

# Chapter 6: Infrastructure and Energy

Proposed Waikato District Plan

Stage I

(Notified version)



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## Chapter 6: Infrastructure and Energy

### 6.1 General Infrastructure

#### 6.1.1 Objective – Development, operation and maintenance of infrastructure

- (a) Infrastructure is developed, operated and maintained to benefit the social, economic, cultural and environmental well-being of the district.

#### 6.1.2 Policy - Development, operation and maintenance

- (a) Provide for the development, operation, maintenance, repair, replacement, upgrading and removal of infrastructure throughout the district by recognising:
- (i) Functional and operational needs;
  - (ii) Location, route and design needs and constraints;
  - (iii) Locational constraints related to the need to access suitable resources or site;
  - (iv) The benefits of infrastructure to people and communities;
  - (v) The need to quickly restore disrupted services; and
  - (vi) Its role in servicing existing consented and planned development.

#### 6.1.3 Policy - Technological advances

- (a) Provide flexibility for infrastructure operators to use new technological advances that:
- (i) Improve access to, and enable the efficient use or development of infrastructure;
  - (ii) Allow for the re-use of redundant infrastructure and structures where appropriate; and
  - (iii) Result in positive environmental and community outcomes.

#### 6.1.4 Policy – Infrastructure benefits

- (a) Have regard to the benefits that infrastructure provides, including:
- (i) Enabling enhancement of the quality of life and residential standard for people and communities;
  - (ii) Providing for public health and safety;
  - (iii) Enabling the functioning of business and growth and development;
  - (iv) Managing adverse effects on the environment;
  - (v) Enabling the transportation of freight, goods and people;
  - (vi) Enabling interaction and communication; and
  - (vii) Providing for lifeline utility services.

#### 6.1.5 Policy – Natural hazards and climate change

- (a) Encourage the design and location of infrastructure to take account of natural hazards and the effects of climate change.

#### 6.1.6 Objective – Reverse sensitivity

- (a) Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) is not compromised.

#### **6.1.7 Policy – Reverse sensitivity and infrastructure**

- (a) Avoid reverse sensitivity effects on infrastructure from subdivision, use and development as far as reasonably practicable, so that the ongoing and efficient operation of infrastructure is not compromised.

#### **6.1.8 Objective – Infrastructure in the community and identified areas**

- (a) Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.

#### **6.1.9 Policy - Environmental effects, community health, safety and amenity**

- (a) Require the development, operation, maintenance, repair, replacement, upgrading and removal of infrastructure and its associated structures to avoid, remedy or mitigate adverse effects on the environment, community health, safety and amenity.

#### **6.1.10 Policy – Infrastructure in identified areas**

- (a) Ensure consideration of the values, qualities and characteristics of Significant Natural Areas, Landscape and Natural Character Areas and Heritage Items when proposing new infrastructure or undertaking significant upgrades to existing infrastructure.

#### **6.1.11 Policy – Undergrounding new infrastructure**

- (a) Encourage new infrastructure to be placed underground unless:
  - (i) The adverse effects on the environment are greater than placing the infrastructure above ground;
  - (ii) A natural or physical feature or structure renders underground placement impractical or undesirable; or
  - (iii) There are significant operational, functional, technical, cultural or economic reasons that require the infrastructure to be above ground.

#### **6.1.12 Policy – Co-location of compatible facilities**

- (a) Encourage compatible infrastructure to share location or facilities where operational advantages can be achieved or adverse effects are reduced.

#### **6.1.13 Policy – Future growth areas**

- (a) Require infrastructure services to be developed to a standard that enables the service to be extended to future growth areas where appropriate.

#### **6.1.14 Policy – Electromagnetic and radio frequency fields**

- (a) Require infrastructure that generates electromagnetic or radio frequency fields to comply with the International Commission on Non-ionising Radiation Protection Guidelines, relevant WHO guidelines and the relevant New Zealand Standard.

#### **6.1.15 Policy – Raglan navigation beacons**

- (a) Avoid obscuring navigational beacons and associated view shafts at Raglan Harbour (Whaingaroa).

#### **6.1.16 Policy – Water conservation**

- (a) Encourage water conservation measures and, where appropriate, low impact stormwater design and facilities.

## **6.2 National Grid**

### **6.2.1 Objective – National grid**

- (a) The national significance of the National Grid is recognised and protected.

### **6.2.2 Policy – Recognise the national grid**

- (a) Recognise the operational, functional and technical constraints of the National Grid, and the interconnectedness of networks.

### **6.2.3 Policy – Operation and development of the National Grid**

- (a) Provide for the operation, upgrading and development of the National Grid.

### **6.2.4 Policy – Maintenance and minor upgrade the National Grid**

- (a) Enable the repair, maintenance, replacement and minor upgrade of the National Grid.

### **6.2.5 Policy – Environmental effects**

- (a) Manage the environmental effects of the development or upgrades (other than minor upgrades) of the National Grid, by:
  - (i) Recognising the national, regional and local benefits of sustainable, secure and efficient electricity transmission;
  - (ii) Avoiding, remedying or mitigating adverse effects through consideration of route, site and method selection;
  - (iii) Reducing the existing adverse effects as part of any substantial upgrade;
  - (iv) Considering the effects on urban amenity (including town centres), areas of high recreational or amenity value and existing sensitive land uses; and
  - (v) Addressing the adverse effects on any heritage values, outstanding natural landscapes, areas of high natural character, town centres, areas of high recreation value and existing sensitive activities including the avoidance of adverse effects where practicable.

### **6.2.6 Policy – Reverse sensitivity and the National Grid**

- (a) Manage subdivision, use and development so that the operation, maintenance, upgrading and development of the National Grid is not compromised by ensuring that:
  - (i) The National Grid is identified on the planning maps and the National Grid Yard and National Grid Corridor establish buffer distances for managing land use development and subdivision near the National Grid;
  - (ii) Sensitive land uses and buildings and structures that may compromise the National Grid, including intensive farming activities, are excluded from establishing within the National Grid Yard;

- (iii) Subdivision is managed within the National Grid Corridor to avoid subsequent land use from compromising the operation, maintenance, upgrading and development of the National Grid; and
- (iv) Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

## 6.3 Energy

### **6.3.1 Objective – Renewable energy**

- (a) Energy efficient design and an increase in renewable electricity generation activities are promoted.

### **6.3.2 Policy – Utilising energy efficiency**

- (a) Design subdivision, land use and development so that buildings can utilise energy efficiency and conservation measures, including by orientation to the sun and through other natural elements.

### **6.3.3 Policy – Enabling renewable electricity generation**

- (a) Enable the investigation, development, operation, maintenance and upgrading of renewable electricity generation activities, including domestic and community scale distributed renewable electricity generation, provided that adverse effects are avoided, remedied or mitigated.

### **6.3.4 Policy – Future renewable electricity**

- (a) Provide for the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation activities.

### **6.3.5 Policy – Existing renewable electricity facilities**

- (a) Ensure subdivision, use and development are designed and located so that they do not adversely affect the operation and maintenance of existing, lawfully established renewable energy generation facilities.

### **6.3.6 Objective – Non-renewable energy**

- (a) Non-renewable energy resources are recognised within the district.

### **6.3.7 Policy – Recognise non-renewable energy resources**

- (a) Recognise the actual and potential contribution to national energy production from non-renewable electricity resources.

## 6.4 Infrastructure, Subdivision and Development

### 6.4.1 Objective – Integration of infrastructure with subdivision, land use and development

- (a) Infrastructure is provided for, and integrated with, subdivision, use and development.

### 6.4.2 Policy – Provide adequate infrastructure

- (a) Ensure adequate provision of infrastructure, including land transport networks, where land is subdivided or its use intensified.

### 6.4.3 Policy – Infrastructure Location and Services

- (a) Ensure subdivision, use and development are provided with infrastructure and services to a level that is appropriate to its location and intended use including:
- (i) Three waters (water, wastewater and stormwater supply);
  - (ii) Telecommunication services;
  - (iii) Electricity services; and
  - (iv) Adequate water supply within urban areas for firefighting purposes.

### 6.4.4 Policy – Road and rail network

- (a) Discourage subdivision, use and development that would compromise:
- (i) The road function, as specified in the road hierarchy, or the safety and efficiency of the roading network; and
  - (ii) The safety and efficiency of the railway network.

### 6.4.5 Policy – Roading infrastructure

- (a) Ensure that roading infrastructure is developed so that:
- (i) The design, location, alignment and dimensions of new roads provide safe vehicle, pedestrian and cycling access and manoeuvring to every site;
  - (ii) The roading pattern provides good connectivity to the site and integrates with adjacent land identified as future growth areas including public transport such as bus stops;
  - (iii) There is adequate provision of on-site parking and manoeuvring for land use activities; and
  - (iv) Contaminants generated are appropriately mitigated.

### 6.4.6 Objective – Stormwater and drainage

- (a) The hydrological characteristics of the natural drainage processes are retained.

### 6.4.7 Policies – Stormwater

- (a) Ensure that stormwater and drainage infrastructure for subdivision, land use and development:
- (i) Adopts, where appropriate, a best-practice low impact design approach to the management of stormwater;



- (ii) Manages stormwater in accordance with a drainage hierarchy, with a preference for on-site treatment;
- (iii) Minimises impervious surfaces to reduce stormwater run-off;
- (iv) Retains pre-development hydrological conditions as far as practicable;
- (v) Does not increase the flow of stormwater runoff onto adjoining properties or flood plains, or reduce storage capacity on-site;
- (vi) Provides a stormwater catchment management plan for future urban development; and
- (vii) Promotes clean water reuse and groundwater recharge where practicable.

## 6.5 Transport

### 6.5.1 Objective – Land transport network

- (a) An integrated land transport network where:
  - (i) All transport modes are accessible, safe and efficient; and
  - (ii) Adverse effects from the construction, maintenance and operation of the transport network are managed.

### 6.5.2 Policy – Construction and operation of the land transport network

- (a) Promote the construction and operation of an efficient, effective, integrated, safe, resilient and sustainable land transport network through:
  - (i) Corridor, carriageway and intersection design which is appropriate to the road function as specified in the road hierarchy and in accordance with relevant guidelines;
  - (ii) The appropriate design and location of sites accesses;
  - (iii) Traffic signage, road marking, lighting, rest areas and parking as appropriate;
  - (iv) Provision for pedestrians and cyclists that addresses accessibility, including off-road facilities and connections;
  - (v) Corridor and carriageway design which is sufficient to enable provision of public transport;
  - (vi) Provision for other infrastructure, including where suitable low impact design stormwater facilities;
  - (vii) Provision for stock underpasses where suitable access is not readily available;
  - (viii) Discouraging the installation of new at grade road and pedestrian rail level crossings:
    - A. Controlling the location of buildings and other visual obstructions within the sightline areas of rail level crossings; and
    - B. Railway crossing design in accordance with the requirements of the rail operator.

### 6.5.3 Policy – Road hierarchy and function

- (a) Provide a hierarchy of roads for different functions and modes of land transport while recognising the nature of the surrounding land use within the district.

### 6.5.4 Policy – Road standards

- (a) Ensure that the construction and operation of roads is consistent with their function in the road hierarchy.

**6.5.5 Policy - Road safety**

- (a) Ensure that structures, lighting, signage and vegetation are located and designed so as to not compromise the safe and efficient operation of the land transport network, or obscure RAPID numbers.

**6.5.6 Policy – Network utility location**

- (a) Encourage the location of network utility infrastructure within transport corridors where the function, safety and efficiency of the transport network will not be compromised.

**6.5.7 Policy – Vehicle access**

- (a) Control the location of new vehicle accesses to sites adjacent to other accesses and rail level crossings to improve the safety and efficiency of the land transport network.