PREFERRED OPTION REPORT TO DISTRICT PLAN COMMITTEE

DATE: 5 December 2018

TOPIC NAME: Energy and Infrastructure

SCOPE DESCRIPTION: Up-date on provision for Network Utilities in the Proposed District Plan

TOPIC LEAD: Nicola Rykers

PREPARED BY: Nicola Rykers

EXECUTIVE SUMMARY

Issue(s)	1. *How to enable network utilities that are nationally and regionally important to ensure their operation is efficient.* 2. *What is the best approach to manage the environmental effects of network utilities on sensitive environments* 3. *How to manage the safety risks associated with the presence of network utilities for electricity distribution and transmission.*
Preferred Option	*To progress the recommendations made in Section 7.0 of this report.*
Recommendation to DPC	*That the Preferred Option for "Network Utilities" is endorsed for further development and engagement.*
DPC Decision	*That the Committee notes the report.* *That the Committee endorses the Preferred Option for "Network Utilities" for further development and engagement.* *That the Committee notes the up-dated summary plan.*

1.0 Introduction

This report provides an up-date on the topic of network utilities for the District Plan Committee including an explanation of issues that have arisen, and recommendations on the preferred direction for the scope of provisions.

There is overlap between the Network Utilities and Transport topics, but generically it has been agreed that the Network Utility Chapter of the District Plan will address those matters related to the road as an asset and its use for network utilities within the road corridor (as distinct from the safety and efficiency aspects of vehicular and pedestrian use of the road corridor). It is noted that roads owned and managed by NZTA are typically designated, which provides the agency with the ability to establish and operate its infrastructure without relying on district plan rules.

2.0 Summary of Issues

The scope and content of provisions necessary to enable network utilities that are nationally and regionally significant to operate efficiently.

Ensuring the environmental effects of network utilities on the environment are appropriately managed.

How to manage the safety risks and operational requirements associated with network utilities for electricity distribution and transmission.

3.0 Statement of Operative District Plan Approach

An overview of the Operative District Plan is provided as follows:

The Operative District Plan provides a definition of Utilities as follows:
Utility includes the use of any structure, building or land for any of the following purposes:
(a) The generation, transformation and/or transmission of energy;
(b) Any telecommunication facility or telecommunication line;
(c) Any radio communication facility;
(d) The conveyance, storage, treatment or distribution of water for supply, including (but not limited) irrigation and stockwater;
(e) The drainage, reticulation or treatment of stormwater, water or sewage;
(f) Transport infrastructure, including (but not limited to roads, accessway, railways, airports and navigational aids;
(g) Work to mitigate potential natural hazards, including (but not limited to) stopbanks, groynes and gabions;
(h) Meteorological facilities for the observation, recording and communication of weather information.

The Operative Plan also defines "Utility Building" and "Utility Structure", which can be overlapping and confusing. It is understood that the definition of "Utility Structure" is intended to capture antenna, masts, poles or pylons as distinct from a building.

These definitions are no longer fit for purpose for the following reasons:

- They do not align with the definition of Infrastructure in the Resource Management Act (and which is also anticipated to be used in the National Planning Standards to be Gazetted in April 2019);
- They do not align with the terminology and definitions in the Canterbury Regional Policy Statement; and
- They are too broad, encompassing domestic utilities in addition to the utility networks provided by national and regional utility companies. The "enabling" regulation developed for national and regional utility companies is not intended to apply to domestic and farm utilities. The Draft National Planning Standards identify, through definitions, that the Network Utility Chapter is intended to apply to Network Utility Operators. Domestic utilities such as water tanks, and on-farm utilities should therefore be provided for within the relevant zone chapter.

The rules of the Operative District Plan generally provide for:

- The up-grading, maintenance, operation and replacement of existing utilities primarily associated with telecommunications and electricity transmission and distribution.
- Radio frequency emissions in accordance with the New Zealand Standards
- Limited excavation for drains and stock water races
- Coastal, flood and river protection works
- Underground pipes

Utilities unable to achieve compliance with standards default to either restricted discretionary or full discretionary activity status, with those activities with potentially more adverse environmental effects being identified as full discretionary.

Standards generally provide for:

Height of utility building	8m to 15m depending on zone
Setback of utility building	4m to 10m from the road, 2m other site boundaries, 10m from residential zone boundaries
Height of Utility structures	15m to 30m depending on the zone, or for antenna 2.5m above buildings
Dish antenna	1.2m, 4m diameter and height 8m to 25m depending on zone
Landscape treatment	To be planted, sealed or dressed with bark chips
Setback from waterways	10m to 100m depending on water body concerned
Utility structures colour	Limited to non-reflective, green, brown and grey

Utility structures in ONLs	Limited to 40m^2, 8m height and 37% reflectance
Utility buildings in ONLs	Limited to 40m^2, 4m height and 37% reflectance
Natural Hazards	Buildings and structures to be located outside identified hazard areas, non-compliance defaults to restricted discretionary status
Cultural Management Areas	Provisions limited to earthworks, non-compliance defaults to restricted discretionary status

More restrictive limits are imposed in the Alpine Villages and in specific locations such as Prebbleton and the Business 3 Zone (reflecting provisions inserted through plan change processes).

With respect to the National Grid Corridor the rules require a developer in living and business zones to demonstrate compliance with the New Zealand Code of Electrical Practice provisions. In the Rural Zone the subdivision design, earthworks and planting are matters of discretion applying to subdivision within 20 metres of the centreline of a transmission line. These provisions do not meet the requirements of the National Environmental Standards for Electricity Transmission.

The report "Effectiveness Review of Operative District Plan in Managing Visual Amenity Effects of Network Utilities and Energy Generating Activities" prepared by Boffa Miskell in September 2017 made the following observations:

- *With respect to business zones the provisions are more complex than is warranted. Business areas are the least sensitive environment where there is greater demand for particular network utilities.*
- *With respect to residential zones the height standards for structures (masts, towers, poles) appear to be reasonable, but the standard for buildings is more permissive than other plans.*
- *With respect to the rural zones, additional height for masts or poles will not adversely impact rural character, but there should be additional controls on building scale.*
- *For sensitive areas such as the Outstanding Landscapes or Alpine Villages more restrictive provisions should be retained.*

Overall, the Boffa Miskell report concluded that the Operative Plan is moderately effective in protecting the visual amenity values of the District. Recommendations relating to the provisions of the Operative District Plan made by Boffa Miskell included the following:

- The definitions in the Operative Plan should be consolidated.
- Introduction of a limit on the size/footprint of utility buildings (which currently is only required in Outstanding Natural Landscapes where a threshold of 40m^2 is applied). The absence of a size limit is permissive compared with other district plans. It is recommended that the scale of utility buildings in rural areas is kept visually secondary to rural buildings.

- The height standards for utilities in the Operative District Plan are complex and could be standardised. The requirement for compliance with recession planes should be reviewed and where control is not necessary eg for masts, towers and poles, it should be removed.
- Introduce/maintain controls on network utilities in sensitive locations including riparian areas, the coast, cultural landscapes, heritage sites, Outstanding Natural Landscapes etc.
- Introduce rules to encourage clustering or co-location of network utilities.

These recommendations will need to be considered alongside the regulatory controls specified in National Environmental Standards and (Draft) National Planning Standards, with which Council must comply in drafting the Proposed District Plan.

4.0 Summary of relevant statutory and/or policy context and other background information

The relevant statutory and/or policy context relating to network utilities is provided within the following statutes and regulations. These provisions will be explained in more detail as appropriate in the later sections of this report.

Resource Management Act 1991:

- Defines a network utility operator
- Defines infrastructure (which is duplicated in the Draft National Planning Standards)
- Provides the statutory basis for national policy statements and national environmental standards
- Requires "particular regard" be given to the efficient use and development of natural and physical resources (network utilities are a physical resource),

National Policy Statements

There is one applicable National Policy Statement which must be complied with:

- National Policy Statement on Electricity Transmission

National Environmental Standards:

There are two relevant Environmental Standards that must be complied with:

- Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009
- Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016

Canterbury Regional Policy Statement 2013

The Canterbury Regional Policy Statement defines Regionally Significant Infrastructure, Critical Infrastructure and Strategic Infrastructure. These definitions are set out in full in **Appendix 1** to this report**.**

The network utilities discussed in this report would fall within the definitions of Critical and Regionally Significant Infrastructure and potentially Strategic Infrastructure.

The relevant objectives and policies for network utilities are contained in Chapter 5 Land Use and Infrastructure and Chapter 6 Recovery and Rebuilding of Greater Christchurch, of the Canterbury Regional Policy Statement. At a highly summarised level these provisions require recognition of the benefits of regionally significant infrastructure (Policy 5.2.2); and the continuation of existing regionally significant infrastructure, including its maintenance and operation (Policy 5.3.9). The expansion of existing infrastructure and development of new infrastructure is required to avoid adverse effects on significant natural and physical resources and cultural values, but where this is not practicable, to remedy or mitigate these effects (Policy 5.3.9).

There are policies specific to particular network utilities which relate to telecommunication infrastructure (Policy 5.3.10), and community-scale irrigation, stockwater and rural drainage infrastructure (Policy 5.3.11).

The Canterbury Regional Policy Statement consistently requires the Council to engage with Ngāi Tahu on these matters, including by recognising iwi management plans. Reference to the Mahaanui Iwi Management Plan is set out below.

Mahaanui Iwi Management Plan 2013

The Mahaanui Iwi Management Plan identifies that Ngāi Tahu has a particular interest in energy generation and in respect of transport, that sites of significance and indigenous biodiversity are protected from transport infrastructure. This matter is discussed in the "Sites and Areas of Significance" report which advises "that in order to protect Tangata Whenua values, development and construction of transport infrastructure should avoid sites and areas identified as wāhi tapu, wāhi taonga and silent files". Other matters identified in the report concerns earthworks and structures which encroach on riparian margins. The report goes on to recommend[1] that all development proposals from network utility companies, Councils and requiring authorities, demonstrate through engagement and cultural impact assessments that the design, location and installation of utilities are appropriate from a cultural perspective. The report also recommends that there is a policy requiring network utility operators to engage with mana whenua in relation to notices of requirement, outline plans and resource consent applications.

Appendices to the Sites and Areas report outline the possible activity status for network utilities in cultural landscapes. These range from a permitted activity status for general maintenance, operation or repair of network utilities through to restricted discretionary activity status for extensions, replacements or additions within cultural landscapes and full discretionary activity status for new utility structures. These recommendations will be considered through the drafting process and are acknowledged as consistent with the policies in the Canterbury Regional Policy Statement.

[1] Page 34, Sites and Areas of Significance Report, Selwyn District Plan Review

Additional Legislation

Additional legislation that impacts on the provision and operation of network utilities includes:

Utilities Access Act 2010

National Code of Practice for Utility Operators' Access to Transport Corridors

Telecommunications Act 2001

New Zealand Code of Practice for Electrical Safe Distances (NZECP34)

Electricity (Hazards from Trees) Regulations 2003

5.0 Summary of alternative management responses – Other Districts

The report "Effectiveness Review of Operative District Plan in Managing Visual Amenity Effects of Network Utilities and Energy Generating Activities" prepared by Boffa Miskell in September 2017 included a review of alternative management responses in Hurunui, Christchurch, Ashburton and Waimakariri District Plans. The report makes the following observations:

Generally, the review of other District Plan shows a wide variety of approaches being undertaken.

It would appear that many of the rules in the various plans have come about due to local circumstances with provisions developed to address these directly.

All of the plans recognise the need for up-grading, maintenance, continued operation and replacement of existing utilities and generally this is provided for as a permitted activity. Usually this is restricted however to ensure that this is not of significant scale or where it could lead to a different character or nature of activity. There is also a consistent recognition of the appropriateness of placing new pipes, lines and cables underground wherever possible.

Above ground lines, buildings and structures are always subject to bulk and location rules. These vary significantly between the plans, for example:

- *Utility building height limits vary from 3.5m to 25m*
- *Utility structure height vary from 10m to 80m*
- *Setback from roads vary from 0m to 75m*
- *Setback from internal boundaries vary from 0m to 2m*
- *Maximum scale ranges from no maximum to 50m^2*
- *Scale of dish antenna from 0.8m to 5m*

When comparing Selwyn to the other districts there were many consistencies. The key differences were:

- Selwyn building height rules are more complex than other plans and more permissive

- Selwyn structure height rules (towers, masts, poles) were more restrictive
- Selwyn setback provisions were more complex
- Selwyn does not have a maximum footprint for buildings and applies recession planes (others do not)
- Selwyn's maximum scale for dish antenna is more restrictive

6.0 Summary of Network Utility Approaches

6.1 National Electricity Transmission Lines/National Grid

Transpower New Zealand Ltd is a State Owned Enterprise that plans, builds, maintains and operates New Zealand's National Grid or high voltage transmission network. The National Grid links directly to electricity distribution companies (Orion) and major industrial users. The National Grid is comprised of towers, poles, lines, cables, substations, a telecommunications network and other ancillary equipment. Nationally it includes approximately 12,000km of transmission lines, 170 substations and 300 telecommunication sites. Transpower is central to New Zealand's electricity industry and as a Grid owner must reliably and efficiently transport electricity. It describes its system as ever-developing and responding to changes in supply, demand, growth, reliability and security needs. Within Selwyn District Transpower has overhead transmission lines, substation and telecommunications assets. The transmission lines are shown on the plan in **Appendix 2** and traverse approximately 1,596.4km. They are described as follows:

Line	Voltage (kV)
Benmore-Haywards A Double Circuit on steel towers	350
Benmore-Islington A Single Circuit on steel towers	220
Brackendale-Hororata A Double Circuit on steel towers	66
Bromley-Islington A Double Circuit on steel towers	220
Christchurch-Twizel A Double Circuit on steel towers	220
Coleridge-Brackendale D Double Circuit on single poles	66
Coleridge-Otira A Double Circuit on pi poles	66
Hororata-Islington E Double Circuit on single poles	110
Kimberley-Tee A Double Circuit on single poles	66
Roxburgh-Islington A Single Circuit on steel towers	220

It is relevant to note that these lines were all commissioned prior to January 2010 and are therefore deemed to be "existing lines" under the National Environmental Standards for Electricity Transmission Activities Regulations. These Regulations control how existing lines are developed and maintained rather than the District Plan which does not apply.

Substations/Tee Lines	
Arthurs Pass	Substation
Castle Hill	Substation
Coleridge	Substation
Hororata	Substation
Springston	Substation
Kimberley	Substation
Round Top	Comms
Kimberley Tee	Tee Line
Christchurch Tee	Tee Line
Brackendale	Tee Line

The Coleridge, Arthurs Pass, Castle Hill and Hororata substations are all designated in the Operative District Plan.

The National Policy Statement for Electricity Transmission 2008 (NPSET) confirms the national significance of the National Grid and establishes national policy direction to recognise its benefits, manage its effects and to manage development in its proximity. The objective of the NPSET is:

To recognise the national significance of the electricity network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- *Managing the adverse environmental effects of the network; and*
- *Managing the adverse effects of other activities on the network.*

Policies 10 and 11 of the NPSET require the Council, to the extent reasonably possible, to manage activities to avoid reverse sensitivity effects on the electricity transmission network and to ensure that operation, maintenance, up-grading and development is not compromised. In addition, local authorities must consult with Transpower to identify an appropriate buffer corridor within which it can be expected that sensitive activities will generally not be provided for.

There have been several meetings and discussion with Transpower through this phase of the District Plan Review process. As part of that consultation, Transpower has provided the Council with its Model Provisions which can be found attached as **Appendix 3** to this report. These model provisions include suggested objectives and policies as well as rules for buffer corridors where restrictions on activities including subdivision, earthworks, planting and buildings apply.

The Model Provisions have been shared with Federated Farmers and Horticulture New Zealand who have both commented and sought clarification on particular matters e.g., clarification on the buildings and structures associated with intensive farming that may be appropriate in the Corridor and the implications for irrigation equipment within the Corridor. Both organisations are concerned with the potential impact of restrictions on productive farming activities. Any restriction on land uses imposes costs on landowners in terms of loss of flexibility in land use whilst continuing to maintain the land and pay rates. Copies of the organisations' feedback can be found in **Appendix 7.**

The Model Provisions have also been shared with Central Plains Water who has sought clarification from Transpower on protocols that would apply where the two networks intersect.

The Model Provisions have not been translated or transferred in to the Proposed District Plan drafting template. At this stage they represent a developed starting point and it is expected that editing of the provisions will occur as they are integrated into the Network Utilities Chapter.

The key components of Transpower's approach are:

- A transmission yard of 12 metres either side of the centreline of transmission lines and a 12 metre setback from the outer edge of transmission support structures
- Within the yard sensitive activities (defined in the NPSET to include residential buildings, schools, hospitals) are non-complying activities
- Earthworks within the 12 metre yard are permitted if they comply with the NZ Code of Practice for Electrical Safe Distances 2001, otherwise the works become a non-complying activity.
- In urban areas new buildings for sensitive activities and new sensitive activities are non-complying activities within the yard. Other buildings and uses are permitted.
- On all other sites (rural), all new sensitive activities and buildings are non-complying except for un-inhabitable farm buildings (excluding intensive farming) and horticultural structures.
- Car parking, non-intensive farming activities, non-inhabitable accessory buildings, crop protection structures, small sheds and fences are generally permitted.
- Vegetation must comply with the Electricity (Hazards from Trees) Regulations 2003, under the Electricity Act 1992.
- Subdivision is a restricted discretionary activity between 14 and 39m either side of the centreline of transmission lines, and building platforms must be located outside the yard.

The approach does not:

- Require the removal or modification of existing buildings and structures, subdivsions or earth formations. It seeks to control future land development.
- Authorise new transmission liens and facilities. These still require approval under the RMA along with negotiated access arrangements and compensation payments.

Recommendation

It is recommended that the Model Provisions are taken as the basis for transmission line rules in the Proposed District Plan. Drafting should consider the feedback on wording provided by Federated Farmers and Horticulture New Zealand.

Liaison will also be required with Topic Leads for chapters relating to subdivision, earthworks, Outstanding Natural Landscapes, Significant Ecological Areas, water and cultural landscapes.

6.2 Electricity Distribution Lines

Orion provides approximately 4,500km of overhead electricity network in the Selwyn District as shown in the map contained in **Appendix 4**. The entire Orion network covers 8,000 square kilometres and the Company delivers electricity to more than 201,000 homes and businesses in Christchurch City and Selwyn District. It has the third largest connection base within New Zealand. For comparison, Mainpower serves 39,000 customers, Westpower 13,500 and Electricity Ashburton 19,268.

In Selwyn District the sub-transmission network consists of 66kV and 33kV lines connecting 22 zone substations. These have been designed as circuits and connect with the lower order 11kV distribution system. The Synlait and Fonterra Plants have a significant impact on network operations in Selwyn District and have required new substations to be established at Dunsandel and Kimberley. Irrigation related to dairying and agriculture within the district has also impacted on the electricity network in terms of demand.

As noted above, the Operative District Plan provides for the operation, maintenance and up-grading of this network. Orion has 11 designations for its substations at Lincoln, Rolleston, Annat, Bankside, Brookside, Darfield, Hills Road, Motukarara, Springston, Weedons and Prebbleton.

New Planning Provisions

Orion is seeking additional planning provisions in the Proposed District Plan. These would apply to its sub-transmission lines only, as shown in the map contained in **Appendix 5**. These cover a distance of approximately 250km, the majority of which is located in the road reserve. Specifically, Orion is seeking the introduction of Electricity Protection Corridors for these sub-transmission lines, similar to the National Grid yards described above. A copy of the provisions sought by Orion and an accompanying statement in support is attached as **Appendix 6.**

Orion has acknowledged that its assets have a degree of legislative protection in the form of the New Zealand Code of Practice for Electrical Safe Distances (NZECP34) and the Electricity (Hazards from Trees) Regulations 2003. Orion is however no longer confident that these regulations provide appropriate protection in terms of safety where buildings and activities encroach on its lines, and do not ensure access for maintenance and operational purposes.

Specifically, Orion has stated that it requires corridor protection benefits for the following reasons:

- Safety – allowing buildings or some activities near to or underneath the line may put people and electrical supply at risk;
- Access 24/7 to lines and support structures for on-going operation and maintenance;
- Ensuring activities do not pose an operational risk to the electricity infrastructure;
- Ensuring activities do not pose an unacceptable risk to electromagnetic field levels.

Protection corridors for Orion's sub-transmission lines have been introduced into the Christchurch City Plan. As an infrastructure provider that crosses territorial boundaries, Orion seeks similar

provisions in the Proposed Selwyn District Plan to those adopted in the City. These are summarised as follows:

- In urban zones sensitive activities and buildings within 10m of the centreline of a double circuit sub-transmission line or support structure, or 5m of a single circuit sub-transmission line or support structure is a non-complying activity. This would also apply to fences of conductive materials, and trees that grow to over 3m.
- In Rural zones commercial greenhouses, wintering barns, produce packing buildings, milking/dairy sheds or structures associated with irrigation infrastructure (excluding mobile irrigators) must be located outside of the 10m centreline of a double circuit sub-transmission line or 5m of a single-circuit sub-transmission electricity distribution line. A resource consent for a non-complying activity is required where the standards are not achieved.
- Specific standards are proposed for the depth of earthworks within specified distances of the centreline of the sub-transmission line.

Similar provisions are included in the Hurunui District Plan where sensitive activities and buildings (only) are required to be setback from electricity distribution lines by 5m and 10m. Otherwise the Hurunui District Plan includes an advice note that compliance is required with the New Zealand Code of Practice for Electrical Safe Distances (NZECP34) and the Electricity (Hazards from Trees) Regulations 2003.

It is understood that the New Zealand Code of Practice for Electrical Safe Distances (NZECP34) was developed in 1993 with the purpose of protecting people, property and mobile plant by providing a physical separation from towers/poles and distribution lines. It was never developed or intended to provide for operational, maintenance or up-grading requirements of the distribution lines.

Orion advises that in practice, the Code is not effective. For example, it relies upon individual property owners being aware that if there is an electricity distribution line crossing their property that there is a Code that they must comply with. This information is not registered on titles or included on LIMs. Accordingly, many landowners have no awareness of the requirements of the Code.

If a private landowner seeks a building consent for a new building close to or under a line, the onus (under the Building Act) is on the landowner to advise the Council that the proposed building complies with the Electricity Act. If the landowner doesn't know the Code exists, then that declaration is not made. There is no statutory requirement for Council to check if the applicant complies with the Code. Accordingly, if the landowner is not aware of the Code and the Council has no awareness of the line, there is the potential for buildings to be erected too close to electricity lines in Selwyn District. From consultation with Council's Building Manager it is understood that this scenario has arisen in the District and there are two locations where houses sit under lines.

In these circumstances, once a building is in place it cannot be left in a non-complying situation. The solution typically involves relocation of the electricity line at the cost of the landowner, which can involve substantive amounts of money.

In addition, Orion cites Health and Safety legislation which has prompted it to seek further measures for protection. Particularly in relation to the "step and touch potential and conductivity of structures and fences close to structures and overhead lines and underground cables". Verbally both Orion and Transpower have given examples where farm equipment has touched wires resulting in electrification of fences and buildings. Orion notes that any outage of the sub-transmission electricity network has potential consequences for people's wellbeing and economic productivity. Examples of incidents and further information on the nature and significance of potential effects, including economic effects, will be required for a s32 assessment. Orion has indicated it is able to assist Council with data and information for this assessment.

Orion advises that in Christchurch City the rules now in place in the Christchurch District Plan have resulted in subdivision developers applying for resource consents to demonstrate how they are complying with safe electrical distances and Orion has provided input to the design of the subdivision.

Orion emphasises that the proposed provisions do not introduce any standards which exceed the requirements of the New Zealand Code of Practice for Electrical Safe Distances (NZECP34) and the Electricity (Hazards from Trees) Regulations 2003. What is being requested is already a regulatory obligation on landowners but the issue is that landowners have low or no awareness of these requirements. The Proposed District Plan provides a mechanism for informing a landowner of the requirements and if avoidance of the Protection Corridor is not an option selected by the landowner they would be required to apply for a resource consent. In that scenario the District Council would notify Orion as an affected party. The District Council would be the decision-maker on the proposal.

Feedback

Federated Farmers and Horticulture New Zealand have raised a high level of concern with respect to the introduction of Protection Corridors for electricity distribution lines. Copies of feedback from both organisations is attached as **Appendix 7** to this report. A summary of the concerns raised include:

- The inclusion of protection corridors in the Christchurch District Plan does not set a precedent for the Proposed Selwyn District Plan. The Christchurch Plan was developed under special legislation with wider considerations and to which there were no rights of appeal. Accordingly, Federated Farmers and Horticulture New Zealand had no opportunity to further challenge the provisions.
- The provisions in the Christchurch District Plan were developed for the residential zone and then "rolled over" into the rural zone without appropriate assessment of whether the provisions were "fit for purpose" in the rural context.
- The extent of horticulture and agriculture in Christchurch City is less than in Selwyn District.
- A question is raised whether Orion's electricity distribution lines meet the criteria for Strategic Infrastructure and if the directions of the Canterbury Regional Policy Statement necessitate a Protection Corridor.

- The proposed rules for trees, fences and structures are not necessary as New Zealand Code of Practice for Electrical Safe Distances (NZECP34) and Electricity (Hazards from Trees) Regulations 2003 already provide appropriate regulation.
- Reverse sensitivity effects on electricity distribution lines could be addressed through policies and assessment matters in the district plan.
- The proposed provisions "catch" fixed irrigation in orchards which would become a non-complying activity.
- More specific comments have been made on Orion's preferred draft provisions as attached in **Appendix 7,** at the end of Horticulture New Zealand's feedback.

Recommendation and Options

The draft provisions provided by Orion have not been translated or transferred in to the Proposed District Plan drafting template. At this stage they represent a starting point for discussion as to whether protection corridors are necessary in the District Plan.

Based on the information provided by Orion and the policies and direction in the Canterbury Regional Policy Statement it is recommended to the District Plan Committee that some form of recognition of electricity distribution lines is incorporated into the Proposed District Plan. The mapping of the sub-transmission lines on planning maps would inform landowners of the presence of these lines and potentially avoid scenarios where building consents are issued too close to lines. The key question is whether this mapping should be accompanied by:

- rules as sought by Orion; or
- policies and assessment matters only as suggested by Horticulture New Zealand (which would likely only apply at the time of subdivision or as a consequence of a non-compliance on another general rule); or
- advice notes that the New Zealand Code of Practice for Electrical Safe Distances (NZECP34) and Electricity (Hazards from Trees) Regulations 2003 apply.

Federated Farmers and Horticulture New Zealand have raised concerns that do require further consideration. For example, testing of the Orion provisions in relation to fixed irrigation for horticulture. The writer agrees that further analysis of a protection corridor, in particular where it crosses private property should occur. This would identify the nature of existing land use and inform further consideration of the effect of the corridor on rural uses. Further information has been requested from Orion to enable this further investigation to occur.

In addition, it is agreed an assessment of the sub-transmission line in relation to the criteria for Strategic Infrastructure in the Canterbury Regional Policy Statement should be completed. On this basis it is recommended that the further assessment is undertaken before a Preferred Option is reported to the Committee.

6.3 Telecommunication Facilities

In 2016 Connected Canterbury and the Canterbury Mayoral Forum released the Canterbury Digital Strategy, a work programme arising from the Canterbury Regional Economic Development Strategy. This strategy is based on the principle that digital connectivity is a key infrastructure and fundamental to achievement of all other regional work programmes. Its central role is illustrated in Figure 1 below. A key action arising from the strategy is to "review telecommunications consents barriers and consistency of approach across Canterbury Councils". It is therefore appropriate to consider the provisions for telecommunication facilities in this context in the District Plan Review.

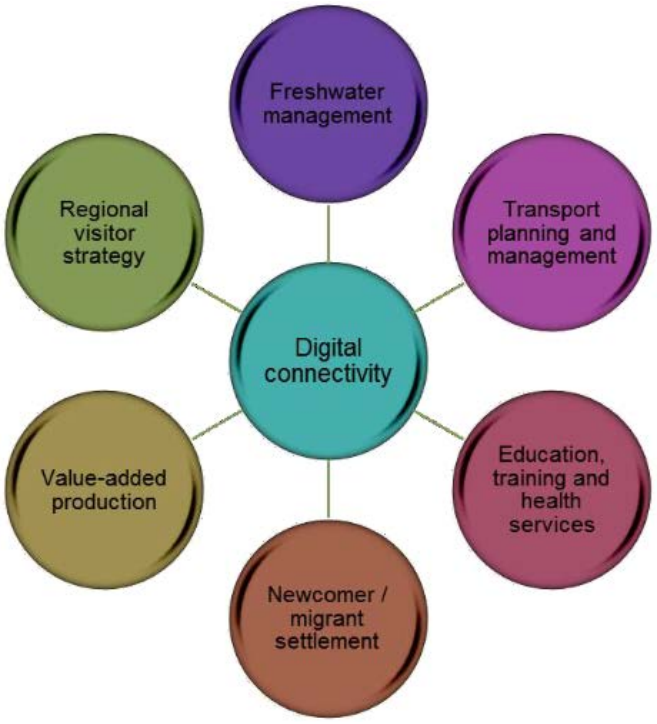


Figure 1: Digital Connectivity central to other economic goals[2]

There have been several meetings with Spark on the District Plan Review, with the company representing the interests of all of the telecommunication companies on district plan standards nationwide.

As noted above, telecommunication facilities are enabled by the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016. The Regulations set out the nationally consistent technical standards or requirements for particular activities and decision-making processes. The Council is required to observe the NES and enforce the standards set out.

[2] Canterbury Digital Strategy 2016 A Work Programme of the Canterbury Regional Economic Development Strategy, Connected Canterbury and the Canterbury Mayoral Forum. Page 1

The 2008 NESTF provided for:

- The installation and operation of telecommunication facilities that generate radio frequency fields as a permitted activity where complying with the New Zealand Standards
- Installation and operation of telecommunication equipment cabinets in road reserves as a permitted activity subject to size, location and noise emissions;
- Installation or replacement of masts and antennas on existing structures in the road reserve subject to specified conditions on height and size.

The 2016 NESTF has now extended the range of telecommunication facilities that can be provided for both within and outside of road reserves. It provides for the following activities as permitted activities where standards are met:

- Cabinets in the road reserve, outside the road reserve and servicing antenna on buildings
- Antennas on existing poles in the road reserve
- Antennas on new poles in the road reserve
- Replacement, up-grading and co-location of existing poles and antennas outside road reserves
- New poles in and antennas in rural areas
- Antennas on buildings above a permitted height in residential areas
- Small-cell units on existing structures
- Telecommunication lines (underground, surface mounted and overhead)

Within road reserves the NESTF also increases the size envelope for antennas on poles, the height of replacement poles and allowing for replacement cabinets before existing cabinets are removed. The provisions are intended to be enabling whilst ensuring effects on the environment are managed appropriately.

The NESTF does not regulate:

- New poles and antennas not located in the road reserve or in rural zones
- The installation, operation and maintenance of a self-contained power unit that generates power for the facility and any associated earthworks
- New telecommunication lines and associated support structures
- Telecommunication exchanges

The NESTF does increase the places and sites where the District Plan can impose more stringent controls on telecommunication facilities. These include visual amenity overlays, historic heritage sites, outstanding natural landscapes, the coast and ecological areas.

The NESTF introduces a level of complexity not present in the Operative District Plan. Some potential guidance on appropriate rules for the Proposed District Plan has been provided by the telecommunication companies through the document "*National Planning Standards: Network Utilities"* prepared by an Infrastructure Working Group.

Adopting this guidance would involve the introduction of a number of new or up-dated definitions from the Operative District Plan e.g.,

- Antenna

- Customer Connection
- Headframe
- Pole
- Self-contained power units
- Small cell unit
- Telecommunication kiosk
- Telecommunications pole

Adoption of these definitions and suggested provisions from the Infrastructure Working Group would assist in achieving alignment with the NESTF.

It is relevant to note that s44A of the Resource Management Act states that a district plan cannot duplicate a provision in a National Environmental Standard. The telecommunication companies have however emphasised, that in their opinion, it is necessary for the district plan to provide for these activities (even if this could be considered to be duplication) for the following reasons[3]. The key point is that there are providers of telecommunications networks who have not been aware of the need to register with MBIE and as a consequence are unable to take advantage of the NESTF provisions.

To be entitled to use the provisions of the NESTF 2016 an organisation is required to meet the definition of a 'facility operators', which are defined in NESTF 2016 regulation 4 as:

- *a network operator (as defined in section 5 of the Telecommunications Act 20012)*
- *the Crown (as defined in section 2(1) of the Public Finance Act 1989)*
- *a Crown agent (as defined in section 10(1) of the Crown Entities Act 2004).*

Information on which companies or organisation have registered as network operators can be found on the Ministry of Business, Innovation and Employment website. www.mbie.govt.nz/info-services/sectors-industries/technology-communications/communications/telecommunications-broadcasting-network-operators Most of the telecommunication companies/organisations are registered as a network operator and rely the NESTF 2016 being a registered as a network operator is voluntary.

It would be simpler for District Plan to be able to rely on all providers of telecommunication activities using the NESTF 2016 and district Plans only having to provide for the activities and standards not covered by the NESTF 2016. The voluntary nature of the NESTF means that District Plans need to enable telecommunication facilities even though this is duplication of the NESTF. In our experience the key users of the telecommunication activities not registered as a network operator under the Telecommunication Act include:

[3] Evidence of Graeme McCarrison, Engagement and Planning Manager Spark NZ, Hurunui District Plan Review April 2016

- *Regional and local government e.g. traffic management, civil defence, flood and water management services, wifi services, streetlight management etc*
- *Local or small telecommunication providers*
- *Emergency services*

Some of the reasons for not relying on the NESTF include:

1. *District Plans provide a comprehensive set of activities and standards. One place to go to understand the regulatory requirements for a local provider that may only operate in the district or city is simpler than relying on 2 documents i.e. the NESTF and/or District Plan*
2. *District Plan provisions are often tailored to local needs*
3. *Perception that the NESTF is not relevant to non-telecommunication providers*
4. *Simpler administration and training for local organisations. NESTF is seen as complex and difficult to apply.*

In summary, unless organisations pro-actively seek registration (which can apply to a broad range of organisations and not just the commercial telecommunication companies), they are unable to make use of the NESTF as its provisions will only apply to the listed organisations. It is noted that neither Orion nor Central Plains Water are registered operators and would therefore be reliant on the District Plan provisions. Spark has suggested that if some telecommunication users are unable to take advantage of the NESTF through the District Plan then the Commerce Commission may consider this restricting access and competition in the telecommunications industry.

This is not directly a district plan concern, however it would appear to be similar to the issue of electricity protection corridors, where despite the presence of regulation outside the district plan, it is not "seen" or used by the community and the district plan is viewed as the more accessible and useful tool for disseminating information. In summary, whilst there is a statutory requirement not to duplicate the NESTF in the District Plan, there are examples where rules are being duplicated to provide consistent regulation for all telecommunication providers. It is proposed that a legal opinion is sought on the scope of rules included within the Proposed District Plan as a next step.

From discussion with Council's resource consent team it is understood that the NESTF is found to be complex, and it would be preferable to have clear distinction between the two regulatory frameworks (the NESTF and District Plan).

The Infrastructure Working Group also suggests the introduction of a Canterbury Plains Geographic Area. This Area would refer to land eastward of, and below an elevation of 400 metres above mean sea level. It is understood from discussion with the Telecommunications Companies that the flatness of the Canterbury Plains presents a unique challenge for telecommunication facilities, as connectivity can be disrupted by trees up to 40m high. To overcome this barrier the Mayoral Forum recommended that the Canterbury Planning Managers investigate and confirm if

they could support in principle a 40m height limit for telecommunication masts in rural areas of their districts (subject to standards and excluding sensitive areas). It is understood that agreement in principle was provided by the Canterbury Planning Managers and that this height has been incorporated into both the Christchurch and Hurunui District Plans. Guidance from the Infrastructure Working Group suggests a 35m height limit, increasing to 40m where facilities are co-located.

Spark has also provided further information on this matter, noting that in the past a cell phone tower was designed to reach as many customers as possible from a single site, as evidenced by the number of sites constructed on hill tops. With the change to smart phones companies are now providing enhanced coverage by locating cell sites closer to where they are used. As a consequence, in Canterbury newly established sites are on the Plains and the hilltops are being avoided. On the Plains trees attenuate radio signals, meaning a signal will fade quickly if the mast does not exceed the height of the trees. Evidence produced by Spark at the Hurunui District Plan hearing shows that the height of masts on the Canterbury Plains ranges between 34.8 and 48m. Generally, a mast height of 36m has been effective in providing line of site coverage to customers.

It is relevant to understand that the NESTF and the District Plan control the **type of utility** that can be located in a road reserve. Exactly where and how the utility is installed in the road reserve is a decision of the road controlling authority that is exercised through the National Code of Practice for Utility Operators' Access to Transport Corridors. There is guidance in the Code for the location of utility structures. Where that guidance is not achievable then the Utility Operator must discuss and agree an alternative solution with the Corridor Manager. Accordingly, the Council as a road controlling authority will always retain the power to control the location of structures within the road reserve.

In summary, the Council is legally required to comply with the NESTF 2016. It is noted that the Selwyn District Council has through the Canterbury Mayoral Forum contributed to and supported the Canterbury Digital Strategy which recognises the need to enable telecommunication facilities as a key platform for achieving other regional economic and social aims. This included a specific recommendation to reduce consenting barriers. This aim is further supported by policies in the Canterbury Regional Policy Statement relating to critical infrastructure, regionally significant infrastructure and strategic infrastructure.

There does however seem to be considerable variation in the manner and extent to which different Councils have provided for telecommunication facilities. Some Councils, such as Christchurch City prepared their Plans before the latest NESTF took effect. Accordingly, Christchurch cannot be considered to be the most up-to-date in terms of content and approach. Hurunui District has a relatively simple list of permitted activities, which defaults to restricted discretionary where standards cannot be achieved.

It is also relevant to note that a number of telecommunication companies have designations in the Operative District Plan. There are 19 designations providing for telecommunication, radiocommunication and ancillary purposes. Typically, these are buildings previously used as telephone exchanges.

Recommendation

Having regard to the above, it is recommended that the District Plan Committee provide for telecommunication facilities in the Proposed District Plan as follows:

- Obtain a legal opinion to clarify to what extent, if at all, the District Plan can duplicate the requirements of the NESTF 2016.
- Provide policies and rules for telecommunication facilities and activities in the District Plan that fall outside the scope of the NESTF 2016.
- Draft rules which focus on the nature and scale of activities and facilities having regard to the guidance provided by the Infrastructure Working Group and the recommendations of the Boffa Miskell 2017 report. This includes incentives for co-locating of facilities, adoption of the 40m height for telecommunication masts in the rural zone, simplification of the variable mast/tower heights and introduction of standardised footprints for buildings.
- Ensure that the policies, activity status and rules for telecommunication facilities in Outstanding Natural Landscapes, Visual Amenity Landscapes, Cultural Landscapes, Coastal Areas and Significant Ecological Areas address the effects of those facilities and activities on the significant values of those locations.

6.4 Community Scaled Irrigation

Central Plains Water is the only Network Utility Operator providing a community-scaled irrigation scheme in Selwyn District.

There have been a number of meetings with Central Plains Water on the approach to irrigation in the Proposed District Plan.

As noted in Section 3.0 the Operative District Plan includes “the conveyance, storage, treatment or distribution of water for supply including to irrigation”. This definition would appear to apply to any person installing a water pipe whereas the Network Utilities chapter should be more specifically providing for Network Utility Operators who establish and operate significant infrastructure either under specific legislation e.g., a National Policy Statement or as a Requiring Authority with responsibility for significant community infrastructure under the provisions of the RMA.

The Canterbury Regional Policy Statement uses the term “community-scaled irrigation infrastructure” and is defined to mean “any community scale intake, canal, pipe, drain, pumps and overflow network, including associated structures, necessary to convey and store water for enhancing primary productivity and that serves multiple properties and is centrally administered.

It is understood that in addition to providing water for irrigation, parts of the Central Plains Water network is also used to supply water for community domestic water supply and fire-fighting purposes. This is understood to be part of an inter-agency approach towards access to water resources in a way that benefits the community through efficiency and network resilience.

Central Plains Water has a designation for the construction and operation of the intake structures for water from the Rakaia River, the headrace and canal. Bridges and earthworks have been authorised for on-farm works, through a global resource consent while pumping stations are subject to easements. The size of the pumping stations is variable, and Council is awaiting confirmation of the range in scale (to inform and test future rules) . These buildings are understood to be consistent with the scale and form of other network utility buildings and generally smaller than farm accessory buildings found in the rural environment.

Protection of Irrigation Infrastructure from encroachment.

Those components of the Central Plains Water Scheme contained within the designation are assumed to be protected from encroachment by other activities i.e., an appropriate setback or buffer was built into the size of the designated area to protect the asset from third party activities.

Assets outside the designation are identified on individual properties by easements, which are assumed to be known to land owners. It is understood that generally, easements have been successful in informing new landowners of the presence of Central Plains Water infrastructure and clauses applied during the conveyancing process require Central Plains Water to be notified when a change in ownership occurs. Of concern to Central Plains Water is that this process has not been full-proof and there are examples where the conveyancing process has failed to notify Central Plains Water of the new landowner and the new landowner has not been informed of the easement and its conditions.

For the majority of irrigation infrastructure outside of the designation this is not a significant issue. For example, a pump station is visible to the new owner. An area of potential vulnerability is however the presence of a Glass Reinforced Pipe (GRP) of up to 2.5m diameter and conveying 12 cumecs of water at high velocity. This pipe traverses approximately 26km of land outside the designation between Hororata and Darfield and is buried at a depth of 2m underground. Whilst the GRP is sufficiently deep to avoid being struck by normal farming activities, any potential rupture of this pipe has serious and significant implications for the network and the safety of people and property.

These consequences include:

- The volume and force of the water has the potential to fatally injure a person and inundate and damage property in the vicinity.
- Result in the emergency shut-down of the network, which if it exceeds a period of 48 to 72 hours has the potential to significantly impact on rural productivity with a loss in farm, district and regional earnings.

Central Plains Water has queried if the GRP was shown on the Planning Maps, then its presence would be noted on LIM's increasing landowner awareness. A rule could also be introduced which required any earthworks below a specified depth to require consent . Whilst this approach has potential merit in terms of protecting a network utility asset and protecting people and property, Central Plains Water has not confirmed that it wishes to pursue this option and has not provided

information that would assist the Council to define the location of the GRP, the extent of any buffer, the nature of the rule in relation to earthworks and the economic costs and benefits. On this basis, whilst recorded as a matter raised during consultation, this report does not progress with any recommendations for provisions relating to the GRP.

It is anticipated that Central Plains Water will "roll-over" its designations into the Proposed District Plan.

Recommendations:

It is recommended that the provisions of the proposed Network Utilities Chapter:

- Specifically identify community scaled irrigation schemes managed by network utility operators in the policies.
- Have rules which enable the maintenance and operation of existing irrigation infrastructure which is owned and operated by a network utility operator as defined in s166 of the RMA.
- Ensure that the rules for network utility buildings and structures will enable pumping sheds and other minor scaled irrigation infrastructure as of right.
- Telecommunication facilities associated with the management of irrigation infrastructure should be encompassed and enabled by the standards for Telecommunications facilities.
- Apply the same standard for earthworks as the balance of the Rural Zone generally – i.e., network utilities comply with the same standard as rural activities. Noting that large-scaled earthworks are likely to be authorised through a designation or global consents which may be renewed.
- Maintain requirements for resource consents for earthworks in areas of environmental or cultural sensitivity such as streams, rivers and wāhi tapu sites, but ensuring that the assessment matters address the importance of network utilities to the continuation of business activity and community social and economic wellbeing.

6.5 District Assets

The District Council provides the following network utilities and infrastructure. These include:

- The storage, treatment and supply of water
- The storage and treatment of wastewater
- Land drainage
- Stormwater capture, treatment and storage
- Stock water races
- Roads including footpaths and cycleways, bridges, lighting and street furniture
- Solid waste management

Council has designations in the Operative District Plan for water supply, wastewater treatment and disposal, pumping stations, solid waste and a resource recovery park. It is anticipated that these designations will be "rolled over" into the Proposed District Plan, but there are some utilities which will not be subject to a designation such as land drainage networks and water races where the rules of the District Plan and resource consents will potentially continue to be required for future

works. It is understood that the Council's Assets Department does not intend to designate its roads.

The Proposed District Plan will need to be clear on the types of utilities provided for within the road reserve and if consents are required. There is significant reliance on the road corridor for installation of utilities by network utility operators and there can be uncertainty as to whether District Plan provisions apply to works and structures in the road corridor. If the road is not designated or zoned as a Transport Zone and the provisions of the adjoining zone apply, these may not be sufficiently enabling for utilities. It is recommended that the Proposed District Plan clarify the status of works and utilities within the road reserve.

Engagement with the Planner acting on behalf of Council Assets has advised that generally the provisions of the Operative District Plan have not presented any significant issues for establishing and operating assets. The Assets Department is supportive of rules which provide for the on-going operation and maintenance of existing utilities, including minor extensions to those networks as permitted activities. Where new utilities are proposed, it is preferred that an activity status is applied which recognises the importance of the utility to the community's economic and social wellbeing ie controlled, restricted discretionary or discretionary.

For example, the Assets Department is generally supportive of the earthwork standards for the relevant zone being applied and it is acknowledged that some environmental overlays may be more restrictive, for example, in Outstanding Natural Landscapes or Significant Ecological Areas. More enabling provisions should however be provided for works and utilities within the road reserve, discouraging utilities in other locations and where Council itself locates a significant number of assets.

Water bodies and riparian margins are sensitive environments where there may be some tension between enabling rules for utilities and management of potential effects on the environment. Utilities such as water races or drains can involve structures on the surface of water or in riparian margins where resource consent may be appropriate to assess the scale of the utility and nature of the works and their effect on the environment. In this scenario it would be appropriate to have a threshold which requires consideration of effects, but the status of the infrastructure as regionally significant or critical can be acknowledged and a clear consenting pathway is provided.

The Assets Department is less supportive of rules which involve a high level of specificity eg on the size and dimension of pipes, ducts, cables, wires and support structures, with a preference for ease of understanding and administration.

It is understood that whilst the Council intends to designate many of its utilities, it still seeks that these utilities are provided for by way of rules for any future scenario where a resource consent process may be required.

Recommendations

It is recommended that the Proposed Network Utilities Chapter should:

- Provide for the maintenance, operation and minor extension of established Council utilities as of right.

- Enable works in the road reserve to be conducted as permitted activities or via less onerous activity status, noting that the Council is able to control the works through the National Code of Practice for Utility Operators' Access to Transport Corridors.
- Enable Council infrastructure and utilities through an activity status which recognises the regional or critical importance of the infrastructure and the level of control necessary to manage potential adverse effects on more sensitive environments. Depending on the scale and nature of the infrastructure this may be permitted where effects are known to be minor but would otherwise be restricted discretionary or discretionary.
- Apply discretionary status for activities with potentially significant adverse effects eg wastewater treatment facilities.

6.6 Navigation Aids

Early engagement with the Civil Aviation Authority in 2016 confirmed that the Authority did not wish to be involved in consultation on the Network Utility provisions. The Airways Corporation of New Zealand has a designation for a surveillance radar/VHF Transmitter on the Port Hills.

It is recommended that the Proposed District Plan includes provision for navigational aids to be permitted except in specifically identified sensitive landscapes and environments.

7.0 Summary of Recommendations

The following list collates recommendations made throughout this report:

1. Use Transpower's Model Provisions as the basis for transmission line rules in the Proposed District Plan. Drafting should consider the feedback on wording provided by Federated Farmers and Horticulture New Zealand.
2. Map the Orion sub-transmission lines on the planning maps.
3. Undertake further assessment of the proposed rules for electricity protection corridors for sub-transmission lines in relation to agricultural and horticultural activities and an assessment of the sub-transmission lines as Strategic Infrastructure as defined in the CRPS.
4. Obtain a legal opinion to clarify to what extent, if at all, the District Plan can duplicate the requirements of the NESTF 2016.
5. Depending on the outcome of Recommendation 4., draft rules for telecommunication activities and facilities based on the guidance provided by the Infrastructure Working Group and the recommendations of the Boffa Miskell 2017 report.
6. In drafting the provisions for network utilities adopt the recommendations of the Boffa Miskell 2017 report to include incentives for co-locating of facilities, adoption of the 40m height for telecommunication masts in the rural zone, simplification of the variable mast/tower heights and introduction of standardised footprints for buildings.
7. Ensure that the policies, activity status and rules for all network utilities in Outstanding Natural Landscapes, Visual Amenity Landscapes, Cultural Landscapes, Coastal Areas, Alpine Villages

and Significant Ecological Areas set thresholds that ensure that the effects of the network utilities on the significant values of those locations are able to be taken into account.

8. Specifically identify community scaled irrigation schemes, land drainage and stock water races in the policies.
9. Have rules which enable the maintenance and operation of existing network utilities as permitted activities.
10. Ensure that the rules for network utility buildings and structures will enable minor extensions and smaller buildings as permitted activities.
11. Adopt the same earthworks standard for network utilities as the Zone where the utility is located, except where works are being undertaken within a road reserve where more permissive standards can apply (as the road controlling authority can control the works through other regulatory means).
12. Maintain requirements for resource consents for earthworks in sensitive areas but ensuring that the assessment matters address the importance of network utilities to the community.

8.0 Recommendations for further engagement

It is recommended that:

- the draft provisions are provided to network utility providers to provide feedback before a final draft is considered at a Council workshop in late March 2018;
- the draft provisions are discussed and developed in consultation with Mahaanui Kurataiao;
- consider further engagement with landowners where the electricity distribution lines traverse private property following further consideration of the additional assessment to be completed on the proposed protection corridors.

Appendix 1

Canterbury Regional Policy Statement

Definitions

Definitions for Greater Christchurch

Strategic Infrastructure

Means those necessary facilities, services and installations which are of greater than local importance and can include infrastructure that is nationally significant. The following are examples of strategic infrastructure:

- Strategic infrastructure
- Strategic transport networks
- Christchurch International Airport
- Rangiora Airfield
- Port of Lyttelton
- Bulk fuel supply infrastructure including terminals, wharf lines and pipelines
- Defence facilities including Burnham Military Camp and West Melton Military
- Training Area
- Strategic telecommunications facilities
- The electricity transmission network
- Other strategic network utilities

Definitions Entire Region

Community-scale irrigation, stockwater and rural drainage infrastructure

Any community scale intake, canal, pipe, drain, pumps and overflow network, including associated structures, necessary to convey and store water for enhancing primary productivity and that serves multiple properties and is centrally administered.

Critical Infrastructure

Infrastructure necessary to provide services which, if interrupted, would have a serious effect on the communities within the Region or a wider population, and which would require immediate reinstatement. This includes any structures that support, protect or form part of critical infrastructure. Critical infrastructure includes:

1. regionally significant airports
2. regionally significant ports
3. gas storage and distribution facilities
4. electricity substations, networks, and distribution installations, including the electricity distribution network
5. supply and treatment of water for public supply
6. storm water and sewage disposal systems
7. telecommunications installations and networks
8. strategic road and rail networks (as defined in the Regional Land Transport Strategy)
9. petroleum storage and supply facilities
10. public healthcare institutions including hospitals and medical centres
11. fire stations, police stations, ambulance stations, emergency coordination facilities

Essential Structure

Structures that support or form part of:

1. a maritime, road or rail transport network or service;
2. water supply, including irrigation infrastructure;
3. a telecommunications or radio-communication network;
4. an energy generation, supply or transmission facility or network;

5. a flood-protection work or facility;
6. water containment, flow or diversion infrastructure;
7. a water level or flow-measurement facility;
8. a drainage or sewerage system; or
9. the infrastructure forming parts of other network utilities.

This includes any structures that support essential infrastructure.

Regionally Significant Infrastructure

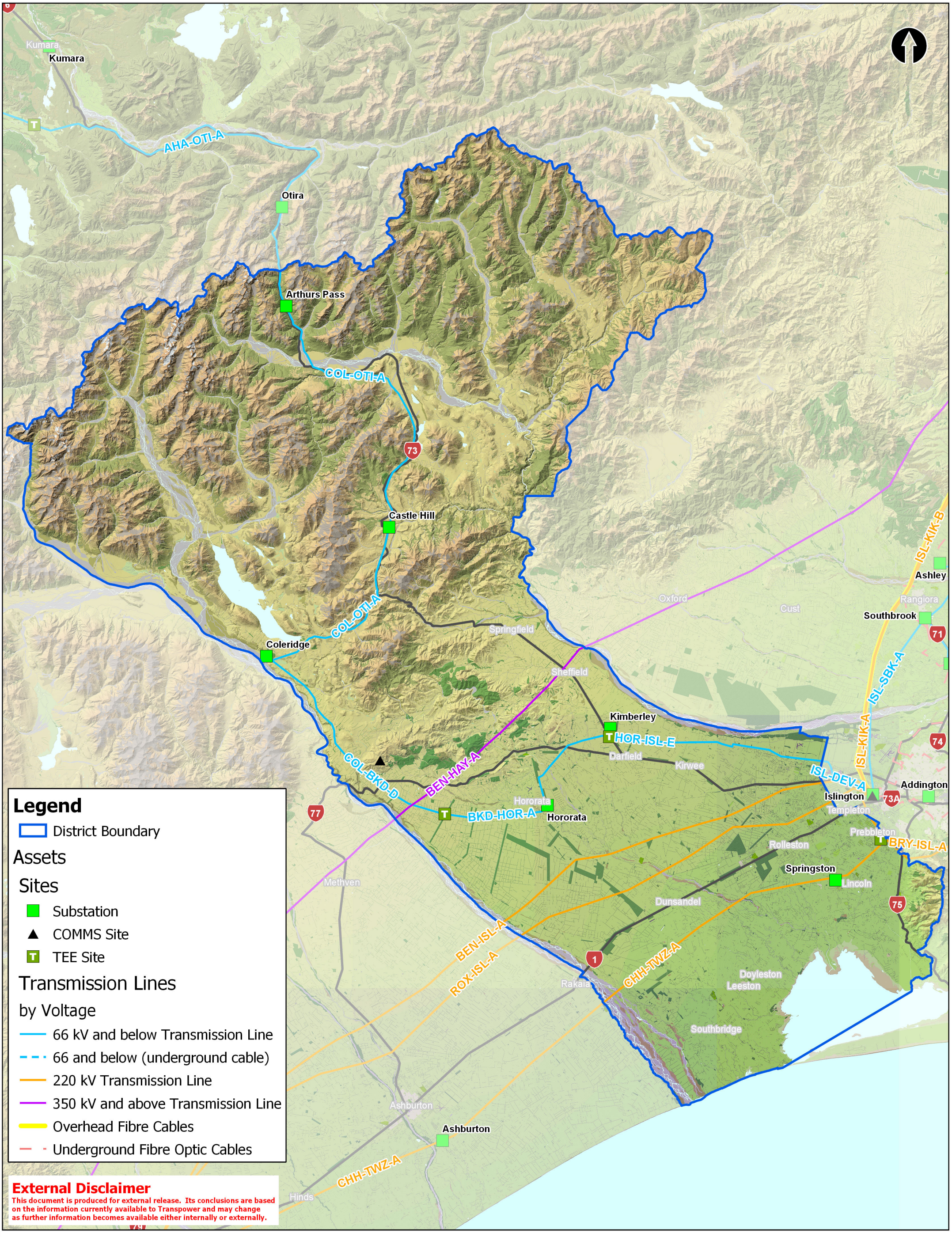
Regionally significant infrastructure is:

1. Strategic land transport network and arterial roads
2. Timaru Airport
3. Port of Timaru
4. Commercial maritime facilities at Kaikōura
5. Telecommunication facilities
6. National, regional and local renewable electricity generation activities of any scale
7. The electricity transmission network
8. Sewage collection, treatment and disposal networks
9. Community land drainage infrastructure
10. Community potable water systems
11. Established community-scale irrigation and stockwater infrastructure
12. Transport hubs
13. Bulk fuel supply infrastructure including terminals, wharf lines and pipelines.
14. Electricity distribution network
15. Infrastructure defined as ‘strategic infrastructure’ in this regional policy statement.

Note: For the avoidance of doubt, this infrastructure is also referred to as ‘infrastructure that is regionally significant’.

Appendix 2

Transpower Assets in Selwyn District



Path: <Past the path where the map will be saved into here>

TRANSPOWER

Prepared by: Geospatial & Drawings

Transpower Assets
Selwyn District

Projection: NZTM 2000 Scale: 1:440,000 Plan Size: A3P

0 7.5 15 km

Date: 2/11/2018 *Drawn by: loweda*

Appendix 3

Transpower Model Provisions

Selwyn District Plan Review 2018: Transpower Model National Grid Provisions

District Objectives

1. Enable the operation, maintenance, upgrading and development of the National Grid, whilst managing any adverse effects on the environment;
2. Manage subdivision, use and development to ensure that the operation, maintenance, upgrading and development of the National Grid is not compromised.

District Policies

1. Enable the operation, maintenance, upgrading and development of the National Grid, by recognising its operational, functional and technical constraints, the complexity of the interconnectedness of networks, and its role in servicing existing and planned development.
2. Recognise the benefits provided by the National Grid to people and communities, and require these to be weighed in assessing the adverse effects of proposals.
3. Recognise that significant infrastructure including the National Grid may require a location within sensitive natural environments where there are no practicable alternatives available, and the infrastructure will result in significant social and/or economic benefits.
4. Avoid, remedy or mitigate the adverse effects arising from the operation, maintenance, upgrading and development of the National Grid.
5. Manage the effects of subdivision, land use and development on the safe, effective and efficient operation, maintenance, upgrading and development of the National Grid by ensuring that:
    a. National Grid Corridors and National Grid Yards are identified in the District Plan to establish safe buffer distances for managing subdivision and land use development near National Grid lines including support structures;
    b. Sensitive activities and buildings and structures that may compromise the National Grid, including those associated with intensive farming activities, are excluded from establishing within National Grid Yards;
    c. Subdivision is managed within National Grid Corridors to avoid subsequent land use from restricting the operation, maintenance, upgrading and development of the National Grid; and
    d. Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

Commented [DH1]: These are provided as a placeholder at this stage, to highlight the need for policies that enable the National Grid and manage its adverse effects. Transpower will be able to provide further and more meaningful input once more is known about the approach to generic infrastructure/network utilities provisions and how these will be framed by council to give effect to the RPSs.

Policy 5 is a more settled approach that is derived from recent District Plan processes elsewhere in NZ.

District Plan methods

1. The National Grid transmission network will be identified on the planning maps

Commented [DH2]: This only applies to Policies 10 and 11 of the NPSET (i.e. effects of others' activities on the National Grid). Presumably Council will use other methods to implement the enabling objectives and policies for the National Grid.

Methods, including rules

Bold text indicates potentially defined terms, which are listed at the end of this document. Rules relating to buildings/structures in the National Grid Yard (urban and non-urban), subdivision, and earthworks are set out under red sub-headings below. With regard to the rules for buildings and structures within the National Grid Yard, there are several ways in which these could be expressed, as we have seen in various District Plans over the years. Ultimately how these are expressed will depend on a number of factors, including the intended approach within this District Plan. One critical assumption we have made is that the National Grid corridor rules would be set out within a specific "network utilities" or "infrastructure" chapter in the District Plan, as opposed to being nested within a District Plan's zone chapters. However, this can be amended to suit the council's preference, noting that at present the vast majority of the current underlying zoning traversed by National Grid lines in Selwyn District is rural.

Our observation of the National Grid lines across the Selwyn District is that the lines do not currently traverse any urban areas, and there is no indication that the lines have been subject to urban "underbuild". Underbuild is where inappropriate urban development has taken place directly beneath the transmission lines. We would be interested in any new growth areas that council may be considering and whether these are traversed by National Grid assets. In the mean time we have suggested one set of rules to give effect to the policies (unlike some more urban councils where the existing urban and rural/future urban provisions are split).

The provisions set out below are intended for discussion purposes initially and we assume that they will be refined further, especially if National Grid lines traverse any future urban zones.

Rules: Buildings, structures and sensitive activities in all zones within the National Grid Yard

Transpower's approach to implementation of the National Policy Statement on Electricity Transmission (NPSET) is to ensure that it only seeks the minimum district plan restrictions necessary to ensure the NPSET is given effect to. Under this approach, Transpower seeks different size setbacks depending on the asset type (for example whether it is on poles or towers). There are a range of transmission lines (varying voltages and structure types) in Selwyn District, which are set out in a table at the end of this document. Activities are considered very specifically, so that only those activities which have a real potential to compromise the integrity of the Grid are sought to be non-complying, with everything else permitted (except subdivision).

Rule 1 National Grid Yard Permitted Activities

1. The following buildings and structures are permitted within the **National Grid Yard**, provided these comply with the safe electrical clearance distances set out in the New Zealand Code of Practice for Electrical Safe Distances (NZECP34:2001) and provided those in (d)-(i) below are set back 12 metres from any National Grid support structure:

    a. **Network Utilities** (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes) undertaken by network utility operators as defined in the RMA;
    b. Fences no greater than 2.5m high and no closer than 6m from the nearest National Grid support structure;
    c. Artificial crop protection and support structure between 8m and 12m from a single pole or pi pole support structure and any associated guy wire (but not tower) that:
        a. Meets the requirements of NZECP34:2001 for separation distances from the conductor;
        b. Is no more than 2.5m high;
        c. Is removable or temporary, to allow clear working space 12 metres from the pole when necessary for maintenance and emergency repair purposes; and
        d. Allows all weather access to the pole and a sufficient area for maintenance equipment, including a crane.
    d. Any new non-habitable building less than 2.5 metres high and 10 square metres in floor area;
    e. Non-habitable buildings or structures used for agricultural and horticultural activities provided they are not a milking shed/dairy shed (excluding the stockyards and ancillary platforms), wintering barn, or building for intensive farming activities, or a commercial greenhouse;
    f. Mobile irrigation equipment used for agricultural and horticultural activities;
    g. Other than reticulation and storage of water in dams or reservoirs in Rule 1a, reticulation and storage of water for irrigation purposes provided that it does not permanently physically obstruct vehicular access to a National Grid support structure;

Commented [DH3]: There are a number of ways that this can be expressed, e.g. by having a list of permitted activities under the wires and a separate list of permitted activities around the structures. The approach here has been to combine the two.

h. Building alterations and additions to an existing **building** or structure that does not involve an increase in the building height or footprint;
i. A building or structure where Transpower has given written approval in accordance with clause 2.4.1 of NZECP34:2001.

Rule 2 Non-Complying Activities:

1. The following activities are non-complying within the **National Grid Yard**:
    a. Any activity that permanently physically impedes vehicular access to a National Grid support structure
    b. Any new building for a **sensitive activity.**
    c. Any change of use to a **sensitive activity** or the establishment of a new sensitive activity
    d. Dairy/milking sheds or buildings for intensive farming or wintering barns
    e. Any hazardous facility that involves the storage and handling of hazardous substances with explosive or flammable intrinsic properties [exceeding the aggregate quantity or HFSP permitted activity quantity or threshold in the Hazardous Substances section of the District Plan] within 12m of the centreline of a National Grid **Transmission Line**.
    f. Any building or structure not permitted by Rule 1 above (permitted activity rules).

Advice notes:

1. Vegetation to be planted around the National Grid should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003.
2. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to electricity lines, including transmission lines, and it is mandatory to comply with it. Compliance with the permitted activity standards of the Plan does not ensure compliance with the NZECP34:2001.

Rules: Subdivision of land in any zone in the National Grid Corridor:

Subdivision sets the framework for future land use, and careful regulation of subdivision can prevent the creation of unusable (or severely constrained) lots.

Rule SBD1 Restricted Discretionary Activity

1. Subdivision of land in any zone within the **National Grid Subdivision Corridor** is a restricted discretionary activity:

    a. Where all resulting allotments are capable of accommodating a building platform for the likely principal building(s) and any building(s) for sensitive activities, outside the National Grid Yard, other than where the allotments are for roads, accessways and network utilities.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule SBD1.1:

a. The subdivision layout and design, in terms of how this may impact on the operation, maintenance, upgrading and development of the National Grid.
b. The ability to provide a complying building platform(s) outside of the National Grid Yard
c. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

d. The nature and location of any vegetation to be planted in the vicinity of National Grid transmission lines

2. New buildings for sensitive activities within XX metres of the boundary of XXX substation is a restricted discretionary activity.

Commented [DH4]: Substation setbacks will vary on a site by site basis. One of the main effects that this rule seeks to control is "earth potential rise" from the substation.

Council will restrict the exercise of its discretion to the following matters when considering applications under Rule SBD1.2:

a. Effects of the development on the efficient operation, maintenance, upgrade and development of the substation;
b. Risk of electrical hazards affecting public or individual safety, and the risk of property damage; and
c. Technical advice from an Electrical Engineer.

Rule SBD2: Non-Complying Activities:

Any subdivision of land in any zone within the National Grid Corridor which does not comply with the restricted discretionary activity standards under Rule SBD1.

Rules: Earthworks, Quarries and Landfills

Rule EA1 Permitted Activities:

Earthworks within the National Grid Yard are a permitted activity subject to compliance with the following standards:

a. Around **National Grid** support towers:
   i. depth shall be no greater than 300mm within 6m of the outer visible edge of the foundation of the support structure; and
   ii. depth shall be no greater than 3m between 6m and 12m of the outer visible edge of the foundation support structure.
b. Around **National Grid** support poles and stay wires:
   i. depth shall be no greater than 300mm within 2.2m of the pole or stay wire; and
   ii. depth shall be no greater than 750mm between 2.2m and 5m of the pole or stay wire.
c. Shall not compromise the stability of a **National Grid** support structure; and
d. Shall not result in a reduction in the ground to conductor clearance distances below what is required by Table 4 of NZECP34:2001; and
e. Shall not result in vehicular access to a **National Grid** support structure being permanently obstructed.

Provided that, the following are exempt from Rule EA1(a) above:

i. Earthworks that are undertaken by a network utility operator (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes, as defined by the RMA);
ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, driveway or farm track;
iii. Earthworks for which a dispensation has been granted by Transpower under NZECP34:2001.

Rule EA2 Restricted Discretionary Activities:

1. Within the **National Grid Yard**, any earthworks not permitted by Rule EA1(a) above (permitted activity rules).

2. On sites containing **National Grid** transmission line support structures:

a. Any quarry or land fill activity on the same site as any National Grid transmission line support structures.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule EA2.1 and/or EA2.2:

a. Impacts on the operation, maintenance, upgrading and development of the **National Grid**;
b. The risk to the structural integrity of the affected **National Grid** support structure(s);
c. Any impact on the ability of the **National Grid** owner (Transpower) to access the **National Grid**; and
d. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

Rule EA3 Non-Complying Activities:

Within the National Grid Yard, any earthworks not permitted by Rule EA1.b, EA1.c or EA1.d.

Notification Statement:

Where an activity requires resource consent solely because it is within a **National Grid Subdivision Corridor** or **National Grid Yard** then the application need not be publicly notified and need not be served on any affected party apart from Transpower New Zealand Limited who will be considered an affected party.

National Grid Yard and National Grid Corridor definitions

The general principle of the National Grid Yard and National Grid Corridor approach is based on the approach used in District Plans around NZ.

Building: Transpower has no firm view on the wording of the definition of 'building'. However, Transpower seeks to ensure that all rules applying to the National Grid Yards and Corridors apply to buildings and structures. If the District Plan does not include a definition of 'building' and/or refers to the Building Act definition, all rules above need to refer to "buildings and structures". If the definition of 'building' includes 'structures', then the rules do not need to refer to 'structures' as well.

NZECP34:2001: Means the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663.

National Grid: means the same as in the National Policy Statement on Electricity Transmission 2008.

National Grid Yard means:
• the area located 12 metres in any direction from the outer visible foundation of a National Grid support structure; and
• the area located 12 metres either side of the centreline of an overhead National Grid line on towers (and steel tubular monopoles where these replace towers), and 10 metres either side of an overhead National Grid line on single poles.

This diagram can be used to aid interpretation of the National Grid Yard and Subdivision Corridor definitions, but is not essential to implementation of the rules.

National Grid Subdivision Corridor means the area measured:
- 39 metres either side of the centreline of 350kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers);
- 37 metres either side of the centreline of 220kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers).
- 14 metres either side of the centreline of 66kV National Grid transmission lines.

National Grid Substation Corridor: means the area measured XX m from the boundary of XXXX National Grid substations (may need to insert table for list of substations).

Sensitive activities: Includes any school, residential building or hospital.

Tower: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

Transmission line: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations, 2009.

Transpower: Means the owner and operator of the National Grid – Transpower New Zealand Limited.

Wintering barns: [To the extent that this is relevant in Selwyn]

Commented [DH5]: Distances to be confirmed. These will vary on a site by site basis.

Commented [RE6]: This is the NPSET definition. Transpower will generally seek to incorporate the definitions from within the District Plan that relate to these broad activities.

National Grid assets in Selwyn District

Transmission lines

Transpower reference	Line description	Voltage (kV)
BEN-HAY-A	Benmore-Haywards A Double Circuit on steel towers	350
BEN-ISL-A	Benmore-Islington A Single Circuit on steel towers	220
BKD-HOR-A	Brackendale-Hororata A Double Circuit on steel towers	66
BRY-ISL-A	Bromley-Islington A Double Circuit on steel towers	220
CHH-TWZ-A	Christchurch-Twizel A Double Circuit on steel towers	220
COL-BKD-D	Coleridge-Brackendale D Double Circuit on single poles	66
COL-OTI-A	Coleridge-Otira A Double Circuit on pi poles	66
HOR-ISL-E	Hororata-Islington E Double Circuit on single poles	110
KBY-TEE-A	Kimberley-Tee A Double Circuit on single poles	66
ROX-ISL-A	Roxburgh-Islington A Single Circuit on steel towers	220

Substations / Tee Lines

Transpower reference	Site Name	Site Type
APS	Arthurs Pass	Substation
CLH	Castle Hill	Substation
COL	Coleridge	Substation
HOR	Hororata	Substation
SPN	Springston	Substation
KBY	Kimberley	Substation
RTP	Round Top	Comms
KBT	Kimberley Tee	Tee line
CHH	Christchurch Tee	Tee line
BKD	Brackendale	Tee line

Appendix 4

Orion Electricity Distribution Network

11kV lines in Selwyn District Council zone

Legend

- 11kV Line
- SDC business and industrial zone
- SDC residential zone
- SDC rural zone
- SDC open space and special purpose zone
- Zone Substation

ANNAT
KIMBERLEY
DARFIELD
HORORATA
HIGHFIELD
WEEDONS
LARCOMB
PREBBLETON
GREENDALE
ROLLESTON
TE PIRITA
SPRINGSTON
LINCOLN
BANKSIDE
DUNSANDEL
BROOKSIDE
KILLINCHY
MOTUKARARA
HILLS RD

Appendix 5

Orion Sub-Transmission Lines

Sub Transmission for Selwyn District Council

ANNAT
KIMBERLEY
DARFIELD
HORORATA
HIGHFIELD
WEEDONS
LARCOMB
PREBBLETON
GREENDALE
ROLLESTON
LINCOLN
SPRINGSTON
TE PIRITA
BANKSIDE
DUNSANDEL
BROOKSIDE
KILLINCHY
MOTUKARARA
HILLS RD

Legend

- Double circuit
- Single circuit (over boundary)
- Single circuit (road reserve)
- SDC business and industrial zone
- SDC residential zone
- SDC rural zone
- SDC open space and special purpose zone
- Zone Substation

Appendix 6:

Orion Submission and Proposed Rules

ORION NEW ZEALAND LIMITED

Selwyn District Plan Supporting Document – Corridor Protection

Overview:

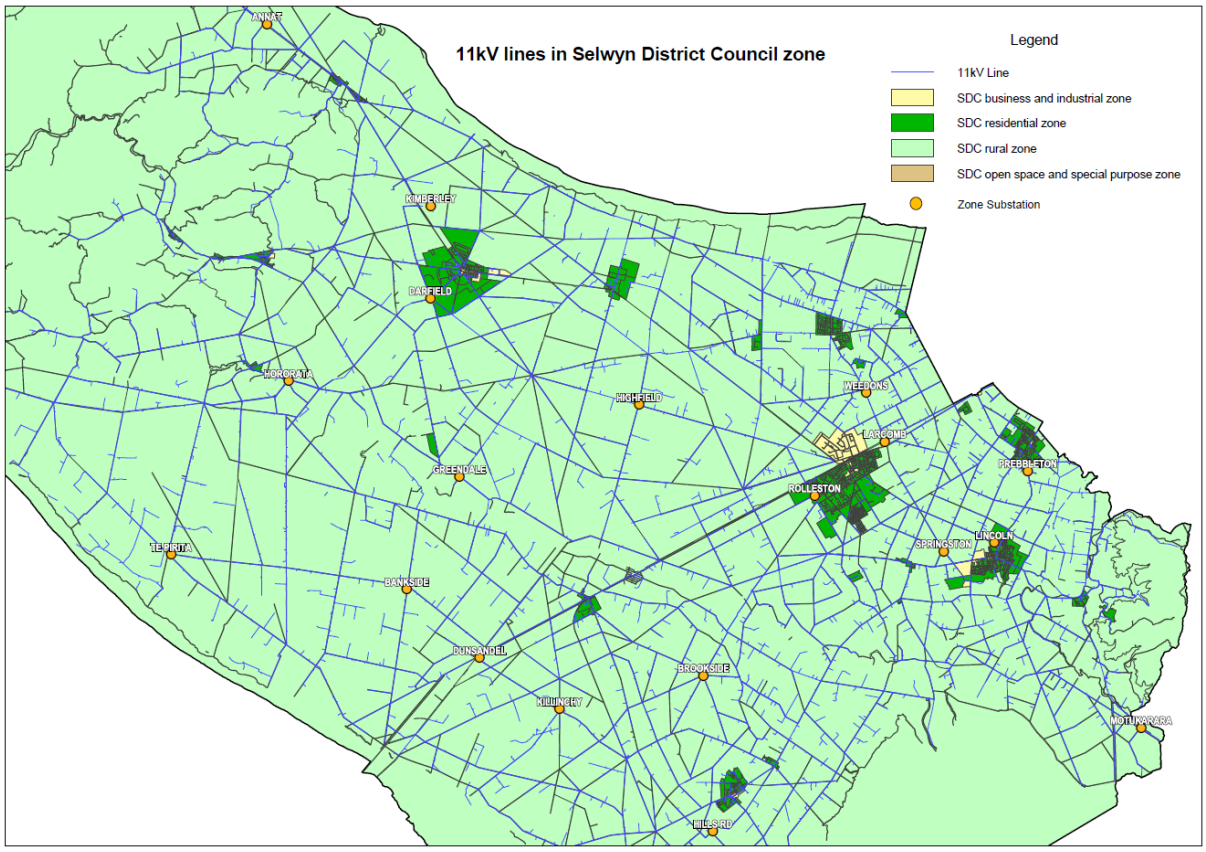
Orion has taken a considered approach in our application for the Selwyn District Council district plan review.

With 4,500km of overhead electricity network in the Selwyn District Council area (refer to Map 1) our application only covers 250km of sub-transmission lines, with the greater majority in the road reserve (refer to Map 2).

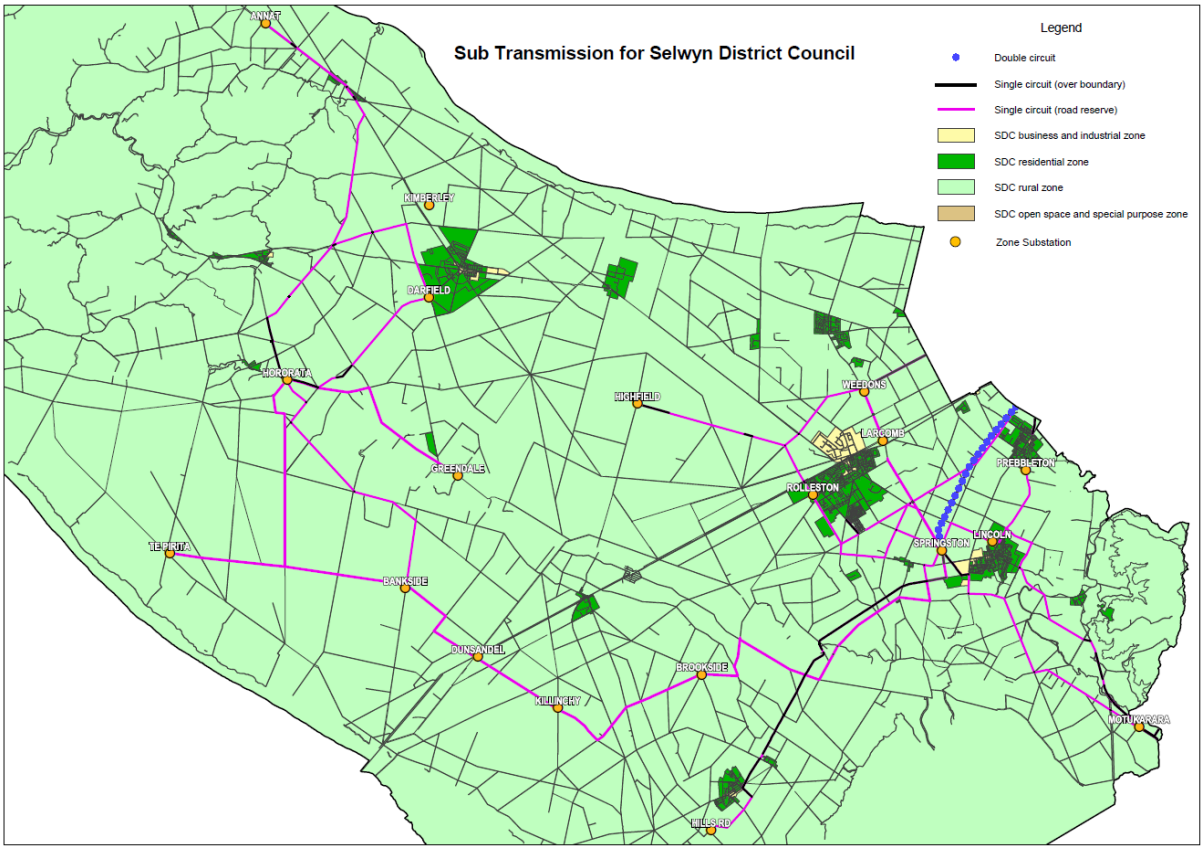
Of the 250km (known as the Islington to Springston line and shown as a double circuit on Map 2) 10 km had legislative protection in the form of the National Policy Statement when the line was owned by Transpower NZ Ltd. As Transpower has sold off its 'spur assets' in 2014 this line was purchased by Orion. For the end user (i.e. electricity customers in the Selwyn District Council area) the transfer of ownership was seamless and the function and criticality of the line did not change, however the status has changed from 'transmission' to 'sub-transmission' and therefore no longer has a 'protected status'.

The remaining 240km of lines in our application is also sub-transmission, however it has always been in the ownership of Orion (or previous incarnations of Orion). The sub-transmission electricity lines (technically known as circuits) operate at 33,000 or 66,000 Volts. These circuits are effectively the arteries of Orion's network as they inter-connect Orion's Zone Substations and allow for the efficient transfer of electricity between and subsequently distributed to the end electricity consumer or customer. Much like the arteries of a human body, if there are any significant issues it can have a severe impact.

Orion acknowledges that all of our assets have a degree of legislative protection in the form of the Electricity Act, Electricity (Safety) Regulations, the NZ Electricity Codes of Practice (NZECP 34 for electrical safe distances) and the Electricity (Hazards from Trees) Regulations. This degree of legislative protection no longer adequately address the changing level of significance of sub-transmission, with the recent developments around Health and Safety as well the push for distributed generation. Orion have considered this in determining which assets to include in this submission. Sub-transmission was therefore set as threshold, as it was deemed to be the appropriate level of cost benefit that warranted being in the 'district plan' because of the significant consequences of breaches. The consequences being in the form of health and safety, operability and cost to landowner to remedy. It should be noted that currently where there is a cost to Orion to mitigate or remedy any consequence, in the first instance it is recovered from the person who caused the breach or failing this it is born across all of Orion's electricity customers.


11kV lines in Selwyn District Council zone
Legend
11kV Line
SDC business and industrial zone
SDC residential zone
SDC rural zone
SDC open space and special purpose zone
Zone Substation
ANNAT
KIMBERLEY
DARFIELD
HOROROA
HIGHFIELD
WEEDONS
LARCOMB
PREBBLETON
GREENDALE
ROLLESTON
TE PIRITA
SPRINGSTON
LINCOLN
BANKSIDE
DUNSANDEL
BROOKSIDE
KILLINCHY
MOTUKARARA
HILLS RD

Map 1


Sub Transmission for Selwyn District Council
Legend
Double circuit
Single circuit (over boundary)
Single circuit (road reserve)
SDC business and industrial zone
SDC residential zone
SDC rural zone
SDC open space and special purpose zone
Zone Substation
ANNAT
KIMBERLEY
DARFIELD
HOROROA
HIGHFIELD
WEEDONS
LARCOMB
PREBBLETON
GREENDALE
ROLLESTON
TE PIRITA
SPRINGSTON
LINCOLN
BANKSIDE
DUNSANDEL
BROOKSIDE
KILLINCHY
MOTUKARARA
HILLS RD

Map 2

ORION NEW ZEALAND LIMITED

Selwyn District Plan Supporting Document – Corridor Protection

Orion owns and operates the electricity distribution network in central Canterbury. As one of the largest electricity distribution networks in New Zealand we cover remote rural areas, regional towns and the city of Christchurch.

Orion is responsible for the operation, maintenance, upgrade and development of its network, which comprises underground cables, overhead lines, substations, transformers and associated structures. These activities are directed by National Industry Codes of Practice and Electricity Network Technical Specification Standards, as well as district and regional planning requirements.

Our network covers 8,000 square kilometres across central Canterbury between the Waimakariri and Rakaia Rivers and from the Canterbury Coast to Arthur's Pass. We deliver electricity to more than 201,000 homes and businesses in Christchurch City and Selwyn District. Orion has the 3rd largest connection base of distribution lines companies in New Zealand. In comparison Mainpower have 39,000 customers, Westpower 13,500 and Electricity Ashburton 19,268.

In the Selwyn District our network consists of both a 66kV and a 33kV sub-transmission system that supplies 22 zone substations from Transpower's Islington, Hororata and Kimberley Grid Exit Points (GXP's). Orion's network is designed with interconnecting sub-transmission between GXP's to allow for resilience should a failure occur on the network. It is designed to meet strong load growth. The distribution system consists of 11kV overhead radial feeders from our zone substations and three small Transpower GXP's at Coleridge, Castle Hill and Arthur's Pass. Growth in the rural townships (Lincoln & Rolleston) and high growth in irrigation loads has meant some sub-transmission has reached its design capacity and we are building additional substations and lines to meet demand.

The double circuit line runs from Islington GXP to Springston GXP's over approximately 10km. These lines are supported by tower structures. This line was previously owned by Transpower and still carries out the same function.

Two rural milk processing plants have a significant impact on our network operations within the Selwyn District. The Synlait Ltd plant located at Dunsandel was commissioned during 2008. Its load required a new zone substation at Dunsandel providing enhanced security. Similarly, the Fonterra Ltd plant at Darfield commissioned during 2012 also required a new zone substation (Kimberley) to provide enhanced security.

Irrigators (agricultural and dairy) are one customer group that significantly impacts on the operation and asset management of our network in the rural area. Irrigation growth over the last 20 years has required substantial reinforcement of our network.

Corridor Protection benefits

The corridor protection we have requested to insert in the Selwyn District plan is to protect Orion's infrastructure and prevent incompatible activities or development near Orion power lines or support structures.

- Safety is paramount; allowing building or some activities near to or underneath the lines may put both people and the electrical supply at risk;
- Orion needs permanent 24/7 access to its lines and associated support structures for on-going operation and maintenance;
- Ensure activities to not pose an operational risk to Orion's infrastructure;
- Ensure activities do not pose an unacceptable risk to electromagnetic field levels.

Christchurch City Plan Effectiveness

The corridor protection we have embedded in the Christchurch City Plan is to protect the safety of landowners and allows Orion access to the lines and associated support structures for on-going operation and maintenance.

Recent subdivision developers have consulted with Orion through the resource consent process to ensure they are meeting the required safe electrical distances with buildings and vegetation. We have given advice at the design stage to ensure safety guidelines are met.

NZECP34 – New Zealand Electrical Code of Practice for Electrical Safe Distances

The purpose of NZECP34 is to protect people, property and mobile plant by providing a physical separation from support structures (towers/poles) and distribution lines. NZECP34 does not consider the operational, maintenance (access) and upgrading requirements of the distribution lines.

NZECP34 was first published in 1993 and amended in 2001. Increased knowledge around Health and Safety requirements has prompted Orion to request further protection from the minimum requirements within NZECP34. Deficiencies include the step and touch potential and conductivity of structures and fences close to structures and overhead lines and underground cables.

Trees within the road reserve

Planting of vegetation within the road reserve has been included to provide awareness to land owners to ensure vegetation planted does not breach the Electricity (Hazards from Trees) Regulations. The government's 2015 infrastructure plan included a review of the effectiveness of the tree regulations and this is timetabled to be carried out in the 2017-19 financial years. The Electricity Network Association (ENA) is encouraging this review to begin as soon as possible, so that more effective ways of managing trees can be out in place.

On the Orion network 10-20% of all unplanned power outages are caused by trees contacting lines. Orion's tree management programme is largely governed by the Electricity (Hazards from Trees) Regulations. This involves monitoring and pruning or removal of trees that threaten to come into contact with overhead lines. This is a significant cost to Orion and land owners. To mitigate the ongoing costs and future power outages we recommend species of shrubs and trees that at full maturity don't grow above 3 metres.

Commerce Commission

The Commerce Commission sets measures for network reliability around the frequency and duration of power outages, and Orion strives to achieve increasingly stringent levels of reliability. Orion's ability to meet these reliability targets is a testament to continued investment in the network through proactive renewal, maintenance and managing vegetation.

15th October 2018

Orion's Proposed Corridor Protection Rules

Non-complying activities	**SDC Business and Industrial Zone rules**
	a. Sensitive activities and buildings i. within 10 metres of the centre line of a double circuit sub transmission electricity distribution line or within 10 metres of a foundation of an associated support structure. ii. within 5 metres of the centre line of a single circuit sub transmission electricity distribution line or within 5 metres of a foundation of an associated support structure. b. Fences of conductive materials shall not be installed within 5 metres of a sub-transmission electricity distribution line support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres. d. Any application arising from (a)-(c) shall not be publicly notified and shall, in the absence of a written approval, be limited notified only to Transpower New Zealand Limited and/or Orion New Zealand Limited or other electricity distribution network operator. Advice note: 1. The single and double circuit sub-transmission electricity distribution lines are shown on the planning maps. 2. Vegetation to be planted around the National Grid or electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to the National Grid transmission lines and electricity distribution line. Buildings and activities in the vicinity of National Grid transmission lines or electricity distribution lines must comply with the NZECP 34:2001.

Definitions:

Sensitive Activity as defined in the Selwyn District Plan

Double Circuit Sub-transmission electricity distribution line: the 66 kV double circuit line and associated support structures connecting Islington GXP to Springston Zone substation

Single Circuit Sub-transmission electricity distribution line: the 33kV or 66 kV lines and associated support structures which interconnect Zone or Substations. Single circuit sub-transmission electricity distribution lines may also support other lessor voltages, i.e. 11kV and/or 400V.

Non-complying activities	**SDC Residential zones**
	a. Sensitive activities and buildings (excluding accessory buildings associated with an existing activity): i. within 10 metres of the centre line of a double circuit sub transmission electricity distribution line or within 10 metres of a foundation of an associated support structure. ii. within 5 metres of the centre line of a single circuit sub transmission electricity distribution line or within 5 metres of a foundation of an associated support structure. b. Fences of conductive materials shall not be installed within 5 metres of a sub-transmission electricity distribution line support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres. d. Any application arising from (a)-(c) shall not be publicly notified and shall, in the absence of a written approval, be limited notified only to Transpower New Zealand Limited and/or Orion New Zealand Limited or other electricity distribution network operator. Advice note: 1. The single and double circuit sub-transmission electricity distribution lines are shown on the planning maps. 2. Vegetation to be planted around the National Grid or electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to the National Grid transmission lines and electricity distribution line. Buildings and activities in the vicinity of National Grid transmission lines or electricity distribution lines must comply with the NZECP 34:2001.

Definitions:

Sensitive Activity as defined in the Selwyn District Plan

Double Circuit Sub-transmission electricity distribution line: the 66 kV double circuit line and associated support structures connecting Islington GXP to Springston Zone substation

Single Circuit Sub-transmission electricity distribution line: the 33 or 66 kV lines and associated support structures which interconnect Zone Substation

Permitted Activities	**SDC Rural Zones**	
	Farming	a. Fences of conductive materials shall be located a minimum of 5 metres from a support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. Advice note: 1. The identified electricity distribution lines are shown on the planning maps.
	Farm building	a. Commercial greenhouses, wintering barns, produce packing buildings, milking/dairy sheds or structures associated with irrigation infrastructure (excluding mobile irrigators) shall not be located within the following corridors: i. Within 10metres of the centre line of a double circuit sub-transmission electricity distribution line; or ii. Within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line. b. Farm buildings and horticultural structures, except where they meet the requirements of clause 2.4.1 of NZECP34:2001, shall not be located: i. Within 10 metres of a foundation of a double circuit sub-transmission electricity distribution line; or ii. Within 5 metres of a foundation of a single circuit sub-transmission electricity distribution line.
Non-complying activities		a. Buildings and horticultural structures not permitted above and any sensitive activities: i. within 10 metres of the centre line of a double circuit sub-transmission electricity distribution line; or ii. Within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line. b. Fencing: Fences that do not meet permitted rule above. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres. d. Any application arising from this rule shall not be publicly notified and shall be limited notified only to Orion New Zealand Limited or other electricity distribution network operator (absent its written approval). Advice note:

		1. The sub-transmission distribution lines are shown on the planning maps. 2. Vegetation to be planted around the electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to electricity distribution lines. Buildings and activities in the vicinity of electricity distribution lines must comply with the NZECP 34:2001.

Permitted activities	**SDC Earthworks rules**	
	Earthworks in the vicinity of a double circuit electricity distribution line.	a. Earthworks within 10 metres of the centre line of a double circuit sub-transmission electricity distribution line shall: i. meet the requirements of Clause 2.2.1 and/or 2.2.3 (as applicable) of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34: 2001); or ii. meet the following requirements: A. be no deeper than 300mm within 6 metres of a foundation of a double circuit sub-transmission electricity distribution line support structure; and B. be no deeper than 3m between 6 and 10 metres from the foundation of a double circuit sub-transmission electricity distribution line support structure; and C. not destabilise an electricity distribution line support structure; and D. not result in a reduction in the ground to conductor clearing distances below what is required by Table 4 in the NZECP 34:2001. b. Activity standard a.ii.A. (above) shall not apply to: i. Earthworks for a network utility, as part of an electricity distribution activity; ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, drive or farm track.
	Earthworks in the vicinity of a single circuit electricity distribution line.	c. Earthworks within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line shall: i. meet the requirements of Clause 2.2.1 of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34: 2001); or ii. meet the following requirements: A. be no deeper than 300mm within 2.2 metres of a foundation of a single circuit sub-transmission electricity distribution line support structure; and B. be no deeper than 0.75m between 2.2 and 5 metres from the foundation of a single circuit sub-transmission electricity distribution line support structure; and C. not destabilise an electricity distribution line support structure; and D. not result in a reduction in the ground to conductor clearing distances below what is required by Table 4 in the NZECP 34:2001. d. Activity standard a.ii.A. (above) shall not apply to: i. Earthworks for a network utility, as part of an electricity distribution activity;

		ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, drive or farm track.
Non-complying activities	Any activity that does not meet the standard above.	

Restricted discretionary activities	**SDC Subdivision Rules**	
	Subdivision of any site (other than an allotment to provide for a network utility) located within the following corridors: a. 32 metres of the centre line of a sub-transmission electricity distribution line as shown on planning maps; except as otherwise specified in: Other discretionary or non-complying rules.	a. A building platform for the principal building shall be identified on each allotment that is: 1. greater than 10 metres from the centre line of a sub-transmission electricity distribution line or a foundation of an associated support structure.
Non-complying activities	Subdivision that does not meet any one or more of the relevant standards listed above.	

Assessment Matter:

The extent to which the subdivision design and construction allows for earthworks, buildings and structures to comply with the New Zealand Code of Practice for electrical Safe Distances (NZECP 34:2001).

Non-complying activities	**SDC Hazardous Substances**
	a. Any new storage or use of hazardous substances with explosive or flammable properties within: 1. 10 metres of the centre line of a sub-transmission electricity distribution line; or b. For the purpose of (a), the definition of hazardous substances excludes the following activities, facilities and quantities: 1. storage of substances in or on vehicles being used in transit on public roads; 2. installations where the combined transformer oil capacity of the electricity transformers is less than 1,000 litres; 3. fuel in mobile plant, motor vehicles, boats and small engines; 4. gas and oil pipelines and associated equipment that are part of a utility; 5. retail activities selling domestic scale usage of hazardous substances, such as supermarkets, trade suppliers, and pharmacies; 6. the accessory use and storage of hazardous substances in minimal domestic scale quantities; 7. fire-fighting substances, and substances required for emergency response purposes on emergency service vehicles and at emergency service facilities; 8. activities involving substances of Hazardous Substances and New Organisms (HSNO) sub-classes 1.4, 1.5, 1.6, 6.1D, 6.1E, 6.3, 6.4, 9.1D and 9.2D unless other hazard classification applies; 9. the temporary storage, handling and distribution of national or international cargo containers; 10. waste treatment and disposal facilities (not within High Flood Hazard Management Areas and Flood Management Areas), and waste in process in the Council's trade waste sewers, municipal liquid waste treatment and disposal facilities (not within High Flood Hazard Management Areas and Flood Management Areas) which may contain hazardous substance residues; 11. vehicles applying agrichemicals and fertilisers for their intended purpose.

Appendix 7

Federated Farmers and Horticulture New Zealand Feedback on Transpower and Orion Submissions

HortNZ comments on model Transpower Provisions – 12/11/18

Selwyn District Plan Review 2018: Transpower Model National Grid Provisions

District Objectives

1. Enable the operation, maintenance, upgrading and development of the National Grid, whilst managing any adverse effects on the environment;
2. Manage subdivision, use and development to ensure that the operation, maintenance, upgrading and development of the National Grid is not compromised.to the extent reasonably possible

District Policies

1. Enable the operation, maintenance, upgrading and development of the National Grid, by recognising its operational, functional and technical constraints, the complexity of the interconnectedness of networks, and its role in servicing existing and planned development.
2. Recognise the benefits provided by the National Grid to people and communities, and require these to be weighed in assessing the adverse effects of proposals.
3. Recognise that significant infrastructure including the National Grid may require a location within sensitive natural environments where there are no practicable alternatives available, and the infrastructure will result in significant social and/or economic benefits.
4. Avoid, remedy or mitigate the adverse effects arising from the operation, maintenance, upgrading and development of the National Grid.
5. Manage the effects of subdivision, land use and development to the extent reasonably possible on the safe, effective and efficient operation, maintenance, upgrading and development of the National Grid by ensuring that:
    a. National Grid Subdivision Corridors and National Grid Yards are identified in the District Plan to establish safe buffer distances for managing subdivision and land use development near National Grid lines including support structures;
    b. Sensitive activities and buildings and structures associated with intensive farming activities that ~~may~~ could compromise the National Grid~~, including those associated with intensive farming activities~~, are excluded from establishing within National Grid Yards;
    c. Subdivision is managed within National Grid Corridors to avoid subsequent land use from restricting the operation, maintenance, upgrading and development of the National Grid; and
    d. Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

District Plan methods

1. The National Grid ~~transmission network~~ will be identified on the planning maps

Methods, including rules

Bold text indicates potentially defined terms, which are listed at the end of this document. Rules relating to buildings/structures in the National Grid Yard (urban and non-urban), subdivision, and earthworks are set out under red sub-headings below. With regard to the rules for buildings and structures within the National Grid Yard, there are several ways in which these could be expressed, as we have seen in various District Plans over the years. Ultimately how these are expressed will depend on a number of factors, including the intended approach within this District Plan. One critical assumption we have made is that the National Grid corridor rules would be set out within a specific "network utilities" or "infrastructure" chapter in the District Plan, as opposed to being nested within a District Plan's zone chapters. However, this can be amended to suit the council's preference, noting that at present the vast majority of the current underlying zoning traversed by National Grid lines in Selwyn District is rural.

Commented [DH1]: These are provided as a placeholder at this stage, to highlight the need for policies that enable the National Grid and manage its adverse effects. Transpower will be able to provide further and more meaningful input once more is known about the approach to generic infrastructure/network utilities provisions and how these will be framed by council to give effect to the RPSs.

Policy 5 is a more settled approach that is derived from recent District Plan processes elsewhere in NZ.

Commented [DH2]: This only applies to Policies 10 and 11 of the NPSET (i.e. effects of others' activities on the National Grid). Presumably Council will use other methods to implement the enabling objectives and policies for the National Grid.

Commented [LW1]: To the extent reasonably possible – to be consistent with Policy 10

Commented [LW2]: The provision should be more precise – buildings and structures that may compromise the National Grid' does not provide clear guidance. Should be consistent with Rule 1 e)

Commented [LW3]: If National Grid is defined then 'transmission network' is not required.

HortNZ comments on model Transpower Provisions – 12/11/18

Our observation of the National Grid lines across the Selwyn District is that the lines do not currently traverse any urban areas, and there is no indication that the lines have been subject to urban "underbuild". Underbuild is where inappropriate urban development has taken place directly beneath the transmission lines. We would be interested in any new growth areas that council may be considering and whether these are traversed by National Grid assets. In the mean time we have suggested one set of rules to give effect to the policies (unlike some more urban councils where the existing urban and rural/future urban provisions are split).

The provisions set out below are intended for discussion purposes initially and we assume that they will be refined further, especially if National Grid lines traverse any future urban zones.

Rules: Buildings, structures and sensitive activities in all zones within the National Grid Yard

Transpower's approach to implementation of the National Policy Statement on Electricity Transmission (NPSET) is to ensure that it only seeks the minimum district plan restrictions necessary to ensure the NPSET is given effect to. Under this approach, Transpower seeks different size setbacks depending on the asset type (for example whether it is on poles or towers). There are a range of transmission lines (varying voltages and structure types) in Selwyn District, which are set out in a table at the end of this document. Activities are considered very specifically, so that only those activities which have a real potential to compromise the integrity of the Grid are sought to be non-complying, with everything else permitted (except subdivision).

Rule 1 National Grid Yard Permitted Activities

1. The following buildings and structures are permitted within the **National Grid Yard**, provided these comply with the safe electrical clearance distances set out in the New Zealand Code of Practice for Electrical Safe Distances (NZECP34:2001) and provided those in (d)-(i) below are set back 12 metres from any National Grid support structure:

    a. **Network Utilities** (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes where they impede access to a National Grid Support Structure) undertaken by network utility operators as defined in the RMA;
    b. Fences no greater than 2.5m high and no closer than 6m from the nearest National Grid support structure;
    c. Artificial crop protection and support structure between 8m and 12m from a single pole or pi pole support structure and any associated guy wire (but not tower) that:
        a. Meets the requirements of NZECP34:2001 for separation distances from the conductor;
        b. Is no more than 2.5m high;
        c. Is removable or temporary, to allow clear working space 12 metres from the pole when necessary for maintenance and emergency repair purposes; and
        d. Allows all weather access to the pole and a sufficient area for maintenance equipment, including a crane.
    d. Any new non-habitable building, other than provided for in e) less than 2.5 metres high and 10 square metres in floor area;
    e. Non-habitable buildings or structures used for agricultural and horticultural activities provided they are not a milking shed/dairy shed (excluding the stockyards and ancillary platforms), wintering barn, or building for intensive farming activities, or a commercial greenhouse;
    ~~f. Mobile irrigation equipment used for agricultural and horticultural activities;~~
    ~~g~~ f. Other than reticulation and storage of water in dams or reservoirs in Rule 1a, reticulation of water in canals and races and storage of water for irrigation purposes provided that it does not permanently physically obstruct vehicular access to a National Grid support structure;

Commented [DH3]: There are a number of ways that this can be expressed, e.g. by having a list of permitted activities under the wires and a separate list of permitted activities around the structures. The approach here has been to combine the two.

Commented [LW4]: NZECP has 5m setback for fences for 66kV and more

Commented [LW5]: Seeking clarification from Transpower

Commented [LW6]: This would mean that irrigation in orchards would not be permitted. Only limitation should be on irrigation races and canals within the NG Yard where it impedes access to a NG Support Structure.

~~h.~~g. Building alterations and additions to an existing **building** or structure that does not involve an increase in the building height or footprint;

~~i.~~h. A building or structure where Transpower has given written approval in accordance with clause 2.4.1 of NZECP34:2001.

Rule 2 Non-Complying Activities:

1. The following activities are non-complying within the **National Grid Yard**:
   a. ~~Any activity that permanently physically impedes vehicular access to a National Grid support structure~~
   b. Any new building for a **sensitive activity**.
   c. Any change of use to a **sensitive activity** or the establishment of a new sensitive activity
   d. Dairy/milking sheds or buildings for intensive farming or wintering barns
   e. Any hazardous facility that involves the storage and handling of hazardous substances with explosive or flammable intrinsic properties [exceeding the aggregate quantity or HFSP permitted activity quantity or threshold in the Hazardous Substances section of the District Plan] within 12m of the centreline of a National Grid **Transmission Line**.
   f. Any building or structure not permitted by Rule 1 above (permitted activity rules).

Advice notes:

1. Vegetation to be planted around the National Grid should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003.
2. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to electricity lines, including transmission lines, and it is mandatory to comply with it. Compliance with the permitted activity standards of the Plan does not ensure compliance with the NZECP34:2001.

Rules: Subdivision of land in any zone in the National Grid Corridor:

Subdivision sets the framework for future land use, and careful regulation of subdivision can prevent the creation of unusable (or severely constrained) lots.

Rule SBD1 Restricted Discretionary Activity

1. Subdivision of land in any zone within the **National Grid Subdivision Corridor** is a restricted discretionary activity:

   a. Where all resulting allotments are capable of accommodating a building platform for the likely principal building(s) and any building(s) for sensitive activities, outside the National Grid Yard, other than where the allotments are for roads, accessways and network utilities.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule SBD1.1:

   a. The subdivision layout and design, in terms of how this may impact on the operation, maintenance, upgrading and development of the National Grid.
   b. The ability to provide a complying building platform(s) outside of the National Grid Yard
   c. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

Commented [LW7]: This is new. Transpower has never sought this provision before. Access is addressed through the Electricity Act. Would it be 'existing 'access or 'any' access?

Commented [LW8]: Depends on definition of sensitive activities

Commented [LW9]: Depends on definition of intensive farming.

Commented [LW10]: Should be based on HSNO Classes 3-5

Commented [LW11]: Why reference to HFSP – is that in the Plan?

d. The nature and location of any vegetation to be planted in the vicinity of National Grid transmission lines

2. New buildings for sensitive activities within XX metres of the boundary of XXX substation is a restricted discretionary activity.

Commented [DH4]: Substation setbacks will vary on a site by site basis. One of the main effects that this rule seeks to control is "earth potential rise" from the substation.

Council will restrict the exercise of its discretion to the following matters when considering applications under Rule SBD1.2:

a. Effects of the development on the efficient operation, maintenance, upgrade and development of the substation;
b. Risk of electrical hazards affecting public or individual safety, and the risk of property damage; and
c. Technical advice from an Electrical Engineer.

Rule SBD2: Non-Complying Activities:

Any subdivision of land in any zone within the National Grid Corridor which does not comply with the restricted discretionary activity standards under Rule SBD1.

Rules: Earthworks, Quarries and Landfills

Rule EA1 Permitted Activities:

Earthworks within the National Grid Yard are a permitted activity subject to compliance with the following standards:

a. Around **National Grid** support towers:
   i. depth shall be no greater than 300mm within 6m of the outer visible edge of the foundation of the support structure; and
   ii. depth shall be no greater than 3m between 6m and 12m of the outer visible edge of the foundation support structure.
b. Around **National Grid** support poles and stay wires:
   i. depth shall be no greater than 300mm within 2.2m of the pole or stay wire; and
   ii. depth shall be no greater than 750mm between 2.2m and 5m of the pole or stay wire.
c. Shall not compromise the stability of a **National Grid** support structure; and
d. Shall not result in a reduction in the ground to conductor clearance distances below what is required by Table 4 of NZECP34:2001; and
e. Shall not result in vehicular access to a **National Grid** support structure being permanently obstructed.

Provided that, the following are exempt from Rule EA1(a) above:

i. Earthworks that are undertaken by a network utility operator (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes, as defined by the RMA);
ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, driveway or farm track;
iii. Earthworks for which a dispensation has been granted by Transpower under NZECP34:2001.

Rule EA2 Restricted Discretionary Activities:

1. Within the **National Grid Yard**, any earthworks not permitted by Rule EA1(a) above (permitted activity rules).

2. On sites containing **National Grid** ~~transmission line~~ support structures:

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a. Any quarry or land fill activity on the same site as any National Grid transmission line support structures.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule EA2.1 and/or EA2.2:

a. Impacts on the operation, maintenance, upgrading and development of the **National Grid**;
b. The risk to the structural integrity of the affected **National Grid** support structure(s);
c. Any impact on the ability of the **National Grid** owner (Transpower) to access the **National Grid**; and
d. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

Rule EA3 Non-Complying Activities:

Within the National Grid Yard, any earthworks not permitted by Rule EA1.b, EA1.c or EA1.d.

Notification Statement:

Where an activity requires resource consent solely because it is within a **National Grid Subdivision Corridor** or **National Grid Yard** then the application need not be publicly notified and need not be served on any affected party apart from Transpower New Zealand Limited who will be considered an affected party.

National Grid Yard and National Grid Corridor definitions

The general principle of the National Grid Yard and National Grid Corridor approach is based on the approach used in District Plans around NZ.

Building: Transpower has no firm view on the wording of the definition of 'building'. However, Transpower seeks to ensure that all rules applying to the National Grid Yards and Corridors apply to buildings and structures. If the District Plan does not include a definition of 'building' and/or refers to the Building Act definition, all rules above need to refer to "buildings and structures". If the definition of 'building' includes 'structures', then the rules do not need to refer to 'structures' as well.

NZECP34:2001: Means the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663.

National Grid: ~~means the same as in the National Policy Statement on Electricity Transmission 2008.~~
Means the assets owned and operated by Transpower NZ and includes transmission lines, cables, support structures (towers and poles) Stations and substations and other works used to connect grid connection and exit points to convey electricity.

National Grid Yard means:
• the area located 12 metres in any direction from the outer visible foundation of a National Grid support structure; and
• the area located 12 metres either side of the centreline of an overhead National Grid line on towers (and steel tubular monopoles where these replace towers), and 10 metres either side of an overhead National Grid line on single poles.

This diagram can be used to aid interpretation of the National Grid Yard and Subdivision Corridor definitions, but is not essential to implementation of the rules.

National Grid Subdivision Corridor means the area measured:
- 39 metres either side of the centreline of 350kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers);
- 37 metres either side of the centreline of 220kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers).
- 14 metres either side of the centreline of 66kV National Grid transmission lines.

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National Grid Substation Corridor: means the area measured XX m from the boundary of XXXX National Grid substations (may need to insert table for list of substations).

Commented [DH5]: Distances to be confirmed. These will vary on a site by site basis.

Sensitive activities: Includes any school, residential building or hospital.

Commented [RE6]: This is the NPSET definition. Transpower will generally seek to incorporate the definitions from within the District Plan that relate to these broad activities.

Tower: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

Commented [LW12]: Would be better to put in the Plan.

Transmission line: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activ ities) Regulations, 2009.

Commented [LW13]: Would be better to specify in Plan

Transpower: Means the owner and operator of the National Grid – Transpower New Zealand Limited.

Wintering barns: [To the extent that this is relevant in Selwyn]

National Grid assets in Selwyn District

Transmission lines

Transpower reference	Line description	Voltage (kV)
BEN-HAY-A	Benmore-Haywards A Double Circuit on steel towers	350
BEN-ISL-A	Benmore-Islington A Single Circuit on steel towers	220
BKD-HOR-A	Brackendale-Hororata A Double Circuit on steel towers	66
BRY-ISL-A	Bromley-Islington A Double Circuit on steel towers	220
CHH-TWZ-A	Christchurch-Twizel A Double Circuit on steel towers	220
COL-BKD-D	Coleridge-Brackendale D Double Circuit on single poles	66
COL-OTI-A	Coleridge-Otira A Double Circuit on pi poles	66
HOR-ISL-E	Hororata-Islington E Double Circuit on single poles	110
KBY-TEE-A	Kimberley-Tee A Double Circuit on single poles	66
ROX-ISL-A	Roxburgh-Islington A Single Circuit on steel towers	220

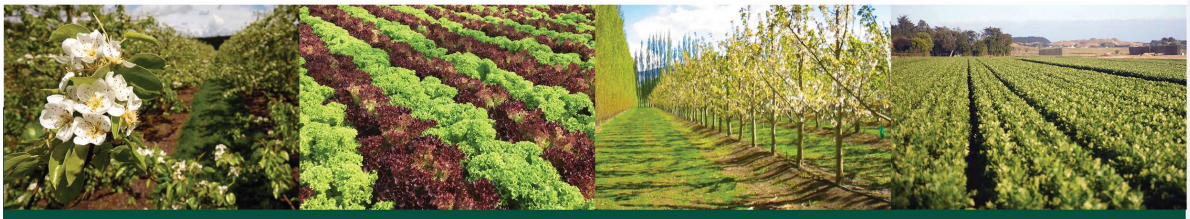
Substations / Tee Lines

Transpower reference	Site Name	Site Type
APS	Arthurs Pass	Substation
CLH	Castle Hill	Substation
COL	Coleridge	Substation
HOR	Hororata	Substation
SPN	Springston	Substation
KBY	Kimberley	Substation
RTP	Round Top	Comms
KBT	Kimberley Tee	Tee line
CHH	Christchurch Tee	Tee line
BKD	Brackendale	Tee line

FEEDBACK ON NETWORK UTILITY PROVISIONS

Monday 12th November

TO: Selwyn District Council
NAME OF SUBMITTER: Horticulture New Zealand



CONTACT FOR SERVICE:
Rachel McClung
Environmental Policy Advisor – South Island
Horticulture New Zealand
172 High Street, Rangiora
PO Box 10-232 WELLINGTON
Ph: 027 582 7474
Email: rachel.mcclung@hortnz.com

HortNZ comments on Network Utility Provisions

Orion is seeking Selwyn District Council to include special provisions for electricity distribution lines within the Selwyn District Plan, similar to that sought by Transpower for the National Grid. The rationale for the National Grid provision is provided in the NPSET, which does not include local distribution lines.

Relevant to consideration of such an approach are:

1. Christchurch Replacement District Plan (CRDP).
2. Canterbury Regional Policy Statement 2013 (RPS)
3. National guidance
4. What is sought by Orion in the Selwyn District Plan

1. Christchurch Replacement District Plan (CRDP)

Part of the basis for the Orion approach is that such provisions were included in the Christchurch Replacement District Plan (CRDP).

The question is then: Should the Christchurch Replacement District Plan provisions set a precedent for the Selwyn District Plan?

HortNZ considers that there are significant differences between the two processes that should be taken into account when considering whether there is any precedent effect.

These differences include:

- The CRDP was developed under special legislation that took into account a wider range of matters than that required in the RMA Schedule 1 process
- The CRDP had no right of appeal – only appeal on points of law.
- How provisions for Orion were included in the CRDP
- Extent of horticulture in Christchurch City so lack of consideration of the effects of changes on this sector.

1.1 Christchurch Replacement District Plan (CRDP) Special legislation

The CRDP was developed under the Canterbury Earthquake (Christchurch Replacement District Plan) Order 2014, (OIC) which was promulgated under s71 of the Canterbury Earthquake Recovery Act 2011.

The OIC qualified how the Resource Management Act 1991 (RMA) was to apply and modified some of the RMA's provisions, both as to the decision-making criteria and processes. It required compliance with s23 of the Canterbury Earthquake Recovery Act 2011 (CER Act) and also specified additional matters for consideration, including the Christchurch Central Recovery Plan (CCRP) and the Land Use Recovery Plan (known as the LURP), to which the CRDP was to be 'not inconsistent with'.

The CRDP Hearing Panel Decision 1 on Strategic Directions and Strategic Outcomes describes the process and notes (Para 27):

(a) *We must hold a hearing on submissions, and make and report our decision. Our decision must provide reasons, including for accepting or rejecting submissions (although we are not required to address individual submissions). If a proposal to which our decision relates would*

replace any parts of the existing district plan, our decision must identify what it would replace. Our capacity to change a proposal is not limited by the scope of submissions made on the proposal. Rather, we can make any changes we determine appropriate. However, if we consider changes to a proposal are needed to deal with matters that are materially outside the scope of the notified proposal, we must direct the Council to prepare and notify a new proposal, and invite submissions on that new proposal.

Therefore, the scope provided to the Hearing Panel was greater than a Schedule 1 RMA process.

The decision also identifies that particular regard was to be had to the Statement of Expectations in Schedule 4 of the OIC. The Council in evidence identified that the OIC Statement of Expectations "is a notable difference from the usual RMA process and considerations".

Therefore, the decisions in the CRDP process have taken into account a wider range of matters than will be considered by Selwyn District Council in the development of a new district plan. This matter is relevant to the inclusion of provisions for the Orion network.

1.2 No rights of appeal

The special legislation for the CRDP removed rights of appeal to the Environment Court, with only limited rights of appeal on points of law.

Consequently, even if a submitter disagreed with a decision there were very limited opportunities to appeal the decision.

The provisions that were included for the electricity distribution network were therefore not able to be tested through an appeal process.

1.3 Inclusion of provisions for Orion in CRDP

The Proposed CRDP did not include provisions for electricity distribution lines. The Orion submission sought that provisions be included similar to those proposed for the National Grid across a number of zones in the Plan.

HortNZ and Federated Farmers made further submissions opposing the inclusion of such provisions. HortNZ considered that the regulations in NZECP34:2001 adequately provided for the electricity distribution lines.

The Orion submission seeking provisions for electricity distribution lines were first considered in the Residential hearings, during March and April 2015 in which HortNZ was not involved. Decisions on the Residential chapter were notified on 10 December 2015 and discuss the Orion submissions in detail (Para 257 – 282). Consideration had also been given to the matter in the Temporary Activities hearing, to which HortNZ was not a party.

The Rural hearings were held in November 2015, prior to the Residential decisions being notified. The Rural decisions were notified on 12 August 2016. The Residential decision stated (Para 275) that FFNZ and HortNZ concerns were related to impacts on the Rural zone and they would be considered in that context. However, the Rural hearings did not assess the rural context or impacts. The Rural decision simply stated (Para 31): "In the case of Orion the protection is necessary because we have determined earlier that their transmission lines are included within Strategic Infrastructure".

The Rural decision did not consider the effects on rural, as opposed to residential, areas or the appropriateness or costs and benefits of such an approach in rural areas. It simply transferred the Residential decision to different zones. The decision resulted in rules limiting buildings, fences and activities around electricity distribution lines and structures with certain activities non-complying within 5 metres of the centre line of a 33kV electricity distribution line.

The decision was based on the determination that Orion's 66kV, 33kV and 11kV Lyttelton distribution lines are Strategic Infrastructure, (Refer to RPS section for definition of Strategic Infrastructure). As it was considered that the lines were of strategic importance on a regional basis, they deserved appropriate protection by avoiding adverse effects from incompatible activities, including reverse sensitivity effects. Decision 1 had included Strategic Direction Objective 3.3.12 and this objective was used as the basis for inclusion of the provisions.

The Council and Hearing Panel acknowledged during the Residential hearing that there had been little in the way of a s32 evaluation to support the corridor protection rules sought but allowed Orion to file additional evidence to support the corridor provisions, but HortNZ was never given the opportunity to respond to that additional evidence.

It was also acknowledged at the Residential hearing that Orion assets in the residential areas were primarily on public land rather than private land. However, the same may not apply to the rural area.

HortNZ considers that the pathway used for inclusion of provisions for electricity distribution lines in the rural area of the CRDP did not give due consideration of the impacts on the rural area. The decision was also dependent on the interpretation of Strategic Infrastructure in the context of Christchurch City and Strategic Direction Objective 3.3.12. Any consideration for inclusion of such provisions in the Selwyn District Plan would need to be assessed in the context of Selwyn District.

As such the decision in the CRDP should not form a precedent for the Selwyn District Plan.

1.4 Horticulture in Christchurch City

There is very limited horticulture in Christchurch City so the ability to demonstrate the effects of the provisions on horticulture were very limited. The CRDP process was very urban focused with little horticulture input so the concerns were not considered. The situation in Selwyn District is different with considerable areas in horticulture production so the effects of any corridor provisions on horticulture would need to be assessed for the Selwyn District Plan.

2. Canterbury Regional Policy Statement 2013 (RPS)

The Selwyn District Plan is required to give effect to the RPS, which includes provisions relating to infrastructure. The policy framework is important in considering the most appropriate methods for the SDP. The RPS has a separate policy framework and definitions for the Greater Christchurch area, some of which is located in the Selwyn District. Provisions also differentiate between the 'Entire Region' which includes the Greater Christchurch area, while provisions for the 'Wider Region' relate to the area outside the Greater Christchurch area. Therefore, the applicability of the RPS will vary depending on the location and the scope of provisions.

Relevant provisions in the RPS are:

- Definitions

- Ch. 5 Land use and infrastructure
- Ch 6 Recovery and rebuilding of Greater Christchurch

2.1 Definitions

General Definitions:

- Critical infrastructure – Infrastructure necessary to provide services, which interrupted, would have a serious effect on the communities within the Region or a wider population, and which would require immediate reinstatement. This includes any structures that support, protect or form part of critical infrastructure.
  Critical infrastructure includes electricity substations, networks, and distribution installations including the electricity distribution network.

- Regionally significant infrastructure has a specific list and includes the electricity distribution network.

Electricity distribution network is not defined in the RPS.

Infrastructure is also not defined in the RPS, so the RMA definition would apply, which includes lines used to convey electricity and support structures used to convey electricity. The definition in the RMA for infrastructure relates to its use in s30 Functions of regional councils who in clause (ga) have to consider the strategic integration of infrastructure with land use through objectives, policies and methods.

The Orion electricity distribution network in Selwyn would be both critical infrastructure and regionally significant infrastructure under these definitions.

While all the Orion electricity distribution network would be regionally significant infrastructure and critical infrastructure across the district the use of the definitions in the policy framework determines the extent of application.

Specific definitions for Greater Christchurch:

- Strategic infrastructure – means those necessary facilities, services and installations which are of greater than local importance, and can include infrastructure that is nationally significant. The definition then provides 'examples' of strategic infrastructure including the electricity transmission network (National Grid) but not electricity distribution networks. 'Other strategic network utilities' are listed but no examples provided.

Given the definition the Orion electricity distribution network in Greater Christchurch section of Selwyn District would not be 'Strategic Infrastructure' unless it is, or parts of it are, of 'greater than local importance'. Note that the CRDP decision considered that some of the Orion lines are strategic infrastructure, including the 11kV Lyttelton distribution line. An assessment would need to be undertaken for the electricity distribution network in the Greater Christchurch part of Selwyn District to determine if any of the Orion network meets the definition of strategic infrastructure in the RPS.

2.2 Chapter 5 Land use and infrastructure

Relevant provisions are:

- Objective 5.2.1
- Objective 5.2.2
- Policies 5.3.1 and 5.3.2
- Policy 5.3.9

Objective 5.2.1 Location, design and function of development (Entire Region): The objective sets out how development is to be achieved, including that it is compatible with and will result in the continued safe, efficient and effective use of regional significant infrastructure. The objective also seeks that rural activities are enabled to support the rural environment and primary production.

Objective 5.2.2 Integration of land use and regional significant infrastructure (Wider Region): The objective seeks to provide for infrastructure that is of regional significance to the extent that it promotes sustainable management in accordance with the RMA. It also seeks that development does not result in adverse effects on the operation use and development of regionally significant infrastructure and that adverse effects from the operation of regionally significant infrastructure are avoided, remedied or mitigated. The explanation states that recognition of the importance of regionally significant infrastructure will lead to greater weight being given to its requirements. Note that this objective does not apply to the Greater Christchurch area.

Policies 5.3.1 and 5.3.2 relate to development in the Wider Region and recognition of regionally significant infrastructure in development.

Policy 5.3.9 Regionally significant infrastructure (Wider Region): The policy sets out a range of factors to consider in relation to regionally significant infrastructure, including development which would constrain the ability of the infrastructure to be used, including reverse sensitivity.

The relevant method requires that TA's will set out objectives and policies in district plans which:

- Avoid sensitive and incompatible land uses within proximity of regionally significant infrastructure where the quality of current or future environment is incompatible with the health requirements and amenity expectations of people adjacent or within part of the receiving environment of activities undertaken by regionally significant infrastructure.
- Avoid land uses that directly adversely affect the safe operation of regionally significant infrastructure
- Avoid, remedy or mitigate the adverse effects of regionally significant infrastructure on the environment.

The Explanation focuses on the sensitivity of activities near regionally significant infrastructure such as airports and transport hubs, particularly in residential areas. There is no specific mention of electricity distribution networks. Note that this policy does not apply to the Greater Christchurch area.

The AER is that regionally significant infrastructure provides safe, effective and efficient services to people and communities.

Chapter 5 also includes a range of policies relating to rural production (Policy 5.3.12 and 5.3.11) and related methods which recognise the importance of rural production in the Wider Region.

2.3 Chapter 6 Recovery and Rebuilding of Greater Christchurch

Chapter 6 was included in the RPS as directed by the Land Use Recovery Plan for Greater Christchurch and focuses on the urban area and includes the towns of Lincoln, Prebbleton and Rolleston and rural areas between them.

Objective 6.2.1 sets out the Recovery Framework that includes a land use and infrastructure framework that integrates strategic and other infrastructure and services with land development to optimise existing infrastructure. In relation to strategic infrastructure it seeks to achieve development that does not adversely affect the efficient operation, use, development, appropriate upgrade and future planning of strategic infrastructure.

Policy 6.3.5 Integration of land use and infrastructure: The policy sets the framework for providing for infrastructure with a focus on urban growth and intensification and managing the effects of land use activities on infrastructure, including avoiding activities that have the potential to limit the efficient and effective provision, operation, maintenance or upgrade of strategic infrastructure.

The relevant method states that TA's will include objectives, policies and rules in district plans to manage reverse sensitivity effects between strategic infrastructure and subdivision, use and development, including for residential and rural residential activities.

2.4 Giving effect to the RPS provisions in the Selwyn District Plan for electricity distribution networks

The SDP will need to differentiate between the area within the Greater Christchurch area and the area outside of Greater Christchurch because there are different RPS provisions for the respective areas, including the classification of the electricity distribution lines.

While Chapter 5 provides for regionally significant infrastructure outside of Greater Christchurch, Chapter 6 for Greater Christchurch does not include provisions for regionally significant infrastructure, but rather refers to Strategic Infrastructure. The provisions in Ch 6 are dependent on the assessment of 'Strategic infrastructure' as to whether the Orion electricity network would meet the criteria in the definition. Ch 6 also has provisions that apply to 'infrastructure' that would include the Orion network.

The methods in both Ch 5 and 6 require the district council to include objectives, policies and methods relating to infrastructure relating to incompatible land uses and ensuring the safe operation of regionally significant infrastructure.

The question then is: Do the RPS objectives, policies and methods necessitate a 'corridor protection' approach in order to give effect to the RPS.

There is no specific reference to 'corridors' or 'protection' for electricity distribution networks in the RPS.

Corridors are one method to achieve the objectives and policies, but are not a stipulated method, and may not be the most appropriate method to achieve the objectives and policies when the costs and benefits are considered.

While Orion achieved a 'corridor protection' method for some of its lines in Christchurch such an approach may not be appropriate in Selwyn where the land use is less urban, the existence of primary production activities and lines located on private property.

NZECP34:2001 The New Zealand Electrical Code of Practice for Electrical Safe Distances is regulation under the Electricity Act and sets out required setback distances from overhead lines and support structures. The required distances vary according to the voltage and type of structure to protect persons, property, vehicles and mobile plant from harm or damage from electrical hazards and also provide access for maintenance.

HortNZ considers that the mandatory distances set out in NZECP provide a framework for distances that would assist in achieving the objectives and policies in the RPS so it is not necessary for the district plan to have additional requirements such as corridor protection, particularly through rural areas. Orion has previously argued that the NZECP is difficult to enforce and so preferred provisions in the district plan. Enforcement of NZECP is the responsibility of MBIE. Inclusion of corridor provisions in the district plan places the responsibility for enforcement on the district council, rather than MBIE under the Electricity Act.

If provisions are included in the district plan, they should focus on activities which are sensitive to the electricity distribution network which could lead to reverse sensitivity issues. Such sensitive activities would generally be residential activities and location and proximity to lines could be included as a policy and consent assessment matter.

Inclusion of any provisions for the electricity distribution network would need to consider the costs and benefits, including for landowners who would be affected by such provisions, and consideration as to whether such provisions are necessary to be efficient and effective in achieving the objectives and policies of the plan.

3. National Guidance

When the Board of Inquiry was considering the NPSET a number of electricity supply companies sought that the provisions apply to distribution lines as well as the National Grid, as owned and operated by Transpower. In its report the Board of Inquiry stated:

"Some supply companies considered that the policy statement should be extended to apply to all high tension lines, whether or not they were part of the national grid. We were not persuaded that this would be appropriate. It is the New Zealand –wide nature of the grid that is one of the principal reasons for it being of national significance. The same cannot be said of supply lines which in most cases are contained within one region. Problems of cut-off points also arise." (Board of Inquiry Report 2008)

A group of infrastructure providers are currently working of a Draft Infrastructure National Planning Standard which they have been discussing with MfE and the potential for it to be a Planning Standard that is applied across the country, although the Ministry has not accepted the approach thus far. The group includes the electricity network providers.

The Orion approach is similar to the Draft National Planning Standard for Infrastructure that has been developed by the Infrastructure Group.

HortNZ has had some discussion with the Infrastructure Group but are concerned about the approach that is being sought, in particular in relation to electricity distribution lines.

4. What is sought by Orion in the Selwyn District Plan

Selwyn District Council has provided HortNZ with a draft of Orion's Proposed Corridor Protection rules and maps identifying lines that would be included.

The provisions are based on a two-tier approach:

- Double circuit sub-transmission electricity distribution lines being the 66kV double circuit line and associated support structures connecting Islington GXP to Springston Zone substation
- Single circuit sub-transmission electricity distribution lines being the 33kV or 66kV lines and associated support structures which interconnect Zone or Substations.

The proposal includes rules in the Rural area which limit:

- sensitive activities and buildings within 10 metres of a Double circuit sub-transmission electricity distribution line or 5 metres of a single circuit sub-transmission electricity distribution line
- Fences within 5 metres of a sub-transmission electricity distribution line support structure
- Trees within the road reserve
- Commercial greenhouses, wintering barns, produce packing buildings, milking/dairy sheds or structures associated with irrigation infrastructure (excluding mobile irrigators) within 10 metres of a double circuit sub-transmission electricity distribution line or 5 metres of a single circuit sub-transmission electricity distribution line
- Farm buildings and horticultural structures unless they meet the requirements of clause 2.4.1 of NZECP34.

If the permitted activity standard is not met the activity would be non-complying.

There are also rules relating to earthworks.

HortNZ does not consider that these requirements are necessary because:

- The Electricity (Hazard from Tree) Regulations apply so it is not necessary to require a tree limitation
- Fences are addressed in NZECP34:2001
- Distances for buildings are set out in NZECP34. A note could be included in the District Plan to advise that NZECP34 needs to be complied with.
- Reverse sensitivity is likely to be a matter that is included in the district plan and the sensitivity of specified activities to electricity distribution lines could be included within the wider context, including a policy framework and assessment matters.
- NZECP has clear provisions for earthworks and there is no need to replicate in the district plan.
- The limitation on a range of specified structures is not necessary as the NZECP requirements need to be met.
- The provisions would mean that irrigation in an orchard would be non-complying as it is not mobile. It is not considered that this irrigation infrastructure is incompatible with electricity distribution lines.

Also, for your reference, we have included comments on the attached version of Orion's proposed provisions.

Attachment 1 – Orion Draft Corridor Protection Provision 15/10/18 – HortNZ comments

15th October 2018

Orion's Proposed Corridor Protection Rules – Rural on Page 4

Non-complying activities	**SDC Business and Industrial Zone rules**
	a. Sensitive activities and buildings i. within 10 metres of the centre line of a double circuit sub transmission electricity distribution line or within 10 metres of a foundation of an associated support structure. ii. within 5 metres of the centre line of a single circuit sub transmission electricity distribution line or within 5 metres of a foundation of an associated support structure. b. Fences of conductive materials shall not be installed within 5 metres of a sub-transmission electricity distribution line support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres. d. Any application arising from (a)-(c) shall not be publicly notified and shall, in the absence of a written approval, be limited notified only to Transpower New Zealand Limited and/or Orion New Zealand Limited or other electricity distribution network operator. Advice note: 1. The single and double circuit sub-transmission electricity distribution lines are shown on the planning maps. 2. Vegetation to be planted around the National Grid or electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to the National Grid transmission lines and electricity distribution line. Buildings and activities in the vicinity of National Grid transmission lines or electricity distribution lines must comply with the NZECP 34:2001.

Definitions:

Sensitive Activity as defined in the Selwyn District Plan

Double Circuit Sub-transmission electricity distribution line: the 66 kV double circuit line and associated support structures connecting Islington GXP to Springston Zone substation

Single Circuit Sub-transmission electricity distribution line: the 33kV or 66 kV lines and associated support structures which interconnect Zone or Substations. Single circuit sub-transmission electricity distribution lines may also support other lessor voltages, i.e. 11kV and/or 400V.

Non-complying activities	**SDC Residential zones**
	a. Sensitive activities and buildings (excluding accessory buildings associated with an existing activity): i. within 10 metres of the centre line of a double circuit sub transmission electricity distribution line or within 10 metres of a foundation of an associated support structure. ii. within 5 metres of the centre line of a single circuit sub transmission electricity distribution line or within 5 metres of a foundation of an associated support structure. b. Fences of conductive materials shall not be installed within 5 metres of a sub-transmission electricity distribution line support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres. d. Any application arising from (a)-(c) shall not be publicly notified and shall, in the absence of a written approval, be limited notified only to Transpower New Zealand Limited and/or Orion New Zealand Limited or other electricity distribution network operator. Advice note: 1. The single and double circuit sub-transmission electricity distribution lines are shown on the planning maps. 2. Vegetation to be planted around the National Grid or electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to the National Grid transmission lines and electricity distribution line. Buildings and activities in the vicinity of National Grid transmission lines or electricity distribution lines must comply with the NZECP 34:2001.

Definitions:

Sensitive Activity as defined in the Selwyn District Plan

Double Circuit Sub-transmission electricity distribution line: the 66 kV double circuit line and associated support structures connecting Islington GXP to Springston Zone substation

Single Circuit Sub-transmission electricity distribution line: the 33 or 66 kV lines and associated support structures which interconnect Zone Substation

Permitted Activities	**SDC Rural Zones**	
	Farming	a. Fences of conductive materials shall be located a minimum of 5 metres from a support structure foundation of an identified electricity distribution line except where it meets the requirements of Clause 2.3.2 or 2.3.3 of NZECP34:2001. Advice note: 1. The identified electricity distribution lines are shown on the planning maps.
	Farm building	~~a.~~ Commercial greenhouses, wintering barns, produce packing buildings, milking/dairy sheds or structures associated with irrigation infrastructure (excluding mobile irrigators) ~~shall not be located within the following corridors:~~ ~~i. Within 10metres of the centre line of a double circuit sub-transmission electricity distribution line; or~~ ~~ii. Within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line.~~ ~~b. Farm buildings and horticultural structures, except where they meet the requirements of clause 2.4.1 of NZECP34:2001, shall not be located:~~ ~~i. Within 10 metres of a foundation of a double circuit sub-transmission electricity distribution line; or~~ ~~ii. Within 5 metres of a foundation of a single circuit sub-transmission electricity distribution line.~~
Non-complying activities		a. Buildings and horticultural structures not permitted above and any sensitive activities: i. within 10 metres of the centre line of a double circuit sub-transmission electricity distribution line; or ii. Within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line. b. Fencing: Fences that do not meet permitted rule above. c. Trees within the road reserve: no species of trees are to be planted within 5 metres from the centre line of a sub-transmission electricity distribution line or to the boundary whichever is lesser that at full maturity grow above 3 metres.

Commented [LW1]: No policy framework is provided so it is unclear what policy may be sought. The rules are intended to achieve the policy framework so needs to be considered as a package.

Commented [LW2]: This is in NZECP so why required here?

Commented [LW3]: This would include irrigation in orchards which is fixed

Commented [LW4]: These activities will not generate reverse sensitivity effects. Irrigation would include all irrigation on orchards which is fixed but not 'sensitive'

		d. Any application arising from this rule shall not be publicly notified and shall be limited notified only to Orion New Zealand Limited or other electricity distribution network operator (absent its written approval). Advice note: 1. The sub-transmission distribution lines are shown on the planning maps. 2. Vegetation to be planted around the electricity distribution lines should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. 3. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to electricity distribution lines. Buildings and activities in the vicinity of electricity distribution lines must comply with the NZECP 34:2001.

Commented [LW5]: Not needed because provided for in NZECP

Permitted activities	**SDC Earthworks rules**	
	Earthworks in the vicinity of a double circuit electricity distribution line.	a. Earthworks within 10 metres of the centre line of a double circuit sub-transmission electricity distribution line shall: i. meet the requirements of Clause 2.2.1 and/or 2.2.3 (as applicable) of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34: 2001); or ii. meet the following requirements: A. be no deeper than 300mm within 6 metres of a foundation of a double circuit sub-transmission electricity distribution line support structure; and B. be no deeper than 3m between 6 and 10 metres from the foundation of a double circuit sub-transmission electricity distribution line support structure; and C. not destabilise an electricity distribution line support structure; and D. not result in a reduction in the ground to conductor clearing distances below what is required by Table 4 in the NZECP 34:2001. b. Activity standard a.ii.A. (above) shall not apply to: i. Earthworks for a network utility, as part of an electricity distribution activity; ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, drive or farm track.
	Earthworks in the vicinity of a single circuit electricity distribution line.	c. Earthworks within 5 metres of the centre line of a single circuit sub-transmission electricity distribution line shall: i. meet the requirements of Clause 2.2.1 of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34: 2001); or ii. meet the following requirements: A. be no deeper than 300mm within 2.2 metres of a foundation of a single circuit sub-transmission electricity distribution line support structure; and B. be no deeper than 0.75m between 2.2 and 5 metres from the foundation of a single circuit sub-transmission electricity distribution line support structure; and C. not destabilise an electricity distribution line support structure; and D. not result in a reduction in the ground to conductor clearing distances below what is required by Table 4 in the NZECP 34:2001. d. Activity standard a.ii.A. (above) shall not apply to:

Commented [LW6]: These are similar to NZECP so why are they needed?

Commented [LW7]: As above

		i. Earthworks for a network utility, as part of an electricity distribution activity; ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, drive or farm track.
Non-complying activities	Any activity that does not meet the standard above.	

Restricted discretionary activities	**SDC Subdivision Rules**	
	Subdivision of any site (other than an allotment to provide for a network utility) located within the following corridors: a. 32 metres of the centre line of a sub-transmission electricity distribution line as shown on planning maps; except as otherwise specified in: Other discretionary or non-complying rules.	a. A building platform for the principal building shall be identified on each allotment that is: 1. greater than 10 metres from the centre line of a sub-transmission electricity distribution line or a foundation of an associated support structure.
Non-complying activities	Subdivision that does not meet any one or more of the relevant standards listed above.	

Assessment Matter:

The extent to which the subdivision design and construction allows for earthworks, buildings and structures to comply with the New Zealand Code of Practice for electrical Safe Distances (NZECP 34:2001).

Non-complying activities	**SDC Hazardous Substances** a. Any new storage or use of hazardous substances with explosive or flammable properties within: 1. 10 metres of the centre line of a sub-transmission electricity distribution line; or b. For the purpose of (a), the definition of hazardous substances excludes the following activities, facilities and quantities: 1. storage of substances in or on vehicles being used in transit on public roads; 2. installations where the combined transformer oil capacity of the electricity transformers is less than 1,000 litres; 3. fuel in mobile plant, motor vehicles, boats and small engines; 4. gas and oil pipelines and associated equipment that are part of a utility; 5. retail activities selling domestic scale usage of hazardous substances, such as supermarkets, trade suppliers, and pharmacies; 6. the accessory use and storage of hazardous substances in minimal domestic scale quantities; 7. fire-fighting substances, and substances required for emergency response purposes on emergency service vehicles and at emergency service facilities; 8. activities involving substances of Hazardous Substances and New Organisms (HSNO) sub-classes 1.4, 1.5, 1.6, 6.1D, 6.1E, 6.3, 6.4, 9.1D and 9.2D unless other hazard classification applies; 9. the temporary storage, handling and distribution of national or international cargo containers; 10. waste treatment and disposal facilities (not within High Flood Hazard Management Areas and Flood Management Areas), and waste in process in the Council's trade waste sewers, municipal liquid waste treatment and disposal facilities (not within High Flood Hazard Management Areas and Flood Management Areas) which may contain hazardous substance residues; 11. vehicles applying agrichemicals and fertilisers for their intended purpose.

Commented [LW8]: Should refer to HSNO Classes 3-5

Commented [LW9]: Limited to Class 3-5 substances

FEDERATED FARMERS OF NEW ZEALAND

Federated Farmers of New Zealand

Feedback on Preferred Network Utility Provisions Developed by Transpower & Orion For Selwyn District Plan Review

15 November 2018

0800 327 646 | FED FARM .ORG.NZ

FEEDBACK ON PREFERRED NETWORK UTILILTY PROVISIONS DEVELOPED BY TRANSPOWER & ORION FOR SELWYN DISTRICT PLAN REVIEW

To: Selwyn District Council
nicola.rykers@selwyn.govt.nz

Submission on: Preferred Options proposed by Transpower & Orion
For the Selwyn District Plan Review

Date: 15 November 2018

Contact: **ELISHA YOUNG-EBERT**
POLICY ADVISOR & IN-HOUSE COUNSEL

Federated Farmers of New Zealand
PO BOX 20448
CHRISTCHURCH 8543

P 021 615 278
E eyoungebert@fedfarm.org.nz

This is our feedback to Selwyn District Council on preferred options presented by Transpower & Orion for the Selwyn District's Network Utility Chapter.

FEEDBACK ON PREFERRED NETWORK UTILILTY PROVISIONS DEVELOPED BY TRANSPOWER & ORION FOR SELWYN DISTRICT PLAN REVIEW

1 Introduction

1.1 North Canterbury Federated Farmers (Federated Farmers) thanks the Selwyn District Council (the Council) for giving the Federation an opportunity to comment on initial, preferred options developed by Transpower and Orion for the Network Utility chapter of the Council's district plan review (DPR).

1.2 Federated Farmers represents the collective views of our members in Selwyn, where we have over 350 listed members. Selwyn is a district that has seen considerable urban development but it remains a predominantly rural community. Crucially, farming families are a primary driver of the district's social and economic wellbeing.

1.3 We are grateful to Nicola Rykers, planning consultant overseeing the Network Utility work stream of the Council's DPR, for initiating contact and proactively engaging with us on this critical section of the DPR. We have attended a preliminary meeting with her and Horticulture New Zealand (HortNZ), and we confirm we work closely with HortNZ on network utility provisions across all district plans in Canterbury.

1.4 Accordingly, we ask the Council to present our views to the DPR Committee in tandem with the feedback given by HortNZ.

1.5 This feedback document includes our comments on:

I. how higher resource management instruments, including the National Policy Statement on Electricity Emissions and the Canterbury Regional Policy Statement (RPS), should inform the way local council rules are constructed to address network utility needs

II. the use of the rules that emerged from Christchurch Replacement District Plan (CRDP)

III. the recent preferred options presented to the Council by Transpower and Orion.

2. The Canterbury RPS and the Christchurch Replacement District Plan

2.1 Federated Farmers concur with the comments and conclusions provided by HortNZ in relation to their appraisal of the Canterbury RPS.

2.2 We note Orion's advice that their proposals are justified, on the basis that these were included within the CRDP.

2.3 HortNZ has provided reasons why the Selwyn review process and that of Christchurch City are distinguishable, and we agree with their conclusions, including the following:

- The CRDP was developed under special legislation that took into account a wider range of matters than what is normally required under the RMA Schedule 1 process
- Matters were fast-tracked, with onerous resourcing requirements placed on submitters – including the need to find representation at caucusing, evidence exchange, cross-examination, rebuttal, hearings on a significant rolling plan review basis. Ultimately, it

became survival of the most resourced, with many parties physically unable to submit to or field representation on every chapter of the CRDP.

- Appeal against decision from the CRDP was strictly limited to points of law. Therefore, while a number of parties were unhappy with outcomes, and would have appealed to the Environment Court had the process not been under special legislation, they were restricted on only challenging errors in law.

- Because of the acute devastation of the earthquakes, the impetus was on rebuilding under extreme urgency, and removing roadblocks and further protecting remaining utilities was key to that. This was not 'business as usual'.

2.4 During the CRDP process, Orion sought new provisions via their submissions with no appropriate section 32 analysis of costs/benefits. Hearings on residential chapters were heard first; but, ultimately, the Independent Hearings Panel extended issues from the Residential Zones onto other zones. This is simply not appropriate and is not replicated anywhere else in New Zealand. Elsewhere, there is acceptance that there are distinct differences between built-up urban areas and that of rural zones, and differences between the appropriateness of restrictions on public land versus that of privately owned land.

2.5 In our view, Orion capitalised the opportunity to get nuanced protection for their assets under this process in a way they would not successfully manage elsewhere. This perceived precedent, we believe, is relevant only to cases where there is a similar process under special legislation.

2.6 Accordingly, we advise the Council treats Orion's suggestion of adopting the CRDP approach with extreme caution.

3 National Guidance

3.1 When the Board of Inquiry was considering the National Policy Statement – Electricity Transmissions, a number of electricity supply companies sought for the provisions to apply to distribution lines as well as the National Grid, as owned and operated by Transpower.

3.2 In its report the Board of Inquiry stated:

"*Some supply companies considered that the policy statement should be extended to apply to all high-tension lines, whether or not they were part of the national grid. We were not persuaded that this would be appropriate. It is the New Zealand –wide nature of the grid that is one of the principal reasons for it being of national significance. The same cannot be said of supply lines which in most cases are contained within one region. Problems of cut-off points also arise*." (Board of Inquiry Report 2008)

3.3 While a Utilities Group has been set up to work on utilities provisions for a National Planning Standard in this area, our understanding is that this has not been progressed for a number of reasons.

3.4 Furthermore, the NZECP34 addresses matters of safety, protection and maintenance – for buildings, earthworks and other structures. It is appropriate for Council to reference the need for plan users to ensure compliance with the NZECP34 at all times. There is no need for duplication or contradiction.

4 Impact of network utility rules on the protection of biodiversity in Selwyn

4.1 Federated Farmers is a key member of the biodiversity working group of the Biodiversity work stream of the Council's district plan review. Our fellow members include Forest & Bird, ECan, Te Rūnanga o Ngāi Tahu, Fish & Game, DoC and a selection of landowners.

4.2 As a group we have, in principle and unanimously, agreed to exclude rules concerning network utilities in biodiversity chapter of the next generation Selwyn District plan.

5 Specific comments on the proposed provisions from Transpower

5.1 We have added our comments to HortNZ's, on the proposed provisions regarding the National Grid provided by Transpower; it is attached as Appendix A.

5.2 We are, on the whole, comfortable with the lines given by Transpower.

6 Comments on the proposed provisions from Orion

6.1 Federated Farmers notes Orion's proposal does not include a policy framework from which their proposed rules should meet. Without a clear framework we cannot establish if the rules do or do not meet objectives. If Orion has left this open for the Council to decide then our comments directly below on the company's proposed rules are provisional.

6.2 We wholly disagree with the proposed rules put forward by Orion; we consider them unnecessary. For example, all references to the New Zealand Electrical Code of Practice should be duly noted but not replicated in the rules.

6.3 Likewise, the section on Hazardous Substances, the proposed rules are covered by the Hazardous Substances and New Organisms Classes 3 to 5. References can be made to the relevant legal provisions but not duplicated in the rules.

6.4 We do not support the proposed rules on farm buildings in the Permitted Activities section of the Rural Zone chapter. It is far more restrictive than for the National Grid, which adheres to the National Policy Statement – Electricity Transmissions.

6.5 The lines drawn by Orion, thus far, are a real concern to us. We have requested Orion give us a copy of their 'shape file' so Federated Farmers may conduct its own GNS assessment to ascertain the impact their lines will have on landowners across Selwyn.

6.6 If there are specified lines that meet a threshold for regionally significant or critical, Orion must lay out evidence to show that is the case. For all other lines on their map that do not meet this threshold, we think Orion should approach potentially affected landowners personal to discuss options, including purchase of land.

6.7 The necessary rules and restrictions for urban/industrial zones should not be unilaterally applied to rural areas, where most buildings are non-inhabitable and activities are not condense around lines.

7 Conclusion

7.1 Federated Farmers appreciates this opportunity to comment on the initial preferred options put forward by Transpower and Orion.

7.2 While we understand the Council has a responsibility to ensure there is sufficient infrastructure to support its communities, network utility companies should not be allowed,

through rules, to unduly impinge on landowners' right to reasonable enjoyment and use of their land. Electricity providers must continue to deal with landowners in good faith.

7.3 The Resource Management Act requires that all land uses should avoid, remedy or mitigate their adverse effects in order to attain sustainable management. Network utilities are not, under the RMA, afforded special status over and above any other land use. They are required to meet the same standards where any activity they seek to undertake generates a level of adverse effect that requires a robust assessment to ensure sustainable management principles are upheld.

7.4 The NZECP34:2001 addresses matters of safety, access for maintenance and protection of the assets. Where private landowners host infrastructure assets, as a first port of call the Infrastructure provider must ensure there is suitable awareness of NZECP requirements.

7.5 If the NZEPC34 is inadequate in any area, it is the responsibility of the electricity industry to address that through promoted changes at a national level.

7.6 Local council rules should be not abused by electricity companies looking to enable ease of their own operations. For example, maintenance and servicing of assets is carried out rarely – maintenance schedules indicate around every 25 years for most assets. There should not be restrictions 365 days a year on farming activities simply to make "once in 25 years' maintenance easier.

ENDS

Appendix A

FEDERATED FARMERS' AND HORTNZ'S COMMENTS
On Proposed Transpower Provisions – 12/11/18

Selwyn District Plan Review 2018: Transpower Model National Grid Provisions

District Objectives

1. Enable the operation, maintenance, upgrading and development of the National Grid, whilst managing any adverse effects on the environment;
2. Manage subdivision, use and development to ensure that the operation, maintenance, upgrading and development of the National Grid is not compromised.to the extent reasonably possible

District Policies

1. Enable the operation, maintenance, upgrading and development of the National Grid, by recognising its operational, functional and technical constraints, the complexity of the interconnectedness of networks, and its role in servicing existing and planned development.
2. Recognise the benefits provided by the National Grid to people and communities, and require these to be weighed in assessing the adverse effects of proposals.
3. Recognise that significant infrastructure including the National Grid may require a location within sensitive natural environments where there are no practicable alternatives available, and the infrastructure will result in significant social and/or economic benefits.
4. Avoid, remedy or mitigate the adverse effects arising from the operation, maintenance, upgrading and development of the National Grid.
5. Manage the effects of subdivision, land use and development to the extent reasonably possible on the safe, effective and efficient operation, maintenance, upgrading and development of the National Grid by ensuring that:
    a. National Grid Subdivision Corridors and National Grid Yards are identified in the District Plan to establish safe buffer distances for managing subdivision and land use development near National Grid lines including support structures;
    b. Sensitive activities and buildings, and specified structures associated with intensive farming activities that may compromise the National Grid, are excluded from establishing within National Grid Yards;
    c. Subdivision is managed within National Grid Corridors to avoid subsequent land use from restricting the operation, maintenance, upgrading and development of the National Grid; and
    d. Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

District Plan methods

1. The National Grid will be identified on the planning maps

Methods, including rules

Bold text indicates potentially defined terms, which are listed at the end of this document. Rules relating to buildings/structures in the National Grid Yard (urban and non-urban), subdivision, and earthworks are set out under red sub-headings below. With regard to the rules for buildings and structures within the National Grid Yard, there are several ways in which these could be expressed, as we have seen in various District Plans over the years. Ultimately how these are expressed will depend on a number of factors, including the intended approach within this District Plan. One critical assumption we have made is that the National Grid corridor rules would be set out within a specific "network utilities" or "infrastructure" chapter in the District Plan, as opposed to being nested within a District Plan's zone chapters. However, this can be amended to suit the council's preference, noting that at present the vast majority of the current underlying zoning traversed by National Grid lines in Selwyn District is rural.

Commented [DH1]: These are provided as a placeholder at this stage, to highlight the need for policies that enable the National Grid and manage its adverse effects. Transpower will be able to provide further and more meaningful input once more is known about the approach to generic infrastructure/network utilities provisions and how these will be framed by council to give effect to the RPSs.

Policy 5 is a more settled approach that is derived from recent District Plan processes elsewhere in NZ.

Commented [DH2]: This only applies to Policies 10 and 11 of the NPSET (i.e. effects of others' activities on the National Grid). Presumably Council will use other methods to implement the enabling objectives and policies for the National Grid.

Commented [LW1]: To the extent reasonably possible – to be consistent with Policy 10

Commented [KR2]: I prefer MAY.

Commented [LW3]: The provision should be more precise – buildings and structures that may compromise the National Grid' does not provide clear guidance. Should be consistent with Rule 1 e)

Commented [KR4R3]: This restriction does not apply to ALL structures associated with intensive farming, just those referenced in the rules. For instance, there will be many accessory buildings and other structures associated with intensive farming that are perfectly appropriate. It is just the identified intensive farm building itself that should be captured.

Commented [LW5]: If National Grid is defined then 'transmission network' is not required.

1

Appendix A

FEDERATED FARMERS' AND HORTNZ'S COMMENTS
On Proposed Transpower Provisions – 12/11/18

Our observation of the National Grid lines across the Selwyn District is that the lines do not currently traverse any urban areas, and there is no indication that the lines have been subject to urban "underbuild". Underbuild is where inappropriate urban development has taken place directly beneath the transmission lines. We would be interested in any new growth areas that council may be considering and whether these are traversed by National Grid assets. In the mean time we have suggested one set of rules to give effect to the policies (unlike some more urban councils where the existing urban and rural/future urban provisions are split).

The provisions set out below are intended for discussion purposes initially and we assume that they will be refined further, especially if National Grid lines traverse any future urban zones.

Rules: Buildings, structures and sensitive activities in all zones within the National Grid Yard

Transpower's approach to implementation of the National Policy Statement on Electricity Transmission (NPSET) is to ensure that it only seeks the minimum district plan restrictions necessary to ensure the NPSET is given effect to. Under this approach, Transpower seeks different size setbacks depending on the asset type (for example whether it is on poles or towers). There are a range of transmission lines (varying voltages and structure types) in Selwyn District, which are set out in a table at the end of this document. Activities are considered very specifically, so that only those activities which have a real potential to compromise the integrity of the Grid are sought to be non-complying, with everything else permitted (except subdivision).

Rule 1 National Grid Yard Permitted Activities

1. The following buildings and structures are permitted within the **National Grid Yard**, provided these comply with the safe electrical clearance distances set out in the New Zealand Code of Practice for Electrical Safe Distances (NZECP34:2001) and provided those in (d)-(i) below are set back 12 metres from any National Grid support structure:

    a. **Network Utilities** (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes where they permanently physically impede access to a National Grid Support Structure) undertaken by network utility operators as defined in the RMA;
    b. Fences no greater than 2.5m high and no closer than 6m from the nearest National Grid support structure;
    c. Artificial crop protection and support structure between 8m and 12m from a single pole or pi pole support structure and any associated guy wire (but not tower) that:
        a. Meets the requirements of NZECP34:2001 for separation distances from the conductor;
        b. Is no more than 2.5m high;
        c. Is removable or temporary, to allow clear working space 12 metres from the pole when necessary for maintenance and emergency repair purposes; and
        d. Allows all weather access to the pole and a sufficient area for maintenance equipment, including a crane.
    d. Any new non-habitable building, less than 2.5 metres high and 10 square metres in floor area;
    e. Non-habitable buildings or structures used for agricultural and horticultural activities provided they are not a milking shed/dairy shed (excluding the stockyards and ancillary platforms), wintering barn, or building for intensive farming activities, or a commercial greenhouse;
    f. Other than reticulation and storage of water in dams or reservoirs in Rule 1a, reticulation of water in canals and races and storage of water for irrigation purposes provided that it does not permanently physically obstruct vehicular access to a National Grid support structure;

Commented [DH3]: There are a number of ways that this can be expressed, e.g. by having a list of permitted activities under the wires and a separate list of permitted activities around the structures. The approach here has been to combine the two.

Commented [KR6]: The restriction is to capture those permanently physically impeding access to the assets.

Commented [LW7]: NZECP has 5m setback for fences for 66kV and more

Commented [LW8]: Seeking clarification from Transpower

Commented [KR9]: This change isn't necessary.

Commented [KR10]: We need to know what this specifically is defined as before we can agree to this.

Commented [LW11]: This would mean that irrigation in orchards would not be permitted. Only limitation should be on irrigation races and canals within the NG Yard where it impedes access to a NG Support Structure.

Commented [KR12R11]: I agree with Lynette. Provided such mobile equipment complies with NZECP, clearing heights etc, there shouldn't be any difficulties. We haven't accepted this inclusion elsewhere?

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g. Building alterations and additions to an existing **building** or structure that does not involve an increase in the building height or footprint;
h. A building or structure where Transpower has given written approval in accordance with clause 2.4.1 of NZECP34:2001.

Rule 2 Non-Complying Activities:

1. The following activities are non-complying within the **National Grid Yard**:
   a. ~~Any activity that permanently physically impedes vehicular access to a National Grid support structure~~
   b. Any new building for a **sensitive activity**.
   c. Any change of use to a **sensitive activity** or the establishment of a new sensitive activity
   d. Dairy/milking sheds (excluding stock yards and ancillary bulidings) or buildings for intensive farming or wintering barns
   e. Any hazardous facility that involves the storage and handling of hazardous substances with explosive or flammable intrinsic properties [exceeding the aggregate quantity or HFSP permitted activity quantity or threshold in the Hazardous Substances section of the District Plan] within 12m of the centreline of a National Grid **Transmission Line**.
   f. Any building or structure not permitted by Rule 1 above (permitted activity rules).

Advice notes:

1. Vegetation to be planted around the National Grid should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003.
2. The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) contains restrictions on the location of structures and activities in relation to electricity lines, including transmission lines, and it is mandatory to comply with it. Compliance with the permitted activity standards of the Plan does not ensure compliance with the NZECP34:2001.

Rules: Subdivision of land in any zone in the National Grid Corridor:

Subdivision sets the framework for future land use, and careful regulation of subdivision can prevent the creation of unusable (or severely constrained) lots.

Rule SBD1 Restricted Discretionary Activity

1. Subdivision of land in any zone within the **National Grid Subdivision Corridor** is a restricted discretionary activity:

   a. Where all resulting allotments are capable of accommodating a building platform for the likely principal building(s) and any building(s) for sensitive activities, outside the National Grid Yard, other than where the allotments are for roads, accessways and network utilities.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule SBD1.1:

   a. The subdivision layout and design, in terms of how this may impact on the operation, maintenance, upgrading and development of the National Grid.
   b. The ability to provide a complying building platform(s) outside of the National Grid Yard
   c. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

Commented [LW13]: This is new. Transpower has never sought this provision before. Access is addressed through the Electricity Act. Would it be 'existing 'access or 'any' access?

Commented [KR14R13]: I agree. Is this direct access? Or all access? I haven't seen this in other plans anywhere.

Commented [LW15]: Depends on definition of sensitive activities

Commented [KR16R15]: Entirely agree. Must be consistent with NPSET.

Commented [LW17]: Depends on definition of intensive farming.

Commented [KR18]: This isn't consistent with approach taken elsewhere. If specifying as done here, need to be care taken to provide certainty. It is only the intensive farm building itself that is captured not any buildings for that purpose. Wintering barns would need to be defined if this approach taken.

Commented [LW19]: Should be based on HSNO Classes 3-5

Commented [LW20]: Why reference to HFSP – is that in the Plan?

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d. The nature and location of any vegetation to be planted in the vicinity of National Grid transmission lines

2. New buildings for sensitive activities within XX metres of the boundary of XXX substation is a restricted discretionary activity.

Commented [DH4]: Substation setbacks will vary on a site by site basis. One of the main effects that this rule seeks to control is "earth potential rise" from the substation.

Commented [KR21]: Need more details of distances and intent here.

Council will restrict the exercise of its discretion to the following matters when considering applications under Rule SBD1.2:

a. Effects of the development on the efficient operation, maintenance, upgrade and development of the substation;
b. Risk of electrical hazards affecting public or individual safety, and the risk of property damage; and
c. Technical advice from an Electrical Engineer.

Rule SBD2: Non-Complying Activities:

Any subdivision of land in any zone within the National Grid Corridor which does not comply with the restricted discretionary activity standards under Rule SBD1.

Rules: Earthworks, Quarries and Landfills

Rule EA1 Permitted Activities:

Earthworks within the National Grid Yard are a permitted activity subject to compliance with the following standards:

a. Around **National Grid** support towers:
   i. depth shall be no greater than 300mm within 6m of the outer visible edge of the foundation of the support structure; and
   ii. depth shall be no greater than 3m between 6m and 12m of the outer visible edge of the foundation support structure.
b. Around **National Grid** support poles and stay wires:
   i. depth shall be no greater than 300mm within 2.2m of the pole or stay wire; and
   ii. depth shall be no greater than 750mm between 2.2m and 5m of the pole or stay wire.
c. Shall not compromise the stability of a **National Grid** support structure; and
d. Shall not result in a reduction in the ground to conductor clearance distances below what is required by Table 4 of NZECP34:2001; and
e. Shall not result in vehicular access to a **National Grid** support structure being permanently obstructed.

Provided that, the following are exempt from Rule EA1(a) above:

i. Earthworks that are undertaken by a network utility operator (other than for the reticulation and storage of water in canals, dams or reservoirs including for irrigation purposes, as defined by the RMA);
ii. Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath, driveway or farm track;
iii. Earthworks for which a dispensation has been granted by Transpower under NZECP34:2001.

Rule EA2 Restricted Discretionary Activities:

1. Within the **National Grid Yard**, any earthworks not permitted by Rule EA1(a) above (permitted activity rules).

2. On sites containing **National Grid** ~~transmission line~~ support structures:

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a. Any quarry or land fill activity on the same site as any National Grid transmission line support structures.

Council will restrict the exercise of its discretion to the following matters when considering applications made under Rule EA2.1 and/or EA2.2:

a. Impacts on the operation, maintenance, upgrading and development of the **National Grid**;
b. The risk to the structural integrity of the affected **National Grid** support structure(s);
c. Any impact on the ability of the **National Grid** owner (Transpower) to access the **National Grid**; and
d. The risk of electrical hazards affecting public or individual safety, and the risk of property damage.

Rule EA3 Non-Complying Activities:

Within the National Grid Yard, any earthworks not permitted by Rule EA1.b, EA1.c or EA1.d.

Notification Statement:

Where an activity requires resource consent solely because it is within a **National Grid Subdivision Corridor** or **National Grid Yard** then the application need not be publicly notified and need not be served on any affected party apart from Transpower New Zealand Limited who will be considered an affected party.

National Grid Yard and National Grid Corridor definitions

The general principle of the National Grid Yard and National Grid Corridor approach is based on the approach used in District Plans around NZ.

Building: Transpower has no firm view on the wording of the definition of 'building'. However, Transpower seeks to ensure that all rules applying to the National Grid Yards and Corridors apply to buildings and structures. If the District Plan does not include a definition of 'building' and/or refers to the Building Act definition, all rules above need to refer to "buildings and structures". If the definition of 'building' includes 'structures', then the rules do not need to refer to 'structures' as well.

NZECP34:2001: Means the New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 ISSN 0114-0663.

National Grid: ~~means the same as in the National Policy Statement on Electricity Transmission 2008.~~
Means the assets owned and operated by Transpower NZ and includes transmission lines, cables, support structures (towers and poles) Stations and substations and other works used to connect grid connection and exit points to convey electricity.

National Grid Yard means:
• the area located 12 metres in any direction from the outer visible foundation of a National Grid support structure; and
• the area located 12 metres either side of the centreline of an overhead National Grid line on towers (and steel tubular monopoles where these replace towers), and 10 metres either side of an overhead National Grid line on single poles.

This diagram can be used to aid interpretation of the National Grid Yard and Subdivision Corridor definitions, but is not essential to implementation of the rules.

National Grid Subdivision Corridor means the area measured:
- 39 metres either side of the centreline of 350kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers);
- 37 metres either side of the centreline of 220kV National Grid transmission lines on towers (and tubular steel monopoles where these replace towers).

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- 14 metres either side of the centreline of 66kV National Grid transmission lines.

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National Grid Substation Corridor: means the area measured XX m from the boundary of XXXX National Grid substations (may need to insert table for list of substations).

Sensitive activities: Includes any school, residential building or hospital.

Tower: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

Transmission line: In relation to the National Grid has the same meaning as the definition in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations, 2009.

Transpower: Means the owner and operator of the National Grid – Transpower New Zealand Limited.

Wintering barns: [To the extent that this is relevant in Selwyn]

Commented [DH5]: Distances to be confirmed. These will vary on a site by site basis.

Commented [KR22]: This is new to me?

Commented [RE6]: This is the NPSET definition. Transpower will generally seek to incorporate the definitions from within the District Plan that relate to these broad activities.

Commented [LW23]: Would be better to put in the Plan.

Commented [LW24]: Would be better to specify in Plan

National Grid assets in Selwyn District

Transmission lines

Transpower reference	Line description	Voltage (kV)
BEN-HAY-A	Benmore-Haywards A Double Circuit on steel towers	350
BEN-ISL-A	Benmore-Islington A Single Circuit on steel towers	220
BKD-HOR-A	Brackendale-Hororata A Double Circuit on steel towers	66
BRY-ISL-A	Bromley-Islington A Double Circuit on steel towers	220
CHH-TWZ-A	Christchurch-Twizel A Double Circuit on steel towers	220
COL-BKD-D	Coleridge-Brackendale D Double Circuit on single poles	66
COL-OTI-A	Coleridge-Otira A Double Circuit on pi poles	66
HOR-ISL-E	Hororata-Islington E Double Circuit on single poles	110
KBY-TEE-A	Kimberley-Tee A Double Circuit on single poles	66
ROX-ISL-A	Roxburgh-Islington A Single Circuit on steel towers	220

Substations / Tee Lines

Transpower reference	Site Name	Site Type
APS	Arthurs Pass	Substation
CLH	Castle Hill	Substation
COL	Coleridge	Substation
HOR	Hororata	Substation
SPN	Springston	Substation
KBY	Kimberley	Substation
RTP	Round Top	Comms
KBT	Kimberley Tee	Tee line
CHH	Christchurch Tee	Tee line
BK	Brackendale	Tee line