

APPLICATION FOR RESOURCE CONSENT OR FAST TRACK RESOURCE CONSENT FORM 9: SECTION 88 RESOURCE MANAGEMENT ACT 1991

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RECEIVED
11/08/2023
CODC

CONTACT DETAILS OF APPLICATION

Full name(s) and contact details of owner/occupier/applicant: *(name will be issued on the decision)*

Postal Address

Email

Phone

Full name(s) and contact details for service of application *(if different from above)* e.g. Agent:

Postal Address

Email

Phone

DETAILS OF PROPERTY

Street address/rapid number of property to which this application relates:

Legal description of land:

DETAILS OF APPLICATION

Application Type(s) applying for: *(please tick one)*

- Land use consent
- Subdivision consent
- Change/Cancelation of consent or consent notice conditions
- Extension of lapse period of consent (time extension) s125
- Certificate of compliance
- Existing use certificate

Description of proposal:

- No additional resource consents are needed for the proposed activity.

Or

- The following additional resource consents are needed for the proposed activity. *(give details)*
They have / have not been applied for: *(please highlight)*

Under section 87AAC a controlled activity or deemed permitted boundary activity may be eligible for fast-track processing. Please select one:

I opt out / I do not opt out of the fast-track consent process.

PAYMENT DETAILS

I confirm amount and date paid:

Reference used (if applicable):

- Bank Transfer to 020916 0081744 00 (BNZ Alexandra Branch). Please reference: "RC APP" and the applicant's surname in the payment details eg, RC APP SMITH
- Manual payment (can only be made once application lodged and RC reference number issued)

APPLICATION CHECKLIST

The following is attached to this application:

(please tick boxes as appropriate)

- *Non-refundable application fee of the prescribed amount (an additional charge may also be payable where the initial application fee is inadequate to recover Council costs).
- Assessment of the Effects on the Environment (AEE).
- *Copy of current Certificate of Title.
- *A location plan.
- *A site plan which shows the location of any buildings, driveways, parking areas or other significant features in relation to site boundaries. (Please ensure the paper size is either A4 or A3.)
- A building plan including the floor plan of the proposed building and elevations (if appropriate). (Please ensure the paper size is either A4 or A3.)
- Photographs of the site and of any important features relative to the application.
- Any other information required by the District Plan or Act or regulations to be included.

**Items with a star are required for all consent applications.*

Full details relating to the contents of applications are contained in the checklists and guidance notes available on Councils website www.codc.govt.nz or from any Council office.

Note to applicant:

You may apply for two or more resource consents that are needed for the same activity on the same form.

You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991 (if any).

I/We attach, in accordance with the Fourth Schedule of the Resource Management Act 1991, an assessment of environmental effects in the detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment.

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

(List all documents that you are attaching)

Subdivision consent requirements

As/if this is an application for a subdivision consent, I/We attach information that is sufficient to adequately define: *(delete if this is not an application for a subdivision consent)*

- (a) The position of all new boundaries; and
- (b) the areas of all new allotments; and *(delete if the subdivision involves a cross-lease. Company lease or unit plan)*
- (c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips; and
- (d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips; and
- (e) the locations and areas of land below mean high water springs of the sea, or of any part of the bed of a river or lake, to be vested in the Crown or local authority under section 237A of the Resource Management Act 1991; and
- (f) the locations and area of land to be set aside as new roads.

As this is an application for a resource consent for reclamation, I/We attach information to show the area proposed to be reclaimed, including its location, the position of all new boundaries, and the portion of that area (if any) to be set apart as an esplanade reserve or esplanade strip. *(delete if this is not an application for a resource consent for reclamation)*

Electronically Signed: Jake Woodward 08/08/23

Signature Date
(to be signed by applicant or person authorised to sign on behalf of applicant)

ASSESSMENT OF ENVIRONMENTAL EFFECTS

3381 Ida Valley-Omakau Road,
Oturehua

Jillian Ruth Sullivan and Gypsy Trustees Limited

Our Reference: JW22015



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1 THE APPLICANT AND PROPERTY DETAILS

Client	Jillian Ruth Sullivan and Gypsy Trustees Limited
Address for service	JPW Consulting Limited Jake Woodward jake@jakewoodward.co.nz 022 315 8370
Property Address	3381 Ida Valley-Omakau Road, Oturehua
Project Description	Subdivision and land use consent to undertake a two-lot subdivision resulting in one new residential allotment and associated Residential Building Platform.
Our Reference	JW22015
Date	14 February 2023
Version	3 (4 August 2023)

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2 EXECUTIVE SUMMARY

Resource consent is sought to undertake a two-lot subdivision of the property at 3381 Ida Valley-Omakau Road, Oturehua. Land use consent is also sought to establish a residential building platform on the proposed new vacant allotment. Consent is also required under the provision of the National Environmental Standard for Freshwater for earthworks within 10 metres of a wetland.

The proposal requires consideration as a non-complying activity under the provisions of the Central Otago District Plan for subdivision in the Rural Resource Area that does not comply with the minimum or average allotment regime.

Despite the zone of the site being Rural Resource Area, the site sits within the clearly defined limits of the Oturehua township. The proposed allotments and associated design controls are considered to result in an outcome that ensures the subdivision remains sympathetic to the receiving environment while appearing as a logical insertion to the town. The proposal does not detract from rural amenity noting that the site lacks many of these values given its inherent location within the urban limits of Oturehua. The site does not lend itself to legitimate rural production other than hobbyists or lifestyle purposes, as is the case now. The proposal therefore represents a logical use of the land resource while maintaining the quality of the environment.

Equally, no person is considered to be adversely affected by the subdivision and domestication of the site. Despite the zone, the provision of residential activities represents the most logical and sustainable use of the site through 'infilling' activities within the confines of the township. The proposal will represent an inevitable change to the character of the site, but such a change is not considered adverse. Accordingly, effects are considered to be less than minor on adjoining and adjacent properties.

The site will be suitably serviced for all necessary infrastructure as required.

Consideration has been had to an existing flood plain which the proposed development will remain unaffected.

Standard conditions of consent for servicing are promoted which will ensure each allotment is suitably serviced prior to the issue of Titles.

Overall, the proposal is considered to generate no more than minor adverse effects on the environment.

A thorough evaluation of applicable policies is provided in this AEE. The proposal is considered to be consistent with the relevant objectives and policies of the Central Otago District Plan and the various Otago Regional Policy Statements and National Policy Statements.

The proposal is considered to promote Part 2 of the Resource Management Act 1991.

3 SITE DESCRIPTION

3.1 SITE DESCRIPTION

The site subject to this application is located at 3381 Ida Valley-Omakau Road, Oturehua and is legally described as Lot 6 DP 435809 as held in Record of Title 533673. A copy of the Title is attached in **Appendix [A]**.

The site has an area of 8.095 hectares and represents a large portion of land that separates the Oturehua Township from the Ida Burn (river) to the west.

As illustrated in Figure 1 below, the site is irregular in shape and is predominantly flat. Vegetation cover is limited to pasture with the exception of the willows forming the river margins to the west and conifers to the north. The applicant resides on the site in a small cottage located to the immediate west of 3371 Ida Valley-Omakau Road.

The site is fenced into a series of paddocks including one large paddock fencing off the Ida Burn for protection of the river margins (refer to Figure 1 below). Several other paddocks have been fenced to protect a series of springs/ponds located throughout the site which are progressively being planted with natives. The applicant seeks additional funding to be able to fence off more of the property and plant wetlands.

The applicant runs three cows and seven sheep on the remainder of the property for the purposes of keeping the grass down. Periodically, the site is mown for hay which is used to feed the stock during winter.

There is a small depression in the landform, defined as a natural inland wetland, located in the easternmost corner of the site.

The entire western boundary is bordered by the Ida Burn and is predominantly characterised by Willows. The eastern boundary is bound by residential properties that adjoins the main road into Oturehua. The site has a 160 metre (approximately) frontage to the road between 3377 Ida Valley-Omakau Road and 3407 Ida Valley-Omakau Road. A pedestrian footpath has recently been constructed between the Domain and the wider township. The northern boundary is that of the Oturehua Domain (3407 Ida Valley-Omakau Road).



Figure 1: Site location. Green areas illustrates approximate extent of fenced area excluding stock access to riparian margins (Image Source: CODC GIS).

3.2 SURROUNDING ENVIRONMENT

The general receiving environment is characterised by that of the Otarehua township.

The site sits firmly within the north-south limits of the Otarehua Township with the northern extent defined by the intersection of Hills Creek Road and the State Highway. The “Otarehua” road sign with the 70km posted speed limit sits just to the north of the Hills Creek Road intersection, signalling the start of the town itself.

Between Hills Creek Road and the subject site is that of Otarehua Domain/Cricket Club consisting of 2.7 hectares of open recreational land and associated tennis court and club rooms. A conifer shelterbelt forms the boundary between the two sites. The Domain is designated under the Central Otago District Plan¹ as being for “Recreational Purposes”.

To the northwest (opposite the Domain) are three residential sections adjoining the road, each consisting of approximately 2,900m² of land. The Otarehua Presbyterian Church sits just to the north of these properties at 3416 Ida Valley-Omakau Road.

¹ Designation D184.

The community swimming pool is also located adjacent to the Church at 3408 Ida Valley-Omakau Road. The swimming pool is due to re-open for the 2023/2024 summer season.

Within the township itself, the character is defined by a variety of small residential section sizes, ranging from 800m² to 2,000m² in area. Dwellings are typically defined as detached and single storey. The Oturehua Township is zoned Rural Settlement Resource Area under the District Plan.

The southern end of town (also within the Rural Settlement Resource Area) is defined by rural service activities which caters for the surrounding rural landholdings, including stock yards and fertiliser yard.

The Otago Rail Trail sits on the eastern side of the township in a north-south direction and forms the eastern extent of the town.

Beyond the limits of the Oturehua Township, land use is predominantly that of farms and large rural landholdings.

4 RESOURCE MANAGEMENT BACKGROUND

4.1 RESOURCE CONSENT HISTORY

RC070334

The site is understood to have resulted from an earlier subdivision application, referenced as RC070334 and approved on 23 November 2007. The proposal was to subdivide what was then Part Section 93 Block I Blackstone Survey District (OT 11C/1112) to create Lots 1 — 6 having areas of 1415m², 1000m², 1000m², 1000m², 1000m² and 8.2365 hectares (balance lot) respectively. The smaller 1,000m² sections are those that characterises the western side of the State Highway today (3373, 3375, 3377 and 3379 Ida Valley-Omakau Road).

RC110261

The existing dwelling was established under resource consent RC110261.

RC220208

An application to subdivide the site into four allotments was initially filed on 13 June 2022. However, as a result of further investigations into the status of land in terms of wetlands, the proposal has since been amended to that of a two-lot proposal as detailed herein.

5 PROPOSAL

5.1 OVERALL SCHEME

The proposal involves subdividing the subject site into two allotments, providing for one additional residential allotment.

A Scheme Plan detailing the extent of the proposed subdivision prepared by SurveyWorx Ltd is attached in **Appendix [B]**. An extract of the proposed subdivision layout is as per the following figure:

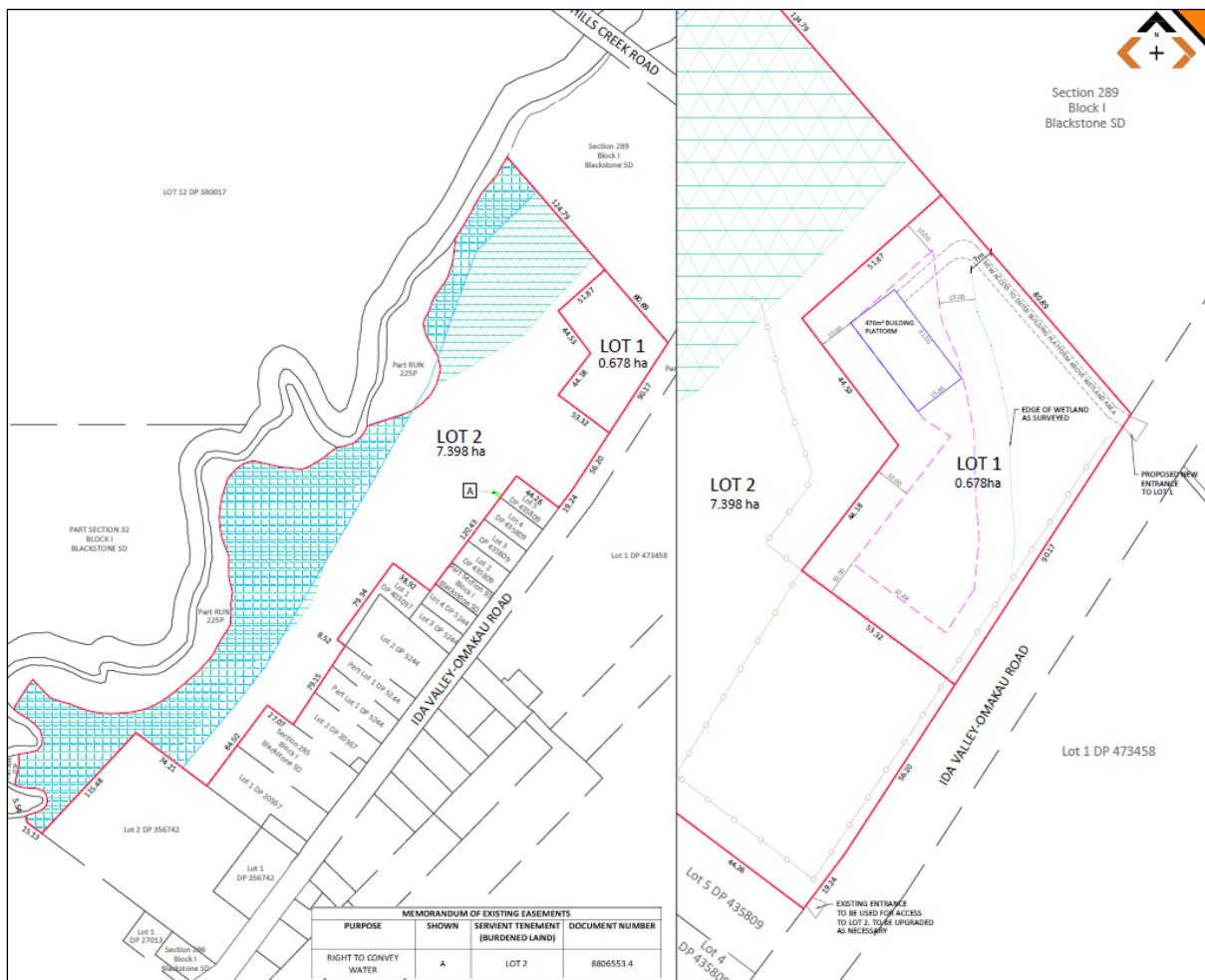


Figure 2: Extract of proposed scheme plan (Source: SurveyWorx).

The proposal will result in allotment sizes as follows:

Lot	Lot Area	Residential Building Platform Area
1	0.678 ha (6,780m ²)	476m ²
2	7.398 ha	None proposed as dwelling is existing.

The subdivision results in an average of 4.038 hectares across the subdivision.

Given the intended purposes of Lot 1 for residential activities, it is proposed to establish a Residential Building Platform (RBP) so to provide reassurance to future Lot owners of their ability to construct a dwelling (as a controlled activity consent). The RBP is setback 10 metres from all boundaries and wetland.

For the avoidance of doubt, future residential dwellings that are constructed within the RBP will still require, at a minimum a Controlled Activity consent pursuant to Rule 4.7.2(i) of the Central Otago District Plan or unless the underlying Zone is updated (by way of plan change or District Plan review) in which future residential use will become permitted.

The applicant proposes to impose the following design controls on proposed Lot 1² to be registered as a consent notice on the subsequent Titles:

- All buildings shall be confined to the Residential Building Platform;
- All buildings (dwellings and sheds) shall be single storey only and no greater than 7.0 metres in height; and
- All buildings shall consist of exterior colours with a Light Reflectance Value no greater than 36%.

No restriction is promoted in terms of building coverage given the size of buildings will be largely dictated by the provision of services (onsite wastewater) and the extent of the proposed RBP.

The proposed subdivision has been designed to take account an existing natural inland wetland, located in the easternmost corner of the subject site (refer to the following figure). The wetland was determined by e3Scientific Ltd, utilising the wetland delineation protocols established by the Ministry for the Environment. This protocol uses three criteria for identifying and delineating wetlands including vegetation, soils, and hydrology. This analysis is attached in **Appendix [J]**. Notably, there is a 7.0 metre strip of land located along the north-eastern boundary that is not defined as a wetland, to which this will provide access to the proposed RBP. The wetland is not fed by any obvious surface water course (noting the cricket ground to the north has completely filled in the entire site) with the applicant observing the depressions only filling up on very rare occasions during intensive heavy rainfall.

² These restrictions are not intended to apply to proposed Lot 4.



Figure 3: Extent of wetland. (Source: e3Scientific).

5.2 ACCESS

Access to the existing dwelling currently occurs via an existing entry point next to Lot 5 DP 435809 (3379 Ida Valley-Omakau Road). The location of this access is to remain unchanged.

Access to proposed Lot 1 will be achieved via an existing gate off Ida Valley-Omakau Road near the boundary shared with the Oturehua Domain. This access will run parallel to the cricket domain (north-east boundary) so to avoid a wetland.

A vehicle crossing that accords to Part 29 of Council's roading standards will be installed.

5.3 SERVICING

Domestic Water

The applicant proposes to service the subdivision via the existing Oturehua Community Water Scheme. The applicant has received confirmation from the Oturehua Water Company that the proposed subdivision can be suitably serviced by the Scheme. A copy of this confirmation is attached in **Appendix [D]**. The Oturehua Water Scheme is registered as an 'on-demand' scheme with Taumata Arowai (Supply ID OTU009).

The exact reticulation arrangement will be determined during the detailed design process although it is noted that the pipeline is already located within the applicant's property. All necessary easements to secure access to the reticulation for Lot 1 will be duly reserved and granted upon submission of the survey plan for approval.

Firefighting Provision

Proposed Lot 1 will be subject to a consent notice requiring the provision of a 30,000 Litre firefighting tank in line with Council's standard conditions of consent.

Wastewater

An onsite wastewater disposal Site and Soils was undertaken by Kirk Roberts Consulting Limited and is attached in **Appendix [E]**. It is noted that the Site and Soils Assessment was conducted on the basis of an earlier, four-Lot scheme. Following the assessment, it was considered necessary to further assess the site in terms of the wetland of which the scheme was updated accordingly. The findings of the Site and Soils remains applicable.

The Site and Soils Assessment, conducted in accordance with AS/NZS1547:2012, has indicated that the proposed subdivision and associated site characteristics are suitable for onsite wastewater disposal if the following recommendations are adhered to.

- Due to the proximity of an ephemeral stream, a spring and shallow ground water, it is recommended that the designer of future disposal systems either utilises effluent irrigation systems as per Appendix M of AS/NZS1547:2012 such as LPED (Low-Pressure Effluent Distribution) or PCD (Pressure Compensated Dripper) irrigation, or Mounds as per Appendix N of AS/NZS1547:2012.
- A minimum of secondary treatment should be targeted for effluent disposal into the Category 6 soils. A Discharge Consent from the Otago Regional Council will be required for each disposal field due to the proximity of water courses detailed above.
- The final distribution method and layout shall be determined by the onsite wastewater system designer.

Power

Proposed Lot 1 will be connected with underground reticulation to Powernet's network. A confirmation of this supply from Powernet is attached in **Appendix [F]**.

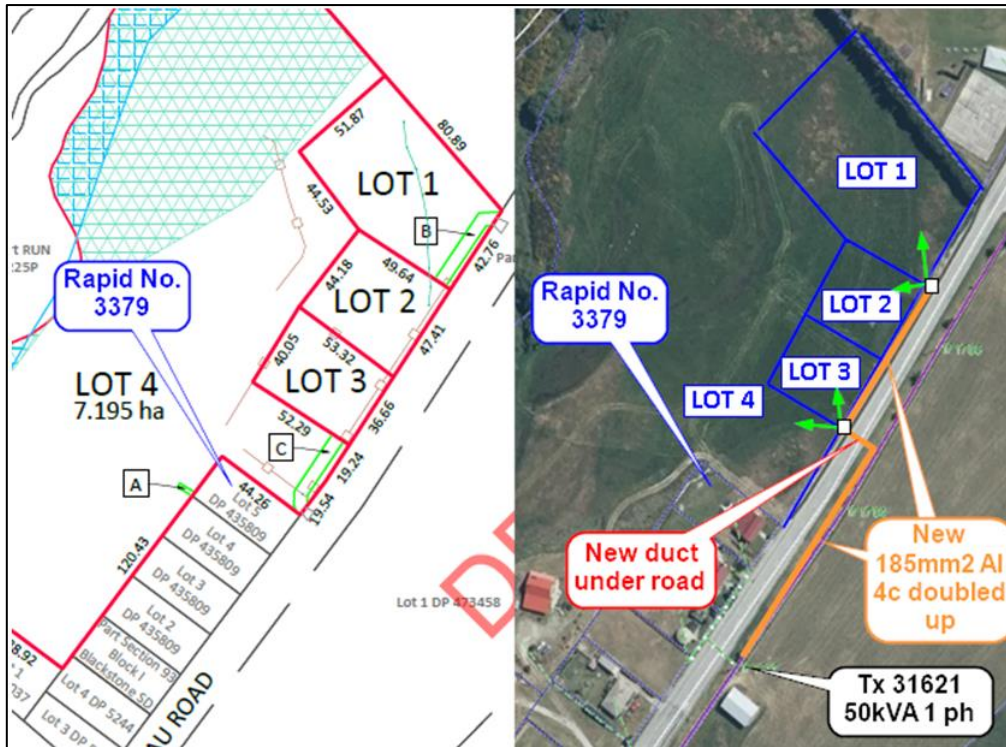


Figure 4: Indicative reticulation schematic from PowerNet³.

5.4 EASEMENTS

Easements for domestic and irrigation water and power supply to the lots, the exact nature and location will be confirmed as these services are constructed, will be required. Council's generic service easement condition is considered appropriate in this instance.

5.5 EARTHWORKS

No earthworks other than the construction of the access is proposed as part of this application.

Roadworks within existing legal road reserve is a permitted activity under rule 13.7.2 (i) of the District Plan.

The utility service trenching required is a permitted activity in accordance with rule 13.7.9.

5.6 CONDITIONS

As detailed throughout, the proposal recommends a suite of conditions of consent to be implemented on the relevant Record of Title for each proposed Lots. For simplicity, these are summarised as follows:

- All buildings on Lot 1 to be subject to the following design controls:
 - All buildings shall be confined to the Residential Building Platforms;

³ Note that PowerNet has based their initial quote on an earlier 4-lot proposal.

- All buildings (dwellings and sheds) shall be single storey only and no greater than 7.0 metres in height; and
 - All buildings shall consist of exterior colours with a Light Reflectance Value no greater than 36%.
- Lot 1 to provide a 30,000 Litre tank for firefighting purposes.
 - Lot 1 to seek advice from a suitably qualified person to design and install an adequate onsite wastewater system in accordance with AS/NZS1547:2012 or any updated standards prior to occupation of the dwelling. All relevant discharge permits from Otago Regional Council (if required) to be secured.
 - A requirement to submit a geotechnical report prior to the construction of dwellings (as will be discussed later in this assessment, the site contains a series of 'wet areas' and so confirmation on the ground conditions and foundation requirements will be necessary at detailed design stage).

6 STATUTORY CONSIDERATIONS

6.1 CENTRAL OTAGO DISTRICT PLAN

The site is located in the Rural Resource Area under Planning Map 40A of the Central Otago District Plan. The site is also partially subject to the 'Flood Hazard' Overlay as it relates to the Ida Burn.

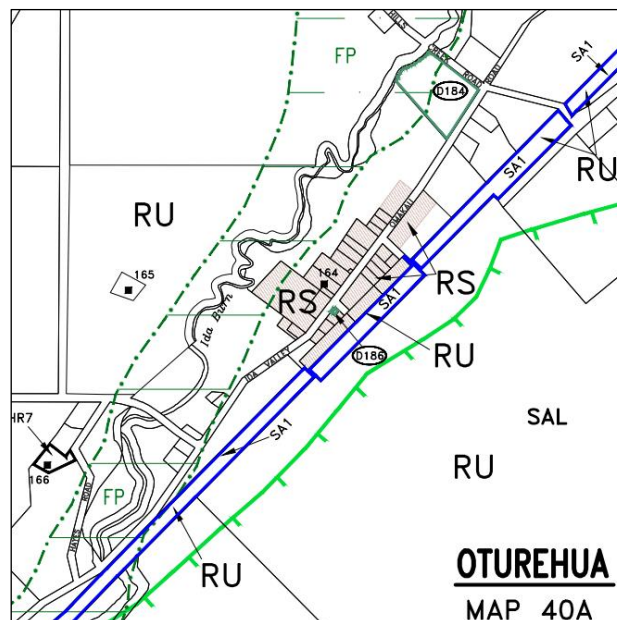


Figure 5: Extract of Planning Map 40A.

The site is also partially subject to the 'Otago Flood Hazard' as referenced on the Otago Regional Council Hazard database. This appears to correlate to the low point of the site and the periphery of the Ida Burn, as illustrated in the following figure.



Figure 6: Extract of ORC Hazard Map.

The proposal requires resource consent for the following reasons:

Subdivision Consent

In the Rural Resource Area, a subdivision application can be sought as a Discretionary Activity pursuant to Rule 4.7.4(iii) so long as no allotment is less than 2 hectares and the average allotment across the subdivision is no less than 8 hectares or is not on land subject to natural hazards.

In this case, the site is both subject to a natural hazard and the allotment areas proposed will be below the average and minimum allotment sizes. The proposal will result in allotment sizes of 6,780m² and 7.398 hectares with the average across the subdivision equating to 4.038 hectares. This requires consideration as a **non-complying activity** pursuant to Rule 4.7.5(iii).

Land Use Consent

A **discretionary (restricted) activity** pursuant to Rule 4.7.3(i) applies to a breach to Rule 4.7.6A(a) as it relates to the 25 metre internal setbacks. In this case, the proposed RBP on Lots 1 (and therefore subsequent residential activities) will be located 10 metres from their respective internal boundaries.

A **discretionary activity** land use consent pursuant to Rule 4.7.4(iii)(d) for the subdivision of land that is or potentially subject to natural hazards. In this instance, Planning Map 40A of the District Plan and the Otago Natural Hazards Database ([Otago Natural Hazards Portal \(orc.govt.nz\)](http://orc.govt.nz)) identifies that part of the site as subject to flooding from the Ida Burn. The hazard area applies to proposed Lot 2, where no additional residential activities are proposed over and above that of the existing dwelling.

6.2 NATIONAL ENVIRONMENTAL STANDARDS

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

Following a review of Council's records including a check of Otago Regional Council's Hazard Register (record attached in **Appendix [G]**), there is no evidence to suggest the site was or is currently subject to any activities that has the potential to contaminate land. For these reasons, the *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* is not considered applicable.

National Environmental Standards for Freshwater

The site contains a wetland as defined by e3Scientific in their assessment attached in **Appendix [J]**.

Pursuant to Regulation 54(b) of the *Resource Management (National Environmental Standards for Freshwater) Regulations 2020*, earthworks within, or within ten metres of a natural wetland is to be assessed as a **non-complying activity**. In this case, earthworks for the driveway and servicing installation will be within ten metres of the wetland, but will not go through the wetland extent.

6.3 OVERALL ACTIVITY STATUS

Overall, the proposal is assessed as a **non-complying activity**.

7 PERMITTED BASELINE

The consent authority may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect.

In the Rural Resource Area, there are no permitted activities relating to residential dwellings or subdivision.

A baseline does exist in terms of buildings (other than residential activities) where the maximum height is 10 metres can be constructed as of right provided these comply with the standards listed in Rule 4.7.6. In addition, a baseline also applies to general earthworks of up to 2,000m² in area or 3,000m³ in volume from any one site are permitted.

8 ASSESSMENT OF EFFECTS

Schedule 4 of the Resource Management Act 1991 (RMA) details the information required to be included in an assessment of environmental effects. An assessment in this regard as it accords to Clause 6 of Schedule 4 is included as follows:

If it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

The proposed activity will not result in any significant adverse effects on the environment. Any effects there are, will be adequately remedied and mitigated. Alternative locations are therefore not considered necessary.

An assessment of the actual or potential effect on the environment of the proposed activity.

In considering the adverse effects of the proposal, the Central Otago District Plan helpfully outlines the matters⁴ to consider for a subdivision in the Rural Resource Area that does not conform to the averaging criteria. This is a rather comprehensive list and I have broadly categorised these matters as follows:

- a. Subdivision Design
- b. Effects on Rural Amenity and Landscape Character;
- c. Effects on productive capacity of the land;
- d. Reverse sensitivity;
- e. Access and Servicing;
- f. Effects on Heritage Values;
- g. Cultural Effect;
- h. Effects on wetlands; and
- i. Hazards.

In reviewing the proposed scheme as attached in **Appendix [B]**, the following adverse effects assessment applies:

Subdivision Design

The proposed subdivision arrangement has been designed to appear consistent and sympathetic with the scale and general character of the surrounding residential allotments that characterises the Otarehua Township. As described, sections within and around the Otarehua township range in size from 800m² to 2,900m².

The site is considered to be appropriately sized to accommodate a dwelling and associated servicing as required by Council's Code of Practice.

The site demonstrates legal and practical access.

Design controls limiting the height (to single storey) and colours of future dwellings will ensure that future built form remains consistent to the scale of the built environment that characterises the wider township. While no restriction is promoted in terms of building coverage, it is considered that the requirement to provide onsite septic (and disposal fields), water tanks and the provision of setbacks (informed by the RBPs themselves) will limit the scale of development so to ensure this does not appear inconsistent with that of the receiving environment.

Overall, the subdivision design promoted as part of this application are considered to be entirely appropriate.

⁴ Under Clause 4.7.4(iii) of the District Plan.

Effects on Rural Amenity Values and Landscape Character

In considering effects on rural amenity values and landscape character, the District Plan defines rural amenity values as those *“created by the open space, landscape, natural character and built environment values of the District’s rural environment, and to maintain the open natural character of the hills and ranges.”*⁵

The Resource Management Act 1991 defines ‘amenity values’ 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”*.⁶

In my opinion, the town limit is clearly defined by the “Oturehua” 70km sign that welcomes visitors (from the north) as they enter the township near the Hills Creek Road intersection. Upon entering the town, the character is immediately defined by residential sections on the left-hand side of the road, and the Oturehua Domain on the right-hand side. The settlement character is further accentuated by the recently installed footpath that provides a pedestrian link from the Domain to the township, providing visual cues of the site forming a continuation of the Rural Settlement Resource Area. Beyond the town limits, and prior to entering the town, the character is indeed rural as defined by the predominant farming activities.

While appearing as a paddock at present, the site sits firmly within the limits of the Oturehua township and for all intents and purposes, appears as a vacant, yet to be developed portion of town. The proposal will result in a physical change to the character of the site insofar as the existing paddocks adjoining the road becoming subsequently domesticated. However, this domestication and proposed density will not appear out of character or inconsistent with the prevailing character of the town. Any changes resulting from the proposal are unlikely to be discernible from the Ida Valley-Omakau Road and will appear logical in the context of the receiving environment. Notwithstanding, the proposed RBP is located well into the site and generously setback from the road, affording a degree of open space.

I consider that the character of the subdivision will be suitably contained and integrated into the receiving environment where it is clearly distinct from the more rural type activities that characterises the areas beyond the limits of the township. As such, and in this context, the proposal is not considered to detract from the character and amenity values that defines the Oturehua Township nor will it undermine rural amenity values generally.

Effects on productive capacity of land and reverse sensitivity

The provision of subdivision in Rural Resource Areas requires consideration of fragmentation of potentially productive land resources.

The site has an area of 8.09 hectares although approximately 3.0 hectares of the site is fenced for riparian protection (refer to Figure 1).

⁵ Objective 4.3.3 – Landscape and Amenity Values

⁶ Part 1, Section 2 – Interpretation, Resource Management Act 1991.

The site is not utilised in a manner that provides economic returns for the applicant. The applicant uses the site for small scale grazing for private stock solely for the purposes of maintaining pasture length.

Other than providing for the immediate needs of the applicant, the site does not function in any profitable manner in terms of its soil resources. The applicant has provided receipts (refer to **Appendix [L]**) for 2022 and 2023 year for the baling of the paddocks, which amounted to the applicant having to pay for the running cost in 2021/2022 and a small payment of less than \$1,000 for the 2023 season. The site does not make a return in terms of baling.

The site is further constrained (in terms of its ability to be utilised in an efficient and productive manner) recognising the following matters:

- The site is extensively fenced for the purposes of preserving the various wetlands and river margins which in practice, reduces the amount of 'useable' land in any meaningful capacity.
- A portion of the site is subject to flooding (as will be detailed later in this report) which the applicant has observed on occasions as affecting the margins of the Ida Burn. Flood prone areas poses a risk to anyone wanting to establish horticulture, crops, glass houses where there is a risk to damage (such as fences, vines, irrigation etc).
- The *National Environmental Standard for Freshwater* requires consent for feedlots, and stockholding areas within 50 metres of any water body, wetlands, water abstraction bore and drains. The various wetlands that dissects the site will inevitably trigger a requirement for consent.
- The *National Environmental Standard for Freshwater* restricts intensive winter grazing to 10% of the land area and requires a 5 metre setback from water bodies. The areas of land that sits beyond the 5 metre limit of any waterbody (including wetlands) limits the ability to utilise the land in a meaningful capacity for intensive winter grazing.
- I did not observe any horticulture within the wider Ida Valley. The Ida Valley experiences extreme frosts and therefore frost protection of some form would be required to support a viable crop operation. Rule 4.7.6E(c) requires any wind machine used for frost control shall be constructed and operated so that any noise emission measured at a distance of 300 metres shall not exceed 65 dBA L10. In addition, wind machines are not to be located closer than 300 metres to any Residential or Rural Settlement Resource Area, or within 100 metres of a dwelling house not located on the property.
- Rule 4.7.6E(a) requires all activities conducted in the Rural Resource Area (which applies to the site) to be conducted so as to ensure noise limits of 55 dBA L₁₀ (from 7am to 10pm) are not exceeded at any point within the notional boundary of any dwelling, or at any point within any Rural Settlements Resource Area (which applies

to the residential dwellings adjoining the site). The site is thin and narrow and immediately adjoins the Rural Settlement Zone. Any degree of equipment/machinery associated with productive use is unlikely to comply with the noise limits.

- The site sits embedded within the township by being confined by the Rural Settlement Resource Area (to the south) and designated Recreational Reserve (the Domain to the north). The provision of reverse sensitivity effects are heightened due to the proximity of the adjoining Rural Settlement Resource Area.

Recognising these constraints, it is considered that the site is significantly constrained in terms of its ability to be utilised for productive purposes and therefore the proposal will generate no more than minor adverse effects on productive capacity.

Reverse sensitivity can arise particularly where conflicting activities are located in close proximity to each other. In this case, the proposal will simply infill parts of the town for residential uses and are considered entirely compatible to the surrounding land uses as defined by the Rural Settlement Resource Area and designated reserve.

Servicing

The sites are not connected to Council's reticulated three-waters.

With respect to potable water, the applicant proposes to service the subdivision via the existing Oturehua Community Water Scheme. The applicant has received confirmation from the Oturehua Water Company that the proposed subdivision can be suitably serviced by the Scheme. A copy of this confirmation is attached in **Appendix [D]**. The Oturehua Water Scheme is registered as an 'on-demand' scheme with Taumata Arowai (Supply ID OTU009).

The exact reticulation arrangement will be determined during the detailed design process although it is noted that the pipeline is already located within the applicant's property. All necessary easements to secure access to the reticulation will duly reserved and granted upon submission of the survey plan for approval.

It is considered that a suitable potable water supply can be afforded to the proposed residential allotment.

In terms of wastewater, Kirk Roberts have suggested that either subsurface pressure compensated dripline irrigation (PCD), or a mounded Land treatment Area would be suitable for overcoming the limitations of the site conditions. A design irrigation rate for an LTA using subsurface dripline would be 2 mm/day or for mounds could be 5 mm/day. The site and soil assessments both recommended a wastewater treatment plant capable of treating effluent to meet secondary treatment standards would be appropriate for the site. Senior Environmental Scientist, Mr Simon Bloomberg has assessed Kirk Roberts' assessment and his findings are attached in **Appendix [K]**. Mr Bloomberg considers the design irrigation rates provided by Kirk Roberts are based on the ASNZS:1457 (2012) which are designed to be conservative such that the derived area for the LTA is of suitable size for assimilating the annual TSS and BOD loading without leading to adverse soil health and subsequent failure of the LTA to further treat the discharged effluent. Thus, for a long-term outlook as suitable for design life of the LTA and treatment system, the LTA should provide significant additional treatment of

the already secondary treated effluent, including the removal of faecal bacteria at a rate of 3 log units per metre of unsaturated soil.

With respect to firefighting, Lot 1 will be subject to a consent notice requiring the provision of an onsite firefighting tank. Such an approach is common practice for sites that are not afforded a reticulated hydrant and will ensure suitable provision for static water is available.

The site has an existing power connection which can be extended to the proposed new allotments as confirmed by Powernet (**Appendix [F]**).

Overall, it is considered appropriate to conclude that the subdivision can be suitably serviced in line with the degree of servicing that already applies to existing dwellings in the vicinity of the site.

Access

Access will be achieved via a new driveway located along the boundary with the cricket grounds so to ensure no disturbance occurs to the wetland.

In terms of effects on the roading environment, it is considered that with the provision of a compliant access point, low speed (70km) environment and acknowledging the scale of development in line with the current density of the township, the proposal is considered to generate no more than minor effects on the operational efficiency of the road.

Overall, it is considered the proposal can be adequately absorbed without detracting from the safety and efficiency of the roading network.

Natural Hazards

Identified on CODC's Planning Maps and ORC's Hazards Map is a flood plain area which correlates to the margins of the Ida Burn River. The extent of the 'mapped' flood plain areas are as detailed on the Scheme Plan (attached in **Appendix [B]**), an extract of which is included in the following figure (Figure 5).

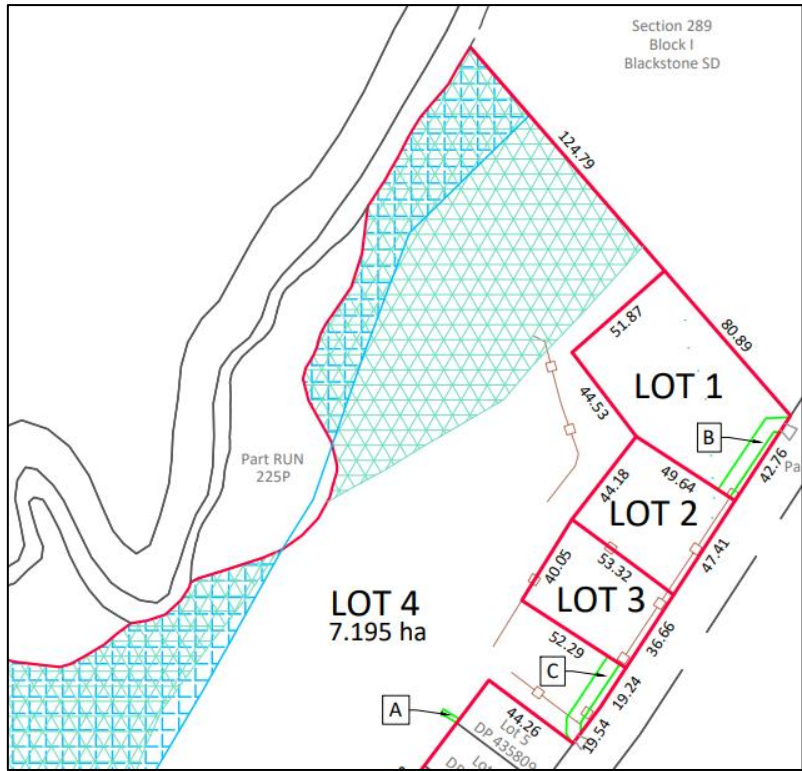


Figure 7: CODC and ORC Flood Plain layers (Source: SurveyWorx Ltd)⁷.

While the proposed subdivision will be located wholly outside of the ‘mapped’ flood prone areas, the applicant commissioned Mr Bob Hall (CMENG NZ (Civil) and CPEng) of R.J. Hall and Associated Limited to consider the potential flood risk on the proposed allotments as it relates to the 1 in 500 AEP flood event. Mr Hall’s methodology and assessment is attached in **Appendix [H]**.

Summarising Mr Hall’s investigation, Mr Hall determined the maximum height of the water level across the section should a flood were to occur is estimated at RL 503.143 metres and the total energy line on that section at RL 50.343 metres. The total energy line (TEL) reflects the depth at a section that would occur if the flood waters met an obstruction which causes the water to “stall” locally. Mr Hall considers that the closest approach of the floodwaters in this event to the proposed subdivision with the TEL value of RL 50.343m is at or about chainage 160m or about 40 m northwest of the western corner of proposed Lot 1 (refer to Figure 6).

⁷ Note that this was based on an earlier 4-lot proposal.

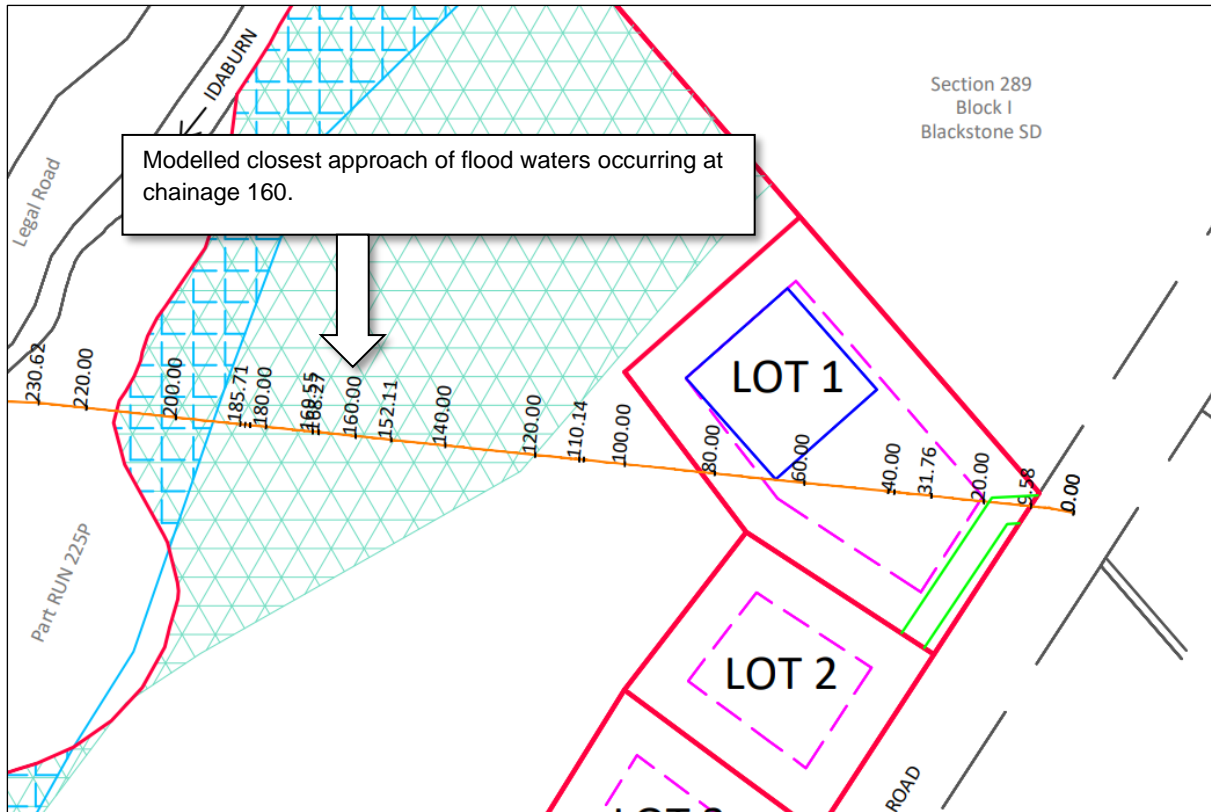


Figure 8: Cross sectional chainage information with the max height of assumed flood level indicated at Chainage 160.

Mr Hall concludes from this that it is unlikely that a 1 in 500 AEP flood event will cross the subdivision and accordingly considers that any dwellings that would eventually be built on the proposed allotments can for all intents and purposes be considered flood free. Mr Hall does not consider any freeboard clearance is necessary but rather compliance with NZS 3604 with respect to stormwater effects.

Mr Hall's assessment appears to correlate with the mapped areas as held by ORC and CODC providing a degree of verification on the accuracy of Council's mapped data.

In addition to the above, the applicant was onsite during the flood events on 21 July 2017 to which the following figures detail surface flooding occurring on the immediate flat paddocks adjoining the river, with the existing dwelling and proposed sections remaining clear of any surface flood waters.



Figure 9: Flood of 21 July 201. Photo taken at bottom level of property looking north towards the northern boundary shared with the Domain. The applicant's dwelling is noted in the right of the image and was not flooded (Image Source: Supplied by Jillian Sullivan).



Figure 10: Flood of 21 July 2017. Photo from the road looking west at proposed allotments. The conifers that separates the Domain from the subject site are visible in the right of the image (Image Source: Supplied by Jillian Sullivan).

Relying on Mr Hall's assessment, it is considered that the proposed subdivision, occurring near the road in line with that of existing dwellings will be sufficiently clear from the 1 in 500 AEP Flood Event.

The site contains a number of 'springs' and depressions which results in wet area of the site. These areas are fenced off and are progressively being planted in natives.

In their initial wastewater investigation, Meyer Cruden noted that a more detailed geotechnical investigation should be carried out in accordance with NZS3604 once a building platform location has been established to confirm final ground preparation requirements and footing detail. This recommendation is considered appropriate to ensure that future buildings are designed and positioned so not to be adversely affected by liquefaction or other geotechnical constraints. In this case, it is considered appropriate to impose a condition of consent on the proposed RBP requiring a suitably qualified and experienced person to investigate the geotechnical parameters of the site and define the relevant mitigation requirements for future dwellings.

Effects on Wetlands

The site contains a number of "wet" areas which have since been defined as an inland natural wetland. The applicant observes the low depressions (defined by e3Scientific as the wetland) as only holding water during intensive rainfall, rather than being fed by any obvious surface water course. The proposal seeks to retain all wetlands onsite by ensuring driveways, building platforms and services do not pass through the wetlands themselves.

The proposal seeks to avoid damage to the wetland through utilising an existing strip of land (not wetland) for access.

Potential effects on wetlands includes sedimentation and reduction in water supply (through diversion of surface water or reduction in groundwater).

With respect to sedimentation, the provision of an erosion and sediment control plan is considered appropriate. Based on previous experience with earthworks in and around wetlands, an ESCP should be prepared in line with Guidance Document 2016/005: Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (GD05). ORC refers to GD05 for best practice erosion and sediment control guidance.

GD05 outlines the following ten fundamental principles of ESC that provide best practice guidance for minimising the adverse effects of erosion and sedimentation through the planning, construction and maintenance phases of the project:

- Minimise disturbance
- Stage construction
- Protect steep slopes
- Protect receiving environment
- Rapidly stabilise exposed areas
- Install perimeter controls and diversions
- Employ sediment retention devices
- Get trained and develop experience
- Adjust the ESC Plan as needed

- Assess and adjust your ESC measures

In this case, earthworks for the purposes of subdivision would be limited to the installation of the driveway, water and power and preparation of the platform. Earthworks associated with development of the site post subdivision includes construction of the house and installation of the wastewater system.

During the subdivision phase, the following matters should be implemented:

- Stabilised access
- Silt fences to be established along the southern side of the access so to ensure there is no infiltration into the wetland and to the south of the platform site.
- It is considered through the implementation of an ESCP, that effects on the wetland associated with construction activities can be suitably avoided.

Post-subdivision, it is considered that the wetland area should be fenced off so to avoid any activities occurring within the wetland area.

With respect to reduction in water supply, there are no obvious surface water pathways feeding the depressions on the site. Consistent with the applicant's observation, the depressions only result in ponding following extensive rainfall. Similarly, the groundwater recharge observed by e3Scientific confirms that the area is predominantly groundwater fed. For these reasons, the provision of a driveway or dwelling which is not removing any obvious surface flow is not considered to adversely reduce water supply to the wetlands.

In terms of the eventual occupation of the site for residential purposes, the effects of onsite wastewater disposal on groundwater and wetlands has been assessed by Mr Bloomberg (Environmental Scientist) and attached in **Appendix [K]**. In brief, the assessment concludes:

- In terms of water quality, wetlands provide the ideal conditions to support bacteria or plants to fully metabolise and take up most nutrients, and provide the redox conditions required to reduce nitrates to nitrogen gas. It is therefore likely that the effects on the downgradient, nearby wetlands and surface water bodies are less than minor, and that the wetland would possibly provide further polishing of any discharge that did reach the wetland. It was observed that the wetlands have been fenced off and a riparian margin planted which will improve the filtering activity of the wetland.
- The water take for the town supply is upgradient and therefore no adverse effects will result from onsite discharge.
- The nearest downgradient bore is 8 km and therefore is unlikely to be affected by future onsite wastewater discharge.
- The springs feeding surface water bodies and unverified wetlands to the west of the site are likely to be the downgradient receptors of any groundwater impacted by the discharge of wastewater to land, as the verified onsite wetland delineated by e3scientific is not connected to groundwater directly. Therefore, the effects on the onsite wetland will be less than minor.

- The springs to the west of Lot 1 were observed as flowing at <1 L/s, or <86,400 L/day. The additional water discharged to land would therefore be equivalent to between 1.8% - 2.7% of the volume discharged at the spring, or a dilution factor of >1:35. Thus, if the treated effluent quality meets expectations as provided in Table 1 (in **Appendix [K]**), then any nitrate migrating offsite could be diluted at a rate of 1:35, which would reduce concentrations to levels similar (if not less than) those observed in the catchment already (ORC, 2012) which ranged from 1.5 – 4.5 g NO₃-N/m³. For groundwaters recharging surface water bodies and wetlands nearby, the effects are expected by less than minor, with potential for only very low levels of nutrients to discharge into the wetland.
- Cumulative effects from onsite wastewater discharge are expected to be low given the scale of the activity proposed.

Overall, the wetland wastewater assessment concludes that effects on the wetland and groundwater from future occupation of the site will be less than minor provided a treatment system capable of meeting the secondary standards for treated effluent and a Land Treatment Area is sized for the suggested design irrigation rates of 5 mm/day for mounds or 2 mm/day for PCD subsurface dripline, and the eventual occupancy design of the dwelling.

Relying on the assessment undertaken by Mr Bloomberg, it is considered that the a suitable means of effluent disposal can be achieved for the proposal without generating adverse effects on the environment.

Summary of Effects

In terms of effects on the environment, it is concluded that these effects will be no more than minor due to:

- The subdivision does not detract from the wider character, visual amenity or residential amenities insofar as the subdivision represents a logical insertion with the density being one that can be absorbed given the sympathetic character and scale of development with that of the wider township. No person observing the proposed sites from the road would be able to distinguish from the difference in Zoning that applies to the subject site and that of the wider Oturehua Township. The proposal represents an appropriate use of the land in terms of effects on the environment.
- The subdivision design can accord to Council's Land Development and Subdivision Code of Practice in terms of servicing, access and design.
- The scale and degree of subdivision will not adversely affect rural amenity values given such values are not apparent on this site. Rather, the site appears as an extension to the Rural Settlement Resource Area and sits firmly within the town limits.
- Due to the constrained nature of the site to utilise for productive purposes, adverse effects on productive capacity will be no more than minor.

- The proposal will result in additional traffic movements to and from the site however the scale is not considered to result in any material effect on the efficiency of the road.
- All sites are located beyond the extent of the 1 in 500 AEP flood event.
- Promoted conditions of consent will mitigate adverse effects on the environment.

Overall, the proposal represents a logical development on a parcel of land that enables residential activities to occur that is not incongruous to that of the receiving environment. While the underlying Zone anticipates rural activities, such activities are not considered logical nor appropriate given the site is inherently embedded within the urban limits of Oturehua. With environmental effects being no more than minor, the proposal is considered entirely appropriate in this location.

Adverse Effects from Hazardous Substances and Discharge of Contaminants

If the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment which are likely to arise from such use

No hazardous substances are proposed.

If the activity includes the discharge of any contaminant, a description of:

- (i) *The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects; and*
- (ii) *Any possible alternative methods of discharge, including discharge into any other receiving environment.*

No discharge of contaminants are proposed other than those associated with the discharge of wastewater. As assessed by Mr Bloomberg, the site is determined to be suitable for providing for onsite wastewater disposal.

A description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce actual and potential effects.

Persons Affected

Identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted

In considering adverse effects on persons, Section 95E(3)(a) of the RMA requires all adverse effects on persons that have provided written approval to be disregarded. In this case, the applicant has obtained written approval from the following persons (and attached in **Appendix [I]**):

Property Address	Legal Description	Owner
3375 Ida Valley-Omakau Road, Oturehua	Lot 3 DP 435809	Bridget Musters

3377 Ida Valley-Omakau Road, Oturehua	Lots 4 and 5 DP 435809	Rosemary Hossack Riddell
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In terms of effects on other persons, the most relevant properties are those that either adjoin the site or are located directly adjacent the property. These properties are identified in the following figure (Figure 9) and includes:

- 3407 Ida Valley-Omakau Road, Oturehua;
- 3404 Ida Valley-Omakau Road, Oturehua; and
- Lot 1 DP 473458, Ida Valley-Omakau Road, Oturehua (vacant parcel of land directly opposite the subject site).



Figure 11: Location of adjacent properties in which effects were considered (red). Properties where APA has been provided highlighted in green.

3407 Ida Valley-Omakau Road, Oturehua

The property at 3407 Ida Valley-Omakau Road adjoins the subject site to the immediate north. This site is that of the Oturehua Domain and comprises of recreational facilities and club rooms. There are no residential activities on this site and the site is designated for “Recreational Purposes”.

The key effects generated by the proposal on this property includes the eventual occupation of proposed Lot 1.

The effects of the subdivision and associated occupation are considered to be less than minor given the Domain is not occupied on a regular basis but rather is only used for passive recreational use and community events. The provision of a dwelling on proposed Lot 1 are not activities that are considered to be inconsistent with the character and prevailing use of

the immediate area and will appear as a logical insertion. The subdivision will not impede the ability for the reserve to be utilised in its full capacity as per its designated purpose.

Overall, adverse effects on this property will be less than minor.

3404 Ida Valley-Omakau Road, Oturehua

The property at 3404 Ida Valley-Omakau Road is located to the east of the site and directly opposite the proposed access point for Lots 1. This site contains an existing residential dwelling which is located approximately 30 metres from the road boundary and some 50 metres from the proposed entrance to Lots 1. The site is heavily vegetated such that the existing dwelling is screened from the road. The site is understood to be utilised as a holiday home rather than a permanent residence.

As detailed throughout, the proposed subdivision is considered to be entirely appropriate in the context of the receiving environment such that irrespective of the Zone, the subdivision will appear as a logical insertion to the existing township and will appear sympathetic to the scale and character of the receiving environment.

While the proposal results in an inevitable change to the current use of the site (paddocks to residential), this change is not considered adverse to the amenities associated with the neighbouring property. The inherent use and domestication of the site will not generate effects on this property that can be considered adverse when the provision of residential activities in a township setting is entirely appropriate. Notwithstanding, the proposed RBP on Lot 1 is located another 50 metres into the site, increasing the inherent separation distances (from dwelling to dwelling) by at least 100 metres.

In considering the above, the proposal will generate less than minor effects on this neighbour.

Lot 1 DP 473458, Ida Valley-Omakau Road, Oturehua

The site directly across the road from the subject site is characterised as a paddock and is currently vacant. The site is partially zoned Rural Settlement Resource Area and Rural Resource Area. Given the lack of development on this site and how it currently functions, the proposal is not considered to generate any adverse effects on this property.

Overall, no persons are considered adversely affected by the proposal.

Monitoring

If the scale or significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved.

The proposal is not considered to warrant any special monitoring over and above Council's standard monitoring regime.

Protected Customary Rights

If the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations

or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).

Not applicable.

Positive Effects

The proposal is considered to generate positive effects including:

- The provision of additional residential activities in an area where the density proposed is consistent with the prevailing scale of development of the Oturehua township and one that can be adequately absorbed without detract from amenity values.
- The subdivision will enable the applicant to undertake further fencing and planting which will afford ongoing protection of wetlands and riparian margins.

Summary of Adverse Effects

Overall, it is considered the proposal suitably mitigates adverse effects on the wider environment and will be no more than minor.

As the proposal is considered to generate no more than minor adverse effects on the environment, no mitigation measures over and above those inherent to the proposal are considered necessary.

9 SECTION 95 NOTIFICATION

9.1 PUBLIC NOTIFICATION

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

Test	Yes/No	Comments
Step 1: Mandatory notification in certain circumstances – section 95A(3)		
Has the applicant requested that the application be publicly notified?	No	
Is public notification required under s95C (following a request for further information or commissioning of report)?	No	
Is the application made jointly with an application to exchange reserve land?	No	
Step 2: If not required by Step 1, notification is precluded if any of these circumstances apply – section 95A(5)		
Does a rule or NES preclude public notification for all aspects of the application?	No	
Is the application a controlled activity?	No	

Is the application a restricted discretionary or discretionary activity for a subdivision?	No	
Is the application a restricted discretionary or discretionary activity for residential activity?	No	
Is the application a boundary activity (other than a controlled activity)?	No	
Step 3: Notification required in certain circumstances if not precluded by Step 2 – section 95A(8)		
Does a rule or NES require public notification?	No	
Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?	No	As detailed in the assessment undertaken in Section 8.0 above, the effects on the environment are considered to be no more than minor.
Step 4: Relevant to all applications that don't already require notification – section 95A(9)		
Do special circumstances exist that warrant the application being publicly notified?	No	

9.2 LIMITED NOTIFICATION

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

Test	Yes/No	Comments
Step 1: Certain affected groups/persons must be notified – sections 95B(2) and (3)		
Are there any affected protected customary rights groups or customary marine title groups?	No	
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement - is there an affected person in this regard?	No	
Step 2: If not required by Step 1, notification is precluded if any of the following apply – section 95B(6)		
Does a rule or NES preclude limited notification for all aspects of the application?	No	
Is the application a controlled activity?	No	
Step 3: Notification of other persons if not precluded by Step 2 – sections 95B(7) and (8)		
In the case of a boundary activity, is the owner of an allotment with an infringed boundary considered affected under s95E?	No	
Are there any other affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval?	No	As per the assessment undertaken in Section 8.0 above, no persons are considered to be adversely affected by the proposal.
Step 4: Notification in special circumstances – section 95B(10)		
Do special circumstances exist that warrant the application being notified to any persons not identified above?	No	

9.3 NOTIFICATION CONCLUSION

Based on the assessment above, it is considered that the proposal does not warrant notification in that the adverse effects of the proposal on the environment will be no more than minor.

In addition, the proposal is not considered to warrant limited notification in that no person(s) are considered to be adversely affected by the proposed activities.

10 SECTION 104(1)(b) ASSESSMENT

Clause 2(1)(g) of Schedule 4 of the Resource Management Act 1991 requires an assessment against any relevant planning documents that are referred to in Section 104(1)(b) (of the RMA). This includes;

- A national environmental standard
- Other regulations
- A national policy statement
- A New Zealand coastal policy statement
- A regional policy statement or proposed regional policy statement
- A plan or proposed plan

National Policy Statement for Freshwater Management

A potential wetland was noted to extend the majority of the roadside boundary. In order to determine the status of the potential wetland, An e3Scientific terrestrial ecologist completed a detailed wetland assessment and delineation of the study area on 27 October 2022.

The wetland assessment followed the MfE 2020 and 2021 wetland delineation protocols. This protocol uses three criteria for identifying and delineating wetlands including vegetation, soils, and hydrology. Detailed analysis of these three attributes was undertaken at two locations, one within the wet feature on the site and one on the adjacent upland area. The New Zealand Wetland Delineation Data Forms were completed in depth at the sampling locations once variability across the site was established and characteristic areas could be selected.

The upland assessment location was located west of the wetland quadrat within a pasture community. The sites elevation was approximately one meter above that of the lowest point of the identified wetland feature. The sampling location (labelled as upland quadrat on Figure 2) was clearly of upland conditions exhibiting no wetland characteristics.

The site contained dry soils lacking any evidence of extended periods of soil saturation and no wetland species were recorded. The location failed all three wetland indicators included in the New Zealand Wetland Delineation Data Forms.

The National Policy Statement for Freshwater Management 2020 (NPS-FM) sets out the objectives and policies for freshwater management under the Resource Management Act 1991.

The NPS-FM came into effect on 3 September 2020 and replaced the National Policy Statement for Freshwater Management 2014 (amended 2017). The amendments take effect from 5 January 2023.

Clause 3.22(1) of the NPS-FM requires every regional council must include the following policy (or words to the same effect) in its regional plan:

*“The loss of extent of natural inland wetlands is **avoided**, their values are protected, and their restoration is promoted, except where:*

(a) the loss of extent or values arises from any of the following:

(i) the customary harvest of food or resources undertaken in accordance with tikanga Māori

(ii) wetland maintenance, restoration, or biosecurity (as defined in the National Policy Statement for Freshwater Management)

(iii) scientific research

(iv) the sustainable harvest of sphagnum moss

(v) the construction or maintenance of wetland utility structures (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020)

(vi) the maintenance or operation of specified infrastructure, or other infrastructure (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020)

(vii) natural hazard works (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020); or

The key premise of the NPS is to avoid the loss of natural inland wetlands.

The proposal seeks to avoid the loss of wetlands through ensuring the identified area is suitably fenced off and protected from development. In addition, an ESCP is considered prudent to implement during the development phase.

National Policy Statement for Highly Productive Land

The National Policy Statement for Highly Productive Land (NPS-HPL) was made operative on 17 October 2022.

The majority of the site (as with the entirety of Oturehua) is within Land Use Capability Class 3 soils⁸ as illustrated in Figure 10 below.

⁸ <https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability>

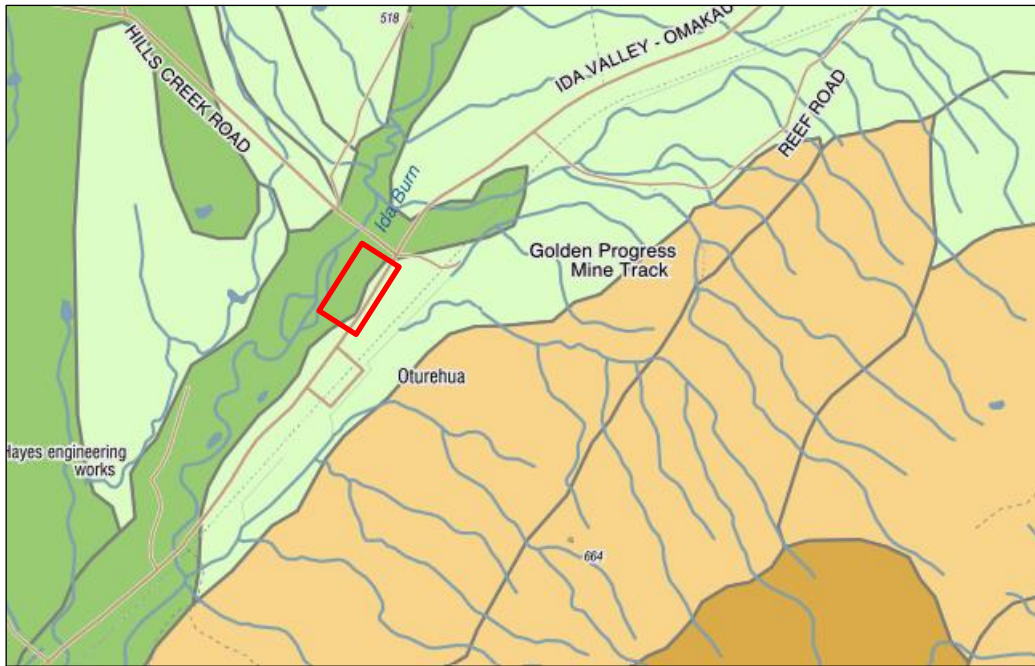


Figure 12: Extract of LUC Class Maps. Location of site approximate.

Highly productive land is tentatively defined under Clause 3.5(7)(a) of the NPS as land that is:

- (i) zoned general rural or rural production; and
- (ii) LUC 1, 2, or 3 land

While the site is not used for rural production, it is zoned Rural Resource Area and is classified as LUC 3. Therefore, it is appropriate to define the site as Highly Productive Land and therefore the NPS applies.

Section 3.10 of the NPS enables Council to allow the subdivision of highly productive land if it is satisfied that:

- (a) there are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years; and
- (b) the subdivision, use, or development:
 - (i) avoids any significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district; and
 - (ii) avoids the fragmentation of large and geographically cohesive areas of highly productive land; and
 - (iii) avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-based primary production from the subdivision, use, or development; and
- (c) the environmental, social, cultural and economic benefits of the subdivision, use, or development outweigh the long-term 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.

In order to satisfy a territorial authority as required by subclause (1)(a), an applicant must demonstrate that the permanent or long-term constraints on economic viability cannot be addressed through any reasonably practicable options that would retain the productive capacity of the highly productive land, by evaluating options such as (without limitation):

- (a) alternate forms of land-based primary production:
- (b) improved land-management strategies:
- (c) alternative production strategies:
- (d) water efficiency or storage methods:
- (e) reallocation or transfer of water and nutrient allocations:
- (f) boundary adjustments (including amalgamations):
- (g) lease arrangements.

An evaluation of this test is as follows:

<p>alternate forms of land-based primary production</p>	<p>The majority of the site is located within a flood plain, limiting the ability to provide infrastructure or services to support primary production. This includes:</p> <ul style="list-style-type: none"> • The site is extensively fenced for the purposes of preserving the various wetlands and river margins which in practice, reduces the amount of 'useable' land in any meaningful capacity. • A portion of the site is subject to flooding (as will be detailed later in this report) which the applicant has observed on occasions as affecting the margins of the Ida Burn. Flood prone areas poses a risk to anyone wanting to establish horticulture, crops, glass houses where there is a risk to damage (such as fences, vines, irrigation etc). • The <i>National Environmental Standard for Freshwater</i> requires consent for feedlots, and stockholding areas within 50 metres of any water body, wetlands, water abstraction bore and drains. The various wetlands that dissects the
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	<p>site will inevitably trigger a requirement for consent.</p> <ul style="list-style-type: none"> • The <i>National Environmental Standard for Freshwater</i> restricts intensive winter grazing to 10% of the land area and requires a 5 metre setback from water bodies. The areas of land that sits beyond the 5 metre limit of any waterbody (including wetlands) limits the ability to utilise the land in a meaningful capacity for intensive winter grazing. • I did not observe any horticulture within the wider Ida Valley. The Ida Valley experiences extreme frosts and therefore frost protection of some form would be required to support a viable crop operation. Rule 4.7.6E(c) requires any wind machine used for frost control shall be constructed and operated so that any noise emission measured at a distance of 300 metres shall not exceed 65 dBA L10. In addition, wind machines are not to be located closer than 300 metres to any Residential or Rural Settlement Resource Area, or within 100 metres of a dwelling house not located on the property. • Rule 4.7.6E(a) requires all activities conducted in the Rural Resource Area (which applies to the site) to be conducted so as to ensure noise limits of 55 dBA L₁₀ (from 7am to 10pm) are not exceeded at any point within the notional boundary of any dwelling, or at any point within any Rural Settlements Resource Area (which applies to the residential dwellings adjoining the site). The site is thin and narrow and immediate adjoins the Rural Settlement Zone. Any degree of equipment/machinery associated with productive use is unlikely to comply with the noise limits. • The site sits embedded within the township by being confined by the Rural Settlement Resource Area (to
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	the south) and designated Recreational Reserve (the Domain to the north). The provision of reverse sensitivity effects are heightened due to the proximity of the adjoining Rural Settlement Resource Area.
improved land-management strategies	Much of the site is either flood prone or subject to a series of springs and wetlands. The provision of controls associated with stocking rates and proximity to wetlands precludes any intensive use of the site for farming purposes.
alternative production strategies	As detailed above, a significant proportion of the site is subject to inundation. As a result, the risk of damage to property and infrastructure impedes the ability to utilise the land efficiently.
water efficiency or storage methods	The availability of water is not considered to be a limiting factor for primary production or horticulture. However as discussed, the site is significantly constrained by the provision of the flood plain to invest infrastructure.
reallocation or transfer of water and nutrient allocations	
boundary adjustments (including amalgamations)	The site is “landlocked” to the north by Designation 184, to the west due to the river, and to the east and south by the Rural Settlement Zone. It is not possible to amalgamate the site with any larger rural landholding. While a lease arrangement could be made with other land holdings located elsewhere, it is established that much of the site does not lend itself to viable primary production where the provision of the flood plain significantly impedes investment.
lease arrangements.	

In considering the above evaluation, the following conclusions are made:

(a) there is permanent or long-term constraints on the land due to the provision of the flood plain, extensive wetlands, the landlocked nature of the site and sensitive receptors (neighbours, water bodies and wetlands) that means the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years.

(b) the subdivision, use, or development:

(i) avoids any significant loss (either individually or cumulatively) of productive capacity of highly productive land in the district; The term significant is not defined in the NPS. The Oxford Dictionary defines significant as “important or noticeable”. I do not consider the proposed subdivision would result in an “important” or “noticeable” loss of highly productive land, recognising that the site is located firmly within the urban limits of the Otarehua township.

(ii) avoids the fragmentation of large and geographically cohesive areas of highly productive land. The site is landlocked and physically disconnected from any large or cohesive landholding.

(iii) avoids if possible, or otherwise mitigates, any potential reverse sensitivity effects on surrounding land-based primary production from the subdivision, use, or development. The site is located within the urban limits of the Otarehua settlement. Any attempt to utilise the land for primary production has the potential to generate reverse sensitivity effects of the established urban environment.

(c) the environmental, social, cultural and economic benefits of the subdivision, use, or development are considered to outweigh the long-term 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. The proposed subdivision provides a substantial economic gain for both the applicant and prospective owners, along with providing for the social wellbeing of prospective new landowners.

In considering the NPS, it is considered that by definition, the site is to be classified as Highly Productive by virtue of its underlying Zoning and subsequent LUC classification. However, fundamentally the site is severely constrained by the provision of the floodplain and wetlands such that the investment in infrastructure to support primary production is illogical and potentially uneconomical.

The provision of sustainable management needs to take precedent and the proposal is considered to be one that demonstrates sustainable management through the utilisation of impeded land for residential purposes within a defined urban limit.

Regional Policy Statement for Otago 1998

The Regional Policy Statement for Otago 1998 was revoked on 15 March 2021. This document does not need to be considered any further.

Partially Operative Otago Regional Policy Statement 2019 (RPS2019)

The Partially Operative Otago Regional Policy Statement 2019 (RPS2019) was declared partially operative on 15 March 2021 (at which point the 1998 document was revoked).

Of the key themes identified in the RPS2019, I make the following brief comments in respect of the RPS provisions and the proposed development:

- The proposal is not considered to result in adverse effects on the quality of the built environment of the region nor the use of natural and physical resources within it. The

effects arising from the proposal have been canvassed and concludes that overall, any adverse effects will be less than minor.

- Standard servicing conditions are considered appropriate in ensuring the development can be appropriately serviced in terms of the stormwater, wastewater and water supply networks, such that the efficiency of those networks will be maintained. Further, the proposed traffic generation of the development can be accommodated on the existing network without adverse effects on the function and safety of that network.
- The proposal is not considered to give rise to Treaty issues and further, is not considered to adversely affect the relationship Kai Tahu have with the built environment of the region. Overall, the proposal is considered to be consistent with the relevant objectives and policies of the RPS.

Otago's Proposed Regional Policy Statement (2021)

The Otago's Proposed Regional Policy Statement (2021) (OPRPS2021) was notified on 26 June 2021. Submissions of this document closes on 3 September 2021. Much of the Objectives and Policies from the RPS2019 have simply rolled over to the OPRPS2021 and so I have elected not to repeat these.

The proposal is not considered contrary to the OPRPS2021.

Central Otago District Plan

With regard to the Central Otago District Plan, I have assessed the most relevant Objectives and Policies as follows:

Objective 4.3.1 - Needs of the District's People and Communities

To recognise that communities need to provide for their social, economic and cultural wellbeing, and for their health and safety at the same time as ensuring environmental quality is maintained and enhanced.

Objective 4.3.1 is considered to be met insofar as the use of the land as proposed would provide for the economic wellbeing for the applicant and future lot owners through the sale and ownership of the property.

The site in its current form does not contribute in any meaningful capacity to the primary production industry nor does it provide in any form to the wellbeing of the community.

The proposal would provide for the social wellbeing of future lot owners through the provision of housing and accommodation in an area where residential activities are anticipated. In addition, an effects assessment on the environment concludes that such effects will be appropriately avoided, remedied or mitigated and therefore environmental quality is at least maintained.

Accordingly, it is considered that the proposal is broadly consistent with Objective 4.3.1.

Objective 4.3.3 - Landscape and Amenity Values

To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District's rural environment, and to maintain the open natural character of the hills and ranges.

And

Policy 4.4.2 – Landscape and Amenity Values

To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through:

- (a) The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features,*
- (b) Development which is compatible with the surrounding environment including the amenity values of adjoining properties,*
- (c) The ability to adequately dispose of effluent on site,*
- (d) Controlling the generation of noise in back country areas,*
- (e) The location of tree planting, particularly in respect of landscape values, natural features and ecological values,*
- (f) Controlling the spread of wilding trees.*
- (g) Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces.*

Objective 4.3.3 and associated Policy 4.4.2 details rural amenity values as being attributed to the open space, landscape, natural character and built environment. Policy 4.4.2 elaborates the various techniques that can be employed to manage these effects, including the avoidance of skyline breaches, the extent to which development is compatible with the surrounding environment and consideration with the location of buildings.

The site sits within the context of the Otarehua township and therefore a degree of residential development would not appear incongruous with the prevailing character of the town. The scale of development proposed (in terms of allotment sizes and density) is consistent with the character of the township all the while noting that effects on the environment can be suitably managed or avoided. As a result, the proposal is considered to be broadly consistent with the Policy framework noted above.

Policy 4.4.10 seeks to ensure that subdivision and land use avoids, remedies or mitigates adverse effects on a range of matters. These matters are addressed in my assessment of environmental effects, and I am generally satisfied that the proposal is not contrary to this policy.

Through conditions of consent, it is considered that suitable provision for servicing can be provided to the development, ensuring future residential activities are appropriately serviced.

Objective 4.3.7 - Soil Resource

To maintain the life-supporting capacity of the District's soil resource to ensure that the needs of present and future generations are met.

Objective 4.3.7 seeks to ensure the life supporting capacity of soils are maintained to ensure the needs of present and future generations are met. As assessed, the site does not contribute in any meaningful way to the community at present and therefore there will be no material change as a result of this proposal on that contribution. The constraints are such that the site does not lend itself as one that would likely have a contribution to the community in terms of primary production. The site is primarily flood prone which precludes the provision of infrastructure and buildings on a large portion of the site, as well as consisting of sensitive receptors (wetlands) that impedes efficient productive use (both removing land to be used for primary production) in line with the various restrictions imposed under the NES-FW (notably setback requirements). I consider the proposal is not contrary to this Objective.

Precedent

For completeness, it is appropriate at this point to consider precedent. While precedent is not an 'effect' in of itself, they remain relevant considerations pursuant to sections 104(1)(b)(vi) and (c) of the RMA.

Each application needs to be considered on its own merits, noting that Council has full discretion when considering an application to subdivide⁹ or establish residential activities¹⁰ in the Rural Resource Area. For subdivision of the Rural Resource Area, the assessment matters listed under Rule 4.7.4(ii) requires the following matters to be considered (paraphrased):

- Consideration that future building can be suitably absorbed having regard to effects on open space, natural character and amenity values of the rural environment;
- Whether the associated earthworks, planting and driveways will adversely affect open space, natural character and amenity values;
- Whether the building would compromise landscape values;
- Capability for sustainable use of productive land resources;
- Adverse cumulative effects when assessed in conjunction with existing and consented (unimplemented) development;
- Reverse sensitivity; and
- Servicing.

Broadly speaking, all of the assessment matters noted above requires prospective applicants seeking subdivision (in the Rural Resource Area) to satisfy the decision maker that effects on the rural environment (my emphasis added) are appropriately avoided, remedied or mitigated. Assuming one can satisfactorily demonstrate that effects have been suitably avoided or mitigated, then the proposal can be granted. If the effects of the proposal are not suitably mitigated or are inappropriate, then that proposal can be declined.

⁹ Given that subdivision is at a minimum, a Discretionary Activity under Rule 4.7.4(ii).

¹⁰ Where there is more than one dwelling proposed per Title.

In my opinion, the Rural Resource Area that applies to the site is not the most appropriate zone in terms of the efficient management of the land. The land is constrained from being able to be used in any capacity for 'rural' purposes given the lack of useable area available, its proximity to sensitive receptors and the fact that the site is bound by the Rural Settlement Resource Area and the domain (which is designated for recreational purposes).

In terms of effects, the proposal is considered to generate no more than minor adverse effects on the environment, and does not detract from rural amenity values given the lack of these values applying, with the site more appropriately lending itself to residential insertion, in line with the character of the receiving environment.

The proposal is considered not contrary to the relevant objectives and policies of the District Plan noting that much of the provisions pertaining to the Rural Resource Area are not entirely applicable to the subject site.

The site, while located within the Rural Resource Area, does not automatically suggest legitimate 'rural' use is most appropriate. The site sits within a clearly defined limit of Oturehua with the subdivision effectively replicating the character and form of the township. No person will consider the quality or integrity of the Rural Resource Area will be undermined by what is a logical change in land use to better utilise the land resource for alternative purposes.

I do not consider by virtue of the site being zoned Rural Resource Area, will a proliferation of subdivision occur within all other areas of the Rural Resource Area. Such a conclusion ignores the circumstances surrounding the subject site and its proximity within the logical extent of the town. For these reasons, I consider the proposal will not result in an adverse precedent on the Rural Resource Area generally.

11 PART 2 ASSESSMENT

The proposal is consistent with Part 2 of the Act, being the sustainable management of natural and physical resources, whilst also protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

SECTION 5

The purpose of the Act as stated in s5(1) of the RMA is, "to promote the sustainable management of natural and physical resources".

Section 5(2) of the Act defines "sustainable management" 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) Avoiding, remedying, or mitigating any adverse effects of activities on the environment."*

As detailed throughout, the density of development proposed is consistent with the intensity of development that characterises the wider Oturehua township.

A myriad of conditions are promoted to mitigate actual and potential adverse effects on the environment and therefore effects are considered to be appropriately avoided, remedied or mitigated.

It has been established that the site is constrained in its ability to provide a viable contribution for primary production. The proposal is considered to represent sustainable management where adverse effects on the environment have been appropriately mitigated whilst providing for the social, cultural and economic wellbeing of the applicant. The activity represents a logical and appropriate use of the land resource irrespective of the zone that applies.

SECTION 6

Section 6 relates to matters of national importance. There are no matters of national importance that are considered to apply to this site.

SECTION 7

Section 7 relates to 'other matters'. The matters of relevance are considered to be as follows:

(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

Again, all of these matters have been addressed in the above assessment noting that the proposal represents an efficient use of the land through developing the site in a manner that does not detract from the character of the surrounding area.

On balance, the proposal is considered consistent with Section 7 of the RMA.

SECTION 8

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi.

The proposal is not considered to be at odds with the principles of the Treaty of Waitangi.

CONCLUSION

When taking a balanced assessment of the proposal, it is considered that the proposal will not generate an inappropriate degree of adverse effects on the environment all the while generating positive effects in the form of providing for social, cultural and economic wellbeing.

Consequently, the proposal is considered to achieve Part 2 of the Act.

12 SUMMARY

Resource consent is sought to undertake a two-lot subdivision of the property at 3381 Ida Valley-Omakau Road, Oturehua.

Overall, the activity is assessed as a **non-complying activity**.

The actual and potential effects on the environment have been outlined in section 8 of this report where it is concluded that the proposed activity will not have any adverse effects on the environment that are more than minor. Accordingly, the proposal does not meet the threshold in which to be publicly notified.

No persons are considered to be adversely affected by the proposed subdivision as detailed throughout and therefore the proposal does not warrant Limited Notification.

Pursuant to Section 106 of the RMA, a consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that the land is or is likely to be subject to, or is likely to accelerate material damage from natural hazards, or where sufficient provision for legal and physical access to each allotment has not been made. In this case, access to the proposed allotments have been demonstrated to which easements will ensure legal access is maintained. Further, it is demonstrated that the subdivision will not exacerbate natural hazards.

The proposal is considered consistent with the relevant objectives and policies of the Operative and Proposed Regional and District Plans and meets the purpose and principles of the Resource Management Act 1991.

With respect to the assessment above, the first gateway test for a non-complying activity required under section 104D(1)(a) has been met in that the application will not have an adverse effect on the environment which is more than minor. I conclude the effects are no more than minor for my reasons set out above.

With respect to the second gateway test under section 104D(1)(b), the application is considered to not be contrary to the relevant policies and objectives of the relevant plans. I consider that not all provisions are inherently relevant but those that are, will not be at odds with what is proposed and therefore not contrary.

Accordingly, as the application has passed both of the gateway tests in s104D, I consider consent can be granted for this non-complying activity.

jake@jakewoodward.co.nz
022 315 8370
jakewoodward.co.nz
1 Hortons Way,
Cromwell
9310





**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**

**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**




R.W. Muir
Registrar-General
of Land

Identifier **533673**
Land Registration District **Otago**
Date Issued 05 July 2011

Prior References
409942

Estate Fee Simple
Area 8.0950 hectares more or less
Legal Description Lot 6 Deposited Plan 435809
Registered Owners
Jillian Ruth Sullivan and Gypsy Trustees Limited

Interests

Subject to Section 315 Land Act 1924

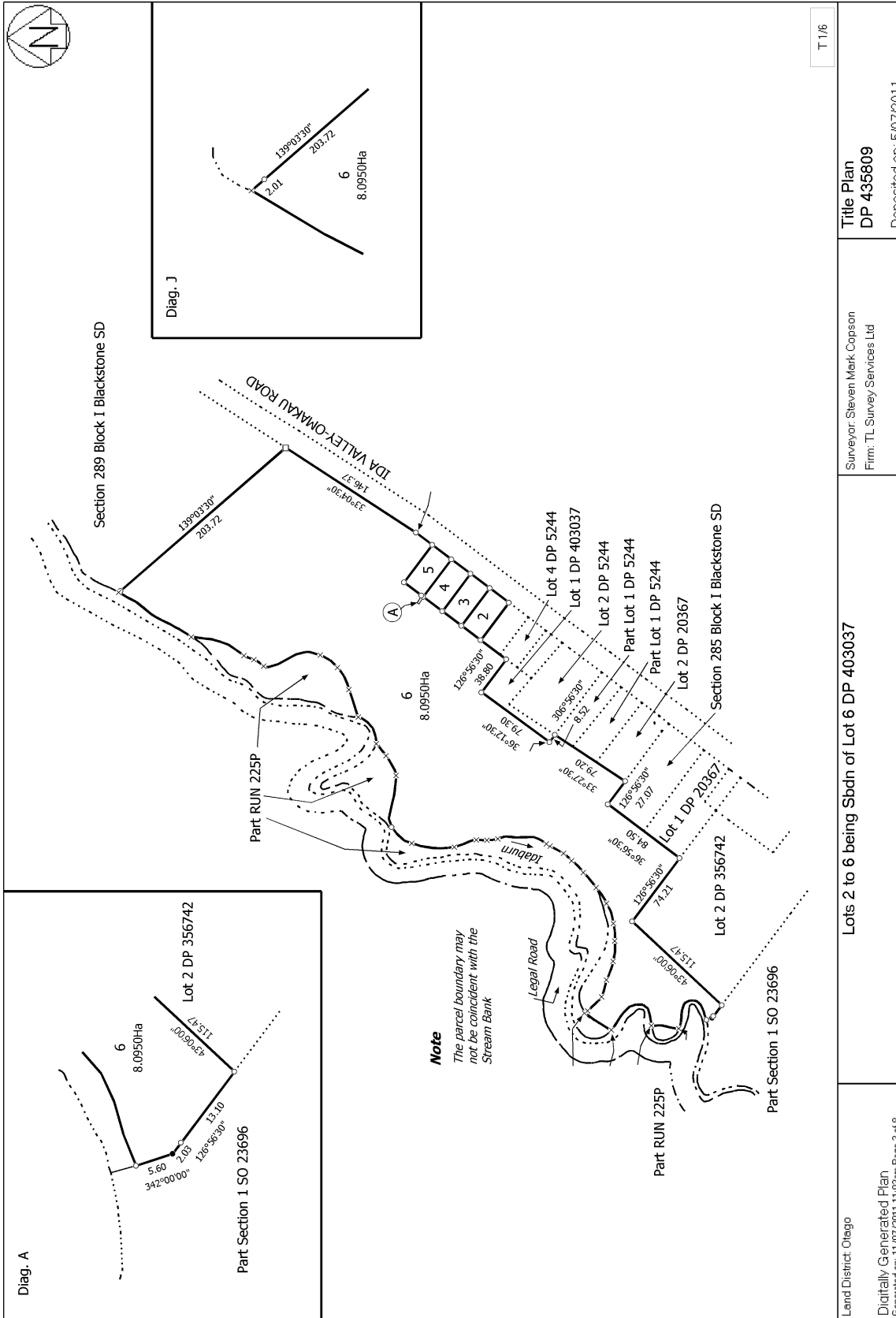
7998516.1 CAVEAT BY OTUREHUA WATER COMPANY LIMITED (LIMITED EFFECT) - 19.11.2008 at 12:06 pm

Subject to a right to convey water over part marked A on DP 435809 created by Easement Instrument 8806553.4 - 5.7.2011 at 10:34 am

The easements created by Easement Instrument 8806553.4 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant hereto is a right to convey electricity created by Easement Instrument 9183304.1 - 26.10.2012 at 4:15 pm

9298193.1 Mortgage to ASB Bank Limited - 31.1.2013 at 2:15 pm



T 1/6

Surveyor: Steven Mark Copson
 Firm: TL Survey Services Ltd

Section 289 Block I Blackstone SD

Section 285 Block I Blackstone SD

Land District: Otago
 Digitally Generated Plan
 Generated on: 11/07/2011 11:03am Page 3 of 8

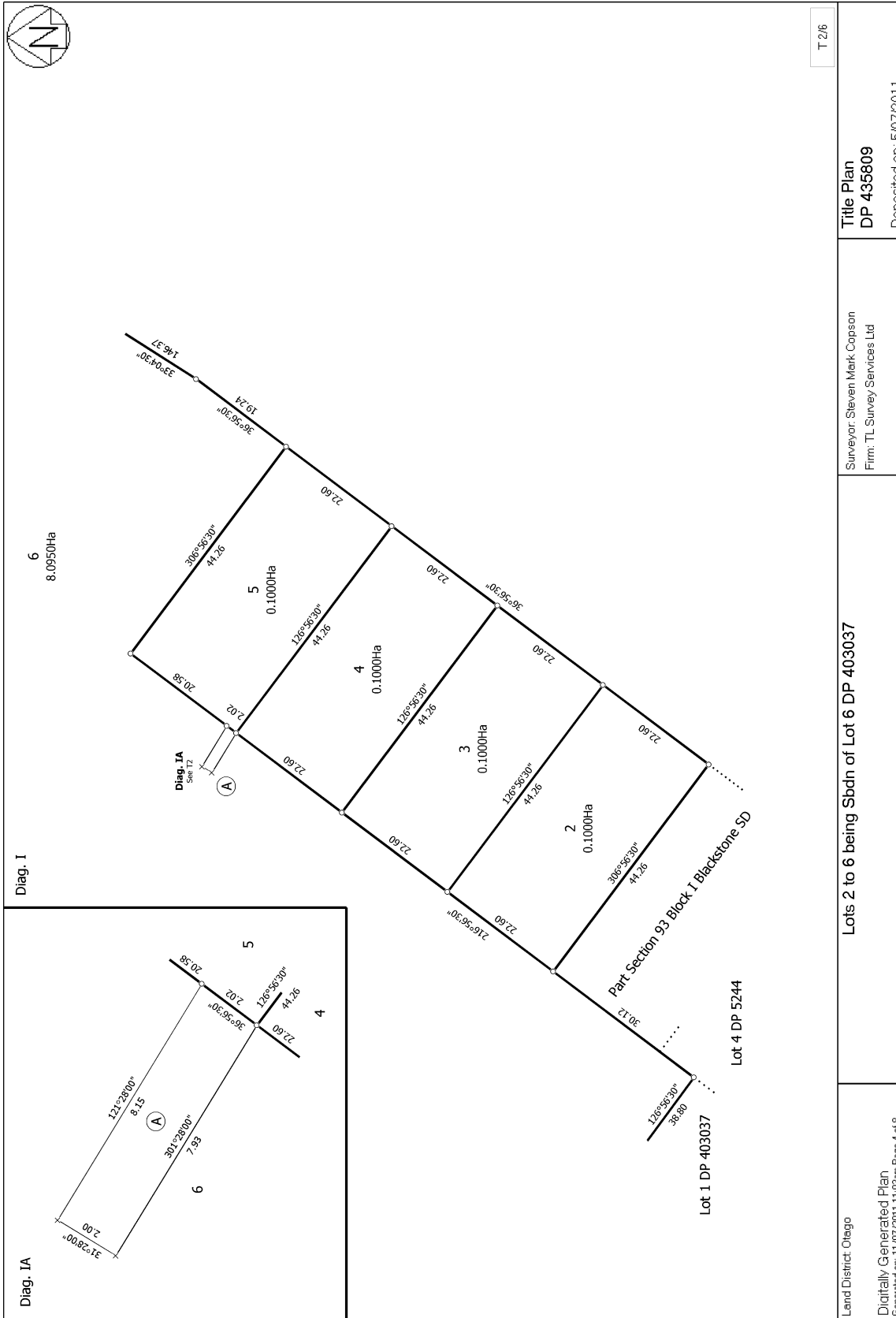
Title Plan
 DP 435809
 Deposited on: 5/07/2011

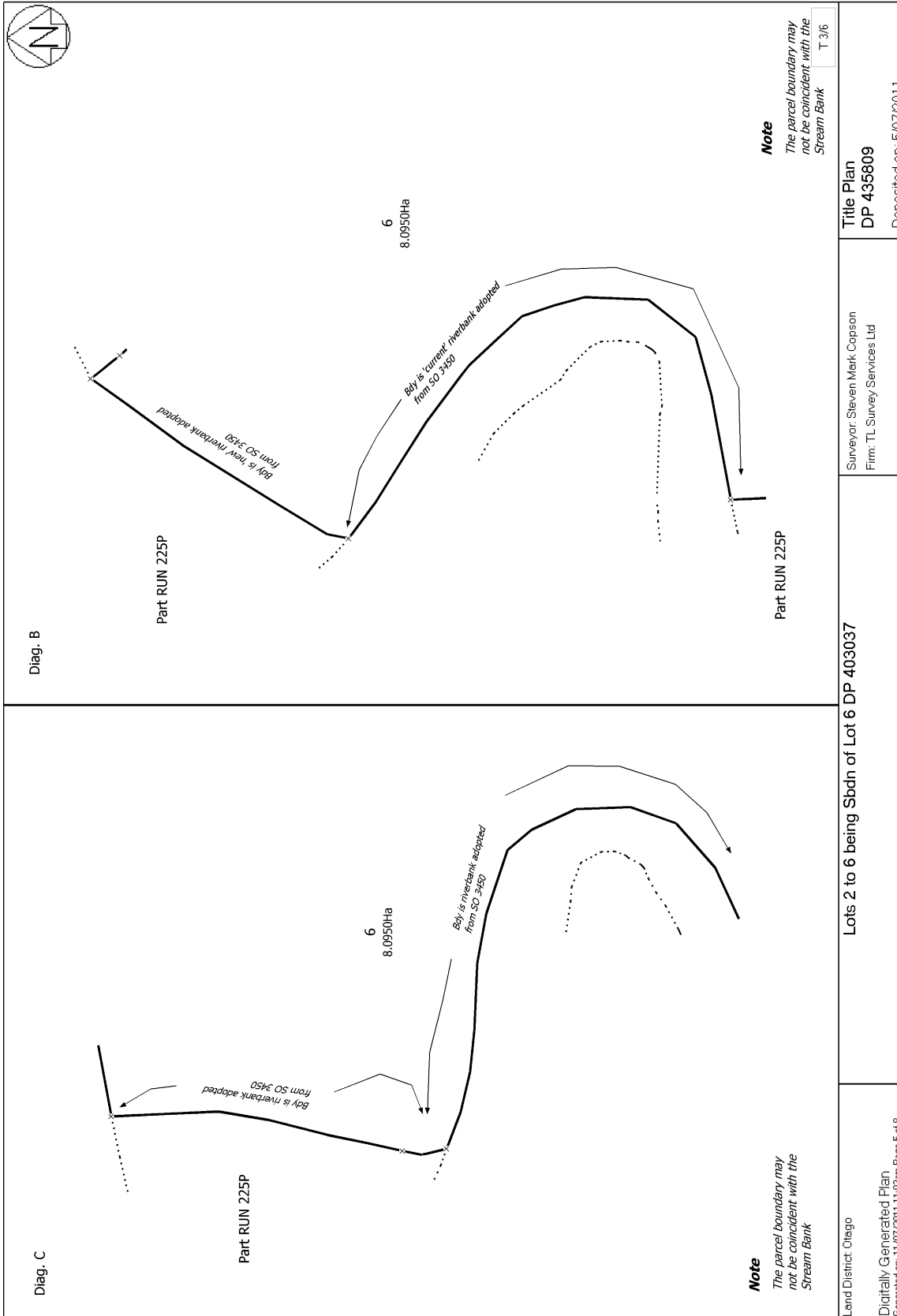
Surveyor: Steven Mark Copson
 Firm: TL Survey Services Ltd

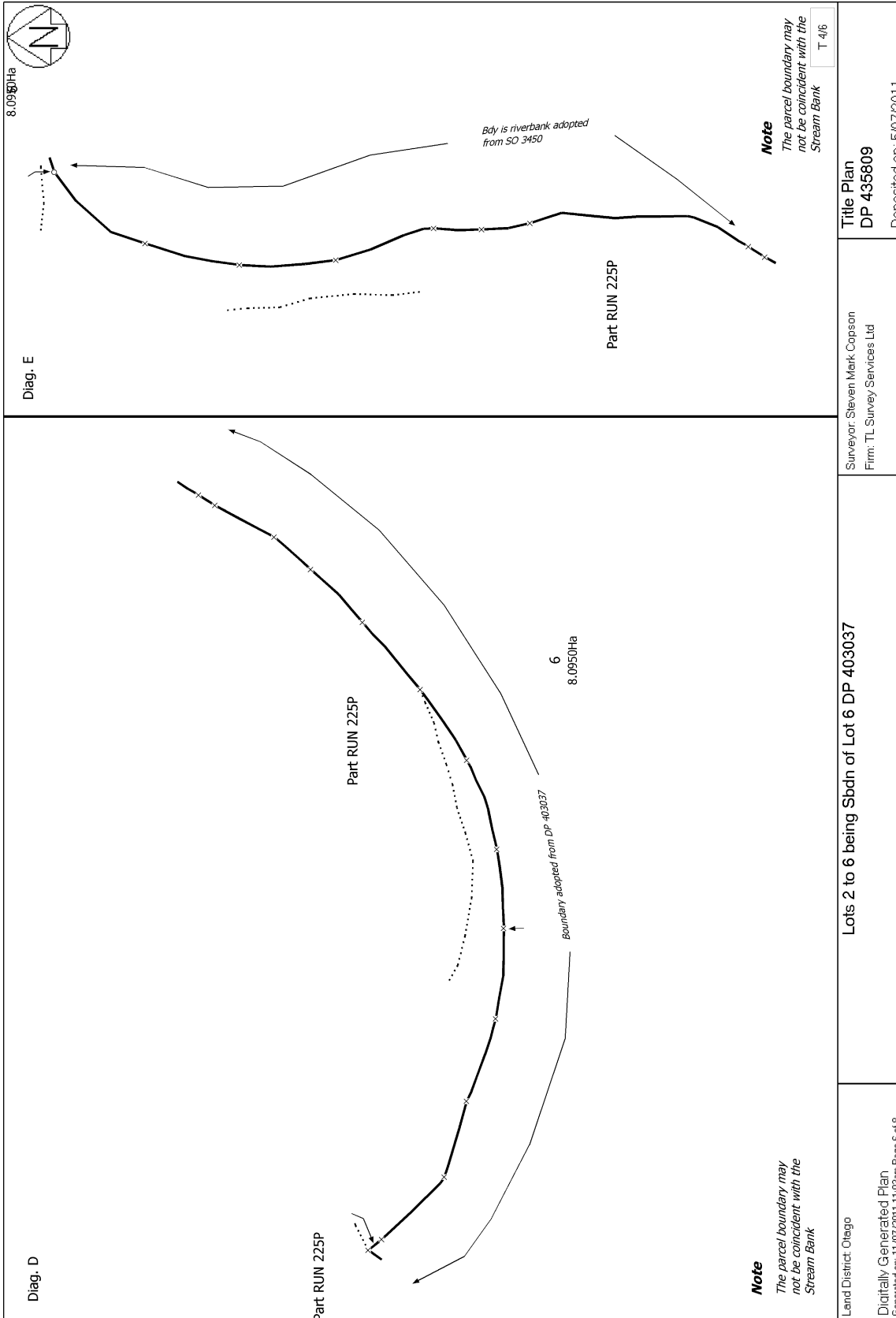
Section 289 Block I Blackstone SD

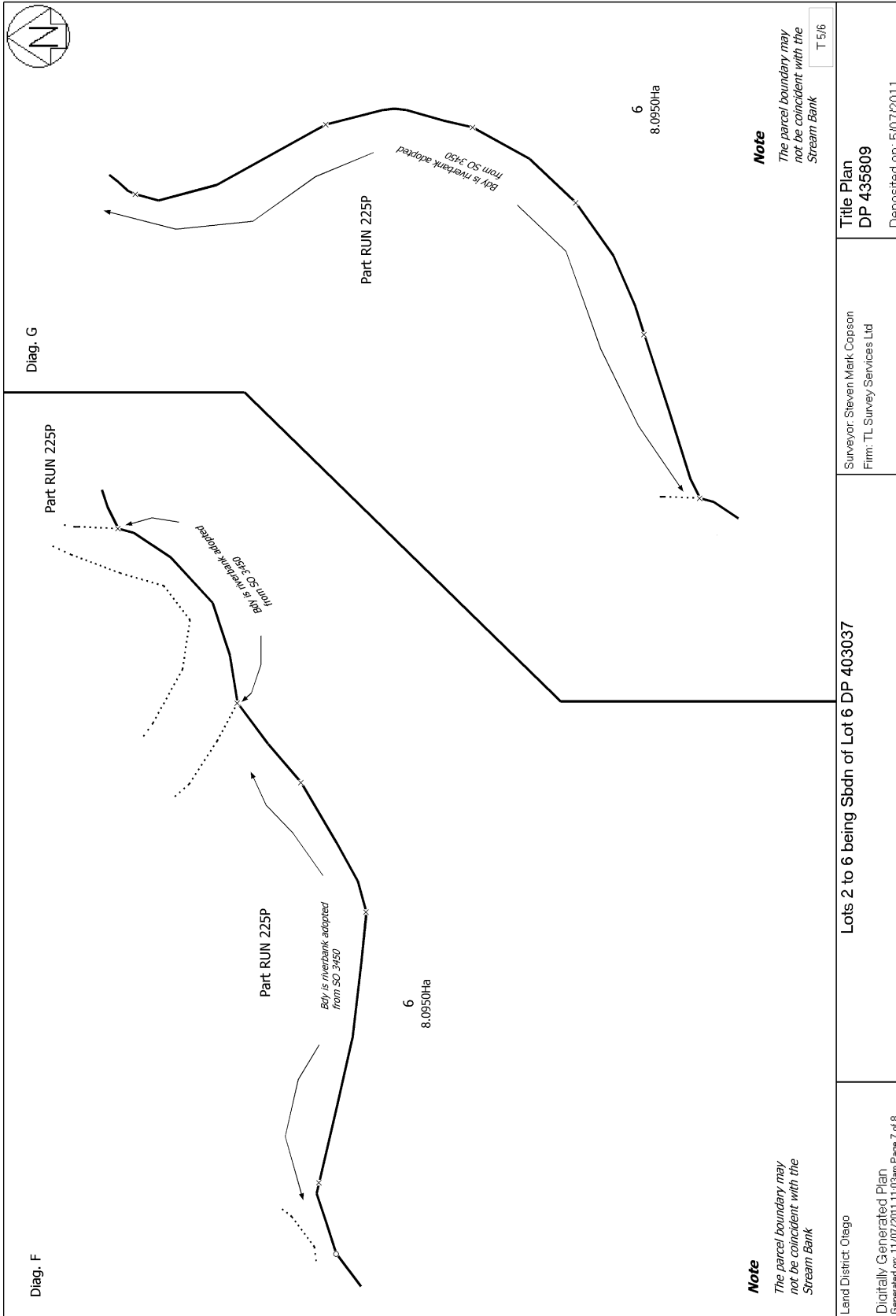
Land District: Otago
 Digitally Generated Plan
 Generated on: 11/07/2011 11:03am Page 3 of 8

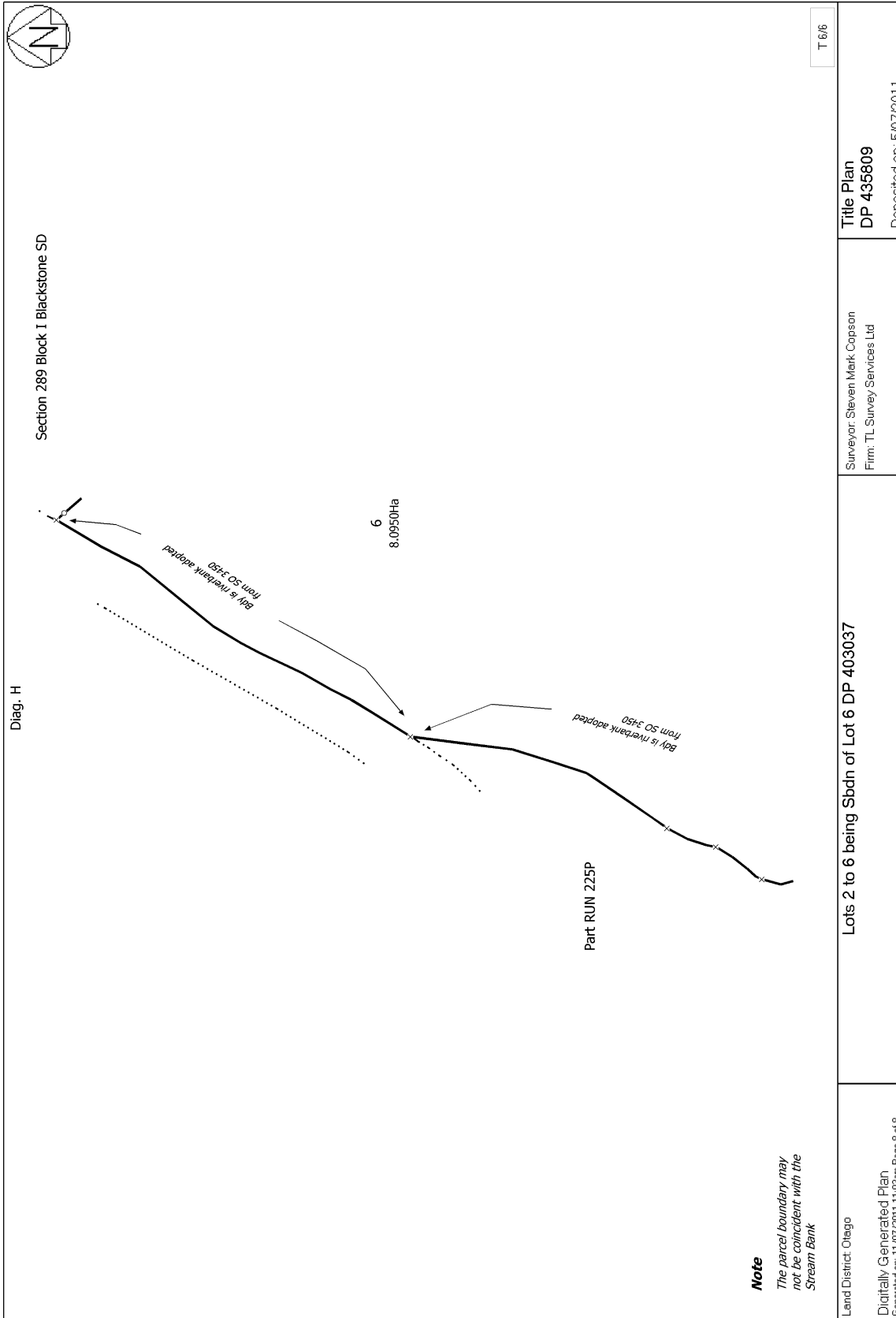
Title Plan
 DP 435809
 Deposited on: 5/07/2011

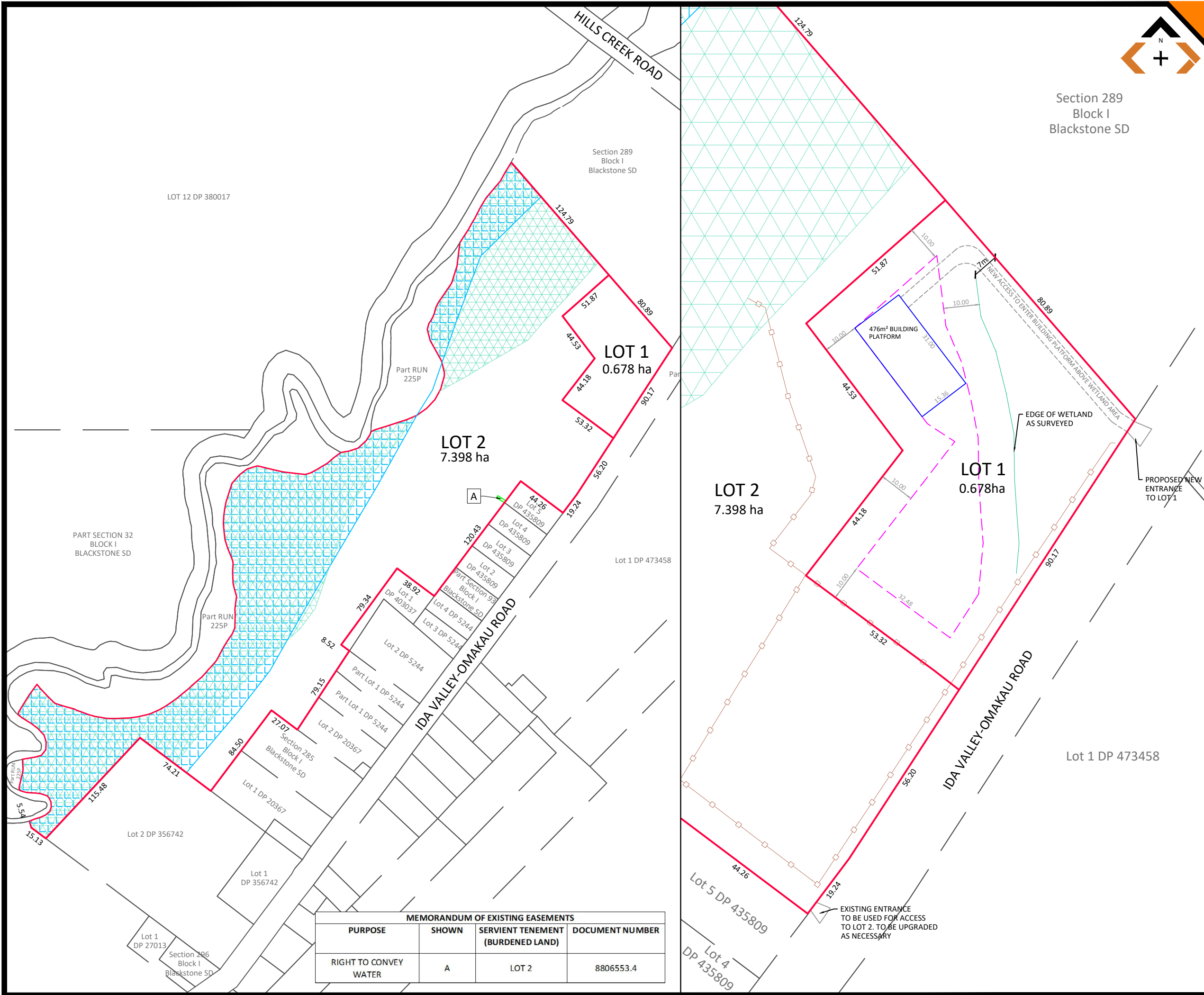












Section 289
Block I
Blackstone SD

SURVEYED			APPROVED		DATE
DESIGNED					
DRAWN	HR	17.05.22			
CHECKED					
APPROVED					

REV	CHANGES	EHD	DATE
0	ORIGINAL ISSUE	SB	17.05.22
1	WETLAND ADDED AND LOT LAYOUT AMMENDED	JW	09.12.22
2	LOT NUMBERS CHANGED	JW	21.12.22

NOTES:
 -BEARING AND COORDINATE DATUM IS NZGD2000
 -LINDIS PEAK 2000, VERTICAL DATUM IS NZVD16
 -EASEMENTS AND BOUNDARIES SHOWN ON THIS PLAN ARE INDICATIVE ONLY AND ARE SUBJECT TO COUNCIL APPROVAL. FINAL ASBUILT AND LODGMENT WITH LAND INFORMATION NEW ZEALAND
 -CODC FLOOD OVERLAY SOURCED FROM HAZ_FLOOD_PRONE LAYER IN CODC DATA PORTAL DATED 25.11.21

LEGEND

- Lot Boundaries
- Easement Boundaries
- 10m Yard Setback
- Existing Abuttal Boundaries
- Existing Fence
- ORC Flood Area
- CODC Flood Area
- Building Platform

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NZIS
 REGISTERED PROFESSIONAL SURVEYOR

MEMBER OF:
 Survey and Spatial New Zealand

CLIENT
 JILLIAN SULLIVAN

PROJECT
 3381 IDA VALLEY-OMAKAU ROAD

TITLE
 SCHEME PLAN
 LOTS 1 & 2 BEING
 PROPOSED SUBDIVISION
 OF LOT 6 DP 435809

SCALE 1:500 (A1) 1:1000 (A3)
DRAWING No 6106-1015-003 **SHEET** 1 of 1 **REVISION** 2

MEMORANDUM OF EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT (BURDENED LAND)	DOCUMENT NUMBER
RIGHT TO CONVEY WATER	A	LOT 2	8806553.4

PLOT DATE: 12/21/2022 4:06 pm

Jake Woodward

From: Josh Rush <Josh.Rush@nzta.govt.nz>
Sent: Monday, 16 May 2022 7:52 am
To: Jake Woodward
Subject: RE: Consultation with Waka Kotahi NZTA - 3381 Ida Valley-Omakau Road

Hi Jake,

Thank you for requesting comments from Waka Kotahi for your client's proposal for a four-lot subdivision and related access at 3381 Ida Valley-Omakau Road, Oturehua.

After discussing the proposal with the Waka Kotahi engineers, I can confirm that because the property is remote from State Highway 85, any transport effects resulting from the proposal will likely have no effect on the state highway network. Therefore, this proposal doesn't affect the interests of Waka Kotahi and no further comments will be given by Waka Kotahi.

Please let me know if you require any further information or if you have any questions.

Kind regards,

Joshua Rush

Joshua Rush LLB

Consultant Planner - Poutiaki Taiao (Environmental Planning)
Environmental Planning | Transport Services

Email: josh.rush@nzta.govt.nz

Phone: 07 981 2560

Waka Kotahi NZ Transport Agency

Hamilton Office, Level 1, Deloitte Building, 24 Anzac Parade
PO Box 973, Waikato Mail Centre, Hamilton 3240, New Zealand
[twitter](#) | [youtube](#) | [facebook](#)



From: Jake Woodward <jake@jakewoodward.co.nz>
Sent: Monday, April 4, 2022 1:18 PM
To: Josh Rush <Josh.Rush@nzta.govt.nz>
Subject: RE: Consultation with Waka Kotahi NZTA - 3381 Ida Valley-Omakau Road

CAUTION: The sender of this email is from outside Waka Kotahi. Do not click links, attachments, or reply unless you recognise the sender's email address and know the content is safe.

Hi Josh,

Thanks for your email. Just initial comments/recommendations from Waka Kotahi is all that is needed at this time thanks Josh. I will then take those comments/recommendations back to the Client to consider/approve. I will then incorporate those comments into the AEE, and I will re-submit to Waka Kotahi for formal APA.

I wanted to check with Waka Kotahi in the first instance before getting too far down the track with the AEE.

Happy to answer any questions if required.

Cheers

Jake Woodward

Resource Management Planner

E: jake@jakewoodward.co.nz | P: 022 315 8370



Jake Woodward
RESOURCE MANAGEMENT PLANNER

Visit our website: www.jakewoodward.co.nz

From: Josh Rush <Josh.Rush@nzta.govt.nz>

Sent: Monday, 4 April 2022 1:14 pm

To: Jake Woodward <jake@jakewoodward.co.nz>

Subject: RE: Consultation with Waka Kotahi NZTA - 3381 Ida Valley-Omakau Road

Hi Jake,

My name is Josh and I'll be processing your client's application on behalf of Waka Kotahi. I thought I'd send you an email to introduce myself and let you know that I've begun processing your client's application. I also had a question with regards to the level of response that you and your client were seeking from Waka Kotahi in regard to your proposal. Were you seeking high-level comments on the proposal only or were you applying for formal affected party approval from Waka Kotahi for the proposal?

Once I receive your response, I'll be able to continue processing the application.

Please let me know if you have any questions or wish to discuss anything further.

Kind regards,

Joshua Rush

Joshua Rush LLB

Consultant Planner - Poutiaki Taiao (Environmental Planning)

Environmental Planning | Transport Services

Email: josh.rush@nzta.govt.nz

Phone: 07 981 2560

Waka Kotahi NZ Transport Agency

Hamilton Office, Level 1, Deloitte Building, 24 Anzac Parade
PO Box 973, Waikato Mail Centre, Hamilton 3240, New Zealand

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From: Jake Woodward <jake@jakewoodward.co.nz>

Sent: Thursday, March 31, 2022 1:46 PM

To: Environmental Planning <EnvironmentalPlanning@nzta.govt.nz>

Subject: Consultation with Waka Kotahi NZTA - 3381 Ida Valley-Omakau Road

CAUTION: The sender of this email is from outside Waka Kotahi. Do not click links, attachments, or reply unless you recognise the sender's email address and know the content is safe.

Good afternoon,

We are in the process of applying for resource consent to subdivide the property at Lot 6 DP 435809 – 3381 Ida Valley-Omakau Road. A copy of the proposed scheme plan is **attached**.

The site adjoins that of the State Highway and we would like to undertake initial consultation with Waka Kotahi to ascertain the suitability of the proposed access points as detailed on the scheme plan. The access points have been designed to take account a gradient change between the road and the site, hence a parallel access. In order to alleviate any concerns with the access running parallel with the State Highway, the applicant has already planted some shrubs/trees between the road and the right of way.

We would appreciate thoughts from Waka Kotahi on this before we file for resource consent.

Regards

Jake Woodward

Resource Management Planner

E: jake@jakewoodward.co.nz | P: 022 315 8370



Jake Woodward

RESOURCE MANAGEMENT PLANNER

Visit our website: www.jakewoodward.co.nz

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Jake Woodward

From: Jillian Sullivan <jilliansullivan25@gmail.com>
Sent: Sunday, 6 March 2022 10:57 am
To: Jake Woodward
Subject: Fwd: Water connections

Hi Jake,
Confirmation that these new sections will be connected to the Oturehua Water Company supply.
I will confirm with you in next day how the sections will be configured.
Cheers,
Jillian

Begin forwarded message:

From: "Barry Becker" <jamb42@farmside.co.nz>
Subject: RE: Water connections
Date: 6 March 2022 at 10:38:04 AM NZDT
To: "Jillian Sullivan" <jilliansullivan25@gmail.com>

Hi Jillian

As explained the other night the water scheme has enough water to supply a huge number of houses more than it supplies now.
I see no problem in connecting to the scheme as the pipeline goes up through your land to the domain.

Barry

From: Jillian Sullivan [<mailto:jilliansullivan25@gmail.com>]
Sent: Tuesday, March 01, 2022 9:49 AM
To: jamb42@farmside.co.nz
Subject: Water connections

Dear Barry,
I am proposing to subdivide my property to create 3 sections, two of approximately 3000m² and one of 2000m² between the community sports grounds and my driveway next door to Lorna's house. Is it possible to have connections from the Oturehua Water Company for these three sections? (two of which will be put on the market). As well I will meet with and speak to a representative from the Oturehua Winter Sports Club re the subdivision as the land is next door to community facilities.
Thank you for your time and consideration.
Best wishes,
Jillian



This email has been checked for viruses by Avast antivirus software.

www.avast.com

Jake Woodward

From: Mark Hastie <MHastie@powernet.co.nz>
Sent: Wednesday, 13 April 2022 1:25 pm
To: jake@jakewoodward.co.nz
Subject: FW: Request for confirmation of service availability 3381 Ida Valley-Omakau Road
Attachments: 6106-1015-001 SCHEME PLAN DRAFT ONLY.pdf

Hi Jake

Power supply is available to the proposed lots, however any extension or upgrade to the network would be at the property owners cost.

Should you wish to make an application for supply, please use the link below.

<https://powernet.co.nz/your-power-supply/subdivisions/>

Cheers
Mark

Mark Hastie

Planning Leader East

88 Charlotte Street, Balclutha, PO Box:1642, Invercargill 9840, New Zealand

Phone:+64 3 211 1899, DDI:+64 3 419 0129, Mobile:+64 27 657 1434

Electricity Faults (call free) 24 hours: 0800 808 587

www.powernet.co.nz



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To visit or work on PowerNet worksites you must produce your My Vaccine Pass. Photo ID may also be requested.

Customer service is important to us at PowerNet. If for any reason we don't meet your expectations we would like the opportunity to work through a solution with you, please call our office on 03 211 1899. If we are unable to resolve your concern there is a free and independent resolution service available through Utilities Disputes Limited www.utilitiesdisputes.co.nz

Please consider the environment before printing this e-mail.

From: Jake Woodward <jake@jakewoodward.co.nz>
Sent: Friday, 1 April 2022 8:20 a.m.
To: enquiries <enquiries@powernet.co.nz>
Subject: Request for confirmation of service availability 3381 Ida Valley-Omakau Road

WARNING: This email originated outside the organization. Please do not reply, click links, or open attachments unless you were expecting this email.

Good morning

We are in the process of applying for resource consent to subdivide the property at Lot 6 DP 435809 – 3381 Ida Valley-Omakau Road. A copy of the proposed scheme plan is **attached**.

We seek confirmation of availability of power supply to all Lots within the new subdivision, namely the two proposed platforms.

Please let me know if you are in a position to confirm a supply.

Regards

Jake Woodward

Resource Management Planner

E: jake@jakewoodward.co.nz | P: 022 315 8370



Visit our website: www.jakewoodward.co.nz

13 June 2022

Dear Jake Woodward,

Thank you for your enquiry regarding information that the Otago Regional Council may hold regarding potential soil contamination at the properties indicated below:

Address	Valuation Number / Legal Description
3381 Ida Valley-Omakau Road, Oturehua	28260/06104 / LOT 6 DP 435809

The Otago Regional Council maintains a database of properties where information is held regarding current or past land-uses that have the potential to contaminate land. Land-uses that have the potential to contaminate land are outlined in the [Ministry for the Environment's Hazardous Activities and Industries List \(HAIL\)](#).

Where investigation has been completed, results have been compared to relevant soil guideline values. The database is continually under development and should not be regarded as a complete record of all properties in Otago. The absence of available information does not necessarily mean that the property is uncontaminated; rather no information exists on the database. You may also wish to examine the property file at the relevant City or District Council to check if there is any evidence that activities occurring on the HAIL have taken place.

I can confirm that:

The above land does not currently appear on the database.

If your enquiry relates to a rural property, please note that many current and past activities undertaken on farms may not be listed on the database, as they can be more difficult to identify. Activities such as use, storage, formulation, and disposal of pesticides, offal pits, landfills, animal dips, and fuel tanks have the potential to contaminate land.

Similarly, the long-term use of lead-based paints on buildings can, in some cases, cause soil contamination. The use of lead-based paint is generally not recorded on the database.

Please feel free to contact me if you have any other enquires, or you would like to discuss the matter further.

Kind Regards,



Shannen Barns
Environmental Officer

The enclosed/attached information is derived from the Otago Regional contaminated land register and is being disclosed to you pursuant to the Local Government Official Information and Meetings Act 1987. This information reflects the Otago Regional Council's current understanding of this site, which is based solely on the information obtained by the Council and held on record. It is disclosed only as a copy of those records and is not intended to provide a full, complete or entirely accurate assessment of the site. Accordingly, the Otago Regional Council is not in a position to warrant that the information is complete or without error and accepts no liability for any inaccuracy in, or omission from, this information. Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.

HAIL Status	
Verified HAIL	Information has been provided confirming, more likely than not, that an activity or industry described in the HAIL is being or has been undertaken on the site.
Unverified HAIL	Information has been provided that suggests an activity or industry described in the HAIL is or has been undertaken on the site; however, this information has not been verified.
Verified non-HAIL – more likely than not	It has been established, more likely than not, that an activity or industry described in the HAIL has not been undertaken on the site at the time of listing.

Contamination Status	
Contaminated for <Context>	The site has been investigated and results demonstrate that there are hazardous substances in or on the land at the site that have, or are reasonably likely to have significant adverse effects on the environment. <Context> refers to the current or proposed site use and/or on/off-site ecological receptors.
Managed for <Context>	The site has been investigated and results demonstrate that there are hazardous substances present at the site that have the potential to pose risks to human health or the environment. However, those risks are considered managed for <context> because <ul style="list-style-type: none"> - The nature of the use of the site prevents human and/or ecological exposure to the hazard; and/or - The land has been altered in some way and/or restrictions have been placed on the way it used to prevent human and/or ecological exposure to the hazard.
Acceptable for <Context>	The site has been investigated and results demonstrate that there are hazardous substances present at the site, but assessment indicates that any adverse effects or risks to human health are considered to be so low as to be acceptable for <context>.
At or Below Background Concentrations	The site has been investigated or remediated. The investigation or post-remediation validation results confirm that there are no hazardous substances above local background concentrations. Local background concentrations are those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterize the site.
Partially investigated	The site has been partially investigated. Investigations have been conducted that <ul style="list-style-type: none"> - Demonstrate there are hazardous substances present; however, there is insufficient information to quantify any adverse effects or risks to human health or the environment; or, - Do not adequately verify the presence or absence of contamination associated with all HAIL activities that have been undertaken on the site.
Not Investigated	The soils at the site have not been subject to investigation. Contamination may have occurred but should not be assumed to have occurred.
New Information	New information has been received. This information is currently being assessed prior to assigning a site status.

30 May 2022

R.J.Hall & Associates Ltd.

PO Box 534, Timaru

File: FRA 022 / 068

Memo: Jake Woodward Resource Management Planner
Provisional Flood Risk Assessment Proposed Subdivision
33814 Ida – Omakau Rd., Oturehua
Lots 1 - 4 inc., proposed subdivision of Lot 6, DP 435809

From: Bob Hall, R.J.Hall & Associates Ltd.

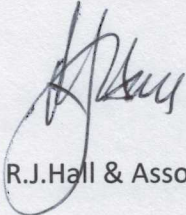
Attached please find the results of my preliminary assessment of flood risk for Jillian Sullivans proposed subdivision of Lot 6 DP 425809 at 33814 Ida – Omakau Valley Road Oturehua.

I have based the assessment on an estimated AEP 1 / 500 flood on the Idaburn of 116 cumec for an estimated catchment area of 156 sq.km, using the Griffith, Singh, McKerchar flood estimation method [Journal of Hydrology (NZ) 2019]. I also made an estimate using the McKerchar / Pearson 1989 regional flood estimation method which gave a value of 69 cumec for the AEP 1 / 200 flood which I rescaled (extrapolated) to about 80 cumec for the AEP 1 / 500 year event. I used SurveyWorx (Hannah Readers) cross section as a starting point and adjusted it rotating her cross section clockwise upstream from the 160 m chainage point by 20° to better reflect the down plain flow conditions at the site. The analysis has been undertaken as steady uniform flow with Mannings roughness values of 0.04 for the outer berms and 0.07 for the inner berms the latter includes the active primary channel. The inner berm including the active bed extends from chainage 220 to 250m on the modified cross section.

The maximum water level across this section is estimated at RL 503.143 m and the total energy line on that section at RL 50.343m; the total energy line (TEL) reflects the depth at a section that would occur if the flood waters meet an obstruction which causes the water to “ stall ” locally.

The closest approach of the floodwaters in this event to the proposed subdivision with the TEL value of RL 50.343m is at or about chainage 160m or about 40 m north west of the north west corner of proposed Lot 1. I conclude from this that it is unlikely that an event of AEP 1 / 500 will cross the subdivision and accordingly I opine that any dwellings that would eventually be built on the proposed subdivision land can for all intents and purposes be considered flood free so that the foundations for these as far as flooding and stormwater runoff effects are concerned that may affect these buildings need only conform with the requirements of NZS 3604 with respect to stormwater effects.

I trust this Assessment is satisfactory for your immediate needs, if you require clarification of any sort please contact me at your earliest convenience.

A handwritten signature in black ink, appearing to read 'R.J. Hall', written over a circular stamp or mark.

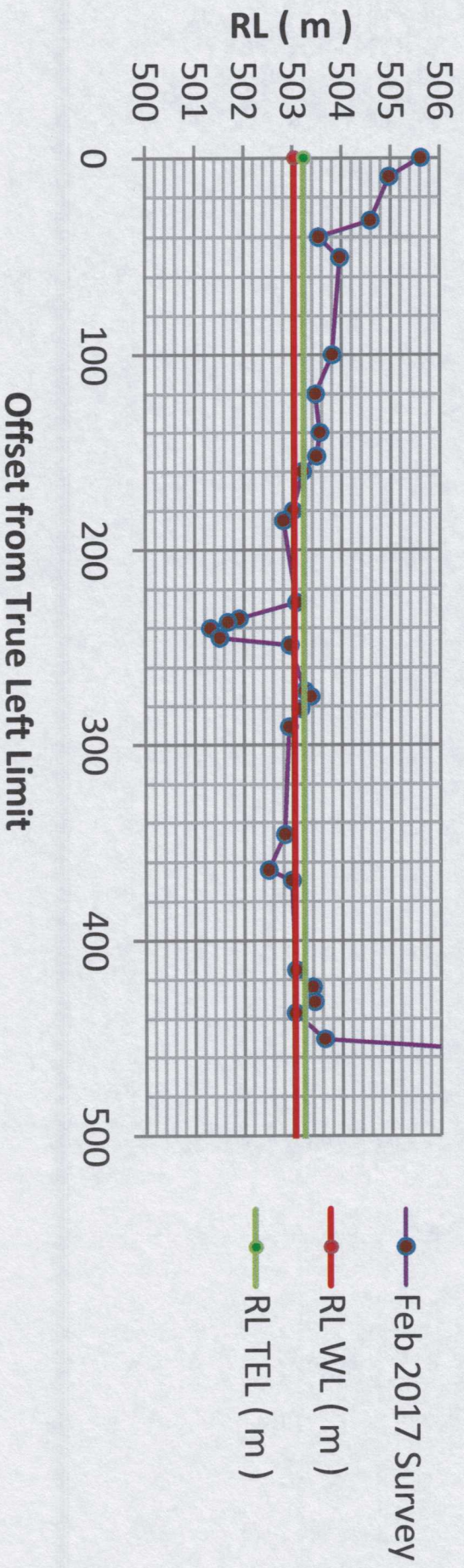
R.J.Hall & Associates Ltd.

CMENG NZ (Civil) CPEng # 19621

31 May 2022

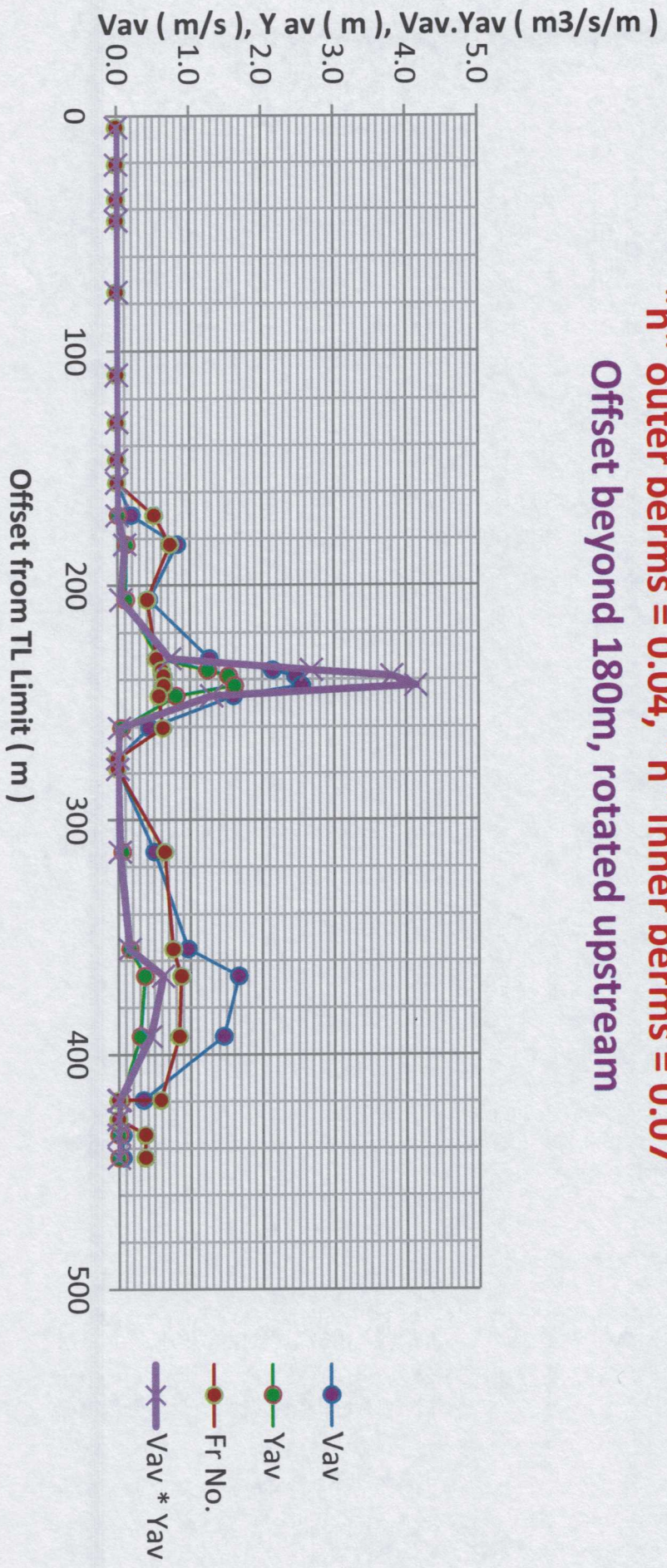
Idaburn @ Otturehua: Trial XS
(Q500 = 80 cumec)

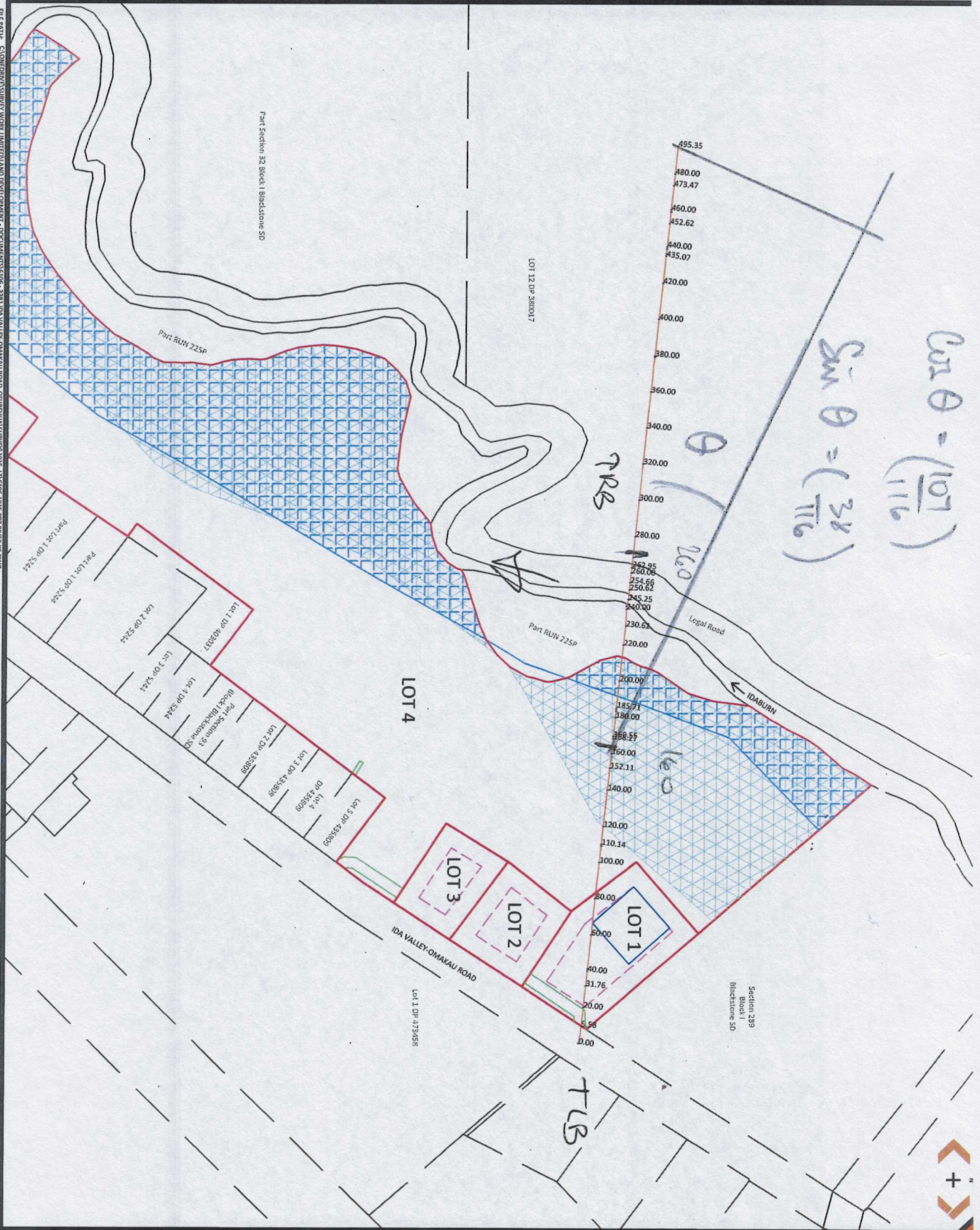
"n" outer berms = 0.04, "n" inner berms = 0.07
Offset beyond 180m, rotated upstream



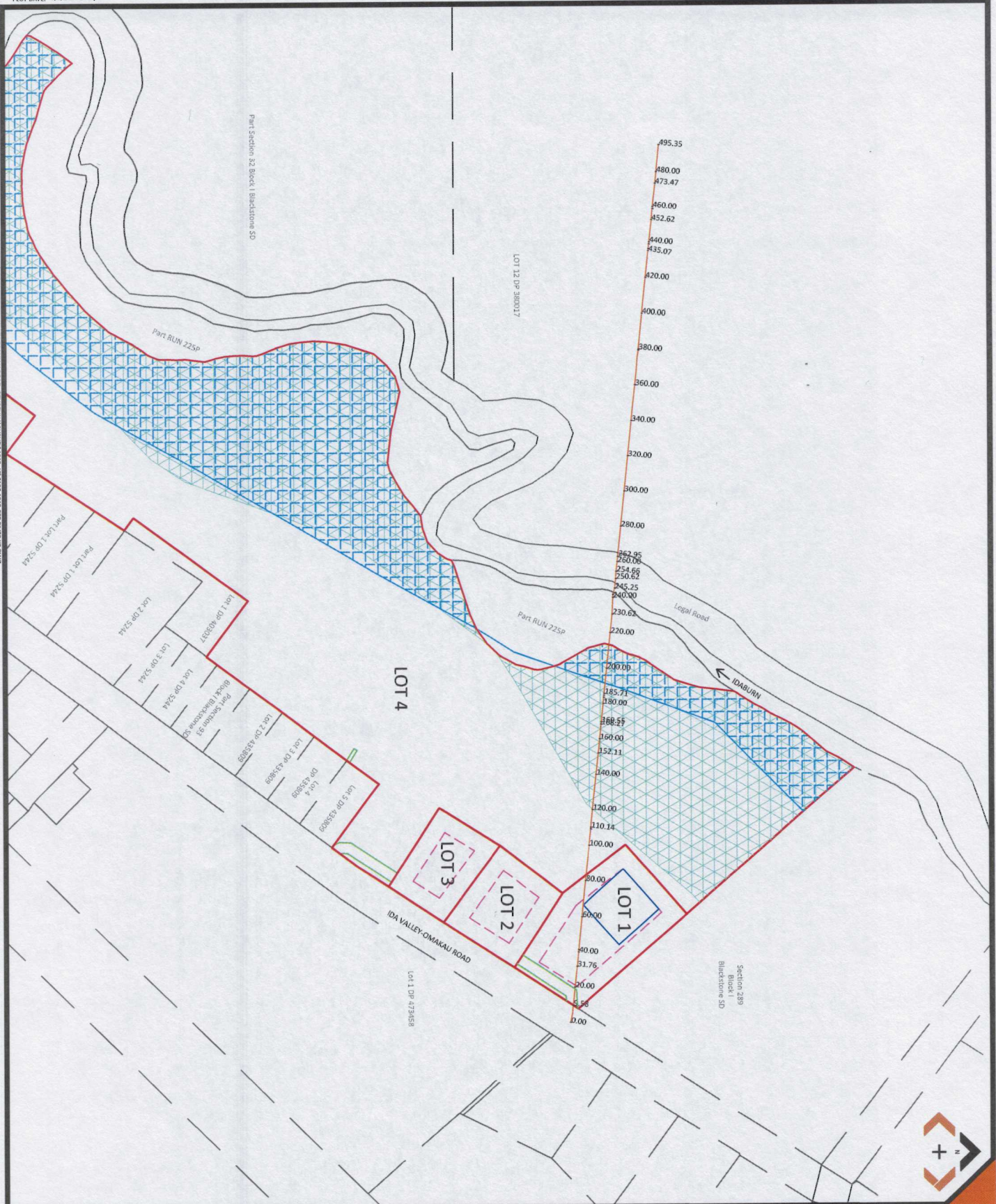
**Idaburn @ Oturehua: Trial XS
(Q500 = 80 cumec)**

**"n" outer berms = 0.04, "n" inner berms = 0.07
Offset beyond 180m, rotated upstream**





<p>NOTES: BEARING AND COORDINATE DATUM IS NZGD2000 UNDS PEAK 2006. NZGD16 VERTICAL DATUM DATUM: ITN 55 4634 (EM) 501.73m R.L. 709972.2m (EM) 501.73m R.L. THIS PLAN ARE INDICATIVE ONLY AND ARE SUBJECT TO COUNCIL APPROVAL AND LOGGING WITH SRS</p>	
<p>LEGEND Lot Boundaries Easement Boundaries Vint Subdiv Existing Abund Boundaries Line of Cross-section</p>	
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<p>MEMBER OF: Survey and Spatial</p>	
<p>CLIENT: JILLIAN SULLIVAN</p>	
<p>PROJECT: 3381 IDA VALLEY-OMAKAU ROAD</p>	
<p>TITLE: RIVER CROSS SECTION IDA BURN</p>	
<p>SCALE: 1:1000 (A1) 1:2000 (A3) DIMENSIONS: SHEET 1 of 2 REVISION 0</p>	
<p>6106-1015-002</p>	



NO.	DATE	BY	REVISION
0	03.05.22	HR	ORIGINAL ISSUE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

NOTES:

1. BEARING AND COORDINATE DATUM IS NZGD2000

2. ORIGIN MARK: FT V/SO 4608 (EMCOB)

3. 769972.712mE 435329.746mN 503.73m RL

4. EASEMENTS AND BOUNDARIES SHOWN ON THIS PLAN ARE SUBJECT TO COUNCIL APPROVAL AND LIOCMGMT WITH LINZ

LEGEND

- Lot Boundaries
- Easement Boundaries
- Yard Setback
- Existing Aerial Boundaries
- Line of Cross-Section

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REGISTERED PROFESSIONAL SURVEYOR

JILLIAN SULLIVAN

MEMBER OF: Survey and Spatial

CLIENT: JILLIAN SULLIVAN

PROJECT: 3381 IDA VALLEY-OMAKAU ROAD

TITLE: RIVER CROSS SECTION IDA BURN

SCALE: 1:1000 (A1) 1:2000 (A3)

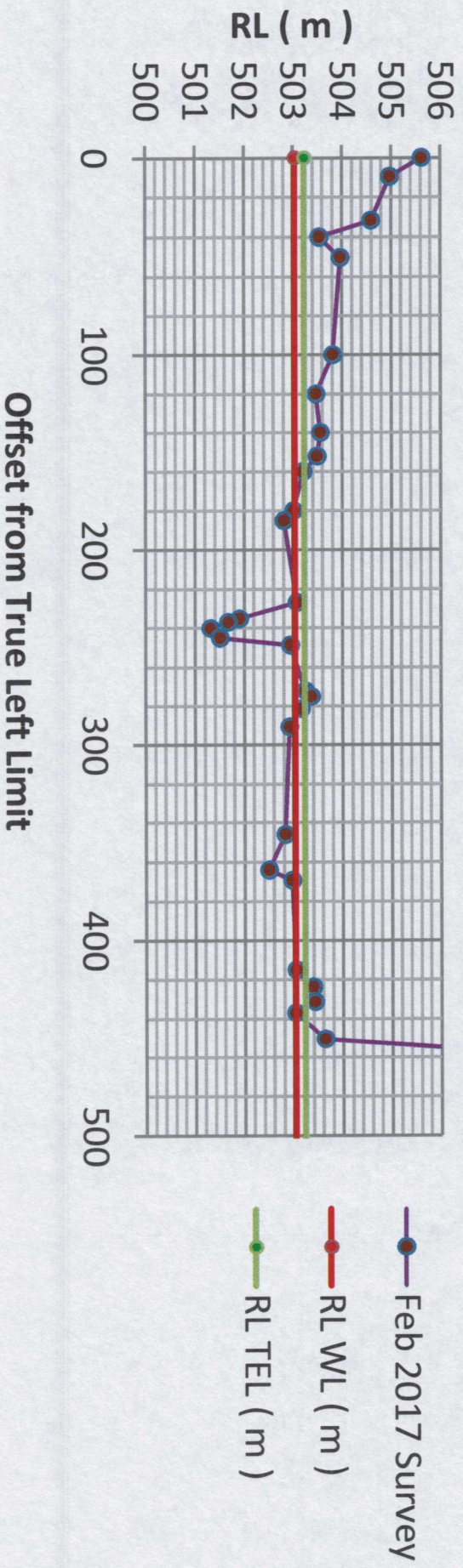
DRAWING NO: 6106-1015-002

SHEET: 1 of 2

REVISION: 0

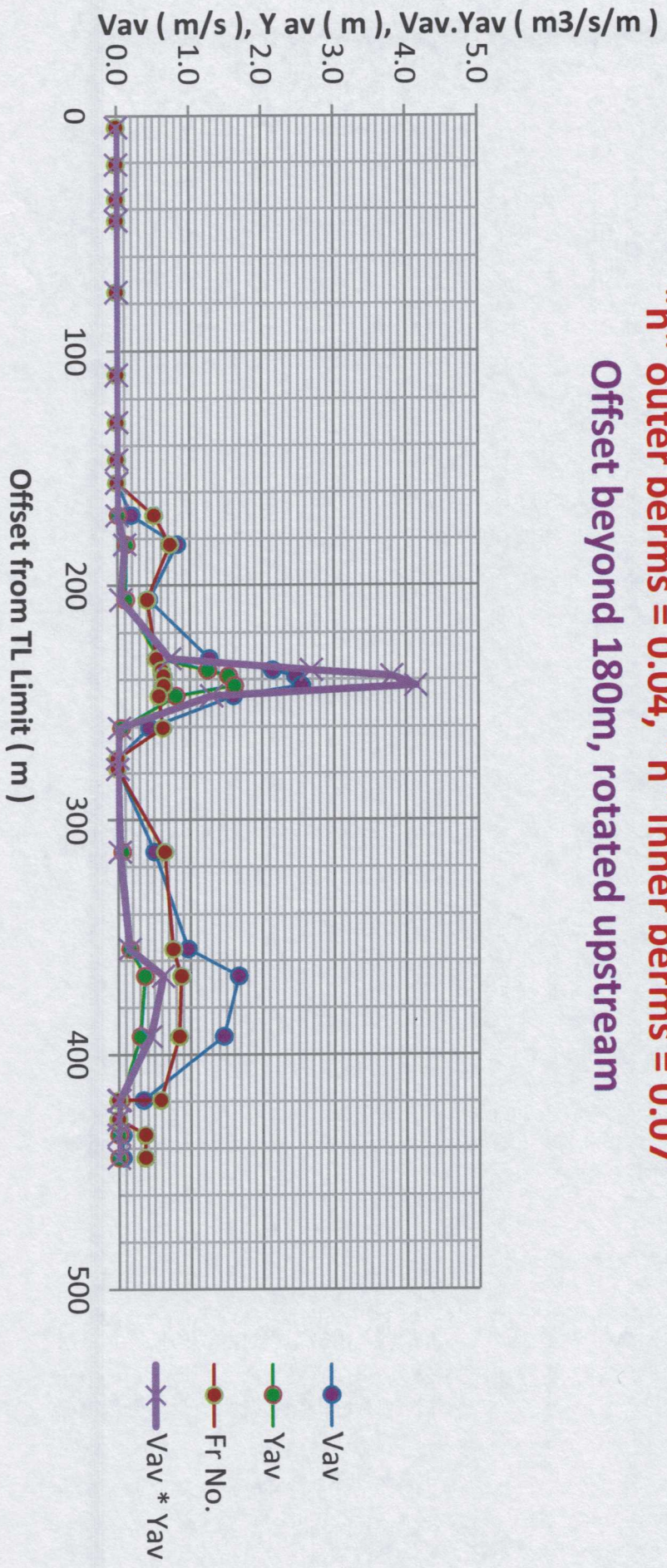
Idaburn @ Otturehua: Trial XS
(Q500 = 80 cumec)

"n" outer berms = 0.04, "n" inner berms = 0.07
Offset beyond 180m, rotated upstream



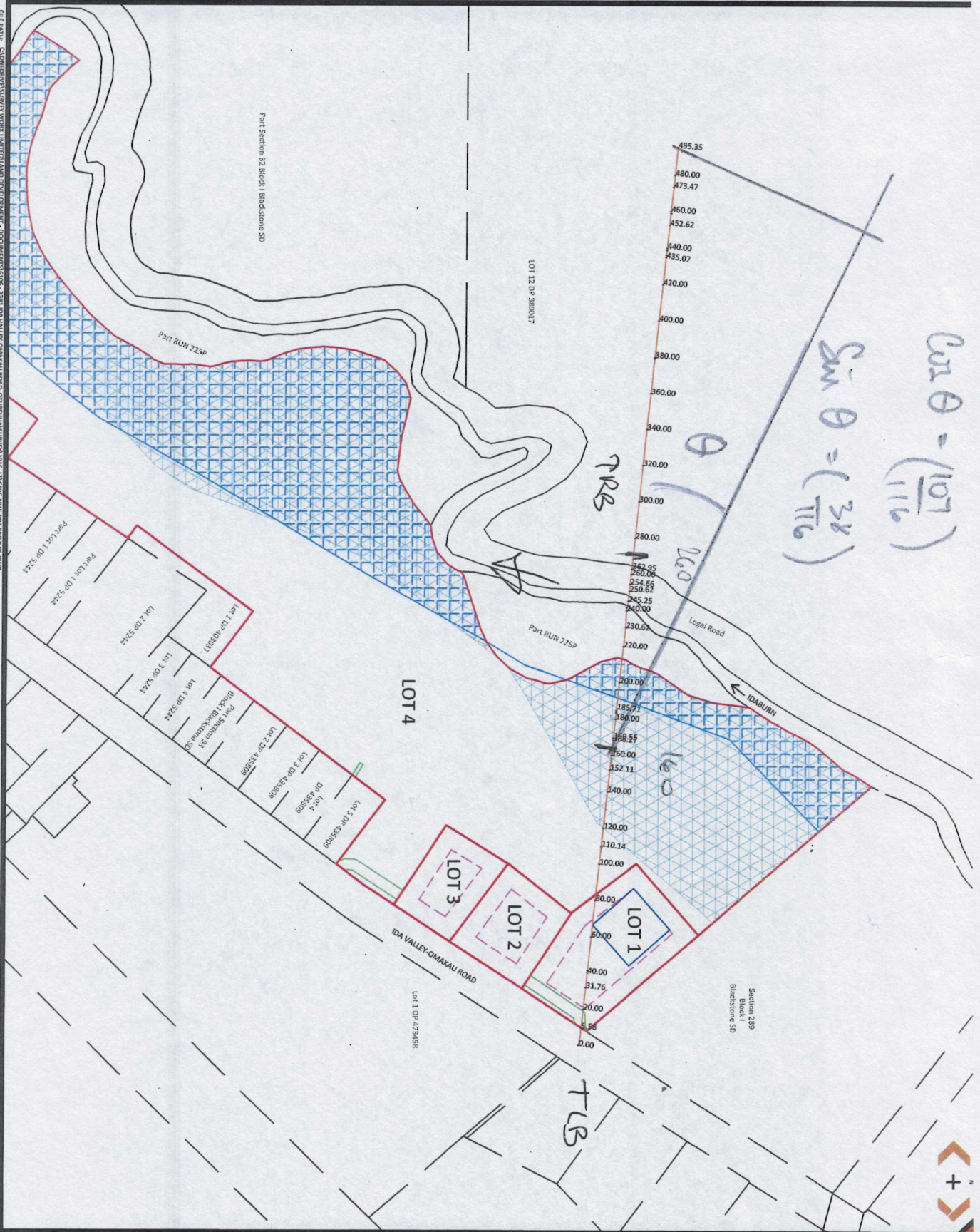
**Idaburn @ Oturehua: Trial XS
(Q500 = 80 cumec)**

**"n" outer berms = 0.04, "n" inner berms = 0.07
Offset beyond 180m, rotated upstream**



PLOT DATE: 5/3/2022 1:32 pm

FILE PATH: G:\ENGINEERING\WORK\LAND\EDWARD DEVELOPMENT - DOCUMENTS\1015 - 381 IDA VALLEY-OMAKAU ROAD\EDWARD\SUBSET\1015-002 RIVER.X3.DWG



NO.	REVISION	DATE	BY	CHK.
1	ORIGINAL ISSUE			

NOTES:
 BEARING AND COORDINATE DATUM IS NZGD2000
 UNDS PEAK 2006, NZGD15 VERTICAL DATUM
 709972.2 MSL, 450.00 MSL, 50.73M R.L.
 THIS PLAN ARE INDICATIVE ONLY AND ARE
 SUBJECT TO COUNCIL APPROVAL AND
 LOGSHEET WITH THE

LEGEND
 Lot Boundaries
 Easement Boundaries
 Vint Subdiv
 Existing Aerial Boundaries
 Line of Cross-section

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CLIENT:
 JILLIAN SULLIVAN

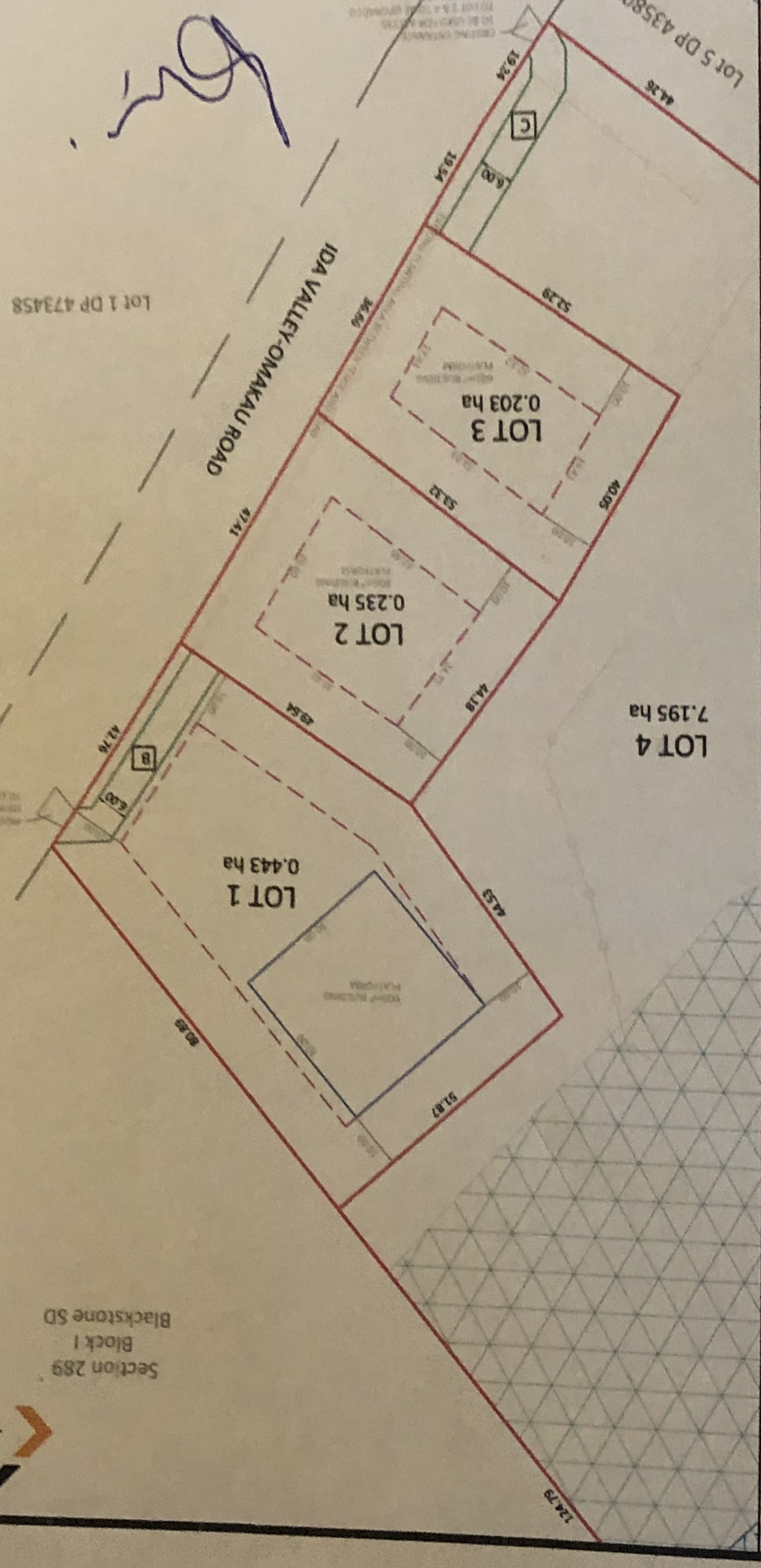
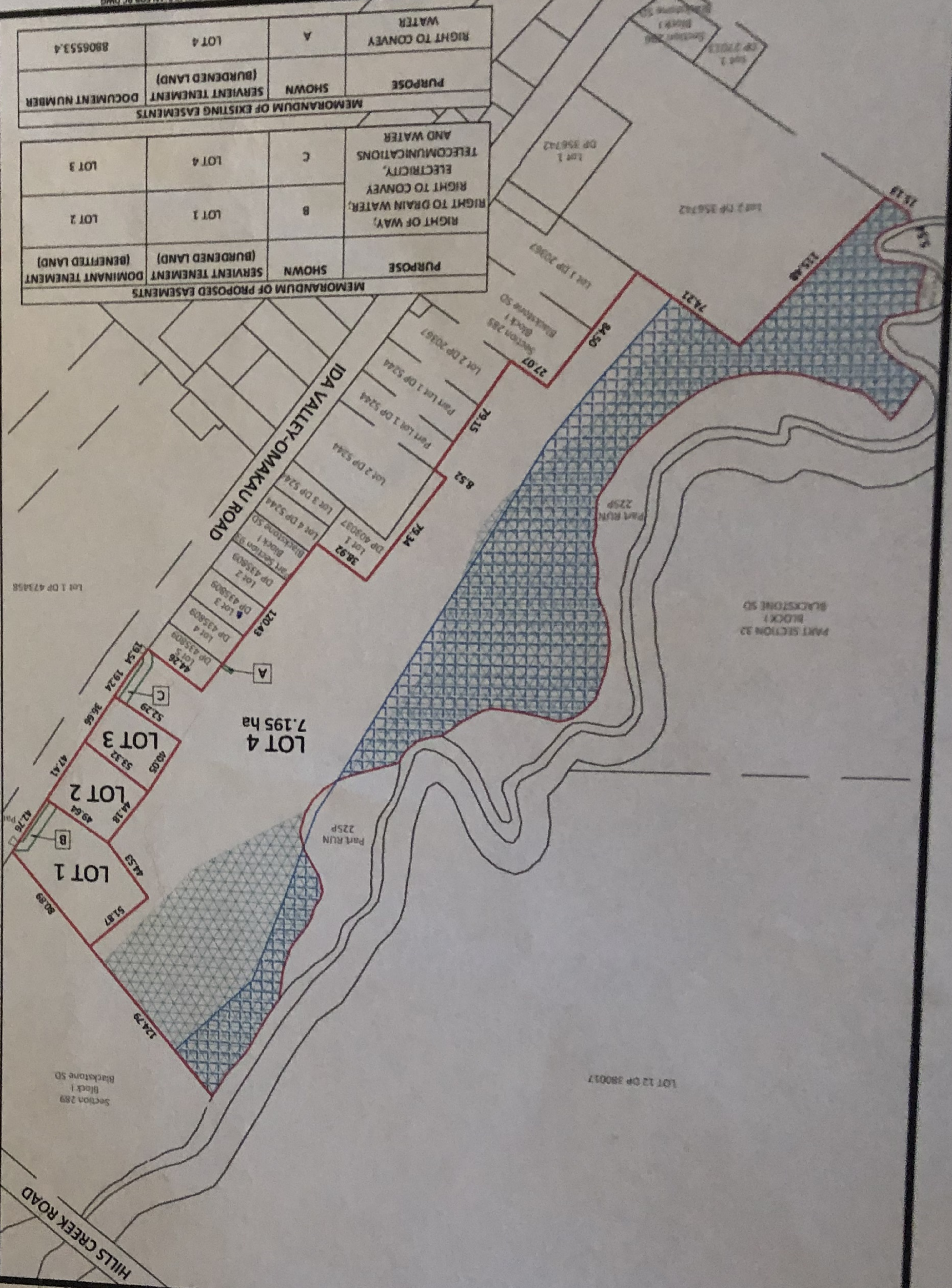
PROJECT:
 3381 IDA VALLEY-OMAKAU ROAD

TITLE:
 RIVER CROSS SECTION
 IDA BURN

SCALE:
 1:1000 (A1)
 1:2000 (A3)
DATE:
 6106-1015-002

MEMORANDUM OF PROPOSED EASEMENTS			
SHOWN	SERVIENT TENEMENT (BURDENED LAND)	DOMINANT TENEMENT (BENEFITED LAND)	PURPOSE
	LOT 1	LOT 2	RIGHT OF WAY, RIGHT TO DRAIN WATER, ELECTRICITY, TELECOMMUNICATIONS AND WATER
	LOT 4	LOT 3	RIGHT TO CONVEY WATER
	LOT 4	LOT 3	RIGHT TO CONVEY WATER (BURDENED LAND)
	LOT 4	LOT 3	RIGHT TO CONVEY WATER

MEMORANDUM OF EXISTING EASEMENTS			
SHOWN	SERVIENT TENEMENT (BURDENED LAND)	DOMINANT TENEMENT (BENEFITED LAND)	PURPOSE
	LOT 4	LOT 3	RIGHT TO CONVEY WATER
	LOT 4	LOT 3	RIGHT TO CONVEY WATER (BURDENED LAND)
	LOT 4	LOT 3	RIGHT TO CONVEY WATER



Scale: 1:500 (horizontal), 1:1000 (vertical)
 Date: 1.1.0
 6106-1015-003

SCHEME PLAN
 LOTS 1-4 BEING
 PROPOSED SUBDIVISION
 OF LOT 6 DP 435809

3381 IDA
 VALLEY-OMAKAU ROAD

JILLIAN SULLIVAN



SURVEY WORKS
 CONSTRUCTION & LAND SURVEYS
 1016A Great South Road, Porirua Auckland, NZ
 Phone: +64 021 824 084
 Mobile: +64 09 948 6491
 WWW.SURVEYSURVEYS.CO.NZ

LEGEND

- Lot Boundaries
- Landward Boundaries
- 10m Tied Section
- Existing Actual Boundaries
- Building Footprint
- DMC Flood Area
- COOC Flood Area

NOTES

1. All dimensions are in metres unless otherwise stated.

2. The boundaries shown on this plan are based on the survey conducted on 10/11/10.

3. The boundaries shown on this plan are based on the survey conducted on 10/11/10.

4. The boundaries shown on this plan are based on the survey conducted on 10/11/10.

NO.	REVISION	DATE

Section 289
 Block 1
 Blackstone SD



Affected Persons Approval



To: The Manager, Planning and Environment
Central Otago District Council
PO Box 122
Alexandra 9340

TO BE COMPLETED BY THE PERSON(S) REQUESTING APPROVAL

Applicant(s): Jillian Sullivan
Type of resource consent: Resource Consent to subdivide
Proposed activity: Resource consent to subdivide 3381 Ida Valley -
Omakau Rd into 4 sections for residential use
Location of site: 3381 Ida Valley - Omakau Rd Otirehua

I have sighted all the attached plans and supporting information for the above activity.
I hereby give unconditional approval for the application to be processed without public notification.
I understand that, by giving approval, the Council will not take into account any effects that the proposed activity may have on me, when considering whether this application should be notified (Section 95E of the Resource Management Act 1991) and whether the application should be granted (Section 104(3) of the Resource Management Act 1991).

TO BE COMPLETED BY THE PERSON(S) GIVING THEIR APPROVAL

Name: Bridget Musters
Organisation: _____
Address: 3375 Ida Valley - Omakau Road, Otirehua
Bridget Musters Signature 7th June 2022 Date

Name: _____
Organisation: _____
Address: _____
Signature _____ Date _____

Checklist:

- Signature of all legal owners
 Site and/or subdivision plan with all required signatures
 Elevations with all required signatures (if applicable)

Ref: 22137
November, 2022

Jillian Sullivan
3381 Ida Valley – Omakau Road
Oturehua



RE: 3381 Ida Valley - Omakau Road Wetland Delineation

1 Introduction

Jillian Sullivan is seeking to subdivide her property located at 3381 Ida Valley – Omakau Road. A potential wetland was noted to extend the majority of the roadside boundary. Earthworks associated with the establishment of a driveway(s) and building platform(s) may disturb the wetland feature and may require resource consent under the National Policy Statement for Freshwater Management (NPS-FM) 2020. In order to determine if consent is required to undertake the earthworks to form the driveway and building platform Mrs Sullivan commissioned e3Scientific Limited to confirm if the wetland feature is an inland natural wetland(s) and therefore subject to the provisions of the NPS-FM.

1.1 Scope of Work

e3Scientific completed a site visit and field investigation on the 27 October 2022. The investigation included a survey of the vegetation, hydrology, and soils to determine if the wetland feature was an inland nature wetland as described under the NPS-FM.

2 Environmental context

The study area is located on a river terrace above the Ida Burn which is located approximately 170 m to the northwest. The study area is undulating with an elevation of approximately 505 masl and gently slopes (<5°) toward depressions, drains and a large wetland to the west. The area is highly modified and dominated by both exotic hydrophyte and pasture species.

The vegetation on site is dominated by brown top (*Agrostis capillaris*) and white clover (*Trifolium repens*) with less prevalent species including yarrow (*Achillea millefolium*), broad leaf dock (*Rumex obtusifolius*) and catsear (*Hypochaeris radicata*). Where depressions occur and water availability is higher other species are present that consist of hydrophytes such as the native wiwi (*Juncus Edgariae*) and exotic creeping bent (*Agrostis stolonifera*) in addition to scattered jointed rush (*Juncus articulatus*) and crack willow (*Salix x fragilis*).

The geology of the area is late Pleistocene river deposits which consist of undifferentiated gravel, sand and silt of low river terraces (GNS, 2022).

3 Natural Inland Wetland Status

An e3Scientific terrestrial ecologist completed a detailed wetland assessment and delineation of the study area on 27 October 2022. Light rain was intermittently falling during the visit. However, it was concluded that the ground conditions were representative of the season and unlikely to have been affected by recent precipitation.

The wetland assessment followed the MfE 2020 and 2021 wetland delineation protocols. This protocol uses three criteria for identifying and delineating wetlands including vegetation, soils, and hydrology. Detailed analysis of these three attributes was undertaken at two locations, one within the wet feature and one on the adjacent upland area. The locations of the wetland and upland assessments are provided in Figure 2. The New Zealand Wetland Delineation Data Forms were completed in depth at the sampling locations once variability across the site was established and characteristic areas could be selected.



Figure 1: Site layout and assessment locations*.

*We note that the wetland extent continues to the southwest. The wetland has not been fully mapped as the area to the south will not be impacted by the proposed earthworks.

For the purpose of the wetland delineation one representative wetland community was selected following an observation assessment of vegetation and soil coring of the depression's extent. The upland location was situated approximately 4.5 m to the west of the wetland quadrat with vegetation cover, soil composition and hydrology across the upper slope recorded.

3.1 Upland Quadrat

The upland assessment location was located west of the wetland quadrat within a pasture community. The sites elevation was approximately one meter above that of the lowest point of the identified wetland feature. The sampling location (labelled as upland quadrat on Figure 2) was clearly of upland conditions exhibiting no wetland characteristics.

The site contained dry soils lacking any evidence of extended periods of soil saturation and no wetland species were recorded. The location failed all three

wetland indicators included in the New Zealand Wetland Delineation Data Forms (Attachment B).

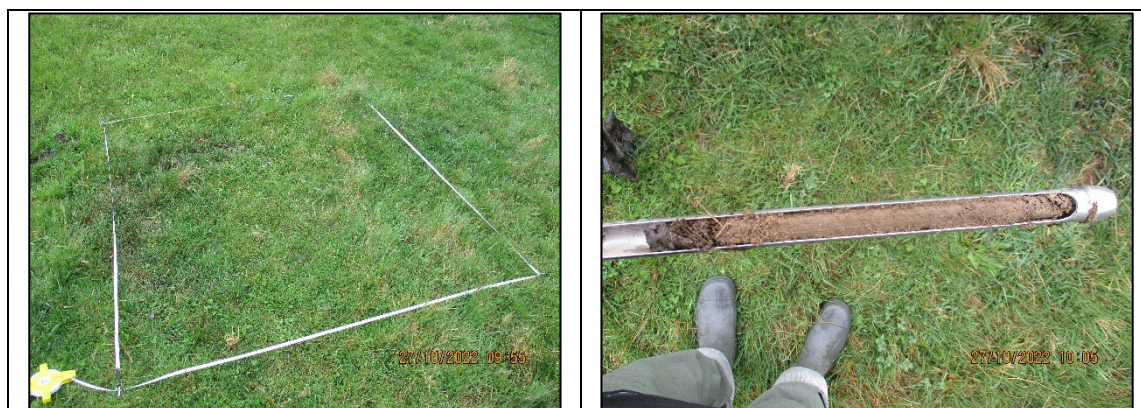


Plate 1: Upland Site (left) and associated soil profile (right).

3.2 Wetland Quadrat

The wetland quadrat location (labelled wetland quadrat on Figure 1) was situated in the centre of the identified depression within a rushland and rank grass community. There were wetter areas in close proximity to the quadrat, but the sampling location selected reflected the most common surface and vegetation characteristics including saturated ground.

The wetland quadrat exhibited clear indicators of wetland hydrology (isolated perched surface saturation and water table recharge to within 10cm of surface), and wetland vegetation, passing both the dominance and prevalence index tests. The soil analysis also recorded gley soils that are typical of a wetland environment. This quadrat passed all three of the wetland indicators and it was found to be a natural inland wetland in accordance with the NPS-FM..



Plate 2: Wetland quadrat (left) with associated soils and visible water table (right).

4 Summary

e3Scientific performed remote desktop and field-based site reconnaissance to delineate the boundary of a wetland adjacent to earthworks associated with the proposed subdivision activities. The detailed assessment of the soils, vegetation, and hydrology of the area confirmed a natural inland wetland is present along the majority of the roadside boundary excluding a seven-meter-wide strip on the north east edge.

Earthworks within a wetland or within a 10-metre setback (54b) or discharges within 100 m of a natural wetland (54c) are non-complying activities under regulation 54 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-FW 2020).

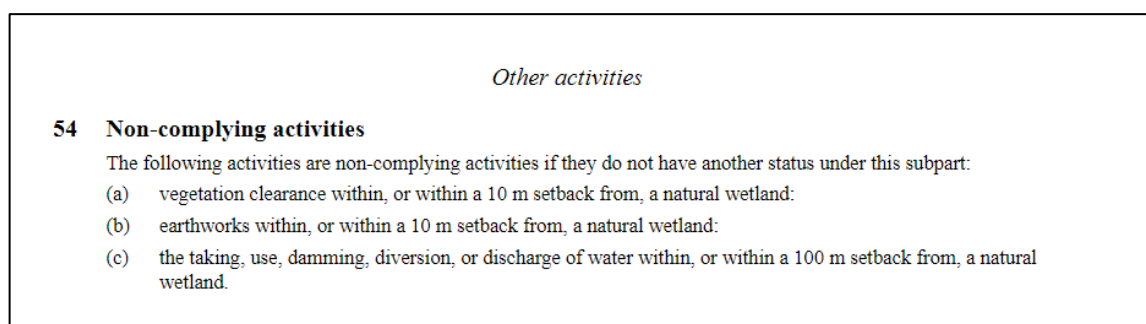


Figure 2: Regulation 54 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020.

If you have any questions regarding the information provided in this letter, please contact Liam Salemink-Waldren on 03 409 8664 or via email at liam.salemink@e3scientific.co.nz.

Yours sincerely,

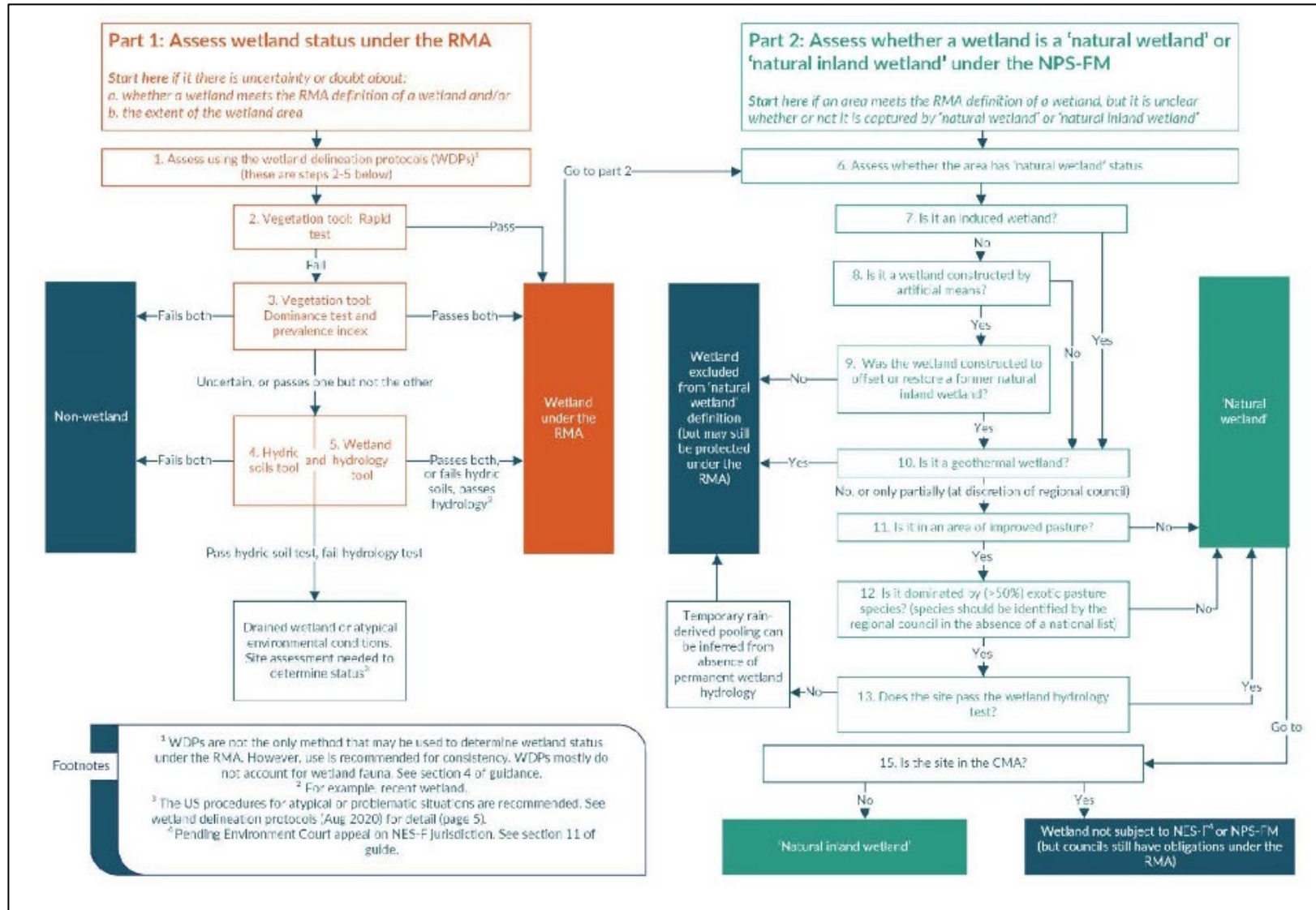
Liam Salemink-Waldren
Terrestrial Ecologist

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Attachments:

**Attachment A: Wetland assessment under the NPS-FM
2020 flowchart.**



**Attachment B: New Zealand Wetland Delineation Data
Forms.**

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: 3381, Ida Valley Rd Region: Central Otago Sampling point: ditch / depression
 Owner: Jillian Sullivan Date: 27/10/22 Land use: grazed lightly
 Landform: light Local relief: _____ Land cover: exotic grass e/Juncus
 Is the land drained (circle) YES NO Investigator(s): LSW Soil °C: _____ Slope: < 5° each side
 GPS (NZTM): 925 Altitude m: ~ 505m Photo Nos: #2028-2033
Wetland GPS Points 927-958

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) slightly Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) No Explain answers in Remarks if needed.

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES
 Hydric soils present? YES NO NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Dominance Test:
Tree Stratum (Plot size: _____)				No. Dominant Spp. OBL/FACW/FAC (A) <u>1</u>
1. _____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>1</u>
2. _____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>100%</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total cover = _____				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index:
1. _____	_____	_____	_____	Total % cover of: Multiply by:
2. _____	_____	_____	_____	OBL _____ x 1 = _____
3. _____	_____	_____	_____	FACW <u>75</u> x 2 = <u>150</u>
4. _____	_____	_____	_____	FAC _____ x 3 = _____
5. _____	_____	_____	_____	FACU <u>31</u> x 4 = <u>124</u>
Total cover = _____				UPL <u>1</u> x 5 = <u>5</u>
Herb Stratum (Plot size: <u>2m</u>)				Total <u>107</u> (A) <u>279</u> (B)
1. <u>Juncus Edgari?</u> <u>55%</u>	<u>55%</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index (B/A) = <u>2.61</u>
2. <u>ex grass creeping bent</u> <u>20%</u>	<u>20%</u>	<u>N</u>	<u>FACW</u>	
3. <u>brown top</u> <u>30%</u>	<u>30%</u>	<u>N</u>	<u>FACU</u>	
4. <u>broad leaf dock</u> <u><1%</u>	<u><1%</u>	<u>N</u>	<u>FAC</u>	
5. <u>cats ear</u> <u><1%</u>	<u><1%</u>	<u>N</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
Total cover = _____				

Remarks: natural depressions - deepened and ditched further to west.
ex grass sample taken
Juncus sample taken.

willow seedlings, jointed rush, ~~watercress~~
all wetland species. watercress.

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-15	10yr 2/1	—	—	—	—	organic fibre/organic	
15-30	5y 5/2	—	—	—	—	mineral soils silty sands, soil	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW | P VP

Organic layers:

Organic soil material
 Litter
 Fibric
 Mesic
 Humic
 Peaty topsoil
 Peaty subsoil

Concretions:

Iron concretions
 Manganese concretions
 Nodular

Consistence:

Plastic
 Sticky
 Fluid

Colours: profile form either:

Gley OR
 Mottled

Horizon:

Reductimorphic
 Redox mottled
 Redox segregations
 Perch-gley features

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) ~14cm
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Duri- Fungi Ortstein
 Layers: Depth (cm) _____
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

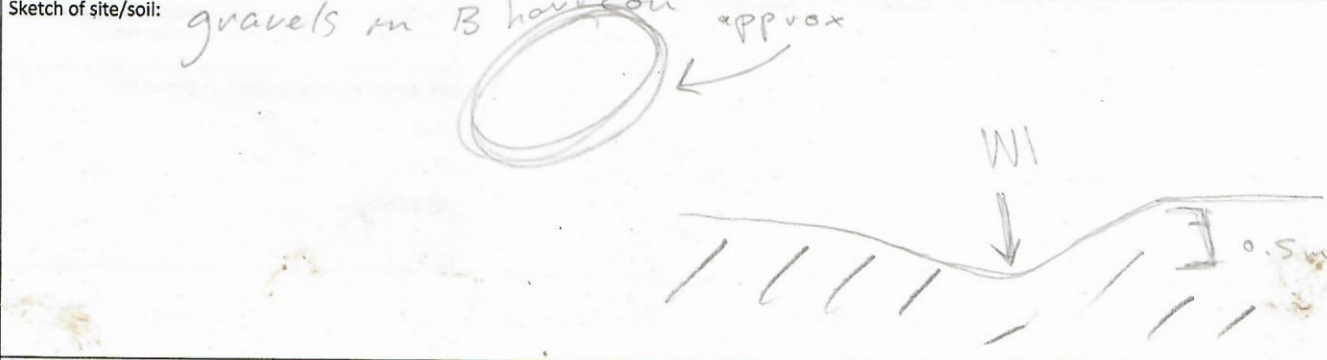
Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input checked="" type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input checked="" type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input checked="" type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks:

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: upland 3381 Ida Valley Rd Region: Central Otago Sampling point: upland
 Owner: Jillian Sullivan Date: 27/10/22 Land use: grazed
 Landform: depression/drainage Local relief: _____ Land cover: pastures
 Is the land drained (circle) YES NO culvert Investigator(s): LSW Soil °C: _____ Slope: < 2%
 GPS (NZTM): 926 Altitude m: ~505m Photo Nos: #2033

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) no Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) no Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES NO
 Hydric soils present? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute	Dominant	Indicator
Tree Stratum (Plot size: _____)	% cover	Species?	Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: <u>2m</u>)			
1. <u>white clover</u>	<u>35%</u>	<u>N</u>	<u>FACU</u>
2. <u>brown top</u>	<u>85%</u>	<u>Y</u>	<u>FACU</u>
3. <u>pegad leaf dock</u>	<u><1%</u>	<u>N</u>	<u>FAC</u>
4. <u>Yarrow</u>	<u>~7%</u>	<u>N</u>	<u>FACU</u>
5. <u>hare foot trefoil</u>	<u><1%</u>	<u>N</u>	<u>UPL</u>
6. <u>cats ear</u>	<u><1%</u>	<u>N</u>	<u>FACU</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
Total cover = _____			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0%

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU 129% x 4 = 519
 UPL <1% x 5 = 5
 Total 130 (A) 524 (B)
 Prevalence Index (B/A) = 4.03

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-25	3/2 10yr 3/2	—	—	—	—	dry organic Fibric 2cm	at top
25-30	2.5y 4/3	—	2-4mm 5%	2-4mm	central	dry clay soils	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input checked="" type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley OR <input checked="" type="checkbox"/> Mottled <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features
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Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) not < 30
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm)
 Pan Humus Fe-pan Duri- Fragi Ortstein
 Layers: Depth (cm)
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup

Primary hydrology indicators: minimum of 1 required; check all boxes that apply


<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species <u> </u> (A) 2. No. FACU & UPL dominant species <u> </u> (B) 3. Total <u> </u> (A+B) 4. FAC-neutral (>50%) <u> </u> (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/soil:



Remarks:

Ref: 22137.B

7 July 2023

Jillian Sullivan

c/o Jake Woodward



RE: Effects of Onsite Wastewater Discharge to Nearby Wetlands Technical Review

1 Introduction

Jillian Sullivan ("the Client") is undertaking a subdivision of a ~8ha piece of land located at 3881 Ida Valley-Omakau Road, Ōtūrehua situated between the Ida Burn/Ōmakau and Ida Valley-Omakau Road. The attached scheme plan indicates that Lot 1 (0.678 ha) will be separated from Lot 2 (7.398 ha) being a proposed subdivision of Lot 6 DP 435809.

Lot 1 includes a 476 m² building platform, an access road along the eastern boundary, and a curvilinear wetland feature. An area of curtilage is separated from the wider lot using buffer distances of 10 m from the boundary and 10 m from the wetland.

The Client has received feedback from the Territorial Authority that they need to provide a more detailed assessment of the effects of any discharge of domestic wastewater to land on nearby water bodies and wetlands.

1.1 Scope of Work

The scope of work covered in this letter report is limited to a technical review of the available information and assessment of effects from the proposed onsite wastewater system on nearby wetlands and surface water bodies. Information reviewed included:

- Assessment of Environmental Effects – 3881 Ida Valley-Omakau Road, Otūrehua (JPW Consulting Limited, 2023)
 - Appendix B – Updated Scheme Plan (SurveyWorx, 2022)
 - Appendix E – Wastewater assessment (Kirk Roberts, 2022)
 - Appendix J – Wetland Assessment (e3Scientific Limited, 2022)

2 Site Conditions

2.1 Topography

A high-resolution topographical survey has not been undertaken at this site. The highest resolution data available is the LINZ 8m DEM which is not suitable for the contour variation on site. Therefore, estimates of elevation change across the site are based on field observations and some high-level field measurements.

In general, the site is gently sloping west toward the Ida Burn/Ōmakau. There are two small terraces located within Lot 1. At the base of each terrace are small depressions where surface water has eroded a channel. It appears that these channels may have been modified slightly by previous landowners. The channel that cuts through the NE side of Lot 1 was measured to be 0.5 m below the surface level of the site.

2.2 Nearby Surface Water Bodies

The Ida Burn/Ōmakau is located more than 120 metres to the west of the site (Figure 1).

Between the site and the Ida Burn/Ōmakau there are several drainage features and a small area of open surface water. Anecdotal evidence suggests these are spring fed wetlands, with springs occurring in the east and water flowing west down valley towards the open water area and beyond to the Ida Burn/Ōmakau.

Based on photographs taken of the springs, they appear to be flowing at <1 L/s.

2.3 Nearby Wetlands

The e3scientific (2022) wetland assessment identified that there was a curvilinear depression-type wetland feature within the proposed Lot 1 which originates in the northeast side of the site and continues to the southwest in a similar manner to the larger network of wetland features to the west of Lot 1 (Figure 1).

The Kirk Roberts and Meyer-Crudon site assessments also identified the springs to the west of Lot 1 and the "runoff" channel which traversed the northeast corner of the site.

Despite not being verified by e3scientific using the appropriate methods, it is likely that all of the spring and ditch features across Lot 6 DP 435809 are also natural inland wetlands (Figure 1).

ORC (2012) noted that drilling has shown a thin veneer of Pleistocene gravels is typically underlain by a shallow clay pan which acts as a barrier to groundwater drainage. The wetlands of the Ida Burn Valley are likely to form in areas where there are large permeability contrasts in the sediments or where surface gravel deposits are thinner.

2.4 Groundwater

2.4.1 Site Groundwater levels

A shallow unconfined groundwater table has been identified at various depths within proposed Lot 1.

- e3scientific identified a water table in the bottom of the ephemeral wetland ditch, approximately 0.15 m below ground level. As the ditch was also about 0.5 m below the surface of the remainder of the site, the water table may be about 0.65 m below the surface of the site at this location.
- Kirk Roberts identified a water table at from 700 mm below ground level on the site during winter conditions.
- A site and soil assessment by Meyer Cruden (2016) indicated that in summer the water table was 1.3 m below ground surface.

Despite being one of the driest valleys in Otago, the water table is observed to seasonally vary from 0.65 to 1.3 mbRL, (metres below the relative level of Lot 1's building platform). This variation is likely due to recharge occurring in the headwaters of the Ida Burn during winter when evapotranspiration is limited. ORC maintain a rainfall gauge at the Hills Creek bridge which recorded 523 mm during 2022 and rainfall ranges from 300 – 700 mm/yr, with only 12% of this recharging below the soil profile (ORC, 2012).

2.4.2 Site Domestic Water Supply

The town supply is currently serviced by the Hawkdun-Idaburn Irrigation Company with a take located at "A spring fed unnamed tributary of the Ida Burn, approximately 300 metres south of the intersection of Hills Road and Ida Valley-Omakau Road, Oturehua, Central Otago" (RM2006.283.V2).

2.4.3 Local Groundwater flow direction

Groundwater flow direction has not been assessed by Kirk Roberts or Meyer-Cruden, however ORC have undertaken some investigations into groundwater in the Ida Burn (ORC, 2012). It could be reasonably expected to be a subdued reflection of topography; this is somewhat confirmed by the identification of springs nearby and the subsequent outflow direction from these springs indicating a generally down-valley flow direction. In addition, there will be groundwater flow from the valley sides as identified by the town supply take located to the southeast of the site at the toe of the slope (Figure 2).

2.4.4 Local Groundwater Quality

ORC (2012) undertook some aquifer testing at four sites in the Pool Burn end of the the wider Ida Burn/Pool Burn Catchment. However, local land use in the Pool Burn catchment is similar to that upgradient of the site in the headwaters of the Ida Burn and so may be considered that is likely to be consistent across the whole catchment.

Concentrations of nutrients were elevated above background, with nitrate nitrogen ($\text{NO}_3\text{-N}$) concentrations ranging from 1.5 to 4.5 g/m^3 , ammoniacal nitrogen ($\text{NH}_4\text{-N}$) from <0.01 to 0.02 g/m^3 , and Dissolved Reactive Phosphorus (DRP) from <0.005 to 0.052 g/m^3 . Nutrient values indicate that fertiliser use is affecting groundwater quality (ORC, 2012). This leaching indicates groundwaters are migrating down valley and therefore are not stagnant.

2.5 Site and Soil Assessments

As part of the requirements of ASNZS:1547 (2012), a site and soil assessment should be undertaken to provide the basic information required for the design and appropriate siting of an onsite wastewater system and disposal field/land treatment area (LTA). Kirk Roberts have undertaken a site and soil assessment which also includes reference to a previous site and soil assessment by Meyer Cruden (2016). test pit locations are included in Figure 1.

2.5.1 Assessment of Soil Category and DIR

Kirk Roberts and Meyer-Cruden identify 0.3 m of topsoil and reasonably permeable alluvial soils (1 m thickness) over deeper clays and classify them as soil category 1 and 2 over soil category 6. This confirms the findings of ORC (2012) and indicates that the thin alluvial deposit is likely the cause of nearby wetlands.

Based on this assessment, Kirk Roberts have suggested that either subsurface pressure compensated dripline irrigation (PCD), or a mounded LTA would be suitable for overcoming the limitations of the site conditions. A design irrigation rate for an LTA using subsurface dripline would be 2 mm/day or for mounds could be 5 mm/day.

The site and soil assessments both recommended a wastewater treatment plant capable of treating effluent to meet secondary treatment standards would be appropriate for the site.

2.5.2 Scenarios for LTA design and Discharge quality

While the occupancy of the proposed dwelling on Lot 1 has not been determined a medium-scale estimate of 4 bedrooms and 8 full time occupants and a high scale estimate of 6 bedrooms and 12 fulltime occupants is proposed in order to assess potential discharge parameters. Volumes generated under these scenarios use 200 L of black and grey water per person per day, which generates a total daily volumes of 1,600 to 2,400 L.

Based on these volumes, a mounded LTA would be sized between 320 - 480 m² while a PCD dripline would require 800 -1200 m². As the groundwater is so near to the surface it is recommended that mounds are used to maintain a buffer of at least 1 m between the discharge depth above the groundwater table in winter (<0.65 mbRL); that would require mounds to be formed which discharge at 0.35 m above RL. However, with careful design a subsurface PCD system may be suitable.

Discharge quality depends on the treatment unit, however a secondary standard put forward by Andrew Dakers (onsite wastewater New Zealand, accessed 6/7/23) requires treatment of TSS to 30 g/m³ and BOD to 20 g/m³. In addition, it is recommended that systems have an aerated/oxic and anoxic recirculating phase to reduce nitrate concentrations to as low as possible (e.g., <30 g TN/m³). As there are no immediate downgradient water users a strict standard for *E.coli*

may not be required, with most systems meeting the required limits <100,000 MPN/100mL with filtration. After discharge to land, high levels of removal occur during migration through soil by adsorption, assimilation, and mechanical destruction of bacteria with often 3 log removal occurring over 1 m of unsaturated soils (e.g., <100 MPN/100mL) prior to entering groundwater.

Treatment to these concentrations is achievable for some of the available wastewater treatment systems on the market (e.g., Innoflow), Thus the potential loads to the site LTA are calculated in Table 1.

Table 1. Scenarios for Discharged Treated Effluent Quality and Loadings

Determinands	units	BOD	TSS	TN
Expected Secondary Treated effluent	g/m ³	<20	<30	<30
Scenario 2 – High – 2400 L/day	g/d	48	72	72
	kg/yr	18	26	26
	kg/ha/yr	26	39	39
Scenario 1 – medium – 1600 L/day	g/d	32	48	48
	kg/yr	12	18	18
	kg/ha/yr	17	26	26

As there is no cut and carry proposed, it is likely in the long term that the daily nitrogen load (48 - 72 g/day) will eventually migrate to groundwater as the soils reach saturation with respect to nitrogen concentrations. Phosphorous is more likely to bind to sediments within the LTA, and it is expected that limited leaching will occur in the long term.

The design irrigation rates provided by Kirk Roberts are based on the ASNZS:1457 (2012) which are designed to be conservative such that the derived area for the LTA is of suitable size for assimilating the annual TSS and BOD loading without leading to adverse soil health and subsequent failure of the LTA to further treat the discharged effluent. Thus, for a long-term outlook as suitable for design life of the LTA and treatment system, the LTA should provide significant additional treatment of the already secondary treated effluent, including the removal of faecal bacteria at a rate of 3 log units per metre of unsaturated soil.

3 Effects of a Discharge to Land on Nearby Wetlands

This assessment of effects is based on the above review of site conditions, proposed potential types of LTA and their design irrigation rates, and with effluent treated to a secondary treatment standard. The effects can be considered in two parts, firstly the quantity of water discharging to land and its effects on groundwater levels; and secondly the quality of water discharging to land and its effect on the quality of groundwater and surface water connected to groundwater.

3.1 Effects on groundwater levels

As the town's water supply is from a spring 220 m immediately SE of the site, the water removed from the upgradient catchment for domestic supply is returned to the catchment within 220 m downgradient of the take via these discharges. The catchment is a very small tributary of the Ida Burn, however as flow in the Ida Burn is primarily recharged by rainfall in its headwaters, the effects of the take and discharge on the groundwater table are expected to be low. The adverse effects of this discharge on groundwater levels are therefore likely to be less than minor and may even provide a beneficial recharge of the aquifer to return to a proportion of the pre-take levels.

Surface water recharge from groundwater is primarily controlled by upgradient head, episodic recharge from widespread rainfall events, and seasonal variation in evapotranspiration. While lateral flow is likely along the interface between the fluvial gravel deposit and the clay pan deposit, the direction of groundwater flow has not been assessed. The effects of the discharge on groundwater levels and thus on the nearby surface water springs and wetlands are therefore likely to be less than minor and may even be beneficial in returning some of the removed water to the local catchment.

3.2 Effects on groundwater and surface water quality

The water take for the town supply is upgradient of the site and as such there are no adverse effects on nearby domestic supply. The nearest downgradient bore is H41/0186 which is over 8 km down valley from the site but is used for domestic supply, due to the distance from the site there are unlikely to be any direct effects from this discharge over and above the cumulative effects from the Oturehua

township and upgradient land use activities such as intensive farming. Therefore, the effects on human drinking water is less than minor.

Thus, the key receptors are any nearby surface water connected to the groundwater, the nearby wetlands, and any aquatic ecological receptors therein. Existing groundwater and surface water quality are expected to be generally good however with elevated nutrients (see Section 2.4.4), likely from upgradient use of fertilisers (ORC, 2012 and neighbouring properties discharging treated wastewater to land to the southwest of the site under permitted activity status or established prior to the NES-F.

The springs feeding surface water bodies and unverified wetlands to the west of the site are likely to be the downgradient receptors of any groundwater impacted by the discharge of wastewater to land, as the verified onsite wetland delineated by e3scientific is not connected to groundwater directly (Figure 1). Therefore, the effects on the onsite wetland will be less than minor.

The springs to the west of Lot 1 were observed as flowing at <1 L/s, or <86,400 L/day. The additional water discharged to land would therefore be equivalent to between 1.8% - 2.7% of the volume discharged at the spring, or a dilution factor of >1:35. Thus, if the treated effluent quality meets expectations as provided in Table 1, then any nitrate migrating offsite could be diluted at a rate of 1:35, which would reduce concentrations to levels similar (if not less than) those observed in the catchment already (ORC, 2012) which ranged from 1.5 – 4.5 g NO₃-N/m³. For groundwaters recharging surface water bodies and wetlands nearby, the effects are expected by less than minor, with potential for only very low levels of nutrients to discharge into the wetland.

Wetlands provide the ideal conditions to support bacteria or plants to fully metabolise and take up most nutrients, and provide the redox conditions required to reduce nitrates to nitrogen gas. It is therefore likely that the effects on the downgradient, nearby wetlands and surface water bodies are less than minor, and that the wetland would possibly provide further polishing of any discharge that did reach the wetland. It was observed that the wetlands have been fenced off and a riparian margin planted which will improve the filtering activity of the wetland.

Based on the above assessment of effects on water quality from the discharge to land that may enter groundwater and surface water bodies and wetlands connected that groundwater, these are highly likely to be less than minor.

3.3 Cumulative Effects

There are some cumulative effects associated with the use of fertilisers on groundwater and surface water quality in the upgradient catchment, these are likely to overprint those of the discharge of secondary treated wastewater to land at this site, and of the wider Oturehua town. No other residence in Oturehua currently has a discharge permit despite being in similar locations close to wetlands, likely because the onsite wastewater systems were established prior to the NES-F. The township is small; in total it is estimated that 112 people live in the township. The addition of between 8 and 12 fulltime occupants at this site is equivalent to an increase of 7-10% of the resident population.

Ongoing population increases at the township will require a wider planning approach that includes the assessment of the cumulative effects on groundwater and surface water connected to groundwater as noted at other growing townships in Otago located above or adjacent to shallow unconfined alluvial ribbon aquifers (e.g., Cardona, Glenorchy). However, based on the contribution of this site to the already existing cumulative effects on water quality of the Ida Burn/Ōmakau catchment, it is expected the effects will be less than minor.

4 Summary and Conclusions

For this assessment to be valid, the design of the onsite wastewater treatment system and land treatment area must be equivalent or less in scale to that assessed above. Namely, a treatment system capable of meeting the secondary standards for treated effluent (BOD/TSS/TN <30 g/m³) and a LTA sized for the suggested design irrigation rates of 5 mm/day for mounds or 2 mm/day for PCD subsurface dripline, and the eventual occupancy design of the dwelling.

While nearby receptors are sensitive, with a well designed and constructed wastewater treatment system the direct and cumulative effects of the discharge of treated wastewater to land will be less than minor.

If you have any questions regarding the information provided in this letter, please contact Simon Bloomberg on 03 409 8664 or via email at simon.bloomberg@e3scientific.co.nz

Yours sincerely,




Simon Bloomberg
Senior Environmental Scientist

Attachments

Attachment A: Site Maps

References

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- New Zealand Government. (2014). *National Policy Statement for Freshwater Management 2014*.
- New Zealand Government. (2020). Resource Management (National Environmental Standards for Freshwater) Regulations 2020. New Zealand Government.
- ORC. (2006). *Recommending Report - Water Application 2006.283 by Hawkdun Idaburn Irrigation Company Limited*. Otago Regional Council.
- ORC. (2012). *Groundwater Exploration in the Ida Valley*. Otago Regional Council; Prepared by Scott Wilson and Jens Rekker.

Attachment A: Site Maps (Figure 1 and 2)



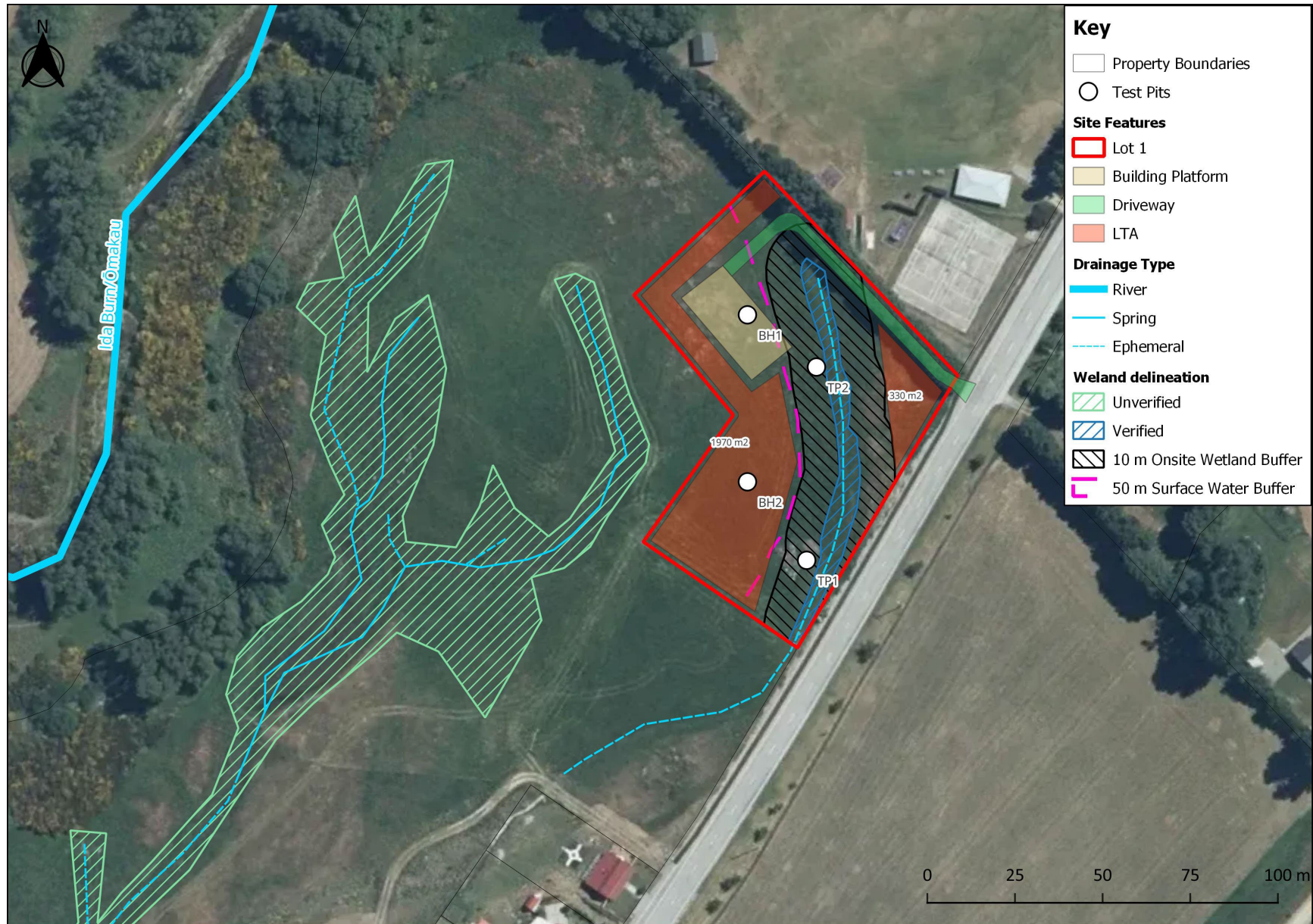


Figure 1. Site features, including wetlands, Lot 1, and potential LTA areas.

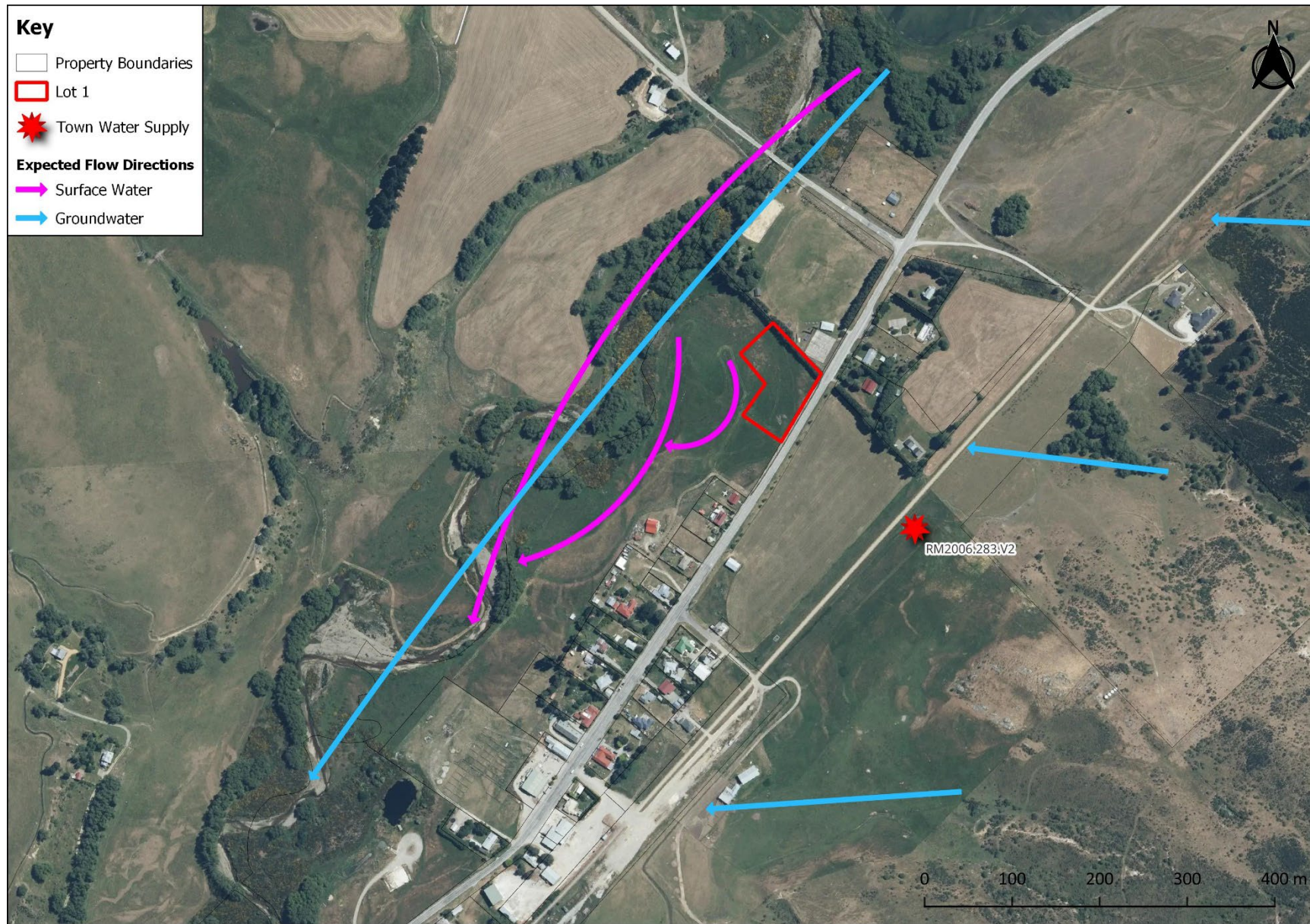


Figure 2. Expected groundwater and surface water flow directions.

STATEMENT - Activity

Jillian Sullivan
NEW ZEALAND

From Date 1 Jan 2022
To Date 8 Feb 2022
GST Number 088-941-985

Maniototo Contracting
(2004) Limited
PO Box 10
Ranfurly 9353
NEW ZEALAND

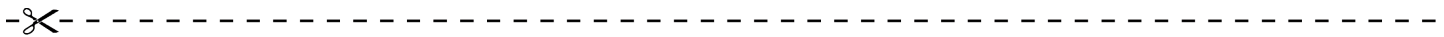
Date	Activity	Reference	Due Date	Invoice Amount	Payments	Balance NZD
1 Jan 2022	Opening Balance					0.00
31 Jan 2022	Invoice # 42109	J22553	20 Feb 2022	810.75		810.75

BALANCE DUE NZD 810.75

Thank you. Your custom is appreciated.

Payments can be made to:
Maniototo Contracting (2004) Limited
BNZ Bank
02-0466-0348949-00

All costs incurred in the collection of overdue accounts are payable by the debtor.



PAYMENT ADVICE

To: Maniototo Contracting (2004) Limited
PO Box 10
Ranfurly 9353
NEW ZEALAND

Customer	Jillian Sullivan	
Overdue	Current	Total NZD Due
0.00	810.75	810.75
Amount Enclosed		

Enter the amount you are paying above

Jillian Sullivan

AMOUNT	DATE ISSUED
\$602.60	31/01/2023

**CREDIT ADJUSTMENT NOTE NO. 44070
FOR TAX INVOICE NO. 44070**

Job No.: 24450
Site: Gillian Sullivan
Site Contact:

Description

Credit note:

Credit \$4 bale for 131 small square bales purchased.

Note : 291 bales made in total - 80 bales left on site and 80 bales taken in leu for payment leaving 131 bales as a credit

Thank you, your custom is much appreciated.

Sub-Total	\$524.00
GST	\$78.60
Total	\$602.60
