand's latest population projections to review likely study area population growth to 2048. These projections are shown in the table and chart below, with the chart overlaid by Statistics New Zealand's official population projections to 30 June 2021. As we can see, the population in 2021 was well above even Statistics New Zealand's high growth scenario.

Figure 4: Statistics New Zealand Study Area Population Projections vs Official Estimates to 30 June 2021

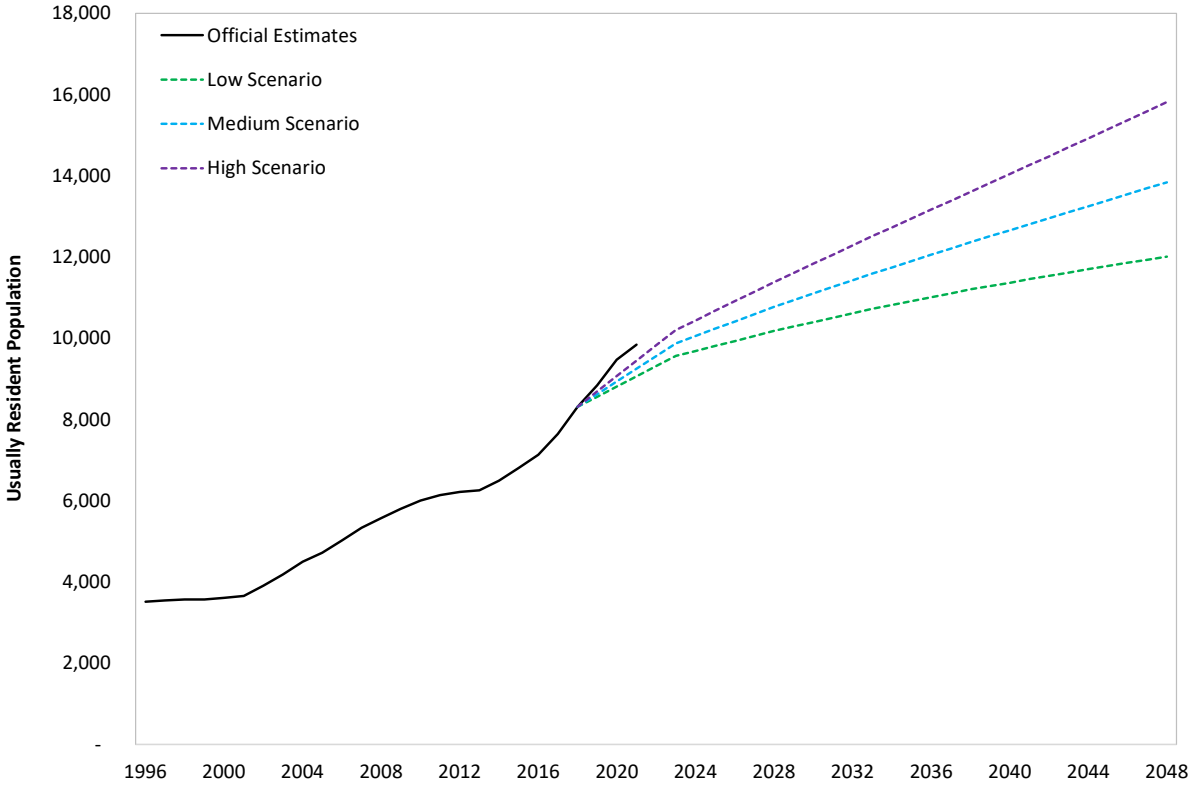


Table 1: Statistics New Zealand Study Area Population Projections

Year	Low	Medium	High
2018	8,310	8,310	8,310
2023	9,560	9,870	10,200
2028	10,180	10,770	11,380
2033	10,720	11,590	12,510
2038	11,200	12,360	13,600
2043	11,620	13,100	14,700
2048	12,010	13,840	15,810
30-yr change	**3,700**	**5,530**	**7,500**
30-yr % change	45%	67%	90%
CAGR	**1.2%**	**1.7%**	**2.2%**

5.4. Projected Dwelling demand

As shown just above, the study area's estimated population in June 2021 was well above Statistics New Zealand's three official projections (low, medium, and high). Accordingly, we adopted the Stats NZ high population projection as our most likely population scenario, and converted it to the number of future occupied homes based on projected future household sizes.

Then, we added a buffer to account for second homes and short-term rentals, because Census 2018 showed that 20% of dwellings were unoccupied at the time. This is assumed to gradually fall to 15% over the longer term as demand from permanent residents is presumed to dominate[3]. The table below shows our resulting projections of study area dwelling demand to 2048, including a 15% buffer for the 30-year change, as required by the NPSUD.

Table 2: Dwelling Demand Projections for the Study Area to 2048

Year	Permanently Occupied Dwellings	Holiday/Second Homes	Total Dwelling Demand
2018	3,390	850	4,240
2023	4,160	990	5,150
2028	4,640	1,040	5,680
2033	5,110	1,080	6,190
2038	5,550	1,110	6,660
2043	6,000	1,130	7,130
2048	6,450	1,140	7,590
30-yr change	**3,060**	**290**	**3,350**
Incl. NPSUD buffer	**3,520**	**330**	**3,850**

In short, we estimate study area dwelling demand in the study area will grow from about 4,240 in 2018 to nearly 7,600 in 2048. This represents the need for an additional 3,350 dwellings over the 30 years to 2048, or 3,850 including the 15% NPSUD competitiveness margin.

[3] This is simply a working assumption that reduces future dwelling demand compared to assuming that second and holiday homes will remain 20% of total demand over time.

5.5. Building Consent Trends

We analysed building consent data over the last 30 years to assess trends in the volume, types, and sizes of new dwellings constructed in the study area over time. To begin, Figure 5 first shows the number of new dwellings consented each year by type.

Figure 5: Number of New Dwellings Consented

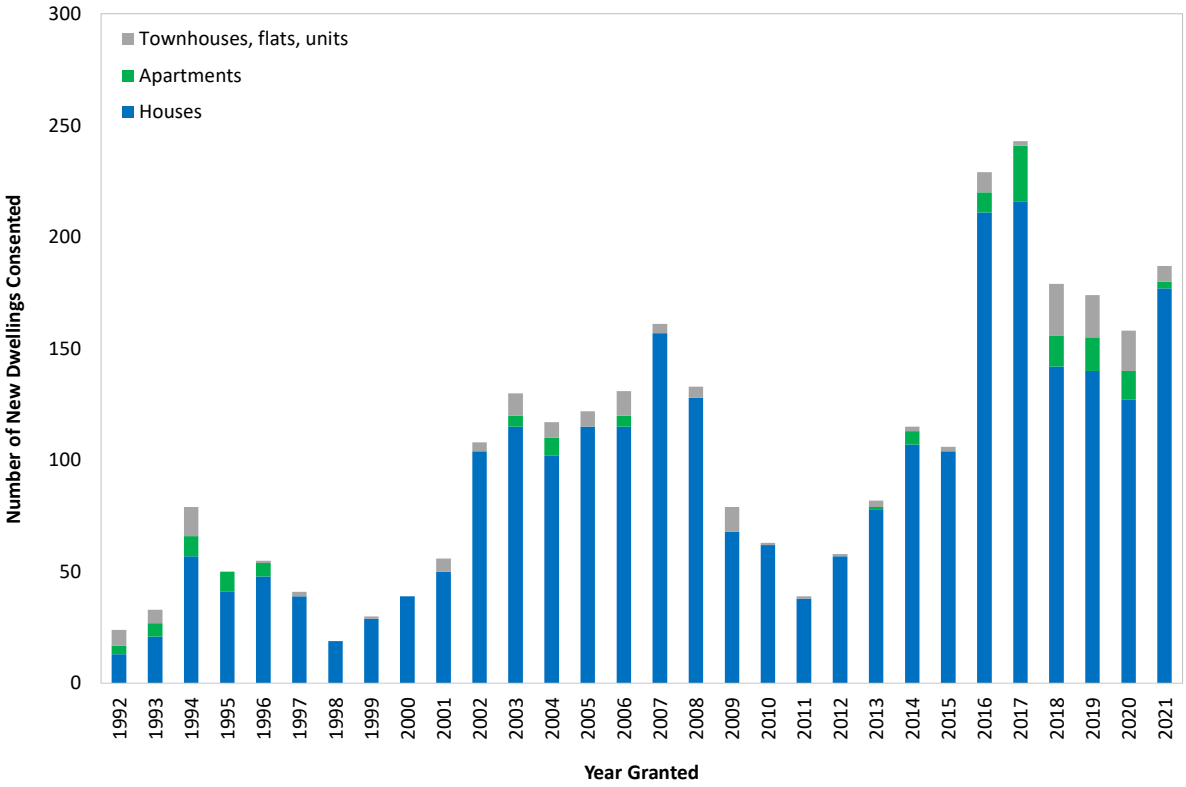


Figure 5 shows that consent volumes have moved in cycles over the last 30 years, with stand-alone houses the most popular typology. In addition, Figure 5 shows that consents have been sustained at notably higher levels for the past six years, with an average of 195 per annum, compared to less than 80 per annum for the 24 years prior. Further, while attached dwellings have become slightly more popular in recent years, stand-alone houses are still the most common by far, accounting for nearly 90% of all new dwelling consented in the study area over the last 30 years.

5.6. Dwelling Price and Rental Trends

Finally, we compiled and reviewed information on study area dwelling prices and rental values using data published by the Ministry of Housing and Development (MHUD) under the NPSUD. To begin, Figure 6 shows the trends in median study area dwelling prices, which have increased from $90,000 in 1993 to nearly $800,000 by the end of 2021. This represents a compound annual growth rate of 8.1%.

Figure 6: Study Area Median Dwelling Sales Price

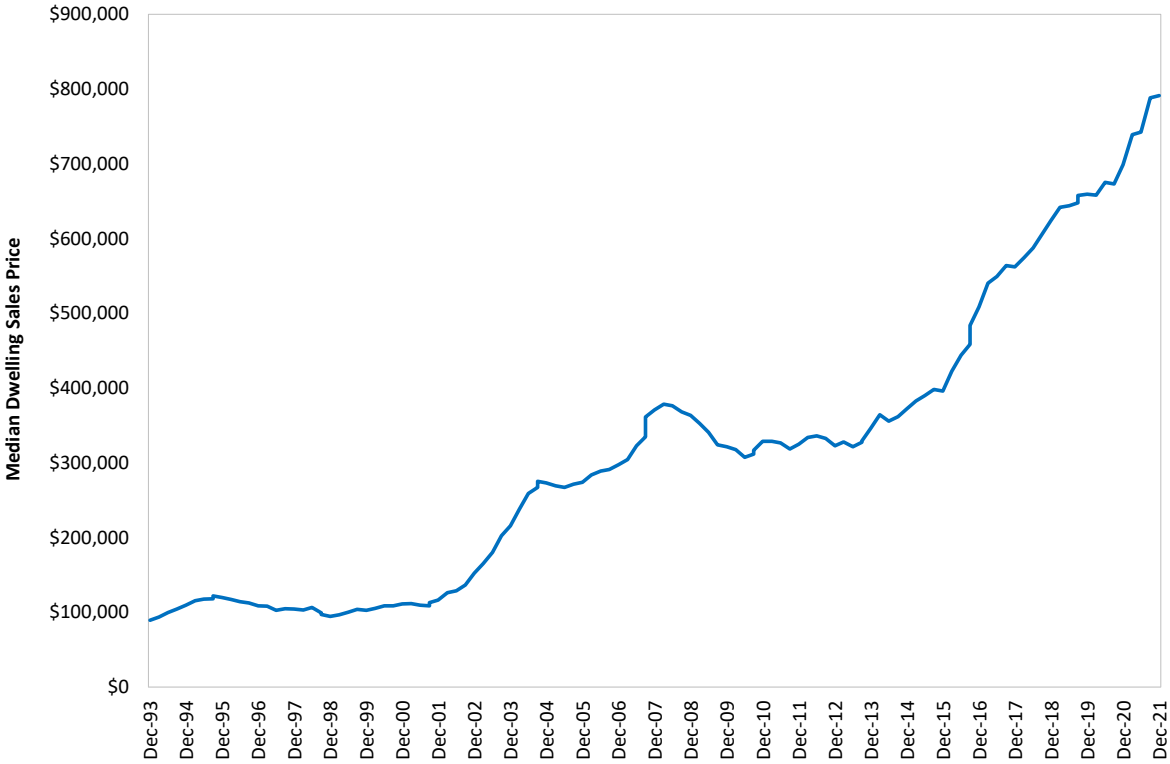
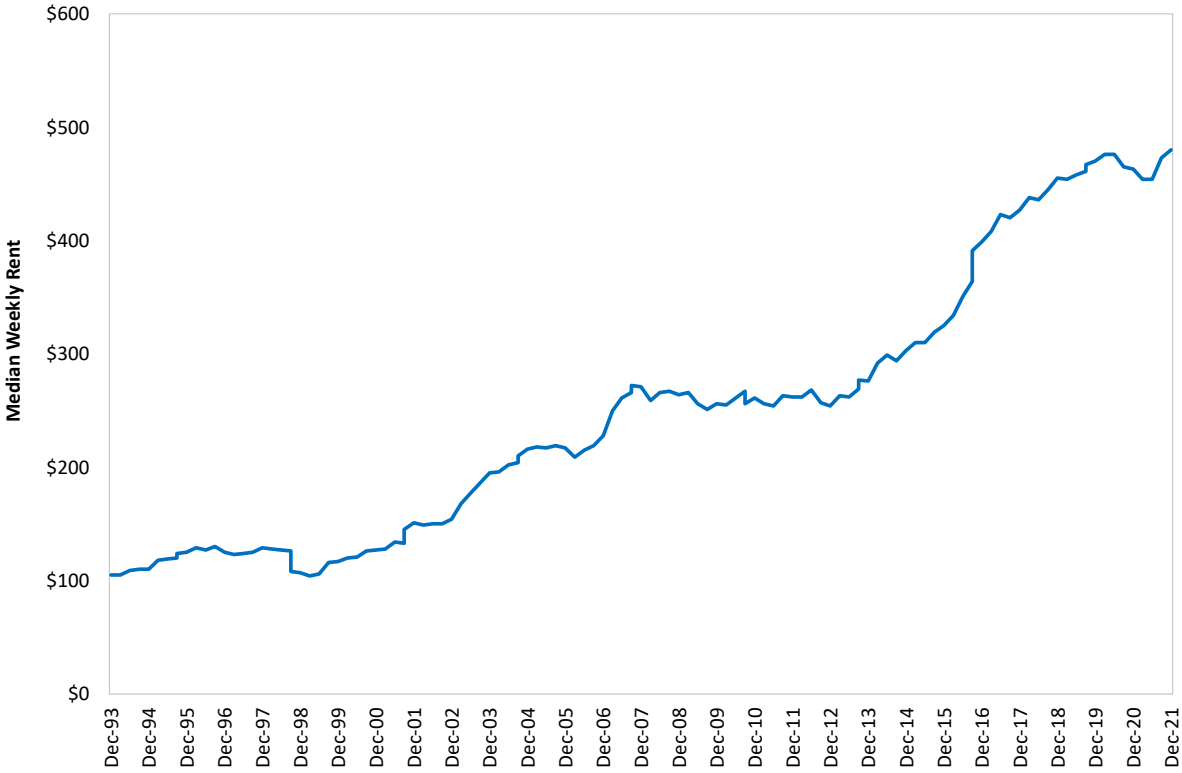


Figure 7 shows that median weekly rents are also increasing, but not as quickly as prices. Specifically, the median weekly study area rent has risen from $105 in 1993 to $480 in 2021, a compound annual growth rate of 5.6%.

Figure 7: Study Area Median Weekly Rents



6. Need for The Plan Change Under the NPSUD

This section assesses the need for the plan change according to the National Policy Statement on Urban Development (NPSUD).

6.1. Context

As noted earlier, the NPSUD does not strictly apply to the district as it does not yet contain an urban environment of at least 10,000 people. However, as also mentioned earlier, this threshold is expected to be met in the foreseeable future, and recent Council reporting on housing capacity – which we review below – also acknowledges the need to plan for growth in line with the NPSUD's predecessor (the NPSUDC). Accordingly, this section considers the need for the plan change according to the guidance of the two national policy statements (i.e. the NPSUPDC and NPSUD).

6.2. 2018 Cromwell Housing and Business Capacity Assessment (HBCA)

In December 2018, Rationale published a report[4] that estimated the feasible capacity for additional dwellings in the Cromwell Ward, which matches our study area, the outputs of which informed the Cromwell 2050 Spatial plan (as discussed in section 4.2). It acknowledges the requirements of the NPSUDC – which was in effect at the time – and brings together a variety of useful information on local dwelling capacity. It assesses the potential capacity for accommodating additional dwellings under four options, and concludes that the Operative District Plan has sufficient capacity to meet projected future demand if 80% of plan-enabled capacity is feasible for development.

While the HBCA may imply that there is no need for the proposed development assessed herein, we consider that report fundamentally flawed for several reasons (some of which are openly acknowledged in the report itself). Below we work through these issues before recalculating the likely sufficiency of the district's residential capacity to determine the need for the proposal – and others like it – under the NPSUD.

6.3. Demand Projections are Too Low

In 2021, Statistics New Zealand released its latest sub-district population projections, which provide fine-grained (SA2-level) projections of the resident population under three scenarios (low, medium, and high). In addition, Statistics New Zealand publish official estimates of the resident population as at 30 June each year. According to both datasets, the demand projections adopted in the HBCA are far too low.

For example, according to figure 13 on page 15 of the HBCA, Rationale projected the Cromwell ward's population to reach only 8,650 people by 2023. However, according to Statistics New Zealand's official population estimates, that number was already exceeded in 2019. Further, the HBCA projects the ward's population to reach only 12,150 people by 2018, compared to more

[4] Rationale. *Cromwell Housing and Business Capacity Assessment*. December 2018.

than 15,000 in Statistics New Zealand's latest high projection (which is currently being exceeded by a notable margin).

To make matters worse, the Rationale projections do not appear to make any allowance for growth in the number of second/holiday homes, and instead focus only on changes in the number of permanently occupied dwellings. Accordingly, we consider the Rationale projections to significantly understate the true future demand for living in the study area.

To clarify: we estimate in this report demand for an additional 3,850 dwellings to 2048 including the 15% NPSUD buffer, compared to only 3,050 in the HBCA. In other words, our projection is 26% higher than Rationale's to 2048.

6.4. Plan Enabled Capacity is Coarsely Measured

In addition to adopting demand projections that appear far too low, we also consider the methodology used to estimate plan enabled capacity estimated in the HBA highly simplistic. For example, section 3.5.2 of the HBCA describes the methodology for assessing plan enabled capacity as follows:

> "To assess the capacity for housing, the ratings database provides parcel data such as area, and this has been joined with district plan zoning data in GIS. The minimum allotment size for each parcel is then computed from the district plan to provide capacity information for each parcel. This provides the Plan Enabled Capacity (PEC) at a parcel level."

Having performed forensic reviews of the capacity assessments completed by numerous other Councils under the NPSUD, we can categorically state that this approach is too simplistic, and will invariably overstate the true level of plan enabled capacity.

To provide more accurate estimates, the values that fall out of Rationale's analysis – as described above – need to be subjected to several successive rounds of filtering to the capture the impacts of other planning rules, such as yard requirements, setbacks, building coverage ratios, recession planes, and so on. Only once all those various factors are incorporated can a realistic picture of plan enabled capacity emerge that accurately reflects the overall planning envelope created by the Operative or Proposed District Plan.

6.5. Infrastructure Constraints are Unclear

Another issue is the inclusion, or otherwise, of infrastructure constraints in the capacity estimates. For example, the diagram at the top of page 7 suggests that the estimated plan enabled capacity has been scaled to reflect infrastructure availability. However, this is contradicted by the definitions on page 2, which declares that the analysis assumes that land available for development is both plan-enabled, or expected to be enabled, and supported by public infrastructure.

Given that there is no separate reporting of plan-enabled and infrastructure-enabled capacity, and noting the definition above, we do not consider the analysis to properly reflect servicing constraints, which further overstates likely dwelling capacity.

6.6. Feasible Capacity is Significantly Overstated

Finally, and perhaps most importantly, the HBCA does not explicitly estimate the proportion of plan enabled capacity that is commercially feasible to develop, as is normally the case, and instead treats its so-called feasibility percentages as targets that need to be met to ensure sufficient capacity.

While we acknowledge that formal modelling of commercial feasibility on a parcel-by-parcel basis is complicated and time-consuming, the current approach is unusual, and will invariably overstate actual feasible capacity by several orders of magnitude.

For example, we recently reconciled the plan enabled and feasible capacity estimates of several other Councils in their latest capacity assessments and found that the feasible capacity was typically about 25% of the plan- and infrastructure-enabled capacity over the longer term. The shorter and medium term figures were lower to reflect lack of servicing and other issues that need to be

6.7. Feasible Capacity Does Not Equal Future Market Supply

Finally, we note that actual future market supply – which is ultimately tasked with meeting growth in demand over time – is often only a modest proportion of the estimated feasible capacity (as formally calculated on a parcel-by-parcel basis). Indeed, in practice, there are several reasons why some parcels with estimated feasible capacity will not actually form part of future market supply, particularly over the short to medium term. They include:

- *Developer intentions* – some landowners have no intention to develop their properties, either because they are happily occupying or renting them, nor do they plan to sell them to others with clear development aspirations.

- *Land banking and drip-feeding* – other landowners may intend to develop in future, but are currently withholding supply to capitalise on inevitable land price inflation, while some may be drip-feeding supply to squeeze land prices and hence maximise returns.

- *Tax implications* – greenfield landowners are liable for taxes on recent land value uplifts caused by rezoning. These taxes are greatest in the first year following the rezoning, but gradually diminish over time and then cease 10 years later. In some cases, efforts to avoid or minimise these taxes could cause land to be withheld from the market for up to a decade.

- *Site constraints* – the Council's estimates of likely supply appear to consider only infrastructure as a potential site constraint and therefore overlook other factors that affect developability, such as contamination or awkward site shape/topography.

- *Operational capacity* – some landowners face operational capacity constraints, which limit the number of new residential lots that they can supply per annum.

- *Financing* – similarly, some landowners face capital/financing constraints that also limit their ability to supply.

Once these various market factors are applied to the feasible capacity estimates that typically result from NPSUD-led modelling exercises, likely future market supply is often only a modest amount. Accordingly, any estimates of feasible capacity must be scaled-down significantly before reconciling them with projected dwelling demand to accurately identify likely shortfalls over time.

6.8. Implications for the Proposal

Despite the HBCA concluding that there will be sufficient demand to accommodate projected growth in dwelling demand over time, we strongly disagree. Not only are the demand projections too low, but the estimates of feasible capacity are also fatally flawed for the reasons outlined above. Accordingly, we consider that there is a strong and pressing need to identify and rezone additional land (in appropriate and well-considered locations) as soon as possible to avoid the inflationary effects of profound and prolonged shortfalls in actual market supply over time.

7. Housing Market Impacts

This section considers the likely housing market impacts of the proposal given the likely supply shortfalls identified in the previous section.

7.1. Boost in Market Supply

Perhaps somewhat obviously, the proposed plan change will provide a substantial, direct boost in the district's dwelling capacity, thereby helping to narrow the gap between likely future supply and demand. All other things being equal, this supply boost will help the market to be more responsive to growth in demand, thereby reducing the rate at which district house prices grow over time (relative to the status quo).

Even prior to recent surges in house prices, district housing had started to become relatively unaffordable. For example, the latest affordability report by Core Logic (as at December 2020) showed that the median house price was nearly six times the median household income. By comparison, the benchmark for affordability is a ratio of only three.

In addition, the latest Core Logic report showed that it takes about 7.7 years to save the deposit for a new home in Selwyn. Thus, not only are house prices themselves increasingly unaffordable, but even the task of saving the deposit for a new home is an onerous task that is staring to become well beyond the reach of many households.

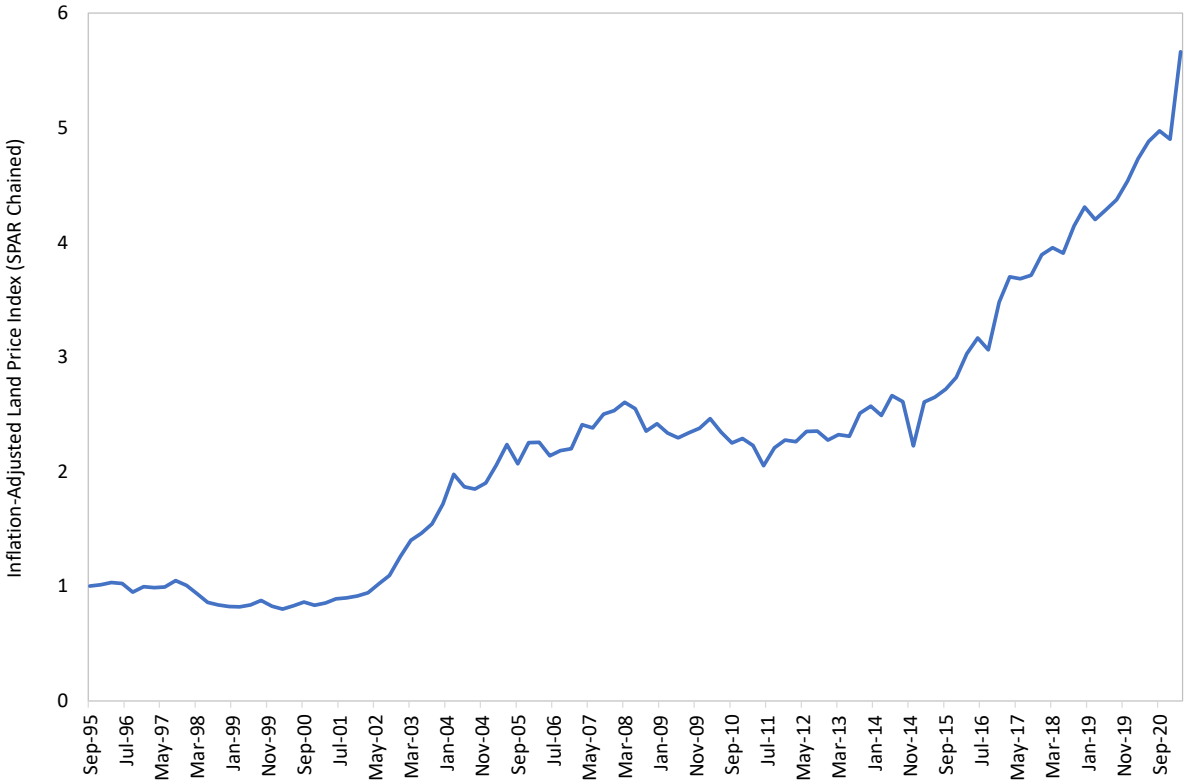
The plan change directly responds to this need for additional dwelling capacity by enabling the development of approximately 450 new homes over time. In our view, and from an economic perspective, this represents a highly significant boost in supply. In terms of the NPSUD, we believe that the provision of 450 master-planned dwellings on the subject site would also be deemed as significant under clause 3.8 (which relates to unanticipated or out-of-sequence plan changes like the proposal).

Overall, the proposal will provide a significant boost in dwelling supply by a well-resourced and highly experienced developer with a strong track record of delivering major new housing areas across New Zealand

7.2. Land Market Competition

While the recent growth in Central Otago's house prices reflects many factors, including strong population growth and low interest rates, land shortages – and hence escalating land prices – are also a leading cause. This is captured in a metric called the dwelling land price SPAR index, which adjusts land prices to reflect differences in section attributes to provide a consistent basis for tracking land values over time. Figure 8 plots this index, which shows that Central Otago residential land values have increased considerably since 1995 (with a CAGR of 7.2%.)

Figure 8: Central Otago District Dwelling Land Price Index (SPAR)

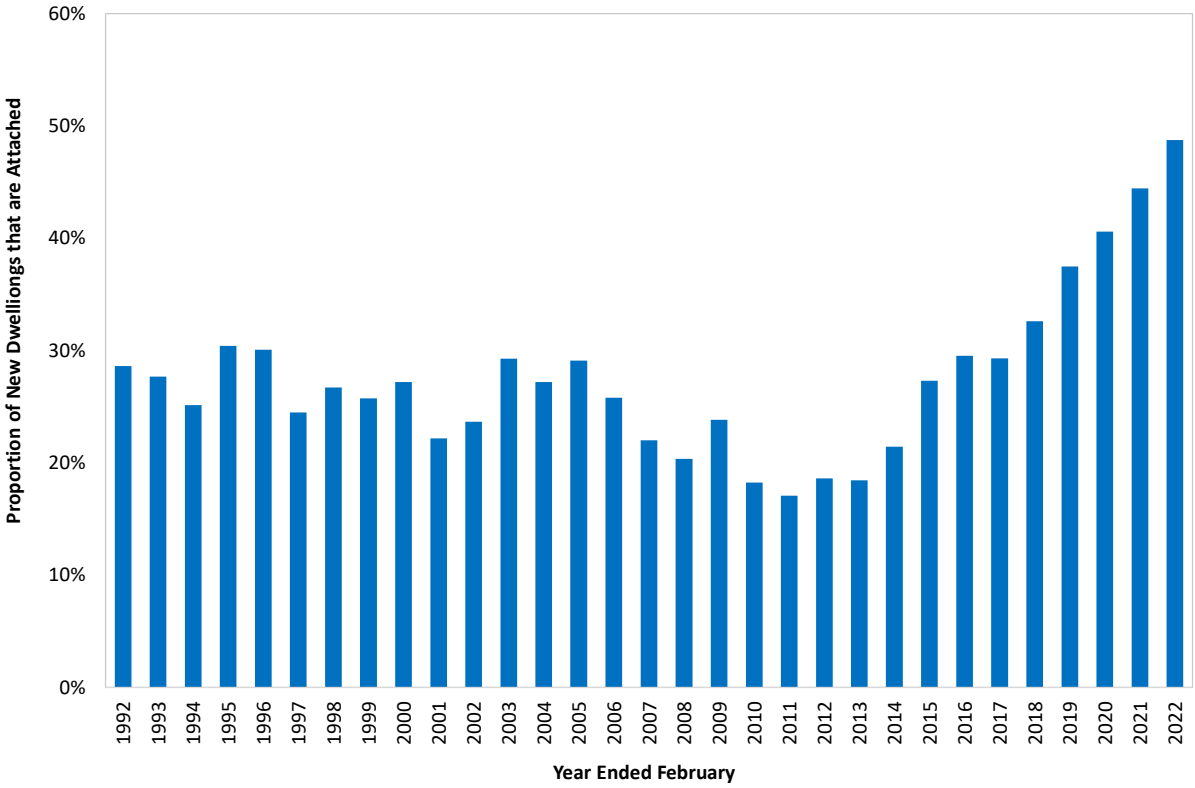


Not only have land prices trended up strongly over the last 25 to 30 years, as per the chart above, but recent price growth has been at alarming rates. For instance, in the last quarter of the graph above, dwelling land prices grew 15%. This is highly unsustainable, and is likely to be symptomatic of an acute undersupply.

7.3. Improved Dwelling Choice

Although study area building consent data reveal a clear historic preference for detached dwellings, nationally there has been a dramatic shift towards smaller attached dwellings. This is demonstrated in the figure below, which plots the proportion of new dwellings consented nationally that were attached, which includes apartments, retirement village units, and flats/townhouses.

Figure 9: Attached Dwellings as a Share of Total New Dwellings Consented Each Year in NZ



The proposal acknowledges this booming national trend towards other housing typologies by enabling them across various parts of the proposed development. For example, comprehensive residential development is proposed in the centre of the site, with apartments envisaged near the marina and lake edge. This will provide new housing choices for the existing and future population, which will become increasingly important as house prices continue to grow. Indeed, with recent dwelling price exceeding income growth by a significant margin, the resulting affordability squeeze will invariably help to focus attention on more affordable housing options, such as attached dwellings.

Overall, greater housing choice will help attract and retain a more diverse local population and generate enduring community and social benefits. In addition, the provision of more compact/attached dwellings may help attract people from nearby areas, such as Queenstown and Wanaka, who may have been priced-out of their respective areas.

In addition to enabling prospective buyers to purchase dwellings at more affordable prices, the provision of smaller/attached housing options will also have broader economic benefits. In short, by providing more affordable dwellings, future owners and occupants of Junction Terraces will be able to spend less on weekly rent or mortgage payments than they would have otherwise, which will boost their future disposable household incomes. With a significant proportion of that extra money likely to be spent locally, lower future dwelling prices (relative to the status quo) will also create additional economic stimulus for the wider benefit of the local area through increased household spending over time.

7.4. Meeting the Needs of An Evolving Population

Cromwell's population, like most of New Zealand, is changing. People are getting older, and households are getting smaller. However, Cromwell's existing dwelling stock is mostly standalone dwellings on quite large sections. Over time, as the population continues to age and household sizes shrink, these existing dwellings are unlikely to best meet future needs. Indeed, according ot the latest Statistics New Zealand projections, the number of people aged 65 or older will grow three times faster than the rest of the population.

The proposal, again, acknowledges and directly responds to this apparent gap in the market by enabling higher density development to occur on much smaller sections than have previously been provided. These smaller sections, in turn, will improve affordability by reducing land costs. Also, by enabling more intensive use of that land, as measured by the floorspace ratio, more floorspace can be provided per square metre of land. Again, this will improve the overall affordability of new dwellings in Cromwell while also providing a greater range of dwelling types to meet changing needs.

8. Commercial/Retail Market Assessment

This section considers potential adverse effects of the proposal's commercial/retail elements on nearby commercial areas.

8.1. Steps in the Analysis

Following are the key steps in the analysis:

1. Summarise the proposal's commercial/retail provisions;
2. Project current/future local retail demand for context;
3. Identify nearby centres that may be affected;
4. Profile the role, function, health, and vitality of those nearby centres;
5. Consider the likely impacts of the proposal; and
6. Summarise and conclude.

We now work through each step below.

8.2. Plan Change Commercial/Retail Provisions

The proposed plan change includes a small commercial area near the new inlet, which is expected to span about 1,800m^2 of GFA. While rules around potential uses of this proposed floorspace are still being refined, we expect it to accommodate convenience retail shops and commercial services providers, such as a dairy, hairdressers, and a café.

8.3. Centres Most Likely to be Affected

We now identify existing centres near the subject site that may be affected by the proposed commercial activity. To that end, Table 3 below summarises the driving distances and times to various nearby areas with a commercial presence (assuming off-peak driving conditions).

Table 3: Drive Times/Distances from Subject Site to Nearby Centres

Commercial Area	Driving Distance (km)	Drive time (mins)
Cromwell	12	11
Clyde	35	26
Alexandra	43	32
Queenstown	69	58
Wanaka	43	32

Table 3 confirms that the subject site is much closer to the Cromwell Town Centre (CTC) than any other commercial area, and hence that it is far more likely to experience any possible adverse effects arising. Accordingly, we focus only on the potential impacts of the proposal on the CTC in the rest of this section.

8.4. Role, Function, Health & Vitality of Affected Centre

To understand the current role and function of the CTC, we used Property Guru to extract property-level information for the various parcels that comprise it. The table below summarises this information by the CTC's two main precincts – mixed use and big box retail.

Table 4: Property Guru Data for Cromwell Town Centre

Commercial Mixed-Use Precinct	**Properties**	**Land Area m²**	**GFA m²**
Commercial	1	225	210
Medical and Allied	1	125	80
Multi-use within Commercial	5	23,420	4,165
Offices	8	1,640	1,380
Parking	1	19,760	0
Public Communal - Unlicensed	1	255	195
Retail	33	8,965	7,260
Services	5	1,485	2,240
Vacant Commercial	1	80	0
Water Supply	1	0	40
Commercial Big Box Retail Precinct			
Engineering, Metalworking, Appliances et	2	4,300	1,040
Religious	1	7,440	1,255
Retail	8	40,590	11,280
Services	1	930	115
Single Unit excluding Bach	1	4,225	1,780
Vacant Commercial	2	3,865	0
Vacant Recreational	1	160	0
Town Centre Total	**73**	**117,450**	**31,045**

Table 4 reveals that the town centre spans nearly 12 hectares of developed (or developable) land across 73 parcels, and that it currently contains more than 31,000m2 of GFA across a range of land uses. Overall, these data suggest that the town centre performs a variety of roles and functions for the current residential population, and is not just a shopping destination. Even more importantly, this information shows that the town centre is about 17 times larger than the proposed commercial area at the subject site, which dramatically curtails its potential for adverse distributional effects.

While it is often difficult to assess the current health and vitality of commercial areas, particularly via a desktop study like this, the prevailing vacancy rate is a useful indicator. According to a Property Guru search on 28 April 2022, there was only one vacant tenancy across the CTC's two precincts, which spanned 440m^2 of GFA.[5] This equates to only 1 out of 73 land parcels (1.4%), and a similar proportion of the centre's total GFA. This is a very low vacancy rate, and suggests that the township is likely to be performing well given its overall role and function, and well placed to absorb any minor competitive effects of the proposed new commercial area.

[5] Located at 1 The Mall, Cromwell

Next, we used a combination of Google Streetview and Google Maps data to identify the current tenant mix in the CTC, as summarised in the table below. This further confirms that the CTC comprises a wide range of tenancies and is therefore likely to be healthy and vital.

Table 5: Google Audit of Current Town Centre Tenants

Industry	Business
Retail	Stirling Sports Cromwell Hospice Shop Jay Jays Cromwell Paper Plus Cromwell Envisage Cromwell Alley Barber Campbell and Gaston Motors Mays One Stop Shop Bike it Now Subway
Services	Cromwell Public Library Cromwell Medical Centre Cromwell Pharmacy Cromwell Z Station ChargeNet Charging Station Cromwell Public Toilets Firestone Cromwell Cooke Howlison Holden Paterson Pitts Group Macalister Todd & Phillips Law Checketts McKay Law Limited Radiance Day Spa La Touch Face & Body Bayleys Cromwell SBS Bank ANZ Bank
Council & Community	Cromwell Museum Central Otago Council Cromwell Community House
Recreation	Mayfair Swimming Pools Cromwell Mini Golf
Food and Beverage	Cromwell Brew House Fusee Rouge Café The Kitchen Cromwell Thai Crom Three Amigos Monsoon Restaurant and Bar The Fridge Butchery and Deli Organic Thai 2Go
Accommodation	Cromwell Backpackers

8.5. Likely Impacts of Proposal

The commercial centre within the proposed subject site is 17 times smaller than the CTC, which appears to be doing well in any case. Further, because the proposal's commercial area will be

matched by a significant increase in retail spending by future residents of the development, the increase in commercial floorspace supply will be more than offset by the corresponding increase in demand. As a result, excess demand created onsite – over and above onsite spending – will create significant additional commercial support for other nearby commercial areas, principally the CTC.

Accordingly, and noting the high threshold for trade impacts to be deemed significant retail distribution effects, we consider the proposal's commercial elements extremely unlikely to exert any adverse effects on the CTC.

9. Impacts of Foregone Quarry Production

This section considers the economic costs of foregone quarry production if the proposal proceeds.

9.1. Description of Existing Quarry Activities

Parkburn quarry began operations in 1985, and produces a combination of roading aggregates, plus aggregates used to create concrete. Approximately 325,000 tonnes of aggregate are produced annually. Concrete production is also done onsite by two other firms – Allied and Firth – who lease land from Fulton Hogan and operate their own equipment. In addition, the site is used for crushing about 1000 tonnes of recycled glass each year, with CODC constructing a glass processing facility onsite last year. The outputs of that process – i.e. crushed glass – are used for a variety of purposes, including as roading and draining aggregates. This activity will continue indefinitely.

Despite producing more than 1,000 tonnes of aggregate per working day (assuming a 6-day working week), the quarry employs only 12 FTEs, and pays them an annual salary of only about $1 million. This reflects the capital-intensive nature of quarrying, which has relatively minimal labour requirements.

9.2. Remaining Useful Life

We understand that the quarry has about 30 to 40 years of remaining useful life at current extraction rates. If it is feasible to quarry below lake levels, production may be able to extend beyond this period, but it would result in a large pond that would complicate any efforts at remediation once quarrying ends.

9.3. Impacts of Proposal

If the proposal proceeds, quarrying will continue for the next 7 to 10 years until all the necessary consents are in place, and land development activities can commence to prepare the site for building development. At that point, quarry operations will cease, and 12 FTEs will be lost along with their annual wage bill of approximately $1 million.

In addition, and more importantly, the loss of quarry production could have adverse effects on the various industries that depend on its outputs to enable their own activities. These include building developers and infrastructure providers. However, Fulton Hogan also inform us that remaining quarries in the area have sufficient capacity to keep supplying local customers at current (or required future) levels even if Parkburn shuts down. Consequently, the main economic impacts of the proposal are the loss of 12 FTEs and their annual wages.

10. Overall Costs and Benefits

This section summarises the overall costs and benefits of the proposal.

10.1. Costs

The main economic costs of the proposal relative to the counterfactual – where quarrying continues for a further 30 to 40 years – are:

- Foregone quarry production; and
- Potential adverse distributional impact on the Cromwell town centre.

However, overall, these are not expected to be significant or enduring. For example, while foregone quarry production will see the loss of 12 FTE jobs, some of these will likely be transferred to other regional quarries, where production will likely to increase to offset the eventual loss of supply from Parkburn. In addition, impacts on the CTC are expected to be immaterial, with the proposed commercial area at the subject site being 17 times smaller and focussed on just meeting the day to day needs of residents, including those of the adjacent Pisa Moorings development.

10.2. Benefits

The key economic benefits of the proposal, again relative to the counterfactual, are:

- A significant boost in future housing supply
- Greater district retail and employment self-sufficiency
- Achieving the objective of the RMA and the NPSUD by putting land to its highest and best use while meeting ongoing growth in dwelling demand over time
- Public amenity benefits via the provision of public open spaces
- One off economic impacts of construction, and
- Greater local spending supporting greater commercial activity across the study area

Overall, we consider these economic benefits to be highly significant, particularly given the scale of the development relative to future housing needs and the high probability of a significant housing supply shortfall absent it. In addition, the economic stimulus of preparing the land for development and then constructing the 450 or so dwelling that will populate it, will create hundreds of jobs for district workers and provide a significant boost in disposable incomes, which will then provide additional demand for a range of local goods and services.

10.3. Overall Net Impact

For the reasons set out above and analysed herein, we consider the proposal to generate significant and enduring economic benefits over the likely alternative use of the site absent it. Accordingly, we support the proposed plan change on economic grounds.

Appendix [E]

Assessment of the relevant provisions of the National Policy Statements

National Policy Statement for Urban Development 2020

Provision Number	Provision Description	Option A	Option B
Part 2.1: Objectives			
Objective 1	New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.	The retention of the land as Rural does not give effect to this objective.	The location of the site forms a logical extension to the existing residential/urban environment in which it sits. I therefore consider the re-zoning better responds to Objective 1 compared with the status quo.
Objective 2	Planning decisions improve housing affordability by supporting competitive land and development markets.	The retention of the land as Rural does not give effect to this objective.	Objective 2 seeks to “improve” housing affordability which is further informed by Policy 1(a) which, “as a minimum”, requires territorial authorities to enable a variety of homes that meet the needs, in terms of type, price, and location that meets the demand of different households. While Council may consider they are providing for development capacity (in terms of meeting population demand) through the up-zoning of existing residential sites to Medium Density Residential, this fails to take account the “variety of homes” that meet the needs, prices and location of different households. Cromwell has a significant population that are attracted to the region for various recreational purposes including motorsport racing, boating and cycling. The necessitates the need for larger residential sites which can accommodate suitable storage for these

			activities which is not provided for by the small and intensive scale of the MRZ. Through unlocking the subject site for residential development of a larger density, enables Council to meet their obligations in providing for a range of housing types. Sufficient supply of land will support competitive land markets. I consider Option B better responds to this Objective.
Objective 3	Regional policy statements and district plans enable more people to live in, and more businesses and community services to be located in, areas of an urban environment in which one or more of the following apply: (a) the area is in or near a centre zone or other area with many employment opportunities (b) the area is well-serviced by existing or planned public transport (c) there is high demand for housing or for business land in the area, relative to other areas within the urban environment.	The retention of the land as Rural does not give effect to this objective.	A comprehensive analysis of the RPS and District Plan is included in the wider evaluation of this Plan Change. In terms of point (a), the subject site represents a logical and more efficient use of the land compared to the status quo recognising the site's location on the periphery of the existing urban area. In terms of item (b), the site can be efficiently serviced to Council's infrastructure given the proximity to the existing network. In terms of item (c), there has been no evaluation on the growth of Lowburn and therefore it is not possible to determine the "high demand" aspect. However, based on the submitter's experience in terms of the uptake of the earlier stages of Lowburn Terraces, it is anticipated that the demand for larger residential allotments will be realised. I consider Option B is superior than that of Option A.
Objective 4	New Zealand's urban environments, including their	The retention of the land as Rural does not give effect to this objective.	Option B would result in a change to the site that would reflect the current density, amenity

	amenity values, develop and change over time in response to the diverse and changing needs of people, communities, and future generations.		and character of the Lowburn township as it appears today. This option has the added benefit of ensuring land is made available to respond to the diverse and changing needs of the community and future generations. I consider Option B superior than that of Option A which effectively precludes any ability to respond to the changing needs of the community, over time.
Objective 5	Planning decisions relating to urban environments, and FDSs, take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).	PC19 in terms of the public participatory process, enables engagement with Iwi to consider the submission raised. No submission has been received in relation to the relief sought. All development on the site irrespective of the Zone that applies will require consideration of effects on the environment which would equally be of relevant in considering Kāi Tahu values and interests	
Objective 6	Local authority decisions on urban development that affect urban environments are: (a) integrated with infrastructure planning and funding decisions; and (b) strategic over the medium term and long term; and (c) responsive, particularly in relation to proposals that would supply significant development capacity.	Retention of the site may lead to ad-hoc growth through resource consents. Such an approach has the risk of disrupting the sustainable management of infrastructure.	In terms of point a), the rezoning would facilitate the integrated management and funding decisions for servicing for Lowburn. In terms of b), the rezoning represents forward thinking in providing for growth within Lowburn over the medium and long term. In terms of c), the key emphasis here is providing “significant development capacity”. I consider that the use of the land has been identified as being better suited for residential and therefore Council should seek to take advantage of the opportunity to provide for significant development capacity. I consider Option B better responds to this objective.
Objective 7	Local authorities have robust and frequently updated information about their urban	Not particularly pertinent to this application.	

	environments and use it to inform planning decisions.	
Objective 8	New Zealand's urban environments: (a) support reductions in greenhouse gas emissions; and (b) are resilient to the current and future effects of climate change	I am not convinced that either option would effectively "support" the reduction in greenhouse gas emissions. However, re-zoning the site would consolidate urban growth within close proximity to existing urban areas. This can in effect contribute, in a very small way, to reducing emissions.
Part 2.2: Policies		
Policy 1	Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum: (a) have or enable a variety of homes that: (i) meet the needs, in terms of type, price, and location, of different households; and (ii) enable Māori to express their cultural traditions and norms; and (b) have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and (c) have good accessibility for all people between housing, jobs, community services,	While Council may consider they are providing for development capacity through the up-zoning of existing residential sites to Medium Density Residential, this fails to take account the "variety of homes" that meet the needs, prices and location of different households. Cromwell has a significant population that are attracted to the region for various recreational purposes including racing, boating and cycling. The provision of larger residential sites which can accommodate suitable storage for these activities is an essential necessity which is not provided for by the small and intensive scale of the MRZ. I consider the re-zoning will provide for supply on land which is otherwise underutilised. The supply and availability may potentially contribute to affordability. I consider that Option B better responds to this Policy compared with the status quo (Option A).

	natural spaces, and open spaces, including by way of public or active transport; and (d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and (e) support reductions in greenhouse gas emissions; and (f) are resilient to the likely current and future effects of climate change.		
Policy 2	Tier 1, 2, and 3 local authorities, at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term, and long term.	The retention of the land as Rural does not give effect to this Policy.	PC19 seeks to respond to growth over a 30 year period. The s32 and s42A assessments consider that the demand can be accommodated through the existing PC19 framework. I consider that this consideration does not take account a number of pertinent points: • Upzoned residential properties within Cromwell does not automatically infer they will be developed to the maximum density permitted. Under the current framework, the Residential Resource Area is relatively generous as it is by anticipating development down to 250m2. This has largely not been taken up over the life of the plan and therefore I am not convinced upzoning will see a surge in redevelopment. As such, I think that PC19 will not realise the yield as early as is being suggested. The re-

			zoning of the subject site, which is considered appropriate and more suitable for residential activities, can provide the necessary relief, in the short to medium term (inside 10 years as defined by the NPS-UD). • The provision of extending the LLRZ(P2) affords an alternative offering in terms of allotment sizes to cater for a different demand to what might be sought in the LRZ and MRZ Zones. I consider Option B better responds to this policy.
Policy 3	Only applies to tier 1	n/a	
Policy 4	Only applies to tier 1		
Policy 5	Regional policy statements and district plans applying to tier 2 and 3 urban environments enable heights and density of urban form commensurate with the greater of: the level of accessibility by existing or planned active or public transport to a range of commercial activities and community services; or relative demand for housing and business use in that location.	The retention of the land as Rural does not give effect to this policy.	The LLRZ(P2) zone which is promoted for the site is commensurate to the current character and amenity for Lowburn. It maintains the predominantly low density and large lot sizes and is therefore the most appropriate zone in this regard. I consider Option B responds to this policy.
Policy 6	When making planning decisions that affect urban environments, decision-makers have particular regard to the following matters:	While the current land use and zone affords some amenity, this does not outweigh the benefits of urban development. I consider Option B is a superior alternative in this regard.	As above, the LLRZ(P2) zone which is promoted for the site is commensurate to the current character and amenity for Lowburn. It maintains the predominantly low density and open space character and is therefore the

	a) the planned urban built form anticipated by those RMA planning documents that have given effect to this National Policy Statement b) that the planned urban built form in those RMA planning documents may involve significant changes to an area, and those changes: (i) may detract from amenity values appreciated by some people but improve amenity values appreciated by other people, communities, and future generations, including by providing increased and varied housing densities and types; and (ii) are not, of themselves, an adverse effect c) the benefits of urban development that are consistent with well-functioning urban		most appropriate zone in this regard. This in turn will not detract from amenity values. Adverse effects associated with urban redevelopment can be appropriately mitigated through provisions of the LRZ zone and will not outweigh the benefits associated with the re-zone generally.

	environments (as described in Policy 1) d) any relevant contribution that will be made to meeting the requirements of this National Policy Statement to provide or realise development capacity e) the likely current and future effects of climate change.		
Policy 7	**n/a**	n/a	
Policy 8	Local authority decisions affecting urban environments are responsive to plan changes that would add significantly to development capacity and contribute to well functioning urban environments, even if the development capacity is: (a) unanticipated by RMA planning documents; or (b) out-of-sequence with planned land release.	This is a critical policy that requires Council to be receptive to plan changes that are "unanticipated" and "out-of-sequence" with planned releases. There is considerable variability in the expected growth for Cromwell albeit with the consistent variable being the substantial growth which is currently occurring in the region. As such, and recognising the evaluation undertaken for the site and its appropriateness for residential development, it is considered most appropriate to re-zone the land. This in turn will "add significantly to development capacity". I consider that Option B would better reflect the intent of this policy compared with the status quo.	
Policy 10	Tier 1, 2, and 3 local authorities: (a) that share jurisdiction over urban environments work together when implementing this National Policy Statement; and	Pertinent insofar as requiring Council to engage with developers (item (c)) that have identified significant opportunities for urban development.	

	(b) engage with providers of development infrastructure and additional infrastructure to achieve integrated land use and infrastructure planning; and (c) engage with the development sector to identify significant opportunities for urban development.	
Policy 11	In relation to car parking: (a) the district plans of tier 1, 2, and 3 territorial authorities do not set minimum car parking rate requirements, other than for accessible car parks; and (b) tier 1, 2, and 3 local authorities are strongly encouraged to manage effects associated with the supply and demand of car parking through comprehensive parking management plans.	As a tier 3 authority, Central Otago District Council are not to set minimum carparks.

Appendix [F]

Assessment of the relevant provisions of the Otago Regional Policy Statements

Partially Operative Regional Policy Statement 2019

Provision Number	Provision Description	Option A	Option B
Chapter 1 – Resource management in Otago is integrated			
Objective 1.1	Otago's resources are used sustainably to promote economic, social, and cultural wellbeing for its people and communities	The land is currently under-utilised; it is not used for a productive purpose and has not been used for any meaningful production for many years. Given the location close to the existing urban boundary of Cromwell, urban activities are a more sustainable use of the land for economic, social and cultural well-being. Given the existence of Option B, I consider that Option A does not achieve the objective.	Based on my assessment in relation to the NPS-UD, I consider that the use of the land for residential development is consistent with the adjoining Lowburn subdivision, is a more appropriate use of the land resource and promotes the economic, social, and cultural wellbeing of the District more so than Option A.
Policy 1.1.1	**Economic wellbeing -** Provide for the economic wellbeing of Otago's people and communities by enabling the resilient and sustainable use and development of natural and physical resources.	The site in its current form does not contribute to the economic wellbeing of the community.	Option B would unlock the subject site, which is currently under-utilised, for residential purposes which in effect, contributes to the economic wellbeing of the District.
Objective 1.2	Recognise and provide for the integrated management of natural and physical resources to support the wellbeing of people and communities in Otago	The site in its current form would not support the wellbeing of the community.	Option B would unlock the subject site, which is currently under-utilised, for residential purposes which in effect, contributes to the wellbeing of the community through additional housing in an area considered most appropriate.
Policy 1.2.1	Achieve integrated management of Otago's natural and physical resources, by all of the following:		

	a) Coordinating the management of interconnected natural and physical resources; b) Taking into account the impacts of management of one natural or physical resource on the values of another, or on the environment; c) Recognising that the value and function of a natural or physical resource may extend beyond the immediate, or directly adjacent, area of interest; d) Ensuring that resource management approaches across administrative boundaries are consistent and complementary; e) Ensuring that effects of activities on the whole of a natural or physical resource are considered when that resource is managed as subunits. f) Managing adverse effects of activities to give effect to the objectives and policies of the Regional Policy Statement. g) Promoting healthy ecosystems and ecosystem services; h) Promoting methods that reduce or negate the risk of exceeding sustainable resource limits.		
Chapter 2 – Kai Tahu values and interests are recognised and kaitiakitaka is expressed			
Objective 2.1	The principles of Te Tiriti o Waitangi are taken into account in resource management processes and decisions	PC19 in terms of the public participatory process, enables engagement with Iwi to consider the submission raised. No submission has been received in relation to the relief sought.	

Objective 2.2	Kāi Tahu values, interests and customary resources are recognised and provided for	All development on the site irrespective of the Zone that applies will require consideration of effects on the environment which would equally be of relevant in considering Kāi Tahu values and interests	
Chapter 3 – Otago has high quality natural resources and ecosystems			
Objective 3.1	The values (including intrinsic values) of ecosystems and natural resources are recognised and maintained, or enhanced where degraded	The Rural Resource Area permits the land to be modified in any number of ways. Such development can have both positive and negative effects on ecosystems, depending on the specifics of the proposal. The site at present is not currently utilised for any specific purpose and has largely remained untouched. Periodic stockpiling of cleanfill has occurred but otherwise the site is characterised by extensive erosion and sediment runoff, rabbit infestation and exotic plant species. I consider that Option A can theoretically give effect to this Objective though active management of the land.	Retaining the land as Rural Resource Area would maintain the ability to undertake “permitted” farming activities. However, the site has to date, not functioned in any meaningful capacity due to the lack of supporting infrastructure, size, topography and lack of water supply. The site is within an “overallocated” catchment such that there is no reliable source of water to support intensive horticulture. The size and topographical characteristics of the site does not support pastoral grazing in any meaningful capacity. The soils have been determined by Dr Hill as not “highly productive” when applying the Land Use Capability classification. These constraints will preclude any viable use of the site for primary production now and for future generations. As such, I consider that retaining the status quo does not give effect to this objective.

Policy 3.1.3 - Water allocation and use	Manage the allocation and use of fresh water by undertaking all of the following: a) Recognising and providing for the social and economic benefits of sustainable water use; b) Avoiding over-allocation, and phasing out existing over-allocation, resulting from takes and discharges; c) Ensuring the efficient allocation and use of water by: i. Requiring that the water allocated does not exceed what is necessary for its efficient use; ii. Encouraging the development or upgrade of infrastructure that increases efficiency; iii. Providing for temporary dewatering activities necessary for construction or maintenance.	Policy 3.1.3 seeks to avoid over-allocation of water resource and provide for the social and economic benefits of sustainable water use. The site currently does not have any consented water take with the Lowburn Valley Aquifer currently identified by ORC as “over allocated”. The size of the land does not lend itself to any meaningful pastoral use with smaller blocks tending to be more appropriately utilised for intensive primary production. Such activities requires a plentiful supply of irrigation water. Recognising the site is not provided with any consented water take and within an over-allocated catchment, I consider that this compromises potential intensive uses of the site. I consider that Option A does not give effect to this policy on the basis that an attempt to draw water for irrigation would represent an unsustainable use of the water resource.	Option B would seek to extend the existing public reticulation network to supply future residential development. I consider Option B better achieves the intent of Policy 3.1.3 compared with Option A.
Policy 3.1.7	Safeguard the life-supporting capacity of soil and manage soil to: a) Maintain or enhance as far as practicable i. Soil biological diversity; ii. Biological activity in soils; iii. Soil function in the storage and cycling of water, nutrients, and other elements through the biosphere; iv. Soil function as a buffer or filter for contaminants resulting from human activities, including aquifers at risk of leachate contamination; v. Soil fertility where soil is used for primary production; b) Where a) is not practicable, minimise adverse effects;	As detailed by Dr Reece Hill, the subject site land in its current state does not contain land that is characteristic of the LUC 3s6 formed from river alluvium and is not highly productive land as defined by the NPS-HPL. Additionally, Dr Hill notes the soil observation photos indicate extensive modification of the area by earthworks meaning that in its current state, the area is predominantly non-productive land with only small (subdominant) remnant areas of the original soil present. The redevelopment of the site (Option B) would effectively remove the ability the utilise the soil capacity however such a loss is considered inconsequential recognising Dr Hill’s assessment and the lack of any meaningful contribution provided by the land to date.	

	c) Recognise that urban and infrastructure development may result in loss of soil values. d) Control the adverse effects of pest species, prevent their introduction and reduce their spread; e) Retain the soil mantle where it acts as a repository of historic heritage objects unless an archaeological authority has been obtained.	On balance, it is considered that Option B, while not entirely conforming to this policy, is a more efficient use of the land as informed by the various other policies assessed herein.	
Chapter 4 – Communities in Otago are resilient, safe and healthy			
Objective 4.3	Infrastructure is managed and developed in a sustainable way	Retention of the site may lead to ad-hoc growth through resource consents. Such an approach has the risk of disrupting the sustainable management of infrastructure.	The site is located within proximity to existing reticulated serviced and represents a logical expansion of the residential environment, facilitating efficient development of utilities. I consider Option B better gives effect to this Objective compared to the status quo as it facilitates considered and planned growth.
Objective 4.5	Urban growth and development is well designed, occurs in a strategic and coordinated way, and integrates effectively with adjoining urban and rural environments	Retention of the site may lead to ad-hoc growth through resource consents. This has the consequence of resulting in potentially inferior development that has not be planned accordingly with adjoining urban environments. I consider Option A does not give effect to this Objective and associated policy.	The site is identified as forming the logical extent of the current Lowburn Terraces development. The rezoning of the land would provide certainty to the developer in terms of its eventual use for residential development and would facilitate the cohesive and integrated planning with the adjoining residential sites. I consider Option B better achieves this Objective compared with an ad hoc scenario which may stem from Option A.

Policy 4.5.1	**Providing for urban growth and development -** Provide for urban growth and development in a strategic and co-ordinated way, including by: a) Ensuring future urban growth areas are in accordance with any future development strategy for that district. b) Monitoring supply and demand of residential, commercial and industrial zoned land; c) Ensuring that there is sufficient housing and business land development capacity available in Otago; d) Setting minimum targets for sufficient, feasible capacity for housing in high growth urban areas in Schedule 6 e) Coordinating the development and the extension of urban areas with infrastructure development programmes, to provide infrastructure in an efficient and effective way. f) Having particular regard to: i. Providing for rural production activities by minimising adverse effects on significant soils and activities which sustain food production; ii. Minimising competing demands for natural resources; iii. Maintaining high and outstanding natural character in the coastal environment; outstanding natural features, landscapes, and seascapes; and areas of significant indigenous vegetation and significant habitats of indigenous fauna; iv. Maintaining important cultural or historic heritage values;	Retention of the site may lead to ad-hoc growth through resource consents. This has the consequence of resulting in potentially inferior development that has not be planned accordingly with adjoining urban environments. I consider Option A does not give effect to this Objective and associated policy.	In terms of a), Lowburn has not been identified in PC19 as an area for future growth. However recognising the limitations identified with PC19 as presented (such as uptake of brown field sites for redevelopment), the site represents a suitable candidate for accommodating future growth in Lowburn on under-utilised land. In terms of c), the extension of the zone would provide suitable land for residential development for the next 30 years. In terms of e), Ms Muir confirms that Council are planning ahead in terms of infrastructure development and upgrade which would facilitate the growth in Lowburn. In terms of f), g) and h), the use of the land for residential represents in my opinion, a more sustainable outcome compared with the status quo.

	v. Avoiding land with significant risk from natural hazards; g) Ensuring efficient use of land; h) Restricting urban growth and development to areas that avoid reverse sensitivity effects unless those effects can be adequately managed; i) Requiring the use of low or no emission heating systems where ambient air quality is: i. Below standards for human health; or ii. Vulnerable to degradation given the local climatic and geographical context; j) Consolidating existing coastal settlements and coastal urban areas where this will contribute to avoiding or mitigating sprawling or sporadic patterns of settlement and urban growth.		
Policy 4.5.2	**Integrating infrastructure with land use** - Achieve the strategic integration of infrastructure with land use, by undertaking all of the following: a) Recognising and providing for the functional needs of infrastructure; b) Locating and designing infrastructure to take into account all of the following: i. Actual and reasonably foreseeable land use change; ii. The current population and projected demographic changes; iii. Actual and reasonably foreseeable change in supply of, and demand for, infrastructure services; iv. Natural and physical resource constraints; v. Effects on the values of natural and physical resources;	Retention of the site may lead to ad-hoc growth through resource consents. This has the consequence of resulting in potentially inferior development that has not be planned accordingly (such as infrastructure). I consider Option A does not give effect to this Objective and associated policy.	The re-zoning of the land would assist with facilitating future planning and concentrating efforts in areas where growth is determined as appropriate. I consider this Option better achieves the sustainable management of urban infrastructure.

	vi. Co-dependence with other infrastructure; vii. The effects of climate change on the long-term viability of that infrastructure; viii. Natural hazard risk. c) Coordinating the design and development of infrastructure with land use change in growth and redevelopment planning.		
Policy 4.5.3	**Urban design -** Design new urban development with regard to: a) A resilient, safe and healthy community; b) A built form that relates well to its surrounding environment; c) Reducing risk from natural hazards; d) Good access and connectivity within and between communities; e) A sense of cohesion and recognition of community values; f) Recognition and celebration of physical and cultural identity, and the historic heritage values of a place; g) Areas where people can live, work and play; h) A diverse range of housing, commercial, industrial and service activities; i) A diverse range of social and cultural opportunities.	The status quo does not enable a character of living consistent with the surrounding residential environment. I consider Option A does not particularly gives effect to this policy but largely on the basis that the current Zone does not afford an urban level of density	The rezoning would facilitate an extension to the existing residential environment of Lowburn which will maintain character and amenity values through the application of the LLRZ development standard. This will result in a sense of cohesion and consistency with the prevailing character and identity of Lowburn. I consider Option B is superior to that of Option A.
Chapter 5 – People are able to use and enjoy Otago's natural and built environment			
Objective 5.3	Sufficient land is managed and protected for economic production	In considering this objective and policy together, the site is not used for primary production other than low intensity grazing. The site does not contribute in	As described throughout, the site is better suited, in my opinion, as the logical location in which to direct growth for the Lowburn catchment. While the

Policy 5.3.1	**Rural activities -** Manage activities in rural areas, to support the region's economy and communities, by: a) Enabling primary production and other rural activities that support that production; b) Providing for mineral exploration, extraction and processing; c) Minimising the loss of significant soils; d) Restricting the establishment of incompatible activities in rural areas that are likely to lead to reverse sensitivity effects; e) Minimising the subdivision of productive rural land into smaller lots that may result in a loss of its productive capacity or productive efficiency; f) Providing for other activities that have a functional need to locate in rural areas.	any meaningful capacity to the District's primary production economy base. The land is constrained in its ability to be utilise efficiently through the fragmentation afforded by the unformed legal roads and its proximity to the existing urban fabric of Ranfurly. I consider that Option A at least maintains the land for economic production but in taking an overall broad judgement approach, maintaining the land for primary production does not appear to be particularly sustainable for this purpose.	land would be removed from economic production, such a loss is considered immaterial in the context of its contribution to date, and recognising the various constraints which precludes a viable and logical unit for primary production. I consider on balance, the land is better suited for residential.

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Provision Number	Provision Description	Option A	Option B
LF-LS – Land and soil			
LF-LS-O11 – Land and soil	The life-supporting capacity of Otago's soil resources is safeguarded and the availability and productive capacity of highly productive land for primary production is maintained now and for future generations.	Retaining the land as Rural Resource Area would maintain the ability to undertake "permitted" farming activities. However, the site has to date, not functioned in any meaningful capacity due to the lack of supporting infrastructure, size, topography and lack of water supply. The site is within an "overallocated" catchment such that there is no reliable source of water to support intensive horticulture. The size and topographical characteristics of the site does not support pastoral grazing in any meaningful capacity. The soils have been determined by Dr Hill as not "highly productive" when applying the Land Use Capability classification. These constraints will preclude any viable use of the site for primary production now and for future generations. As such, I consider that retaining the status quo does not give effect to this objective.	As I detailed earlier, the site is better suited, in my opinion, as the logical location in which to direct growth for the Lowburn catchment. While the land would be removed from economic production, such a loss is considered immaterial in the context of its contribution to date, and recognising the various constraints which precludes a viable and logical unit for primary production. I consider on balance, the land is better suited for residential.
LF-LS-O12 – Use of land	The use of land in Otago maintains soil quality and contributes to achieving environmental outcomes for fresh water.		
LF-LS-P19 – Highly productive land	Maintain the availability and productive capacity of highly productive land by: (1) identifying highly productive land based on the following criteria: (a) the capability and versatility of the land to support primary production based on the Land Use Capability classification system, (b) the suitability of the climate for primary production, particularly crop production, and (c) the size and cohesiveness of the area of land for use for primary production, and (2) prioritising the use of highly productive land for primary production ahead of other land uses, and (3) managing urban development in rural areas, including rural lifestyle and rural		

	residential areas, in accordance with UFD–P4, UFD–P7 and UFD–P8		
EIT – Energy, infrastructure and transport			
EIT-INF-P17	Provide for development infrastructure and additional infrastructure required to service existing, planned and expected urban growth demands in the short, medium and long term, taking in account UFD–P1 to UFD–P10.	Not particularly pertinent to the status quo.	The site is located within proximity to existing urban infrastructure and transport links which can be upgraded where necessary to accommodate the growth generated by the proposed re-zone in order to achieve the demand generated.
UFD – Urban form and development			
UFD-O2 – Development of urban areas	The development and change of Otago's urban areas: (1) improves housing choice, quality, and affordability, (2) allows business and other non-residential activities to meet the needs of communities in appropriate locations, (3) respects and wherever possible enhances the area's history, setting, and natural and built environment, (4) delivers good urban design outcomes, and improves liveability, (5) improves connectivity within urban areas, particularly by active transport and public transport, (6) minimises conflict between incompatible activities,	The retention of the status quo does not contribute to any of these matters.	The proposed re-zone facilitates the provision of housing choice and quality. The availability of sufficient supply can also contribute to general housing affordability. I consider Option B will give effect to Objective UFD-O2(1). The extension of the Lowburn residential area has been assessed as appearing as a logical and coherent association with the residential environment. I consider this "respects the area's history, setting, and natural and built environment" by extending the degree of development accordingly. I consider Option B will give effect to Objective UFD-O2(3). Good urban design outcomes can be achieved by ensuring appropriate design parameters that relate to the densities are promoted. The extension would provide for densities which are already demonstrated as appropriate. I consider

	(7) manages the exposure of risk from natural hazards in accordance with the HAZ–NH – Natural hazards section of this RPS, (8) results in sustainable and efficient use of water, energy, land, and infrastructure, (9) achieves integration of land use with existing and planned development infrastructure and additional infrastructure and facilitates the safe and efficient ongoing use of regionally significant infrastructure, (10) achieves consolidated, well designed and located, and sustainable development in and around existing urban areas as the primary focus for accommodating the region's urban growth and change, and (11) is guided by the input and involvement of mana whenua.		Option B will give effect to Objective UFD-O2(4). The location of the site forms the extent of an urban network and within proximity to key transport links. While the District lacks public transport amenities, any introduction of these services within Lowburn would equally serve the subject site. I consider Option B will give effect to Objective UFD-O2(5). The site currently forms an arbitrary termination point for the residential zone. It is considered most appropriate to define the extent of the residential environment by the topographical features which characterises the northern extent of the subject site, forming a cohesive and logical residential enclave. Residential use of the site will not be incompatible with the adjacent residential zone. The adjacent rural land to the north is equally "wasteland" in terms of it uses and contains an existing residential dwelling which limits any further rural activities. Accordingly, it is unlikely the zone extension of the subject site will be incompatible with rural use to the north. I consider Option B will give effect to Objective UFD-O2(6). The extension of the Zone takes advantage of the existing services and infrastructure in the area which in turn gives effect to Objective UFD-O2(8) being the efficient use of infrastructure, UFD-O(9), integration of infrastructure. The proposal aligns entirely with Objective UFD-O2(10) in achieving consolidated and well-located

			development around existing urban areas. In analysing Objective UFD-O2 holistically, it is clear that Option B broadly aligns with the outcomes sought (by this objective). Accordingly, I consider Option B gives effect to UFD-O2.
UFD-O4 – Development in rural areas	Development in Otago's rural areas occurs in a way that: (1) avoids impacts on significant values and features identified in this RPS, (2) avoids as the first priority, land and soils identified as highly productive by LF–LS–P19 unless there is an operational need for the development to be located in rural areas, (3) only provides for urban expansion, rural lifestyle and rural residential development and the establishment of sensitive activities, in locations identified through strategic planning or zoned within district plans as suitable for such development; and (4) outside of areas identified in (3), maintains and enhances the natural and physical resources that support the productive capacity, rural character, and long-term viability of the rural sector and rural communities.	Not particularly pertinent to the status quo.	The site has no regionally significant values and therefore Option B suitably avoids this. The land is not "highly productive land" as determined by Dr Hill. The site has not been signalled under PC19 to be zoned residential. However, Lowburn in general has been omitted altogether in the implementation of PC19 with no prior s32 analysis to consider the appropriateness of the Zoning that currently applies. As such, I consider Option B does give effect to Objective UFD-O4 insofar as that development will occur in a rural (in terms of prevailing zone) area in a way that avoids effects on highly productive land and on land suitable to accommodate such growth.
UFD-P2 – Sufficiency of development capacity	Sufficient urban area housing and business development capacity in urban areas, including any required competitiveness margin, is provided in the short, medium and long term by:	Retaining the status quo will not contribute to development capacity and does not give effect to UFD-P2.	The intent of PC19 is to provide sufficient development capacity within the District to cater for growth over the next 30 years. In doing so, PC19 seeks to upzone a large proportion of existing residential areas (which are already built)

	(1) undertaking strategic planning in accordance with UFD–P1 (2) identifying areas for urban intensification in accordance with UFD–P3, (3) identifying areas for urban expansion in accordance with UFD–P4, (4) providing for commercial and industrial activities in accordance with UFD–P5 and UFD–P6 (5) responding to any demonstrated insufficiency in housing or business development capacity by increasing development capacity or providing more development infrastructure as required, as soon as practicable, and (6) requiring Tier 2 urban environments to meet, at least, the relevant housing bottom lines in APP10.		and greenfield areas within the urban fabric of Cromwell (and Alexandra), to Medium Density. As a consequence, limited variety exist in terms of densities within other established urban areas which has the consequence of precluding diversification is housing/density. A potential consequence of this lack of diversity can be affordability. In my opinion, PC19 as notified does not sufficiently cater for the requirements of a proportion of residents in Cromwell, which in some cases may require larger space for storage/amenities. The LLRZ(P2) which applies to Lowburn is one of the only areas in the District afforded a 3,000m^2 limit. Lowburn itself is largely fully developed in terms of the uptake of vacant allotments. The proposal seeks to provide additional capacity of an alternative offering to that of the Medium Density upzoning, which may not necessarily cater for the demographics of Cromwell. As such, I consider that the provision of extending the Zone (Option B) better aligns to the requirements of UFD-P2.
UFD – P4 – Urban Expansion	Expansion of existing urban areas is facilitated where the expansion: (1) contributes to establishing or maintaining the qualities of a well-functioning urban environment, (2) will not result in inefficient or sporadic patterns of settlement and residential growth,	The status quo represents an arbitrary transition from the current Residential Resource Area (5) and Rural Resource Area. The interface between the Zone is largely cadastral based compared with Option B which is defined by the topographical features of the site. Retaining the status quo does not facilitate urban expansion and does not give effect to this policy.	Option B is considered to give effect to Policy UFD-P4 by: (1) Subject to detailed design at the time of resource consent, the provision of a subdivision comprised of a density of 3,000m^2 as illustrated by the earlier stages of the Lowburn development is considered to represent a well-functioning urban environment.

	(3) is integrated efficiently and effectively with development infrastructure and additional infrastructure in a strategic, timely and co-ordinated way, (4) addresses issues of concern to iwi and hapū, including those identified in any relevant iwi planning documents, (5) manages adverse effects on other values or resources identified by this RPS that require specific management or protection, (6) avoids, as the first priority, highly productive land identified in accordance with LF–LS–P19, (7) locates the new urban/rural zone boundary interface by considering: (a) adverse effects, particularly reverse sensitivity, on rural areas and existing or potential productive rural activities beyond the new boundary, and (b) key natural or built barriers or physical features, significant values or features identified in this RPS, or cadastral boundaries that will result in a permanent, logical and defendable longterm limit beyond which further urban expansion is demonstrably inappropriate and unlikely, such that provision for future development infrastructure expansion and connectivity beyond the new boundary does not need to be provided for, or		(2) I do not consider the location of the site results in an inefficient or sporadic pattern of growth. Rather, the proposal represents a logical and coherent extension and will read in direct association with the existing residential environment. As assessed the landscape assessment, Option B will establish a more defined Zone boundary which assists in delineating the rural/residential catchments. (3) The site is located at the extent of existing urban infrastructure which can be suitably upgraded and extended to accommodate the proposed development. I consider this supports the intent to efficiently utilise existing infrastructure to facilitate existing development capacity. (4) Iwi have been involved in the PC19 process to date. (5) The effects assessment herein considers effects on the environment associated with Option B can be suitably managed. (6) The land is not “highly productive”. (7) The extent of the proposed Zone is considered to terminate at a logical and coherent point defined by a distinct

	(c) reflects a short or medium term, intermediate or temporary zoning or infrastructure servicing boundary where provision for future development infrastructure expansion and connectivity should not be foreclosed, even if further expansion is not currently anticipated.		topographical feature, compared with the existing zone interface which is largely arbitrary and cadastral. Policy UFD-P4 is key in recognising the fundamental resource management matters to take into account when considering urban expansion. I consider that the analysis above sufficiently demonstrates the appropriateness of the extension and therefore Option B is considered to give effect to these policies.
UFD-P7 – Rural Areas	The management of rural areas: (1) provides for the maintenance and, wherever possible, enhancement of important features and values identified by this RPS, (2) outside areas identified in (1), maintains the productive capacity, amenity and character of rural areas, (3) enables primary production particularly on land or soils identified as highly productive in accordance with LF–LS–P19, (4) facilitates rural industry and supporting activities, (5) directs rural residential and rural lifestyle development to areas zoned for that purpose in accordance with UFD–P8, (6) restricts the establishment of residential activities, sensitive activities,	Retaining the status quo would generally give effect to UFD-P7 as follows: (2) the retention of the site as Rural Resource Area would continue to exhibit a sense of rural character and amenity through the retention of open space. This open space can be modified to an extent under the existing permitted criteria of the Rural Resource Area which can have both positive and adverse effects. The productive capacity, while being maintained, is unlikely to experience any uptake due to the various constraints that have been identified. The site is unlikely to contribute in any meaningful capacity in terms of primary production, which has historically been the case (and is presently the case). (3) As above, while primary production would be retained, it is unlikely to be	There no important features pertaining to the site. As assessed under Option A, the following conclusions are made in relation to Option B: (2) the re-zoning of the site would not maintain amenity and character of rural areas however as established, the site forms the logical and obvious extent of the urban environment by re-defining the extent of the residential limit using a topographical feature, rather than the arbitrary extent that currently applies. I have discussed the productive capacity of the site, or lack thereof to which I consider the development of the site is not considered to have any material or fundamental impact to the District in terms of primary production. The site does not lend itself to such use to which more efficient and appropriate land uses have been defined throughout this evaluation.

	and non-rural businesses which could adversely affect, including by way of reverse sensitivity, the productive capacity of highly productive land, primary production and rural industry activities, and (7) otherwise limits the establishment of residential activities, sensitive activities, and non-rural businesses to those that can demonstrate an operational need to be located in rural areas.	viable given the various constraints identified. (4) the site has not, nor did it contribute in any meaningful capacity to facilitate the rural industry. The constraints identified would suggest this will continue to be the case. (6) The site is not “highly productive land”. I consider that while Option A is not inherently in consistent with UFD-P7, the retention of the land does not represent sustainable management in a broader sense when considering the RPS overall.	(3) The site is not highly productive land. (4) the site currently does not contribute to the rural industry nor is it likely to in future. Option B would not exacerbate this lack of contribution in any tangible capacity. (6) The site is not highly productive land. I consider that Option B does not inherently give effect to these policies however despite the site’s current Zoning, the site provides little in the way of meaningful contribution to the primary production industry due to the various identified constraints.

Appendix [G]

Assessment of the options in relation to the relevant provisions of the "higher order" objectives and policies of the Central Otago District Plan

Table A

Provision Number	Provision Description	Option A	Option B
Section 12 – District Wide			
Objective 12.3.1	**Safe and Efficient Roading Network** - To promote the safe and efficient operation of the District's roading network.	No change would result to the safe and efficient operation of the roading network in terms of the status quo. I consider Option A meets this.	As assessed by Mr Andy Carr, development of the site in line with the densities anticipated by the LLR(P2) can appropriately integrate into the transport network without giving rise to efficiency and safety issues. I consider Option B can equally meet this objective.
Objective 12.3.2	**Protection from Noise -** To avoid, remedy or mitigate the adverse effects of noise on the District's amenity values and the health and wellbeing of the District's people	While it has been determined that primary production of the land is constrained, the retention of the current Zone could generate adverse noise effects on the existing residential Zone through permitted farming practices. I consider Option B is considered superior to Option A in this regard.	The residential use of the site that is consistent with the adjoining residential allotment is not likely to generate adverse noise on residential amenities. Option B is considered to meet this objective.
Objective 12.3.4	**Avoidance, Remedying or Mitigation of Nuisances** - To ensure that activities avoid, remedy or mitigate nuisance to adjoining properties from odour, dust, lightspill, glare and electrical interference.	Retention of the site as Rural Resource Area maintains the risk of reverse sensitivity albeit farming of the site is already constrained and therefore reverse sensitivity unlikely to result.	Residential use of the site is consistent with the prevailing character of the surrounding residential environment. Option B achieves this Objective and is superior to Option A.
Policy 12.4.1	**Parking, Loading and Manoeuvring -** To avoid, remedy or mitigate adverse	Compliance with Council's standards for parking, access, roading and loading will achieve this Policy. Both Options can give effect to this Policy.	

	effects on the safe and efficient operation of the roading network by requiring: (a) Safe and efficient access points to the roading network, and (b) Off-road loading and manoeuvring space and facilities, and (c) Off-street parking, where these are appropriate.		
Section 6 – Urban Areas			
Objective 6.3.1	**Needs of People and Communities -** To promote the sustainable management of the urban areas in order to: (a) Enable the people and communities of the district to provide for their social, economic and cultural wellbeing and their health and safety; and (b) Meet the present and reasonably foreseeable needs of these people and communities	Development of the site is constrained due to the restrictive nature of subdivision in the Rural Resource Area. The site does not provide any meaningful contribution to the community in its current form and does not meet the reasonably foreseeable needs of the community. Option A does not give effect to this provision.	I have evaluated that the most sustainable use of the land is for residential purposes recognising: a) The Landscape Assessment confirms that the site more appropriately reads as an extension to the existing residential environment where the current delineation is arbitrary. The repositioning of the residential zone boundary to encompass the land creates a more cohesive transition from the residential environment to rural. b) The land has not and continues to not provide any meaningful contribution in terms of productive capacity. c) The site can be adequately serviced subject to completion of the necessary upgrade works. d) The Zone in question affords a density that provides a variety in typologies to the district and thereby catering for the various needs of the District.

			I therefore consider Option B better achieves this Objective.
Objective 6.3.2	**Amenity Values -** To manage urban growth and development so as to promote the maintenance and enhancement of the environmental quality and amenity values of the particular environments found within the District's urban areas.	I think it is appropriate to conclude that Option A at least maintains amenity values. While a residential dwelling could be anticipated under the restricted discretionary pathway of the Operative Plan, effects on amenity values can be managed and therefore I consider Option A achieves this objective.	The re-zoning would facilitate residential growth in an area that is assessed as forming a cohesive and logical extension to the existing residential Zone. The site represents a logical location in which to consolidate and direct growth in a manner that is consistent with the prevailing character or Lowburn. I consider Option B maintains the quality and amenity of the environment.
Objective 6.3.3	**Adverse Effects on Natural and Physical Resources -** To avoid, remedy or mitigate the adverse effects of urban areas on the natural and physical resources of the District.	Retention of the site as Rural Resource Area maintains the risk of reverse sensitivity albeit farming of the site is already constrained and therefore reverse sensitivity unlikely to result. Notwithstanding, this Option does not give effect to this objective as efficiently as the alternative options.	Adverse effects associated with residential development are considered to be immaterial in the context of what is already the inner limits of the township. Residential use of the site is unlikely to generate adverse effects not anticipated by the Plan on the prevailing urban environment. Option B better gives effect to this option than the status quo
Objective 6.3.4	**Urban Infrastructure -** To promote the sustainable management of the District's urban infrastructure to meet the present and reasonably foreseeable needs of the District's communities.	Retention of the site may lead to ad-hoc growth through resource consents. Such an approach has the risk of disrupting the sustainable management of infrastructure.	Council confirms that adequate supply exists for water. In terms of wastewater, Ms Muir confirms that funds have been allocated to upgrade the network. The re-zoning of the land would assist with facilitating future planning and concentrating efforts in areas where growth is determined as appropriate. I consider this Option better achieves the sustainable management of urban infrastructure.

Policy 6.4.1	**Maintenance of Quality of Life within Urban Areas -** To maintain and, where practicable, enhance the quality of life for people and communities within the District's urban areas through: (a) Identifying and providing for a level of amenity which is acceptable to the community; and (b) Avoiding, remedying or mitigating the adverse effects on the community's social, economic and cultural wellbeing and health and safety which may result from the use, development and protection of natural and physical resources, and (c) Recognising that change is inevitable in the use of land to enable the community to provide for its wellbeing.	Retention of the site as Rural Resource Area maintains the risk of reverse sensitivity albeit farming of the site is already constrained and therefore reverse sensitivity unlikely to result. I consider the status quo does not give effect to this policy as well as the other Options.	Adverse effects associated with residential development are considered to be immaterial in the context of what is already the inner limits of the township. Residential use of the site is unlikely to generate adverse effects not anticipated by the Plan on the prevailing urban environment. Option B better gives effect to this option than the status quo.
Policy 6.4.2	**Expansion of Urban Areas -** To enable the expansion of urban areas or urban infrastructure in a manner that avoids, remedies or mitigates adverse effects on: (a) Adjoining rural areas. (b) Outstanding landscape values. (c) The natural character of water bodies and their margins. (d) Heritage values. (e) Sites of cultural importance to Kai Tahu ki Otago.	Retention of the land as Rural Resource Area does not enable the expansion of urban areas or infrastructure. No adverse effects on rural areas are considered to arise. No heritage values are noted. Servicing and infrastructure can be suitably upgraded to provide for growth and it is intended for the wastewater network to be upgraded. On item (g), the land resources are not currently used, and have not been used for	The re-zoning would facilitate residential growth in an area that is currently bound by existing residential activities. The site represents a logical location in which to consolidate and direct growth in a manner that is consistent with the prevailing character of Lowburn while taking advantage of existing services and roading infrastructure. As such I consider the re-zone wholly gives effect to this policy.

	(f) The integrity of existing network utilities and infrastructure, including their safe and efficient operation. (g) The life supporting capacity of land resources. (h) The intrinsic values of areas of significant indigenous vegetation and habitats of significant indigenous fauna.	any meaningful productivity for many years. The foreclosure of the ability of the land to be used productively is of not particular consequence to the economic well-being of the District.	
Section 13 – Infrastructure, Energy and Utilities			
Objective 13.3.1	**Transportation Network –** To enable the safe and efficient operation and development of the transportation network while ensuring that amenity values and environmental quality is maintained or enhanced.	No change would result to the safe and efficient operation of the roading network in terms of the status quo. I consider Option A meets this.	As assessed by Mr Andy Carr, development of the site in line with the densities anticipated by the LLR(P2) can appropriately integrate into the transport network without giving rise to efficiency and safety issues. I consider Option B can equally meet this objective.
Objective 13.3.2	**Utilities -** To enable the efficient operation and development of utilities including the transmission network while ensuring that effects on amenity, heritage, landscape values and public safety are avoided, remedied or mitigated.	Retention of the site may lead to ad-hoc growth through resource consents. Such an approach has the risk of disrupting the sustainable management of infrastructure.	The site is located within immediate proximity to the existing residential environment with servicing located to the boundary. The site represents a logical expansion of the residential environment, facilitating efficient development of utilities. I consider Option B better gives effect to this Objective compared to the status quo as it facilitates considered and planned growth.
Objective 13.3.5	**Landscape and Amenity Values -** To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment	Option A would maintain the amenity values somewhat however through anticipated residential development, the landscape and visual effects can change and would not be consistent with the current low density character of the surrounding area. In saying	While residential development would change the present visual amenities of the site, such a change is consistent with the prevailing character of the surrounding area as informed by the Landscape Assessment. Option B better gives effect to this objective.

	values of the District's rural environment.	this, effects of a single dwelling can be suitably mitigated in my experience.	
Objective 13.4.1	**Positive Contribution of Infrastructure -** To recognise the essential and positive contribution that infrastructure and it's ongoing development makes to the social, economic, and cultural wellbeing, and to the health and safety of the District's people and communities.	Retention of the site may lead to ad-hoc growth through resource consents. Such an approach has the risk of disrupting the sustainable management of infrastructure.	As above, the re-zoning of the land would assist with facilitating future planning for infrastructure and concentrating efforts in areas where growth is determined as appropriate. I consider this Option better achieves the sustainable management of urban infrastructure.
Policy 13.4.2	**Managing the Development of the Transportation Network –** To ensure that the design, location and operation of the transportation network recognises and provides for the following matters: (a) The avoidance, remedying or mitigation of any significant adverse effects on the environment resulting from the generation of noise, vibration, glare, lightspill and dust emissions. (b) The avoidance, remedying or mitigation of adverse effects on the on-going operation of activities that are permitted on adjacent land in terms of the plans provisions. (c) The avoidance, remedying or mitigation of adverse effects on the landscape.	No change would result to the safe and efficient operation of the roading network in terms of the status quo. I consider Option A meets this.	As assessed by Mr Andy Carr, development of the site in line with the densities anticipated by the LLR(P2) can appropriate integrate into the transport network without giving rise to efficiency and safety issues. I consider Option B can equally meet this objective.

	(d) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna and statutorily managed sports fish and game, water bodies and their margins. (e) The protection of the integrity of significant heritage and cultural values. (f) The protection of the integrity of values of importance to Kai Tahu ki Otago, (g) Public safety, (h) The potential for material damage from erosion, subsidence, slippage, inundation or other natural hazard events and the likelihood that the exacerbation of any of these processes, is avoided, remedies or mitigated. (i) The intended level and type of traffic usage, and any foreseeable future demands. (j) The promotion of efficient energy use. (k) The maintenance of the safe and efficient operation of the existing infrastructure and utilities including integration with existing transportation network.		

Policy 13.4.11	**Reverse Sensitivity -** To recognise that some established activities may generate noise and other effects that can disturb neighbours, by ensuring that new developments locating near such activities recognise and accept the prevailing environmental characteristics.	Reverse sensitivity effects have not resulted to date recognising that the rurally zoned land has not been utilised in a manner that would otherwise result in adverse effects on nearby residential activities. The lack of any "rural" use of the subject site is largely attributed to the constraints to these activities I have detailed earlier. Notwithstanding, retention of the site as Rural Resource Area maintains the risk of reverse sensitivity albeit farming of the site is already constrained and therefore reverse sensitivity unlikely to result. I consider the status quo does not give effect to this policy as well as the other Options.	Adverse effects associated with residential development are considered to be immaterial in the context of what is already the inner limits of the township. Residential use of the site is unlikely to generate adverse effects not anticipated by the Plan on the prevailing urban environment. Option B better gives effect to this option than the status quo.