

**Extract from Proposed Waimakariri District Plan Officer's Report: Pūngao me te hanganga hapori -
Energy and Infrastructure**

8.22 EI-R29: New amateur radio configurations and 'amateur radio configurations' definition

8.22.1 Matters raised by submitters.

330. Two submissions have been received on EI-R29.331.332.

Officer's Report: Pūngao me te hanganga hapori - Energy and Infrastructure

331. The New Zealand Association of Radio Transmitters [157.1] seek to amend provisions relating to provision for amateur radio configurations as it is stated that 'aspects of these are overly restrictive.' The following is submitted:

- Amend provisions relating to provision for amateur radio configurations as aspects of these are overly restrictive.
- Change the Definition of 'amateur radio configurations', to "means antennas, aerials and associated poles support structures which are owned and used operated by licensed amateur radio operators."
- Either delete the restriction of a maximum of one pole per site, or provide for one main supporting pole per site with a maximum height in relation to infrastructure of 20m.
- Provide for secondary support structures with a maximum height of 14m, where any antenna mounted on these structures have a maximum length of 3m.
- Provide for up to two dish antennas with a diameter of 2m or less may be mounted on primary or secondary support structures at a height of 14m or less.
- Provide for a maximum of four additional poles for holding the ends of wire antennas and which may be placed on the boundary of a site, provided they are less than 10m high and where any part of a pole above 5m in height has a diameter of 50mm or less.
- Provide for large dish antennas less than 5m in diameter, pivoted at less than 4m above the ground, and which must comply with setback and recession plane standards.
- Retain restricted discretionary activity status for activities that do not comply with the rules, with discretion restricted to the degradation of perspective of the immediate neighbours.
- Exempt poles from height in relation to boundary requirements but still subject to boundary setbacks.

332. The Waimakariri District Council [367.16] submits the following:

Delete from Rule EI-R29:

"...

2. ~~There shall be a maximum of one pole per site;~~

...

4 d. ~~a maximum of one dish antenna per site."~~

Insert in Rule EI-R29:

"...

4(b) be pivoted less than 4m above the ground and;

4(c) in or adjoining Residential Zones, Special Purpose Zone (Kāinga Nohoanga), or Special Purpose Zone (Pines Beach and Kairaki Regeneration), shall comply with building height in relation to boundary and boundary setbacks for the zone or adjoining zone; and."

8.22.2 Assessment

333. The submission by New Zealand Association of Radio Transmitters is supported in part. The basis for the rule and related definition as notified, was equivalent provisions in the operative Christchurch District Plan. I agree in part with the suggested amendments to the definition to replace 'used' with 'operated'. I also support the addition of 'support structures', However, rather than removing reference to poles I consider it would be clearer to refer to 'support structures including poles'. I consider these amendments add clarity to the definition.

334. A variety of amendments to the rule are proposed to give effect to the other relief sought. The recommended rule amendments recognise that occasionally support structures for antennas other than

poles may be used, such as a building. However, the use of towers as a support structure for antennas is not supported as these will likely have greater diameter than the diameter of a pole the submitter has mentioned, and this is reflected in the wording of the relevant rule. Consideration of potential effects on neighbours can occur through an assessment under EI-MD2.

335. Regarding the submission by WDC, I support the decision requested. I note that the rule has been more substantially amended as a result of the submission from New Zealand Association of Radio Transmitters, amendments supported achieve the relief sought by WDC.

8.22.3 Summary of recommendations.

336. I recommend that the submissions from the following submitters be accepted:

- The New Zealand Association of Radio Transmitters [157.1]
- Waimakariri District Council [367.16]

337. I recommend that the EI chapter of the Proposed District Plan be amended by changing the wording of EI-R29 and the definition of 'amateur radio configurations' as follows and as shown in **Appendix A:**

EI-R29 New proposed amateur radio configurations

All Zones

Activity status: PER

Where:

- 1 the maximum height in relation to infrastructure of any pole shall be 20m;
- 1A any part of a pole above 5m height in relation to infrastructure shall have a maximum diameter of 50mm¹³⁰
- 1B unless otherwise specified below, poles shall be exempt from height in relation to boundary requirements but remain subject to boundary setbacks for the zone;¹³¹
- ~~2. there shall be a maximum of one pole per site;~~¹³²
3. any antenna other than a simple wire dipole or dish antenna¹³³ shall comply with the following:
 - a. any element comprising the antenna shall be a maximum of 0.08m in diameter and 14.9m in length;
 - b. for horizontal HF yagi or loop antenna the boom length shall be a maximum of 13m;
 - c. no part of any antenna, pole or guy wire shall overhang the boundary of the site; and
4. any dish antenna with a maximum diameter of 2m or more¹³⁴ shall comply with the following:
 - a1. there shall be no more than one such dish antenna;
 - a. the dish antenna shall have¹³⁵ a maximum diameter of: 5m;
 - b. the dish antenna shall be pivoted at less than 4m above ~~the~~ ground level;
 - c. in or adjoining Residential Zones, Special Purpose Zone (Kāinga Nohoanga), or Special Purpose Zone (Pines Beach and Kairaki Regeneration), the dish antenna¹³⁶ shall comply with building height in relation to boundary and boundary setbacks for the zone or adjoining zone; and
 - d. ~~a maximum of one dish antenna per site.~~¹³⁷
5. any dish antenna with a maximum diameter of less than 2m shall comply with the following:
 - a. there shall be no more than two such dish antennas;
 - b. such dish antennas may be mounted on poles or a building;
 - c. such dish antennas shall not exceed a maximum height in relation to infrastructure of 14m;
 - d. such dish antennas shall be exempt from height in relation to boundary requirements but remain subject to boundary setbacks for the zone;¹³⁸

AMATEUR RADIO CONFIGURATIONS

means the antennas, aerials, and associated support structures¹³⁹ including poles which are owned and used operated¹⁴⁰ by licensed amateur radio operators.

Verbal Hearing Notes for Submission 157 – NZART, Owen Pimm and Geoff Gooch

Many thanks for considering our submission and the proposed change allowing removal of the original point 2. We would also like to record that Douglas Brit (NZART Council liaison for local government) has recently died and his position within the community is vacant.

We would like to clarify our original submission where we noted the 50 mm pole diameter, was in relation to other secondary poles supporting antenna wires **see 8.22.1 331** and was not related to the main structure for supporting the antenna. We suggest that our submission has been miss-interpreted to include “all” poles. This seems to be the case when the Officers Report “assessment” of our submission has been recorded in **8.22.2. 334** and again in **8.22.3**.

The Officers Report Assessment has in part resulted in an addition to EI-R29 that we’ve not had a chance to provide feedback from those other members of the Amateur Radio Community affected by these changes.

We are particularly concerned with the new restrictions added since the draft was published:

“1A any part of a pole design above 5m height in relation to infrastructure shall have a maximum diameter of 50mm.”

Our concerns with 1A are:

- 1/ The Officers Report assessment to our submission seems to suggest that the 50 mm pole restrictions has come from our recommendations. We again stress that is a miss-interpretation of our submission. The 50 mm limitation was for secondary poles, not the main supporting structure. We consider that para. 1A as it stands to be overly restrictive to effectively operate and Amateur Radio station. The limitations to the pole diameter is overly restrictive, and we have been unable to identify the reason or precedent for the main structure limitation, other than perhaps by our submission that addressed additional poles.
- 2/ The additional restriction of not allowing anything above 5 meters to be greater than 50 mm appears unworkable. By definition, the 50 mm (main) structure or pole would stand up to 15 meters above a 5 meter attachment point (for the maximum 20 meter pole as allowed in EI-R29).

Supporting arguments:

Visual impact of limiting to 50 mm pole above the 5 meter point:-

Limiting of a 50 mm pole, round or square, precludes the use of a “nesting” mast or tower that can retract when not in use with consequential advantages in visual impact.

- Such a small diameter is not able to be nested any lower than 15 meters (for an overall 20 meter mast).

The installation of the rotator for a Yagi beam array would need to be off-set from the pole as the diameter is not large enough to house the rotator.

- This means an asymmetric loading would need to be applied to the pole and support structure, which is not desirable.
- An asymmetric rotator is less visually appealing than a mounting in symmetry.

Engineering:-

From an engineering point of view, this seems a surprisingly small diameter to allow a self supported mast with an antenna attached.

- Wind loading of the pole alone, before even an antenna is attached would appear to be marginal.
This is a potential safety issue.

In essence, this limits an Amateur Radio Station to have guyed poles, rather than self supporting.

- Can the council provide an example of a compliant pole / structure that would meet wind loading requirements and the proposed diameter limitation?

Guys in small residential sections:

- can be difficult to place for optimum performance in a small residential section;

- can be a trip or access hazard. ***This is a potential safety issue.***
- be visually obtrusive.

The stated 5 meter mark limits a pivot point for a structure or pole to be no higher than that point. Therefore there is a maximum of 15 meters of pole and added antenna weight above the pivot point. The supporting structure would need to have significant counterweighing or winching mechanisms to allow safe lowering of the antenna system.

- The counter balance bending moment on the pole is significant, particularly as any guys are not attached at the time of lowering. ***This is a potential safety issue.***

If the original draft Proposed District Plan had copied the latest Christchurch City Council Plan in respect to Amateur Radio we would not be here today. Their plan is simple with no restrictions other than the height of antenna structures (i.e towers, poles etc), and the size of the yagi or dish antennas that are mounted on those structures.

We request a review to remove para. 1A

Respectfully yours

Owen Pimm

Geoff Gooch

The Christchurch Replacement District Plan as published.

11.7 Rules Communication facilities

11.7.1 Permitted activities Communication facilities

The activities listed below are permitted activities if they meet the activity specific standards set out in this table and the activity standards in Rule 11.9.

Activities may also be restricted discretionary, discretionary or noncomplying as specified in Rules 11.4 11.6, 11.7.2 and 11.8.

P3 Amateur radio configurations.

- a. The top of any utility structure is less than 20 metres above ground level.
- b. Any antenna other than a simple wire dipole shall meet the following criteria:
 - i. Any of the elements making up the antenna shall not exceed 0.08m in diameter and 14.9m in length;
 - ii. For horizontal HF yagi or loop antenna the boom length shall not exceed 13m;
 - iii. No part of the antenna, utility structure or guy wires shall overhang the property boundary; and
 - iv. Simple wire dipoles shall not overhang property boundaries.
- c. Any dish antenna shall:
 - i. Be less than 5 metres in diameter/width;
 - ii. Be pivoted less than 4 metres above the ground; and
 - iii. If located in any Residential Zone, meet the minimum setback and daylight recession plane standards in Chapter 14.