Proposed Plan Change 2 (National Environmental Standards) to the Regional Plan: Air for Otago

Information Pack

Otago Regional Council

14 April 2007

Proposed Plan Change 2 (National Environmental Standards (NES)) to the Regional Plan: Air for Otago (Air Plan) was publicly notified on Saturday 14 April 2007.

This information pack contains all the information the Otago Regional Council considers relevant to the proposal, including:

Table of Proposed Changes
This document details all significant and consequential changes that are proposed to the Air Plan. The Table of Proposed Changes should be read in conjunction with the Air Plan. A copy of the Air Plan is available at all Public Libraries, on our website (at www.orc.govt.nz), or may be requested by calling 0800 474 082. In addition, a version of the Air Plan showing all proposed changes is available on our website.

Proposed Airshed Maps
The proposed Plan Change 2 (NES) will affect airsheds. Maps showing the proposed airshed boundaries are attached as Appendix 1 to the Table of Proposed Changes.

Section 32 Report consideration of alternatives, benefits and costs
As required under Section 32 of the Resource Management Act 1991, the Otago Regional Council has undertaken an evaluation of Proposed Plan Change 2 (NES) to determine if the proposal is the most appropriate way to achieve the outcome sought.

Public Notice
Included is the Public Notice for Proposed Plan Change 2 (NES), as printed in the Public Information Brochure, and published in the following newspapers:

- Otago Daily Times, 14 & 18 April 2007
- The Press, 14 April 2007
- The Southland Times, 14 April 2007
- The Central Otago News, 17 April 2007
- The Clutha Leader, 18 April 2007
- The Taieri Herald, 18 April 2007

Submission Form
For those wishing to make a comment on the Proposed Plan Change 2 (NES) a submission form is included. Submissions **MUST** be received by the Otago Regional Council, 70 Stafford Street, Dunedin, **by 5pm** on the **18 May 2007**.

Flow Chart - Discharges from Domestic Heating Appliances
A flow chart has been prepared to assist in clarifying the wide range of effects the proposed rule changes will have to discharges from domestic heating appliances. The flowchart simplifies the proposed rules and enables the public to easily determine what restrictions on domestic heating appliances will apply to them.

Proposed National Environmental Standards for Air Quality, Resource Management Act Section 32 – Analysis of the costs and benefits Report
When preparing the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations (2004) (or NESAQ), the Ministry for the Environment prepared a report evaluating the proposal to determine if it was the most appropriate way to achieve the outcome sought. *(Available for viewing at the Otago Regional Council, 70 Stafford Street, Dunedin, or the Ministry for the Environment website www.mfe.govt.nz)*

Proposed Plan Change 2
(National Environmental Standards)
to the
Regional Plan: Air for Otago

Table of Proposed Changes

Otago Regional Council

14 April 2007

Introduction to Proposed Plan Change 2 (NES)

The Otago Regional Council has prepared Proposed Plan Change 2 (National Environmental Standards (NES)) to the Regional Plan: Air for Otago, to achieve the ambient air quality standard for fine particulate matter (PM_{10}) set by the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations (2004).

This document details all the significant and consequential changes to the Regional Plan: Air for Otago that would result from the adoption of Proposed Plan Change 2 (NES). This document should be read in conjunction with the Regional Plan: Air for Otago. The significant key changes, and where they can be found in this document, are summarised below:

■ The adoption of proposed airshed boundaries

Proposed Plan Change 2 (NES) will result in the management of ambient air quality by airshed. Changes to the current gazetted airshed boundaries are proposed. The proposed airshed boundaries are shown in the Maps attached as Appendix 1 to this report. These are proposed to be included as Schedule 2 in the Regional Plan: Air for Otago:

■ PM_{10} discharges from domestic heating appliances

To meet ambient air quality standards for PM_{10}, new rules are proposed for discharges from domestic heating appliances:

■ Outdoor burning

Outdoor burning is also a source of PM_{10}, and it is proposed to extend existing rules that apply to the Dunedin and Mosgiel urban areas, to Airshed Categories 1, 2, 3 and 4 (i.e. most Otago urban areas):

■ Resource consents for the discharge of PM_{10} to air

The Otago Regional Council has proposed to adopt "curved line paths" to meet the ambient air quality standards for PM_{10} by 1 September 2013. Therefore the NESAQ requires rules for activities that discharge significant amounts of PM_{10} to air, that will ensure the curved line path is considered, and enable applications for resource consent to propose offsets for PM_{10} discharges, and to be declined as necessary:

■ Permitted activity rules that will become more restrictive

A number of permitted activity rules refer to urban boundaries that were defined in "Schedule 1.2". The proposed airshed boundaries, which in many instances cover greater areas than the Schedule 1.2 areas, are proposed to replace Schedule 1.2. As such, the permitted activity rules for the following activities become more restrictive:

Table of Contents

1. Changes to Legislative and Policy Framework

Reference no.	Provision	Proposed Change
1	Section 2.1 (pg 6)	Add the following paragraph to the end of Section 2.1: Under Section 43 of the Resource Management Act, the Government can issue national environmental standards. The Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 (NESAQ) applied nationally from 8 October 2004. The NESAQ have: • Seven standards banning activities that discharge significant quantities of dioxins and other toxics into the air; • Five standards for ambient (outdoor) air quality; • A design standard for newly installed woodburners installed in buildings on properties less than 2 hectares in size; and • A requirement for landfills over 1 million tonnes of refuse to collect greenhouse gas emissions. Every regional, city and district council is required to enforce these standards. Rules in this Plan and resource consents granted under this Plan cannot be more lenient than the requirements of the NESAQ, however in some circumstances they can impose more stringent standards, and may provide for matters not specified by the NESAQ. Existing resource consents to discharge contaminants to air prevail over the requirements of the NESAQ until a review of the consent (under Section 128(1)(ba) of the Resource Management Act) has been made to ensure consistency with the NESAQ.

2. Changes to Issues

Reference no.	Provision	Proposed Change
2	Section 4.2 (pgs 11 & 12)	Amend Section 4.2 as follows: **4.2 Air quality in Otago** **4.2.1 The discharge of contaminants into air can degrade ambient air quality** **Explanation** Ambient air quality is the general quality of the air that surrounds us and ~~The quality of the ambient air~~ is a reflection of the cumulative impacts of discharges from human activities and natural processes. In Otago, the main discharges from human activities are associated with domestic, industrial, commercial and transport activities ~~sources~~. ~~The Ministry for the Environment produced a document entitled *"Ambient Air Quality Guidelines"* (July, 1994) which sets out~~ There are many benefits of ~~clean air~~ good ambient air quality, including ~~as~~: • Avoiding costs in the health, recreation, built environment, commerce and natural environment areas; • Enabling our quality of life to be maintained, and in particular those values relating to amenity and visibility; and • Maintaining the perception of this country as a clean environment and thus enhancing its attractiveness to visitors. In 1994, the Ministry for the Environment produced a document entitled *"Ambient Air Quality Guidelines"* (AAQG). The AAQG provides the minimum requirements that ambient air quality should meet in order to protect human health and the environment. These 1994 guidelines were updated in 2002. The updated AAQG contains new ambient air quality guideline values for both existing and newly listed contaminants, revised guidance on how they should be used to manage air quality under the Resource Management Act, and new guidance on assessing the potential impacts of air pollution on ecosystems.

Reference no.	Provision	Proposed Change
		In 2004 the NESAQ was gazetted, as discussed in section 2.1. The NESAQ provides baseline ambient air quality protection for all New Zealanders, the standards of which are based upon those given in the AAQG. Where pollutants are not covered by the NESAQ, those guidelines given in the AAQG still apply. The requirements of the NESAQ also override any less stringent requirements in regional plans. The Otago Regional Council's ambient air quality monitoring programme, which commenced in 1997, has focused on measuring the levels of PM_{10} (particles smaller than ten microns), oxides of nitrogen, carbon monoxide and sulphur dioxide. ~~Initial results indicate high concentrations of PM_{10} in some areas during winter~~. A report produced by the Otago Regional Council in 2005 entitled *"Ambient Air Quality in Otago 1997 – 2004, Nitrogen Dioxide, Sulphur Dioxide and Carbon Monoxide"*, summarises the air quality monitoring results for these pollutants, and concludes that they are not causing a significant problem in Otago's urban areas. However, the monitoring programme is on-going ~~and will~~ to enable the Council to identify trends and further increase its understanding of air quality, and the effects of discharges of contaminants to air ~~discharges on it.~~ The NESAQ requires the ambient concentration of PM_{10} in all parts of New Zealand to meet 50 $\mu g/m^3$ (24-hour mean) by 1 September 2013, with only one exceedance of this standard allowed in a 12-month period. With regard to PM_{10}, a report produced by the Otago Regional Council in 2005 entitled *"Ambient Air Quality in Otago 1997 – 2004, Particulate Matter"* summarises air quality monitoring undertaken. Monitoring data has shown breaches of the NESAQ requirements for PM_{10} in a number of urban areas throughout the region, including Alexandra, Arrowtown, Cromwell, Dunedin, Milton, Mosgiel, Oamaru, and Palmerston. The relative contributions of domestic, industrial, commercial and transport sources on air quality were investigated in 1999 and 2006 through an inventory of emissions for Otago's main urban areas. The results of the inventory show that during winter when measured PM_{10} concentrations have been high, emissions from domestic sources are the largest source of PM_{10}. Outside of urban areas, ambient air quality in Otago is generally considered to be good. ~~However, It is important that the Council establishes what the actual ambient air quality is, and whether this is changing~~

Reference no.	Provision	Proposed Change
		~~over time.~~ ~~Direction on acceptable ambient concentrations for contaminants is included in the Ministry for the Environment's *"Ambient Air Quality Guidelines"* (July, 1994). The guidelines have been referred to in developing the policy context for this Plan.~~ *Other issues 4.3.1, 4.4.1, 4.4.2, 4.5.1, 4.6.1, 4.7.1, 4.8.1, 4.9.1, 4.10.1* *Objective 6.1.1* *Policies 8.1.1, 8.1.2, 8.2.3, 8.2.4, 8.2.6, 8.2.8, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.1.5, 9.1.6, 13.1.1, 14.1.1*
3	Issue 4.3.1 (pg 12)	Delete the first paragraph of the Explanation to Issue 4.3.1 as follows: ~~At the time of writing this Plan, There are were 341 discharges controlled by resource consents in Otago, from a wide range of industrial and trade premises, 55% of these were located within the Dunedin and Mosgiel areas.~~
4	Section 4.4 (pg 13)	Amend Section 4.4 as follows: **4.4 Domestic heating and burning of waste** **4.4.1 Domestic heating using wood and fossil fuels produces emissions that have the potential to adversely affect human health and amenity values in Otago's urban areas.** **Explanation** The burning of wood and fossil fuels produces smoke, water vapour, carbon dioxide, carbon monoxide, nitrogen oxides, hydrocarbons and other volatile organic compounds. Sulphur oxides (primarily sulphur dioxide and sulphur trioxide) are also discharged from the burning of fuels containing sulphur, such as coal. Monitoring of levels of nitrogen, carbon monoxide and sulphur dioxide in ambient air in urban areas of Otago has been undertaken, and is documented in the 2005 report *"Ambient Air Quality in Otago 1997 – 2004, Nitrogen Dioxide, Sulphur Dioxide and Carbon Monoxide"*. The report concludes that they are not causing a significant problem in Otago's urban areas.

Reference no.	Provision	Proposed Change
		In terms of the burning of wood and fossil fuels for domestic heating, the most significant effect of discharges in Otago is the accumulation of fine particles (smaller than 10 microns (PM_{10})) in the air that we breathe (ambient air). This is an issue because these particles can adversely affect human health as they enter the respiratory system and can cause loss of lung function, onset or aggravation of respiratory illness, and a loss of capacity to resist infection. Monitoring of PM_{10} in ambient air ~~quality by the Council~~ in urban areas has been undertaken, and is documented in the 2005 report *"Ambient Air Quality in Otago 1997 – 2004, Particulate Matter"*. This monitoring has shown that PM_{10} concentrations have reached or exceeded levels where adverse health effects may occur in ~~most~~ many of Otago's urban areas. ~~An~~ Emissions inventories~~y~~ undertaken in 1999 and 2006 for Otago's urban areas indicate~~s~~ that the majority of this PM_{10} comes from domestic heating discharges. In 1999, many urban areas were surveyed and ~~with~~ such discharges were found to contribute ~~ing~~ an average of 75% of winter PM_{10} emissions, with contributions for individual urban areas ranging from 52% to 92%. In 2006, an emissions inventory was undertaken for Dunedin, Mosgiel and Alexandra. The main source of PM_{10} emissions in all areas during the winter was domestic home heating, which accounted for 90% of total PM_{10} emissions in Dunedin and Mosgiel, and 99% of total PM_{10} emissions in Alexandra. Discharges from domestic heating can also result in adverse effects on amenity values in terms of odour, nuisance and visibility. The adverse effects of discharges from domestic heating are caused, or exacerbated by, inefficient heating appliances, incorrect use of appliances and poor quality fuels. For example, open fires discharge more PM_{10} than multifuel or woodburners ~~domestic heating appliances~~, and poor quality fuels, such as coal with a high sulphur content or wood with a high moisture content, will produce more adverse effects than low sulphur coal or dry wood. *Objectives 6.1.1, 6.1.2, 6.1.3* *Policies 8.1.1, 8.1.2, 8.2.7, 8.2.8, 9.1.6*

3. Changes to Policies

Reference no.	Provision	Proposed Change
5	Policy 8.1.1 (pg 23)	Amend Policy 8.1.1 as follows: **8.1.1 To have regard to the Otago Goal Levels identified in Schedule ~~1.~~1 in managing the region's ambient air resource.** **Explanation** **Otago Goals Levels** are the levels ~~appropriate for~~ of contaminants in air that are aimed for in parts of Otago where air quality may be degraded, particularly urban areas. The aim is to ensure as much of Otago as possible has ambient contaminant concentrations below these levels. The levels should not, however, be regarded as a limit up to which it is acceptable to allow pollution to reach in those areas with good air quality where contaminant concentrations are currently well below these levels. Concentrations exceeding these levels are considered to be in the "alert" category as defined by the Ministry for the Environment in *Environmental Performance Indicators: Proposals for Air, Freshwater and Land* (1997). These are warning levels set at between 66 and 100% of the guideline values that can lead to the ~~national guidelines~~ AAQG or NESAQ being exceeded if trends are not curbed. Should monitoring results indicate that contaminant concentrations are approaching or exceed Otago Goal Levels, the Council will undertake research to identify the sources of contaminants and determine whether emissions and concentrations are likely to increase over time. The results of such research will then be used to develop and implement an appropriate management response in consultation with the community. The Otago Goal Levels are concerned with the cumulative impacts of discharges into air from human activities and natural processes. Because of this it is generally inappropriate to apply them directly to set emission limits or determine consent monitoring requirements for individual discharges. They can, however, be used as a factor in determining the duration of a consent and assessing cumulative effects. **Principal reasons for adopting** The Resource Management Act requires an effects-based approach to managing the air resource. Such an approach

Reference no.	Provision	Proposed Change
		requires guidelines against which to measure the cumulative effects of activities. This enables problem areas to be targeted and the effectiveness of management strategies to be monitored. Because Otago's ~~air quality is generally regarded as high and the~~ community has identified the maintenance and enhancement of air quality as the key management objective, Otago Goal Levels have been adopted which set higher standards than those contained in the ~~national guidelines (*Ambient Air Quality Guidelines* (1994))~~ AAQG and the NESAQ.
6	New Policy 8.1.2 (pg 24)	Add new Policy 8.1.2 **8.1.2 To manage ambient air quality by airsheds.** **Explanation** The NESAQ requires air quality to be managed by airshed. An airshed is an area of open air where people are likely to be exposed to carbon monoxide, nitrogen dioxide, ozone, PM_{10} and sulphur dioxide. The Region as a whole forms an airshed. Specific areas where air quality standards are (or are likely to be) breached may be specified as separate airsheds by the Minister through notice in the New Zealand Gazette. Such areas are known as gazetted airsheds. In November 2005, four Otago airsheds were gazetted, comprising twenty-two areas. These four airshed categories were created to enable appropriate management of local ambient air quality. These twenty-two areas will be re-gazetted subsequent to Plan Change 2 as separate airsheds ("proposed airsheds"), and managed by category. The air quality monitoring programme will be extended to ensure that the NESAQ requirement to monitor at the poorest air quality area within an airshed, is met. Table 1 describes the proposed airsheds, and the maps given in Schedule 2 show the proposed airshed boundaries.

Reference no.	Provision	Proposed Change

Table 1: Proposed Airsheds

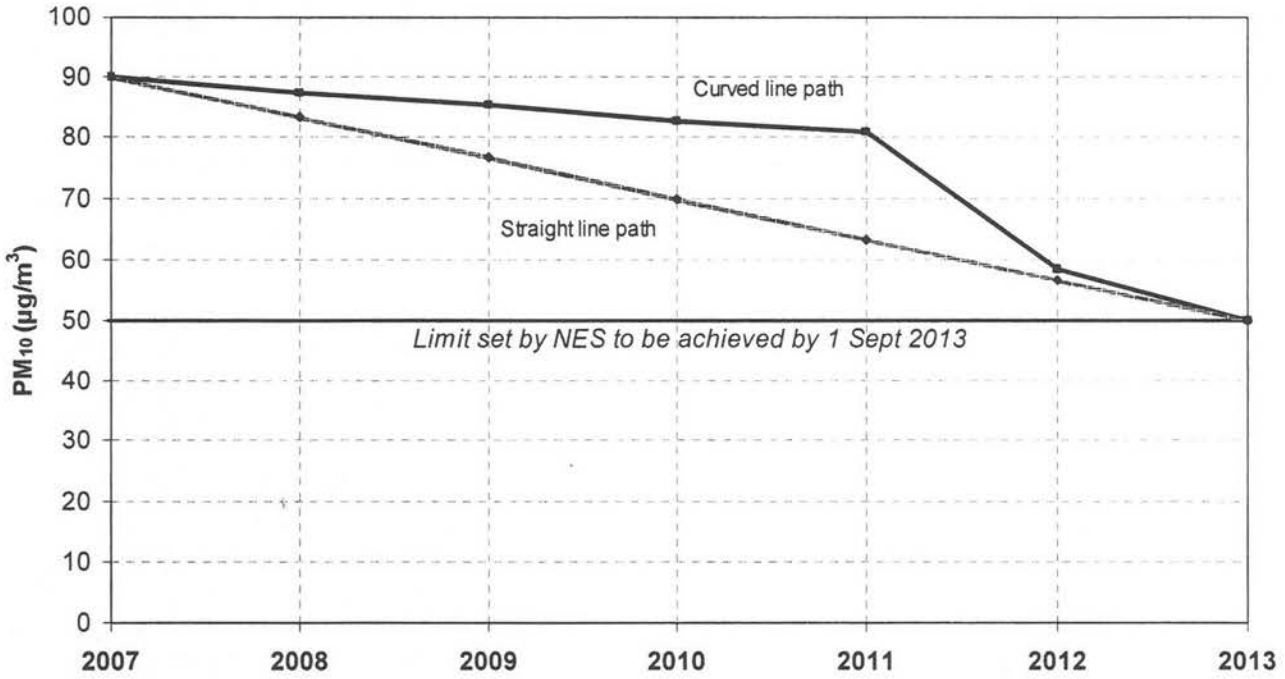
Airshed Category		Airshed Name	Description
1	1A	Airshed 1A – Alexandra Airshed 1A – Arrowtown Airshed 1A – Clyde Airshed 1A – Cromwell	Towns located in Central Otago basins have been observed for many years to have problems with smoke accumulating and failing to disperse, giving consistently high readings of PM_{10}, typically up to three times the ambient air quality standard. Airshed Category 1 will require the greatest work to achieve the standard. Airshed Category 1 has been further split into Airshed Category 1A where monitoring has shown high PM_{10} levels, and Airshed Category 1B where further monitoring is required.
	1B	Airshed 1B – Naseby Airshed 1B – Ranfurly Airshed 1B – Roxburgh	
2		Airshed 2 – Green Island Airshed 2 – Milton Airshed 2 – Mosgiel Airshed 2 – Palmerston Airshed 2 – South Dunedin	Built-up areas along the east coast of Otago located in basins often have maximum PM_{10} recordings above the ambient air quality standard. Some work is required to meet the standard.
3		Airshed 3 – Balclutha Airshed 3 – Central Dunedin Airshed 3 – North Dunedin Airshed 3 – Oamaru Airshed 3 – Port Chalmers Airshed 3 – Waikouaiti	Built-up areas along the east coast of Otago with more open geography, are recognised to have typically less serious PM_{10} levels than Airshed Category 2. At this stage however, Airshed Category 3 will be treated the same as Airshed Category 2 to ensure compliance with the ambient air quality standard is achieved by 2013.
4		Airshed 4 – Hawea Airshed 4 – Kingston Airshed 4 – Queenstown Airshed 4 – Wanaka	Lakeside built-up areas with good wind dispersal conditions have been observed to have PM_{10} levels slightly below the ambient air quality standard. At this stage however, Airshed Category 4 will be treated the same as Airshed Categories 2 and 3 to prevent air quality exceeding the ambient air quality standard in the future.

Reference no.	Provision	Proposed Change
		Principal reasons for adopting This policy is adopted to enable appropriate local responses to comply with regulations 15, and 17 to 19 of the NESAQ. *Other policies 8.1.1, 8.1.3, 8.2.6, 8.2.7, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.1.5, 9.1.6* *Rules 16.3.1.1, 16.3.1.2, 16.3.1.3, 16.3.1.4, 16.3.1.5, 16.3.1.6, 16.3.2.1, 16.3.2.2, 16.3.2.3, 16.3.2.4, 16.3.2.5, 16.3.4.1, 16.3.4.2, 16.3.5.1, 16.3.5.2, 16.3.5.3, 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5*
7	Policy 8.2.6 (pg 28)	Amend Policy 8.2.6 as follows: **8.2.6 To control the effects from outdoor burning by:** **(a) Enabling burning to occur providing it does not have significant adverse effects beyond the boundary of the property where burning occurs;** **(b) Restricting the type of materials that may be burnt, and controlling the means of burning, to minimise the discharge of hazardous air contaminants identified in Schedule ~~1.~~3; and** **(c) Applying separation distances for outdoor burning of waste in Airshed Categories 1, 2, 3 and 4 ~~Dunedin and Mosgiel as defined by Schedule 1.2~~, taking into account the potential for burning to occur in close proximity to neighbours, the likely frequency of burning and the likely volumes of waste involved.** **Explanation** This policy introduces three restrictions on outdoor burning. These are applied to both burning in or on the open ground, and incineration of waste and other materials, on residential and non-residential properties. Part (a) indicates the Otago Regional Council's view that people undertaking outdoor burning need to adopt practices to avoid significant adverse effects beyond the boundary of the property where burning is being undertaken. Part (b) restricts the type of materials that may be burnt by outdoor burning without a consent to ~~materials such as~~ waste paper, cardboard, vegetative matter and untreated wood. This is given effect to by rules ensuring that outdoor

Reference no.	Provision	Proposed Change
		burning which has the potential to result in the discharge of hazardous air contaminants identified in Schedule ~~1.~~3 be carried out only in a consented incinerator, and is carefully assessed on a case-by-case basis with appropriate controls being applied. Open burning of "specified materials" as listed in Rule 16.3.3.1 is prohibited. Part (c) recognises that proximity to a fire largely determines whether or not a discharge will have significant adverse localised effects. It recognises that because ~~Dunedin and Mosgiel have large populations and are~~ Airshed Categories 1 to 4 have higher population densities ~~densely settled~~, the effects of the burning of waste in these areas are more significant than elsewhere in Otago. This is supported by the high number of complaints received by the Council concerning outdoor burning in these areas ~~the Dunedin and Mosgiel areas~~. Separation distances between the source of the discharge and property boundaries are needed which are related to the likelihood and significance of impacts on neighbours. **Principal reasons for adopting** This policy is adopted to avoid or mitigate the adverse effects that outdoor burning can have on people and the environment. Restrictions on materials that may be burnt out-of-doors are adopted to reduce the potential effects of PM_{10} and the hazardous air contaminants identified in Schedule ~~1.~~3. The contaminants identified in Schedule ~~1.~~3 have been identified by the Ministry for the Environment as either being known or suspected to cause acute human health effects or significant adverse effects on the environment. Open burning of specified materials not in a consented incinerator is likely to be inefficient and thus result in the discharge of such hazardous contaminants. Separation distances are adopted in order to avoid adverse localised effects on neighbours. Such adverse effects ~~occur due to~~ result from the soiling of property, the discharge of odours and smoke, reduced visibility and reductions in the pleasantness or amenity of an area, arising from outdoor burning on the open ground or in an inefficient incinerator. *Other policy 8.1.2* *Rules 16.3.2.1, 16.3.2.2, 16.3.2.3, 16.3.2.4, 16.3.2.5, 16.3.2.6, 16.3.3.1, 16.3.3.2,* *Methods 17.3.1.1, 17.4.1.1, 17.4.2.1*

Reference no.	Provision	Proposed Change
8	Policy 8.2.7 (pg 29)	Amend Policy 8.2.7 as follows: **8.2.7 To promote voluntary actions to assist in avoiding adverse effects from the discharge of contaminants into air from:** **(a) The outdoor burning of waste; and** **(b) Domestic heating using domestic heating appliances ~~and open fires~~.**
9	New Policy 8.2.8 (pg 30)	Add new Policy 8.2.8: **8.2.8 To prevent discharges to air being noxious, dangerous, offensive or objectionable on the surrounding local environment.** **Explanation** Irrespective of any other control on discharges, a condition will be placed on all relevant permitted and consented activities to prevent, where necessary, any noxious, dangerous, offensive or objectionable effects at or beyond property boundaries. The identification of these effects is discussed in section 16.2.8. **Principal reasons for adopting** This policy is adopted to prevent noxious, dangerous, offensive or objectionable discharges to air. *This policy is implemented by all of the permitted activity rules in this Plan*
10	Section 9.1 & Policy 9.1.1 (pgs 30 & 31)	Amend Section 9.1 as follows: (Note: Existing Policy 9.1.1 is replaced with Policy 9.1.6 – see Reference no. 15) **9.1 ~~Policy for domestic heating~~ Policies for reducing discharges of PM_{10}** **9.1.1 To reduce discharges of PM_{10} in Airshed Categories 1, 2 and 3, by following a curved line path for compliance by 1 September 2013.**

Reference no.	Provision	Proposed Change
		Explanation By 1 September 2013, the NESAQ requires the concentration of PM_{10} to meet an ambient air quality standard of 50 $\mu g/m^3$ (24-hour mean) with only one exceedence allowed in a 12-month period in any airshed. For airsheds where the concentration of PM_{10} in ambient air exceeds the standard, regulation 17 (including 17A – 17D) of the NESAQ allows a regional council to select either a "straight line path" or a "curved line path" to compliance by 1 September 2013. A straight line path means that a consistent reduction in PM_{10} discharges occurs from 1 September 2005, whereas a curved line path allows time for measures that will achieve a reduction in PM_{10} discharges to be implemented. Examples of both straight and curved line paths to compliance are shown in Figure 1. A curved line path to compliance is intended to achieve the reduction of PM_{10} in Airshed Categories 1, 2 and 3, as given in Tables 2, 3 and 4. The improvement of discharges from sources of PM_{10} in Otago is necessary to ensure that identified problem areas meet the ambient air quality standard set by the NESAQ. The ambient air quality standard is mandatory nationally, while the lower Otago Goal Level for PM_{10} is a regional "alert" level (in accordance with Policy 8.1.1). The start-point values for 2007 apply from 14 April 2007 and reflect the typical level of wintertime PM_{10} observed in that airshed. As domestic heating appliances contribute significantly to PM_{10} concentrations in ambient air in built-up areas, Rules 16.3.1.1 to 16.3.1.6 are intended for discharges from domestic heating appliances to ensure an ongoing reduction in PM_{10}. From 2007 until 2011, a small decrease is anticipated annually as low or no emission heating options gradually replace existing solid fuel heating, and consents for other discharges to air are replaced. A more rapid drop is expected to occur from 2011 prior to the 1 September 2013 deadline, as existing resource consents are reviewed under Section 128(1)(ba) of the Resource Management Act and, in Airshed Category 1 areas, as stricter requirements come into force in 2012 to ensure the 2013 deadline is met (see Rule 16.3.1.2). It is Council's intention to achieve the lowest possible PM_{10} concentrations in all other parts of Otago as soon as possible.

Reference no.	Provision	Proposed Change
		Discharges from domestic heating appliances are addressed by Policy 9.1.4. Consented emissions, typically industrial and trade emissions, or school and hospital boilers, are addressed by Policies 9.1.2 to 9.1.4. **Figure 1: Examples of Straight and Curved Line Path to Compliance by 1 September 2013** 

Reference no.	Provision	Proposed Change
		Table 2: Data representing curved line paths towards achievement of the ambient air quality standard for PM_{10} in Airshed Category 1

Year	Maximum Level of Particulate Matter ($\mu g/m^3$)						
	Alexandra	Arrowtown	Clyde	Cromwell	Naseby	Ranfurly	Roxburgh
2007: From 14 April 2007	131	110	66	97	100	100	100
2008	129	108	66	96	98	98	98
2009	127	107	65	95	97	97	97
2010	125	105	65	93	96	96	96
2011	123	104	64	93	95	95	95
2012	68	63	54	60	61	61	61
By 1 September 2013	50	50	50	50	50	50	50

Table 3: Data representing curved line paths towards achievement of the ambient air quality standard for PM_{10} in Airshed Category 2

Year	Maximum Level of Particulate Matter ($\mu g/m^3$)				
	Green Island	Milton	Mosgiel	Palmerston	South Dunedin
2007: From 14 April 2007	76	57	83	86	69
2008	75	57	82	85	68
2009	75	57	81	84	68
2010	74	56	80	83	68
2011	74	56	80	83	67
2012	56	52	57	58	54
By 1 September 2013	50	50	50	50	50

Reference no.	Provision	Proposed Change
		Table 4: Data representing Curved line paths towards achievement of the ambient air quality standard for PM_{10} in Airshed Category 3

Year	Maximum Level of Particulate Matter ($\mu g/m^3$)					
	Balclutha	Central Dunedin	North Dunedin	Oamaru	Port Chalmers	Waikouaiti
2007: From 14 April 2007	54	57	51	86	51	54
2008	54	57	51	85	51	54
2009	54	57	51	84	51	54
2010	54	56	51	83	51	54
2011	54	56	51	83	51	54
2012	51	52	50	58	50	51
By 1 September 2013	50	50	50	50	50	50

Note: Airshed Category 4 is not included in the tables depicting curved line paths for airsheds, as monitoring to date has shown no exceedence of the ambient air quality standard for PM_{10}.

Principal reasons for adopting

This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised and to illustrate the curved line paths for each proposed airshed. A staged process of air quality improvement is allowed by the NESAQ and has been adopted as it better recognises the likely response to achieving the ambient air quality standard for PM_{10} by 1 September 2013, than the default straight line path set by the NESAQ.

Other policies 8.1.2, 8.2.6, 8.2.7, 9.1.2, 9.1.3, 9.1.4, 9.1.5, 9.1.6
Rules 16.3.1.1, 16.3.1.2, 16.3.1.3, 16.3.1.4, 16.3.1.5, 16.3.1.6, 16.3.2.1, 16.3.2.2, 16.3.2.3, 16.3.2.4, 16.3.2.5, 16.3.4.1, 16.3.4.2, 16.3.5.1, 16.3.5.2, 16.3.5.3, 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5
Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.4.2.2, 17.5.1.1, 17.5.4.1

Reference no.	Provision	Proposed Change
11	New Policy 9.1.2 (pg 31)	Add new Policy 9.1.2: **9.1.2 Before 1 September 2013, to decline any application for resource consent to discharge significant amounts of PM_{10} to air within Airshed Categories 1, 2 or 3, where the discharge is likely to cause the proposed airshed to breach its curved line path, unless the Council is satisfied that measures adopted by the applicant will promptly offset the effects of the PM_{10} discharge.** **Explanation** Where applications for resource consent to discharge significant amounts of PM_{10} to air are decided before 1 September 2013, regulations 17C and 18 of the NESAQ require that offsets for the PM_{10} discharge are provided for, or that the resource consent application be declined. **Principal reasons for adopting** This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised by ensuring no additional PM_{10} is discharged in Airshed Categories 1, 2 or 3 where it would cause a breach of the curved line path for that airshed, and to meet the requirements of regulations 17C and 18 of the NESAQ. *Other policies 8.1.2, 8.2.3, 9.1.1, 9.1.5, 9.1.6* *Rules 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5* *Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.4.2.2, 17.5.1.1, 17.5.2.1, 17.5.4.1*
12	New Policy 9.1.3 (pg 31)	Add new Policy 9.1.3: **9.1.3 After 31 August 2013, to decline any application for resource consent to discharge PM_{10} to air within Airshed Categories 1, 2 or 3, where the discharge is likely to cause the proposed airshed to breach the ambient air quality standard for PM_{10}, unless the Council is satisfied that measures adopted by the applicant will offset the effects of the PM_{10} discharge and ensure prompt compliance with the ambient air quality standard for PM_{10}.**

Reference no.	Provision	Proposed Change
		Explanation Where applications for resource consent to discharge PM_{10} to air are decided after 31 August 2013, regulation 19 of the NESAQ requires that should the granting of the resource consent cause the concentration of PM_{10} in the airshed to be breached, the application will be declined. **Principal reasons for adopting** This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised by ensuring no additional PM_{10} is discharged in Airshed Categories 1, 2 or 3 where it would cause a breach of the ambient air quality standard for PM_{10} in that airshed, and to meet the requirements of regulation 19 of the NESAQ. *Other policies 8.1.2, 8.2.3, 9.1.1, 9.1.5, 9.1.6* *Rules 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5* *Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.4.2.2, 17.5.1.1, 17.5.2.1, 17.5.2.2, 17.5.4.1*
13	New Policy 9.1.4 (pg 31)	Add new Policy 9.1.4: **9.1.4 To decline any application for resource consent to discharge PM_{10} to air in areas outside Airshed Categories 1, 2 or 3, where the discharge is likely to cause a breach of the ambient air quality standard for PM_{10}, unless the Council is satisfied that measures adopted by the applicant will offset the effects and ensure prompt compliance with the ambient air quality standard for PM_{10}.** **Explanation** For areas outside Airshed Categories 1, 2 and 3 where the ambient air quality standard for PM_{10} has not historically been exceeded, the NESAQ regulations 18 and 19 require that the granting of any resource consent application to discharge PM_{10} to air must not cause the ambient air quality standard for PM_{10} to be exceeded. **Principal reasons for adopting** This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised by ensuring that resource consents to discharge PM_{10} outside of Airshed Categories 1, 2 or 3 are declined, where the discharge would cause a breach of the ambient air quality standard for PM_{10}, and to meet the requirements of regulations 18

Reference no.	Provision	Proposed Change
		and 19 of the NESAQ. *Other policies 8.1.2, 8.2.3, 9.1.1, 9.1.5, 9.1.6* *Rules 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5* *Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.4.2.2, 17.5.1.1, 17.5.2.1, 17.5.2.2, 17.5.4.1*
14	New Policy 9.1.5 (pg 31)	Add new Policy 9.1.5: **9.1.5 To ensure each resource consent to discharge PM_{10} to air is:** **(a) Limited in its duration; and** **(b) Able to be reviewed during its duration,** **if the exercise of the consent is likely to result in a breach of a curved line path or ambient air quality standard for PM_{10}.** **Explanation** The duration of a resource consent to discharge PM_{10} to air should take account of the anticipated adverse effects of the discharge on compliance with the curved line path for Airshed Categories 1, 2 or 3, or the ambient air quality standard for PM_{10}. In addition, facilities for a review of the conditions of that consent if the curved line path for that proposed airshed or the ambient air quality standard for PM_{10} is not met, shall be provided for. **Principal reasons for adopting** This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised through controls on resource consents, where adverse effects of consented discharges are likely. *Other policies 8.1.2, 8.2.3, 8.2.4, 8.2.5, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.1.6* *Rules 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5* *Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.4.2.2, 17.5.1.1, 17.5.2.1, 17.5.2.2, 17.5.4.1*
15	Policy 9.1.6 (was Policy 9.1.1) (pgs 30	Delete all of Policy 9.1.1 and replace it with Policy 9.1.6: ~~**9.1.1 To control the effects of discharges from domestic heating by applying the following controls in all Schedule**~~

Reference no.	Provision	Proposed Change
	& 31)	~~**1.2 areas:**~~ ~~**(a) To allow discharges from domestic heating appliances and open fires provided they do not have significant adverse effects on the surrounding local environment and, in particular, adjacent residential dwellings; and**~~ ~~**(b) To require domestic heating appliances installed from 1 January 2003 to be designed and built to achieve a discharge standard of no more than 4 grams of particulate discharged for every 1 kilogram of fuel burnt.**~~ ~~**Explanation**~~ ~~This policy sets out the controls which apply on discharges from domestic heating appliances and open fires in Schedule 1.2 areas. These areas are shown on maps included within Schedule 1.2 of the Plan and include Dunedin, Mosgiel, Milton, Balclutha, Oamaru, Alexandra, Clyde, Cromwell, Queenstown, Arrowtown and Wanaka.~~ ~~Domestic heating appliances and open fires which use solid fuel, discharge large quantities of contaminants into the air. These discharges are considered to be the most significant source of PM_{10} in Otago. PM_{10} can, if present in high ambient concentrations, have acute health effects because the particles can be inhaled, which can adversely affect lung and respiratory functions. Existing respiratory conditions such as asthma can also be aggravated.~~ ~~High ambient concentrations of contaminants and, in particular, PM_{10} tend to occur in areas of concentrated settlement. The effects from contaminants are not limited to the area to which they are discharged. Contaminants can disperse to, and accumulate within, surrounding areas as a result of meteorological and topographical conditions.~~ ~~Parts (a) and (b) of this policy set out the controls applying to domestic heating appliances and open fires in these areas of concentrated settlement. Definitions of the terms "domestic heating appliance" and "open fire" are included in the Glossary.~~ ~~Part (a) allows discharges from domestic heating appliances and open fires provided they do not have significant adverse effects on the surrounding local environment and do not pose a nuisance to neighbours. The control applies to both existing domestic heating appliances and open fires and any that may be installed in the future.~~ ~~Part (b) requires domestic heating appliances installed after 1 January 2003 to meet a discharge performance standard of 4 g/kg or less. This standard is presently achievable by a significant proportion of new domestic~~

Reference no.	Provision	Proposed Change
		~~heating appliances on the market.~~ ~~**Principal reasons for adopting**~~ ~~This policy recognises the adverse local and cumulative effects that discharges into air from domestic heating appliances and open fires can have on areas of concentrated residential settlement. In order to avoid or mitigate these effects, the policy adopts a two pronged approach. Firstly, it requires that domestic heating appliances and open fires do not have significant adverse effects on the surrounding local environment and, in particular, adjacent residential dwellings. Secondly, it introduces a discharge standard for domestic heating appliances. The adoption of this standard will ensure that the quality of appliances in use is improved over time.~~ **9.1.6 To reduce PM_{10} emissions by controlling discharges from domestic heating appliances:** **(a) In areas outside Airshed Categories 1 to 4, by requiring all new domestic heating appliances on properties less than 2 hectares in size to meet stringent emission and thermal efficiency standards; and** **(b) In Airshed Categories 1 to 4, by requiring all new domestic heating appliances to meet stringent emission and thermal efficiency standards, with the most stringent standards to be applied to Airshed Category 1; and** **(c) In Airshed Category 1, by prohibiting domestic heating appliances that do not meet stringent emission and thermal efficiency standards, with exceptions for registered historic places and commercial premises.** **Explanation** The main source of PM_{10} emissions in all areas during winter is derived from the heating of buildings, especially dwellings, using solid fuel. Human health and safety needs to be assured through allowing for adequate heating of buildings without causing unacceptable levels of PM_{10} contamination in ambient air. Installation of domestic heating appliances with low PM_{10} emissions, as required by this policy, will be the principal means for ensuring PM_{10} concentrations in ambient air follow the curved line paths depicted in Policy 9.1.1, and ensuring that ambient air quality in the rest of Otago remains high.

Reference no.	Provision	Proposed Change
		On properties less than 2 hectares in size, the NESAQ requires an emission standard for woodburners of less than 1.5 g/kg of dry wood burnt, and a thermal efficiency standard of not less than 65%. This standard applies unless rules in this Plan are more stringent. To ensure all domestic heating appliances are considered equitably, it is considered appropriate to apply both the emission and thermal efficiency standards set by the NESAQ for woodburners, to all other domestic heating appliances located on properties of less than 2 hectares in size, unless they are located within Airshed Categories 1 to 4. In those airsheds property size is not a factor. Due to the high number of exceedences of the PM_{10} ambient air quality standard in Airshed Category 1, a more stringent emission standard applies. All newly installed domestic heating appliances must meet this standard, and those existing domestic heating appliances that breach the standard will be prohibited from 2012. Discharges from any other domestic heating appliance installed from 14 April 2007, including any appliance that is untested or has been modified after being tested, must generally be prohibited if the Plan's objectives are to be met. The cumulative environmental effects in an airshed are likely to be significant if such appliances were able to be operated under authorisation such as a resource consent. To avoid adverse localised effects of this prohibition on cultural, heritage and amenity values, an exception is made for domestic heating appliances in registered historic places and in commercial premises. **Principal reasons for adopting** This policy is adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised while allowing for the heating of buildings by means that are environmentally acceptable and sustainable. A stringent approach, including prohibition, is necessary for domestic heating which is the largest source of PM_{10} emissions in built up areas. Registered historic places must be provided for in certain circumstances, and allowing applications for resource consent for discharges from commercial premises provides an opportunity for businesses to consider a range of alternatives and make choices taking into account economic factors, while allowing the Council to consider environmental effects and offsets where required. *Other policies 8.1.2, 8.2.7, 8.2.8, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.1.5* *Rules 16.3.1.1, 16.3.1.2, 16.3.1.3, 16.3.1.4, 16.3.1.5, 16.3.1.6, 16.3.15.1, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5* *Methods 17.2.4.1, 17.3.1.1, 17.4.1.1, 17.4.2.1, 17.5.1.1, 17.5.4.1*

4. Changes to Rules

Reference no.	Provision	Proposed Change
16	New Section 16.2.4 (pg 38 & 39)	Add new Section 16.2.4 before existing Section 16.2.4 as follows: **16.2.4 Relationship to NESAQ** The NESAQ was gazetted in September 2004, and its requirements override any less stringent requirements in regional plans. Plan Change 2 to this Plan resulted in changes to matters relating to the discharge of PM_{10}, making it consistent with the NESAQ requirements for PM_{10}. The NESAQ also sets standards for levels of carbon monoxide, nitrogen dioxide, sulphur dioxide and ozone, to protect ambient air quality. These matters must be taken into consideration for any application for resource consent to discharge contaminants to air. The NESAQ prohibits the discharge of dioxins and other toxics to air, and contains requirements with regard to landfill gas. Landfill discharges are currently addressed by the Regional Plan: Waste for Otago, therefore the NESAQ requirements for landfill discharges do not affect the implementation of this Plan.
17	Box above Table 1 (pg 40)	Amend the content of the Box as follows: **Please note that Table ~~1~~ 5 is intended to provide only a summary of the rules. To determine the exact status of an activity, it is necessary to refer to the rules directly.** **In some circumstances, consents or approvals may also need to be obtained from a city or district council. The relevant authority should be consulted.** **The NESAQ sets standards for levels of carbon monoxide, nitrogen dioxide, sulphur dioxide and ozone discharged to air, to protect ambient air quality. The NESAQ must be taken into consideration for any application for resource consent to discharge these contaminants to air.**

Reference no.	Provision	Proposed Change
18	Section 16.3.1 (pg 44)	Amend Section 16.3.1 as follows: **16.3.1 Discharges from ~~solid fuel~~ domestic heating appliances** **Note:** 1. Discharges from all domestic heating appliances in buildings (which include open fires), are permitted providing they meet the relevant requirements of Rules 16.3.1.2 to 16.3.1.5. If the discharge is from commercial premises consent may be applied for under Rule 16.3.1.6. If these rules are unable to be met, the discharge is prohibited by Rule 16.3.1.1. 2. Unless a rule sets more stringent requirements, all woodburners in buildings on properties less than 2 hectares in size must also meet the requirements set by the NESAQ, which is incorporated in Rules 16.3.1.2 to 16.3.1.6. In addition, all other domestic heating appliances in buildings on properties less than 2 hectares in size in Otago must meet requirements identical to those set for woodburners by the NESAQ. 3. Discharges from domestic heating appliances that are outside of buildings are addressed by the Rules under Section 16.3.2 of this Plan (Outdoor Burning). 4. Particulate emission rates and thermal efficiency are to be determined using the testing procedures described in Method 17.5.4.1. The rates are achievable by many domestic heating appliances currently on the market.
19	Rule 16.3.1.1 (pg 44)	Amend Rule 16.3.1.1 as follows: **16.3.1.1 Discharges from domestic heating appliances ~~in Schedule 1.2 areas~~ – prohibited activity** ~~The discharge of contaminants into air from any domestic heating appliance:~~ ~~(1) Located in a Schedule 1.2 area; and~~ ~~(2) Installed after 1 January 2003; and~~ ~~(3) Which is a model which, when tested using procedures specified in Method 17.5.4.1, did not meet a~~

Reference no.	Provision	Proposed Change
		~~particulate emission rate of less than or equal to 4 g/kg of fuel burnt, or is an untested model;~~ ~~is a ***prohibited activity***, for which no consent will be granted.~~ Except as provided for by Rules 16.3.1.2 to 16.3.1.6, the discharge of contaminants into air from any domestic heating appliance in a building is a ***prohibited activity***, for which no consent will be granted.
20	Rule 16.3.1.2 (pg 45)	Amend Rule 16.3.1.2 as follows: **16.3.1.2 Discharges from domestic heating appliances ~~in Schedule 1.2 areas~~ in Airshed Category 1A and Airshed Category 1B – permitted activity** ~~The discharge of contaminants into air from any domestic heating appliance:~~ ~~(1) Located in a Schedule 1.2 area; and~~ ~~(2) Installed after 1 January 2003; and~~ ~~(3) Which is a model which, when tested using procedures specified in Method 17.5.4.1, met a particulate emission rate of 4 g/kg or less of fuel burnt;~~ ~~is a ***permitted activity***, providing any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.~~ The discharge of contaminants into air from any domestic heating appliance in a building in Airshed Category 1A or Airshed Category 1B: (1) If the domestic heating appliance meets a particulate emission rate of 0.5 g/kg or less of fuel burnt and has a thermal efficiency of not less than 65%; is a ***permitted activity***, providing: (a) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or

Reference no.	Provision	Proposed Change
		(2) If the domestic heating appliance was lawfully installed before 14 April 2007 in Airshed Category 1A or was lawfully installed before 1 October 2007 in Airshed Category 1B, and meets a particulate emission rate of less than 1.5 g/kg of fuel burnt; is a ***permitted activity***, providing: (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares also has a thermal efficiency of not less than 65%; or (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or (3) If the domestic heating appliance was lawfully installed before 14 April 2007 in Airshed Category 1A and Airshed Category 1B, and has a particulate emission rate of greater than or equal to 1.5 g/kg of fuel burnt; is a ***permitted activity*** until 1 January 2012, providing: (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a discharge of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Reference no.	Provision	Proposed Change
21	Rule 16.3.1.3 (pgs 45 – 46)	Amend Rule 16.3.1.3 as follows: **16.3.1.3 Discharges from domestic ~~open fires and existing domestic heating appliances in Schedule 1.2 areas~~ heating appliances in Airshed Categories 2, 3 or 4 – permitted activity** ~~The discharge of contaminants into air from any:~~ ~~(1) Domestic heating appliance:~~ ~~(i) Located in a Schedule 1.2 area; and~~ ~~(ii) Installed before 1 January 2003; or~~ ~~(2) Open fire within a Schedule 1.2 area;~~ ~~is a ***permitted activity***, providing any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.~~ The discharge of contaminants into air from any domestic heating appliance in a building in Airshed Categories 2, 3 or 4: (1) If the domestic heating appliance is lawfully installed after 14 April 2007 and meets a particulate emission rate of less than 1.5 g/kg of fuel burnt and has a thermal efficiency of not less than 65%; is a ***permitted activity***, providing: (a) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or (2) If the domestic heating appliance was lawfully installed before 14 April 2007; is a ***permitted activity***, providing:

Reference no.	Provision	Proposed Change
		(a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a discharge of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.
22	Rule 16.3.1.4 (pg 46)	Amend Rule 16.3.1.4 as follows: **16.3.1.4 Discharges from domestic heating appliances outside of ~~Schedule 1.2 areas~~ Airshed Categories 1, 2, 3 and 4 – permitted activity** ~~The discharge of contaminants into air from any domestic heating appliance or open fire outside a Schedule 1.2 area;~~ ~~is a *permitted activity*, providing any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.~~ The discharge of contaminants into air from any domestic heating appliance in a building outside of Airshed Categories 1, 2, 3 and 4 is a ***permitted activity***, providing: (a) Any woodburner installed after 1 September 2005, or any other domestic heating appliance installed after 14 April 2007, in a building on a property with an allotment size of less than 2 hectares, meets a discharge of less than 1.5 g/kg of fuel burnt and has a thermal efficiency of not less than 65%; and (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Reference no.	Provision	Proposed Change
23	Rule 16.3.1.5 (pg 45)	Amend Rule 16.3.1.5 as follows: ~~**16.3.1.5 Other discharges from domestic heating – discretionary activity**~~ ~~Except as provided for, or prohibited, by Rules 16.3.1.1 to 16.3.1.4, and 16.3.3.1, the discharge of contaminants into air from solid fuel domestic heating is a ***discretionary activity***.~~ **16.3.1.5 The discharge of contaminants into air from any domestic heating appliance installed in a registered historic place – permitted activity** The discharge of contaminants into air from any domestic heating appliance lawfully installed in a registered historic place: is a ***permitted activity***, providing: (a) The domestic heating appliance contributes to the significance of the registered historic place; and (b) The discharge occurs only on occasions when the registered historic place is open to the public; and (c) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a particulate emission rate of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and (d) Any discharge of smoke, odour or particulate matter is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.
24	New Rule 16.3.1.6 (pg 45)	Add new Rule 16.3.1.6: **16.3.1.6 Discharge of contaminants into air from any domestic heating appliance in a building on commercial premises – discretionary activity** Except as provided for by Rules 16.3.1.2 to 16.3.1.5, the discharge of contaminants, excluding PM_{10}

Reference no.	Provision	Proposed Change
		which is addressed by Rules in section 16.3.15, into air from any domestic heating appliance in a building on commercial premises, is a ***discretionary activity***, providing: (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a particulate emission rate of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%.
25	Principal Reasons for adopting Rules 16.3.1.1 – 16.3.1.6 (pgs 45 – 46)	Amend Principal Reasons for Adopting as follows: **Principal reasons for adopting:** **Rules 16.3.1.1 to 16.3.1.3**4 are adopted to allow heating of buildings, while manage~~e~~ing the adverse effects that discharges from domestic heating appliances ~~and open fires, which burn solid fuel,~~ can have on ambient air quality, and subsequently on human health ~~in Schedule 1.2 areas. The areas affected by these controls include Dunedin, Mosgiel, Milton, Balclutha, Oamaru, Alexandra, Clyde, Cromwell, Queenstown, Arrowtown and Wanaka.~~ Maps showing ~~the extent of these areas~~ boundaries of Airshed Categories 1 to 4 are included in Schedule ~~1.~~2 of ~~the~~ this Plan. **Rule 16.3.1.1** prohibits discharges into air from domestic heating appliances~~,~~ that do not comply with any of permitted activity Rules 16.3.1.2 to 16.3.1.5, or discretionary activity Rule 16.3.1.6. ~~• Installed after 1 January 2003;~~ ~~• In Schedule 1.2 areas,~~ ~~which exceed a discharge performance standard of 4 grams of particulates discharged for every kilogram of fuel burnt (g/kg).~~ ~~This performance standard is to be determined using the testing procedures described in Method 17.5.4.1.~~ This rule is adopted to assist in ~~preventing further degradation of ambient air quality in Schedule 1.2 areas~~ achieving the ambient air quality standard for PM_{10}, and ultimately the lower Otago Goal Level for PM_{10}.

Reference no.	Provision	Proposed Change
		Rules 16.3.1.2 and 16.3.1.3 are adopted to allow heating of buildings by permitting~~s~~ discharge~~s~~ into air from domestic heating appliances installed in Airshed Categories 1, 2, 3 or 4, while minimising adverse effects of PM_{10} on human health ~~in terms of this Plan.~~ The particulate emission rates for domestic heating appliances ~~standard is~~ are adopted to ~~ensure that all appliances,~~ assist in achieving the curved line path for Airshed Categories 1, 2 and 3 (see Policy 9.1.1) and the ambient air quality standard for PM_{10}, and ultimately the lower Otago Goal Level for PM_{10} (see Schedule ~~1.~~1). ~~• Installed after 1 January 2003;~~ ~~• In Schedule 1.2 areas,~~ ~~meet a discharge performance standard of 4 grams or less of particulates discharged for every kilogram of fuel burnt (g/kg).~~ ~~This performance level is to be determined using the testing procedures described in Method 17.5.4.1. The particulate emission rate of 4 g/kg is achievable by many appliances currently on the market.~~ ~~These rules will assist in preventing further degradation of ambient air quality in Schedule 1.2 areas.~~ ~~**Rule 16.3.1.3** recognises that discharges from existing domestic heating appliances or open fires can continue to be used in Schedule 1.2 areas, provided others are not adversely affected~~ **Rule 16.3.1.4** recognises that discharges from domestic heating appliances ~~or open fires~~ located outside of ~~Schedule 1.2 areas~~ Airshed Categories 1, 2, 3 or 4 are unlikely to cause more than minor adverse effects, so are permitted with less stringent emission and thermal efficiency requirements. Since 1 September 2005, woodburners must meet the requirements of the NESAQ. All other domestic heating appliances in buildings on properties less than 2 hectares in size will now meet emission and thermal efficiency standards identical to those of the NESAQ, because to control woodburners and not other types of domestic heating appliances is an anomaly which would prevent the air quality objective from being achieved. ~~Where a discharge into air from solid fuel domestic heating does not comply with either Rule 16.3.1.2,~~

Reference no.	Provision	Proposed Change
		~~16.3.1.3 or 16.3.1.4 (whichever is applicable), and is not prohibited by Rule 16.3.1.1 (above) or 16.3.3.1 (materials prohibited from being burnt), it is a discretionary activity in terms of **Rule 16.3.1.5** and a consent is required to be obtained. This allows any adverse effect to be assessed.~~ **Rule 16.3.1.5** is adopted to allow registered historic places to use a domestic heating appliance on limited occasions, if it contributes to the significance of that place, while making sure its use does not cause adverse effects at or beyond the boundary. However, any woodburners installed within a building that is a registered historic place, that is on a property less than 2 hectares in size must still meet the requirements of the NESAQ. The boundary effects condition in all of the above permitted activity rules is adopted to ensure that discharges do not have significant adverse effects on the surrounding local environment and, in particular, on neighbours. **Rule 16.3.1.6** is adopted to allow commercial premises to apply for a resource consent to use a domestic heating appliance.
26	Section 16.3.2 (pg 46)	Amend Table in Section 16.3.2 as follows: **16.3.2 Outdoor burning** **Note:** 1. City and district councils in implementing the Forests and Rural Fires Act 1977 may also have bylaws controlling outdoor burning of materials for fire safety purposes. 2. The Health Act 1956 also has some control on nuisance effects from the discharge of contaminants into air. 3. These rules do not permit the use of fire accelerants such as waste petroleum products or tyres. The burning of such materials is prohibited by Rule 16.3.3.1 and incineration of such materials may be allowed only if a consent is obtained. 4. Where the separation distances specified in the rules cannot be achieved or other conditions of the rules are not met, consents are required to be obtained from the Otago Regional Council.

Reference no.	Provision	Proposed Change
		~~5. The discharge of contaminants into air from outdoor burning on production land, outside Dunedin and Mosgiel, does not require a resource consent under this Plan, except where it is expressly controlled by the rules in this Plan.~~
27	Rule 16.3.2.1 (pg 47)	Amend Rule 16.3.2.1 as follows: **16.3.2.1 Discharges from outdoor burning on residential properties in Airshed Categories 1, 2, 3 or 4 ~~Dunedin and Mosgiel~~ - permitted activity** Except as provided for by Rule 16.3.2.5, the discharge of contaminants into air from outdoor burning on any residential property in Airshed Categories 1, 2, 3 or 4 ~~Dunedin or Mosgiel as defined by Schedule 1.2;~~ is a ***permitted activity***, providing: (a) Only paper, cardboard, vegetative matter or untreated wood is burnt; and (b) The material is from the property where the burning occurs; and (c) The material is dry at the time of burning; and (d) The burning does not occur within 50 metres of the closest part of the boundary of the property; and (e) Any discharge of smoke, odour or particulate matter is not offensive or objectionable at or beyond the boundary of the property.
28	Rule 16.3.2.2 (pg 47)	Amend Rule 16.3.2.2 as follows: **16.3.2.2 Discharges from outdoor burning on non-residential properties in Airshed Categories 1, 2, 3 or 4 ~~Dunedin and Mosgiel~~ - permitted activity** Except as provided for by Rule 16.3.2.5, the discharge of contaminants into air from outdoor burning on any non-residential property ~~in Dunedin or Mosgiel~~ Airshed Categories 1, 2, 3 or ~~4 as defined by Schedule 1.2~~;

Reference no.	Provision	Proposed Change
		is a ***permitted activity***, providing: (a) Only paper, cardboard, vegetative matter or untreated wood is burnt; and (b) The material is from the property where the burning occurs; and (c) The material is dry at the time of burning; and (d) The burning does not occur within 100 metres of the closest part of the boundary of the property; and (e) Any discharge of smoke, odour or particulate matter is not offensive or objectionable at or beyond the boundary of the property.
29	Rule 16.3.2.3 (pgs 47 – 48)	Amend Rule 16.3.2.3 as follows: **16.3.2.3 Discharges from outdoor burning on properties which are not production land, in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin and Mosgiel~~ - permitted activity** Except as provided for by Rule 16.3.2.5, the discharge of contaminants into air from outdoor burning on any property which is not production land, in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin or Mosgiel as defined by Schedule 1.2~~; is a ***permitted activity***, providing: (a) Only paper, cardboard, vegetative matter or untreated wood is burnt; and (b) The material is from the property where the burning occurs; and (c) The material is dry at the time of burning; and (d) The burning does not occur within 100 metres of the closest part of the boundary of the property; and (e) Any discharge of smoke, odour or particulate matter is not offensive or objectionable at or beyond the boundary of the property.

Reference no.	Provision	Proposed Change
30	Rule 16.3.2.4 (pg 48)	Amend Rule 16.3.2.4 as follows: **16.3.2.4 Discharges from outdoor burning on production land in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin and Mosgiel~~ - permitted activity** Except as provided for by Rule 16.3.2.5, the discharge of contaminants into air from outdoor burning on any property which is production land, in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin or Mosgiel as defined by Schedule 1.2~~; is a ***permitted activity***, providing: (a) No material specified in Rule 16.3.3.1 is burnt; and (b) Any discharge of smoke, odour or particulate matter from burning waste is not offensive or objectionable at or beyond the boundary of the property.
31	Rule 16.3.2.5 (pg 48)	Amend Rule 16.3.2.5 as follows: **16.3.2.5 Discharges from outdoor burning of any campfire or celebratory ~~bon~~fire, or for the cooking of food - permitted activity** The discharge of contaminants into air from outdoor burning of any campfire or celebratory ~~bon~~fire, or outdoor burning for the cooking of food by any barbecue, hangi, umu or similar means; is a ***permitted activity***, providing: (a) No material specified in Rule 16.3.3.1 is burnt; and (b) The material is dry at the time of burning; and (c) Any discharge of smoke, odour or particulate matter is not offensive or objectionable at or beyond the boundary of the property.

Reference no.	Provision	Proposed Change
32	Rule 16.3.2.6 (pg 48)	Amend Rule 16.3.2.6 as follows: **16.3.2.6 Other discharges from outdoor burning – discretionary activity** Except as provided for by Rules 16.3.2.1 to 16.3.2.5, or prohibited by Rule 16.3.3.1, the discharge of contaminants, excluding PM_{10}, into air from outdoor burning is a ***discretionary activity***.
33	Principal Reasons for adopting Rules 16.3.2.1 – 16.3.2.6 (pgs 48 – 49)	Amend Principal Reasons for Adopting as follows: **Principal reasons for adopting** **Rules 16.3.2.1** to **16.3.2.6** set up a regime that allows outdoor burning, provided that the burning is undertaken in an appropriate location, ~~burning~~ with only clean-burning material generated on the property, and does not result in adverse localised effects at or beyond the boundary of the property. The first two rules target areas with a high density of development, because proximity to a fire is a significant determinant as to whether the discharge will have adverse effects on neighbours and the environment. **Rule 16.3.2.1** applies to outdoor burning on residential properties in Airshed Categories 1 to 4, ~~Dunedin and Mosgiel as defined by the maps in Schedule 1.2 of the Plan~~. In order to assist in managing the effects of such burning in these ~~densely settled~~ areas with relatively high population densities, the rule requires burning to be undertaken more than 50 metres from the boundary of the property. **Rule 16.3.2.2** applies to outdoor burning on non-residential properties such as, but not limited to, educational facilities, industrial or trade premises, parks, reserves and production land located ~~with~~in Airshed Categories 1 to 4, ~~the Dunedin and Mosgiel areas as defined by the maps in Schedule 1.2 of the Plan~~. The rule recognises that outdoor burning on non-residential properties in areas with relatively high population densities ~~Dunedin and Mosgiel~~ is likely to have more significant adverse localised effects than such burning on residential properties, as greater volumes of material are likely to be involved. In order to assist in mitigating these effects, the rule requires burning to be undertaken more than 100 metres from the boundary of the property.

Reference no.	Provision	Proposed Change
		Rule 16.3.2.3 applies to outdoor burning on all properties, other than production land, such as, but not limited to, residential properties, educational facilities, industrial or trade premises, parks and reserves, in all ~~areas~~ of Otago ~~the region apart from~~ outside of Airshed Categories 1 to 4 ~~Mosgiel and Dunedin as defined by the maps in Schedule 1.2 of the Plan~~. It adopts a similar level of control to that applying within Airshed Categories 1 to 4 ~~in Dunedin and Mosgiel~~, except that a separation distance is not required in recognition of the often lower density of development in these areas, and the lower incidence of complaints received from them. Furthermore, if the Plan did not permit this activity on industrial or trade premises, it would require a resource consent under Section 15(1) of the Resource Management Act. **Rule 16.3.2.4** applies to outdoor burning on all production land properties, in all areas of the region outside of Airshed Categories 1 to 4 ~~apart from Mosgiel and Dunedin as defined by the maps in Schedule 1.2 of the Plan~~. The level of control reflects the fact that such properties are normally of larger size, and few if any complaints are received from burning waste on production land. Note that Rule 16.3.3.1 does not prohibit the burning of animal carcasses on this production land. **Rule 16.3.2.5** applies to minor or infrequent outdoor burning on any Otago property, for the purposes of backyard cooking of food, such as in any barbecue, hangi or umu, or for a campfire or a celebratory ~~bon~~fire, such as for Guy Fawkes or New Year's Eve. Conditions relating to separation distances or that the material burnt be generated on the property are not required, in recognition of the small scale or infrequent occurrence of these activities. Where a discharge into air from outdoor burning does not comply with any of Rules 16.3.2.1 to 16.3.2.5 (whichever is applicable), and is not prohibited by Rule 16.3.3.1, it becomes a discretionary activity in terms of **Rule 16.3.2.6** and a consent is required to be obtained. This allows any adverse effect to be assessed.
34	Rule 16.3.3.1 (pg 50)	Add new condition (p) to Rule 16.3.3.1: Except as provided for by Rule 16.3.3.2 and 16.3.13.2, the discharge of contaminants into air from the

Reference no.	Provision	Proposed Change
		burning of any of the following materials: … (o) Sewage sludge and associated solids, or solids derived from liquid-borne municipal, industrial or trade waste; or (p) Asphalt surfaces (seal burning); is a ***prohibited activity***, for which no consent will be granted.
35	Rule 16.3.3.2 (pg 50)	Amend Rule 16.3.3.2 as follows: **16.3.3.2 Discharges from the incineration of materials specified in Rule 16.3.3.1 - discretionary activity** The discharge of contaminants, excluding PM_{10} which is addressed by Rules in section 16.3.15, into air from the incineration of: (1) Any material specified in Rule 16.3.3.1, in an incinerator or crematorium; or (2) Waste oil, in a frost pot, or fuel burning equipment; is a ***discretionary activity***.
36	Rule 16.3.4.1 (pg 51)	Amend Rule 16.3.4.1 as follows: **16.3.4.1 Discharges from fuel burning equipment within Airshed Categories 1, 2, 3 or 4 ~~areas identified in Schedule 1.2~~ - permitted activity** The discharge into air of products of combustion arising from fuel burning equipment from single activities or a combination of activities located on one site (excluding domestic heating appliances ~~and open fires~~ subject to Rules 16.3.1.1 to 16.3.1.~~5~~6) in Airshed Categories 1, 2, 3 or 4 ~~located on a site within an area identified in Schedule 1.2~~ which:… … (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and…

Reference no.	Provision	Proposed Change
37	Rule 16.3.4.2 (pg 52)	Amend Rule 16.3.4.2 as follows: **16.3.4.2 Discharges from fuel burning equipment outside Airshed Categories 1, 2, 3 and 4 ~~areas identified in Schedule 1.2~~ - permitted activity** The discharge into air of products of combustion arising from fuel burning equipment (excluding domestic heating appliances ~~and open fires~~ subject to Rules 16.3.1.1 to 16.3.1.~~5~~4) located on a site outside Airshed Categories 1, 2, 3 and 4 ~~the areas identified in Schedule 1.2~~ which does not exceed a heat generation capacity of 5MW (from single activities or a combination of activities located on one site);… … (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and…
38	Rule 16.3.4.3 (pg 53)	Amend Rule 16.3.4.3 as follows: **16.3.4.3 Other discharges of the products of combustion from fuel burning equipment – discretionary activity** Except as provided for by Rule 16.3.4.1 or 16.3.4.2, the discharge into air of products of combustion from fuel burning equipment, excluding PM_{10}, is a ***discretionary activity.*** **Principal reasons for adopting** **Rule 16.3.4.1** permits minor discharges into air from fuel burning equipment in Airshed Categories 1, 2, 3 or 4 ~~in areas identified in Schedule 1.2~~. It recognises that allowing larger scale discharges without consent in these areas is inappropriate given that ambient air quality within the areas identified in Airshed Categories 1, 2, 3 or 4 ~~Schedule 1.2~~ is more degraded than ~~in other locations~~ elsewhere in Otago. … **Rule 16.3.4.2** recognises that outside Airshed Categories 1, 2, 3 or 4 ~~the areas identified in Schedule 1.2~~, discharges from fuel burning equipment will have less effect. This is because there is a lower density of

Reference no.	Provision	Proposed Change
		combustion discharges.
39	Rule 16.3.5.1 (pg 53)	Amend Rule 16.3.5.1 as follows: **16.3.5.1 Discharges from the processing of plant or animal matter - permitted activity** The discharge of contaminants into air from: ... (6) The drying of grain where the total raw material capacity on site is less than 1000 kg/hr for activities located within Airshed Categories 1, 2, 3 or 4 ~~Schedule 1.2 areas~~ and less than 5000 kg/hr for activities located outside Airshed Categories 1, 2, 3 and 4 ~~of Schedule 1.2 areas~~; ... is a ***permitted activity***, providing: (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and (b) Any discharge of odour, or particulate matter, including fat and oils, is not offensive or objectionable at or beyond the boundary of the property.
40	Rule 16.3.5.2 (pg 54)	Amend Rule 16.3.5.2 as follows: **16.3.5.2 Discharges from the sorting, crushing, screening, conveying and storage of powdered or bulk products - permitted activity** The discharge of contaminants into air from the sorting, crushing, screening, storage and conveying (including loading and unloading) of fertilisers, grains, berries, coal, coke, wood chips, sawdust, wood shavings, bark, sand, aggregates, and other powdered and bulk products whether in dry or liquid form, where: (1) The total capacity of outside storage of bulk materials is less than 1,000 m^3 if located on a site within Airshed Categories 1, 2, 3 or 4 ~~the areas identified in Schedule 1.2~~; and

Reference no.	Provision	Proposed Change
		(2) The crushing and screening of bulk materials is at a rate less than 100 tonnes an hour; is a permitted activity, providing any discharge of odour, or particulate matter is not offensive or objectionable at or beyond the boundary of the property.
41	Rule 16.3.5.3 (pg 54)	Amend Rule 16.3.5.3 as follows: **16.3.5.3 Discharges from mineral extraction and processing - permitted activity** The discharge of contaminants into air from: (1) The extraction of minerals from the surface or from an open pit at a rate less than 20,000 cubic metres per month and 100,000 cubic metres per year; or (2) The crushing and screening of minerals at a rate less than 200 tonnes an hour; or (3) The drying or heating of minerals from single activities or a combination of activities on one site with equipment that has a heat generation capacity of less than 500 kW; or (4) The making of refractory, bricks or ceramic products at a rate less than 200 kg/hr of products; is a ***permitted activity***, providing: (a) The mineral extraction, crushing and screening activities are located outside Airshed Categories 1, 2, 3 and 4 ~~the areas identified in Schedule 1.2~~; and (b) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and (c) Any discharge of smoke, odour or particulate matter is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.
42	Rule 16.3.5.9 (pg 57)	Amend Rule 16.3.5.9 as follows: **16.3.5.9 Other discharges from industrial or trade processes – discretionary activity**

Reference no.	Provision	Proposed Change
		Except as provided for by Rules 16.3.5.1 to 16.3.5.8 and 16.3.6.1, 16.3.6.2, 16.3.7.1, 16.3.9.2, 16.3.10.1, 16.3.10.2, 16.3.11.1, 16.3.13.1 and 16.3.13.2, or prohibited by Rule 16.3.3.1, the discharge of contaminants, excluding PM_{10}, into air from industrial or trade processes is a ***discretionary activity***.
43	Rule 16.3.6.3 (pg 59)	Amend Rule 16.3.6.3 as follows: **16.3.6.3 Other discharges from abrasive blasting – discretionary activity** Except as provided for by Rule 16.3.6.1 or 16.3.6.2, the discharge of contaminants, excluding PM_{10}, into air from abrasive blasting is a ***discretionary activity***.
44	Rule 16.3.7.3 (pg 61)	Amend Rule 16.3.7.3 as follows: **16.3.7.3 Other discharges from waste management – discretionary activity** Except as provided for by Rule 16.3.7.1 or 16.3.7.2, the discharge of contaminants, excluding PM_{10}, into air from waste management is a ***discretionary activity***.
45	Rule 16.3.8.2 (pg 62)	Amend Rule 16.3.8.2 as follows: **16.3.8.2 Other discharges from intensive farming – discretionary activity** Except as provided for by Rule 16.3.8.1, the discharge of contaminants, excluding PM_{10}, into air from intensive farming is a ***discretionary activity***.
46	Rule 16.3.9.4 (pg 65)	Amend Rule 16.3.9.4 as follows: **16.3.9.4 Other discharges from agrichemical application – discretionary activity** Except as provided for by Rules 16.3.9.1 to 16.3.9.3, the discharge of contaminants, excluding PM_{10}, into air from agrichemical application is a ***discretionary activity***.

Reference no.	Provision	Proposed Change
47	Rule 16.3.10.3 (pg 67)	Amend Rule 16.3.10.3 as follows: **16.3.10.3 Other discharges of water vapour, heat or energy – discretionary activity** Except as provided for by Rule 16.3.10.1 or 16.3.10.2, the discharge of contaminants, excluding PM_{10}, into air of water vapour, heat or energy is a ***discretionary activity***.
48	Rule 16.3.11.2 (pg 68)	Amend Rule 16.3.11.2 as follows **16.3.11.2 Other discharges from ventilation or vapour displacement – discretionary activity** Except as provided for by Rule 16.3.11.1, the discharge of contaminants, excluding PM_{10}, into air from ventilation or vapour displacement is a ***discretionary activity***.
49	Rule 16.3.14.1 (pg 69)	Amend Rule 16.3.14.1 as follows **16.3.14.1 Discretionary activities (general rule)** The discharge of contaminants, excluding PM_{10}, into air from any process or activity on an industrial or trade premises: (1) Excluding any discharge associated with the following activities regulated by the Regional Plan: Waste: (i) A contaminated site; (ii) A facility for the treatment or disposal of hazardous wastes; (iii) A new or operating landfill; (iv) A closed landfill; (v) An offal pit on production land, intensive farm, or industrial or trade premises; (vi) A farm landfill; (vii) Composting or silage production; or

Reference no.	Provision	Proposed Change
		(viii) A greenwaste landfill; and (2) Which is not expressly provided for by the rules of this Plan; and (3) Which is not a prohibited activity under Rule 16.3.1.1, 16.3.3.1 or 16.3.12.1; is a ***discretionary activity***.
50	Rule 16.3.14.2 (pg 70)	As this activity is now prohibited by the NESAQ, this rule is deleted in its entirety: ~~**16.3.14.2 The remediation of asphalt surfaces (seal burning) - discretionary activity**~~ ~~The discharge of contaminants into air from the remediation of asphalt surfaces (seal burning) is a ***discretionary activity***.~~
51	New Section 16.3.15 (pg 70)	Add new Section 16.3.15: **16.3.15 Discharges of PM_{10}** For the purpose of assessing Rules 16.3.15.1 – 16.3.15.5, the data for the curved line paths for Airshed Categories 1 to 3 is given in Tables 2, 3 and 4 of Policy 9.1.1.
52	New Rule 16.3.15.1 (pg 70)	Add new Rule 16.3.15.1: **16.3.15.1 Discharges of PM_{10} in an airshed – prohibited activity** Except as provided for by the permitted activity rules in this Plan and Rules 16.3.15.2 to 16.3.15.5, the discharge of PM_{10} to air in an airshed is a ***prohibited activity***, for which no consent will be granted.
53	New Rule 16.3.15.2 (pg 70)	Add new Rule 16.3.15.2: **16.3.15.2 Discharges of PM_{10} in Airshed Categories 1, 2 or 3, before 1 September 2013, where PM_{10} is above the curved line path, and the discharge has an existing consent – discretionary activity**

Reference no.	Provision	Proposed Change
		Except as provided for by the permitted activity rules in this Plan or prohibited by Rules 16.3.1.1, 16.3.3.1 and 16.3.12.1, the discharge of PM_{10} to air in Airshed Categories 1, 2 or 3, before 1 September 2013, where the concentration of PM_{10} is above the curved line path for that proposed airshed; is a ***discretionary activity***, providing: (a) A consent application has been made in circumstances to which Section 124 of the Resource Management Act applies; and (b) The applicant undertakes to reduce PM_{10} discharged from another source into the same proposed airshed, by an amount equal to or greater than that which the applicant seeks to discharge, within one year after the grant of the resource consent, and to maintain the reduction for the balance of the duration of the resource consent.
54	New Rule 16.3.15.3 (pg 70)	Add new Rule 16.3.15.3: **16.3.15.3 Discharges of PM_{10} in Airshed Categories 1, 2 or 3, before 1 September 2013, where PM_{10} is on or below the curved line path – discretionary activity** Except as provided for by the permitted activity rules in this Plan or prohibited by Rules 16.3.1.1, 16.3.3.1 and 16.3.12.1, the discharge of PM_{10} to air in Airshed Categories 1, 2 or 3, before 1 September 2013, where the concentration of PM_{10} in that proposed airshed is on or below the curved line path for that proposed airshed; is a ***discretionary activity***, providing: (a) The applicant undertakes to reduce PM_{10} discharged from another source into the same proposed airshed, by an amount equal to or greater than the increase in the concentration of PM_{10} in the proposed airshed above the curved line path caused by the discharge to be authorised by the resource consent, within one year after the grant of the resource consent, and to maintain the reduction for the balance of the duration of the resource consent.

Reference no.	Provision	Proposed Change
55	New Rule 16.3.15.4 (pg 70)	Add new Rule 16.3.15.4: **16.3.15.4 Discharges of PM_{10} outside of Airshed Categories 1, 2 and 3, before 1 September 2013 – discretionary activity** Except as provided for by the permitted activity rules in this Plan or prohibited by Rules 16.3.1.1, 16.3.3.1 and 16.3.12.1, the discharge of PM_{10} to air outside of Airshed Categories 1, 2 and 3 before 1 September 2013, where the concentration of PM_{10} in that proposed airshed does not breach the ambient air quality standard for PM_{10}; is a ***discretionary activity***, providing: (a) The resource consent sought to discharge PM_{10} is not likely to not cause the ambient air quality standard for PM_{10} in that airshed to be breached at any time during the duration of the resource consent sought.
56	New Rule 16.3.15.5 (pg 70)	Add new Rule 16.3.15.5: **16.3.15.5 Discharges of PM_{10} in any area, after 31 August 2013 – discretionary activity** Except as provided for by the permitted activity rules in this Plan or prohibited by Rules 16.3.1.1, 16.3.3.1 and 16.3.12.1, the discharge of PM_{10} to air in any proposed airshed, after 31 August 2013, where the concentration of PM_{10} in that proposed airshed does not breach the ambient air quality standard for PM_{10}; is a ***discretionary activity***, providing: (a) The resource consent sought to discharge PM_{10} is not likely to cause the ambient air quality standard for PM_{10} to be breached at any time during the duration of the resource consent sought.

Reference no.	Provision	Proposed Change
57	New Principal reasons for adopting (pg 70)	Add new Principal reasons for adopting, for Rules 16.3.15.1 to 16.3.15.5: **Principal reasons for adopting** These rules are adopted to assist in ensuring public health impacts of PM_{10} air pollution are minimised, and to assist in achieving the curved line paths for PM_{10} in Airshed Categories 1, 2 and 3, the ambient air quality standard for PM_{10} and ultimately the Otago Goal for PM_{10} (see Schedule 1). **Rule 16.3.15.1** has been adopted to ensure that any applications to discharge PM_{10} to air outside of what is expressly provided for by Rules 16.3.15.1 to 16.3.15.4 (and therefore regulations 17 – 19 of the NESAQ), is prohibited. **Rule 16.3.15.2** has been adopted to meet the requirements of regulations 17B and 17C the NESAQ. **Rule 16.3.15.3 and Rule 16.3.15.4** have been adopted to meet the requirements of regulation 18 of the NESAQ. **Rule 16.3.15.5** has been adopted to meet the requirements of regulation 19 of the NESAQ.
58	Section 16.4.2 (pgs 71 – 73)	Add a new information requirement to Section 16.4.2: 15. How the discharge to air will meet the requirements of the NESAQ.
59	Section 16.4.4 (pg 73)	Amend section 16.4.4 as follows: Where modelling is required, the applicant will be required to model the ground level concentrations of any contaminant present, or likely to be present, in significant quantities in the discharge in accordance with any relevant standards or ~~the~~ guidelines ~~in Schedule 1.7 of this Plan~~. Also, the following information will be submitted with a resource consent application: … (i) A justification for any deviations from best practice ~~the~~ modelling procedures ~~set out in Schedule 1.7 of this Plan~~.

5. Changes to Methods other than Rules

Reference no.	Provision	Proposed Change
60	Method 17.2.4.1 (pgs 77 & 78)	Amend Method 17.2.4.1 as follows: 17.2.4.1 The Otago Regional Council will liaise with Otago's city and district councils to develop mechanisms to enable Rules 16.3.1.2 to 16.3.1.6 concerning the installation of ~~new~~ domestic heating appliances to be integrated with the city and district council's own building and land use consent processes.
61	Method 17.4.2.1 (pg 78 & 79)	Amend Method 17.4.2.1 as follows: 17.4.2.1 To encourage and support the use of practices which assist in reducing the adverse effects associated with discharges from domestic heating appliances ~~and open fires~~. Such practices include, but are not limited to: (a) Following manufacturers' instructions and good burning practices for the type of fuel and the appliance ~~or open fire~~ being used; (b) Avoiding the burning of waste or materials that are likely to result in hazardous air contaminants in ~~open fires or~~ domestic heating appliances; (c) Burning wood only when it is dry; (d) Burning other fuels such as coal of good quality and gas or oil (excluding waste oil); (e) Replacing existing domestic heating appliances that do not comply with the ~~4g/kg emission standard~~ particulate emission rates set in the permitted activity rules for discharges from domestic heating appliances; and (f) Finding an alternative to the use of any domestic heating appliance during conditions that are likely to result in high PM_{10} concentrations, unless electricity or gas or oil supply has failed. Education and promotion programmes will be among the methods the Council will employ to ensure good practices are followed.

Reference no.	Provision	Proposed Change
62	Method 17.5.4.1 (pg 81)	Amend Method 17.5.4.1 as follows: 17.5.4.1 In determining whether a given model of a domestic heating appliance meets the particulate emission ~~rate of 4 grams of particulates (PM_{10}) per kilogram of fuel burnt, as required by Rule 16.3.1.2~~ rates and thermal efficiency standards set in the permitted activity rules for discharges from domestic heating appliances, the Council will require evidence that an appliance has been tested according to the relevant testing procedures specified below: (i) AS/NZS 4013:1999, *Domestic solid fuel burning appliances – Method for determination of flue gas emissions;* ~~*or*~~ (ii) AS/NZS 4013:1999, *Domestic solid fuel burning appliances – Method for determination of power output and efficiency;* (iii) AS/NZ 4012:1999, *Domestic solid fuel burning appliances – Method for determination of power output and efficiency;* (iv) AS/NZS 5078:2007, *Domestic solid fuel burning appliances – Pellet heaters – Method for determination of power output and efficiency;* (v) AS/NZS 4886:2007, *Domestic solid fuel burning appliances –Determination of flue gas emissions;* ~~(ii) NZS 7403:1992, *Domestic solid fuel burning appliances – Method for determination of flue gas emissions;* or~~ ~~(iii) USEPA Method 28, *Certification and Auditing of Wood Heaters.*~~ A domestic heating appliance will be considered to meet the emission standard for a particular fuel or mix of fuels, only when the particulate emissions ~~are 4 g/kg or less~~ meet the rates set in the permitted activity rules for discharges from domestic heating appliances when tested with each of those fuels, or a specified mixture of fuels. If the emission standard is exceeded when using a particular fuel or mix, the appliance is not approved under ~~Rule 16.3.1.2~~ the permitted activity rules for discharges from domestic heating appliances for use with that fuel or mix of fuels. The Otago Regional Council will hold a publicly-available list of those domestic heating appliance models that meet the emission ~~standard in Rule 16.3.1.2~~ standards set in the permitted activity rules for discharges from

Reference no.	Provision	Proposed Change
		domestic heating appliances. **Principal reasons for adopting** **Method 17.5.4.1** is adopted to set the procedures used to determine compliance with ~~Rules 16.3.1.1 and 16.3.1.2~~ permitted activity rules for discharges from domestic heating appliances. ~~There is more than one recognised standard method for testing emissions from domestic heating appliances. Imported or second-hand domestic heating appliances may from time to time be installed in Schedule 1.2 areas in Otago. These appliance models may have been tested under methods other than the current AS/NZS standard procedure.~~

6. Changes to Anticipated Environmental Results

Reference no.	Provision	Proposed Change
63	Section 18.2.1 (pg 84)	Change section 18.2.1 as follows: There are no significant increases in the ambient levels of contaminants identified in Schedule ~~1.~~1.
64	Section 18.2.2 (pg 84)	Change section 18.2.2 as follows: Levels of contaminants in Otago's ambient air do not exceed the standards in the NESAQ, and where possible the Otago Goal Levels identified in Schedule ~~1.~~1.
65	Section 18.2.3 (pg 84)	Change section 18.2.3 as follows: Ambient air quality improves in Airshed Categories 1 to 4 ~~areas identified in Schedule 1.2.~~
66	Section 18.2.4 (pg 84)	Change section 18.2.4 as follows: Measurable improvements occur in the levels of ~~particulates (~~PM_{10}~~)~~ measured within Airshed Categories 1 to 4 ~~areas identified in Schedule 1.2~~, particularly during the ~~winter~~ months of May to August.

7. Changes to Schedules

<table>
<tr><th>Reference no.</th><th>Provision</th><th>Proposed Change</th></tr>
<tr><td>67</td><td>Schedule numbering, pgs 92-116</td><td>Change the numbering of Schedules as follows:

Schedule ~~1.~~1 Regional Ambient Air Quality Guidelines
Schedule ~~1.~~2 Maps of Proposed Airshed Boundaries ~~Areas~~
Schedule ~~1.~~3 Hazardous Air Contaminants
Schedule ~~1.~~4 Good Management Practices for Agrichemical Application
Schedule ~~1.~~5 Good Management Practices to Prevent or Minimise the Discharge of Smoke from Burning Vegetation
Schedule ~~1.~~6 Setting Chimney Heights for Industrial or Trade Processes
~~Schedule 1.7 Standard Dispersion Modelling Procedure~~</td></tr>
<tr><td>68</td><td>Schedule 1.1, pgs 92 & 93</td><td>Amend Schedule 1.1 as follows:

Schedule ~~1.~~1 Regional Ambient Air Quality Guidelines
<table>
<tr><th>Indicator</th><th>Otago Goal Levels*</th><th>MfE Levels‡</th><th>Averaging Times**</th><th>Preferred Techniques for Measurement***</th></tr>
<tr><td>Particulates (PM_{10})</td><td>35 ~~50~~ µg/m^3</td><td>50 ~~120~~ µg/m^3
20 ~~40~~ µg/m^3</td><td>24-hours
annual</td><td>~~AS 3580.9.6 - 1990~~
~~AS 3580.9.7 - 1990~~
US 40 CFR Part 50, Appendix J</td></tr>
<tr><td>Sulphur dioxide</td><td>330 µg/m^3
230 µg/m^3
80 µg/m^3</td><td>500 µg/m^3
350 µg/m^3
125 µg/m^3
50 µg/m^3</td><td>10-minutes
1-hour
24 hours
annual</td><td>AS 3580.4.1 - 1990</td></tr>
<tr><td>Carbon monoxide</td><td>20 mg/m^3
6 mg/m^3</td><td>30 mg/m^3
10 mg/m^3</td><td>1-hour
8-hours</td><td>~~AS 2695 - 1984~~
AS3580.7.1 – 1992</td></tr>
<tr><td>Ozone</td><td></td><td>150 µg/m^3
100 µg/m^3</td><td>1-hour
8-hours</td><td>AS 3580.6.1 - 1990</td></tr>
<tr><td>Nitrogen dioxide</td><td>130 ~~200~~ µg/m^3</td><td>200 ~~300~~ µg/m^3</td><td>1-hour</td><td>AS 3580.5.1 - 1993</td></tr>
</table></td></tr>
</table>

Reference no.	Provision	Proposed Change

	60 $\mu g/m^3$	100 $\mu g/m^3$	24-hours	
Lead		0.2 ~~0.5 - 1.0~~ $\mu g/m^3$	3-months	AS 2800 - 1985
Fluoride - Special land use		1.8 $\mu g/m^3$ 1.5 $\mu g/m^3$ 0.8 $\mu g/m^3$ 0.4 $\mu g/m^3$ 0.25 $\mu g/m^3$	12-hours 24-hours 7-days 30-days 90-days	AS 3580.13.1-1993 AS 3580.13.2-1991
- General land use		3.7 $\mu g/m^3$ 2.9 $\mu g/m^3$ 1.7 $\mu g/m^3$ 0.84 $\mu g/m^3$ 0.5 $\mu g/m^3$	12-hours 24-hours 7-days 30-days 90-days	AS 3580.13.1-1993 AS 3580.13.2-1991
- Conservation area		0.1 $\mu g/m^3$	90-days	
Hydrogen sulphide		7 $\mu g/m^3$	1-hour ~~30 minutes~~	~~AS 3580.8.1-1990~~ AS3580.4.1 – 1990, coupled with a hydrogen sulphide to sulphur dioxide converter

$\mu g/m^3$ = micrograms per cubic metre
mg/m^3 = milligrams per cubic metre
AS = Australian Standard

* Levels do not always equate to 66% of alert levels as a consequence of rounding.

** Averaging times are the times over which the average level of indicator should not exceed the levels given in the guidelines.

*** Other international standard methods may be used as appropriate.

Reference no.	Provision	Proposed Change
		‡MfE (2002) updated values, except for Fluoride, where the 1994 values are still valid The **Otago Goal Levels** equate to 66% of the level set by the Ministry for the Environment in its publication "*Ambient Air Quality Guidelines*" (1994 and 2002)~~, except in relation to particulates (PM_{10})~~. The 66% level has been adopted to reflect the "alert" levels being advocated in the Ministry for the Environment's Environmental Performance Indicators Programme (*Environmental Performance Indicators: Proposals for Air, Fresh Water and Land, 1997*). Concentrations above these levels can be of concern and can lead to the ~~national guidelines~~ AAQG, and therefore the NESAQ, being exceeded if trends are not curbed. The levels were chosen because it is generally considered that air quality in Otago is high, except for PM_{10} in some areas, and that it could not be maintained or enhanced (Objective 6.1.1) if the guideline levels were adopted on their own. ~~In the case of particulates (PM_{10}), a lower guideline level has been adopted in order to reflect increased international concern over the health effects of PM_{10} which suggest that the existing Ministry for the Environment guidelines for this contaminant may not be sufficiently low to protect the health of the general population.~~ The **Ministry for the Environment Levels** are those specified in the Ministry for the Environment's ~~*Ambient Air Quality Guidelines (1994)*~~ AAQG and are defined as the levels adequate to protect the health of the general population, although the levels set for fluoride are set to protect plants and animals which have lower tolerances than humans. The level set for hydrogen sulphide is set to avoid the occurrence of odour problems. Contaminant concentrations above the Ministry for the Environment levels are considered in the "action" category as defined by the Ministry for the Environment publication *Environmental Performance Indicators: Proposals for Air, Fresh Water and Land (1997).* These levels are considered unacceptable by national and international standards and public health or other effects are likely. Concentrations which exceed these levels must be urgently reduced. These Schedule ~~1.~~1 guidelines are designed to protect the ambient air quality in any area of Otago. Any monitoring to test compliance with the guidelines should be undertaken so the measurements are representative of the area of concern. In this respect it is important that ~~the~~ siting of the monitoring station follows the requirements of the specific methods listed in the table. The guidelines are not to be used as design concentrations for dispersion modelling of individual point sources. ~~Information on the use of dispersion models is presented in Schedule 1.7.~~

Reference no.	Provision	Proposed Change

The NESAQ (NESAQ Schedule 1) ambient air quality standards are statutory standards and are mandatory nationally. They are listed below:

NESAQ ambient air quality standards

Contaminant	Threshold Concentration	Permissible Excess	Monitoring Method
Carbon monoxide	10 mg/m^3 expressed as a running 8-hour mean	One 8-hour period in a 12-month period	AS 3580.7.1:1992
Nitrogen dioxide	200 $\mu g/m^3$ expressed as a 1-hour mean	9-hours in a 12-month period	AS 3580.5.1:1993
Ozone	150 $\mu g/m^3$ expressed as a 24-hour mean	Not to be exceeded at any time	AS 3580.6.1:1990
PM_{10}	50 $\mu g/m^3$ expressed as a 24-hour mean	One 24-hour period in a 12-month period	AS/NZS 3580.9.6:2003 US Code of Federal Regulations, Title 40 – Protection of Environment, Vol 2 Pt 50, Appendix J
Sulphur dioxide	350 $\mu g/m^3$ expressed as a 1-hour mean 570 $\mu g/m^3$ expressed as a 1-hour mean	9-hours in a 12-month period Not to be exceeded at any time	AS 3580.4.1:1990

In the above table,
1-hour mean -
(a) means a mean calculated every hour on the hour for the preceding hour; and
(b) in relation to a contaminant at a particular location for a particular hour, means the mean of not more than 10-minute

Reference no.	Provision	Proposed Change
		means, collected not less than once every 10 seconds, for the contaminant at that location during that hour 24-hour mean - (a) means a mean calculated every 24 hours at midnight for the preceding 24 hours; and (b) in relation to a contaminant at a particular location for a particular 24-hour period, means--- (i) the mean level at which the contaminant is recorded in the air, by continuous sampling of the air at that location, throughout that 24-hour period; or (ii) the mean of the 1-hour means for that contaminant at that location for the preceding 24 hours running 8-hour mean - (a) means a mean calculated every hour on the hour for that hour and the preceding 7 hours to give 1 running 8-hour mean per hour; and (b) in relation to a contaminant at a particular location for a particular hour, means the mean of the 1-hour means for that contaminant at that location for that hour and the preceding 7 hours.
69	New Schedule 2 maps (pg 117)	Add maps showing proposed Airshed boundaries (see Appendix 1).

8. Changes to Glossary

Reference no.	Provision	Proposed Change	
70	New definition of AAQG (pg118)	Add new definition to the Glossary:	
		AAQG	Ambient Air Quality Guidelines.
71	New definition of airshed (pg 118)	Add new definition to the Glossary:	
		Airshed	Means - (a) The region of a regional council excluding any area specified in a notice under paragraph (b): (b) A part of the region of a regional council specified by the Minister by notice in the *Gazette* to a separate airshed. Note: Boundaries of the Otago airsheds gazetted as per (b) above, are shown in Schedule 2.
72	New definition of ambient air quality standard for PM_{10} (pg 118)	Add new definition to the Glossary:	
		Ambient air quality standard for PM_{10}	Means - (a) A threshold concentration of 50 $\mu g/m^3$ expressed as a 24-hour mean; and (b) A permissible excess of one 24-hour period in a 12-month period.
73	New definition of trade premise	Add new definition to the Glossary:	
		Commercial premise	Any premises used for tourist, hospitality or accommodation activities that displays, offers, provides, sells, or hires goods, equipment or services.
74	New definition of curved line path (pg 120)	Add new definition to the Glossary:	
		Curved line path	Means a curved line that –

Reference no.	Provision	Proposed Change	
			(a) Starts on the y-axis of a graph at a point representing, as at 1 September 2005 or the date that the plan is publicly notified (whichever is later), the concentration of PM_{10} in the airshed; and (b) Ends on the x-axis of the graph at a point representing as at 1 September 2013, the ambient air quality standard for PM_{10} in the airshed.
75	Definition of discretionary activity (Pg 120)	Change the definition of Discretionary activity to be consistent with the Resource Management Act:	
		Discretionary activity	~~An activity -~~ ~~(a) Which is provided for, as a discretionary activity, by a rule in a plan or a proposed plan; and~~ ~~(b) Which is allowed only if a resource consent is obtained in respect of that activity; and~~ ~~(c) Which may have standards and terms specified in a plan or proposed plan; and~~ ~~(d) In respect of which the consent authority may restrict the exercise of its discretion to those matters specified in the plan or proposed plan for that activity.~~ If an activity is described in the Resource Management Act 1991, regulations, or a plan or proposed plan as a discretionary activity, - (a) A resource consent is required for the activity; and (b) The consent authority may grant the resource consent with or without conditions or decline the resource consent; and (c) The activity must comply with the standards, terms or conditions, if any, specified in the plan or proposed plan.
76	Definition of domestic heating appliance (pg 120)	Amend the definition as follows:	
		Domestic heating appliance	A combustion appliance, with a heat generation capacity of up to 35 kW ~~which is designed to operate with door or doors closed,~~ in which solid fuel is burnt for heating or cooking, and is primarily used in residential dwellings. It includes, but is not limited to, any open fire, woodburner, multifuel, pellet or coal burning heater, coal range or cooking stove.
77	New definition of	Add new definition to the Glossary:	

Reference no.	Provision	Proposed Change	
	multifuel heater (pg 123)	**Multifuel heater**	Means a domestic heating appliance designed to burn more than one type of solid fuel.
78	New definition of NESAQ (pg 123)	Add new definition to the Glossary:	
		NESAQ	Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004.
79	New definition of oil (pg 124)	Add new definition to the Glossary:	
		Oil	(a) Means petroleum in any form (other than gas); and (b) Includes crude oil, fuel oil sludge, oil refuse, and refined oil products (e.g. diesel fuel, kerosene and motor gasoline).
80	Definition of permitted activity (Pg 124)	Change the definition to be consistent with the Resource Management Act:	
		Permitted activity	~~Means an activity that is allowed by a plan without a resource consent if it complies in all respects with any conditions (including any conditions in relation to any matter described in section 108 or section 220) specified in the plan.~~ If an activity is described in the Resource Management Act 1991, regulations, or a plan or proposed plan as a permitted activity, a resource consent is not required for the activity if it complies with the standards, terms, or conditions, if any, specified in the plan or proposed plan.
81	Definition of PM_{10} (pg 124)	Amend definition of PM_{10} to read:	
		PM_{10}	Means particulate matter that is - (a) ~~Fine particles that are~~ Less than 10 microns in aerodynamic diameter ~~or smaller and are able to be inhaled down the human respiratory tract.~~; and (b) Measured in accordance with the United States Code of Federal Regulations, Title 40 –

Reference no.	Provision	Proposed Change	
			Protection of Environment, Volume 2, Part 50, Appendix J – Reference method for the determination of particulate matter as PM_{10} in the atmosphere. Note: There is a link to (b) on the Ministry for the Environment website (www.mfe.govt.nz).
82	Definition of prohibited activity (Pg 125)	Change the definition to be consistent with the Resource Management Act	
		Prohibited activity	~~An activity which a plan expressly prohibits and describes as an activity for which no resource consent shall be granted; and which includes any activity prohibited by section 105(2)(b) of the Historic Places Act 1993.~~ If an activity is described in the Resource Management Act 1991, regulations, or a plan as a prohibited activity, no application may be made for that activity and a resource consent must not be granted for it.
83	Definition of registered historic place (pg 125)	Add new definition to the Glossary:	
		Registered historic place	A historic place registered under Part 2 of the Historic Places Act 1993.
84	Definition of solid fuel (pg 126)	Add new definition to the Glossary:	
		Solid fuel	Means a solid substance that releases useable energy when burnt (for example, wood and coal).
85	New definition of thermal efficiency (pg 126)	Add new definition to the Glossary:	
		Thermal efficiency	Ratio of useable heat energy output to energy input.
86	New	Add new definition to the Glossary:	

Reference no.	Provision	Proposed Change	
	definition of waste (pg 126)	**Waste**	Means substances or objects that are disposed of or intended to be disposed of.
87	New definition of woodburner (pg 126)	Add new definition to the Glossary:	
		Woodburner	(a) Means a domestic heating appliance that burns wood; but (b) Does not include – (i) An open fire; or (ii) A multifuel heater, a pellet heater, or a coal burning heater; or (iii) A stove that is – (A) Designed and used for cooking; and (B) Heated by burning wood.

9. Consequential Changes

<table>
<tr><th>Reference no.</th><th>Provision</th><th>Proposed Change</th></tr>
<tr><td>88</td><td>Footnotes</td><td>Change all footnotes to read:

Regional Plan: Air for Otago ~~10 April 2006~~ (Updated to 'operative day, month, year')</td></tr>
<tr><td>89</td><td>Pg i</td><td>Change the date to read:

~~10 April 2006~~ <u>'Operative date'</u>

Change the ISBN number to read:

~~ISBN 1-877265-32-2~~ <u>ISBN 'obtain new number from Records'</u></td></tr>
<tr><td>90</td><td>Pg ii</td><td>Add details of Proposed Plan Change 2 to the end of the table as follows:

<table>
<tr><th>Key Event</th><th>Date Notified</th><th>Date Decisions Released</th><th>Date Operative</th></tr>
<tr><td>Regional Plan: Air</td><td>28 February 1998</td><td>30 June 2001</td><td>1 January 2003</td></tr>
<tr><td>Plan Change 1 to the Regional Plan: Air</td><td>17 December 2005</td><td>-</td><td>10 April 2006</td></tr>
<tr><td><u>Plan Change 2 to the Regional Plan: Air</u></td><td><u>'Date of notification'</u></td><td><u>'Date decisions released'</u></td><td><u>'Date operative'</u></td></tr>
</table>
</td></tr>
<tr><td>91</td><td>Chairperson's Foreword (pg iii)</td><td>Create a new Chairperson's Foreword.</td></tr>
<tr><td>92</td><td>Table of Contents (pgs vi – vii)</td><td>Update heading text, heading numbering and page numbering.</td></tr>
<tr><td>93</td><td>Section 1.4 (pg 3)</td><td>Add the following paragraph to the end of Section 1.4:</td></tr>
</table>

		This Plan was amended by Plan Change 2, proposed on *'date of notification'* 2007 and made operative on *'date decisions released' month year'* following the receipt of *'###'* submissions. The amendments related to ambient air quality, and introduced new rules regarding discharges from domestic heating appliances.
94	Section 2.2 (pg 6)	Change the following about the Regional Plan: Water to read: **Regional Plan: Water for Otago** ~~(Proposed, Incorporating Decisions on Submissions Received, 2000)~~ (Operative 2004)
95	Policy 7.1.1 (pg 23)	Amend reference to rules as follows: *Rules 16.3.1.6, 16.3.2.5, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1, ~~16.3.14.2~~*
96	Policy 8.1.1 (pg 24)	Amend cross references as follows: *Other policies 8.1.2, 8.2.3, 8.2.4, 8.2.6, 8.2.7, 8.2.8, 9.1.1, 9.1.2, 9.1.3, 9.1.4* *Rules 16.3.1.6, 16.3.2.~~5~~6, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1~~, 16.3.14.2~~, 16.3.5.1, 16.3.5.2, 16.3.5.3, 16.3.5.4, 16.3.5.5.*
97	Policy 8.2.2 (pg 23)	Amend policy as follows: Priority will be given to avoiding adverse effects from hazardous air contaminants identified in Schedule ~~1.~~3 when considering the effects of any discharge of contaminants into air.
98	Policy 8.2.2 (pg 23)	Amend explanation as follows: The contaminants listed in Schedule ~~1.~~3 have been identified by the …
99	Policy 8.2.2 (pg 25)	Amend reference to rules as follows: *Rules 16.3.1.6, 16.3.2.~~5~~6, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1~~, 16.3.14.2~~*
100	Policy 8.2.3 (pg 26)	Amend explanation as follows: Their consideration will include having regard to the Otago Goal Levels identified in Schedule ~~1.~~1.
101	Policy 8.2.3 (pg 26)	Amend reference to rules as follows: *Rules 16.3.1.6, 16.3.2.~~5~~6, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1~~, 16.3.14.2~~, 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5*
102	Policy 8.2.4	Amend reference to rules as follows:

<table>
<tr><td></td><td>(pg 26 & 27)</td><td>Rules 16.3.1.6, 16.3.2.~~5~~6, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1,~~16.3.14.2,~~ 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5</td></tr>
<tr><td>103</td><td>Policy 8.2.5
(pg 27 & 28)</td><td>Amend reference to rules as follows:

Rules 16.3.1.6, 16.3.2.~~5~~6, 16.3.3.2, 16.3.4.3, 16.3.5.9, 16.3.6.3, 16.3.7.3, 16.3.8.2, 16.3.9.4, 16.3.10.3, 16.3.11.2, 16.3.14.1, ~~16.3.14.2,~~ 16.3.15.2, 16.3.15.3, 16.3.15.4, 16.3.15.5</td></tr>
<tr><td>104</td><td>Policy 12.1.1
(pg 33)</td><td>Amend explanation as follows:

Schedule ~~1.~~4 of this Plan contains a summary of these practices, and the Otago Regional Council encourages those applying agrichemicals to follow them, to ensure that users are adopting best practice.</td></tr>
<tr><td>105</td><td>Policy 13.1.1
(pg 34 & 35)</td><td>Amend policy as follows:

To encourage people undertaking vegetation burning to adopt good management practices, including those set out in Schedule ~~1.~~5 to avoid or mitigate adverse effects.</td></tr>
<tr><td>106</td><td>Policy 13.1.1
(pg 34 & 35)</td><td>Amend explanation as follows:

These practices are outlined in Schedule ~~1.~~5.</td></tr>
<tr><td>107</td><td>Table 1:
Index to rules
(pg 40)</td><td>Add a new section to the table (section 16.3.15), and amend table as follows:

Table ~~1~~ 5: Index to Rules
<table>
<tr><th>Rule number</th><th>Page *</th><th>Activity status</th><th>Description of Rule</th></tr>
<tr><td colspan="4">Discharges from ~~solid fuel~~ domestic heating appliances (Section 16.3.1)</td></tr>
<tr><td>16.3.1.1</td><td>44</td><td>Prohibited</td><td>Discharges from domestic heating appliances ~~in Schedule 1.2 areas~~ that do not meet ~~the 4g/kg emissions standard, which are installed after 1 January 2003~~ permitted activity Rules 16.3.1.2 to 16.3.1.5 or discretionary activity Rule 16.3.1.6.</td></tr>
</table></td></tr>
</table>

16.3.1.2	44	Permitted	Discharges from domestic heating appliances ~~in Schedule 1.2 areas~~ in Airshed Category 1A or Airshed Category 1B ~~that meet the 4g/kg emissions standard, which are installed after 1 January 2003~~
16.3.1.3	44	Permitted	Discharges from ~~domestic open fires and existing~~ domestic heating appliances ~~in Schedule 1.2 areas~~ in Airshed Categories 2, 3 or 4
16.3.1.4	45	Permitted	Discharges from ~~domestic open fires and~~ domestic heating appliances ~~outside Schedule 1.2 areas~~ outside of Airshed Categories 2, 3 or 4
16.3.1.5	45	~~Discretionary~~ Permitted	~~Other discharges from open fires or domestic heating appliances~~ Discharges from domestic heating appliances installed in a registered historic place
16.3.1.6	45	Discretionary	Discharges from domestic heating appliances installed in commercial premises
Outdoor burning (Section 16.3.2)			
16.3.2.1	47	Permitted	Discharges from outdoor burning on residential properties in Airshed Categories 1, 2, 3 or 4 ~~Dunedin and Mosgiel Schedule 1.2 areas~~
16.3.2.2	47	Permitted	Discharges from outdoor burning on non-residential properties in Airshed Categories 1, 2, 3 or 4 ~~Dunedin and Mosgiel Schedule 1.2 areas~~
16.3.2.3	47	Permitted	Discharges from outdoor burning on properties which are not on production land, in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin and Mosgiel Schedule 1.2 areas~~
16.3.2.4	48	Permitted	Discharges from outdoor burning on production land, in areas of Otago other than Airshed Categories 1, 2, 3 and 4 ~~Dunedin and Mosgiel Schedule 1.2 areas~~
16.3.2.5	48	Permitted	Discharges from outdoor burning of any campfire or celebratory ~~bon~~fire, or for the cooking of food
Products of combustion from fuel burning equipment (Section 16.3.4)			
16.3.4.1	51	Permitted	Discharges from fuel burning equipment within Airshed Categories 1, 2, 3 or 4 ~~areas identified in Schedule 1.2~~
16.3.4.2	52	Permitted	Discharges from fuel burning equipment outside Airshed Categories 1, 2, 3 and 4 ~~areas identified in Schedule 1.2~~
Other discretionary activities (Section 16.3.14)			

<table>
<tr><td></td><td></td><td>
<table>
<tr><td>~~16.3.14.2~~</td><td>~~70~~</td><td>~~Discretionary~~</td><td>~~Discharges from the remediation of asphalt surfaces (seal burning)~~</td></tr>
<tr><td colspan="4"><u>Discharges of PM_{10} (Section 16.3.15)</u></td></tr>
<tr><td><u>16.3.15.1</u></td><td><u>70</u></td><td><u>Prohibited</u></td><td><u>Discharges of PM_{10}, which are not permitted activities or authorised by a resource consent</u></td></tr>
<tr><td><u>16.3.15.2</u></td><td><u>70</u></td><td><u>Discretionary</u></td><td><u>Discharges of PM_{10} in Airshed Categories 1, 2 or 3 before 1 September 2013, where PM_{10} in the proposed airshed is above the curved line path, and the discharge has an existing consent</u></td></tr>
<tr><td><u>16.3.15.3</u></td><td><u>70</u></td><td><u>Discretionary</u></td><td><u>Discharges of PM_{10} in Airshed Categories 1, 2 or 3 before 1 September 2013, where PM_{10} in the proposed airshed is on or below the curved line path</u></td></tr>
<tr><td><u>16.3.15.4</u></td><td><u>70</u></td><td><u>Discretionary</u></td><td><u>Discharges of PM_{10} outside Airshed Categories 1, 2 and 3 before 1 September 2013</u></td></tr>
<tr><td><u>16.3.15.5</u></td><td><u>70</u></td><td><u>Discretionary</u></td><td><u>Discharges of PM_{10} in any area after 1 September 2013, which are not permitted activities</u></td></tr>
</table>
<u>*Some page numbers in Table 5 may change as a result of proposed changes to the Plan.</u>
</td></tr>
<tr><td>108</td><td>Rule 16.3.5.4 (pg 55)</td><td>Amend Rule 16.3.5.4 as follows:
…
(3) Processes that discharge less than 0.01 kg/hr of Category A, B1 and B2 carcinogens as identified in Schedule ~~1.~~3; or
(4) Processes that discharge less than 0.01 kg/hr of heavy metals; or
(5) Processes that discharge less than 1 kg/hr of hazardous air contaminants identified in Schedule ~~1.~~3, excluding heavy metals and Category A, B1 and B2 carcinogens as identified in Schedule ~~1.~~3;

is a ***permitted activity***, providing:

(a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and …</td></tr>
<tr><td>109</td><td>Rule 16.3.5.5 (pg 55)</td><td>Amend Rule 16.3.5.5 as follows:
…
(a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and …</td></tr>
</table>

110	Rule 16.3.5.6 (pg 56)	Amend Rule 16.3.5.6 as follows: ... (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and ...
111	Rule 16.3.5.7 (pg 56)	Amend Rule 16.3.5.7 as follows: ... (3) Processes not listed above that involve the handling and processing of hydrocarbons where the discharge from single activities or a combination of activities located on one site is less than 1 kg/hr of hazardous air contaminants, excluding Category A, B1 and B2 carcinogens as identified in Schedule ~~1.~~3; or (4) Processes not listed above that involve the handling and processing of hydrocarbons where the discharge from single activities or a combination of activities located on one site is less than 0.01 kg/hr of Category A, B1 and B2 carcinogens as identified in Schedule ~~1.~~3; is a ***permitted activity***, providing: (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and ...
112	Rule 16.3.5.8 (pg 57)	Amend Rule 16.3.5.8 as follows: ... (a) In the case of equipment installed after 28 February 1998, any chimney complies with Schedule ~~1.~~6 ("Determination of Chimney Heights"); and ...
113	Section 16.3.9 (pg 63)	Amend section 16.3.9 as follows: ... 2. In carrying out any agrichemical application in terms of the following rules, the practices recommended in Section 5 of the Code of Practice for the Management of Agrichemicals (NZS 8409:1999; New Zealand Agrichemical Education Trust, August 1999), or in Schedule ~~1.~~4 of this Plan which is based on that code, should be used, noting that to do so does not negate the requirement to meet rule conditions.
114	Method 17.5.2.1 (pg 80)	Amend principal reasons for adopting as follows: ... For example, Schedule ~~1.~~4 of this Plan, which is based on the *Code of Practice for the Management of Agrichemicals* (NZS 8409:1999)...

115	Section 20.1 (pg 88)	Add the following paragraph before the final paragraph: NESAQ Regulation 15 requires the Otago Regional Council to monitor ambient air quality in airsheds where it is likely that the standard for any contaminant will be breached, and Schedule 2 to the NESAQ outlines the method for such monitoring.
116	Section 20.2 (pg 88)	Change section 20.2 as follows: Monitoring of the suitability and effectiveness of the objectives and policies within this Plan will be carried out in conjunction with monitoring of the Regional Policy Statement for Otago, ~~and~~ other regional plans and the NESAQ. It will also be subject to the provisions of the Council's own Annual Plan and Long Term Council Community Plan (LTCCP). In considering the elements requiring monitoring, the Otago Regional Council will have particular regard to the anticipated environmental results as stated within this Plan and will monitor the following: 1. The number and nature of discharges within Otago. 2. The type and mass of contaminants discharged into air and the effects of those contaminants on the receiving environment. 3. The effects of discharges on ambient air quality, and in particular the levels and effects of the following principal indicators: • PM_{10}; • Sulphur dioxide; • Carbon monoxide; and • Nitrogen dioxide. 4. Existing ambient air quality in areas most likely to be affected by air pollution activities, to assess whether the air quality remains within the Ambient Air Quality Guidelines contained in Schedule ~~1.~~1, and meets the standards set by the NESAQ, including compliance with the curved line paths. 5. The quality of significant discharges to air from industrial or trade premises and other significant discharges will be monitored, as will the air quality near to the discharges.

Table of Proposed Changes
Appendix 1
Proposed Airshed Maps

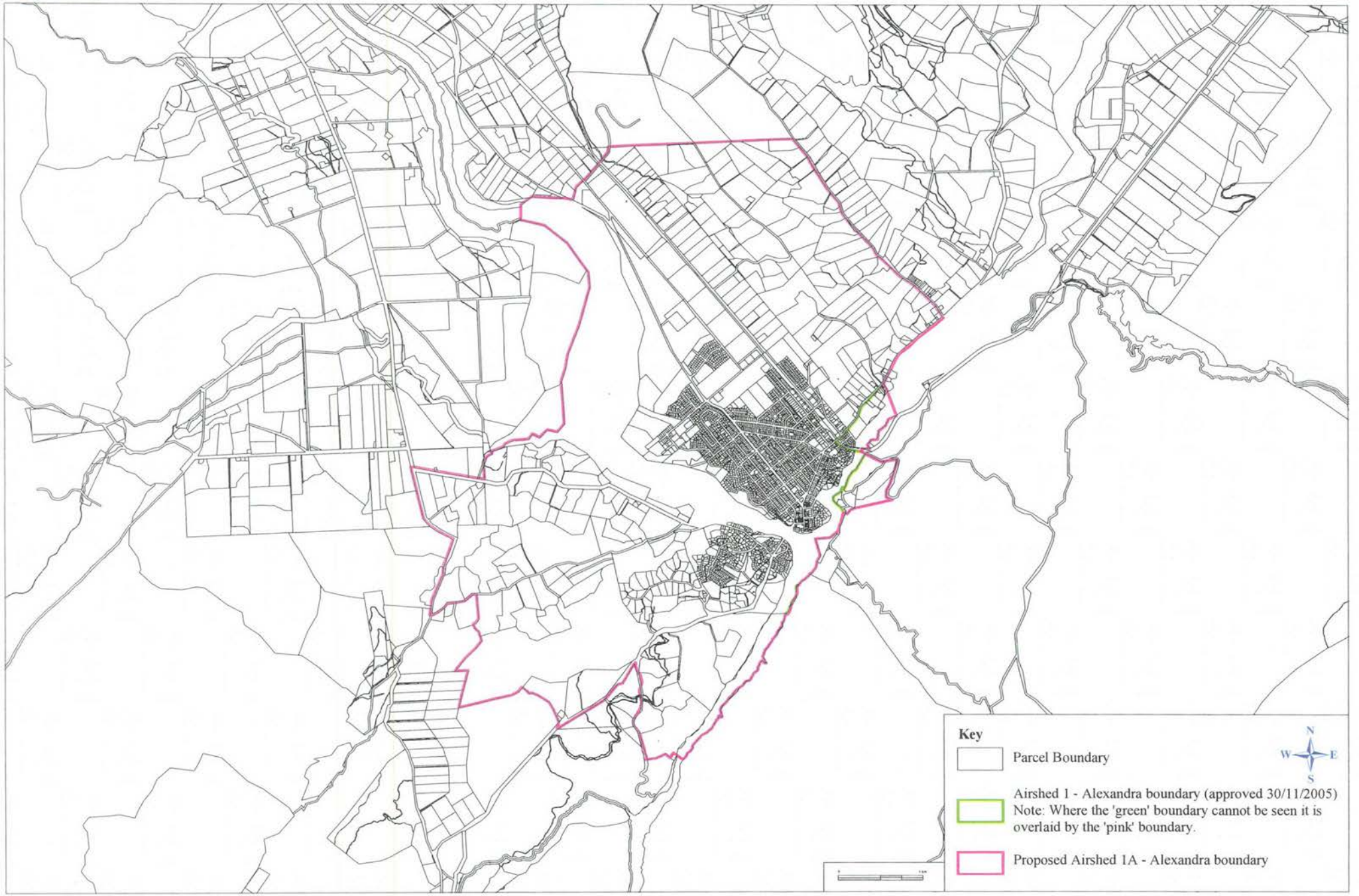
Otago Regional Council

14 April 2007

Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Alexandra

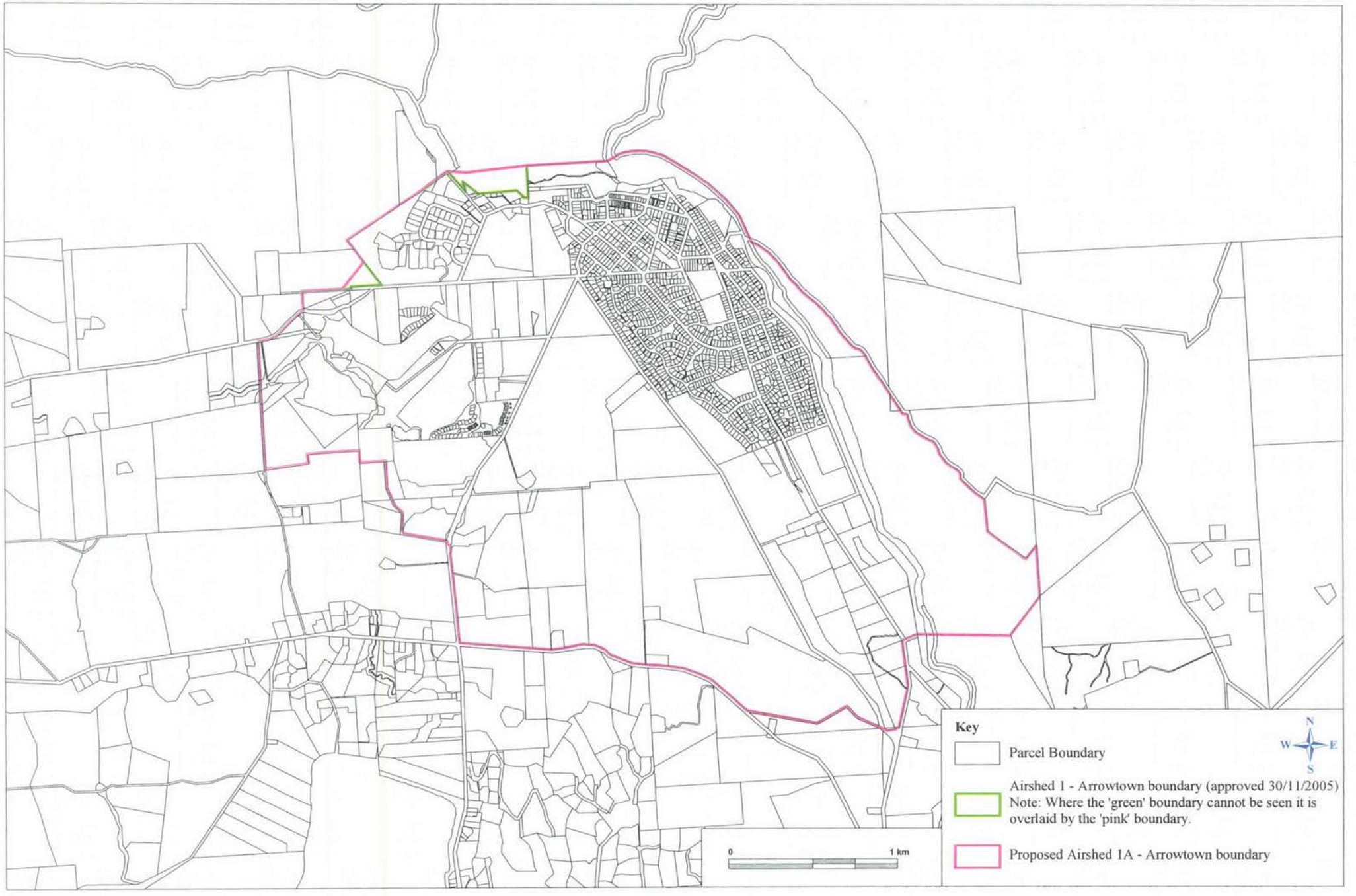
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Arrowtown

14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Clyde

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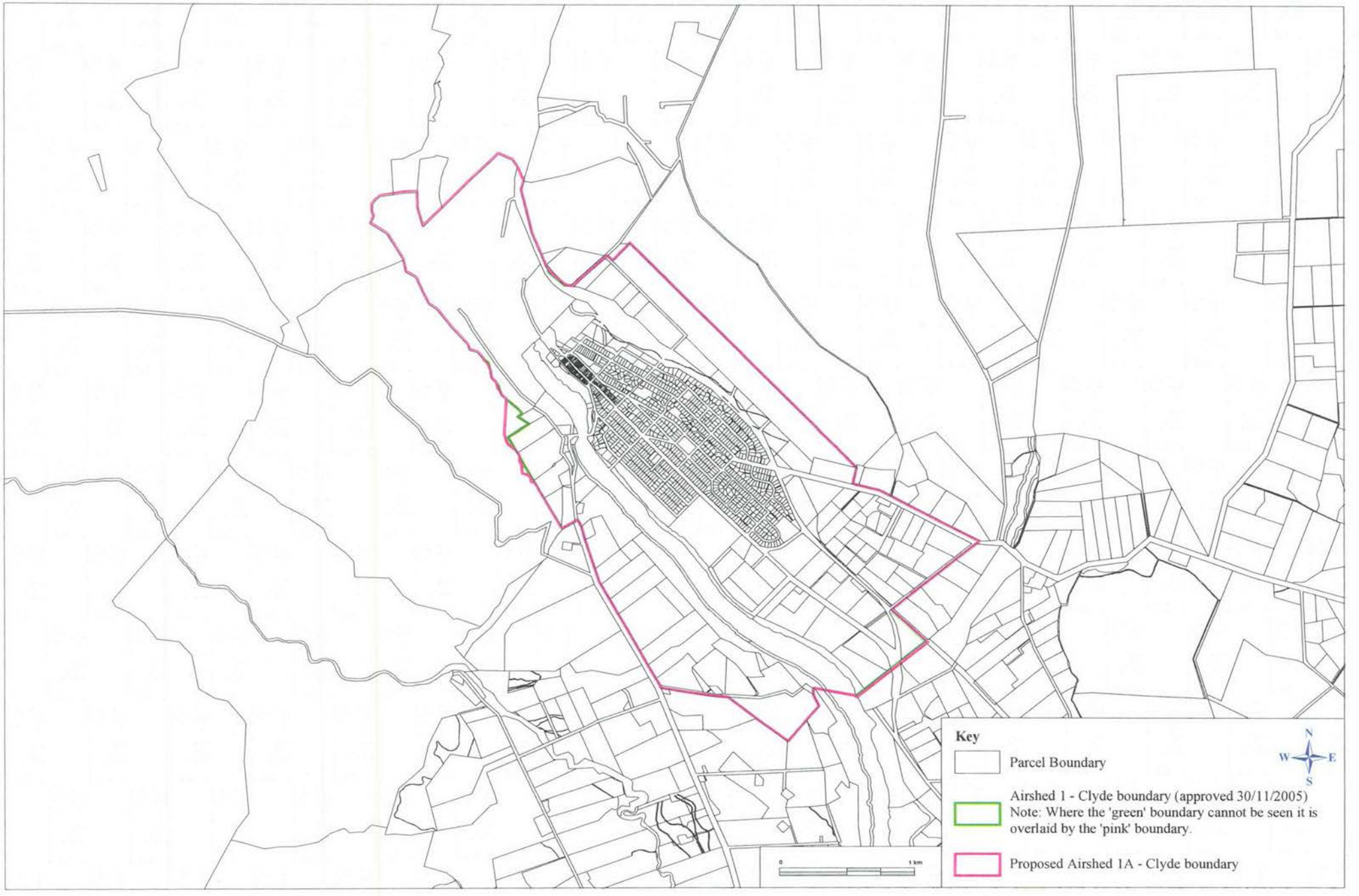

Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Cromwell

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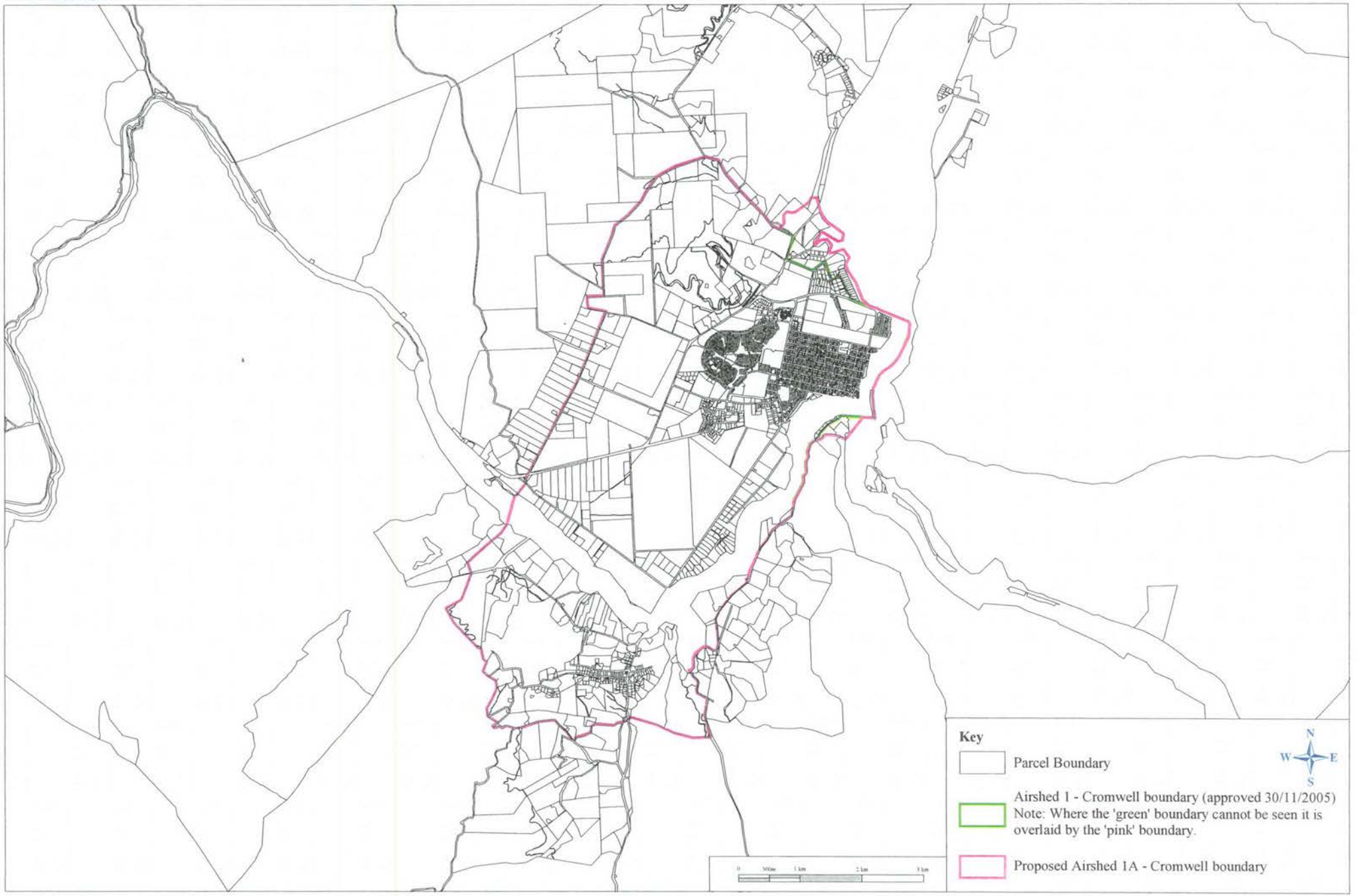


Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Naseby

14 April 2007

Otago Regional Council

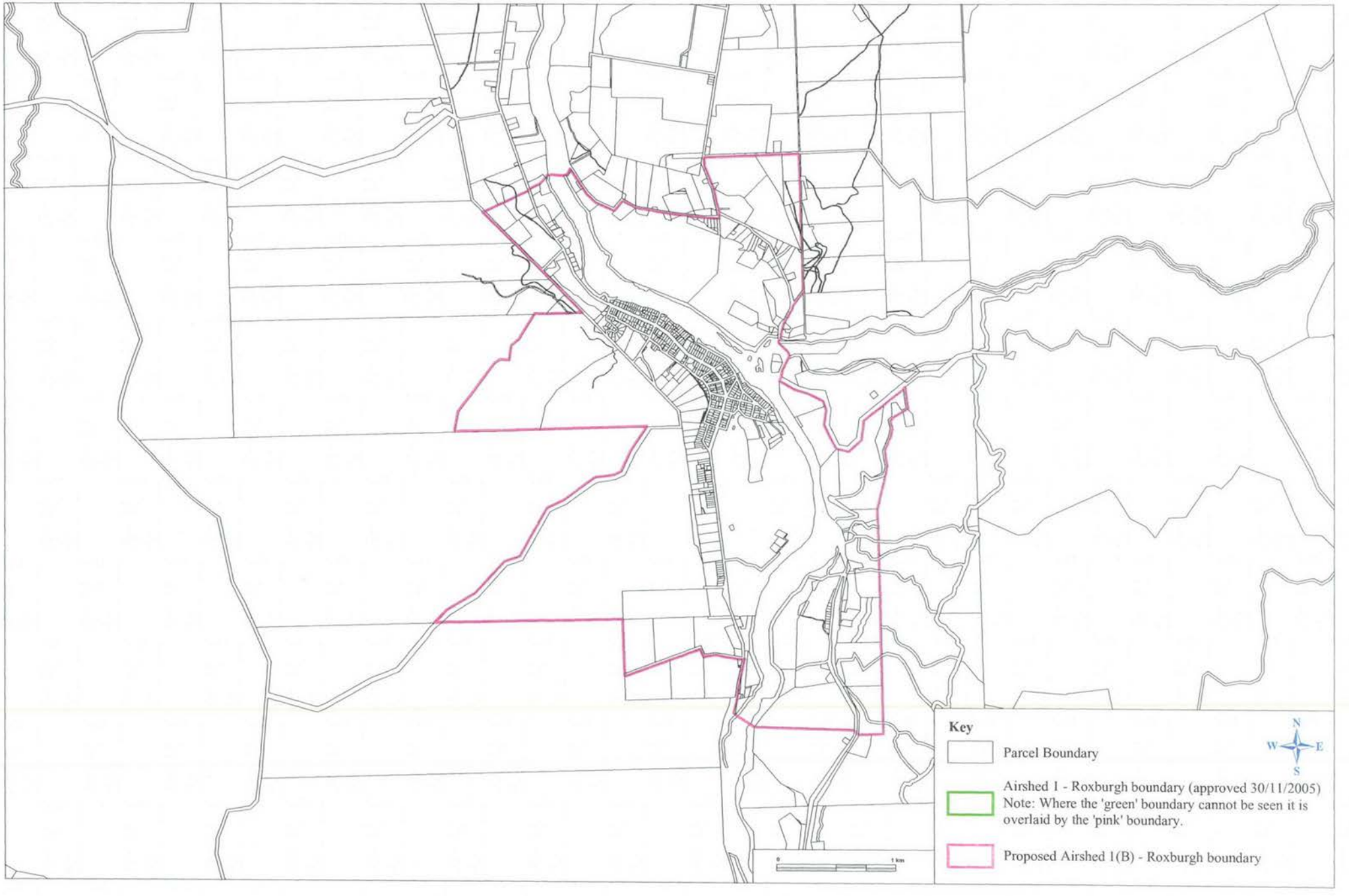
Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Ranfurly

14 April 2007

Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Roxburgh

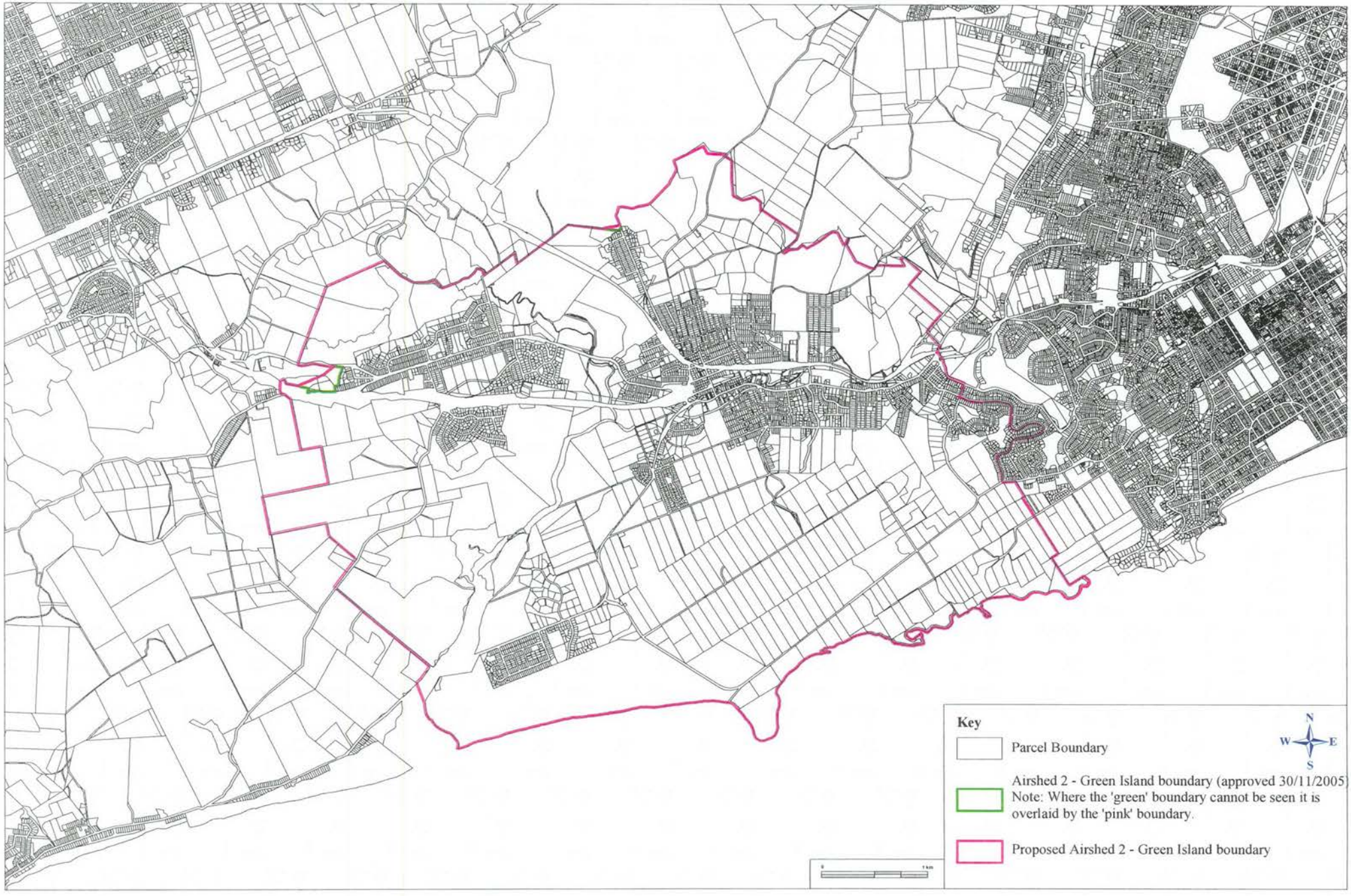
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Green Island

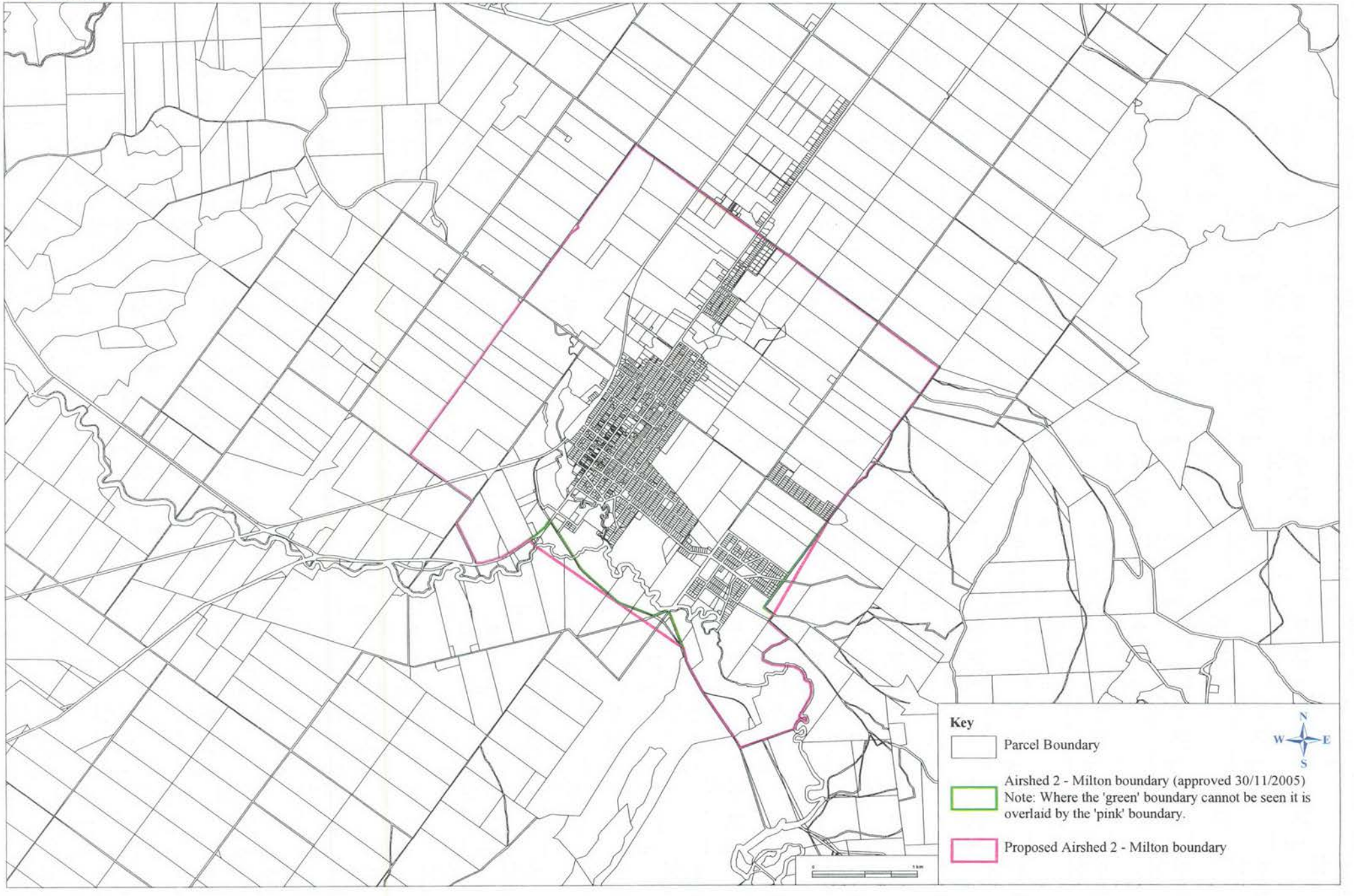
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Milton

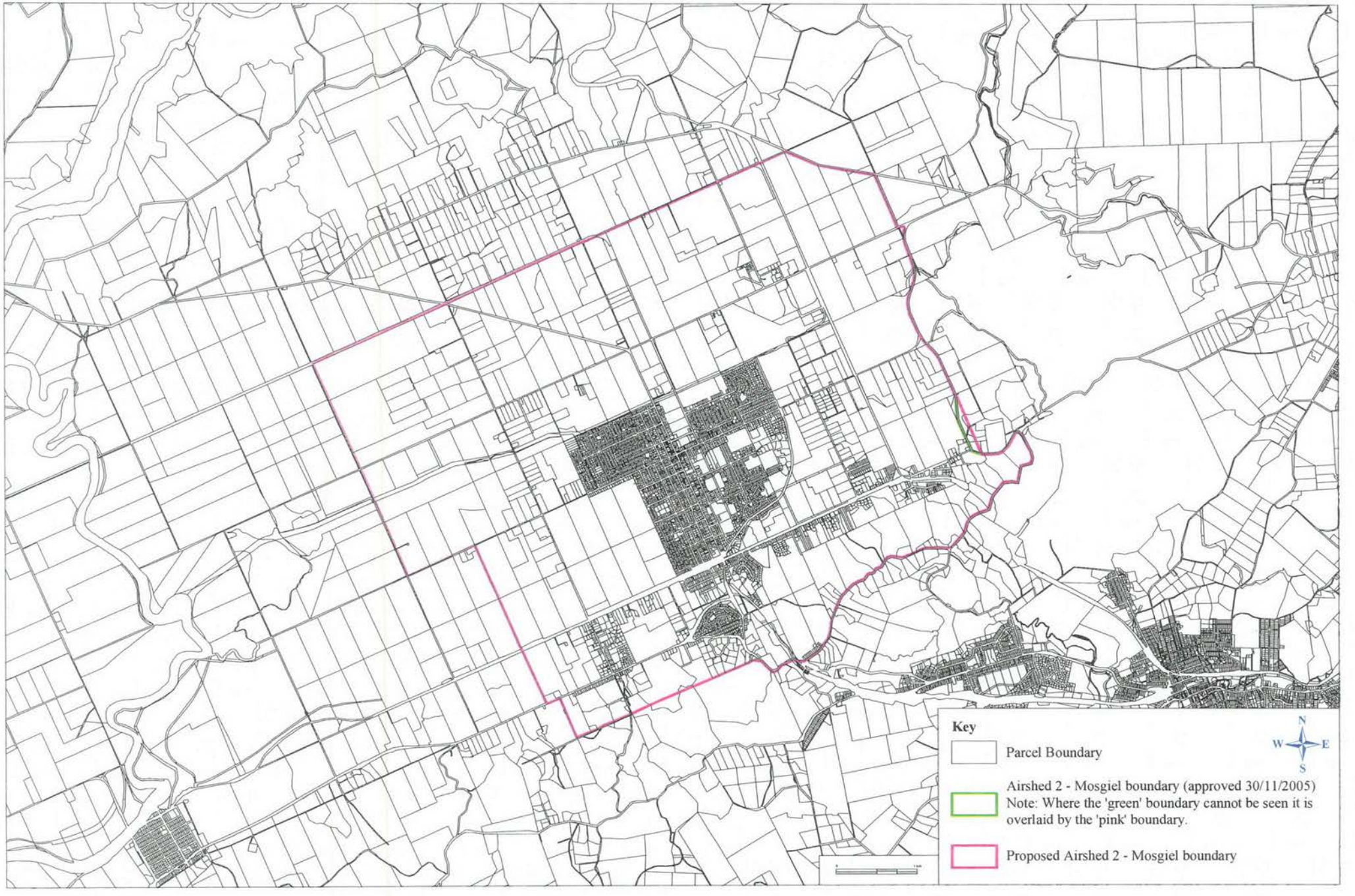
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Mosgiel

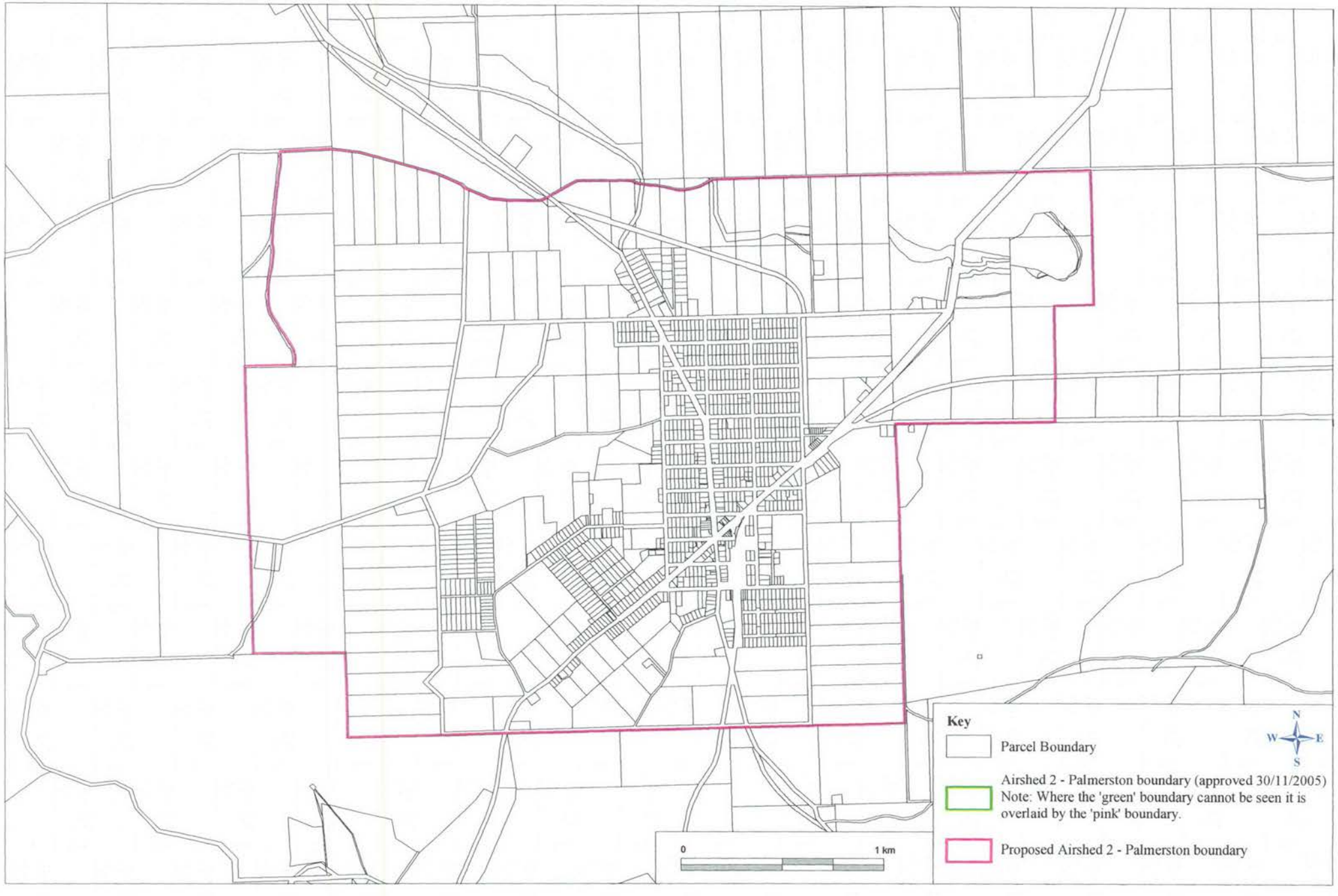
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Palmerston

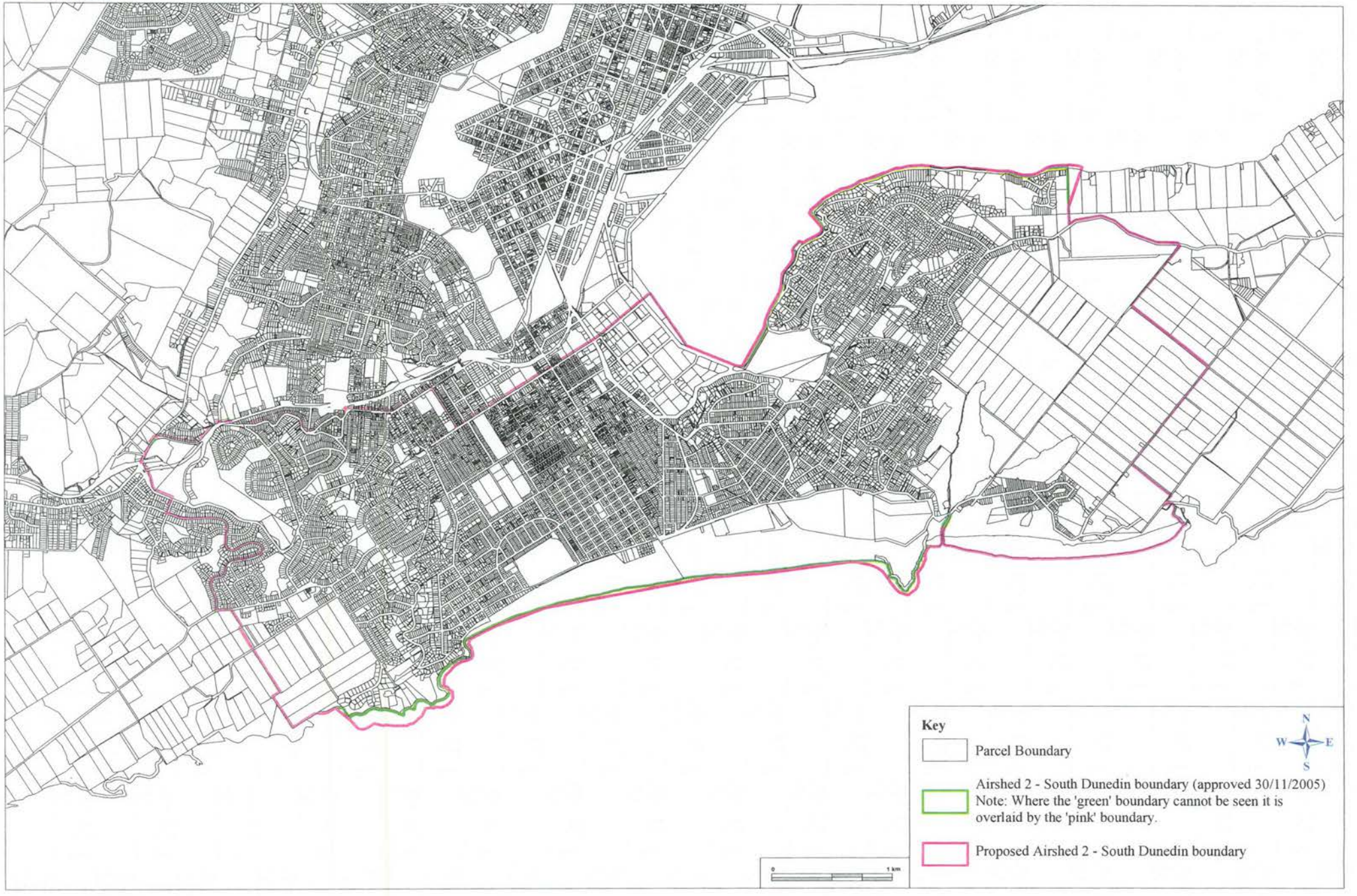
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - South Dunedin

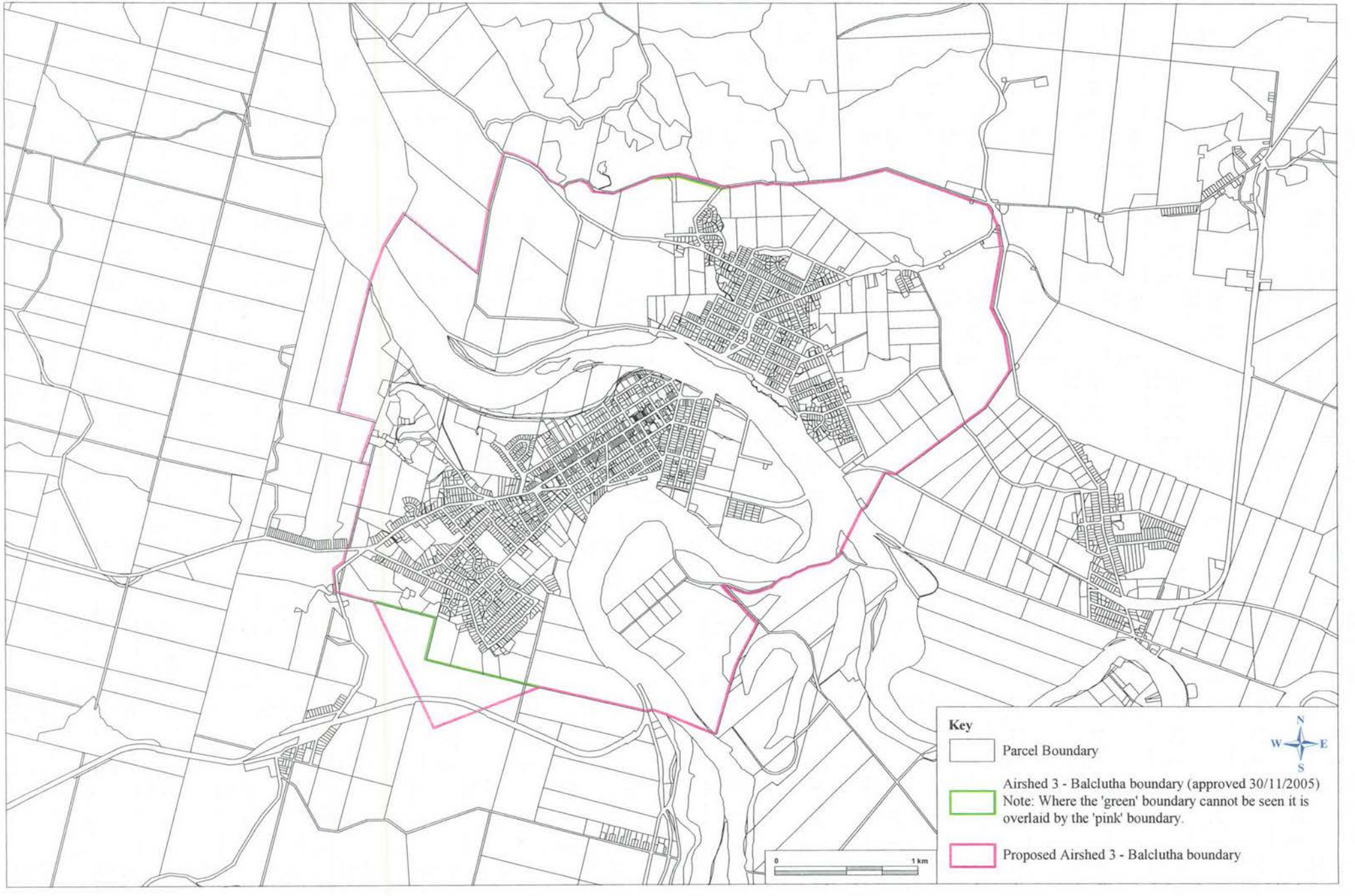
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Balclutha

14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Central Dunedin

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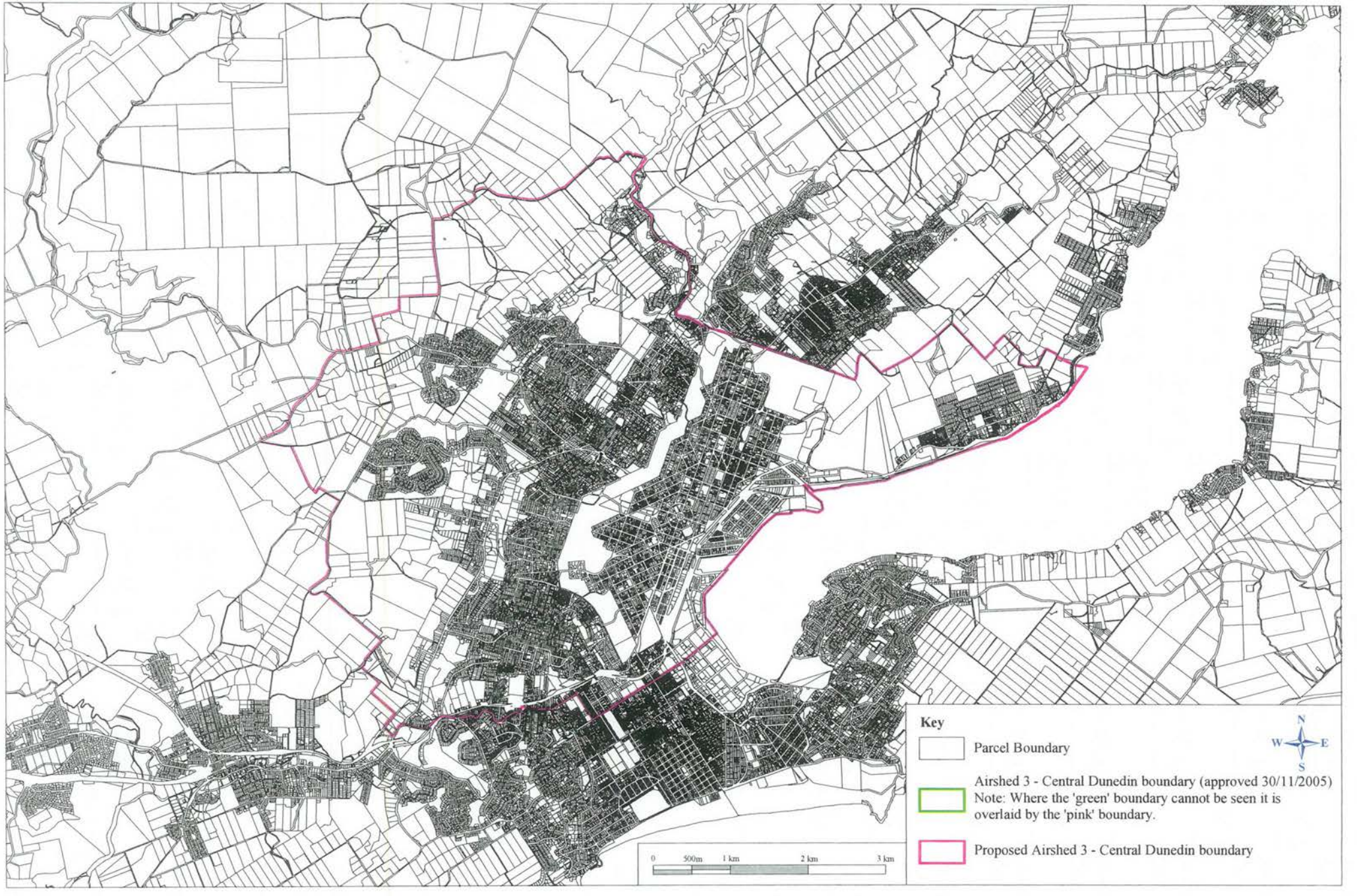
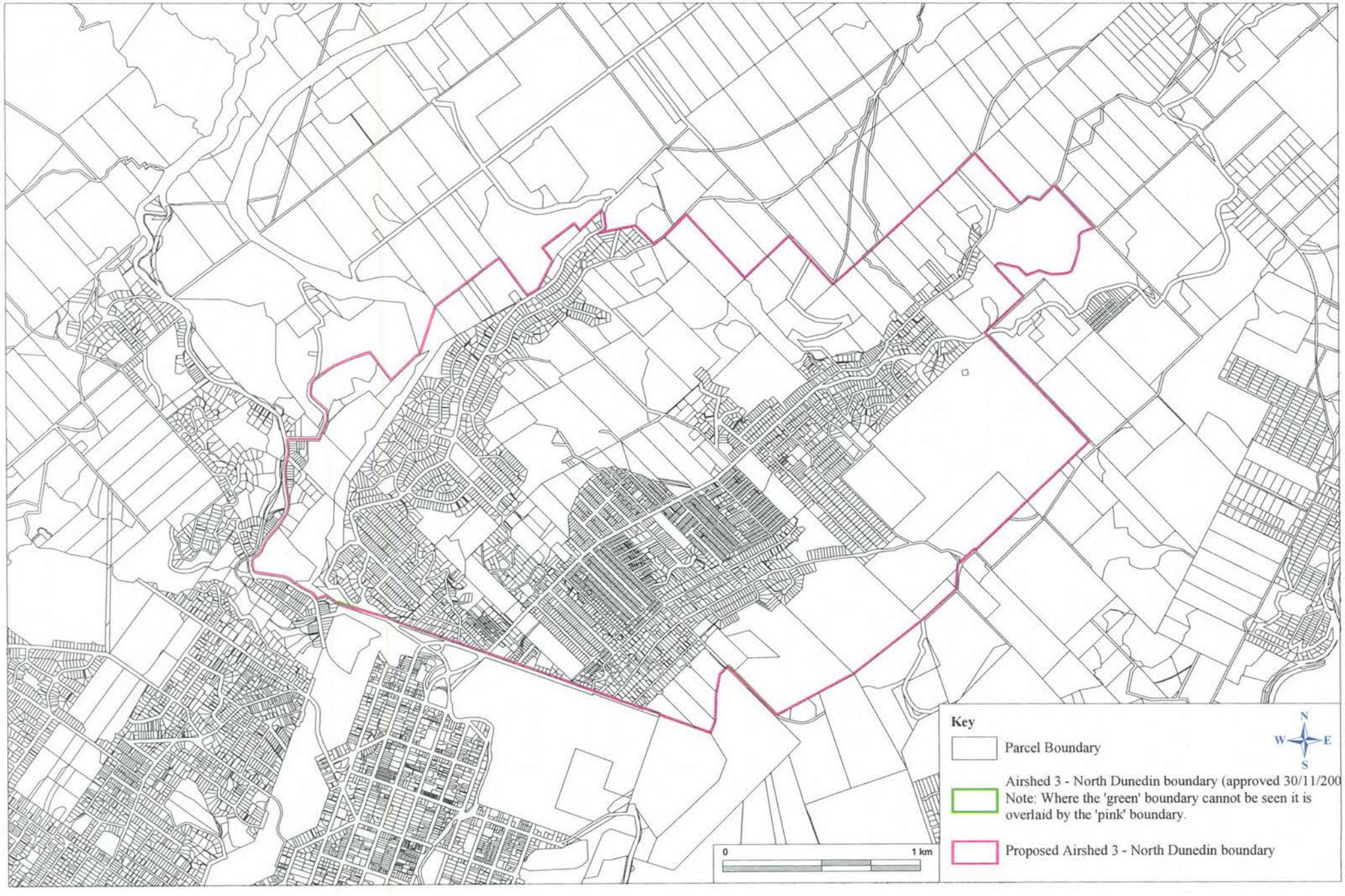


Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - North Dunedin

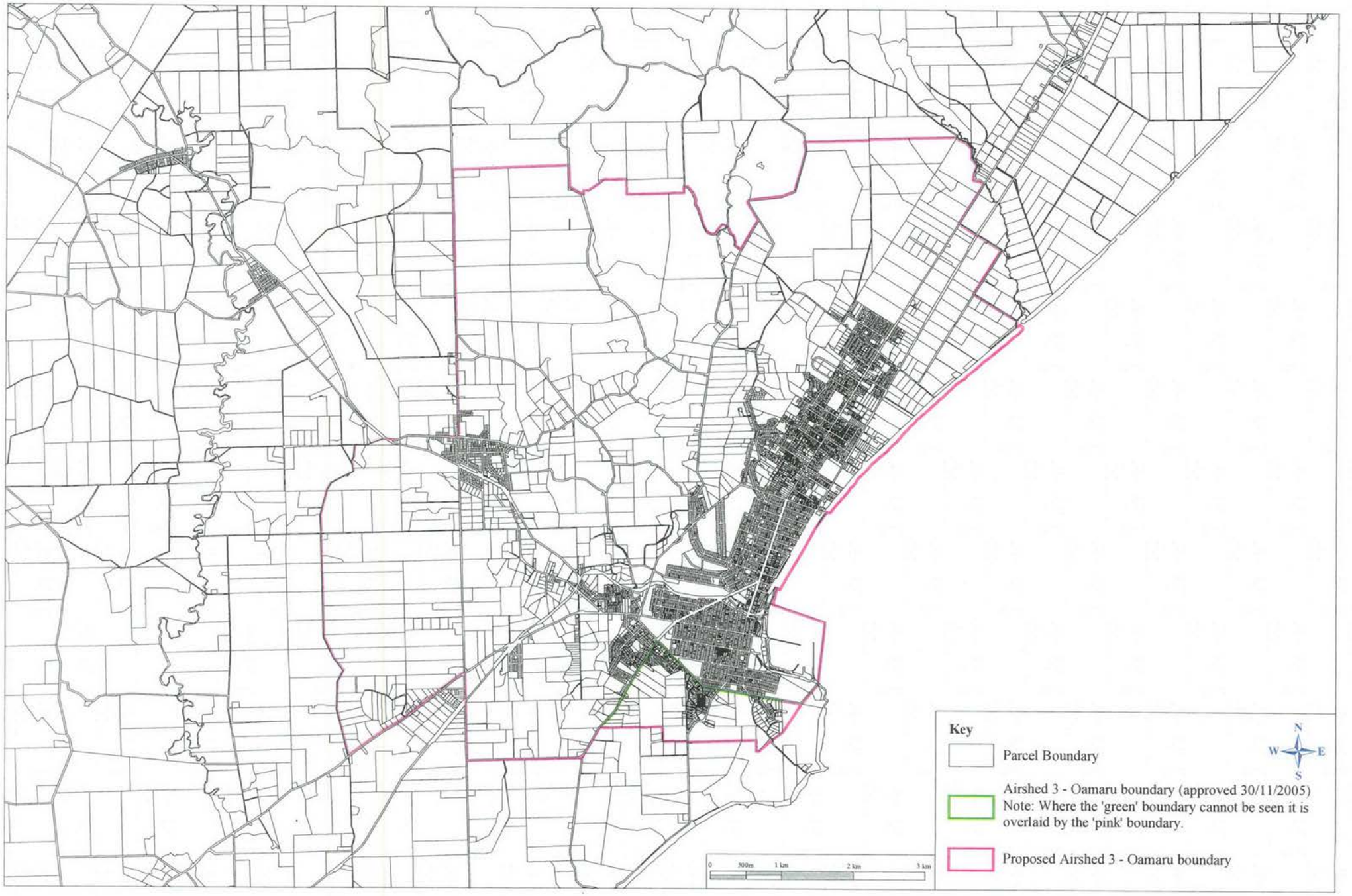
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Oamaru

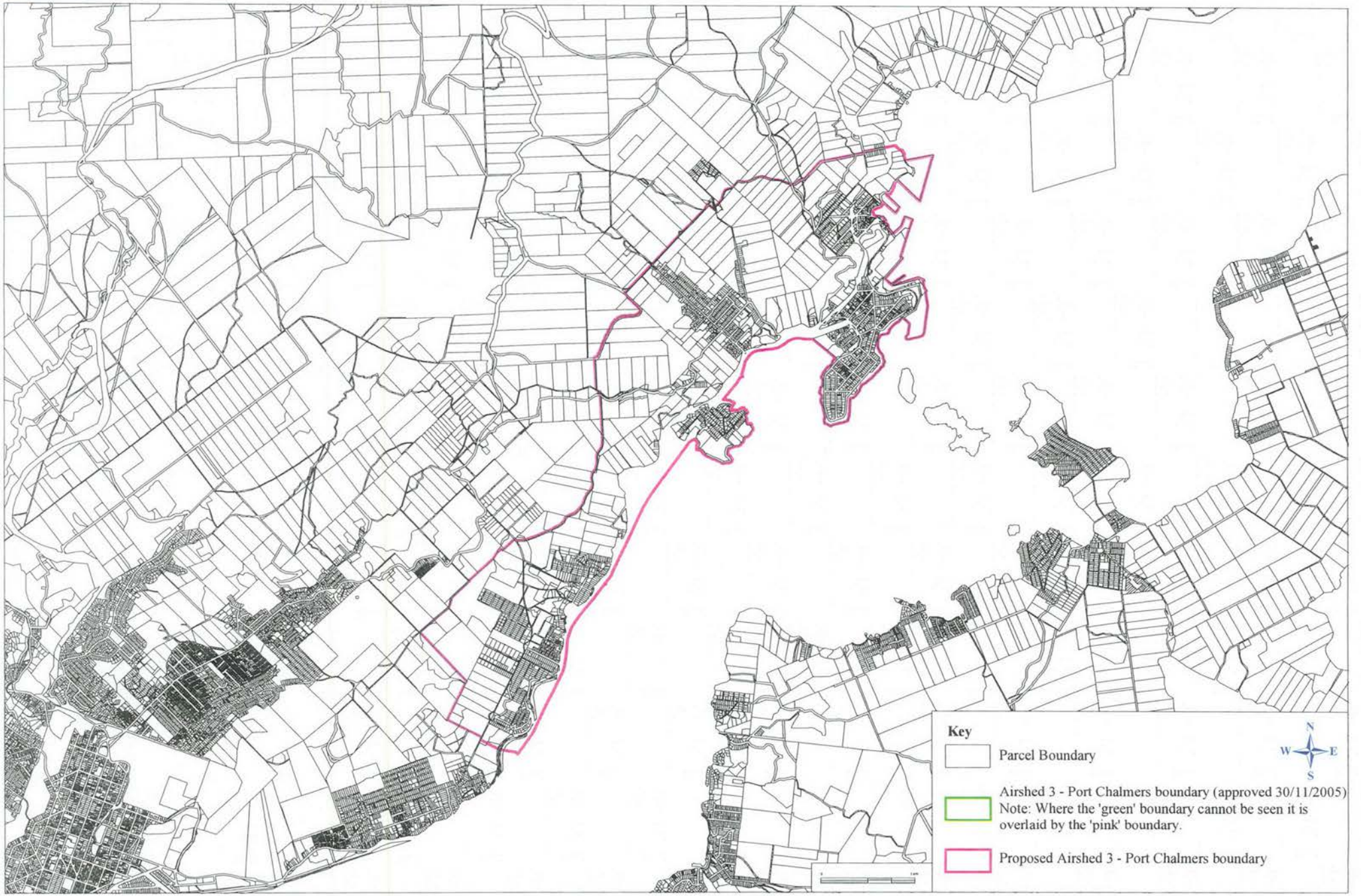
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Port Chalmers

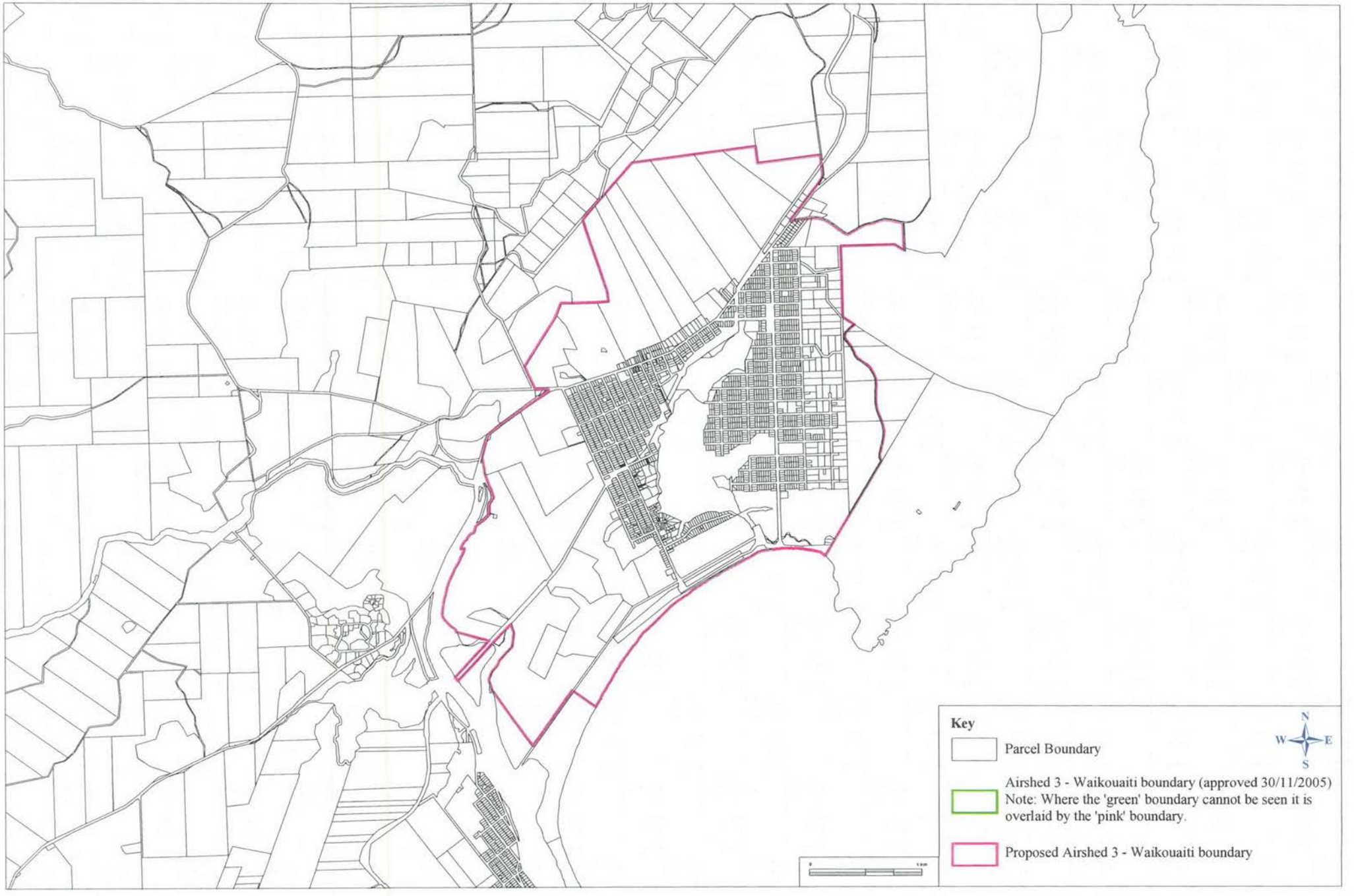
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Waikouaiti

14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Hawea

14 April 2007

Otago Regional Council

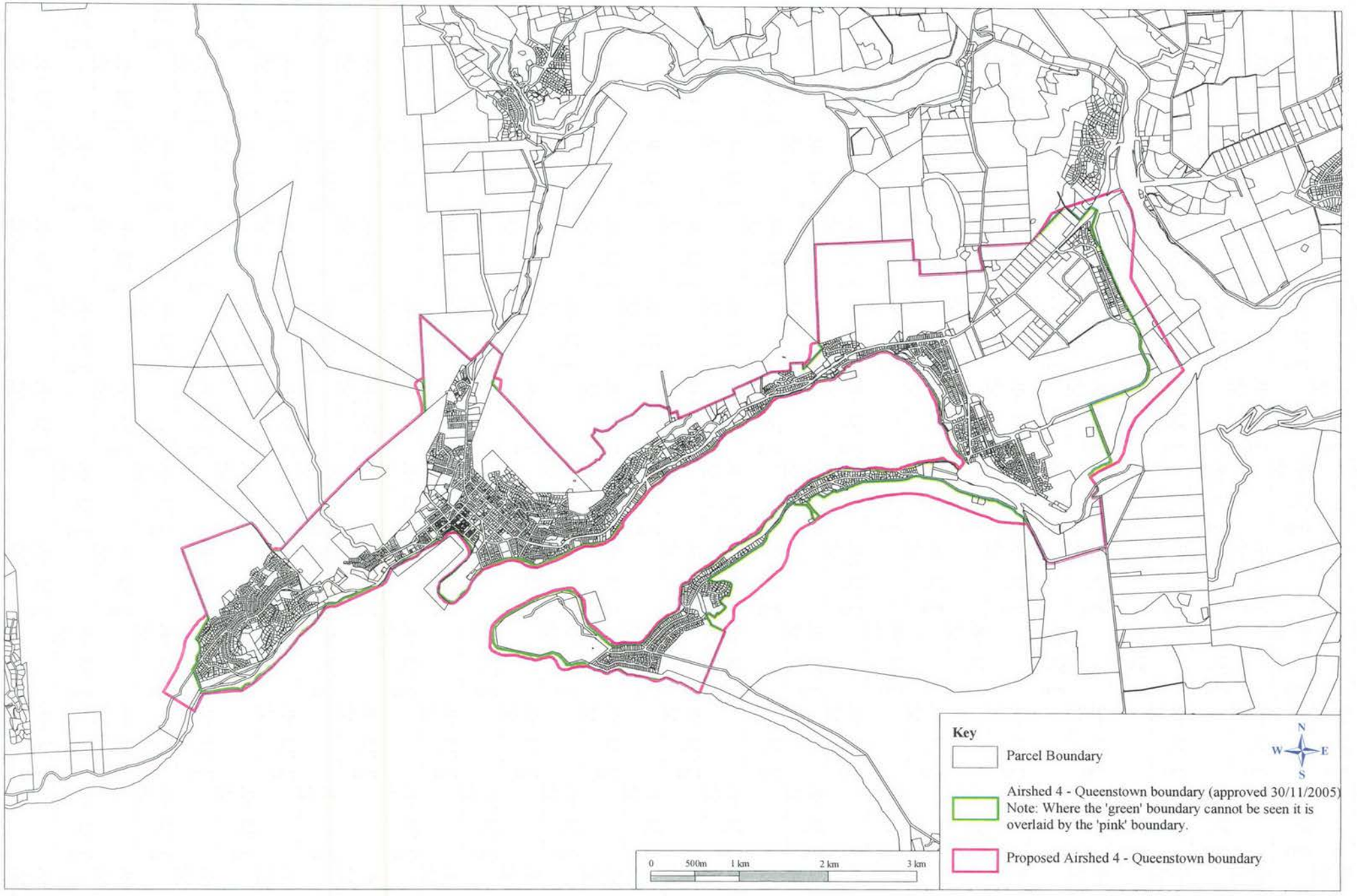
Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Kingston

14 April 2007

Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Queenstown

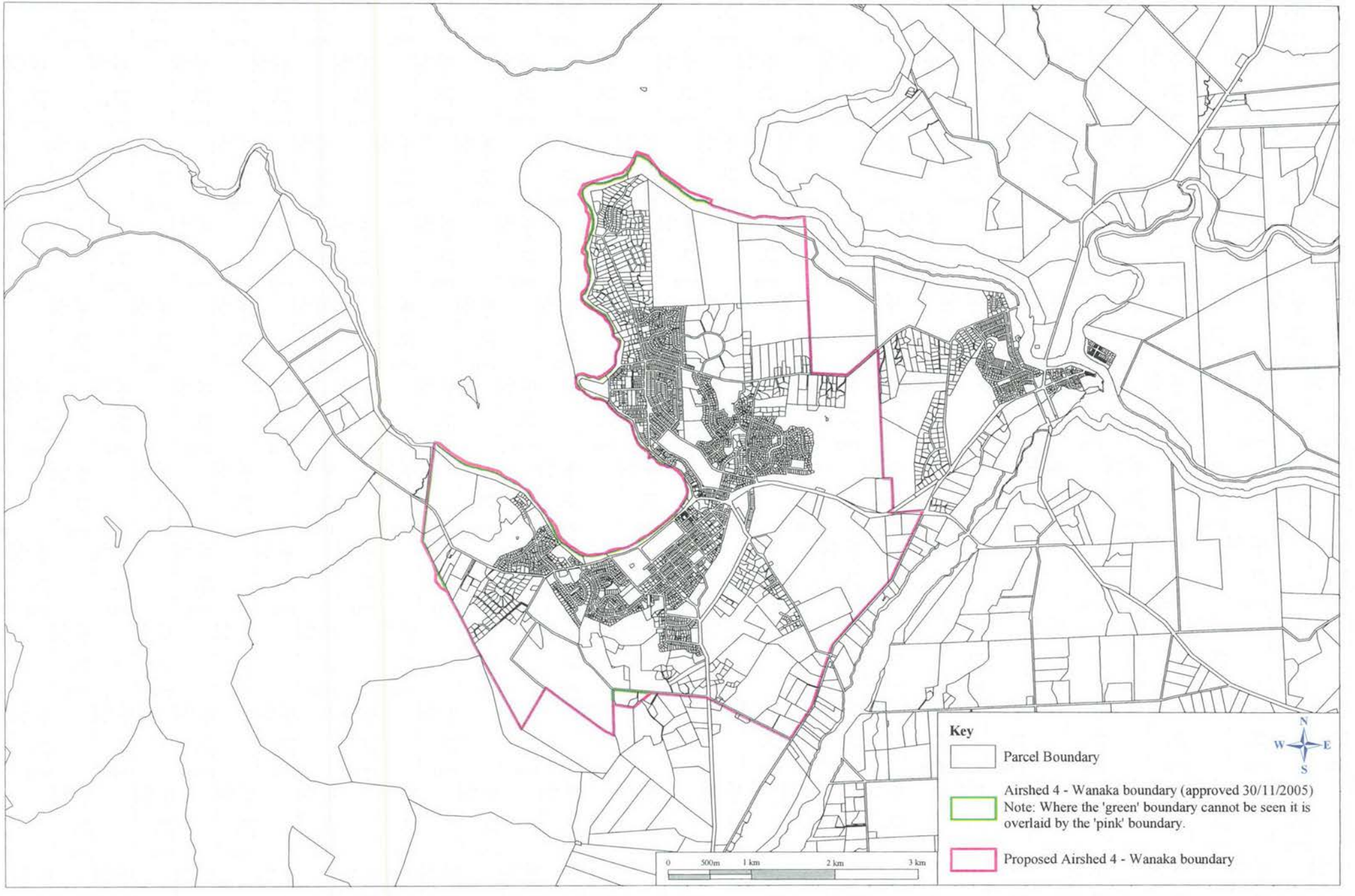
14 April 2007



Otago Regional Council

Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago
Airshed Boundaries - Wanaka

14 April 2007



Section 32 Report

Consideration of alternatives, benefits & costs

Proposed Plan Change 2

(National Environmental Standards)

Regional Plan: Air for Otago

14 April 2007

Otago Regional Council

Table of Contents

1. Introduction

The Otago Regional Council (ORC) is proposing to change the Regional Plan: Air for Otago (Air Plan) to improve the air quality of the region's towns. The proposal includes new rules governing what domestic heating appliances can be used in Otago and for resource consent discharges to air.

Proposed Plan Change 2 (National Environmental Standards (NES)) is a major step to help achieve the Resource Management [National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics] Regulations 2004 (NESAQ).

This report considers the alternatives, costs and benefits for the Proposed Plan Change under four separate sections. The first considers the options for achieving compliance with NESAQ by 2013 by following either straight or curved line paths. The second considers a range of management regimes for domestic heating appliances within the various airsheds. The third concerns possible changes to backyard burning and the airshed maps and the fourth addresses consequential amendments to the Air Plan arising from NESAQ and the proposed ORC response.

2. Statutory Context

This report assesses Proposed Plan Change 2 (NES) to the Air Plan as required by the Resource Management Act 1991 (RMA). It should be read in conjunction with the text of Proposed Plan Change 2 (NES).

Section 66 of the RMA requires the ORC to have regard to the provisions of Part 2 of the RMA, its functions under section 30 and its duties under section 32 when preparing to change a plan. In achieving the purpose of the RMA, the ORC must carry out an evaluation under section 32 before publicly notifying a plan change. Section 32(3), (3A) and (4) state the following:

(3) An evaluation must examine—

(a) the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and

(b) whether, having regard to their efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the objectives.

(3A) This subsection applies to a rule that imposes a greater prohibition or restriction on an activity to which a national environmental standard applies than any prohibition or restriction in the standard. The evaluation of such a rule must examine whether the prohibition or restriction it imposes is justified in the circumstances of the region or district.

(4) For the purposes of the examination referred to in subsections (3) and (3A), an evaluation must take into account—

(a) the benefits and costs of policies, rules, or other methods; and

(b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.

The ORC considers that the contents of this report satisfy the requirements of these sections. It assesses the costs and benefits of Proposed Plan Change 2 (NES) and the alternative options considered.

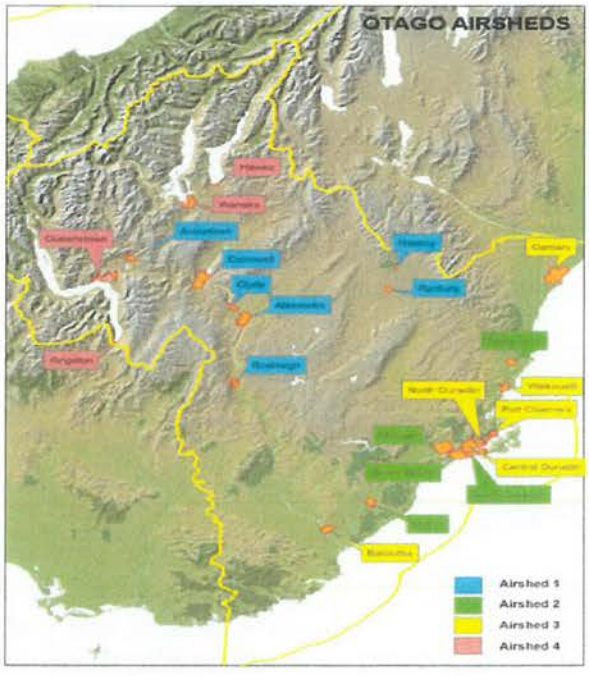
3. Background

The NESAQ was introduced by the Ministry for the Environment in 2004 and sets the permissible levels for a number of air pollutants.

Monitoring of air pollution within Otago over the past ten years shows that the one pollutant of concern is very fine particulate matter (PM_{10}). The NESAQ standard for PM_{10} in ambient air ($NESPM_{10}$) requires that by 2013, the amount of PM_{10} in the air is not to exceed a 24-hour average of 50 micrograms per cubic metre ($\mu g/m^3$) more than once per year. The levels of PM_{10} frequently exceed this ambient air quality standard in several Otago towns during winter.

In 2005, the Otago Regional Council identified and gazetted four categories of airshed, covering twenty-two areas, for the purposes of managing local ambient air quality. Areas with similar characteristics in terms of air pollution, climate and topography have been placed in the same category. The Airshed 1 category covers those areas where most improvement to air quality is needed.

The four categories of airshed are illustrated below.



Detailed maps showing the areas and proposed new airshed boundaries [discussed under Section 6: Backyard Burning and Proposed New Airshed Maps] are available to view on the ORC website, **www.orc.govt.nz**. The detailed maps can also be viewed at ORC offices, city and district council offices and public libraries throughout Otago.

The areas will be re-gazetted as separate airsheds prior to making this plan change operative. The process of gazettal is independent of the plan change process.

4. Analysis of Options – Shape of Path Towards Compliance with NESAQ by 2013.

4.1 Extent to which each objective achieves the purpose of the RMA

This subsection does not apply as the objectives in the Air Plan remain unchanged.

4.2 Cost benefit analysis

The following three options were considered:

Option 1: Use a straight line path. The NESAQ includes a default requirement that a straight line path will be followed, with a steady improvement in air quality to achieve the ambient air quality standard of 50μg/m^3 for PM_{10} by 1 September 2013.

Option 2: Use a curved line path. The ORC may use a curved line path showing how the ambient air quality standard for PM_{10} will be achieved in each airshed on or before 1 September 2013, and the Air Plan must include rules relating to the issue of resource consent discharges of PM_{10}.

Option 3: Use a curved line path to the Otago Goal Level. The curved line path for Option 2 would be extended beyond the NESPM_{10} of 50μg/m^3 of PM_{10} to the higher Otago Goal Level of 35μg/m^3 of PM_{10}.

The following sections identify the costs and benefits associated with each option. There is sufficient information about the subject matter to identify the risk of using any of the paths. Risks and risk management are considered after the costs and benefits.

4.2.1 Option 1: Straight Line Path

Benefits	Costs
Avoids the costs incurred by the ORC and the community of undertaking the plan change process.	Those requiring resource consents for discharge of PM_{10} will be subject to a more stringent standard over the 7 years to 2013.
Achieves an improvement in air quality at a faster rate, consequently leading to better health and quality of life outcomes sooner.	The cost of offsetting any PM_{10} discharge will be higher over the next 7 years.
	The requirement to decline consent if the airshed as a whole breaches the straight line path may place industry viability and local employment at greater risk over the next 7 years.
	Requires residents to change their heating practices more quickly and possibly at greater cost as they have less time to organise community-wide responses.

4.2.2 *Option 2: Curved Line Path*

Benefits	Costs
Those requiring resource consents for discharge of PM_{10} will be subject to a less stringent standard over the 7 years to 2013, incurring less cost in managing discharges.	Achieves an improvement in air quality at a slower rate initially, consequently leading to delays in gaining improvements to health and quality of life.
The cost of offsetting any PM_{10} discharge will be lower over the next 7 years.	Costs incurred by the ORC and the community of undertaking the plan change process.
The requirement to decline consent if the airshed as a whole breaches the curved line path places industry viability and local employment at reduced risk over the next 7 years.	
Requires residents to change their heating practices at a more realistic speed and possibly at lower cost as they have time to organise community-wide responses.	

4.2.3 *Option 3: Curved Line Path to Otago Goal Level*

Benefits	Costs
The overall quality of air will be improved in the longer term to an even higher standard than the $NESPM_{10}$, leading to even greater improvements in health and quality of life.	Achieves an improvement in air quality at a slower rate initially, consequently leading to delays in gaining improvements to health and quality of life.
Those requiring resource consents for discharge of PM_{10} will be subject to a less stringent standard over the six years to 2012, incurring less cost in managing discharge.	Additional costs imposed over the long-term on industry and the community in reaching the higher standard.
The cost of offsetting any PM_{10} discharge will be lower over the next 6 years.	Less flexibility to respond to industry needs beyond 2013 because the ambient air quality standard is more stringent.
The requirement to decline consent if the airshed as a whole breaches the curved line path places industry viability and local employment at reduced risk over the next 6 years.	Costs incurred by the ORC and the community of undertaking the plan change process.
Requires residents to change their heating practices at a more realistic speed and possibly at lower cost as they have time to organise community-wide responses over the next 6 years.	

4.2.4 *Risks and Risk Management*

Risks	Risk Management
Variable information about the quality of ambient air in each airshed is available. Data collected in some areas is being applied to other areas by default, until air quality information is collected. There is a risk that this may not be appropriate as air quality may be better or worse than the default data used.	• Use the available monitoring data to prepare curved lines for compliance, given that to wait until sufficient reliable data is available on each airshed before proposing the plan change would risk not being able to achieve compliance with the 2013 NESPM_{10} standard. • Identify the level of confidence for monitoring data held about each airshed and assumptions made in preparing the curved line path. • For areas where air quality monitoring has not yet been completed, use information based on the data collected for the airshed category in preparing the curved line path for each area. • Extend the ambient air quality monitoring programme to ensure that all areas are monitored on a regular basis and the level of confidence for data held is improved. • Review the Airshed 1B curved line paths later in 2007, when winter air monitoring will have been undertaken. • Vary the proposed plan change following the above review, if necessary.
Data used to establish compliance standards may have been collected in atypical conditions.	• Review the air quality monitoring programme from time to time to ensure that data collected is accurate and representative.
Health and quality of life outcomes may take time to show significant improvements.	• Continue to monitor ambient air quality. • Undertake further health research to test whether health outcomes are improving over the longer term.

4.2.5 *Conclusion*

Option 2: Curved Line Path with Risk Management is the preferred option as the ambient air quality standard for PM_{10} will be met by 2013, but with a more acceptable risk to industry and local employment. It also gives local residents more time to mobilise their individual and collective resources to change their home

heating practices at lower cost. The Otago Goal Level will remain as a goal to achieve in the longer term.

5. Analysis of Options – Domestic Heating Appliances

5.1 Extent to which each objective achieves the purpose of the RMA

This subsection does not apply as the objectives in the Air Plan remain unchanged.

5.2 Cost benefit analysis

The following options were considered:

Option 1: No change to domestic heating appliance provisions. No change would be made to the Air Plan provisions relating to domestic heating appliances (eg multifuel burners, coal ranges and open fires). Any improvement in ambient air quality will be achieved through application of the NESAQ which relates only to woodburners (NESW) on properties under two hectares (ha) in size and requires a discharge of less than 1.5 grams of particles for each kilogram (g/kg) of dry wood burnt and a thermal efficiency of not less than 65%.

Option 2: Extend the NESW to all domestic heating appliances. This blanket control option would mean that for all properties regardless of size, all domestic heating appliances would be covered by the same standard that has been set for woodburners.

Option 3: Set a more stringent standard than the NESW for domestic heating appliances, and prohibit appliances with greater discharges than the NESW after 1 January 2012. This option would mean that for all properties, all domestic heating appliances would be covered by the same discharge standard, but it would be significantly higher than the NESW standard. The standard proposed is for a discharge of less than or equal to 0.5g /kg of dry fuel burnt and a thermal efficiency of not less than 65%.

Option 4: Adopt a mix of Options 1, 2 and 3. With this targeted option, using different standards to manage the different airsheds, the mixes considered were:

AIRSHED CATEGORY	AREAS AFFECTED	STANDARD
1	Alexandra Arrowtown Clyde Cromwell Naseby Ranfurly Roxburgh	• Option 3: Set a more stringent standard than NESW for newly installed domestic heating appliances, regardless of property size. Prohibit already installed domestic heating appliances that do not meet the NESW standard of 1.5g/kg from 1 Jan 2012.

AIRSHED CATEGORY	AREAS AFFECTED	STANDARD
1A [Alternative 1]	Alexandra Arrowtown Clyde Cromwell	• Option 3: Set a more stringent standard than NESW for newly installed domestic heating appliances, regardless of property size. Prohibit already installed domestic heating appliances that do not meet the NESW standard of 1.5g/kg from 1 Jan 2012.
1B [Alternative 1]	Naseby Ranfurly Roxburgh	• Option 2 until 30 Sept 2007: Apply the NESW standard to all newly installed domestic heating appliances in these airsheds, regardless of property size. Review airshed classification for each community when winter 2007 air quality monitoring data is available; re-gazette airshed boundaries if appropriate. • Option 3 from 1 Oct 2007: Set a more stringent standard than NESW for newly installed domestic heating appliances, regardless of property size. Prohibit already installed domestic heating appliances that do not meet the NESW standard of 1.5g/kg from 1 Jan 2012.
2 3 4	Green Island Milton Mosgiel Palmerston South Dunedin Balclutha Central Dunedin North Dunedin Oamaru Port Chalmers Waikouaiti Hawea Kingston Queenstown Wanaka	• Option 2: Apply the NESW standard to all newly installed domestic heating appliances in these airsheds, regardless of property size
Balance of Region – Small Lots	Under 2 ha properties	• Option 1: No change to domestic heating appliance provisions.
Balance of Region – Small Lots [Alternative 2]	Under 2 ha properties	• Option 2: Apply the NESW standard to all newly installed domestic heating appliances.
Balance of Region – Large Lots	2 ha or larger properties	• Option 1: No change to domestic heating appliance provisions.

The sections below identify the costs and benefits associated with each option. Note that the costs and benefits to health and quality of life are already generally addressed under the previous section 4, 'Shape of Path Towards Compliance with NESAQ by 2013'. There are some risks in introducing new provisions for domestic heating appliances. These are considered after the costs and benefits.

5.2.1 *Option 1: No Change to Domestic Heating Appliance Provisions*

Benefits	Costs
Avoids the costs incurred by the ORC and community during the plan change process.	Least likelihood of all options of achieving the $NESPM_{10}$ standard, especially in those areas with poorest air quality. Greatest potential of all the options of air quality further deteriorating, although this is not likely with modern heating methods.
Least direct financial cost to residents of all the options. Avoids additional costs of upgrading domestic heating appliances which would be imposed by setting any higher standards.	If there is more than one breach of the $NESPM_{10}$, the ORC is unable to grant any further consents for discharge of PM_{10}. This represents potentially the highest cost of all the options to industry and local employment.
Provides greatest choice for people to upgrade their heating systems in their own way and at their own time.	Unreasonable, in that the NESW applies to woodburners only and not other domestic heating appliances that discharge PM_{10}.
	Indirect cost in terms of health, missed working days due to poor health and lower quality of life.

5.2.2 *Option 2: Extend Woodburner Standard to All Domestic Heating Appliances*

Benefits	Costs
Urban areas and small landholdings should benefit from better air quality.	Little likelihood of achieving the $NESPM_{10}$ standard, especially in those areas with poorest air quality. Air quality may still deteriorate.
Provides choice for people to upgrade their heating systems in their own way and at their own time. A wide range of appliances are currently available.	If there is more than one breach of the $NESPM_{10}$, the ORC is unable to grant any further consents for discharge of PM_{10}. This represents a potentially high cost to industry and local employment.
Reasonable, in that all domestic heating appliances on lots of under 2 ha are treated the same in terms of discharge to air.	Additional costs to Option 1 in that all newly installed domestic heating appliances [eg multifuels, coal ranges] will be required to meet a more stringent discharge standard.
	Those areas that already meet the $NESPM_{10}$ standard [eg large properties in open rural areas] are disadvantaged – their choice of heating options is restricted when they do not have an air quality problem.
	Costs to ORC and community of undertaking the plan change process.

5.2.3 *Option 3: Set a Higher Standard for Domestic Heating Appliances*

Benefits	Costs
Greatest likelihood of achieving the $NESPM_{10}$ standard of all the options.	Highest cost to residents of all the options. Additional costs of upgrading domestic heating appliances would be imposed on many people.
This represents the least risk to industry and local employment, in that there is the least chance of more than one breach of the ambient air quality standard for PM_{10} occurring and consequently the ORC being unable to grant any further consents for discharge of PM_{10}.	Those areas that already meet the $NESPM_{10}$ standard [eg rural areas outside of Airsheds 1 to 4] are disadvantaged – their choice of heating options is restricted when they do not have an air problem
Fair in that everyone is treated the same.	Provides least choice for people to upgrade their heating systems in their own way and at their own time. A limited range of appliances are available that meet the standard. Currently, there is a bias towards electricity, gas and pellet burners, and away from open fires, woodburners, multifuels and coal ranges.
	This option presents the greatest dependency on energy sources where there may be security of supply issues – eg electricity, gas, diesel and pellets.
	Costs to the ORC and community of undertaking the plan change process.

5.2.4 *Option 4: Mix of Options 1, 2 and 3 [Airshed 1 – Option 3; Airshed 2, 3 and 4 - Option 2; Balance of Region – Option 1]*

Benefits	Costs
Likelihood of achieving the $NESPM_{10}$ standard	The air quality of small towns and new concentrations of urban development outside of Airsheds 1 to 4 may still deteriorate, potentially introducing health costs.
If there is more than one breach of the ambient air quality standard for PM_{10}, the ORC is unable to grant any further consents for discharge of PM_{10}. Because this is a targeted approach, this represents a low risk to industry and local employment.	Creates additional costs of upgrading domestic heating appliances in Airsheds 1 to 4.

Benefits	Costs
Fair in that everyone is treated according to the severity of the air pollution problem in their area.	Provides limited choice for people to upgrade their heating systems in their own way and at their own time. A limited range of appliances are available that meet the standard. Currently, there is a bias towards electricity, gas and pellet burners, and away from open fires, woodburners, multifuel burners and coal ranges.
	Unfair in that smallholdings may be exacerbating the air quality of Airsheds 1 to 4 if they are in close proximity to these areas.
	Dependency on energy sources where there may be security of supply issues – eg electricity, gas, diesel and pellets.
	Costs to the ORC and community of undertaking the plan change process.

5.2.5 *Option 4 [Alternative 1]: Mix of Options 1, 2 and 3 [refer 5.2.4] except Alexandra, Arrowtown, Clyde and Cromwell included in Airshed 1A; Roxburgh, Ranfurly and Naseby included in Airshed 1B and introduction of stricter discharge standards delayed to 1 October 2007.*

Benefits	Costs
If monitoring indicates that any of the three towns in Airshed 1B are more accurately classified as another airshed, then this may be done through the hearings and decision-making process, and without the necessity of varying the proposed plan change.	If the Airshed 1B areas are treated as Airshed 2 or 3 immediately, and monitoring indicates they belong in Airshed 1, it would require a variation to be made to the proposed plan change. This would incur significant additional costs in re-advertising and re-notifying those people likely to be affected by the variation. There would be a further delay in reaching the required $NESPM_{10}$ standard.
Those new appliances being installed this winter will meet the same discharge standard as for Airsheds 2 to 4.	If monitoring in the Airshed 1B areas shows they do belong in Airshed 1, there will a slight delay in achieving the required air standard than if the stricter rules had come into effect immediately.
Otherwise, costs and benefits are as for Option 4, refer to 5.2.4.	

5.2.6 *Option 4 [Alternative 2]: Mix of Options 1, 2 and 3 [refer 5.2.4] except for the balance of the region, where NESW will be applied to all domestic heating appliances on lots under 2 ha.*

Benefits	Costs
The air quality of small towns and new concentrations of urban development outside of Airsheds 1 to 4 will improve, consequently improving health and quality of life outcomes.	Creates additional costs of upgrading domestic heating appliances for smallholdings outside of Airsheds 1 to 4.
Fair, in that smallholdings in close proximity to Airsheds 1 to 4 will share in making the changes to improve air quality.	Those areas that already meet the $NESPM_{10}$ standard [eg small properties in rural areas that are distant from urban areas] are disadvantaged – their choice of heating options is restricted when they do not have an air quality problem.
Otherwise, costs and benefits are as for Option 4, refer to 5.2.4.	

5.2.7 *Risks and Risk Management*

Risks	Risk Management
There is a high probability that there will be more than one breach of the $NESPM_{10}$ standard in a number of airsheds.	• Monitor and report publicly on ambient air quality standards. • Educate to ensure clean heating practices. • Facilitate community initiatives to champion actions that will improve air quality. • Require some existing, and all new, domestic heating appliances to meet stringent discharge and thermal efficiency standards by setting rules in the Air Plan.
Particle emission ratings for domestic heating appliances may give a misleading sense of how well an appliance functions in day to day use.	• Advocate for continuing refinements to emissions testing methodology. • Monitor and report publicly on air quality standards. • Educate to ensure clean heating practices are followed. • Facilitate community initiatives to champion actions that will improve air quality.
Dependency on security of supply of energy sources.	• Do not require people to remove non-complying domestic heating appliances. • Permit people to use non-complying domestic heating appliances in relevant emergency situations only by applying section 330 of the RMA

Risks	Risk Management
	regarding emergency works and power to take preventative or remedial action. For example, this might include extreme weather situations. • Do not prosecute people for using non-complying domestic heating appliances when there is an extended failure in supply of energy [eg electricity, gas, pellet fuels]. • Advocate for a secure supply of electricity beyond 2013. • Advocate for households to be constructed with at least two alternative means of heating. • Facilitate initiatives to secure supplies of energy sources.
Unintended adverse impacts on social, economic and cultural values.	• Introduce an exemption for registered historic places for when they are open to the public. • Provide discretion to issue resource consents for commercial activities wanting to use non-complying domestic heating appliances.

5.2.8 Conclusion

Option 4 [[with Alternatives 1 and 2 and risk mitigation] Mix of Options 1,2 and 3, delaying the introduction of stricter discharge standards in Airshed 1B to 1 October 2007, application of the NESW to all properties under 2 ha in size, exemption for registered historic places and discretionary activity status for commercial activities using non-complying domestic heating appliances] is considered the most appropriate and fair method for improving the quality of air in airsheds to meet the NESPM_{10} standard by 2013.

6. Analysis of Options - Backyard Burning and Proposed New Airshed Maps

6.1 Extent to which each objective achieves the purpose of the RMA

This subsection does not apply as the objectives of the Air Plan remain unchanged.

6.2 Cost benefit analysis

The following two options were considered:

Option 1: Merge the Schedule 1.2 maps and the already gazetted airsheds and extend backyard burning and other Schedule 1.2 provisions. All the provisions relating to Schedule 1.2 areas in the Air Plan will now be applied to the extended airsheds. As a consequence, backyard burning restrictions will apply to all areas within the extended airsheds, and some other permitted activity rules will have wider application within the airsheds.

Option 2: Create another set of airshed maps. The gazetted airsheds would be shown as a separate set of maps, similar, but not identical, to the Schedule 1.2 maps.

The sections below identify the costs and benefits associated with each option. Sufficient information is available about the mapping issue to identify the risk of acting or not acting.

6.2.1 Option 1: Merge the Schedule 1.2 Maps with the gazetted airsheds; extend backyard burning and other provisions.

Benefits	Costs
One set of airshed maps is easier to read.	The new areas will need to be re-gazetted.
Air quality will be further improved as backyard burning will be limited in all specified areas and other rules relating to Schedule 1.2 will be extended to the wider areas.	People within the specified areas will need to find alternative ways to dispose of material that would otherwise have been burnt outdoors.
It is fairer to limit both backyard burning and discharges to air from domestic heating appliances, as backyard burning also produces PM_{10}.	Businesses that will now be included within the airsheds may face additional air discharge compliance costs as new rules apply relating to permitted activities.

6.2.2 Option 2: Create a separate set of airshed maps.

Benefits	Costs
People within the specified areas will be able to continue to burn waste in their backyards.	It is confusing to have two sets of airshed maps covering similar, but not identical, areas. In consequence, some rules would apply in some parts and not in others.
	Misinterpretation is possible if there are two similar maps in the Air Plan.
	It is unfair to limit discharges to air from domestic heating appliances and not restrict backyard burning in these same areas.

6.2.3 Conclusion

Option 1 [Merge Schedule 1.2 maps with gazetted airsheds; extend backyard burning and other provisions] is considered to be easier to interpret and a more fair method for improving the quality of air to meet the $NESPM_{10}$ standard by 2013.

7. Analysis of Options - Consequential Amendments

7.1 Extent to which each objective achieves the purpose of the RMA

This subsection does not apply as the objectives of the Air Plan remain unchanged, although the explanatory material is updated.

7.2 Cost benefit analysis

The following two options were considered:

Option 1: Leave the Air Plan unchanged. The Air Plan will continue to contain wording errors that lead to misinterpretation of the Air Plan.

Option 2: Make consequential amendments now. Amend the Air Plan to accurately reflect and give effect to the NESAQ and the proposed policies and rules.

The sections below identify the costs and benefits associated with each option. Sufficient information is available about the subject matter of Proposed Plan Change 2 (NES) to identify the risk of acting or not acting.

7.2.1 Option 1: Leave the Air Plan Unchanged.

Benefits	Costs
Avoids the costs incurred by the ORC and submitters of undertaking the plan change process.	The Air Plan will retain errors that can lead to confusion.
	The Air Plan provisions will continue to be open to an unacceptable level of misinterpretation.

7.2.2 Option 2: Make Consequential Amendments Now

Benefits	Costs
The usability of the Air Plan will improve.	The ORC and submitters will incur costs of undertaking the plan change process.
The Air Plan provisions are less likely to be misinterpreted.	

7.2.3 Conclusion

Option 2: Make consequential amendments now is considered the most appropriate method for dealing with the consequential changes required to accurately reflect and give effect to the NESAQ and the proposed policies and rules.

8. Consultation

The ORC sent out a Consultative Draft of Proposed Plan Change 2 (NES) to the Air Plan to the parties listed in Appendix 2 in February and March 2007, including those required to be consulted with under clause 3 of Schedule 1 to the RMA. Feedback was received from a number of these parties, including Ministry for the Environment, Public

Health South, Housing New Zealand Corporation, Central Otago District Council, the Home Heating Association, the Department of Corrections and Kai Tahu Ki Otago Ltd.

In February and March 2007, a series of public meetings were held around the region. Nearly 300 members of the public attended these meetings.

As a result of these meetings and the feedback from those agencies consulted, some alternatives were proposed to Council, as follows:

- One set of comprehensive airshed maps, incorporating Schedule 1.2 maps and the gazetted airsheds.
- Extending the backyard burning provisions within Airsheds 1 to 4.
- Extending the NES woodburner standard to apply to all domestic heating appliances on properties under 2 hectares in size.
- New provisions for heritage listed homes.
- New provisions for the use of domestic heating appliances in commercial premises.

Commitments were also made at these public meetings to review the airshed categories for Roxburgh, Ranfurly and Naseby once sufficient data is available from the winter 2007 monitoring programme.

A further amendment to the proposed plan change was made by Council resolution on 28 March 2007, dividing Airshed 1 into Airshed 1A [Alexandra, Arrowtown, Clyde and Cromwell] and Airshed 1B [Naseby, Ranfurly and Roxburgh], applying the Airshed 2 to 4 provisions to Airshed 1B until 1 October 2007 and delaying the introduction of the more rigorous 0.5g/kg discharge standard in Airshed 1B towns to 1 October 2007. As a consequence, changes were made to create curved line paths towards compliance with the NES PM_{10} for each airshed, in line with the NESAQ.

9. Conclusion

Proposed Plan Change 2 (NES) is a major step to help improve ambient air quality in the region's towns and to achieve the NESPM_{10}. This report has evaluated the costs and benefits of alternative ways to achieve this standard over the next seven years.

The option proposed, which involves targeting a mix of approaches by different categories of airshed and property size, is considered to be the most appropriate way of improving the Air Plan to give effect to the NESAQ, and therefore, to improve the overall health and quality of life of the region's communities.

APPENDIX 1: FURTHER REFERENCES

Proposed National Environmental Standards for Air Quality, Resource Management Act Section 32 Analysis of the Costs and Benefits, 2004.
The Ministry for the Environment website provided a Section 32 analysis leading to the introduction of the National Environment Standard for Air Quality: refer to their website, www.mfe.govt.nz .

Reports to the ORC
The following reports were presented to the Policy and Resource Planning Committee as part of the ORC's preparation for this proposed plan change:

- 2005/338 Local Air Management Areas
- 2005/397 Ambient Air Quality in Otago: 1997-2004
- 2005/645 PM_{10} Monitoring – Summary of Winter 2005 Results
- 2006/325 Air Strategy Project Report
- 2006/592 Domestic Heating Discharge Rules
- 2006/599 PM_{10} Monitoring – Summary of Winter 2006 Results
- 2006/722 Air Plan Change
- 2007/147 Proposed Plan Change 2 (NES) to the Regional Plan: Air for Otago

ORC Publications
Monitoring data on air quality is presented in the following ORC publications:

- Ambient Air Quality in Otago – Nitrogen Dioxide, Sulphur Dioxide and Carbon Monoxide, 1997-2004
- Ambient Air Quality in Otago – Particulate Matter, 1997-2004
- Ambient Air Quality in Otago – Particulate Matter, 2005
- Central Otago Home Heating and Air Pollution, 2006 Survey Findings

Health Research
Goldsmith M. Donaldson M. and Mills D. 2007, 'Health Effects of Ambient Air Quality in Otago, New Zealand', unpublished.

APPENDIX 2: LIST OF ORGANISATIONS CONSULTED

Kai Tahu Ki Otago Ltd

Ministry for the Environment
Minister of Conservation
Department of Corrections
Office of the Chief of Defence Force
Ministry of Economic Development
Ministry of Education
Ministry of Health
Housing New Zealand Corporation
NZ Historic Places Trust
Energy Efficiency & Conservation Authority
New Zealand Police
Otago District Health Board
Public Health South
Otago Conservatory, Department of Conservation

Waitaki District Council
Dunedin City Council
Clutha District Council
Central Otago District Council
Queenstown Lakes District Council

Environment Canterbury
West Coast Regional Council
Environment Southland

New Zealand Home Heating Association
Otago Chamber of Commerce

APPENDIX 3: MATERIAL INCORPORATED BY REFERENCE

Ministry for the Environment

- Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations (2004).

  Material referenced in the above Regulations:
  - *AS 3580.7.1:1992, Methods for sampling and analysis of ambient air- Determination of carbon monoxide.*
  - *AS/NZS 3580.9.6:2003, Methods for sampling and analysis of ambient air - Determination of suspended particulate matter.*
  - *AS/NZS 4012:1999, Domestic solid fuel burning appliances - Method for determination of power output and efficiency.*
  - *US Code of Federal Regulations, Title 40 – Protection of Environment, Vol 2 Pt 50, Appendix J - Reference method for the determination of particulate matter as PM_{10} in the atmosphere.*

NZ Standards

- AS/NZS 5078:2007, Pellet heaters - Method for determination of power output and efficiency.
- AS/NZS 4886:2007, Domestic solid fuel burning appliance - Pellet heaters - Determination of flue gas emission.
- AS/NZS 4014.6:2007, Domestic solid fuel burning appliances - Test fuels - Wood pellets.

Otago Regional Council

- Ambient Air Quality in Otago 1997 – 2004, Nitrogen Dioxide, Sulphur Dioxide and Carbon Monoxide, 2005.
- Ambient Air Quality in Otago 1997 – 2004, Particulate Matter, 2005.

Form 4

Public Notice of Proposed Plan Change 2 to the Regional Plan: Air for Otago

Clause 5 of First Schedule, Resource Management Act 1991

The Otago Regional Council has prepared Proposed Plan Change 2 (National Environmental Standards (NES)) to the Regional Plan: Air for Otago to achieve the ambient air quality standard for fine particulate matter (PM_{10}), as set by the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations (2004).

Key aspects of Proposed Plan Change 2 (NES) include:

- All newly installed domestic heating appliances (including open fires) in proposed airsheds covering urban areas or on properties less than 2 hectares in size, will be required to meet PM_{10} emission standards.
- A stricter emission standard is proposed to take effect immediately for proposed Airshed 1A towns (Alexandra, Arrowtown, Clyde and Cromwell) and from 1 October 2007 for proposed Airshed 1B towns (Roxburgh, Ranfurly and Naseby).
- Existing domestic heating appliances in proposed Airsheds 1A and 1B that do not meet the PM_{10} emission standard are proposed to be prohibited from 1 January 2012.
- An exemption for registered historic places when the building is open to the public.
- Any business wanting to use a non-complying domestic heating appliance will be required to apply for resource consent for a discretionary activity.
- A "curved line path" to full compliance with the PM_{10} standard of 50 $\mu g/m^3$ by 1 September 2013 for proposed Airsheds 1, 2 and 3 and additional rules for consented activities that discharge PM_{10} to air.
- The Schedule 1.2 maps will be deleted, and replaced with proposed airshed maps encompassing the main urban areas. This proposed change will affect:
  - The current rules for outdoor burning in Dunedin and Mosgiel, which will be extended to all proposed airsheds; and
  - Permitted activity rules that will have wider application in the proposed airshed areas, for the following activities that discharge contaminants to air:
    - Operation of fuel burning equipment;
    - Processing of plant and animal matter;
    - Sorting, crushing, screening, conveying and storage of powdered or bulk products; and
    - Mineral extraction and processing.

The proposal may be inspected at:

- ORC offices at:
  - 70 Stafford Street, Dunedin
  - Dunorling Street, Alexandra
  - The Station, First Floor, Cnr Shotover and Camp Streets, Queenstown
  - Hasborough Place, Balclutha.
- All public libraries throughout the Otago Region.
- Service centres of Otago's city and district councils.
- www.orc.govt.nz.

Any person may make a submission on the proposal. You may do so by sending a written submission on Form 5 to the Otago Regional Council. Your submission must state whether you support, oppose or are neutral to the proposed plan change, and whether or not you wish to be heard on your submission. Copies of submission forms are available by phoning the Council on 0800 474 0827, or can be found on our website (www.orc.govt.nz).

Post to	Otago Regional Council Private Bag 1954 Dunedin
Fax to	(03) 479 0015
Email to	info@orc.govt.nz
Deliver to	Otago Regional Council 70 Stafford Street Dunedin
or	William Fraser Building Dunorling Street Alexandra
or	The Station, First Floor Cnr Shotover and Camp Streets Queenstown

Submissions close on Friday 18 May 2007 at 5.00 pm.

The process for public participation in the consideration of the proposal under the Act is:

- After the closing date for submissions, the Council will prepare a summary of the submissions and this summary will be publicly notified;
- You can then make a further submission in support of, or in opposition to, the submissions already made;
- You may speak in support of your submission at a hearing ;
- The Council will give its decision on the proposal (including its reasons for accepting or rejecting submissions);
- Every person who has made a submission has the right to appeal the decision on the proposal to the Environment Court.

JF McRae
Director Policy and Resource Planning

Signed on behalf of the Otago Regional Council

14 April 2007

Address for service of local authority:
Otago Regional Council
Private Bag 1954
Dunedin

Telephone	03 474 0827
Freephone	0800 474 082
Fax	03 479 0015
Email	info@orc.govt.nz
Contact Person	Dale Meredith, Manager Policy

Otago Regional Council

SUBMISSION FORM

Proposed Plan Change 2 (NES)
to the Regional Plan: Air for Otago
Form 5
Clause 6 of First Schedule, Resource Management Act 1991

for office use

Name of person making submission: .....

Name of organisation: .....

Postal address of submitter: .....

Telephone: ..... Fax: .....

Email: .....

I wish / do not wish (circle preference) to be heard in support of my submission.

If others make a similar submission, I will consider presenting a joint case with them at a hearing.
[Cross out if you would not consider presenting a joint case]

Signature of submitter:
(or person authorised to sign on behalf of submitter)

.....

Date: .....

My submission relates to:

(Give details of the specific provisions of the proposal that this submission relates to.)

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Please turn over.

SUBMISSIONS MUST BE RECEIVED BY FRIDAY 18 MAY 2007.

My submission is:

(Include whether you support or oppose the specific provisions, or wish to have them amended; and the reasons for your views.)

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fold

I seek the following decision from the local authority:

(Give precise details.)

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fold

FreePost Authority ORC 1722

Free

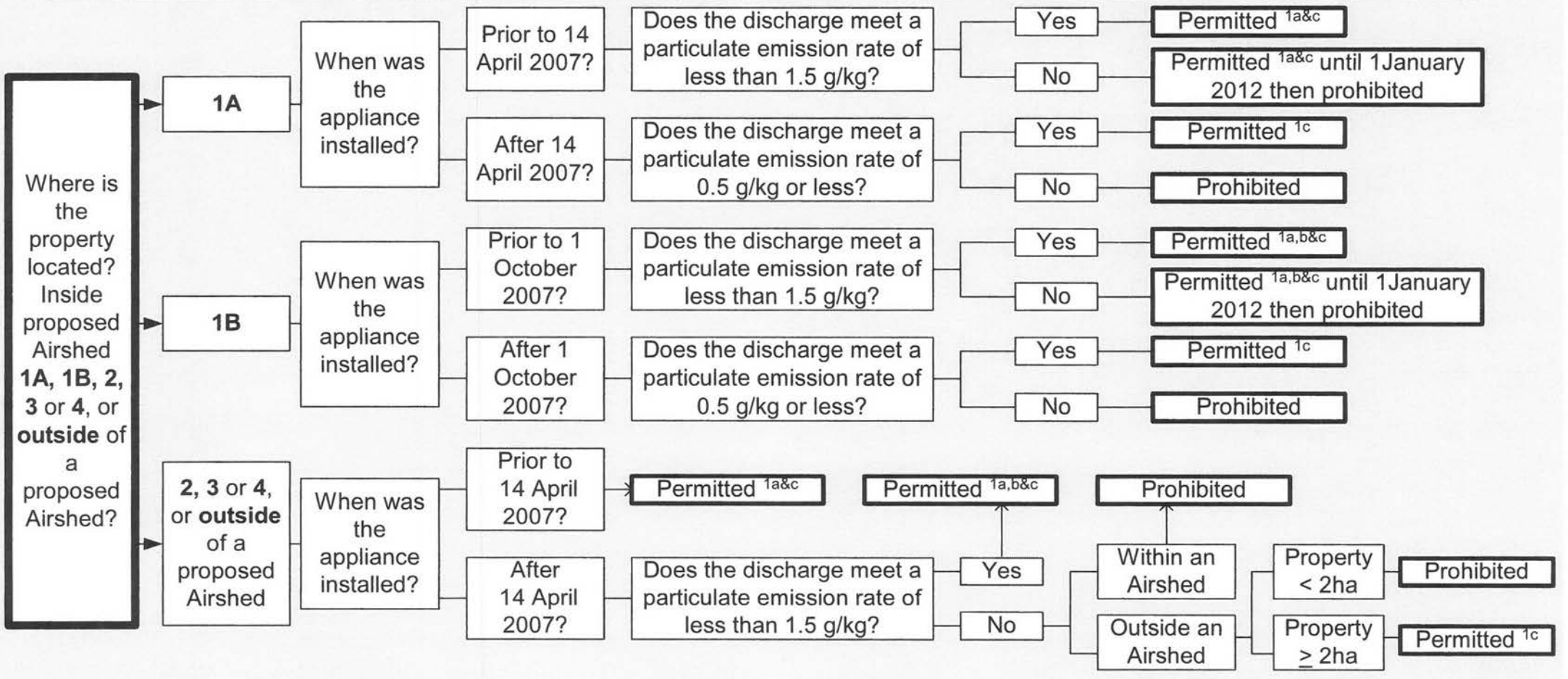
Otago Regional Council
Private Bag 1954
Dunedin 9054

Attention Policy Team

DISCHARGES FROM DOMESTIC HEATING APPLIANCES

Otago Regional Council

Proposed Airshed 1 (A & B) 1A: Alexandra, Arrowtown, Clyde, Cromwell; 1B: Naseby, Ranfurly, Roxburgh (Proposed Rule 16.3.1.2)
Proposed Airsheds 2, 3 & 4 Balclutha, Dunedin, Hawea, Kingston, Milton, Mosgiel, Oamaru, Palmerston, Queenstown, Waikouaiti, Wanaka (Proposed Rule 16.3.1.3) and **Outside Proposed Airsheds 1 - 4** (Proposed Rule 16.3.1.4)



[1] **providing (a)** Any woodburner installed after 1 September 2005 in a building on an allotment of less than 2 hectares, meets a discharge of less than 1.5 g/kg of fuel burnt, and has a thermal efficiency of not less than 65%; **(b)** Any other domestic heating appliance installed after 14 April 2007, in a building on an allotment of less than 2 hectares, meets a discharge of less than 1.5 g/kg of fuel burnt, and has a thermal efficiency of not less than 65%; **(c)** Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Registered Historic Places (Proposed Rule 16.3.1.5) An exemption applies only when the building is open to the public. Please see proposed rule for detail.
Commercial Premises (Proposed Rule 16.3.1.6) may be able to apply for resource consent as a discretionary activity. Please see proposed rule for detail.

Domestic heating appliance: A combustion appliance, with a heat generation capacity of up to 35kW, in which solid fuel is burnt for heating or cooking, and is primarily used in residential dwellings. It includes, but is not limited to, any open fire, woodburner, multifuel, pellet or coal burner, coal range or cooking stove.