BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Stage 3/3b of the Proposed Queenstown Lakes District Plan

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Statement of evidence of **CHRIS HORNE** on behalf of Spark New Zealand Trading Limited and Vodafone New Zealand Limited in relation to utilities provisions relating to new zones

29 May 2020

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Statement of Professional Qualifications and Experience

1. My name is Chris Horne. I am a resource management consultant and director of the resource and environmental management consulting company, Incite. I hold the qualifications of Bachelor of Arts (Geography) and Master of Regional and Resource Planning, both gained at the University of Otago. I am a member of the New Zealand Planning Institute.

2. I have been engaged by Spark New Zealand Trading Limited (Spark) and Vodafone New Zealand Limited (Vodafone) to provide evidence as an independent planner in regard to their submissions on those aspects of Stages 3 and 3b of the Proposed Queenstown Lakes District Plan (Proposed Plan) relevant to utilities, and more specifically in regard to the height of poles for telecommunication and radio communication facilities. The submission was lodged jointly by Spark, Vodafone and Chorus New Zealand Limited (Chorus) who work together on district plan reviews to provide a consistent approach to district plan matters from these major network operators. However, Chorus has elected not to be involved in this particular hearing given that the subject matter relates primarily to equipment related to mobile networks operated by Spark and Vodafone.

3. I have over 25 years' professional experience in the field of resource management. During this time I have assisted a number of telecommunications network providers as a consultant planner including Telecom New Zealand Limited and its two successor companies Chorus New Zealand Limited and Spark, Vodafone, Two Degrees Mobile Limited, Teamtalk Limited, and New Zealand Police Information and Technology Group (Police Radio Network). Work I have assisted these organisations with has included site selection studies, project consenting, designations, and assistance in responding to resource management plans and reviews. I was a member of the reference group including the Telecommunications Industry, Government Departments and Local Government New Zealand involved in the development of the *Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2008*, and later provided advice to the New Zealand Police on the subsequent update of the 2016 regulations now in force: *Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2016* ("NESTF").

4. I was not involved in submissions or hearings on Stages 1 and 2 of the Proposed Plan, but have been briefed by Spark and Vodafone on the outcome of that process including the draft consent order to settle relevant appeals of interest to Spark and Vodafone, and I have read the evidence presented on behalf of Spark and Vodafone for that process. I did assist Spark and Vodafone with reviewing the provisions notified as part of Stages 3 and 3b of the Proposed Plan and their submission on these provisions. I have also been involved over many years with numerous district plan reviews throughout New Zealand addressing similar issues in regard to telecommunications networks.

5. I was involved in without prejudice pre-hearing discussions with the authors of the relevant s42A reports prior to filing this evidence.

6. Although this matter is not before the Environment Court, I can confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses. My evidence has been prepared in compliance with that Code. In particular, unless I state otherwise, the evidence is within my field of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Evidence Outline

7. The scope of this evidence relates to how the new zones being introduced integrates with the provisions for utilities in Chapter 30 Energy and Utilities, and in particular the height of poles for telecommunication and radio communication facilities. To address this, my evidence covers:

    - The current Proposed Plan provisions for poles including the expected outcome through appeals settlement;
    - Discussion of relief sought by Spark and Vodafone;
    - Analysis of s42A report recommendations; and
    - Conclusions.

8. In forming my opinion from a planning perspective, I have taken into account the corporate evidence of Mr Graeme McCarrison and Mr Colin Clune in regard to the submitters input to the Proposed Plan process to date and issues with the current provisions, Mr Stephen Holding in regard to radio engineering and Mr Shannon Bray in regard to visual effects/urban design.

Utilities Provisions for Poles in the Proposed Plan

Rules Overview

9. Chapter 30 of the Proposed Plan includes rules for Energy and Utilities that apply district wide. The rules for utilities in Chapter 30 override the zone provisions in the Proposed Plan and are essentially a self-contained code for utility activities. However, a number of district wide rules still apply as set out in Chapter 30. As part of the Stage 3 notified various to Chapter 30, the plan provisions are being updated to more clearly set out which district-wide provisions apply, and to add the new Wāhi Tūpuna Area to this list: The proposed changes are as follows:

30.3.3.3 The rules contained in this Chapter prevail ~~take precedence~~ over any other rules that may apply to energy and utilities in the District Plan, unless specifically stated to the contrary and with the exception of:

a. 25 Earthworks~~;~~.

b. 26 Historic Heritage.

c. Protected Trees.

d. Indigenous Vegetation and Biodiversity.

e. 35 Temporary Activities and Relocated Buildings;

f. 36 Noise

g. 39 Wāhi Tūpuna.

10. Rule 30.5.6.6 sets out the permitted height limits for poles associated with telecommunications and radio communications as follows:

30.5.6.6	Poles With a maximum height no greater than: a. 18m in the High Density Residential (Queenstown – Flat Sites), Queenstown Town Centre, Wanaka Town Centre (Wanaka Height Precinct) or Airport Zones; b. 25m in the Rural Zone; c. 15m in the Business Mixed Use Zone (Queenstown); d. 13m in the Local Shopping Centre, Business Mixed Use (Wanaka) or Jacks Point zones; e. 11m in any other zone; and f. 8m in any identified Outstanding Natural Landscape. Where located in the Rural Zone within the Outstanding Natural Landscape or Rural Character Landscape, poles must be finished in colours with a light reflectance value of less than 16%.	P

11. Rule 30.5.6.6 then sets out certain 'overlay' areas where this general permitted status does not apply and resource consent as a discretionary activity is required. Examples of these areas include the Arrowtown Residential Historic Management Zone, Outstanding Natural Features and sites containing heritage features.

12. The Stage 3 and 3b changes to the Proposed Plan introduce a number of new zones. However, no variation has been proposed to Rule 30.5.6.6. Accordingly, in all of these new zones poles for telecommunications and radio communications would be restricted to 11m as a permitted activity under 30.5.6.6 (e). Spark and Vodafone's submissions have sought to ensure an appropriate permitted height limit is inserted in Rule 30.5.6.6 for certain new zones to avoid a default to 11m in height.

Policy Framework

13. Spark and Vodafone are not seeking to revisit the policy framework for utilities from earlier stages of the Proposed Plan through this Stage 3 process, although they are parties to appeals on the objectives and policies for Chapter 30. I understand from reviewing consent memoranda from September 2019 that I understand have been signed by all parties, that changes to the objectives and policies have been agreed to by the parties, but consent orders are yet to be issued. These relate to Topic 17 Energy and Utilities and Topic 1 sub-topic 4 Regionally Significant Infrastructure. If the consent orders confirm the consent memoranda by the parties to settle the

appeals, this would only further strengthen provisions that support and enable utilities, and in particular regionally significant infrastructure. In both the partially operative Otago Regional Policy Statement and the Proposed Plan, telecommunication and radio communication facilities are included in the definition of regionally significant infrastructure.

14. In my opinion, the existing Proposed Plan policy framework supports the requested approach by Spark and Vodafone to ensure there is a reasonable envelope for key telecommunication and radio communication facilities in zones to meet functional and operational requirements, with a sliding scale of the allowable size of these facilities based on the sensitivity of the zone. Any permitted envelope in zones is still subject to more stringent requirements in sensitive overlay areas (e.g. heritage, Wāhi Tūpuna, outstanding natural features etc.).

15. Key policy themes from the policy framework and anticipated changes from the amended policy framework in the signed consent memoranda are:

- Operation, maintenance, development and upgrading of utilities supports community well-being;
- Constraints due to functional needs are taken into account in considering the effects of utilities and alternatives;
- Ensuring adverse effects are managed while taking onto account positive social, economic, cultural and environmental benefits of utilities;
- Encouraging co-location where feasible *(comment by author, a larger permissive envelope for telecommunication and radio communication facilities makes co-location more practical)*;
- In environmentally sensitive overlay areas, the adverse effects of regionally significant infrastructure are managed. The proposed policy framework sets out a cascade of considerations in these more sensitive areas seeking to avoid adverse effects on the values and attributes of these areas, but where this is not practicable due to functional needs providing some additional flexibility.

16. The current COVID-19 event has reinforced the essential nature of telecommunications networks to keep business and social connections functioning. New Zealand is currently heavily reliant on these networks for high speed internet and associated functions such as video conferencing and streaming services to stay socially connected, and for businesses and other essential services to continue to

function. Accordingly, it is important to recognise and provide for these networks as an integral part of community wellbeing.

17. These policies apply district wide and across all zones[1]. Whilst individual zone policy frameworks provide assistance is determining the general zone strategy and the general level of sensitivity in regard to factors such as amenity values in those zones, the network utilities objectives and policies provide the key guidance in determining the outcomes for network utilities in these zones (e.g. it follows that an industrial zone is less sensitive to the adverse visual effects of a telecommunications pole than a residential zone). The network utility specific provisions recognise that network utilities have community good elements, and due to form and function will often not look like land uses in general, and will not fit into typical built form controls for zones that apply to other activities. This is why district plans generally have separate network utilities sections to ensure they are considered in an appropriate context.

Discussion of Relief Sought by Spark and Vodafone

18. As previously outlined, as a number of new zones have been notified, in Chapter 30 the maximum height limit for poles associated with telecommunications and radio communications is 11m as a default provision unless a specific height and zone are included in Rule 30.5.6.6. Whilst a number of variations to Chapter 30 were notified, no changes to this rule were included in association with inserting new zones. This appears to have been an oversight.

19. Spark and Vodafone lodged submissions on Stage 3/3b in regard to these new zones to ensure there is an appropriate height limit included. The height limits sought are as follows:

    - General Industrial Zone: 18m
    - Three Parks Commercial Zone 18m single operator/21m for multiple operators
    - Cardona Settlement Zone 15m single operator /18m for multiple operators

20. I have included screen shots of the general locations and extent of these zones in Appendix A attached.

[1] If located in an overlay such as heritage or ONL, other district wide objectives and policies will also be relevant.

21. These increased height limits were sought on the basis that an 11m height limit is considered to be generally impractical for providing good coverage and is not commensurate with the types of zones proposed. The primary reason given in the submission was to provide clearance over buildings. However, this focus in the submission was more in regard to pointing out some of the obvious flaws in the height limits provided comparative to building height enabled in those zones. As outlined in the evidence of Mr Holding, this is only part of the reason increased height limits are needed, with the other main reason being to provide a sufficient coverage footprint to perform its function in the network on sites that are no already located in elevated topography (e.g. on a hill). Higher sites in the Queenstown Lakes District would often require a location in an Outstanding Natural Landscape.

22. In my experience it is fairly typical to have a 20m to 25m permitted height limit in a district plan for industrial zones and commercial zones other than local and neighbourhood centre type commercial zones. Mr McCarrison has included an appendix of examples of height limits in a number of other recent district plan reviews. Height limits of this nature are routinely requested on district plans by Spark and Vodafone where not included in notified provisions, and 20m or 25m was sought for the various business zones in the original submission on the Proposed Plan. A number of district plans have now adopted a 15m permitted height limit in smaller local/neighbourhood commercial zones and also in residential zones, sometimes in association with controls on the diameter of antenna head frames and height in relation to boundary controls from adjacent residential sites, particularly given the permitted activity envelope for in-road solutions allowed by the NESTF which often enables permitted in-road solutions up to 15m high in suburban residential areas. These types of solutions are now commonplace in many parts of New Zealand.

23. Decisions of Chapter 30 of the Proposed Plan resulted in height limits lower than Spark or Vodafone would have preferred. However, as set out in the evidence of Mr McCarrison, they were accepted and not appealed primarily out of pragmatism at the time.

24. Once a site is established, and provided it is not located in one of a number of sensitive environmental overlay areas as specified in Regulations 44-52 of the NESTF, existing poles for wireless networks can be increased in height either by retrofitting or structure replacement to add additional antennas as a permitted activity (see Regulations 33-35). On this basis, the requested height limits for the Three Parks Commercial and Cardrona Settlement Zones sought an additional 3m height

allowance for co-locating antennas by multiple operators to enable these types of solutions to be installed at the time of construction, rather than first establishing a site and then retrofitting or replacing a facility later to achieve an equivalent height outcome.

Analysis of s42A Report Recommendations

25. Whilst the changes requested by Spark and Vodafone relate to Chapter 30 Energy and Utilities, the s42A Report for variations to this chapter does no deal with these submissions. They are instead dealt with in the three different s42A reports for each of the three zone chapters, which are prepared by three different reporting planners as follows:
    - General Industrial Zone – Luke Place, QLDC
    - Three Parks Commercial Zone – Nick Roberts, Consultant Planner
    - Cardrona Settlement Zone – Amy Bowbyes, QLDC

General Industrial Zone

26. The locations of the proposed new General Industrial Zones are included in screen shots of planning maps in Appendix A. These are located at Queenstown, Arrowtown and Wanaka in areas not subject to sensitive environmental overlays.

27. Whilst 20m-25m is a more typical permitted height limit for a General Industrial Zone and 25m would generally be sought in submissions by Spark and Vodafone, they only sought 18m in this instance given the range of height limits they elected not to appeal on the earlier stage of the Proposed Plan. I fully expected this request to be a 'box tick' given the zone in question. However, the s42A report recommended a 13m height limit, on the basis an additional 3m above the allowable 10m building height limit would be sufficient[2].

28. As set out in the evidence of Mr Holding, building clearances are only one factor in determining what height is required. To meet network requirements, Spark and Vodafone often target lower amenity zones such as industrial and larger scale commercial zones to locate their larger sites. I understand from Mr Holding's evidence that larger/taller sites provide more opportunity to provide coverage to a

wider area, clear local obstructions and provide for "down tilt" to better control coverage and reduce interference with other sites. Therefore, the height driver is not just about achieving minimum clearance from the height limit enabled in zones for buildings in general. In higher amenity zones, telecommunications companies often have to compromise on the size and height of sites which can limit capacity, coverage and co-location opportunities.

29. In addition to coverage obstructions from adjacent buildings with only a limited height differential to antennas, I understand from Mr Holding that this can also lead to issues with complying with radio frequency exposure standards at adjacent buildings if antennas cannot be sited a sufficient height above adjacent roofs.

30. Mr Bray's landscape and visual evidence supports the height limit sought by Spark and Vodafone in the General Industrial Zone.

31. In my opinion district plans should be incentivising larger telecommunication and radio communication poles in industrial zones as an alternative to having to deploy additional sites or sites in more sensitive zones. Larger size allowances also provide more practical co-location options for other networks. Whilst I would generally support height limits up to 25m in industrial zones, Spark and Vodafone have only requested 18m in this instance. In my opinion a 13m height limit is an industrial zone is unnecessarily restrictive and should be amended to 18m as sought by Spark and Vodafone.

32. In pre-hearing discussions with the reporting planner Mr Place I understand that he has some concerns that if the requested height limit was accepted for the currently proposed General Industrial Zones, it may be less appropriate for some future general industrial zones that may be proposed by the Council in other more sensitive locations such as near the Remarkables. In my opinion the Commissioners can only consider the zones and locations before them. If the same zone is proposed in the future in more sensitive visual environments, the appropriateness of the network utilities controls sought here can be further considered at that time, and if necessary and area could be scheduled and apply different controls for telecommunications masts if warranted.

33. Mr Place was also interested in how the airport company may be feel about tall poles in the industrial area near the airport. Any telecommunications equipment would still be required to meet any airport obstacle surface limitations that apply to all activities.

[2] See para 7.32 of General Industrial Zone s42A report

34. As General Industrial Zones may adjoin residential zoned land in some instances, I would also support the addition of height in relation to boundary controls for the zone interface between these zones and adjoining residential zones.

Three Parks Commercial Zone

35. The location of the Three Parks Commercial Zone at Wanaka is included on screen shots of planning maps in Appendix A. This zone is not subject to sensitive environmental overlays.

36. This zone is described as a large format retail zone. Due to the expected built typology and amenity values of this type of zone, a height limit for poles for telecommunication and radio communications would often be in a 20m to 25m range in district plan provisions. The submission sought a height limit of 18m for a single operator and 21m for multiple operators. However, the s42A report recommended a 16m height limit, on the basis an additional 1m above the allowable 15m building height limit would be sufficient and is consistent with the 1m additional height above the permitted building height provided for in the Business Mixed Use Zone in Wanaka[3]. As set out in the evidence of Mr McCarrison and Mr Clune, the height limits adopted in Chapter 30 are undesirable and on this basis I do not consider that they should be used as the primary basis of determining what height limits are appropriate in the new zones being added.

37. In my opinion, the height limits being sought by Spark and Vodafone are compatible with a zone of this nature and still remain more stringent than equivalent provisions in many other district plans for this general zone typology.

38. In reliance on Mr Holding's evidence I understand that a 1m clearance above adjacent buildings (if built to the zone height limit) is insufficient to avoid obstructions to coverage, and I also understand that this may create issues with radio frequency compliance at adjacent buildings. Further, for the same reasons I set out in regard to the General Industrial Zone, I consider that the Three Parks Commercial Zone, taking into account the scale of buildings that are proposed, is a suitable zone type to site larger telecommunications facilities.

[3] See para 8.5 of Three Parks Commercial s42A report

39. In my opinion a 16m height limit is unnecessarily restrictive in the Three Parks Commercial Zone and should be amended to 18m single operator/21m multiple operators as sought by Spark and Vodafone.

40. Mr Bray's landscape and visual evidence supports the height limit sought by Spark and Vodafone in the Three Parks Commercial Zone.

41. In pre-hearing discussions with reporting planner Mr Roberts I understand that he was interested in how the amenity of adjacent more sensitive zones may be addressed by taller poles. As the Three Parks Commercial zone adjoins residential zones, as with the General Industrial Zone I would also support the addition of height in relation to boundary controls for the zone interface between these zones and adjoining residential zones.

Cardona Settlement Zone

42. The existing Settlement Zone applies to a number of settlements around the District. It is proposed to add a further Settlement Zone at Cardrona. This settlement will include a mix of residential/holiday accommodation and a commercial precinct. There is a visitor accommodation sub zone and development is subject to the Cardrona Village Character Guideline 2012. The surrounding rural area is annotated as an Outstanding Natural Landscape (ONL).

43. The default height limit in the Settlement Zone is 11m in Chapter 30. Spark and Vodafone sought a 15m height limit on this zone for a single operator, and 18m for multiple operators. This is consistent with the submission on height limits for "other zones" in the original submission on the Proposed Plan, but with a 3m rather than 5m additional allowance for multiple operators. Given the growth potential and tourism focus of this settlement, Spark and Vodafone prefer a more enabling framework within this settlement zone rather than a site within the adjacent ONL to serve this area. Further, based on Mr Holding's evidence, the 12m/3-storey height limit in the Cardrona Settlement Zone would make 11m poles generally impractical due to obstructions to coverage that would result.

44. A number of overlays such as heritage sites (including the Cardrona Hotel) and a new Wāhi Tūpuna area apply to parts of this zone where any permitted activity allowances in Chapter 30 would not apply. Further, part of the zone is subject to a Commercial Precinct.

45. The s42A report recommends that the Spark and Vodafone submissions be rejected on the basis insufficient justification is provided, and no assessment is made against the objectives and policies of the Settlement Zone[4].

46. I acknowledge that the policy framework for these zones seeks to control development to reflect the key characteristics so these settlements. However, network utility infrastructure cannot be designed for example to reflect a gable roof form, and therefore the objectives and policies for utilities in Chapter 30 need to be considered to provide an appropriate context for this type of equipment. The Chapter 30 provisions apply district wide to all zones.

47. In recognition of the desired character values for the Cardrona Settlement Zone, but taking into account the practical and functional realities for delivering essential infrastructure including telecommunications, I consider that it is appropriate to modify the relief sought by Spark and Vodafone.

48. To this end, I recommend that the sought 15m/18m height limit is restricted to the Commercial Precinct, and that a height in relation to boundary control is applied from the interface between the Commercial Precinct and the rest of the Settlement Zone. I also recommend a maximum antenna and headframe dimension of 1.2m is applied to ensure that only a 'cluster mount' type arrangement can be deployed as a permitted activity. I include some examples of this style of facility in Appendix C (showing single operator and multiple operator examples). In my view providing for an additional height allowance for multiple operators will incentivise co-location of more than one operator. Without the additional height allowance it is likely a wider headframe style would be required for co-location. The balance of this Settlement Zone would remain subject to an 11m height limit for poles.

49. Providing for height limits that provide for more practical clearance of obstructions including buildings and trees will also incentivise use of a more urban location rather than an a more elevated site within the adjacent ONL areas.

50. Network utility equipment of this nature will always have a somewhat functional appearance, so the key is to ensure an appropriate balance between the character values of any particular location and the functional requirements of essential infrastructure. In my opinion, the modifications I propose to the relief sought by Spark and Vodafone appropriately strikes that balance.

[4] Para 12.36-12.38 Settlement Zone s42A report.

51. Mr Bray's landscape and visual evidence supports the height limit sought by Spark and Vodafone in the Commercial Precinct of the Cardrona Settlement Zone. I also support his recommendation that a minimum 3m road setback be applied to masts to ensure they are subject to equivalent setbacks to buildings in general, and thus reduce streetscape impacts.

52. In pre hearing discussions with reporting planner Ms B Bowbyes, without having formed a firm view on the height at the time of the discussion I understand that she considered it may be appropriate to apply a reflectivity control in Cardrona Settlement equivalent to that which applies to telecommunications poles in ONLs given the visual sensitivity of the Cardrona. That control is:

> Where located in the Rural Zone within the Outstanding Natural Landscape or Rural Character Landscape, poles must be finished in colours with a light reflectance value of less than 16%.

53. Mr McCarrison and Mr Clune have confirmed that this control would be acceptable to Spark and Vodafone and is practically achievable, and accordingly I see no reason why this cannot be added as an additional control for this particular zone.

Conclusions

54. In my opinion the heights sought by Spark and Vodafone for poles for telecommunication and radio communication facilities in the various zones are appropriate and strike and appropriate balance between protection of the values of the particular zones they relate to and the practical and functional requirements of essential telecommunications networks. I have recommended some additional changes to the relief sought by Spark and Vodafone to reflect some of the particular attributes of the locations where these zones apply, including height in relation to boundary controls for any interface with any residential zones or the Cardrona Settlement Zone outside of a Commercial Precinct, and limiting the requested increased height to the Commercial Precinct of the Cardrona Settlement Zone combined with some additional development controls in regard to road setback, headframe diameter and reflectivity.

55. In my opinion the proposed height limits and other controls for poles, which are defined as regionally significant infrastructure, are consistent with the policy framework for the Proposed Plan including those changes agreed by parties to

relevant appeals, and will promote the sustainable management of natural and physical resources as embodied by Section 5 of the RMA.

Appendix A

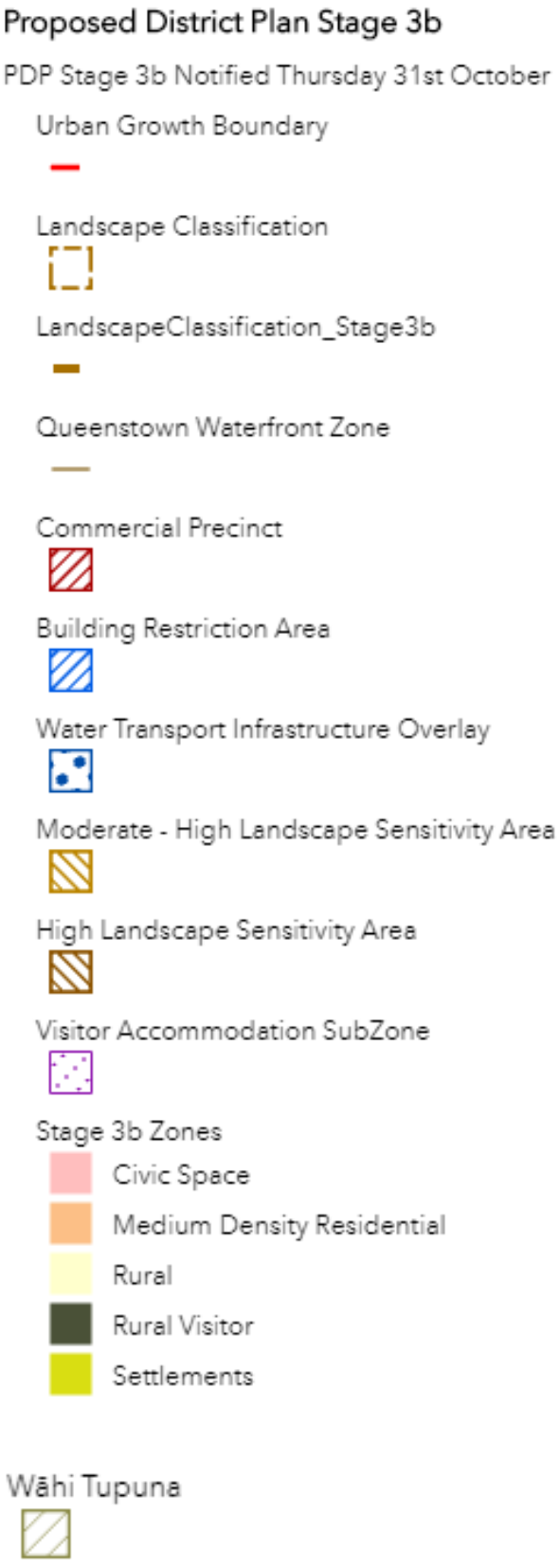
New Zone Locations

Settlement Zone, Cardrona

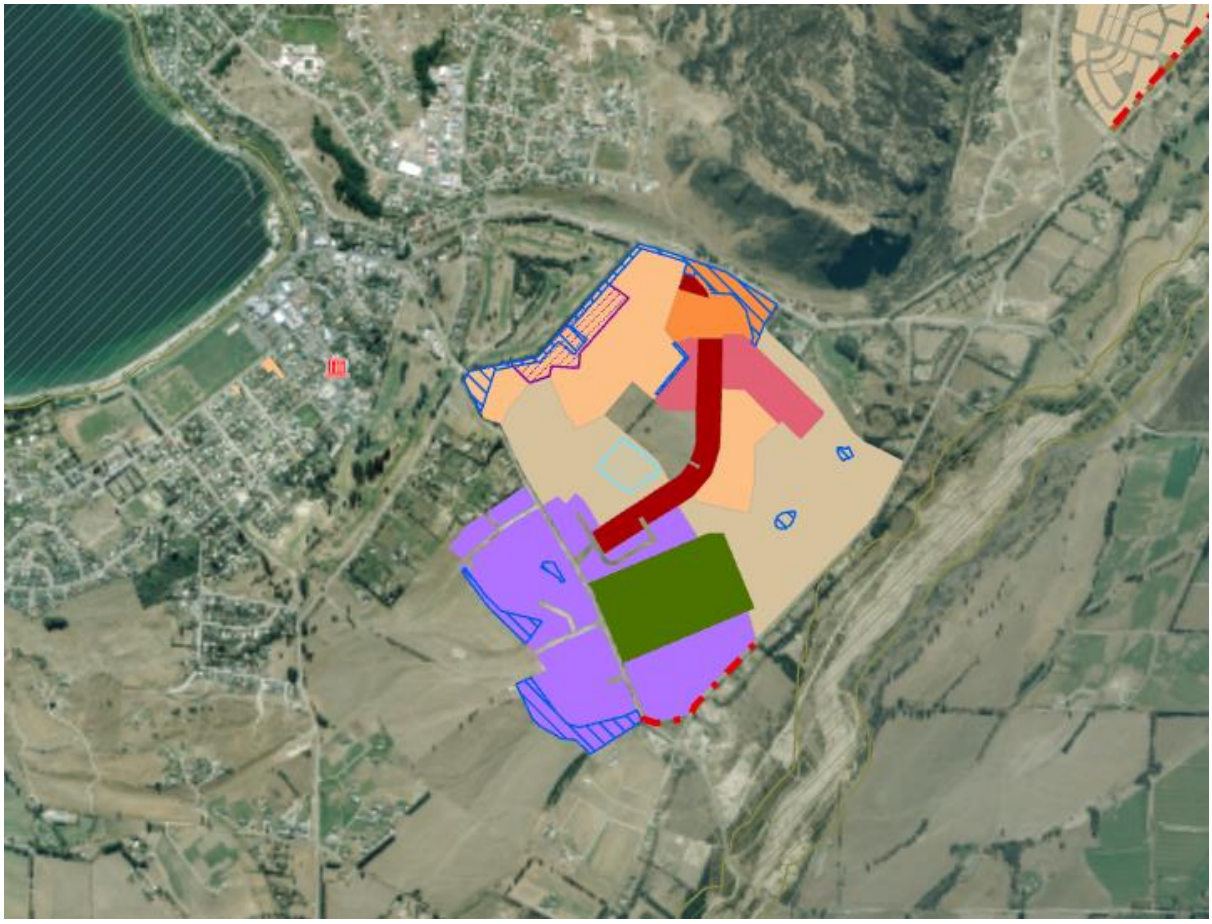
Zoning Map: See Map key on following Page

Location of heritage sites from Proposed Plan maps. 543 = Cardrona Hotel

Legend for Cardrona Settlement Zone



Three Parks Commercial and General Industrial Zones (Wanaka)



Low Density Suburban Residential
Medium Density Residential
High Density Residential
Business Mixed Use
General Industrial
Three Parks Commercial
Settlements
Active Sports and Recreation
Community Purposes

General Industrial Zone Queenstown Airport

General Industrial Zone Arrowtown

Appendix B

Cluster Mount Examples

Figure 1: Vodafone pole at 18 Church Street, Mosgiel (example is 12m high)

Figure 2: Typical Spark light pole on Ponsonby Road, Auckland (example is 15m high)

Figure 3: Vodafone facility with 'double cluster', Market Road Interchange Auckland Southern Motorway (example is 23m high). Indicative of a multiple operator scenario using cluster mounts.