

# 10. Utilities

## 10.1 Introduction

Utilities are physical resources which are used to generate and distribute energy, provide water, drain land, dispose and treat sewage, dispose of waste and provide telecommunications, radio-communications, facilities for observing, recording, and communicating weather information, and transportation such as roads, railway lines, and airports. These services and facilities enable people of the District to provide for their social and economic well-being and health and safety.

Utilities located within the Kaikoura District which are of national significance include State Highway 1, the “national grid” electricity distribution system, the South Island Main Trunk Railway and a number of microwave VHF stations required for telecommunication and radio-communication purposes. Other utilities such as flood protection works adjoining river courses are of regional significance, or of local significance such as the Kaikoura landfill site. Within the District, the Council is a major provider of utilities and urban services including water supply, sewage reticulation, waste disposal and roads. Other providers of utilities include the Crown, Regional Councils, other local authorities, State Owned Enterprises, private companies and individuals.

All of the District's settlements and more accessible rural areas are fully reticulated in terms of telephone and electricity. However, while the Kaikoura urban area is almost fully serviced, not all the remaining settlements of the District are provided with reticulated sewage disposal, water supply and stormwater disposal services.

### **Statutory Framework**

A number of the organisations that provide and operate utilities have status as Requiring Authorities under the Act and are able to designate land to provide for their needs. Requiring authorities include a Minister of the Crown, a local authority or Network Utility Operator using, developing or protecting any of the resources listed in paragraph 1 above.

Where a utility is provided by way of designation, the rules of the Plan do not apply to that activity. However, there may be specific conditions relating to the operation or design of the work or project which will have the effect of rules. Once a site is designated it may not be used for any other activity (including permitted activities within the underlying zone) without the consent of the Requiring Authority.

The Second Schedule of the Resource Management Act provides for Councils to include matters of scale, sequence, timing and relative priority of public works, goods and services in the District Plan for which it has financial responsibility. The Council's Annual Plan provides the mechanism by which funding and resources are provided for these works.

## 10.2 Issue 1 - Visual Impact and Location

The provision of utilities has the potential to adversely affect amenity values and the environment.

### 10.2.1 Objective 1

To provide for the establishment, use, maintenance and upgrading of utilities in a way that promotes sustainable management of natural and physical resources and which avoids, remedies or mitigates adverse effects on the environment.

## 10.2.2 Policies

1. To avoid, remedy or mitigate adverse effects arising from the establishment, operation, maintenance and upgrading of utilities, including effects on: public access, areas identified as possessing outstanding natural features or landscapes, significant indigenous vegetation or significant habitats of indigenous fauna.
2. To encourage the co-location of telecommunication, radiocommunication and other facilities where operationally feasible.
3. To avoid, remedy or mitigate the adverse environmental effects arising from the construction, installation, operation, maintenance and upgrading of utilities to maintain the level of amenity expected within different areas and to enable people to provide for their health, safety and well-being.
4. To encourage operators of large singular networks or utilities to adopt their own monitoring systems to ensure that the effects of the use and operation of utilities are regularly evaluated to minimise the occurrence of adverse effects.
5. Where practicable, to require the undergrounding of all lines within Residential, Comprehensive Living, Business, Tourism and Settlement zones and to encourage the systematic replacement of existing overhead lines with underground reticulation within all Zones.

## 10.2.3 Implementation Methods

1. Through the provision of rules in the District Plan to:
  - a. permit the erection of utility structures, their operation, maintenance and upgrading subject to compliance with performance standards to ensure that adverse effects are avoided, remedied or mitigated;
  - b. require utilities which have adverse effects to obtain resource consents in order for potential effects to be considered by the Council.
2. Through the Council's annual planning process:
  - a. encourage the establishment of an operations plan for the Council that takes into account the effect of roading construction and maintenance on indigenous plants and habitats of indigenous fauna, the natural character of the coast and waterbodies, outstanding natural features and water quality.
  - b. to encourage utility operators and organisations responsible for roading and rail to develop guidelines to avoid adverse effects of construction and maintenance on indigenous plants and habitats of indigenous fauna, the natural character of the coast and waterbodies, outstanding natural features and water quality.

### **Explanation and Reasons**

Utilities have the potential to adversely affect the environment during construction or installation, throughout their operation and during maintenance and upgrading works. The impact of utilities is likely to be greater in areas used for residential, conservation or recreation purposes, or in areas of significant landscape or natural values. It is important that the effects of utilities be avoided, remedied or mitigated from areas with high amenity values, such as residential areas.

The provision of utilities can involve the erection of earthworks and structures such as buildings, poles, overhead wires, pylons or pipes which may adversely affect areas identified as possessing outstanding natural features or landscapes, significant indigenous vegetation or significant habitats

of indigenous fauna or the amenity of the surrounding area. The visual impact of any structures will be related to their size, the frequency with which they occur within the locality and their scale in relation to the surrounding environment. Other utilities such as drainage channels or reticulated water supply, may have little visual impact. Overhead wires can also represent a very real hazard to low flying aircraft.

Operators of large singular networks or utilities are encouraged to undertake their own monitoring of effects as it is considered that they can perform this task with greater efficiency than the Council. While Council can place monitoring conditions on resource consents, utility operators who do not need resource consent can only be encouraged to undertake self monitoring.

The policies recognise that overhead lines and structures can detract from visual amenity. Lines and structures for new developments should therefore be located underground where practicable. Existing overhead lines in residential, settlement, tourism and business zones should be systematically replaced with underground reticulation. Where undergrounding is not practicable, infrastructure should be designed so that adverse effects are mitigated.

Proliferation of infrastructure can also detract from visual amenity. While co-siting of infrastructure is desirable, this requirement can only be encouraged because of constraints such as technical or operational requirements or land tenure.

## 10.3 Issue 2 - Establishment, Use and Maintenance and Upgrading

Utilities that provide essential services need to be established, operated, maintained and upgraded in order to enable people and communities to provide for their health, safety and well-being.

### 10.3.1 Objective 2

To provide for the health, safety, and well-being of people and their communities by making provision for the establishment, use, maintenance and upgrading of essential utility services.

### 10.3.2 Policies

1. To recognise the need for maintenance, upgrading and future modification or extension of utilities to ensure their on-going use and efficiency.
2. To take into account the location requirements of network utility operators, including associated costs and benefits, when considering possible alternative locations for the establishment of essential utilities relating to power, telecommunications radio-communications, and meteorological services.
3. To encourage utility operators to adopt more efficient technology and structures to benefit the community, provided any potential adverse effects are mitigated or avoided.
4. To encourage development of utilities in areas where excess service capacity exists in order to promote the efficient use of physical resources.
5. To ensure the costs of establishing utilities are met by the developer and/or those that will use the utility.
6. To ensure costs of upgrading and maintaining existing utilities are met by those who benefit from the utilities provided.

7. To encourage community or public sewage reticulation and treatment in areas where it is necessary to enhance surface and groundwater quality, values of Te Runanga o Ngai Tahu and/or to lessen the risks to public health.
8. Where water is required for human consumption, to require the supply of potable water, preferably through reticulation, to:
  - enhance reliability of supply;
  - ensure water quality is maintained and enhanced; and
  - ensure the values of Te Runanga o Ngai Tahu are not adversely affected.
9. To ensure the provision of utilities to service new development prior to buildings being occupied and activities commencing.
10. To maintain existing urban land drainage systems.
11. To avoid reverse sensitivity issues between high voltage electricity transmission lines and residential activities in the Residential, Settlement and Rural Zones.
12. To ensure upon subdivision in the Residential, Rural and Settlement zones that access to existing high voltage electricity transmission lines is not restricted or prohibited.

### 10.3.3 Implementation Methods

1. Through the provisions of rules in the District Plan:
  - a. To place the responsibility for meeting costs of development with the developer.
  - b. To enable further development adjacent to and within existing Business, Tourism, Residential and Settlement Zones where excess service capacity exists.
  - c. To address the issues of reverse sensitivity and access to high voltage transmission lines.
2. Through the Council's annual planning process, allocate funds and resources towards Council administered utilities.
3. Through the inclusion of designations within the District Plan, to recognise particular utilities and to allow them to operate, subject to defined performance standards.
4.
  - a. To enable the maintenance and replacement of specified utilities.
  - b. To limit minimum allotment size in areas where community or public sewage disposal and treatment is not reticulated.
  - c. To require all allotments created to connect to a reticulated water supply where one exists.
5. For the Council to consider location requirements and economic costs of alternative locations when assessing resource consent applications for utilities.

#### **Explanation and Reasons**

Utilities are important as they provide essential services to the community. For this reason and due to the high capital costs of establishing utilities and their long life expectancy, it is important that the Plan provides for the establishment and on-going functioning, maintenance and upgrading of utilities, provided their adverse effects are adequately managed. Consequently, utilities will be provided for by way of designation, resource consents, or by listing as permitted activities where appropriate, taking into account any potential adverse effects.

Some utilities have specific location requirements that need to be accommodated to allow them to operate efficiently. Such needs could include corridors for air traffic or large quantities of land

remote from settlement for sludge disposal. In some cases, the location requirements of a utility may be extremely restricted such as the location of cells which receive and transmit signals from mobile phones. The District plan recognises the requirements of these activities, but also takes into account any adverse effects of these activities.

Inappropriate subdivision could occur where allotments not suitable for their intended use are created due to restrictions high voltage electricity transmission lines have on land and development. Consideration relating to subdivision design, location of boundaries, access to lines and the location of building platforms relative to the lines is required to ensure that adverse effects on the safety and health of people, reverse sensitivity issues and adequate access to the lines are addressed.

Although the co-location of utilities makes more efficient use of resources, the District Plan cannot include rules requiring utility operators to share facilities. Therefore, co-location is encouraged through the Annual Plan.

Many utility operators are continuously adopting more efficient technology. Rules in the District Plan will provide for the installation of new technology, especially where it enables people to enhance their social, economic or cultural well-being. New technologies will only be appropriate where there are no significant adverse effects.

Residential and business development will be encouraged in areas where there is sufficient capacity associated with existing utilities to provide for new residential and business developments. By defining zones which provide for further development, developers will be encouraged to locate within these areas as certain activities will be permitted or controlled. As a consequence greater use will be made of existing utilities.

The initial costs of servicing development should be met by the developer to the Council's specification. Initial costs are thus not met by the wider public but passed from the developer to those who will benefit from the services provided. The maintenance and upgrading of existing utilities to meet performance standards required, should be met by those individuals who benefit from the utilities.

The reticulation of water supply in accordance with New Zealand Drinking Water Standards for domestic purposes lessens the likelihood of contamination of water supplies and increases the reliability of supply. Reticulated systems are preferred as water quality can be more easily controlled. Sewage reticulation will be given priority in areas where surface and groundwater quality, values of Te Runanga o Ngai Tahu or public health and safety may be affected.

Existing land drainage systems within urban areas are a valuable resource as they carry water away from land and therefore enable it to be better utilised. Consequently, it is beneficial to maintain existing land drainage systems within these areas.

## 10.4 Anticipated Environmental Results

1. Maintenance of the amenity values of the District, particularly in residential, comprehensive living, business, settlement, tourism and recreational areas.
2. Utilities consistent with the amenity of the environment, operational needs, and the cost and scale of facilities.
3. The protection of outstanding natural features and landscapes, significant indigenous vegetation and significant habitats of indigenous fauna.
4. The co-location of telecommunications and radio-communications facilities where appropriate.
5. New development in areas where utilities can be supplied on a sustainable basis.

6. Maintenance and enhancement of public health, safety and welfare.
7. Continued opportunity for the establishment of improved technologies with respect to utilities.
8. Development of areas more able to be serviced with consequent economies in use and provision.
9. Further sewer and water reticulation in areas where this is necessary to prevent degradation of groundwater resources, protect the values of Te Runanga o Ngai Tahu and to maintain and enhance public health.

# Utilities Rules

The zone rules do not apply to utilities, except for those rules specified below:

- Rule 18.7(14) (waterbody separation)
- Rule 19.6(13) (waterbody separation)
- Rule 20.6(15) (waterbody separation)
- Rule 22.8(11) (indigenous forest clearance)
- Rule 22.8(12) (indigenous vegetation clearance)
- Rule 22.8(13) (riparian management)

All district wide rules shall apply to utilities.

## 10.5 Activities

### 10.5.1 Permitted Activities

The following activities shall be Permitted Activities, except where specified as Restricted Discretionary Activities under rule 10.5.2 or Unrestricted Discretionary Activities under rule 10.5.3 below, and subject to compliance with the Performance Standards in 10.6 below:

- a.**
  - i.** Lines, except that lines for conveying electricity are limited to a voltage up to and including 110KV with a design capacity up to and including 100MVA per circuit;
  - ii.** Poles, insulators, casings, minor fixtures, tunnels, or other equipment or material used or intended to be used for supporting, enclosing, surrounding, or protecting any line, or part of line identified in (i) above.
- b.**
  - i.** Transformers used for conveying electricity at a voltage up to and including 110KV with a design capacity up to and including 100MVA per circuit, and which do not contain more than 1000 litres of oil.
  - ii.** Electricity Substations used for conveying electricity at a voltage up to and including 110KV with a design capacity up to and including 100MVA per circuit, and which do not contain more than 1000 litres of oil.
- c.** Poles or other support structures for the purpose of street lighting;
- d.** Aerials, antennas, aerial and antenna mountings, dish antennas, lines and cables used for telecommunication and radiocommunication purposes, including associated utility support structures;
- e.** Meteorological activities, automatic weather stations, and weather recording and communicating devices;
- f.** Underground and above ground pipe networks for the conveyance or drainage of water or effluent, and any ancillary underground equipment.
- g.** Reservoirs, wells and supply intakes for the reticulation or provision of public water supply.
- h.** Irrigation and stock water systems, open drains and channels.

- i. Telephone call boxes.
- j. Air and marine navigational aids and beacons.
- k. Utility building
- l. Utility support structure
- m. The maintenance, replacement and upgrading of the following utilities:
  - Existing transformers and lines for conveying electricity at all voltages and capacities and existing telecommunication lines.
  - Existing telecommunication and radiocommunication facilities
  - Existing buildings used for utility activities.
  - Existing meteorological activities
  - Existing coastal and river protection works.

where the term “maintenance replacement and upgrading” means any work or activity necessary to continue the operation and/or functioning of an existing utility. Maintenance, replacement and upgrading shall be exempt from the utility performance standards (rule 10.6.1 and 10.6.2) and shall also provide for:

- i. the replacement of an existing line, telecommunication line, antenna, building, utility support structure or other facility with another of the same or similar height, size or scale, within the same or similar position and for the same or similar purpose;
- ii. the addition of extra lines or an extra circuit (a set of three conductors / lines) to existing or replacement utility support structures;
- iii. the replacement of existing conductors (including with higher capacity conductors);
- iv. an additional line adding earth wires and/or lightening rods to limit the effects of lightning;
- v. replacement of existing insulators with longer insulators;

### 10.5.2 Restricted Discretionary Activities

The following activities shall be Restricted Discretionary Activities:

- a. Any activity listed above as a Permitted Activity which does not comply with the Performance Standards under rule 10.6, with Council's discretion being restricted to the matters. of non-compliance;
- b. Weather Radar;
- c. Lines and support structures for conveying electricity at a voltage exceeding 110KV and a capacity exceeding 100MVA per circuit;
- d. Transformers and electricity substations used for conveying electricity at a voltage exceeding 110KV and a capacity exceeding 100MVA. per circuit;
- e. Coastal and river protection works.

Council's discretion in respect of rules 10.5.2(b) to 10.5.2(e) above is restricted to the following matters:

- i. any effect of utility structures and buildings on the landscape;
- ii. any effect of associated earthworks;

- iii. any effect of utility structures and buildings on the natural character of the coast;
- iv. any matters or sites of significance to Te Runanga o Ngai Tahu
- v. any effects on ecological and conservation values.

**Note:** Appendix F provides guidelines for establishing buildings, structures, fences, powerlines, etc.

- f. The establishment of petroleum oil or gas wells, and associated buildings or structures for the purpose of petroleum exploration survey. Council's discretion in respect of rule 10.5.2.f is restricted to the following matters:
- i. set back from internal boundaries and screening from neighbours;
  - ii. site rehabilitation, including recontouring of land and/or vegetation;
  - iii. access and parking;
  - iv. noise, dust, glare, odour and vibration.
  - v. any matters or sites of significance to Te Runanga o Ngai Tahu
  - vi. any effects on ecological and conservation values.

### 10.5.3 Unrestricted Discretionary Activities

Any other utility not specifically listed above as a Permitted or Discretionary Activity.

## 10.6 Performance Standards

### 10.6.1 Zone Standards

Standard	Set	Res / ORCL <i>see note 3</i>	Bus / MF	Rural (Non - Landscape areas)	Rural (Landscape areas)	KPTZ <i>see note 3</i>
i. Undergrounding - lines for conveying electricity or telecommunication signals shall be located underground except where new lines extend existing overhead lines and involve no more than 3 additional poles	Applies	Applies	Applies	n/a see Note <sup>1</sup>	n/a see Note <sup>1</sup>	Applies
ii. Transformers - transformers shall be located at ground level	Applies	Applies	Applies	n/a	n/a	Applies
iii. Heights - lines, and their associated utility support structures, shall not exceed the following maximum heights above ground level	15m	15m	15m	25m	25m	15m see Note <sup>2</sup>
iv. Heights - utility support structures for aerials, antennas and dish antennas shall not exceed the following maximum heights above ground level	15m	15m	20m	25m	12m	12m see Note <sup>2</sup>

Standard	Set	Res / ORCL <i>see note 3</i>	Bus / MF	Rural (Non - Landscape areas)	Rural (Landscape areas)	KPTZ <i>see note 3</i>
v. Heights – aerials and antennas, excluding dish antenna, may exceed the height of their support structure or buildings they are attached to by the following margins	3m	3m	3m	3m	3m	n/a
vi. Dish antennas - dish antennas shall not exceed the following maximum diameter	1.2m	1.2m	1.2m	3m	3m	1.2m see Note <sup>2</sup>

**Note**

1. "n/a" (not applicable) means the performance standard does not apply in the specified zone.
2. The above performance standards in Table 10.6.1 for Kaikoura Peninsula Tourism Zone, and Rule 11.7.1.1(c)iii) and Rule 11.7.2.2(c) for the Landscape and Amenity Rules shall only apply to utilities located outside the Building Platform Location Areas shown on the Outline Development in Appendix O of the Plan. Utilities located within the Building Platform Location Areas of the Kaikoura Peninsula Tourism Zone are subject to the height limitations for the buildings they are attached to as set out in Performance Standard 23.13 (3) of the Plan and/or a maximum diameter of 3m for a dish antenna.
3. ORCL means Ocean Ridge Comprehensive Living Zone and KPTZ means Kaikoura Peninsula Tourism Zone

## 10.6.2 General Standards

- a. Hazard to aircraft: The following lines shall be marked or otherwise highlighted in accordance with Civil Aviation Authority rules Part 77 "Objects and Activities Affecting Navigable Airspace", and any subsequent amendment or replacement to those rules:
  - lines which span valleys, river beds or the surface of water and which have a span greater than 50m and where any part of the span has a height greater than 30m above the ground or water directly beneath that part of the span.
- b. Outdoor Storage - all outdoor storage ancillary to a utility activity shall be screened from public view by a solid wall, close bordered fence, close planted landscaping or any combination of these, with a minimum height of 1.8m.
- c. Utility Buildings - utility buildings shall not exceed 15 m<sup>2</sup> in gross floor area and/or 4.0 m in height. Council's discretion in respect of activities not complying with this rule is limited to the following matters
  - i. design and appearance of buildings.;
  - ii. setback of any buildings. from road boundaries or internal boundaries;
  - iii. landscaping of the site;
  - iv. any buildings. materials necessary for noise insulation.
  - v. the provision of access to the utility
  - vi. any matters or sites of significance to Te Runanga o Ngai Tahu
  - vii. any ecological values
  - viii. any heritage or archaeological values

**Note:** For the purpose of this rule, a building does not include overhead lines and their support structures, water tanks or reservoirs.

- d.** With regard to levels of exposure to radio frequency emissions, radiocommunication and telecommunication facilities shall comply with the non-occupational standards specified in NZS 2772.1:1999 Radiofrequency Fields Part 1: Maximum Exposure Levels – 3kHz to 200GHz; and NZS 6609:1990 Part 2: Radiofrequency Radiation – Principles and Methods of Measurement 100kHz – 300GHz; and any subsequent replacement or amendment to that standard.

