

ORIGINAL

Decision No. C 60 /2004

IN THE MATTER of the Resource Management Act 1991 (the Act)

AND

IN THE MATTER of references pursuant to Clause 14 of the First Schedule to the Act

BETWEEN ROBINSONS BAY TRUST

(RMA 518A/01)

AND

NATIONAL INVESTMENT TRUST

(RMA 590B/99 and 527A/01)

AND

CHRISTCHURCH INTERNATIONAL AIRPORT LIMITED

(RMA 525B&C/99 and 507E/01)

AND

CLEARWATER LAND HOLDINGS & OTHERS

(RMA 568A,B,C/99, 498A/01)

AND

SUBURBAN ESTATES LIMITED

(RMA 526A/01)

Appellants

AND

CHRISTCHURCH CITY COUNCIL

Respondent

BEFORE THE ENVIRONMENT COURT

Environment Judge J A Smith (presiding)

Environment Commissioner S J Watson

Environment Commissioner D H Menzies

Hearing: Christchurch on 22-26 March, 29 March to 2 April and 5-8 April 2004



## Appearances:

Mr B R D Burke for Robinson Bay Trust, National Investment Trust, Country Estates  
(Canterbury) Limited (**Robinson Bay**)

Mr E D Wylie QC and Mr T A Coull for Clearwater Land Holdings Limited  
(**Clearwater**)

Ms P A Steven and Mr K J Reid for Suburban Estates Limited (**Suburban Estates**)

Ms J M Appleyard and Ms B J Burt for Christchurch International Airport Limited  
(**CIAL**), Board of Airline Representatives (**BARNZ**) and the Canterbury Regional  
Council (**the Regional Council**)

Mr J G Hardie for the Christchurch City Council (**the Council**)

### INTERIM DECISION

#### *Introduction*

[1] How much land should be covered by a policy restraining noise sensitive peripheral urban development?

[2] In this case two alternatives were put to the Court:

- (1) A line on the Christchurch City Proposed Plan (**the Proposed Plan**) known as the **50 dBA contour line**. This modelled noise contour of 50 dBA Ldn covers a large area of land to the north-west of Christchurch International Airport (**the Airport**) flight path. Importantly, it also covers most of the undeveloped land to the south of the Airport flight path to the existing urban fringe.
- (2) A line on the Proposed Plan known as the **55 dBA contour line**. This covers significantly less land to the north of the airport flight path and is around 500 metres further away from the existing city boundary on the southern side of the airport than the 50 dBA Ldn contour line.

[3] A copy of the plan showing the urban areas and the airport and the 50 and 55 dBA Ldn contour lines is annexed hereto and marked "A". We were told that the area



to the south of the airport where there is likely to be significant pressure for ongoing urban scale development is the area of critical concern. There are a number of additional references and appeals relating to this area to be determined with reference to the wording of Policy 6.3.7 to the Proposed Plan.

[4] The parties accept that there should be a policy 6.3.7:

*to discourage peripheral urban growth involving noise sensitive activities within a dBA Ldn contour from the Christchurch International Airport Limited.*

[5] The single issue for this Court is whether this should be at the 50 dBA Ldn line or at the 55 dBA Ldn line. There may be a necessity for consequential changes directly to the explanation and reasons to Policy 6.3.7 and also to other various policies to ensure that the reference to the contour line is consistent throughout the Proposed Plan.

[6] There are other relevant references yet to be resolved, particularly:

- (1) the question of the definition of noise sensitive activities and particularly whether various forms of travellers' accommodation should be incorporated within that definition;
- (2) the issue of controls over the airport noise that have yet to be resolved which are also the subject of reference.

[7] All parties agree that in addition to the decision of this Court, the final wording of the provisions of the Proposed Plan will need to await the resolution of these two particular issues as well.

#### ***Proceedings before the Court***

[8] The proceedings in this matter have taken a particularly tortuous route to hearing. These proceedings are part of a large group of proceedings relating to the airport which were initially dealt with together. The group consists of a significant number of references to the Proposed Plan itself and various Variation 52 (the **Variation**) and section 120 appeals. The Court, in preliminary decisions, decided it



should deal with jurisdictional issues in the first instance and identified the question of contour lines as a preliminary jurisdictional issue on which it issued a decision<sup>1</sup>. That decision was successfully appealed to the High Court<sup>2</sup>. Unfortunately, the interpretation of the High Court decision led to ongoing disputes between the parties. These disputes were the subject of further hearings and directions, particularly relating to questions of discovery, before this Court. Potential hearing dates were set and then abandoned.

[9] After the parties had agreed to these proceedings being heard in March and the timetable was set, there were ongoing difficulties requiring further Court directions and conferences as close as one week to the hearing. The end result was that Clearwater sought to take no active part in the proceedings, while reserving their rights. Their status in these proceedings became increasingly tenuous the further the hearing progressed. Mr Coull appeared for Clearwater on the last day of hearing and advised that they were withdrawing proceedings RMA 498A/99, 498B/99, 498C/99, and their notices of interest in 507B/01 and 507D/01. We understand the withdrawal results from an accommodation between the CIAL and Clearwater. No particular details were given to the Court. No other party sought costs in respect of that matter and accordingly those proceedings are at an end, with no order for costs being made. If 498A/99 and 568A/99, B and C are not at an end Clearwater is to advise the Court forthwith. We assume that 568A/99, B and C are also withdrawn although this was not explicitly addressed by Mr Coull.

[10] Because of Clearwater's limited role in the proceedings, the lead role in respect of the hearing was taken over at very short notice by Ms P A Steven for Suburban Estates. Suburban Estates called many of the same witnesses proposed by Clearwater, particularly Dr B F Berry and Dr R B Bullen. However, during the course of the hearing, and after the presentation of the Suburban Estates case, Ms P A Steven withdrew the Suburban Estate's reference RMA 526/01, being the entire reference on Variation 52. No other party sought costs and accordingly those proceedings are at an end and there is no order as to costs.



<sup>1</sup> *Clearwater Resort Limited v Christchurch City Council* C94/2002.

<sup>2</sup> *Clearwater Resort Limited v Christchurch City Council* AP 34/02, Young J 14/3/03.

[11] Mr Burke only received instructions for Robinsons Bay very close to the hearing when a conflict of interest arose between Clearwater (et al) and Robinsons Bay and both parties instructed alternative counsel. The withdrawal of the Suburban Estates references, occurring as it did on 31 March during the hearing, placed the case of Robinsons Bay Trust, National Investment Trust and Country Estates Canterbury Limited in some difficulty. Mr Burke had only had limited participation in the hearing to this time and had already presented the case for his client.

[12] Initially there was a question as to whether or not Mr Burke had adopted the evidence of Suburban Estates witnesses. Our notes indicated that he had done so both at the commencement of the hearing and during the course of his opening for the parties he represented. This issue was not pressed further by other counsel. We have therefore concluded that the evidence presented by Suburban Estates was also presented on behalf of Robinsons Bay and will be considered as evidence on the Robinsons Bay and National Investments references. Mr Burke took an active role in the proceedings from 31 March and performed an exemplary task in presenting the case for his clients through cross-examination of the remaining witnesses for the CCC and CIAL.

### *The scope of the hearing*

[13] This reference concerns Policy 6.3.7 of the Proposed Plan and, specifically, whether noise sensitive activities should be discouraged within the 50 dBA Ldn contour line or the 55 dBA Ldn contour line.

[14] The hearing does not include a consideration of movement of the contour lines. That issue was considered in the earlier High Court appeal. While the computer modelling for the contour lines was reconsidered on a without prejudice basis prior to this hearing, all parties agreed at the commencement of the hearing that the location of the modelled noise contour lines was not at issue.

[15] The scope does include consideration of what the noise contour line signifies. This is addressed by consideration of the New Zealand Noise Standard 6805: 1992 (**the Noise Standard**) which is expressly adopted as underpinning the contour lines. The Noise Standard indicated two guideline aspects – the first, a control on land use within



the modelled contour; the other, by implication, a control on noise generated by airport operations. While Policy 6.3.7 refers to a noise contour, the focus of this hearing was on peripheral urban growth involving noise sensitive activities within the lines on the Proposed Plan.

[16] The hearing did not address the relationship of the noise contour lines with other interrelated policies which also influence land users near the airport.

[17] However, the scope did address noise perception and effects as a basis on which conclusions could be reached as to whether the 50 or 55 dBA Ldn contour would better represent the outer control boundary.

[18] As noted, the scope did not address the **definition** of noise sensitive activities. This is to be considered in the future.

[19] We have already noted that this decision must be an interim decision having regard to the matrix of inter-dependent policies which also require resolution, particularly those relating to controls over airport noise and the definition of noise sensitive activities. In simple terms, the question is whether the 50 dBA Ldn contour line or the 55 dBA Ldn contour line better provides for the purpose of the Act, the Regional Policy Statement (RPS) and the undisputed policies and objectives of the Proposed Plan.

### *Points of agreement*

[20] There are many points of agreement between the parties including:

- (1) The parties agree that the Noise Standard is generally appropriate for use at the Christchurch Airport. This includes an acceptance that it is appropriate to address controls over the airport and over land development by means of an air noise boundary and an outer control boundary. The major distinction between the parties is whether the outer control boundary should be at the 55 dBA Ldn specified in the Noise Standard (clause



1.4.2.2) or should be at the 50 dBA Ldn contour line shown in the Proposed Plan.

- (2) Having assessed the evidence of all the witnesses, we conclude it is common ground of the parties that the standard is a guide rather than a mandatory requirement and that it has been utilised in various ways throughout New Zealand. The Noise Standard does not recommend using the 50 dBA Ldn contour line, nor has it been used elsewhere in New Zealand.
- (3) The purpose of the outer control boundary is set out in Noise Standard at clause 1.1.5:

*(b) The Standard establishes a second, and outer, control boundary for the protection of amenity values, and prescribes the maximum sound exposure from aircraft noise at this boundary.*

The level of disagreement therefore relates not to the applicability of the standard but whether, in fact, a lower level than 55 dBA Ldn is appropriate to the circumstances of this case.

Both the Council and the Regional Council advocated the adoption of the 50 dBA contour line as the contour which better supported the purpose of the Act.

- (4) The Christchurch City Council and Robinsons Bay agree that either the 50 or 55 dBA contour lines can be adopted without doing violence to the Proposed Plan or the Regional Policy Statement (**the RPS**). Although various witnesses for CIAL suggested to the contrary, under cross-examination they accepted either contour would fit the Proposed Plan and RPS. Notwithstanding the suggestions that the 55 dBA contour line would be contrary to the RPS, Mr McCallum, called for the Regional Council, later accepted in answer to questions that the Proposed Plan did not prohibit development within these contours. He acknowledged that there were other policies and objectives which also militated against development within these contours. He accepted the Proposed Plan as



promulgated by Council was not contrary to the RPS on this issue. We conclude that neither would a 55 dBA Ldn contour line be contrary to the RPS. In fact, Mr McCallum indicated, surprisingly, that some urban residential development within the 50-55 dBA Ldn contour could be justified under the Proposed Plan. We conclude he could only hold such a position if such development is not contrary to the RPS.

[21] We have concluded, having regard to the provisions of the Plan not in dispute, that either the 50 or 55 dBA Ldn contours could be inserted into Policy 6.3.7 in the Proposed Plan without causing any violence to either the objectives and policies of the Proposed Plan or to the Regional Policy Statement. The reasons for this conclusion are:

- (1) The Proposed Plan permits a level of residential development to the 65 dBA Ldn contour. The controls on development below this noise contour arise in a number of different ways. Policy 6.3.7 is but one policy constraint;
- (2) The 55 dBA Ldn contour for the outer control boundary is in the Noise Standard and represents a notional balancing of the various positions of parties. This standard is also noted in both the Regional Policy Statement and in the Proposed Plan;
- (3) Either line represents an approach to the balance required between the interests of the landowner and the airport operating with minimal constraints.

[22] The question then is whether or not the adoption of a higher standard (the 50 dBA Ldn contour line) is appropriate in this Proposed Plan rather than whether 55 dBA Ldn is appropriate.

#### *Noise issues and effects*

[23] There are effects of noise above and below 50 and 55 dBA Ldn. There appeared to be a common approach by the experts to noise which we briefly cite as follows:





- (a) noise above 65 dBA Ldn is of concern and is described as a noisy environment;
- (b) noise between 55 and 65 dBA Ldn has potential health effects and would be described as a moderately noisy environment;
- (c) noise below 55 dBA Ldn is considered a low noise environment and has limited health effects.

[24] We have concluded that below 55 dBA Ldn the major known effect of noise is annoyance (an amenity effect). Dr R F S Job, a psychologist called by CIAL, suggested that the effects of noise continued well below 50 dBA Ldn and even below 40 decibels. Mr C W Day, from CIAL, took a more constrained position that there were effects of noise above 45 dBA Ldn. Having heard all the witnesses, including Dr Berry and Dr Bullen, we have concluded that the annoyance effect of noise decreases under 50 dBA Ldn and is assimilated by background noise at around 45 dBA Ldn. While in a laboratory setting it might be possible to measure effects below that, the noise environment around Christchurch Airport cannot be said to be without other noise sources. We were told by Mr M J Hunt, a noise expert called for Suburban Estates and adopted by Robinsons Bay, that 50% of Christchurch had Ldn levels in excess of 50 dBA. This also accords with the extensive range of evidence this Court has heard in other cases as to noise levels in a diverse range of circumstances. Even in the rural area, we would be expecting ambient Ldn levels to be between 40 and 50 dBA in a non-urbanised state, even without the presence of the airport.

[25] The Council conducted a wide sample residential postal survey of Christchurch in 2002 to assess residents experience with respect to four types of noise environments to identify their "most bothersome noise". Mr J T Baines gave evidence as to the background and the results of that survey. Four types of environmental noise catchments were selected: airport, road traffic, industrial and general neighbourhood noise. Within each catchment, a selection of 400 residential properties was identified to achieve reliable statistical results. "Highly annoyed" levels were relatively similar in areas away from road traffic noise although the prime annoyance was due to the target noise, i.e. 17.1% of respondents in the Airport noise catchment were highly annoyed by aircraft noise; 20.6% of respondents in the Industrial noise catchment were highly annoyed by Industrial noise, and 17.4% of respondents in the General Neighbourhood



catchment areas were highly annoyed by neighbourhood noise. These are largely similar outcomes and reflect the different target noise groups of the analysis. What is clear from this is that a similar number of people are highly annoyed by whatever the dominant noise was within their area, even in a general residential area. These outcomes need to be considered against 39.7% who were highly annoyed within the Road Traffic noise catchment.

[26] Interestingly, in response to questions on positive noise (noise people enjoyed) aircraft noise ranked third after bird and animal life and the sound of children and ahead of sources such as the wind and the ocean and miscellaneous neighbourhood sounds.

[27] We also note that for the Taylor Baines survey the catchment for the airport related noises included very few properties that were within significant noise contours (above 65 dBA Ldn) and a relatively small number that were receiving noise in excess of 55 dBA Ldn. We should explain that although the contours are shown as 50 and 55 dBA Ldn on the Proposed Plan, this is not the current noise environment. We were told that the current noise environment is some 5-7 decibels lower than the drawn contours. The contours represent an estimated noise environment when the airport is fully utilised on its current configuration.

*Ldn as an annoyance measure*

[28] We accept that the percentage of persons highly annoyed within the 50-55 dBA Ldn contour would be lower than that above 55 dBA Ldn. We consider that a reasonable estimate, based on the various expert witnesses we heard, is about half the level of people being highly annoyed in the 50-55 dBA Ldn contour compared to above 55-60 dBA Ldn. However, it is also clear that a complaint level can exist well below the 50 dBA Ldn contour. Examples were given from both Sydney and Vancouver showing that complaints were occurring well beyond the 55, and even the 50 dBA Ldn, noise contours.

[29] We have concluded that the reason for this is that the Ldn is a useful gauge for measuring annoyance at moderate to high noise levels. It is a less reliable indicator at lower noise levels. The reason for this is founded on the basis by which the Ldn is



calculated. Ldn consists of taking single event noise levels (SELs) and averaging these over a period, in this case a rolling twelve month average whereas the Standard provides for a rolling three month average. This also involves adjusting the SELs with a weighting of 10 dBA Ldn for noises occurring between 2200 hours and 0700 hours.

[30] The experts had a high level of agreement that aircraft noise consisted of a lesser number of high energy events. Mr Day, for example, gave evidence that SELs on the 50 dBA Ldn contour when the airport is fully utilised could still be up to the order of 82-85 dBA SEL. The Ldn achieved would, however, be a result of how many of those individual SELs occur, together with lesser noise events and over what period. The difficulty is that Ldn does not directly recognise loud noise events, such as those in the order of 82-85 dBA, that may occur very infrequently. If, for example, there was a limited number of such events, say four or five a day with several at night, it is perfectly possible that the Ldn could be no more than 50-55 dBA.

[31] Evidence given about the difficulties at Sydney Airport by Dr Job indicates that these individual events, standing out against a lower ambient noise level, may create greater disturbance than the environment for people living in a higher Ldn environment but with less differentiation in the range of noise between ambient noise and SELs. A low ambient noise level would mean a low number of aircraft SELs would stand out even with a lower the overall Ldn.

[32] Notwithstanding that, all the experts agreed that the Ldn was the best, if imperfect, descriptor of annoyance levels available. However, we take into account that in assessing Ldns we must regard the lower level Ldns from airport noise with somewhat more caution because of this limitation.

#### *Objectives and policies of the RPS*

[33] In considering which contour is better for inclusion in the policy, we have concluded that we should look at the settled objectives and policies of the Proposed Plan and then the provisions of the Act, particularly section 32 and section 5.



[34] The Environment Court and High Court have considered the relevant objectives and policies of the RPS and of the Proposed Plan in the context of an application for subdivision consent<sup>3</sup>. Although those cases were prior to Variation 52, the Environment Court analysis of the RPS remains incisive for current purposes. To that end we will not repeat paragraph 41 of the decision of the Environment Court which identifies parts of Chapter 7 (objective 2 and policy 6) and Chapter 12 (objective 2 and policy 4) of the RPS as relevant.

[35] In addition to this, Chapter 15 of the RPS contains a significant number of statements relating to the airport, including issue 1 which, among other matters, identifies land use as a potential impediment to the expansion of the airport.

[36] Policy 4 of Chapter 12 of the RPS provides an Explanation as follows:

*The discouragement of noise sensitive development, particularly residential use and residences, in the vicinity of airports and sea ports to minimise the extent of area and number of residences subject to adverse noise impacts, and the discouragement of all urban uses and residences in areas where there is a greater risk of crashes, particularly take off and landing zones, and other risks associated with activities that occur at airports and sea ports such as the storage of hazardous substances.*

...

*Because of the paramount importance of maintaining the safety of aircraft and ship operations, it is essential that priority be directed at controlling the location and density of noise sensitive land uses, thereby avoiding existing noise problems being further exacerbated, rather than regulating the use of airports and sea ports where that could either reduce safety margins or impede efficient airport and sea port operations.*

...

*Policy 4 recognises the need to reinforce the use of Air Noise and Outer Control Boundaries along with compatible land use planning principles in areas*

<sup>3</sup> *Garguilo v Christchurch City Council* (E.C.) C137/2000;  
*Garguilo v Christchurch City Council* (H.C.) AP 32/00 Hansen J 6/3/2001.



*adjacent to major airports to ensure continuation of their efficient operation (see New Zealand Standard 6805:1992).*

As we have already noted, we accept in light of this that either contour would be consistent with the RPS.

***The provisions of the Proposed Plan***

[37] The Environment Court in *Garguilo v Christchurch City Council*<sup>4</sup> also discussed the provisions of the Proposed Plan in paragraphs 44-47 inclusive. The decision discussed Volume 2 Policy 6.3.7, but the wording of the Proposed Plan at that time was somewhat different to that in Variation 52. Reference within the explanation and reasons discussed the 55 dBA Ldn contour and stated that:

*... between the 55 Ldn contour and the Air Noise Boundary, new residential development will be discouraged (except for limited development in the Living 1C zone) ... This policy is expected to protect airport operations and future residents from adverse noise impacts.*

[38] Discussion also identified other provisions within the Proposed Plan (Volume 2: Objective 6.3 including Policy 6.3.11; Section 7 including Policies 7.8.1 and 7.8.2; and Sections 10 and 13) leading the Court to a conclusion contained in paragraph 48 as follows:

*If it is possible, without being totally simplistic, to summarise the effect of all those objectives and policies in so far as they relate to subdivision and residential use close to the international airport, they come down to three sets:*

- (a) restricting use of buildings for noise sensitive activities close to the airport (not relevant in this case);*
- (b) requiring noise attenuation measures in certain buildings within the 55 dBA Ldn contour (again not relevant in this case);*

<sup>4</sup> Above C137/2000 at paras 44-47.



- (c) *keeping the density of dwellings within the 50 dBA Ldn contour to a level so that the number of people living within the noise affected environment is kept to a reasonable minimum.*

*We find that these objectives and policies are a package: all sets are applicable, but if the first do not apply then the third, more general, set of policies still applies.*

[39] On appeal in the High Court, the High Court at paragraphs 39 and 40 addressed the issue in this way:

[39] *Ms Steven complained that nowhere in the relevant documents is there a limitation relating to the 50 dBA line. That, of course, was accepted by Mr Hardie, who said if one read Rural 5 for 50 dBA there would be no problem. The difficulty with Ms Steven's submission is that the Court did not rely on the 50 dBA Ldn noise contour. What, in fact, was said can be found at paragraph 39 where the Court stated:*

*"The CCC (and on appeal this Court) does not have to guess whether the effects of subdivision and a new house will be adverse, the RPS and proposed district plan both imply (as we see when we consider them shortly) that subdivision within the 50 Ldn contour at a density greater than one lot per 4 ha does have adverse effects."*  
*[my emphasis].*

[40] *Frankly, having read the documents that is an inevitable and necessary implication.*

[40] It can be said that these findings are only marginally relevant to the question of the appropriate policy. However, what both these decisions do is reinforce the view we have formed, having heard all the evidence and read the relevant policy provisions, there are a plethora of objectives and policies that seek to protect the airport and limit the introduction of any potentially incompatible activity, particularly residential dwellings.



[41] Putting aside the provisions of policy 6.3.7 and its explanation and reasons, the overwhelming thrust of the Proposed Plan is towards limiting any development in proximity to the airport. These policies and objectives are achieved and implemented by the various zoning and rule provisions which encapsulate the activities broadly within the Rural 5 zone to the south of the airport flight path. The status of any subdivision below four hectares as a non-complying activity within this area further reinforces our view as to the intention of the objectives and policies. We conclude the intention of the Proposed Plan is that the policies and objectives are achieved and implemented by the rules<sup>5</sup> which limit residential activities close to the airport.

[42] This Court has already commented<sup>6</sup> that this is an odd situation where we are effectively retrofitting a policy to an existing matrix of policies and objectives and existing rules. However, our conclusion is that the clear thrust of the matrix of policies and objectives, apart from Policy 6.3.7, is to limit residential development in proximity to the airport. Policies 6.3.11 and 7.8.2 are clear examples of this, together with the environmental result anticipated to Volume 2, Chapter 6 (page 6/16) of the Proposed Plan, namely:

*Continued unrestricted operation and growth of operations at Christchurch International Airport and protection of future residents from noise impacts.*

***Section 32 considerations***<sup>7</sup>

[43] Section 32 is noted to be subject to achieving the purpose of the Act which is encapsulated within section 5. In addition to that evaluation, which we will undertake shortly, there are various other criteria which should be examined in considering the appropriate policy to be included in the Proposed Plan. Several of the tests in section 32 have already been encapsulated within our preceding considerations. The questions of necessity under section 32(a)(i) and section 32(1)(c) could be considered in the context of which of these alternatives are desirable or expedient<sup>8</sup>. On the other hand, in

<sup>5</sup> *Suburban Estates v Christchurch City Council* C217/2001 para 274.

<sup>6</sup> *Clearwater Resort Limited v Christchurch City Council* C94/2002 at para 25.

<sup>7</sup> The references to the Act are to the Act prior to 1 August 2003.

<sup>8</sup> *Guthrie v Dunedin City Council* C174/2001.



*Suburban Estates v Christchurch City Council*<sup>9</sup> the Environment Court, in considering these words in combination with the description of most *appropriate*, expressed the formulation of **better**. We adopt the formulation of **better** in this case because there is a clear option and thus this phrase most appropriately captures the test for the Court.

[44] In reaching a conclusion as to which policy would be better, we take into account the further criteria set out in section 32(1), namely:

- other methods and means (section 32(1)(a)(ii) and (iii)); and
- benefits and costs (section 32(1)(b)).

*Alternative methods or means*

[45] Section 32(1)(a) refers variously to other methods (section 32(1)(a)(i)), other means (section 32(1)(a)(ii)) and alternative means (section 32(1)(a)(iii)). This must include the potential to do nothing which, of course, is not in dispute in this particular case. The parties are agreed that a policy is necessary and that minimal restriction on landowners' rights would be achieved by the use of the 55 dBA Ldn contour line.

[46] Acquisition of the land would be a possibility for CIAL, to protect the airport, but would be extremely expensive. In the circumstances, such an alternative is not required in a real sense in this particular case. We have reached this conclusion because there are settled policies and objectives which already significantly restrict the ability of landowners to develop their land in accordance with their wishes. We have concluded that the Proposed Plan is relatively liberal in presently allowing a level of development down to four hectares within the Rural 5 zone, even within the 50 and 55 dBA Ldn contours. Thus, not all residential development within the area is discouraged, only certain urban peripheral growth. Furthermore, during the course of the hearing it became clear that Policy 6.3.7 sought to deal only with certain types of noise sensitive activities or residential activities but was not intended to include non-sensitive activities, for example industrial or commercial activities.



<sup>9</sup> C217/2001 at para [276].



[47] The application of Policy 6.3.7 would be particularly limited in its scope. From the explanations given by Council, it appeared to be intended that Policy 6.3.7 apply to proposed development at a density similar to existing living zones. Its application to development at Rural Residential densities of, say, 2000 m<sup>2</sup> or greater appears problematic. We had no clear responses as to whether this level of development was intended to be covered by this particular policy.

[48] However, as we have already discussed, there are a wide range of other policies, rules and other provisions of the Proposed Plan which would still apply to any development in the area. Having regard to that limitation, it must be said that the established policies and objectives and other provisions of the Proposed Plan already form a formidable matrix restricting development. Policy 6.3.7 contributes only one element to this in the context of peripheral urban growth. In short, it supplies an additional control over land use development within the noise contours. Thus its application to the 55 dBA Ldn contour line "releases" only the land between 50-55 dBA Ldn which is affected by other policies and on which the development is still non-complying.

[49] The major argument for adopting the 50 dBA Ldn noise contour in Policy 6.3.7 relates to providing an additional control to reduce the potential for residents to become highly annoyed with aircraft traffic. We accept the clear evidence given to us that noise can create impacts on amenity and some people will become highly annoyed. We also accept that there would be some benefit to the airport in future-proofing its operation. That benefit is one that has local, regional and national significance<sup>10</sup>. It was not clear to us what alternative means would produce this outcome. We conclude that in these circumstances alternative means are not appropriate.

[50] Against the use of the 50 dBA Ldn contour is the additional limitation or barrier this would place on landowners being able to develop their land in an unrestricted way. Because of the significant limitations on the use of this land in any event, we are unable to see this as effectively disabling these residents if the contour was fixed at 50 dBA

<sup>10</sup>

*Christchurch International Airport Limited v Christchurch City Council* AP 78/1996 decision of Chisholm J at page 3.



Ldn. The land has historically not been available for urban development, nor does this Proposed Plan (putting aside Policy 6.3.7) provide for such urban development.

[51] The potential for future urban development between 50 and 55 dBA Ldn noise contours may be a benefit from the adoption of a 55 dBA Ldn contour. The adoption of this contour would enable owners of the land to pursue urban development of this land without coming into direct conflict with Policy 6.3.7. However, there are a significant number of other policies which would stand in their way, including most particularly 6.3.4, 6.3.6, 6.3.8 and 7.8.2. Nor do we think that many of these other policies are necessarily limited only to land within the 50 or 55 dBA Ldn contour. Many of these policies, particularly 7.8.1 and 7.8.2, as well as those under Chapter 13, could have application below the 50 dBA Ldn contour, depending on the evidence of effects.

[52] The full wording of Policy 6.3.7, as it currently appears in the Proposed Plan, and its associated explanation and reasons is annexed hereto and marked "B". We do not take the wording:

*The intention of this policy is that, in general, the 50 dBA Ldn contour (shown on the planning maps) should mark the limit of urban residential growth in the direction of Christchurch International Airport.*

as indicating that development should occur to that contour.

[53] We also attach and mark "C" the Policies 7.8.1 and 7.8.2 and their associated explanations and reasons. It is clear that there may need to be consequential amendment to the explanation and reasons of Policy 7.8.1 to ensure that the contour referred to as the outer control boundary is the same as that in Policy 6.3.7. Although Policies 7.8.1 and 7.8.2 note that surrounding land users need protection from adverse effects of the airport, the appropriate limit of the application of that rule remains unclear. It could therefore be said that the use of the 55 dBA Ldn contour in Policy 6.3.9 favours the adoption of this contour in Policy 6.3.7.



[54] In the end whether 55 dBA Ldn is appropriate or not turns largely on whether the level of effect constituted by a 55 dBA Ldn contour is considered appropriate in the circumstances of the case. If it is considered appropriate, then it could be said that the inclusion of the 55 dBA Ldn contour in Policy 6.3.7 will enable the residents in this area and not provide an unreasonable imposition upon the airport. Alternatively, if we conclude that the effect on amenity of aircraft noise between 50-55 dBA Ldn noise contours is not appropriate, then the 55 dBA Ldn noise contour would not enable the airport and would create unacceptable effects on noise sensitive activities within the 50-55 dBA Ldn contour.

### *Benefits and costs*

[55] Section 32(1)(b) requires an evaluation of the likely benefits and costs and the extent to which any provision is likely to be effective. We have concluded that the benefits to landowners from the adoption of the 55 dBA Ldn contour rather than the 50 dBA Ldn contour are minimal in this case. The realities of the situation are that there is a significant matrix of policies, objectives and rules against the establishment of urban residential activity in proximity to the airport. Some provisions relate to flooding, some to versatile soils, and still others to infrastructural and other requirements. Even with Policy 6.3.7 at the 55 dBA Ldn noise contour and equivalent provisions in Policies 6.3.9, 7.8.1 and 7.8.2, there would still be potential for effects to be considered on a case by case basis in respect of applications for non-complying activity resource consent.

[56] We conclude the argument for the developers is even more constrained. A new Policy 6.3.7 may ease the way for the developers who have filed references to the Proposed Plan to argue that their sites should be rezoned. However such a benefit is still contingent and we are unable to conclude at this stage that the alteration of the policy in this way would lead to any different outcome in respect of those references.

[57] We are unable to see that there is any particular cost imposed upon landowners from the adoption of the 50 dBA Ldn contour as opposed to the 55 dBA Ldn contour. The land is still available for a range of permitted uses, including, as we have already discussed, limited residential subdivision and development of one dwelling to four hectares in the Rural 5 zone and one to 20 hectares in the Rural 2 zone. The land is



still available for a wide range of rural uses. Policy 6.3.7 itself it would not, on its face, affect applications for non-noise sensitive activities or subdivisions for commercial or industrial use.

[58] By the same token, we are unable to conclude firmly from the evidence that we have heard that there is in fact any significant cost imposed upon the airport from the imposition of the 55 dBA Ldn as opposed to the 50 dBA Ldn contour. Many witnesses gave evidence based on an assumption that higher density would lead to curfews on the airport. The only distinction between 50-55 dBA Ldn noise contours was that a 55 dBA Ldn contour may introduce a higher concentration of noise sensitive activities to the land between 50 and 55 dBA Ldn. The proposition was that with a higher population in the low noise area there would be more agitation for a curfew. Having heard all the evidence, we have concluded that a curfew due only to the inclusion of buildings between the 50 and 55 dBA Ldn noise contour is unlikely. We do accept that there are likely to be a percentage of persons highly annoyed even below the 50 dBA Ldn noise contour. Although that percentage is significantly less than at the 55 dBA Ldn contour, we accept this may lead to an increased level of complaints. In our view such complaints are going to be inevitable in any event as the noise levels for airport activity within the existing urban area moves towards the 50 and 55 dBA Ldn contours in the next twenty to thirty years.

[59] We have concluded as a fact that a greater number of dwellings between the 50 and 55 dBA Ldn contour will lead to an increased number of persons being highly annoyed by aircraft traffic. That effect is one on the amenity of the persons who may reside under the flight path and accordingly is an effect which we should properly take into account, particularly under section 5 of the Act. However, it is also an effect which has a cost (in the wider meaning of that term) in terms of its effect on the local amenity. It is an effect which is not internalised to the airport and its land and is therefore shifted to the owners of land under the flight path. Thus, although there is no prospect of curfew on the airport at this time, there is likely to be an adverse effect on amenity of persons living within the 50 dBA Ldn contour line and thus an environmental cost imposed.



*Section 5*

[60] The Act has a single over-arching purpose of sustainable management as that term is defined in section 5. The land in question between the 50 dBA Ldn and 55 dBA Ldn noise contours is land which has little, if any, current urban development. This land is able to be utilised now while not providing for the construction of significant physical resources on it. On the other hand, the physical resource of the airport itself has local, regional and national significance. The continued viability of the airport enables the wider community to provide for their social and economic wellbeing in particular.

[61] The health and safety of people in the community can also be provided for by providing some reasonable constraints over the development of land in proximity to the airport. In this particular case the effects of noise from over-flying aircraft can not in this particular case be entirely avoided or remedied. The contours represent the maximum exposures taking into account the reasonable operation of the airport and appropriate noise reduction measures. Sustaining the airport as a physical resource to meet the reasonably foreseeable needs of future generations militates towards some flexibility in the operation of the airport. Having regard to the known effects of low Ldn noise levels and SEL events, a cautious approach should be adopted in fixing contours.

[62] We accept that this case is not comparable with either Wellington or Auckland Airports and that each airport must be considered on its own merits. In this case the natural and physical resources surrounding the airport between the 50 and 55 dBA Ldn contour are largely in a rural state. The Council has sought to reach a reasonable balance between permitting development in the area and safeguarding the airport as a physical resource. We are satisfied that they have also been minded to maintain the amenity of people who may reside in that area, within reasonable bounds.

[63] To that end, some minor guidance is obtained by reference to the expectation in terms of the Proposed Plan for amenity within the General, Living and Rural zones. In Volume 3 at page 11/7, the Proposed Plan sets out Development and Critical Standards in respect of noise. The relevant development standard is 50 dBA Ldn and the critical standard is 59 dBA Ldn. Effectively, with the adoption of a 55 Ldn contour the Court



would be accepting that there are areas where residential development is not discouraged that would have amenity levels lower than those generally anticipated in terms of the Proposed Plan in respect of noise. Disregarding noise from roads, it could be argued that many development areas of the city may be subject to noise in excess of that proposed under the Proposed Plan. However, in setting the noise level for this area, we take into account that the Proposed Plan has set out a general expectation in residential areas of 50 dBA Ldn. This provision is not critical because these standards are set for new activities to achieve compliance or to be dealt with as discretionary activities. However it is indicative as to the expectation in respect of noise amenity generally.

### *Conclusion*

[64] We must now conclude which noise contour would be better for inclusion in Policy 6.3.7. We have concluded that the 50 dBA Ldn line is better for the following reasons:

- (1) the airport has significance in terms of the Proposed Plan, recognising its local, regional and national importance;
- (2) high individual SEL levels can have more impact at lower Ldns (under 55 dBA), suggesting a conservative line to avoid amenity impacts;
- (3) there is an amenity impact below 55 dBA Ldn and the Proposed Plan reflects a general expectation of lower Ldn levels in residential and rural areas;
- (4) the 50 dBA Ldn noise contour line better complements the existing Proposed Plan policies (discussed earlier);
- (5) the 50 dBA Ldn line does not foreclose future options. It enables the parties in the sense of conserving options for the future (and future generations). These options apply to both the landowner and the airport. If the 50 dBA Ldn noise contour restrains the landowner at all it does so only in a temporary sense. The policy could be changed in the future to realise the potential for any appropriate development. We conclude that the 50 dBA Ldn line preserves the potential of land for future generations;



- (6) in terms of the Noise Standard, the 50 dBA Ldn line would have some effect in setting an amenity standard for noise from the airport operation. As future noise approaches the contours, the expectation of people outside the 50 dBA Ldn line is that they will receive less than that level of noise.

We conclude that the 50 dBA Ldn noise contour better reflects the purpose of the Act to achieve the sustainable management of these physical resources.

### *Consequential changes*

[65] We have not considered in detail whether any changes should be made to the explanation and reasons. Overall they appear to us to be in order although minor changes may need to be made in due course once the Court has considered the associated references relating to air noise boundary controls and the wording of noise sensitive activities.

[66] Again, dependent on those matters, it appears to us that Policy 6.3.7 itself may be improved to link it more directly with peripheral urban growth. We consider that wording:

*To discourage peripheral urban growth involving noise sensitive activities within the 50 dBA Ldn contour of the Christchurch International Airport*

may be more appropriate. This is, however, dependent upon an appropriate definition of noise sensitive activities being settled in terms of other references. To that extent the wording for the policy is indicative only and would need to be settled as part of the final decision of the Court.


### *Costs*

[67] This decision is interim only and will be finalised once the associated references are resolved. Our preliminary view is that costs should lie where they fall. Because of the uncertain nature of the continuing involvement of Robinsons Bay in all the other references before the Court, we have concluded that any application for costs should be filed within twenty working days, any reply within ten working days and a final reply



within five working days thereafter. An application for costs is not encouraged and if none is filed within the time limit set, costs are to lie where they fall.

DATED at CHRISTCHURCH this 13<sup>th</sup> day of May 2004.



J A Smith  
Environment Judge



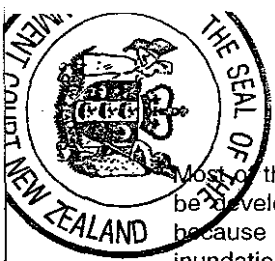
Issued<sup>11</sup>: 13 MAY 2004

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<sup>11</sup> Smithje/Jud\_Rule/D/RMA518A-01.







Most of the rural coastal margin in the City is unlikely to be developed and is often unsuitable for development because of unstable dune formations, or potential inundation.

Some portions of the Port Hills are too steep for residential development and are susceptible to erosion and downstream siltation, particularly if large scale earthworks are likely. Often these areas are of high landscape value and are unsuitable for development for these reasons.

Avoidance of development in areas susceptible to hazards is justified to protect life and property from undue risk. The cost of protection works can be excessive in undeveloped areas, and caution has to be exercised that mitigation measures (such as filling) do not in themselves detract from the environment by impeding natural floodplains, displacing surface waters, or interrupting natural drainage patterns. In assessing a location's suitability for growth, the degree of risk, and its ability to be mitigated, has to be taken into account. Low or moderate risk can in many cases be adequately controlled by mitigation measures, or the degree of risk is so low it can be accepted.

### **Policy : Airport operations**

**6.3.7 To ensure that urban growth does not occur in a manner that could adversely affect the future growth and operations of Christchurch International Airport. To discourage urban residential development and other noise-sensitive activities within the 50 dBA Ldn noise contour around Christchurch International Airport.**

#### **Explanation and reasons**

The International Airport is a facility of major significance to the regional economy. Domestic and international passenger movements, freight and Antarctic operations utilise this airport which is not curfewed as to hours of operation. It is unrealistic not to expect noise beyond its boundaries, potentially at levels that would adversely impact people living nearby. Urbanisation in close proximity to the airport could generate complaints and pressures for curfewed operations, with serious

impacts on airport operations and the regional economy. This also recognises future growth of the Airport through intensified activities, particularly growth in Airport movements. It is important that there be no extensions to urban residential zones within the 50 dBA Ldn contour to avoid disturbance from aircraft noise.

In order to ensure the International Airport's operations can continue without undue restriction, urbanisation will be prevented where noise impacts are expected to be significant. While aircraft are expected to be quieter by the year 2000, movements are anticipated to be more frequent. As a result of projections and noise investigations, residential development will not be allowed to occur within the 65 dBA Ldn noise contour or within the SEL 95 dBA contour for a Boeing 747-200 aircraft. The Air Noise Boundary shown on the planning maps is a composite line formed by the outer extremity of the SEL 95 dBA and 65 dBA Ldn noise contours.

Between the 55 dBA Ldn contour and the Air Noise Boundary, new residential development will be discouraged (except for limited development in the Living 1C Zone) and all additions to existing dwellings will be required to be insulated. Insulation against noise will be required for all new developments between the 55 dBA Ldn contour and the Air Noise Boundary. This policy is expected to protect airport operations, and future residents from adverse noise impacts.

The policy provides that the 50 dBA Ldn noise contour will generally be the limit of residential development and other noise-sensitive activities in the vicinity of Christchurch International Airport. The intention of this policy is that, in general, the 50 dBA Ldn contour (shown on the planning maps) should mark the limit of urban residential growth in the direction of Christchurch International Airport. Between 50 dBA Ldn and the Air Noise Boundary<sup>(1)</sup> (also shown on the planning maps) the establishment of aggregations of new residential development and to densities approximating that of Living zones and the establishment and/or extension of other noise sensitive activities will be

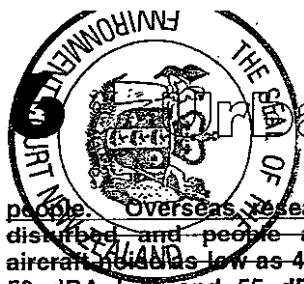
discouraged, except for limited development in the Living 1C Zone and other living zones which are already largely built out. Residential development and other noise sensitive activities will not be allowed to occur within the Air Noise Boundary. Acoustic insulation will be required for all new residential development and noise sensitive development activities and all additions to such uses activities between the Outer Control Boundary<sup>(2)</sup> and the Air Noise Boundary.

<sup>(1)</sup> The Air Noise Boundary is a composite line formed by the outer extremity of the 65 dBA Ldn noise contour and the SEL 95 dBA noise contour for a Boeing 747-200 aircraft on the main runway and a Boeing 767-300 aircraft on the subsidiary runway.

<sup>(2)</sup> The Outer Control Boundary is the 55 dBA Ldn noise contour.

Christchurch International Airport is a facility of major importance to the regional economy. Domestic and international passenger movements, freight and Antarctic operations utilise the airport 24 hours a day, 365 days a year, and a non-curfewed operation is a pre-requisite for the sustainable management of the for airport purposes and in the long term of the relevant natural and physical resources. It is not possible for noise associated with aircraft movements operations to be contained within the boundaries of the airport boundaries and it is it must therefore be accepted that the continued operation and future growth in aircraft movements of the airport will have some adverse impact on residents in the surrounding area, which cannot be avoided. However, there are limits in the Plan on the amount of noise that can be generated (refer Volume 2, Section 7 Transport Policy 7.8.2 (b) and Volume 3, Part 8 Special Purpose Zones Section 3. Rules Special Purpose (Airport) Zone).

Aircraft noise has an adverse effect on the quality of the living environment and, on the amenity values that people obtain from using the use of their residential properties; (both indoors and for outdoors) activities and on the health of affected



# Urban Growth

~~people. Overseas research shows that sleep is disturbed and people are "highly annoyed" by aircraft noise as low as 42 to 43 dBA Ldn. Between 50 dBA Ldn and 55 dBA Ldn, 4 to 13% of the population are "highly annoyed" by aircraft noise. Aircraft noise also has the potential to have adverse effects on public health has indicated that these effects may occur as the result of levels at or below 50 dBA Ldn. Past experience in Christchurch, confirmed by international experience, shows has shown also that high levels of annoyance result in produce complaints and pressures for curfews or other restrictions on airport operations. The risk of complaints and pressure for curfews is likely to grow as the number of aircraft movements increases. Both the likelihood of affects adverse to people and of complaints from people (and of pressure for curfews) will increase as the number of aircraft movement increases and as noise levels begin to approach those indicated by the (predicted) noise contours.~~

~~This policy is intended to, together with limiting the amount of noise generated by aircraft movements, will ensure that the operations of Christchurch International Airport's operations can continue without undue restriction, and that safeguards residential amenities and the quality of the environment life for people living around the airport are safeguarded. The cost to the community of foregoing residential development on land within the 50 dBA Ldn is relatively small because the need for land for residential development can be met at other locations. In the Christchurch context it is not necessary to permit urban residential development to occur on land within the 50 dBA Ldn contour as sufficient land for residential expansion can be provided at other locations.~~

~~The Outer Control Boundary, which is the threshold for the requirement for insulation, and the Air Noise Boundary are identified on the planning maps. The 50 dBA Ldn is also shown as the point of reference for the application of Policy 6.3.7.~~

~~In this section, "noise-sensitive activities" means residential activities (unless otherwise specified), education activities including pre-school places or premises, travellers' accommodation, hospitals, healthcare facilities and elderly persons housing.~~

~~This policy and the other provisions in this Plan that implement it are based upon the premiss that noise generated by aircraft movements will not exceed that indicated by noise contours identified on the planning maps. These contours have been calculated following the approach recommended in the New Zealand Standard NZS: 6805:1992, *Airport Noise Management and Land Use Planning*. On the basis of present knowledge it is estimated that the noise levels indicated by these contours will be approached in about the year 2020. If and when this happens the levels of noise in the vicinity of the airport will be significantly higher than at present, as will the effects of airport noise.~~

~~NZS 6805:1992 provides that once noise contours have been established the airport operator shall manage its operations so that the limit specified for the Air Noise Boundary is not exceeded, and that if this occurs noise control measures may be necessary. Because there is a designation in place affecting the majority of the land used for the purposes of the Christchurch International Airport it is not possible for effective rules to be included in this Plan for the control of noise resulting either from airport operations or from engine testing. Engine testing is, however, subject to the requirements of the *Christchurch International Airport Bylaws 1989* approved by the Governor General in *The Christchurch International Airport Bylaws Approval Order 1989*.~~

~~The Council will continue to monitor the growth of airport related noise and will require the airport operator to contribute to this monitoring process. That monitoring will enable the Council to consider whether (and if so, what) additional measures are necessary for the control of noise from airport~~

~~operations and engine testing. These measures may include removal of the designation from this or subsequent plans and the establishment of rule based controls.~~

## ***Policy : Incompatible rural activities***

***6.3.8 To have regard to the presence of any incompatible activities in the rural area in assessing urban growth proposals.***

### ***Explanation and reasons***

Any residential development extending into the rural area may bring potential residents into closer contact with orchards, viticulture, intensive livestock operations, or rural industries, a problem which is already apparent with poultry farming operations on the edge of the urban area. Adverse effects can include smell, noise or spray drift. Other activities in the rural area may potentially conflict with growth of the urban area, such as landfills and sewerage treatment facilities, quarries and motorsport facilities.

Rural activities which have legitimately established should not be expected to relocate to accommodate urban growth, unless the developer has taken clear steps to mitigate any adverse effects, or compensate the rural activity if it wishes to relocate by voluntary agreement. The onus is clearly on the urban developer, and urban growth proposals will not be viewed favourably by the Council if incompatible activities are present, unless specific measures to address these effects have been identified.

## ***Policy : Urban extensions***

***6.3.9 To promote smaller a range of incremental extensions to the urban area distributed over a number of peripheral locations, rather than a major extensions in any one area.***

### ***Explanation and reasons***

~~The policy seeks to achieve a pattern of small incremental additions distributed around the urban edge, consistent with the consolidation strategy,~~

# Transport **7**

## Objective : Access to the City

### 7.8 Recognition of the need for regional, national and international links with the City and provision for those links.

#### Reasons

International access to Christchurch for both passengers and freight is provided by Christchurch International Airport and via Lyttelton Harbour, with regional and national access also being provided for by rail, road and sea.

It is essential for the continued development of industry, commerce and tourism in Christchurch that a high level of road access is maintained between the rail, road, airport and port facilities and the City, to provide access for passengers, freight, employees and visitors.

#### **Policies : Airport services**

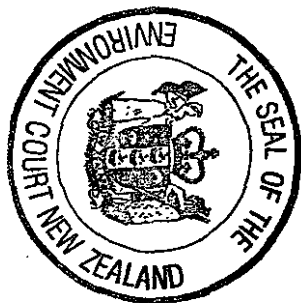
**7.8.1 To provide for the effective and efficient operation and development of Christchurch International Airport.**

**7.8.2 To minimise avoid, remedy or mitigate nuisance to nearby residents through provisions to mitigate the adverse noise effects from the operations of the Christchurch International Airport and Wigram Airfield.**

**7.8.3 To limit the noise generated by aircraft movements at Christchurch International Airport.**

#### Explanation and reasons

It is essential to protect the operation of transport facilities from other land uses to allow them to function effectively and safely. It is also necessary to protect outside uses from the noise and related activity associated with transport facilities. The two principal ways of minimising impacts of the landuses on each other is by separating the transport facility from other activities through a buffer of land, or by requiring the various land uses to meet stringent conditions to minimise impacts. ~~In addition, the amount of aircraft noise that can be generated by aircraft movements associated with the airport will also be limited.~~



Controls have been in place for many years to limit the extension of residential development towards the International Airport because of the potential conflict between airport activities and residential activity. There is unavoidable nuisance associated with the International Airport, particularly noise, and the nature of its operation does not fit well with noise sensitive activities, such as residential occupation.

Controls are necessary to safeguard the continued operation and development of facilities at the International Airport as they are essential to the development and economic well being of the City. Similarly, surrounding landuses also need protection from the adverse effects of these facilities which, for example, could be required to operate on a continual basis. The potential effects of airport operations are influenced by the density of surrounding development, particularly residential development and the degree to which buildings are insulated against the impacts of noise. Rules will be primarily aimed at new residential activity and other noise sensitive uses, but will also apply to the extension of existing residences and buildings.

In the future, while aircraft are likely to become less noisy, more aircraft movements are expected to occur. It is anticipated that these factors may cancel each other out in terms of noise impacts on surrounding activities, resulting in a long term continuance of current noise levels.

As a result of projections and noise investigations, residential development will not be allowed to occur within the 65 Ldn noise contour, and between the 55 and 65 Ldn contours new residential development will be discouraged and all additions to existing dwellings will be required to be insulated. Insulation against noise will be required for all new development between the 50 and 55 Ldn noise contours.

If further residential development takes place in the vicinity of the International Airport, it is likely this could lead to requests to restrict and curfew airport operations. This could in turn have adverse effects on the economy of the City and beyond. Residential development closer to this airport potentially subjects residents to adverse noise impacts and a buffer surrounding this airport is

considered the most effective means of protecting its operation.

In the urban area, an area of land in the north-west of the City is affected by noise contours projected from runway 11/29. Within the existing urban area affected by the 55 dBA Ldn noise contour, new buildings will be required to be subject to some insulation as a measure for mitigating the effects of aircraft noise.

In addition to limiting the density of residential and other noise sensitive activities, requirements for the insulation of buildings have been developed for activities in the vicinity of the Christchurch International Airport. These requirements relate to the position of the building in relation to projected noise contours which take into account the noise produced by aircraft and aircraft operations over a 24 hour period. Within the "outer control boundary" set at the 55 dBA Ldn contour and shown on the planning maps, insulation measures are required for buildings, depending on the sensitivity of the internal building space for specified uses. These measures apply between the 55 dBA Ldn line and the 65 dBA Ldn/95 SEL dBA line, the latter composite line being defined as the "air noise boundary" and will entail higher levels of noise insulation as the levels of noise exposure increase toward the air noise boundary.

Within the Air Noise Boundary, where noise levels are expected to be most intrusive, and potentially damaging to health, no new residential buildings or travellers accommodation other noise-sensitive activities are permitted. A limited exemption applies to a small number of existing larger vacant allotments within the air noise boundary which were existing as at 24 June 1995 and to allotments within the Living 1C zone where limited development is provided for, subject to compliance with insulation requirements.

The rules are more flexible for alterations to existing buildings within the air noise boundary, where the "affected building" already exists or for some vacant lots existing at 24 June 1995.

At the 65 dBA Ldn noise contour, Christchurch International Airport will be required to limit aircraft

noise to 65 dBA Ldn. The limit equates with the utilisation of the existing runways at full capacity.

Wigram Airfield shall provide for general aviation, training and/or recreational activities utilising primarily single engine or light twin engine aircraft in contrast to Christchurch International Airport which is a full international airport operating 24 hours a day and providing services to the largest aircraft currently operating and which operate both day and night.

While not concerned with aviation operations in the same sense or degree as the International Airport, aircraft operations from Wigram Airfield for general aviation, training and/or recreational activities will also create noise effects which will impact upon surrounding areas and land use activities.

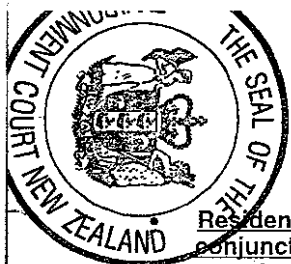
Because of the relatively restricted range of aircraft types likely to be operating from Wigram Airfield (primarily single engine and light twin aircraft), together with a restriction in the hours of any such operations, noise projections have identified a limited area within which adverse noise impacts are likely to occur.

Residential or other noise sensitive development will not be allowed to occur within the 65 dBA Ldn Ldn noise contour, and between the 55 and 65 dBA Ldn Ldn contours any new or replacement residential development and all additions to living or bedroom areas on properties will be required to be insulated against noise. Appendix 11 (to Volume 3, Part 8, General City Rules) contains standards to ensure noise sensitive activities are required to be insulated against noise.

Because of the limited scale and hours of operation, no restriction on residential development shall be applied below the 50 and 55 Ldn contours, as is the case around the International Airport where a higher degree of restriction on residential development has been applied for some years.

In this section, "noise sensitive activities" means residential activities (unless otherwise specified), education activities including pre-school places or premises, travellers' accommodation, hospitals, healthcare facilities and elderly persons housing.

In this explanation, "noise sensitive activities" means:



Residential activities other than those in conjunction with rural activities and which comply with the rules in the Plan;

- Education activities including pre-school places or premises, but not including flight training, trade training or other industry related training facilities within the Special Purpose (Airport) Zone;
- Travellers accommodation, hospitals, healthcare facilities and any elderly persons housing or complex.

## **Policy : Bus services**

**7.8.3 To ensure bus termini and interchanges are located to enable convenient linkages within and beyond the City, whilst minimising adverse effects on the roading network.**

### **Explanation and reasons**

There is a need in the City for bus facilities to cater for the needs of City, tourist and long distance buses. It is essential that they be sited so as to be accessible from all parts of the City and from outside the City, but the function of the road network and the pleasantness of the environment should not be compromised by parked or manoeuvring buses and associated vehicles.

This policy therefore seeks to encourage the efficient movement of people and buses through the provision of accessible facilities, while not compromising the efficiency of the road network.

## **Policy : Transport links**

**7.8.4 To ensure high quality transport links between rail, road, port and airport facilities and the City for passengers, freight, employees and visitors.**

### **Explanation and reasons**

High quality transport links involve an efficient, safe network appropriate to the types of vehicles which will be using the link. Passenger routes need to return a high environmental quality in addition to providing an efficient link, whereas routes used mainly by commercial delivery vehicles need to provide protection to surrounding landuses in minimising adverse effects. An

example of this is Christchurch International Airport which is laid out in such a way as to encourage passenger transport to use Memorial Avenue and commercial vehicles onto Harewood Road. The Port of Lyttelton is also linked to the City by both rail and arterial road links. Rail facilities are similarly linked by road to tourist/passenger destinations and connections for freight distribution and collection.

It is essential to maintain and further develop links that are both efficient and safe to support the viable operation of transport links into, and within, the City for people and goods.

## **Policy : Rail corridors**

**7.8.5 To provide for the protection of rail corridors for transport purposes.**

### **Explanation and reasons**

The railways play an important role for Christchurch by moving people and goods, particularly bulk goods, over long distances. It is therefore important that they are able to continue to provide an efficient and effective service through the protection of the corridors used.

The rail corridors also provide a potentially valuable resource for other forms of transport. The Council in conjunction with NZ Rail is already using some corridors for pedestrian/cycleways and it is expected that these links will continue to be developed.

If the land occupied by the rail network in part or in total was no longer required for railway purposes in the future, it could provide alternative transport corridors for public transport, or "green corridors" for cyclists and pedestrians. Protection of the corridors is required to ensure an effective and efficient rail service is able to operate.

## **Environmental results anticipated**

Providing for regional, national and international links with the City is expected to produce the following outcomes:

- The effective and efficient operation and development of Christchurch International Airport.
- Enhanced visual amenity for passengers along transport corridors throughout the City.

- Protection of the amenity of land uses surrounding transport facilities and corridors.
- High quality transport links between rail, road, port and airport facilities and the City.
- An effective and efficient rail service within the City and recognition of the value of rail corridors for a range of transport related uses.

## **Implementation**

Objective 7.8 and associated policies will be implemented through a number of methods including the following:

### **District Plan**

- The identification of Special Purpose Zones relating to elements of the transport system, e.g. as applying to the City's roads, rail corridors, and Christchurch International Airport.
- The identification of a Rural 5 (Airport Influences) Zone. Controls on the density of dwellings in Rural Zones, the extent of expansion of urban uses into the rural area and noise insulation standards for dwellings and noise sensitive uses in proximity of the airport.
- Zone rules such as building insulation requirements for the Rural 5 Zone.
- City rules regarding Transport, e.g. controls on high traffic generators on arterial roads.
- The establishment of special controls to safeguard continuing aviation activity at Wigram Airfield and the establishment of noise insulation standards for dwellings and noise sensitive uses in that vicinity.

### **Other methods**

- Provision of works and services, e.g. through the district road programme to maintain and improve directional signage, to provide new links and upgrade existing roads.
- Co-ordination and liaison with transport operators, e.g. Christchurch International Airport Limited, Lyttelton Port Company Limited, and Road Transport Association, including liaison with the Council's own Companies.