

*Installation and Operation of a new telecommunications
facility with attached
Telecommunications Antennas*

Sea View Road, Onteangi, Waiheke Island

Kordia™ Limited

Application For Notice of Requirement under Section 168 of the
Resource Management Act 1991

July/August 07
Revised September 07

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Notice of Requirement for a Designation


Form 18 Of the Resource Management Act 1991

Notice of requirement by minister, local authority or requiring authority for designation or alteration of designation

To: The Manager Resource Consents
Auckland City Council
Auckland City Environments –Gulf Islands Team
Private Bag 92 513
Wellesley St
Auckland 1141

**Kordia™ Limited (formerly) Broadcast Communications Limited ...
gives notice of a requirement for a designation for a public work in
accordance with the following (attached) documentation.**

Signed for on behalf of Kordia™ Limited by



17 September 07

J. Hamish Hey
Consultant Planner to **Kordia Limited**

Date of Revision

Address for Service

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1 Introduction:

- 1.1 This report has been prepared to accompany the Notice of Requirement application by Kordia™ (formerly Broadcast Communications Limited) to establish a telecommunications mast with attached antennas at 308F Sea View road, Onetangi, Waiheke Island.
- 1.2 It is presented to the Auckland City Council in accordance with the requirements of Section 168 and the Fourth Schedule of the Resource Management Act 1991. It is intended to provide the information necessary for a full understanding of the proposal and any actual or potential effects that the proposed activity may have on the environment.
- 1.3 This report contains the following information:
 - i. Description of the proposed activity;
 - ii. Description of the site and the surrounding locality;
 - iii. The reason why the work is considered reasonably necessary
 - iv. An analysis of alternative sites and methods considering for providing the services provided by the public work
 - v. Analysis of the provisions of the Auckland City District Plan that are relevant to the application; and
 - iv. The reason why the work is considered reasonably necessary
 - v. Assessment of the effects of the proposal on the environment.
- 1.4 Kordia™ (formerly BCL) is a Crown company and is the owner and operator of a number of commercial radio and television broadcasting and telecommunication facilities in New Zealand. The activities of the company include responsibility for design, installation and management of transmission masts and facilities for the major commercial radio, television and telecommunications networks within New Zealand. Accordingly, the company is greatly experienced in the field of telecommunications.
- 1.5 The specific purpose of this application is to provide a broadcast site to provide Waiheke Island with Terrestrial Broadcast of digital standard TV services as part of the nationwide 'Freeview' service.

2 The site to which the requirement applies is as follows:

- 2.1 The requirement relates to a proposed telecommunications facility to be located on the summit of a ridge to the west of Onetangi Beach, Waiheke Island. The address of the site is 308F Sea View Road, Onetangi. A Locality Map and Plan of Designation is attached as Appendix B
- 2.2 The designation applies to an area of approximately 38.5m² (approx 7.1m by 5.4) at the rear of the existing garage and adjacent the north eastern property boundary that is marked by a row of mature pine trees.
- 2.3 The land subject to the requirement is part of the allotment that has a legal description of Lot 2 Deposited Plan 354432. A copy of the certificate of title for the land is attached as Appendix C.
- 2.4 Access and power supply to the site will be by way of a surveyed easements over the adjoining land and in the case of the access, from the driveway to the allotment from Sea View Road.

3 The nature of the proposed work is:

- 3.1 The proposed Work is for the installation and operation of a new telecommunications mast and antennas as follows:
- A new 10.5m tapered monopole mast with a basal diameter of 375mm (nominal 0.4m); and
 - A 4.7m tall covered dipole array antenna mounted vertically on top of the mast to take the maximum height of the mast to 15.2m (plus a 0.2m lightening spike – total mast height of 15.4m); and
 - A 0.6m by 0.3m panel antenna mounted at 5m (centre) elevation to receive off air signals for subsequent broadcast at the site; and
 - An 7.2m² (2.4m by 3.09m) telecommunications equipment shelter that is 2.7m in height with domestic air conditioning for cooling of the equipment shelter; and
 - A site security fence that is 2m height around the perimeter of the designated area.
- 3.2 Minor earthworks are required to establish the equipment hut, being the clearance of a level platform area, and clearing away the top soil for a concrete building slab. An auger will bore a 0.7, deep culvert pipe lined hole as an earth point off each corner of the building. An auger whole of a max diameter of 0.9 will also be bored to an estimated depth of 3m for the foundation of the mast. All cut material will be removed from the site to an approved landfill. Accordingly the anticipated volume of excavated material is Xm³.
- 3.3 Access to the site will be along the existing driveway to over the landowner's property no new tracking works are required. An easement over the driveway and access will be surveyed as part of the lease agreement for the site.
- 3.4 Power will be via an underground cable from the existing power supply at the entrance to the property. This too will be protected by a formal surveyed easement.
- 3.5 The proposed broadcast (tx) antenna will be to provide broadcast of Digital Terrestrial TV to residential areas on the northern side of Waiheke Island.

4 The nature of the proposed restrictions that would apply are:

- 4.1 As Requiring Authority Kordia™ proposes the following conditions/restrictions to manage the potential effects on the environment under which the designation would operate:
1. The Notice shall be given effect to in accordance with the application and assessment of effects on the environment prepared by Hey Consulting (Taupo) Limited, Assessment of Visual Effects by LA4 Landscape Architects and Plans title 'DTT Waiheke Site' being drawing number 24254 and date 16 July 2007.
 2. The following equipment shall be permitted to be attached to or erected on the existing mast, on a permanent basis without the provision of any outline plan of works pursuant to section 176A of the Resource Management Act 1991 (the "Act"):
 - a) Broadcasting, telecommunication and radio communication antennas including, whip, grid, yagi, dipoles and panels or similar ancillary equipment, but no single antenna, dish or panel shall have a solid frontal surface area of greater than 1.2m² or be mounted at an elevation greater than 10.0m on the mast.
 - b) No dish shaped antenna shall be greater than 0.6m in diameter and must be attached to the mast at an elevation no greater than 10m.
 3. No new structures shall be erected on the site without submission of an Outline Plan of works pursuant to section 176A of the Resource Management Act 1991 other than the antennas set out in condition 1.
 4. Structures which are either intended to replace existing structures or any temporary structures erected for the purposes of allowing maintenance or repair of existing structures are permitted (provided that such temporary structures are removed once any such maintenance or repair has been completed).
 5. Only one telecommunications mast shall be on the site with a maximum height of 15.2m including any attachments. (This excludes provision for a lightning rod).
 6. All antennas shall be grey (or similar) in colour with a reflectivity less than 33% as measured by the British Standard BS5252 colour range.
 7. Radio frequency radiation emissions from the site shall comply with NZS 2772.1:1999 Radio Frequency Fields (Maximum Exposure Levels - 3kHz to 300GHz).

5 The effects that the public work will have on the environment and the ways in which any adverse effects will be mitigated are:

5.1 Introduction

- 5.1.1 Any assessment of the effects on the environment resultant from giving effect to the designation must be put into perspective, firstly against the 'base line test' against the as of right provisions of the District Plan.

5.2 District Plan Baseline

- 5.2.1 Section 5.6 of the Proposed Plan specifies the performance standards/rules for utilities. These include:

5.6.2 Height

- 2) *The following network utility services may exceed the maximum height control applying in the land unit or settlement area in which they are located as follows:*
- a. *A cell phone mast and attached antennas may exceed the height limit in commercial 5 and landforms 3, 5 and 6 by a maximum of 3m.*
 - b. *A cell site antenna attached to an existing building may exceed either the maximum height for the land unit or settlement area or the lowest point of the roof line of the building by a maximum of 2m, whichever is the lesser.*

It follows that a mast in the Island Residential 2 Zone is limited to the building height rule of 8m from table in 10.C.1 and that an antenna attached to an 8m mast can be a Maximum of 10.m above ground. The proposal is for a 10.5m mast with an antenna array atop that extends to 15.2m above ground.

5.6.3 Building in relation to boundary

- 1) *The following network utility services are excluded from the building in relation to boundary control applying in the land unit or settlement area in which they are located:*
- c) *Telecommunication distribution lines and poles.*
- 2) *All other buildings associated with network utility services must comply with the building in relation to boundary control applying in the land unit or settlement area in which they are located.*

From Rule 10.c.2 the adjoining boundary to the allotment is deemed to be eastern axis boundary (by 1^o) and hence a recession plane of 2m and 45^o applies. The building is well

compliant but the covered antenna array at the top of the mast fails by approximately 1.533m.

5.6.4 Yards

1) *The following network utility services are excluded from the side, rear and front yard controls, and any building restriction yard applying in the land unit or settlement area in which they are located:*

c) *Telecommunication distribution lines and poles.*

2) *All other buildings associated with network utility services must comply with the yard controls (including any building restriction yards) applying in land unit or settlement area in which they are located.*

Mast and Building are well compliant with the 1.5m minimum being 11.32m and 8.25m respectively from the nearest boundary.

5.6.5 Building coverage

Any building associated with network utility services must comply with the building coverage control applying in relevant land unit or settlement area in which it is located.

The building coverage control is 15%. On the allotment of 6263m² this equates to 939.45m² of building. The building coverage has not been specifically calculated but is thought to no greater than 300m² in total since there is only a modest dwelling, small shed, a garage and the new equipment shelter on the site.

5.6.6 Ridgeline control

Any building associated with network utility services must comply with the ridgeline control applying in the land unit or settlement area in which it is located.

The ridgeline on which the site is located is identified as a significant ridge line on Planning Map 1 - Sheet3. The landform does not screen or provide a backdrop for the mast.

Accordingly the performance standard is failed. It is noted that the existing trees adjacent the mast do provide a back drop and screening from different vista's

5.6.7 Tree and vegetation removal

Any network utility service must comply with the indigenous vegetation controls and any exotic tree protection controls applying in the land unit or settlement area in which they are located.

No trees of 3m in height or greater will need to be pruned or removed.

5.6.8 Noise

Any activity that generates noise must comply with the noise standards applying in the land unit or settlement area in which it is located, and any noise standards in [part 4](#) - General rules.

The facility does not emit any noise

5.6.9 Dust

Where any activity that generates dust, all reasonable steps must be taken to suppress the dust.

There will be no dust emissions from the site.

5.6.10 Earthworks

Earthworks associated with network utility services (including the construction of access) must comply with the earthworks controls applying in the land unit or settlement area in which they are located.

A very minor amount of earthworks are required due to the essentially level area on which the site is to be established. Being less than a 1:6 grade the Plan permits a disturbed area of 400m². The area to be disturbed is approximately 50-60m² and hence well compliant.

5.7.2 Signs, spill lighting and radio frequency fields

The council's bylaws control the following:

- *signs located on network utility structures*
- *spill lighting associated with network utility services on private property*
- *radio frequency fields emitted from commercial and amateur radios, television transmitters and microwave links and cell phone repeater sites.*

The operation of the site is compliant with Council's bylaw as emissions are well compliant with NZS 2772.1:1999. An radio frequency emissions producer statement is attached in Appendix G.

5.7.3 Electromagnetic field emissions

Network utility services that generate electromagnetic field emissions are controlled by the International Commission on Non-Ionising Radiation Protection Guidelines 2001.

The NZ Standard for radio frequency emissions is a more stringent standard the ICNIRP guidelines and hence the emissions are well compliant. An radio frequency emissions producer statement is attached in Appendix G.

- 5.2.2 In summary of examination of District Plan Performance standards and hence effects that need to be considered above the permitted baseline of the District Plan, the proposal is

non-compliant with the building height, building in relation to boundary and ridgeline controls.

5.2.3 It follows from an examination of non-compliance with performance standards of the Plan and discussion and evaluation of the assessment criteria that there are two key matters that require assessment:

- The visual effect on the skyline from both Onetangi and Palm Beach,
- The potential for shading of neighbouring properties as an over height structure and over height structure in relation to a property boundary,

5.2.4 In addition to these an assessment of more general matters such as traffic generation, noise, access, the natural environment, etc arise. These assessment criteria are detailed by section 11.3.2 of the Proposed Plan. Also in regard to activity status a building on a 'Sensitive Ridge' is a Discretionary Activity and 'Network utility services not otherwise provided for as permitted, or restricted discretionary activities' are also a Discretionary Activity.

5.3 Effects Analysis

5.3.1 In this section we evaluate the potential effects on the environment. In doing so the application is evaluated against the Plan based Assessment Criteria from section 11.3.2. The evaluation follows:

1. **Traffic generation**

- a. *The extent to which the traffic generated by the activity adversely affects the safety and capacity of the adjacent road network.*
- b. *Whether any adverse effect associated with the activity can be mitigated by upgrading the road and/or the intersection design.*

The utility is an unmanned facility not located in the environs of the of the roading network. Other than some initial vehicle movements associated with the construction of the mast and building onsite, only occasional visits for maintenance will ever be required and hence the proposal does not place a demand on the roading network through generation of vehicle movements as a place of work. It follows that there is no effect that requires mitigation.

2. **Access**

- a. *The extent to which any adverse effects associated with the activity may be reduced or mitigated by controlling the location or design of the accessway.*

- b. *The extent to which the requirements of the council's standard engineering details (or equivalent) for design of the access between the carriageway and the property boundary will be met.*
- c. *Whether the sight distances from the accessway are adequate for safe ingress and egress from the subject site.*
- d. *Whether the location of the accessway will cause on-street congestion from the ingress and egress of vehicles.*
- e. *Whether the location of the accessway will give rise to adverse noise effects on adjacent sites.*
- f. *Whether, for larger sites, pedestrian access is sufficiently separated from the vehicle access to ensure the safety of pedestrians.*
- g. *Whether consideration has been given to the provision and location of suitable traffic calming devices on vehicle accessways near the site boundary with the road reserve to ensure that vehicles are travelling at appropriate speeds.*

The proposed utility facility site is on a rear site accessed down a long commonly owned driveway. As an unmanned facility with only occasional maintenance visits, there is no quantum of vehicle movements associated with the activity that would give rise to a need to upgrade the driveway, cause noise from excessive vehicle movements, cause congestion or require other mitigation.

3. **Noise**

- a. *Whether the activity gives rise to adverse noise effects experienced beyond the boundaries of the site.*
 - b. *Whether consideration has been given to mitigation methods such as:*
 - *providing barriers, including fences and earthen berms, to remove the line of sight between the noise source and the noise receiver*
 - *providing greater distances between the noise generator and the noise receiver*
 - *screening the noise generator using natural or man-made materials*
 - *replacing the noise generator with a quieter alternative*
 - *restricting or imposing conditions on hours of operation.*
- Other than the short period of time when construction activities are taking place which in essence is no different to someone undertaking a residential project, and also one of a far shorter duration, there is no component of the activity that will generate any noise. There are no power generators or other engine operated

machinery in operation. The only audible noise from the facility will be that of the fan from the air-conditioning unit which is no different to a standard residential unit in size.

4. Development controls

Whether the activity complies with the development controls for the relevant land unit or settlement area.

As discussed above, the proposal fails the Building in Relation to Boundary and Building/Mast Height rule. The adjacent boundary is marked by a row of very tall mature pine trees. These trees provide complete screening of the mast from this adjoining property and also from further a field to the east toward Onetangi (refer Appendix E – Photographic Survey and Appendix I – Visual Effects Assessment).

To the east the mast will be visible, but the effect is low because of the narrow diameter of the mast and its recessive colour, from a perspective (the west/Palm Beach) that uses the neighbouring trees as a backdrop in a skyline that is modified by buildings and variations in vegetation.

The neighbours in proximity to the site will be able to see the site, but the location of the mast adjacent the trees reduces its profile and it is considered that no neighbour will have the effect of having a dominant structure in the centre of their outlook.

Accordingly the effects of an over height structure are considered to be largely mitigated and hence be less than minor.

5. Natural environment

The extent to which the activity gives rise to adverse effects on the natural environment, such as through the creation of wastewater, stormwater, vegetation removal and sediment runoff.

There will be no adverse effects on the Natural Environment.

6. Outdoor activities

a. Whether any outdoor work or entertainment area has been screened, separated or landscaped from adjacent sites.

b. Whether the applicant has undertaken any acoustic attenuation to reduce the noise effects of outdoor activities.

There are no outdoor work or entertainment areas to be screened from neighbours.

7. Parking

- a. *Whether adequate parking and maneuvering space will be provided on-site appropriate to the particular form of development, in accordance with the requirements of [part 13](#) - Connectivity and linkages.*
- b. *Whether large areas of aboveground parking spaces are proposed as part of the activity, and if there are, their impact on visual and aural amenity values.*
- c. *The extent to which the location of parking areas has been avoided adjacent to boundaries with island residential land units.*
- d. *Whether the internal circulation of parking areas has been designed for safe and efficient on-site vehicle circulation.*
- e. *Whether consideration has been given to the provision of on-site cycle facilities such as bike racks.*

The site is not a manned facility and hence has no real requirement for parking. An area for parking on site is included in the lease agreement for the property. Hence there is no off site affect.

8. Intensity and scale

Whether the intensity and scale of the proposal, in particular, the number of people involved in the activity, traffic generation and size and location of buildings and associated parking will be compatible with the character and amenity values of the surrounding area having regard to the objectives and policies of the relevant land unit or settlement area.

The intensity of use is low, being essentially a small telecommunications site primarily focussed on providing TV signal broadcast. Very little traffic will be generated on an on going basis being only occasional visits by maintenance staff. Limited additional antennas are likely in the future (as catered for by conditions on the Designation) due to type of antenna on the upper part of the mast and type of emissions broadcast. Such additional antennas would be small in scale and limited to lower elevations on the mast itself (as opposed to being on the covered antenna on the upper part of the mast). At the lower elevation the effect is consistent with a mast of permitted height and in this scenario uses buildings and vegetation as the backdrop in most vistas.

9. Cumulative effects

- a. *Whether the location of an activity in an area is appropriate, given the presence of other activities in the area and their combined effect on the surrounding environment.*

b. The extent to which the establishment of the activity will result in an accumulation of activities in the area that may generate an adverse effect in respect of the following:

i. Traffic - the capacity of the adjacent road to deal adequately with the cumulative effect of traffic generated from the concentration of these activities.

As discussed previously the site is an unmanned facility and there will be minimal visits to the site by staff and vehicles.

ii. Amenity - whether the character and amenity of the surrounding area, including streetscape, is adversely affected by the accumulation of activities, in particular, through the number of people involved in the activity, the size and location of buildings and associated parking, signs and noise generation.

The site is a rear site down a long drive and hence there will be no adverse effect on the streetscape of the locality. The only other activity on site is a residential dwelling. The site is not a manned facility hence additional traffic from the telecommunications facility is minimal and would not be recognisable in the context of this residential property as being a different character or additional number of movements.

iii. Infrastructure - whether the wastewater and stormwater systems can adequately deal with the servicing needs of the activity.

The facility places no demand on waste and storm water utility infrastructure.

10. Infrastructure constraints

a. Whether the site has constraints relating to problems of disposing of wastewater or stormwater.

b. If the site does have infrastructure constraints, whether the applicant is able to demonstrate how these can be avoided, remedied or mitigated to the extent that the proposed activity can be adequately provided for.

The site/facility does not place any demand on community infrastructure. A power supply is the only utility the site requires services from.

11. Crime prevention through environmental design (CPTED)

N/A there are no relevant matters for consideration on these criteria. The site is not part of adjacent and open/public space being contained with a locality of large residential allotments in a semi rural character.

12. Landscaping

- a. *Whether the landscaping is provided in a manner that enhances the visual appearance of the activity, including around parking areas, service areas, and at the site boundaries.*
- b. *Whether on-site landscaping adjoining the road enhances the character of the streetscape.*
- c. *The extent to which landscaping has been used to soften large facades, where relevant, and visually integrate the development with surrounding residential or recreation land units.*
- d. *Whether existing trees and mature landscaping are to be retained.*

There is not considered to be a need to provide any additional landscaping. The existing elements in the environment, being the trees to the north, the existing shed to south and dwelling to the west will effectively screen the equipment shelter from most vista's. The trees provide a backdrop for the mast in vistas from the west and screening from the east. The aspect of the site in relation to any of the neighbouring residential properties is such that in most, the tree's have dictated the orientation of outlook and hence the location of the mast adjacent the trees will ensure that there is no stark or offensive.

13. Site facilities and offensive or hazardous activities

- a. *Whether the activity generates any smells, odours, fumes, smoke, steam, dust or other particulate which will be offensive or hazardous, or cause nuisance to surrounding occupants.*

There will be no waste materials and emissions of odour or particulate. RF emissions are in accordance with NZS 2772.1:1999 and do not have an noise, odour or particulate. RF emissions are no identifiable or perceptible.

- b. *Whether any facilities for storing solid waste (such as rubbish bins) that are provided on-site have been appropriately located, screened and landscaped to avoid any adverse visual impact from the road and from within the development.*

N/A. There is no solid waste.

14. Visual privacy and aural amenity

Whether the development has been designed to maintain the visual privacy and aural amenity of adjacent sites, in particular, the privacy of habitable rooms and their associated outdoor living spaces and deck areas.

The facility is unmanned and does not create elevated living areas that would result in a loss of privacy for neighbours. It follows that there is no adverse effect.

15. Hours of operation

Whether the proposed activity will occur outside of normal weekday working hours (7.30am to 6.00pm) and as a result give rise to adverse effects such as noise and loss of amenity values.

The site will operate 24hrs a day, but has no effects of the nature normally associated with a non-residential activity in a residential area such a vehicle movements etc. Being an unmanned facility there is no change in use during the day/night and hence the criteria is not relevant to consideration of the proposal.

16. Lighting

- a. *The extent to which the outdoor lighting is located, directed and designed to ensure that glare is not directed at adjacent sites.*
- b. *The extent to which glare from outdoor lighting causes discomfort and loss of amenity to adjacent sites.*
- c. *The extent to which glare from outdoor lighting detracts from the dark night-time sky environment.*
- d. *Whether outdoor lighting appropriately lights public and semi-public areas in a manner consistent with the principles of crime prevention through environmental design.*

No security lighting is required or proposed.

17. Sustainable building design

The extent to which the applicant has investigated alternatives in terms of sustainable design such as 'green building' methods, renewable energy sources and low impact design methods. ([Appendix 11](#) - Sustainable design guidelines for the islands can assist applicants with this criteria.)

The building and facility make no demands on any infrastructure other than power. Given the power required to operate the facility, solar is not a viable option.

18. Reverse sensitivity

Whether it is appropriate to locate the activity in an area, given the proximity of other activities and the potential for reverse sensitivity effects to arise.

The location of infrastructure in urban areas is always an act of balance. Urban areas generate a requirement for services that rural areas do not. Hence whilst providing telecommunications infrastructure away from residential is preferable from reverse

sensitivity perspective, it also has to the potential cause more significant adverse effects on the skylines which have a more natural character.

The proposal has a very different character to the atypical cell phone mast (as an example) and its location in the wider environment is considered to be low impact. Other than the presence of a tall narrow mast with no readily identifiable appendages over a specific maximum height that is only marginally higher than the maximum building height, there is no effect of any character that will have a day to day influence or inconvenience to the neighbouring properties.

Accordingly the potential for a reverse sensitivity effect is considered to be minor, but acceptable in the context of the essential services provided by the proposed work.

5.3.2 Also in regard to relevant criteria of assessment are the criteria for utilities from Section 5.8.1 of the Plan. An evaluation of these matters follows:

a. Design, external appearance and visual effects

Whether the design and external appearance of buildings and structures are in character with the locality and its amenity values. In particular the work should be compatible with the neighbourhood area having regard to design, scale, colour and finishing materials.

The building is small in scale and well screened from off site vistas by existing buildings and vegetation. The mast is grey in colour with low reflectivity and uses the adjacent tree's as a back drop to avoid a stark skyline mast effect in distant vistas of the site and being of a comparable height and scale to the mature pine trees to the north east and behind it in the vista from Palm Beach and that screen it in the vistas from Ontetangi Beach.

b. Site layout and placement

Whether the utility equipment on a site or attached to an existing building are located or placed in a manner that is subservient to other built elements on the site. In particular, cabinets should be screened from public view or neighbouring sites by locating them in or behind existing buildings and screening with fencing or planting where appropriate. Antennas on buildings should be located away from the primary building facade and located in such a way so as to visually integrate with the building.

The building is located in a position that is well screened from off site vistas. The receive antenna is mounted at a low elevation deliberately to reduce its off site profile and visibility. The transmit antennas (dipole array) are covered in a monolithic shroud to avoid visual clutter in near vistas. The shroud is coloured a recessive grey to reduce off site visibility against potential skyline vista points and in most visible points of vista uses the mature trees to the north east as a backdrop.

c. Landscaping and screening

Whether landscaping and/or screening would effectively mitigate visual and amenity effects so that the effects of the work are internalised on the site and do not adversely affect adjacent properties, particularly residential and open space uses.

Existing landscaping and buildings effectively screen the building from off site. The mast is functionally necessary the height it is, but is the lowest visual design profile of the alternatives able to be technically considered.

d. Height and proportion

Whether the height of the building or structure is in keeping with the maximum height limits for the relevant land unit or settlement area. Structures should not appear in clear contrast with other visual elements on the site and in the immediate environment. In particular, slimline masts are encouraged with as narrow a profile of equipment as possible.

The mast is a slim structure with less bulk than other proposals with arrays of panel antennas affixed to the upper elevations of the mast. The building is well compliant with the height rules for the Zone/Land Unit.

e. Streetscape

Whether the proposed work has adverse effects on the streetscape by affecting the function of existing street furniture and street trees, or requiring their removal or relocation. In particular, any work should consider any council streetscape plans for the area.

There is no effect on the functioning of the streetscape as the mast located on a rear site well away from the road.

f. Access

The extent to which vehicle access is required to the site and whether there are alternative means of access to the site to construct, operate and maintain the utility service.

Existing vehicle access is provided to the site and no changes are required.

g. Tree and vegetation removal

Whether trees and other vegetation need to be removed for the construction of the utility service. In particular, tree and vegetation removal should be kept to a minimum and, where appropriate, screening and landscaping should be undertaken to mitigate the effects of such removal.

No vegetation removal is required.

h. Earthworks

The degree to which earthworks are required for the construction of the utility service. Particular attention will be paid to erosion and sediment control measures along watercourses and the requirement to meet earthwork standards for the relevant land unit or settlement area.

The location of the installation is on land of very gentle contour. The volume of material and area to be disturbed are both very small and well compliant with the Plan.

i. Other environmental effects *including noise, vibration, odour, dust, discharges to air and water, lighting and spill lighting, hazardous substances and vehicle movements* *The extent to which any adverse effect on amenities of an area caused by nuisance matters such as noise, vibration, odour, dust, discharges to air and water, lighting and spill lighting and hazardous substances and vehicle movements will be kept to a minimum.*

There are no discharges to air or other contaminants, lighting etc from the installation. The building will be equipped with domestic standard air conditioning which will be operated on accordance with the noise performance standards of the Plan.

j. Removal of redundant services

Whether conditions are required to address the removal of redundant utility equipment or structures in the event that it is on the same alignment or locality as the proposal. With respect to utility services in legal road, reference should be made to the Code of Practice for Working in the Road.

N/A The site is a new purpose built facility to meet the technology requirements of the new generation of YV broadcast signals. There are no redundant antennas on the mast.

k. Potential for under grounding

Whether there are difficult ground conditions or technical constraints that make placement underground unfeasible.

Wireless forms of telecommunication cannot be run underground. The two alternatives to the proposal are for every dwelling/premise wishing to have TV to have a satellite dish on their roof, or to operate the service over a high capacity fibre network which is both hugely expensive to install and to operate and hence an unaffordable option.

i. Co-location

The extent to which there is potential for co-location of utility equipment, subject to technical limitations, to minimise the number of structures.

There is limited provision for additional services to be operated at the site. The low elevation of the mast and low visibility antenna system proposed result in only the lower elevations of the mast being technically available for other services. One likely service is a form of wireless broadband internet through the use of small panel antennas. The mast is not suitable for carry mobile cellular services because of the TV broadcast service and low elevation of the mast.

m. Cumulative visual effects

Whether any cumulative adverse visual effects arising from a number of utility services being located in a particular area or of the same (or similar) services being repeated in areas of significant amenity can be avoided, remedied or mitigated. This is particularly relevant for overhead electricity and telecommunication lines, and masts and antennas.

The area is appropriate because some clutter on the skyline is provided by nearby buildings and a power pole. It is not a unbroken more natural or open rural skyline as exists at other sites considered in the attached reports. Existing tall vegetation is used as a backdrop so that there is only limited potential for adverse effects on the skyline. Accordingly it is considered that the design and location of the mast mitigate potential adverse visual effects to the greatest extent reasonably possible.

Whether any cumulative adverse visual effects arising from both the nature of the proposed development and its widespread location across parts, or all, of the islands can be avoided, remedied or mitigated.

The effects are specific to limited audiences of the site, rather than wide spread as a line based system on poles/masts would be. Given the factors of location, mast and antenna system design it is considered that the potential for adverse effects has been mitigated to the greatest extent reasonably possible.

n. Landforms and landscapes

Whether the proposal has the potential to adversely affect landforms, landscapes or areas of visual amenity, particularly where these are located on the coast (within the coastal protection yard), visually prominent ridgelines or in outstanding natural landscapes.

The potential for adverse visual effects is considered to be limited because of the recessive colour of the mast, tidy and clean appearance and use of the mature trees as a back drop. These factors are discussed in greater detail in Appendix I – Assessment of Landscape and Visual Effects.

o. Heritage

Whether the proposal has the potential to adversely affect any items scheduled in the Plan for their heritage value.

N/A There are no known heritage items on the site or locality.

p. Radio frequency fields

The extent to which the proposal complies with the council's bylaw which controls radio frequency emissions.

Appendix G is a statement of compliance with NZS 2772.1:1999 the joint Australian and New Zealand standard document for occupation and public levels of exposure to which the Bylaw is referenced. The proposal is well compliant with this standard.

q. Electromagnetic field emissions

The extent to which the proposal complies with the International Commission on Non-Ionising Radiation Protection Guidelines 2001.

The NZ Standard 2772.1:1999 sets limits well inside those of the International Commission on Non-Ionising Radiation Protection Guidelines 2001. Accordingly the level of emissions from the facility are well compliant with the guidelines. A producer statement on emission levels is tabled in Appendix G.

r. Overhead network utility services

Whether it is necessary to locate services overhead, having regard to any technical constraints or ground conditions that make placement underground unfeasible. Whether the placement of overhead services would have any additional adverse effects on the visual environment, amenity values or health and safety, having regard to the level of adverse effects caused by existing network utility services in the vicinity.

The proposal is for a single mast and not a network of masts/poles as required by a line based service such as power or telephone that could otherwise be underground. Wireless forms of telecommunication such as TV broadcast services require line of sight functionality and hence by necessity are often located on higher landforms in order to provide services. The location and design of the mast have been geared to lessen potential visual effects to the greatest extent possible, whilst ensuring operational functionality of the planned service. There are not considered to be any potential adverse health or safety effects.

5.4 Conclusion.

- 5.4.1 The proposal involves a tall mast like structure that exceeds the Height and Building to Boundary controls in an area identified as a Sensitive Ridge under the Plan.
- 5.4.2 There are aspects to the established physical environment such as the established trees adjoining the mast that provide significant mitigation for the proposal as structure which will reduce its potential for adverse visual effects in the wider environment. The visual assessment tabled in Appendix H concludes that the proposed location has the least adverse visual effect than any of the three potential sites considered.
- 5.4.3 The site is not a manned facility and will have only occasional visits by maintenance staff. Accordingly there is no traffic effect that is in consistent or recognisably additional to the existing use of the site as a residential allotment.
- 5.4.4 It follows that the effects on the environment are considered to be no more than minor.

6 Alternative sites, routes, and methods have been considered to the following extent:

6.1 Introduction

- 6.1.1 The requirement relates to an a proposed new telecommunications broadcast facility. Kordia™ Ltd are a Crown company and principal provide of Television and radio Broadcast Services in New Zealand. The company has been contracted to provide for the “digital” standard broadcast of signals from a terrestrial (land based) platform. This is serviced being marketed by the TV networks as ‘Freeview’.
- 6.1.2 Freeview is broadcast in two platforms, a satellite platform – similar to Sky TV which requires the subscriber to have both a satellite dish, sufficient horizon to see the satellite and decoder unit that converts the signal into a format for use by TV or other receiver appliance (e.g. a VCR). The terrestrial broadcast service provided by Kordia™ transmits a signal that can be received by a standard TV aerial (yagi antenna) or a panel antenna (as is proposed to be mounted as the rx antenna on the mast). A decoder unit is again required to convert the signals into the TV/receiver application.
- 6.1.3 Digital standard signals are broadcast in a higher frequency than standard UHF and VHF based analogue/stereo TV broadcast. Accordingly as a signal wavelength it is less forgiving to matters such as distance from the broadcast site and interruptions by terrain. Accordingly Kordia™ Limited having to install a number of new sites around the coverage to meet the population service requirements of the contract with the TV broadcasters – the Freeview Group.
- 6.1.4 The discussion below is a summary of coverage study presented in full in Appendix H.

6.2 Summary of Consideration of Alternative Sites.

- 6.2.1 The primary objective of the proposed site is to provide infill coverage to the south eastern suburbs of the Auckland mainland as these sites cannot see the main mast Waitarua on the Waitakere ranges of the Auckland Sky tower being one of the principle infill coverage to areas shaded by landforms such as Mt Eden. The secondary objective is to provide coverage to Waiheke Island itself.
- 6.2.2 Most of the western and southern areas of Waiheke Island will receive adequate signal strength from broadcast sites on the mainland. However the main residential areas on Waiheke Island are on the northern side of the Island and hence will not receive any coverage from the mainland. There are no islands or mainland locations to the north than can backfill these areas on Waiheke Island. Accordingly the only way to provide this coverage is to locate a site on Waiheke Island Itself.

- 6.2.3 Three potential sites were identified to provide coverage on Waiheke Island. These are the Airport and Trig Hill where there are small established telecommunications facilities, and a site on the hill between Onetangi and Palm Beach (the proposed site) where there was an existing radio license. A fourth site (Telecom Beachlands) was considered because of its ability to serve the primary infill requirements on the mainland and hence effectively disregard making any provision for coverage to the northern side of Waiheke Island.
- 6.2.4 Coverage studies for the four sites identified that:
- The Sea View Road site was the only site on Waiheke Island to provide reasonable levels of coverage to the northern side of the Island. It also satisfied the coverage requirements to the mainland. A new site with infrastructure would need to be established including a new mast, equipment shelter and power supply. Trees adjacent the site would weaken signal coverage to the east, but sufficient signal would be able to reach the Onetangi settlement;
 - Trig Hill and the Waiheke Airport site are both well elevated and achieve the coverage requirements on the mainland, but do not provide for any significant increase in coverage on Waiheke Island. Both sites would require a separate mast and equipment shelter (hut) to accommodate the technical requirements of the broadcast service; and
 - The Telecom Beachlands site did not provide any additional coverage on Waiheke Island, but met the requirements for mainland infill. Antennas can be attached on the existing mast and infrastructure at this site under a collocation agreement between the two companies (i.e Telecom NZ Limited and Kordia™ Ltd).
- 6.2.5 Accordingly the Sea View Road site was identified as the preferred site as it met both coverage objectives, Waiheke Island and the Mainland infill. The Telecom Beachlands site is the second choice because the mainland infill requirements are met and being a co-location installation there is a far lesser cost to establish infrastructure.
- 6.2.6 The potential for adverse visual effects was also considered amongst the three Waiheke sites and is presented in Appendix I. The report prepared by LA4 Landscape Architects concludes that the Sea View Road site is the preferred site and is considered to have the least visual impact because the landscape in this locality is already modified with existing buildings and other structures. There is also mitigation by tall tree's providing backdrop and screening in different vistas.
- 6.2.7 The Telecom Beachlands site was not included in this assessment as it is subject to a different District Plan which is out of the jurisdiction of the Auckland City Council as consent Authority for the Gulf Islands.

6.3 Summary of alternative methods

6.3.1 Also included in the coverage report (Appendix H) is consideration of different antenna systems and mast height to achieve the coverage objectives.

6.3.2 Three antenna systems were considered as follows:

- A grey covered Dipole Antenna array, being tall and narrow in dimension on a total mast height of 15m;
- An array of two clustered panel antennas on three faces (i.e. 6 antennas) on a total mast height of 14m mast
- An array of four clustered panel antennas on three faces (i.e. 12 antennas) on a on a total mast height of 14m mast

6.3.3 To use the two panel array system on the shorter mast would require a higher base power of transmission and hence a greater cost of equipment is incurred to the project despite the shorter mast. The Dipole array also requires higher base power due to a slightly less efficient emission patten from this antenna type.

6.3.4 Both panel antenna systems add considerable bulk to the mast in comparison to the covered dipole array. Hence a mast employing these antennas would be far more visible in the wider environment because of the additional bulk at a higher elevation. It follows that the Dipole array is considered to be the have least adverse visual effect as confirmed by the conclusions of the Landscape Assessment – Appendix I.

7 The following resource consents are needed for the proposed activity and have (or have not) been applied for:

- 7.1 There are no other matters that require consent under the District Plan. There is no subdivision proposed with the application.
- 7.2 There are no requirements for consents under the Regional Plan for the proposal (eg earthworks). Also there are no matters relevant to the Regional Plan or Policy Statement in regard to this application as radio frequency energy emissions are not defined as a contaminant by the Plan.

8 The following consultation has been undertaken with parties that are likely to be affected:

- 8.1 Following the identification of the Sea View Road site as a suitable location from initial coverage surveys, Kordia's Property Manager made contact with the property owner – Mr Mike Cottrill. Discussion progressed and an 'Agreement to License' - to enter into a lease with easements for access and power supply has been entered into.
- 8.2 The agreement is subject to gaining an RMA approval for the site. Kordia have explained the difference between a Resource Consent and Notice of Requirement for a Designation to Mr Cottrill and the intention of Kordia™ to establish the site through a Designation is identified in the 'Agreement to License'.
- 8.3 One condition of note in regard to the lease is that it will specifically exclude the provision of cellular services. Limited provision for the addition of other antenna is made.
- 8.4 Given that the locality is an established and developed large lot residential area no consultation with tangata whenua has been considered necessary prior to lodgment as there are no known significant cultural issues. Should a request for consultation arise through the notification of the application, Kordia™ will progress that consultation and report on it progress to Council at the hearing.

9 Kordia™ Limited attaches the following information required to be included in this notice by the District Plan, Regional Plan or any regulations made under the Resource Management Act 1991

9.1 Introduction

9.1.1 Gulf Islands Section of the Auckland City District Plan discusses the information to be supplied with a Notice of Requirement and in doing so refers solely to the requirements of Part VIII of the RMA. There are no specific information requirements for a Notice of Requirement for a Designation particular to the Auckland City District Plan (Gulf Islands Section).

9.1.2 A territorial authority's recommendation on the Notice of Requirement must consider the relevant provisions of any of the above documents as required by section 171(a) of the Act. A discussion of these documents follows.

9.2 National Policy Statement

9.2.1 When deemed necessary the Minister for the Environment can issue a national policy statement. To date no national policy statements have been prepared on radio frequency emissions or telecommunications facilities. Accordingly there are no National Policy Statements of relevance to this Notice of Requirement.

9.2.2 The Ministry have prepared a discussion document on managing the effects of radio frequency transmitters in conjunction with the Ministry of Health. This document discusses the relevant literature on managing potential health effects and the international conventions for managing radio frequency energy emissions.

9.2.3 The discussion document encourages Council's to use the joint Australian and New Zealand Standard for radio frequency emissions, NZS 2772.1:1999 (the Standard). The maximum levels identified in the Standard for 'Public Exposure' are approximately 50 times lower than the exposure thresholds below which no health effects occur as determined by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The Ministry of Health has set guidelines for the operation of facilities like the proposed facility at Sea View Road under the standard which include:

- Strict Adherence with NZS 2772.1:1999, Maximum Exposure Levels 3kHz – 300GHz; and
- Minimising transmitter power to that required to achieve coverage objectives; and

- Selecting or designing antennas which minimise emissions in directions not required for coverage; and
- If alternative sites are available (or there are different options for mounting antennas on a single site), selecting the option giving the lowest exposure levels.

9.2.4 In reference to the above, it is noted that it is good radio frequency engineering practice to design and operate antenna broadcast systems to these guidelines. To waste transmission power in directions where it is not needed is a waste of power and hence an unnecessary operating cost. The compliance of the proposed Sea View Road facility with the New Zealand Standard is addressed in Appendix G and includes an assessment by a Licensed Radio Frequency Engineer.

9.3 National Coastal Policy Statement

9.3.1 The National Coastal Policy statement came into effect on 5 May 1994. It directs how activities (particularly those with significant or irreversible effects) in the coastal marine area must be dealt within Regional Plans and indicates how tangata whenua values should be protected. The 'Coastal Marine Area' is defined in Part I of the Act and its landward extent is the '*line of mean high water springs*'. Accordingly, the National Coastal Policy Statement is not relevant to the consideration of this Notice of Requirement.

9.3.2 Section 10 of the Hauraki Gulf Marine Park Act 2000 (HGMPA) requires through section that Sections 7 and 8 of this Act be read as part of the New Zealand Coastal Policy Statement. Section 7(1)(2)(a)(ii) requires that life supporting capacity of the environment includes:

(ii) the social, economic, recreational and cultural well being of people and communities.

9.3.3 It follows that providing infrastructure for telecommunications services and in particular the broadcast of free to air TV is providing essential infrastructure in meeting the above objective of the HGMPA. Further the activity does not result in adverse effects on the soil, air, water or ecosystems of the gulf and hence is also consistent with section 7(2)(b).

9.3.4 Section 8 relates to the Management of Gulf. It is considered that the proposal does not create any conflict with matters (a) through (f) as objectives of management.

9.4 Regional Policy Statement

9.4.1 The Gulf Islands including Waiheke Island are administered by the Auckland Regional Council.

9.4.2 The 'work' for which the designation applies does not involve any significant earthworks as might a road or other major utility site. Accordingly there are no earthworks or soil stability issues arising under the rules of the Regional Plan.

9.4.3 There is no regional policy statement on the emission of radio frequency energy from telecommunication facilities.

9.5 District Plan

9.5.1 The land is subject to the provisions of the Gulf Island Section of the Auckland City District Plan (the Plan). The site is located in the Bush Residential - Land Unit 12 of the Transitional Plan which has been renamed Island Residential 2 Zone in the Proposed Plan.

9.5.2 Section 10a.10.3 contains the objectives and policies of the Island Residential 2 Zone (PDP). The relevant Policies and Objectives are as follows:

10a.10.3.1 Objective

To control residential development and limit non-residential activities to a scale, location, intensity and appearance which is complementary to the bush clad character of the natural environment.

Policies

1. *By controlling the intensity of development and the bulk, scale and location of buildings to ensure that they are compatible with the natural environment.*
2. *By assessing the design and appearance of buildings to ensure that they are integrated with the natural environment.*
3. *By restricting the type and intensity of non-residential activities to those which are compatible in visual amenity terms and in other generated effects (eg traffic, noise, hours of operation) with surrounding residential uses and the natural environment.*

10a.10.3.2 Objective

To ensure that development of sites retains indigenous vegetation cover.

Policies

1. *By requiring the maximum amount of indigenous vegetation to be retained.*
2. *By ensuring that any development is located on portions of the site that are of lower ecological value.*

9.5.3 The Objectives and Policies for Utilities are:

5.3.1 Objective

To provide for the efficient establishment, operation and maintenance of network utility services in the islands.

Policies

1. *By providing for new network utility services.*
2. *By providing for the continued existence, operation and maintenance of established network utility services.*
3. *By providing for an additional broadband internet overhead distribution line on existing support poles and structures where there are existing overhead lines.*
4. *By recognising existing legislative provisions that apply to network utility services.*
5. *By encouraging the co-ordination and co-location of works between network utility operators to minimise environmental impacts and community disruption.*
6. *By requiring network utility operators to comply with the Code of Practice for Working in the Road.*
7. *By using the Hauraki Gulf Islands Development Code as a guideline for providing utility services for subdivision and development.*
8. *By providing for overhead lines in the appropriate landform land units.*

5.3.2 Objective

To ensure adverse effects associated with network utilities such as noise, earthworks, odour, dust, spill lighting, air emissions, signs, electromagnetic field emissions and radio frequency fields (RF) are avoided, remedied or mitigated.

Policies

1. *By ensuring that utility services meet appropriate environmental standards so that adverse effects do not occur.*
2. *By assessing the effect of network utility services on the environment where the standards are not met.*

5.3.3 Objective

To ensure that the establishment of network utility services do not detract from the visual amenity of the environment or any heritage values.

Policies

1. *By requiring underground services for new subdivision and development.*
2. *By requiring utility services to comply with part 7 - Heritage.*
3. *By encouraging utility operators to underground existing overhead utilities where the opportunity exists for co-ordinated works with council road works.*

4. *By not providing for large scale aboveground and overhead utility services within the coastal and wetland or water body protection yards.*
5. *By providing for small scale aboveground utility services.*
6. *By controlling large scale aboveground and overhead utility services on significant ridgelines and in land units with high landscape value to ensure that they do not detract from the visual amenity of the surrounding environment.*
7. *By assessing the cumulative visual impact of overhead utilities on the environment.*
8. *By encouraging utility operators to design utility services that are visually sympathetic to the environment.*
9. *By requiring the removal of redundant or obsolete services, particularly within the road.*
10. *By encouraging utility operators to provide a long term plan for under grounding existing overhead utilities.*

9.5.4 The proposal is considered to be consistent with these policies and objectives because it will have a low visual impact to the wider environment, will provide what is considered to be an essential service in a modern society and involves minimal disturbance of the landform and is a relatively low power facility avoiding potential for adverse health effects.

9.5.5 The Transitional Plan does not have a specific Utilities Chapter. Section 4.2.3 identifies the 'significant resource management issues' that are considered relevant to the proposal.

2. *The retention of the identity and character of the Inner Islands of the Hauraki Gulf.*
3. *The demand for land for residential activities providing for a diverse range of lifestyle opportunities within a quality environment.*
4. *The provision of services and infrastructure to meet community needs within the context of sustainable development.*
6. *The necessity to provide adequate infrastructure so that effective transportation, telecommunication and radio communication, effluent and waste disposal systems are provided.*
7. *The need to protect, conserve and enhance the special characteristics of the natural environment of the Inner islands.*
9. *The need to recognise existing land use activities and settlement patterns in the resource management strategy for the Inner islands.*
10. *The need to provide opportunities for the economic and social well-being of the residents of the islands.*

9.5.6 The relevant Policies and Objectives of the Transitional Plan for the Bush Residential Unit follow:

OBJECTIVE 6.12.3.1

To only allow residential development and other complementary small-scale development which is in sympathy with the dominant natural environment.

Policies

- A. By controlling the density of development in the land unit so as to retain a predominant open and natural landscape and preserve amenity.*
- B. By allowing activities which have functions which are complementary to residential activities where these can be accommodated on a site in a manner which does not compromise the amenity of the surrounding neighbourhood.*
- C. By ensuring that the design, appearance, scale and location of buildings complement the dominant elements of the natural landscape and residential amenities.*

OBJECTIVE 6.12.3.2

To ensure the retention of native bush cover and encourage regeneration where practicable.

Policies

- A. By requiring that the maximum amount of native bush cover is retained and enhanced.*
- B. By requiring the planting of appropriate native species as part of any landscaping requirement for development proposals.*

Objective 6.12.3.3

To ensure minimal disturbance to existing landforms, including ridgelines and skylines.

Policies

- A. By ensuring that development will not detract from natural landforms or intrude into identified ridgelines.*
- B. By requiring assessment of the design, appearance and landscaping of all buildings in terms of criteria which ensure that they are compatible with the surrounding natural landscape.*
- C. By ensuring that development does not lead to soil instability or erosion.*

9.5.7 In Section 5 – Assessment of Effects, the relevant rules of the Plan for Network Utilities and the Bush Residential Zone were discussed. In summary the discussion in Section 5 the maximum height for a utility mast and building height in relation to a boundary and the

sensitive Ridge Rules are exceeded by the proposal. Therefore in giving effect to the designation the only matters for consideration under the District Plan are the potential adverse visual effects of an over height structure on a ridgeline location. The assessment of effects concluded that the effect was no more than minor.

9.6 Discussion of Section 171(b).

9.6.1 Section 171 (1) (b) of the Act requires that consideration be given to alternate sites and methods of the undertaking if:

- (i) The requiring authority does not have an interest in the land sufficient for the undertaking of the work; or*
- (ii) It is likely that the work will have a significant adverse effect on the environment.*

9.6.2 Accordingly there is a two part requirement for consideration of the initial part of this section:

- Demonstrating an interest in the land; and
- Evaluating the magnitude of the effects on the environment arising from the activity to be authorised by the designation.

9.6.3 If either of these limbs of Section 171 (1) (b) apply then the requiring authority must demonstrate adequate consideration of alternative sites, routes or methods. It is considered that both limbs of Section 171(1) (b) can be satisfied as follows.

9.7 Demonstrating an Interest in the Land

9.7.1 The requirement relates to a new broadcasting and telecommunication site. Consultation with the land owner has progressed to the extent where an 'agreement to license' has been reached that a lease agreement will be entered into if the project is to proceed. Discussions are progressing on the conditions of the lease agreement itself. Accordingly we consider that as requiring authority, Kordia™ Limited is able to demonstrate a 'sufficient' interest in the land.

9.8 Will the proposed works have a Significant Adverse Effect on the Environment?

9.8.1 An assessment of potential effects of the activity the subject of the notice of requirement on the environment has been presented in Section 5 and a detailed visual assessment in Appendix I hereof. The only new effects possible through giving effect to the designation sought are the visual effects of the addition of antennas to the existing mast at a height above 12m above ground level.

9.9 Is the designation reasonably necessary?

9.9.1 Section 171(c) of the Act requires that the Council consider "*whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought*".

9.9.2 The relevant points made in this Notice of Requirement can be summarised as follows:

- The proposed facility will be part of a nationwide network of telecommunications facilities operated by Kordia™ as a Crown Company. The company operates under a charter which includes statements such as (Note Kordia™ was formerly known as Broadcast Communications Limited and was originally a subsidiary of TVNZ but is now a separate Crown Company in its own right)

"Commercial Activity of the Company:

- i. The broadcasting of television signals for the existing Television One and Channel Two Network and for new ventures such as regional UHF television, pay or subscription television.*
- ii. The provision of broadcasting services to other companies such as the transmission of broadcast signals, the lease of sites and antennae (sic), FM linking and co-siting (sic). Broadcast Communications Limited, a subsidiary of Television New Zealand Limited will provide these services on an arms*

length and non-discriminatory basis both to Television New Zealand and other companies.

- iii. The provision of telecommunications services.*
- iv. In the management of its commercial activity, the Company intends to:*
 - a. Strive to minimise operating costs and services. ...*

Social Responsibilities:

- i. Maintain, and where there are net social benefits, extend the coverage of television broadcasting. ...*

Fully comply with all legal requirements relating to environmental matters."

And

The essence of BCL's business is to provide high quality broadcasting and telecommunication transmission services to the industry. In keeping with this specialised activity within the TVNZ group of companies, BCL has additional company objectives:

- i. To build on the company's reputation as a supplier of high quality broadcasting services.*
- ii. To be leaders in the innovative use of modern and properly researched techniques and technology.*
- iii. To maintain and develop sites which are of strategic importance to Broadcast Communications Limited and its clients.*
- iv. To obtain and maintain a cost effective and reliable network, supporting all users of the company's assets.*
- v. To provide access to satellite transmission and other links, including international networks.*
- vi. To promote the interests of the communications industry."*

9.9.3 It follows that the establishment, operation of and designation of the proposed facility is entirely consistent with these stated objectives of providing telecommunications services to the residential areas of Waiheke Island as an established urban community of New Zealand.

9.9.4 Further the;

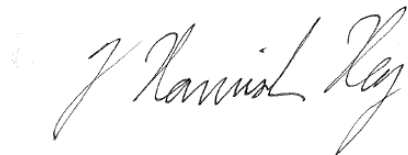
- The objective of the work is to facilitate broadcasting/telecommunications. This activity is considered a necessary and fundamental form of infrastructure in modern New Zealand society. Kordia™ Limited provides a national network as a signal carrier and

telecommunications facility provider. It operates this network as the principal backbone by which telecommunications and broadcasting take place in New Zealand.

- If the site were unable to be established, there would be significant loss of coverage of TV from terrestrial broadcast services as the services move over time from UHF/VHF signals to a solely digital platform. To receive free to air TV at that time residents would need to install satellite receive antennas rather than much smaller and less visual and bulky yagi antennas. Free to air TV is considered an essential service to a modern society; and
- The site is identified as being the preferred location for providing these services and as such the most appropriate means of giving effect to the requirement to provide free to air terrestrial TV broadcast and a designation also provides the Requiring Authority with some security of tenure and hence an ability to meet its contractual commitments with the 'Freeview Group' of TV networks; and
- The application makes limited scope for the addition of antennas to the mast to provide limited other services such as wireless broadband internet services. This will allow for increased telecommunications services from residential dwellings on Wiaheke Island and a lesser dependant on line based services. VIOP (Voice over Internet Protocol) is a new technology that will be available to the consumer shortly and provides an alternative to the Telecom fixed line network for voice communications in addition to internet. The lease will specifically exclude the provision of cellular services.
- A designation as a planning tool provides in the scope of the approval sought provides some limited flexibility for the addition of extra services that with the change in technology, community expectation and Government Policy may give rise to a need to change and evolve the type and number of antennas at the site.

9.9.5 Accordingly it follows that the designation is considered to be reasonably necessary.

Signature of person giving notice



J. Hamish Hey,
Consultant Planner
 For and on behalf of **Kordia™ Limited**

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Appendix A Copy of Gazette Notice – Minister for the Environment Authorising Broadcast Communications Limited (Kordia™’s former name) as a Requiring Authority

Appendix B Plan of Designation and Locality Plan

Appendix C Certificate of Title and Instruments

Appendix D Site Plan, Contour Plan and Elevations of Proposed Facility

Appendix E Photographic Survey of Site and Photomontage Analysis

Appendix F Table 6 From NZS2772.1:1999

Appendix G EMR Producer Statement – Statement of Compliance with NZS 2772.1:1999

Appendix H Telecommunications Coverage Report – Assessment of alternative sites and Methods – Kordia™ Limited

Appendix I Assessment of Landscape and Visual Effects - LA4 Landscape Architects

Appendix J History of Kordia™ Limited, its Predecessors and its Roles and Functions

Appendix K Definitions of Commonly Used Terms and Phrases