

Section 23: Utilities

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23. UTILITIES

23.1 Introduction

Network utilities are an essential part of the City's infrastructure and their upkeep and extension is necessary for the functioning of the City and for the safety, health and well-being of its residents. These utilities include: water systems, irrigation systems, sewerage and trade waste systems, stormwater drainage systems, telecommunication networks, electricity and natural gas high pressure transmission reticulation networks. This section of the Plan applies to Network Utility Operators under the Resource Management Act who do not wish, or are unable, to operate under the designation procedures of the Act.

Under the Resource Management Act, the Council is required to manage the effects of the use and development of utility networks on the environment as it must for any other structures. Given the essential role network utilities perform, it is recognised that network utility operators require certainty as to those works which can proceed without a resource consent application and those which do require consent. The District Plan provisions can generally perform an enabling role where a large range of works are permitted subject to performance conditions.

The provisions covering network utilities are set out within this stand-alone section of the Plan for the following reasons:

1. Many network utilities are lineal and traverse many parts of the City.
2. Ease of use for both network utility operators and the community.

The one disadvantage of this approach is that it is generalised and the circumstances of different environments within the City are not specifically assessed as these relate to utilities. However the policies for resource consent assessment are reasonably wide-ranging in order to accommodate any specific effects assessment for different receiving environments.

While not strictly limited to the operations of network utility operators, provisions relating to exposure to radiofrequency fields are included in this Section because:

- The larger operators of Radiofrequency Transmitting Equipment tend to be network utility operators;
- Radiofrequency Transmitting Equipment is often part of a network; and
- Radiofrequency Transmitting Equipment can be operated in any zone, and is not associated with any particular zone.

23.2 Resource Management Issues

The following resource management issues were identified as pertaining to Network Utilities:

1. The maintenance and enhancement of the quality of life for the population of Palmerston North by enabling the provision, maintenance, upgrade and extension of network utilities
2. The compromising of amenity values by the construction, maintenance and operation of network utility structures or activities.
3. The effect on landscape values in both urban and rural areas from the construction, maintenance and operation of network utility structures or activities.

4. In addition to the resource management issues associated with Network Utilities, the following general issue relating to Radiofrequency Transmitting Equipment associated with all operators of such equipment was identified:
- (1) The potential effect of Radiofrequency fields on the health, safety and wellbeing of the community.

Explanation

Network utilities comprise a wide range of structures with varying degrees of impact on the environment. Overhead power lines, for example, may in some instances have quite dramatic effects on ridge-lines and other natural landscape features. The size and rather utilitarian design of some buildings can also have an adverse visual effect on streetscape and residential amenities. It is recognised however that today, network utility operators responsible for such structures, are generally taking a more pro-active approach in reducing environmental impacts by undergrounding cables and lines where practicable.

The fundamental issue for the District Plan is to enable the efficient operation and extension of network utilities while maintaining and enhancing environmental quality. Part II of the Resource Management Act provides the essential guiding principles to achieve this balance.

There is a wide range of activities that operate Radiofrequency Transmitting Equipment within Palmerston North. Many of these are important to the community for communication, entertainment, navigation and emergency management purposes. While most equipment used is low-powered, there always exists the potential for much higher-powered equipment to be installed.

Internationally developed guidelines and standards have established threshold levels of exposure within which potential adverse health effects are thought to be non-existent or very small. It is important for the health, safety and wellbeing of the community that Radiofrequency Transmitting Equipment is operated within the thresholds which have been established by international studies and New Zealand Standards.

23.3 Objectives and Policies

Within the broad framework of the City View objectives in section 2 the following specific objectives and policies have been identified for the city:

Objective 1

To enable the establishment and maintenance of network utilities in the interests of community well-being, health and safety.

Policies

- 1.1 To permit activities and structures of minimal perceptible direct or indirect environmental impact throughout the City.
- 1.2 To encourage network utility operators to site and operate their works in a manner which will not adversely affect the health and safety of the public.

Objective 2

To avoid, remedy or mitigate any adverse environmental effects arising from the establishment and maintenance of network utilities.

Policies

- 2.1 To assess and address the adverse environmental effects of network utilities through the resource consent procedures.

- 2.2 To take into account the operational and technical requirements in the assessment of resource consent applications for network utilities.

Objective 3

To ensure network utilities are constructed and located in a manner sensitive to amenity and landscape values in both urban and rural environments.

Policies

- 3.1 To require, unless proven impracticable, that the placement of reticulation networks such as lines and pipes be underground.
- 3.2 To encourage the co-siting of structures and sharing of network utility channels and corridors, to reduce their potentially adverse visual effects.
- 3.3 To avoid, remedy or mitigate the adverse effects of the construction of above-ground structures for network utilities.

Objective 4

To enable people to benefit from the use of Radiofrequency Transmitting Equipment while ensuring such equipment is operated in such a way that it does not adversely affect the health and safety of the public.

Policies

- 4.1 To permit the use of Radiofrequency Transmitting Equipment which produce radiofrequency fields that pose a negligible risk to human health.
- 4.2 To assess and redress the adverse environmental effects of the use of Radiofrequency Transmitting Equipment that may pose a greater risk to human health through resource consent procedures.

Explanation

The four objectives detailed above are intended to ensure that while provision is made for a range of network utilities, which are all an integral part of our communities, that any adverse effects of those activities are dealt with.

Where appropriate, the policies give specific direction with regard to the need to deal with network utilities such as lines, the visual impact of which can be avoided by underground reticulation.

23.4 Methods

- Rules
- Other Legislative Requirements
- Industry Codes

The primary means of achieving the objectives and policies of this Section of the Plan will come through the operation of the rules within this Plan. Those rules, including the use of various categories of consent to control various types of network utilities are intended to ensure that utilities are installed at the least environmental and amenity costs to the community but that they are also provided for, so in turn the actual network utility is established. This makes rules an efficient and cost effective method in this area.

Most network utility operators have empowering legislation outside the Resource Management Act, covering matters such as health and safety (eg the Telecommunications Act 1987, the Electricity Act 1992 and the Gas Act 1992). Operators will also often work within model industry codes and model standards, for example telecommunications facilities with NZS 6609.1 and 2, 1990: Radio Frequency Radiation. Similarly, by-law provisions under the Local Government Act 1974 provide a means for Council to set standards for utilities under their control. As such, these are established additional methods which may also achieve the Section's objectives and policies.

Many network utility operators are also undertaking their own initiatives in reducing the environmental impact of their facilities, for example the replacement of overhead power lines with underground cabling. While such initiatives and model codes are recognised and supported, it is not appropriate to rely on these alone to achieve the desired outcomes of the District Plan. It is uncertain whether these methods alone will achieve these wider environmental outcomes. However, they do provide utility operators with useful information on means of meeting the objectives and policies set out in the Plan.

23.5 Environmental Results Anticipated

It is anticipated that the objectives, policies and methods of this section will achieve the following results:

- Provision for network utilities to meet the needs of communities.
- Control of the potential adverse environmental effects of network utility structures, buildings and activities.
- Avoidance of adverse effects from high levels of exposure to radiofrequency fields on the health, safety and wellbeing of the community.

23.6 Rules : Relationship of Utilities



R 23.6.1 Relationship of Utilities Section to the District Plan as a whole.

The rules in this section of the District Plan are a code for those activities to which this section applies and, other than in relation to the definitions in this Plan, no rule in any other section of this Plan shall apply to an activity dealt with by this part, unless specific cross-reference is made.

Explanation

The provisions of the Utilities Section are stand-alone for those activities specifically stated in the section unless cross reference is made in the Section to import the application of rules from other parts of the District Plan. There will, however, be some activities of a network utility function not listed herein but which have been specifically provided for in certain zones, for example wind farms in the Rural Zone.

23.7 Rules : Permitted Activities



R 23.7.1 Permitted Activities

The construction, maintenance and upgrading to any of the following Permitted Activities throughout the City provided these comply with the performance

conditions listed herein **provided** that, in the case of existing facilities listed, these performance conditions do not apply unless the nature of any proposed works on these existing facilities does not meet the existing use provisions of Section 10 of the Resource Management Act 1991.

- (i) Transformers and lines for conveying electricity at a voltage up to and including 110 KV with a design capacity up to and including 100 MVA.
- (ii) Water and irrigation schemes and all related drains, channels, pipes and necessary incidental equipment.
- (iii) Telecommunications lines, links, works, and facilities.
- (iv) Aerials, antennas, and antenna dishes attached to land, masts, buildings or other structures.
- (v) Pipes for the distribution (but not transmission) of natural or manufactured gas at a gauge pressure not exceeding 2000 kilopascals and necessary incidental equipment, including household connections and compressor stations.
- (vi) Telecommunication and radiocommunication facilities which existed and were operational as at 31 May 1995.
- (vii) Underground pumping stations and pipe networks for the conveyance or drainage of water or sewage, and necessary incidental equipment.
- (viii) Water supply wells and pumping stations including ancillary equipment provided such facilities were in existence and operational as at 31 May 1995.
- (ix) Navigational aids, and beacons.
- (x) Traffic management and control structures, street lighting, street furniture, and telephone cabinets.
- (xi) Meteorological structures and activities.

Performance Conditions

(a) Height

- (i) All above ground structures except lines, masts, aerials, antennas and their brackets or attachments must comply with the maximum height control and any height recession planes for any zone in which they are located. The height recession plane shall not apply to the boundary of a road, road reserve, or service lane.
- (ii) In the case of aerials and antennas these may exceed that part of the height recession plane or maximum height control, whichever is applicable, by no more than 5 metres. Aerials and antennas attached to masts may exceed the height for masts as set out in sub-clause (iii), below, by no more than 5 metres. The height recession plane shall not apply to the boundary of a road, road reserve, or a service lane.
- (iii) In the case of masts, these must comply with:
 - (a) a setback of not less than 5 metres from any boundary common with a Residential Zone or Recreation Zone site; **and**

a setback of not less than 8 metres from a boundary fronting an Arterial or Principal Road as listed in Appendix 20A of the Transportation Section; **and**

a setback of not less than 3 metres from a boundary fronting any road **other than** an Arterial or Principal Road as listed in Appendix 20A of the Transportation Section; **and**

- (b) a maximum height limit for:
- | | |
|-------------------------------|-----------|
| Inner Business Zone | 20 metres |
| Outer Business Zone | 15 metres |
| Local Business Zone | 10 metres |
| Industrial Zones | 20 metres |
| Airport Zone | 20 metres |
| Institutional Zone | 18 metres |
| Rural Zone | 15 metres |
| Conservation and Amenity Zone | 5 metres |
| All other zones and places | 10 metres |
- (c) The setback conditions specified in clause (iii)(a) herein do not apply within any road, road reserve, or service lane.

(b) Noise

Activities shall comply with the noise standards for the Zone in which they are situated or adjoining Zone if located on any road, road reserve or service lane.

(c) Lighting

Any artificial lighting system shall ensure that its use does not result in an added illuminance, over and above the measured ambient level, in excess of 8 lux measured in the vertical plane at the windows of any residential building on any residentially zoned site.

(d) Undergrounding of Lines and Pipes

- (i) Lines shall not be located above ground except in the following:
- where lines traverse any Rural Zone, or roads within this Zone.
 - the maintenance, repair, replacement and upgrading of existing overhead lines. Upgrading in this context meaning an improvement, increase in capacity or improved security provided that only existing support structures are utilised.
 - where lines are to provide temporary links, connections or services, they may be above ground for up to three consecutive months.
- (ii) All pipes for network reticulation shall not be located above ground.

(e) Building Size

Any building located above ground level shall not exceed 10 m² in gross floor area.

(f) Aerials, Antennas, and Antenna Dishes

Aerials, antennas, and antenna dishes shall not exceed 5 m in diameter, in all Zones, with the exception that any antenna dish erected on a roof in the Residential Zone shall not exceed 2.5 m in diameter.

NOTE TO PLAN USERS:

This Rule is to be read in conjunction with Rule 23.7.1(a)(ii) which refers to the height of aerials and antennas.

(g) Reinstatement

Where the construction or maintenance of a network utility involves disturbance to the ground, at the completion of the work the ground shall be reinstated to the condition existing prior to commencement of the work.

(h) Cultural and Heritage Sites

Construction work shall not disturb any cultural or heritage site identified in Section 17 of the District Plan, nor any archaeological site.

(i) Radiofrequency Field Exposure

Activities emitting radiofrequency fields shall comply with the New Zealand Standard NZS 2772: Part 1: 1999 *Radio Frequency Fields Part 1 – Maximum Exposure Levels – 3 KHz to 300 GHz*.

Explanation

The various requirements for Permitted Activities are intended to ensure that any of the potential effects of the activities permitted, are dealt with at the time the activity is established. Further, the conditions also ensure that the network utilities blend with the environment in which they are established and cause no adverse effects on the activities or amenity values of the Zone in which they are established. For reasons of clarity, Rule 23.7.1(g) refers only to land and does not include vegetation.

The New Zealand Standard NZS 2772: Part 1: 1999 is based on guidelines produced by the International Commission on Non-Ionising Radiation Protection. The guidelines and subsequent New Zealand Standard have established levels of exposure to radiofrequency fields below which adverse effects are thought to be non-existent or negligible. Operation of equipment that complies with the New Zealand Standard is therefore deemed to have no significant environmental effects in respect of health, safety or wellbeing of the community.

**R 23.7.2 Operation, Maintenance and Minor Upgrading of Existing Electricity Structures**

The operation, maintenance and minor upgrading of transformers and substations, lines and support structures for conveying electricity (at any voltage) and associated telecommunications lines are permitted activities provided such facilities were in existence and operational at 31 May 1995.

Explanation

The operation, maintenance and minor upgrading of existing electricity structures and associated telecommunications lines will have no, or no more than minor, adverse effects on the environment, and as such does not need to comply with any performance conditions in order to ensure that any adverse effects are avoided, remedied or mitigated. A definition of “minor upgrading” specific to this rule is in the Definitions section of the Plan. This definition allows for (among other things) the increase in the carrying capacity of an electric line, but only where this will not result in an increase in the voltage of the line (unless the line has been constructed to operate at a certain voltage, but has been operating at a reduced voltage).

23.8 Rules : Controlled Activities**R 23.8.1 Controlled Activities**

The construction, alteration and addition to the following structures:

- (a) Above ground pipes for the distribution (but not transmission) of natural gas or manufactured gas, at a gauge pressure not exceeding 2000 kilopascals.
- (b) Above ground pipes for network reticulation of water, sewage and stormwater.
- (c) Water supply wells and pumping stations including ancillary equipment and reservoirs smaller than 1 000 m³ and not exceeding 5 m in height.
- (d) Above ground sewerage and stormwater pumping stations not exceeding 50 m² gross floor area.

are Controlled Activities throughout the City with respect to:

- **Siting**
- **Amenity and Visual Effects**

In determining what conditions to impose, if any, Council will, in addition to the City View objectives in section 2 and the Utilities objectives and policies, assess any application in terms of the following further policies:

- (a) To require as far as possible that network utility structures be co-sited with other utility structures to avoid, remedy or mitigate their adverse visual effects.
- (b) To avoid, remedy or mitigate the visual impact and other environmental disturbance to any residential, recreational or rural zoned land.
- (c) To avoid, remedy or mitigate the adverse visual and other effects of the network utility by requiring landscaping, fencing or other forms of amenity treatment.
- (d) To avoid, remedy or mitigate any adverse effects on any archaeological or historic site or any site of special significance to tangata whenua.

23.9 Rules : Discretionary Activities (Restricted)**R 23.9.1 Construction, Alteration or Addition to a Network Utility, Building or Structure Housing a Network Utility which does not Comply with Permitted Activity Performance Conditions**

The construction, alterations or additions to a network utility or building or structure housing a network utility which do not meet the Performance Conditions for Permitted Activities in respect of:

- (i) **Height;**
- (ii) **Building Size;**
- (iii) **Diameter Standards for Aerials, Antennas, and Antenna Dishes;**
- (iv) **Undergrounding of Lines.**

are Discretionary Activities (Restricted) with regard to:

- **Amenity and Visual Effects**
- **Siting**

In determining whether to grant consent and what conditions to impose, if any, Council will, in addition to the City View objectives in section 2 and the Utilities objectives and policies, assess any application in terms of the following further policies:

(a) Height

- (i) To take into account the existence of topographical or other physical features which make compliance impracticable.
- (ii) To avoid, remedy or mitigate the adverse visual effects of the proposal on any residential property, streetscape or natural landscape feature.
- (iii) To avoid, remedy or mitigate any loss of sunlight, daylight or privacy or overshadowing on any adjoining properties.

(b) Building Size and Diameter Standards

- (i) To take into account the existence of any topographical or other physical features which makes compliance impracticable.
- (ii) To avoid, remedy or mitigate any adverse visual effects of the proposal on any residential property, streetscape or natural landscape feature.
- (iii) To require that the design and appearance of any building or structure is in character with or complementary to the ambience and amenity values of any adjoining properties or natural landscape.

(c) Undergrounding

- (i) To take into account the nature and extent of geotechnical or other physical environmental factors which make undergrounding impracticable.
- (ii) To take into account the actual lineal extent and mass of overhead lines and supporting structures involved in terms of environmental impact.
- (iii) To ensure the design, placement and appearance of any structure does not detract from the character, ambience and amenity values of the surrounding area.
- (iv) To avoid, remedy or mitigate any adverse visual or other impacts on the environment.
- (v) To ensure all accepted best engineering and design practice or codes are met in the construction and operation of any activity, in particular meeting safety standards and requirements appropriate to the location of the facility in relation to residential areas, institutions, schools, community facilities or other public places.

23.10 Rules : Discretionary Activities (Unrestricted)**R 23.10.1 Discretionary Activities (Unrestricted)**

The construction, alteration or addition to the following structures are

Discretionary Activities (Unrestricted) throughout the City:

- (i) Transformers and lines for conveying electricity at a voltage exceeding 110 KV and a design capacity exceeding 100 MVA per circuit.
- (ii) Pipes for the transmission of natural or manufactured gas at a gauge pressure exceeding 2000 kilopascals and necessary incidental equipment, including compressor stations.
- (iii) Electricity substations.
- (iv) Depots for the maintenance, upgrading, alteration, or security of lines or pylons associated with the National Grid.
- (v) The construction, alteration, and addition to any network utility structure listed in Permitted Activities which does not comply with the performance conditions for noise and floodlighting.
- (vi) Telecommunications lines, links, works, and facilities not being Permitted or Controlled Activities, or Discretionary Activities (Restricted).
- (vii) Any other utility structure or activity not listed as a Permitted, Controlled or Discretionary Activity (Restricted).

In determining whether to grant consent and what conditions to impose, if any, Council will, in addition to the City View objectives in section 2 and the Utilities objectives and policies, assess any application in terms of the following further policies:

- (a) To ensure all accepted best engineering and design practices or codes are met in the construction and operation of any activity, in particular meeting safety standards and requirements appropriate to the location of the facility in relation to residential areas, institutions, schools, community facilities, or other public places.
- (b) To avoid, remedy or mitigate any adverse visual or other impacts on the environment.
- (c) To ensure the design and appearance of any structure or building does not detract from the character, ambience, and amenity values of the surrounding area.
- (d) To avoid a clustering of activities which use, or store hazardous substances.
- (e) To avoid, remedy or mitigate any adverse effects on any archaeological or historic site or any site of special significance to tangata whenua.

23.11 Rules : Non Complying Activities

R 23.11.1 Non-Complying Activities

Any activity emitting radiofrequency fields, in any zone, which does not comply with New Zealand Standard NZS 2772: Part 1: 1999 *Radio Frequency Fields Part 1 – Maximum Exposure Levels – 3 KHz to 300 GHz*, shall be a non-complying activity.

In addition to the Objective and Policies of this Section (Section 23), when considering whether to grant the application, and what conditions, if any, to impose, the Council shall take into account the objectives and policies of the Zone in which the activity is to be located.