Assessment of the impact of Clause 3.10 of the NPS-HPL on the land on the corner of McDonald and English's Road, Lincoln

1 Background

Jo and Paul Campbell have commissioned The AgriBusiness Group to report on their assessment of the National Policy Statement for Highly Productive Land (NPS-HPL), Clause 3.10 (Exemptions for high productive land subject to permanent or long-term constraints), on the land located on the corner of McDonald and English's Road, Lincoln.

The proposal is to build a small dwelling adjacent to the existing shed on the site.

1.1 Description of the Site

As can be seen from Figure 1 the site is 2.02ha and located on the corner of McDonald and English's Road. To the North and East of the site is arable and pastoral farmland. To the South of the site are lifestyle blocks, pastoral farmland and the Araiara river. To the West of the site are lifestyle blocks and pastoral farms.

The site has no irrigation capability.

Figure 1: The site (depicted in red) and its surrounding land uses

1.2 Land Use Capability

The data, which is available on Land Use Classification (LUC) in the New Zealand Land Resources Inventory Series (LRIS) portal,[1] is mapped at the 1:50,000 level and is shown in Figure 2. What we can determine from Figure 2 is that 2 ha of the site is LUC 3 and less than a hectare of both LUC 2 and LUC 1.

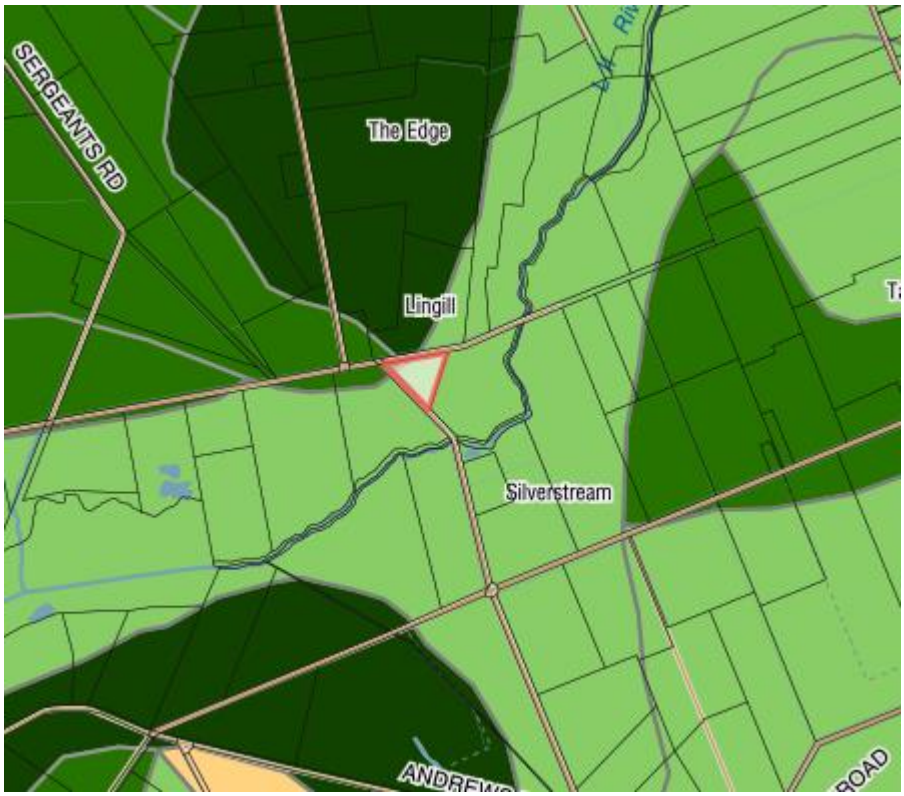

Figure 2: LUC class of the site

In the NPS-HPL all land which is classified as LUC 1, 2 and 3 and which is zoned as Rural is automatically considered to be HPL.

1.3 Productive Capacity as HPL

The productivity of the site is determined by a number of factors including the nature of the soils, climate and scale of the operation.

1.3.1 Soils

In Figure 3 I have included a screenshot of the data held in Manaaki Whenua Landcare Research's SMap online portal of the soils of New Zealand[2] of the site.

[1] https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_hpl
[2] https://smap.landcareresearch.co.nz/maps-and-tools/app/

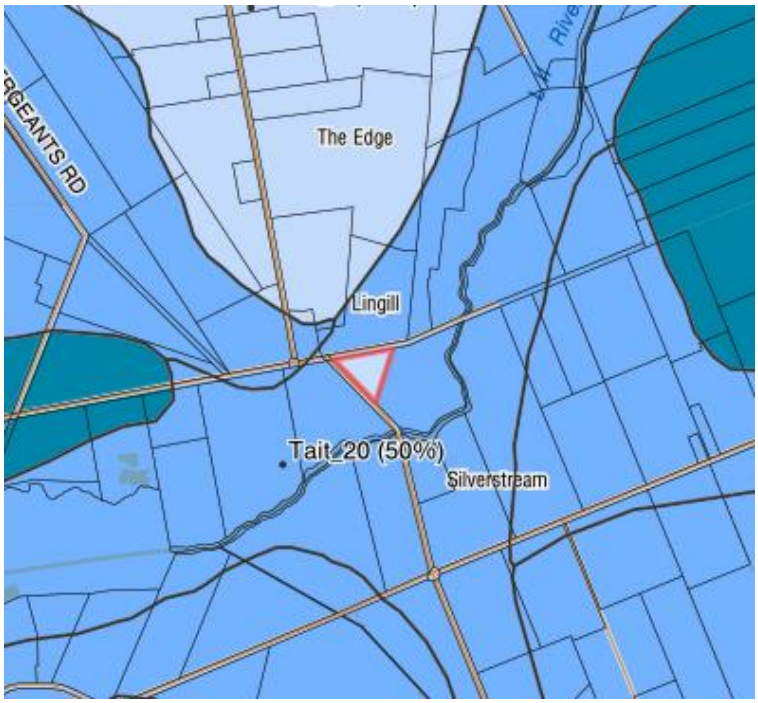

Figure 3: SMAP record of soils on site (SMAP)

Table 1 lists the soils on the site by sibling description, area and proportion

Table 1: Soils on the site by sibling description, area and proportion

Soil Name	Area (ha)	Proportion (%)
Tait_20a.1	1	50
Tait_16a.1	<1	25
Ymai_16b.1	<1	25

Definitions of the key soil physical properties that are listed in the SMAP fact sheet for the soils that are present on the site are shown in Table 2.

Table 2: Description of soils on the site

Soil Name	Taitapu	Taitapu	Waimairi
SMap Name	Tait_20a.1	Tait_16a.1	Ymai_16b.1
Depth Class	Deep (>1m)	Deep (>1m)	Deep (>1m)
Rooting Depth	Unlimited	Unlimited	50-100 (cm)
Depth to Stony Layer	No Significant Stony Layer Within	No Significant Stony Layer Within	No Significant Stony Layer With
Texture Profile	Silt over Sand	Loam	Peat over Silt
Topsoil Stoniness	Stoneless	Stoneless	Stoneless
Draining Class	Poorly Drained	Poorly Drained	Very Poorly Drained
Profile Available Water (0-100cm)	High (243mm)	Very High (295mm)	High (212mm)

The Taitapu soils make up 75% of the site, these are deep silt over sand or loam soils that are stoneless, poorly drained and have a high or very high profile available water (PAW). The Waimairi

soils make up 25% of the site, these are deep peat over silt soils that are stoneless, very poorly drained and have a high PAW.

These soils are all theoretically suitable for horticulture, vegetable, arable and a wide range of pastoral land uses.

1.4 Land Use Constraints

The site has several significant land use constraints.

1.4.1 Scale

The scale of the site is a significant constraint because at only approximately 2.02 ha it lacks any of the scale which is necessary to achieve the economies of scale that are necessary to achieve commercial viability for any but the most intensive land uses.

1.4.2 Access to Irrigation Water

The site is within the Selwyn-Waimakariri water zone which is currently overallocated for takes to extract irrigation water. This means that it is not possible to gain access to irrigation water unless it is possible to transfer an existing consent onto the property.

Under the ECan Land And Water Regional Plan section Transfer of Water Permits 4.71 (d) it states that;

In an over allocated surface water catchment or groundwater zone, a proportion of the allocated water is surrendered and is not re allocated, unless there is a method and defined timeframe to phase out over allocation set out in an applicable sub region Section of this Plan.

In the Christchurch Selwyn-Waihora section it states that:

If the transfer is within the Selwyn-Waihora Combined Surface and Groundwater Allocation Zones 50 percent of the volume of transferred water is to be surrendered unless:

(a) The transferred water is to be used for a community water supply; or

(b) The transferred water is used, or following transfer will be used, for an industrial or trade process and result in a neutral or positive water balance.

Although it may be possible to gain access to irrigation water, drilling a well would be required to secure water access, incurring an estimated cost of $55,260. This does not account for the additional expenses associated with irrigation, including applying for a water take consent or the setup of infrastructure required to apply the water.

The scale of the site is restrictive, meaning the economic advantage of gaining irrigation capacity is limited and a prudent operator would find it more feasible to consider establishing operations on a larger land area. By doing so, the expenses that are incurred in establishing water access infrastructure could be spread across a greater area of land, ultimately making the cost per hectare more viable.

1.4.3 Exclusion of Horticulture

The potential for intensive horticultural land use has been considered and it has been rejected for a number of important reasons including:

- The very high cost of establishment of an intensive horticultural operation on a relatively small site.
- The lack of irrigation capability which is essential for Horticultural crops.
- The cold winters limit the potential range of horticultural crops.
- The site is remote from any post-harvest packaging and processing facilities, which would mean that the high costs of transport of produce would add large additional growing costs.

1.4.4 Limitation of Arable land use.

The ability to maximize the productivity of any of the potential arable land uses would require that the land was farmed as part of a larger farming entity and that irrigation capability was available (it is currently not available).

The small scale would not allow for cropping rotations to be undertaken on the land. The site would need to be incorporated into a larger arable operation to achieve sufficient scale and enable the landowner to maximise productivity. There are no commercial scale arable operations in close proximity meaning equipment and machinery would have to be transported to the site, making it unattractive to existing arable operations.

The small scale of the property and lack of irrigation makes the site unattractive to integrate into larger farming operations.

1.4.5 Pastoral Land Use

It would be theoretically possible for the land to be used for pastoral grazing (sheep and beef or dairy support) however there are several constraints on this land use being achieved. The constraints include:

- The cost associated with intensifying the productivity of the site e.g. providing winter crops, and additional supplementary feed from off-site are too expensive to justify on a small scale.
- The lack of irrigation means that most years the site would lack sufficient moisture over summer, reducing the ability to maintain sufficient stocking density therefore leading to diminished stocking rates over this period.
- The fact that the site has poor drainage means that in winter months the site will not be suitable for intensive grazing or stocked with large animals.
- The scale of the site being too small to offer a prospective farmer any real advantage in farming the site

It is my opinion that the site would not be an attractive option for a farmer to invest in and add to other productive land due to the scale, lack of irrigation and infrastructure.

1.4.6 Other Land Use Constraints

Although poultry production is mentioned in the SDC District Plan it hasn't been considered in this assessment because in the NPS-HPL Section 1.3 Interpretation, the definition of land-based primary production means production, from agricultural, pastoral, horticultural, or forestry activities, that is reliant on the soil resource of the land. As the operation of a poultry farm isn't reliant on the soil resource it isn't a land use which is consider under the NPS-HPL.

1.4.7 Conclusion

It is my opinion that the highest and best land use would be small scale lifestyle grazing.

2 Economic Viability

Considering the constraints limiting the site's potential for primary production, the highest and best land use is dryland sheep and beef grazing. To evaluate the site's commercial viability, I've assumed this land use across the entire 2.02 ha.

For the sheep and beef grazing model, I've used the data that is available in B+LNZ's Farm Monitoring adopting their Class 6 Breeding and Finishing model which represents the range of farming systems that are carried out in the Canterbury Region on dryland farms and are in a 650 mm rainfall area. I would note that the average size of the Class 6 model is 490 ha.

Table 3 outlines the key financial metrics of this model. The Earnings Before Interest and Tax (EBIT) measure indicates the surplus generated which is available to cover interest and taxation.

Table 3: Key Financial Metrics of Dryland Sheep and Beef Model ($/ha)

	Sheep and Beef
Gross Farm Revenue	1,184
Farm Operating Expenses	716
Earnings Before Interest and Tax	467

If the total 2.02 hectares were available for production, the financial performance would be as shown in Table 4.

Table 4: Financial Performance of Dryland Sheep and Beef ($)

	Sheep and Beef
Gross Farm Revenue	2,391
Farm Operating Expenses	1,447
Earnings Before Interest and Tax	944

Table 4 shows that the amount that the site would generate is an EBIT of $944.

Although calculating the amount that would be required to provide sufficient return is very subjective, if we were to provide a sense check by providing for a return for management of 1.5% of the Gross Revenue and Interest payments on 40 percent of the capital value of the property at 7% and taxation the total required to provide sufficient income would be $10,004. This means that the amount of EBIT which the site is able to provide is $7,255 below the amount that is required to provide sufficient income.

It is important to note that, under the given assumptions, there would be no tax obligation, as the net taxation position of the site would result in a $1,805 loss.

It is my opinion that pastoral land use that is the highest and best land use on the 2.02 ha site is unable to provide sufficient income to provide for interest, taxation and a return for management as a standalone unit and therefore cannot be considered to be economically viable.

Therefore, I conclude that the site is unable to be considered economically viable both now and in 30 years' time.

In coming to this conclusion, I have considered 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:

(a) The alternate forms of land-based primary production are severely constrained by the poorly drained soils, scale and lack of irrigation on the site.

(b) The economic viability test has been carried out by using the most advanced land management strategy that is available on the site.

(c) Alternative production strategies have been rejected because of the severe constraints on the site that limit the ability to adopt them.

(d) Water efficiency or storage methods are not appropriate to this site because the very small scale would preclude the ability to return the costs of the investment in that technology.

(e) Reallocation or transfer of water and nutrient allocations is not a viable factor on this site.

(f) Boundary adjustments, including amalgamations, are not possible because the site is virtually landlocked from other economically viable HPL land.

(g) The scale of the site precludes the block from being leased to another larger farming operation

3 Consideration of the NPS-HPL

Clause 3.10 in the NPS-HPL exemption for highly productive land subject to permanent or long-term constraints states that:

(1) Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if 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.

(2) 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.

In providing this report I have taken account of the "National Policy Statement for Highly Productive Land Guide to Implementation" dated March 2023. I have adopted the three tests which the proposal must meet to determine whether the site has permanent or long-term constraints for which exemptions apply, and I have analysed each of the tests set out in Section 3.10 of the NPS.

The first test determines that 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 I have evaluated the two steps. The first step is that there is a permanent or long-term constraint on the land that will be present for at least 30 years. Having listed and analysed those factors I have then assessed the second step which is that the constraint means that land-based primary production cannot be economically viable for at least 30 years.

The second test is to assess whether the granting of this consent would compromise the ability of other HPL land in the district to be used for land based primary production.

The third test is whether the benefits of the proposed development outweigh the costs of the loss of highly productive land taking into account both tangible and intangible values.

Regarding 1(a), I conclude that utilising the High-Productivity Land (HPL) for primary production on this site would not be economically viable for a minimum of 30 years. In reaching this conclusion, we have considered the following practical options:

- The model used to assess the commercial viability of the block is the highest and best possible land use option because of the constraints of the lack of irrigation and scale.
- The model used reflects the average performance of the representative model.

Concerning 1 (b) (i), I am of the opinion that the loss of 2.02 ha of HPL is not significant in the Selwyn District which has been assessed by MPI in 2019 as having 6,522 ha of Class 1 land, 46,111 ha of Class 2 land and 87,927 ha of Class 3 soils giving a total of 140,560 ha of LUC Classes 1-3 soils nor is it significant in the Canterbury region which contains 824,286 hectares of HPL land.

In relation to 1(b) (ii), I am of the opinion that the proposal avoids fragmenting large and geographically cohesive areas of HPL. The scale of the area to be lost, comprising 2.02 ha, is not significant in the context of the surrounding HPL land and will not contribute to additional fragmentation.

In relation to 1(b) (iii), I believe the proposal mitigates potential reverse sensitivity effects on surrounding land-based primary production. This is because much of the surrounding land

comprises rural lifestyle blocks which is unlikely to be the source of concerns relating to reverse sensitivity effects.

In relation to 1(c) our assessment of the costs and benefits of the proposal are shown in Table 5.

Table 5: Costs and Benefits of the Proposal

Category	Costs of the loss of HPL	Benefits of the proposal
Environmental		
Carbon sequestration		Insignificant change
Support Habitat	Insignificant change	
Water filtration		Insignificant change
Flood mitigation		Insignificant change
Nutrient		Insignificant change
Climate regulation		Insignificant change
Air and water quality	Insignificant change	
Biodiversity conservation	Insignificant change	
Social/ Cultural		
Sense of belonging and place		Insignificant change
Social fabric		Insignificant change
Food security	Insignificant change	
Spiritual value	Insignificant change	
Economic		
Income		Considerably Higher
Employment		Enhanced
Flow on impacts to a wider community		Enhanced

The net environmental benefits of the proposed development of a small dwelling on the site is positive due to a reduction in two adverse effects resulting from land-based primary production: nutrient loss and emissions of greenhouse gases. These will both be reduced by the removal of livestock and fertiliser use on the portion of the property where it is proposed the dwelling will be built. This will however be a small-scale effect due to the size of the proposed development.

Social impacts of the proposed development on the site will remain substantially unchanged from the current land use and are likely to be marginally positive. The development is unlikely to impact food security due to the limited producing capability of the site, and limited impact to the site overall with the dwelling taking up less than 100sqm of the site. The building process would likely contribute to increased activity on the site and additional local expenditure contributing to increased vibrancy in the community surrounding the site.

The economic impact is positive because, as previously explained, the site's highest and best use for primary production is not commercially viable. Effectively transitioning to another commercially viable land use will bring positive economic benefits. The proposal would likely enhance employment in the area as infrastructure is being built. This will likely have positive economic benefits to the wider community through additional money being spent in the community.

This leads to the conclusion that the proposed development would result in economic, social and environmental benefits that outweigh the costs associated with the loss of HPL.

Conclusion

It is our conclusion that the proposed consent application meets all of the limbs in the clause 3.10 test and therefore Selwyn District Council should be satisfied that this HPL can be subdivided, used or developed for activities not otherwise enabled under clauses 3.7, 3.8 or 3.9.