

Section 32 Report

Qualifying Matter

Airport Noise

Prepared for the

Proposed

Waimakariri District Plan

Variation 1: Housing Intensification

August 2022



WAIMAKARIRI
DISTRICT COUNCIL

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	3
2. OVERVIEW AND PURPOSE	4
2.1 Purpose of Section 32 RMA.....	4
2.2 Christchurch International Airport	4
2.3 Airport Noise Contours	5
2.4 Current Objectives, Policies and Methods	6
2.4.1 Canterbury Regional Policy Statement.....	6
2.4.2 Operative District Plan	7
2.4.3 Proposed District Plan.....	9
2.5 Information and Analysis	10
2.5.1 Operative Noise Contour	10
2.5.2 Average Annual Outer Control Boundary Noise Contour	11
2.5.3 Development Density.....	11
2.6 Consultation Undertaken.....	12
2.7 Iwi Authority Advice.....	13
2.8 Reference to Other Relevant Evaluations	15
2.9 Any plans of adjacent or other territorial authorities	15
3. ISSUES AND OPTIONS.....	16
3.1 National Policy Statement –Urban Development.....	16
3.2 Christchurch International Airport Changes.....	17
3.3 Qualifying Matter Natural Hazards	17
4. SCALE AND SIGNIFICANCE EVALUATION	18
4.1 Evaluation of Scale and Significance.....	19
4.2 Section 77 Assessment.....	20
4.2.1 Introduction and Background	20
4.2.2 Identify by location where this QM applies (s77K(1)(a))	20
4.2.3 Specify the alternative density standards proposed (s77K(1)(b))	20
4.2.4 Identify the s32 report relied on (s77K(1)(c)).....	21
4.2.5 Describe the level of development that would be prevented by accommodating the qualifying matter, compared with that permitted by the MDRS and policy 3 (s77K(1)(d))	21
5. EVALUATION OF PROPOSED APPROACH.....	23
5.1 Evaluation of Proposed Approach	25
5.2 Summary - Evaluation of Proposed Policies and Methods.....	32
6. SUMMARY	32

1. EXECUTIVE SUMMARY

The National Policy Statement for Urban Development (NPS-UD) and the RMA Enabling Housing Supply Amendment Act (the Amendment Act) have provided strong national direction from central government to enable intensification of the District's urban areas. The Amendment Act introduces mandatory medium density residential standards (MDRS) to enable higher density residential development in urban areas along with a number of development standards. Variations to the Proposed Waimakariri District Plan (PDP) are required to implement the NPS-UD and the Amendment Act requirements.

Key changes proposed by Variation 1 to the PDP are:

- Changes to all residential zones (excluding the large lot and settlement zones) to include the Medium Density Residential Standards
- Changes to the height limits of the Local Centre and Neighbourhood Centre Zone commensurate with changes to the adjacent residential zones where the MDRS apply

The anticipated outcomes from the proposed variation to the Waimakariri District Plan is that the mandatory MDRS will enable higher density residential housing within the urban areas of Kaiapoi, Rangiora, Woodend, Ravenswood and Pegasus.

The MDRS densities will not apply to areas where there is an overlying qualifying matter that is present within an existing district plan or proposed district plan. Qualifying matters are defined in section 771 of the Resource Management Act (RMA), and include such issues as ensuring the safe or efficient operation of nationally significant infrastructure. The Christchurch International Airport has been identified as nationally significant infrastructure which meets the definition of a qualifying matter.

Christchurch International Airport Limited have undertaken a review of the airport noise contours and have proposed a new noise contour whilst keeping the housing density standards at the same level as the Operative District Plan (ODP). While the new noise contour reflects the recent changes in aircraft movement, it has not been through an independent review and is therefore still draft. This evaluation concludes that the spatial extent of the existing airport noise contour from the Operative District Plan is most appropriate as a qualifying matter, recognising that the new contour is largely located within the geographical extent of the operative plan contour.

The qualifying matter airport noise will have some constraint on housing density beneath the contour. Kaiapoi has an exemption under Policy 6.3.5(5) of the Canterbury Regional Policy Statement, enabling development within the urban area. It is proposed that the housing density standards within the Proposed District Plan be applied to the area under the qualifying matter airport noise. Apart from density, other MDRS standards will apply, such as, height, setbacks, site coverage, and outdoor spaces.

2. OVERVIEW AND PURPOSE

2.1 Purpose of Section 32 RMA

The overarching purpose of Section 32 of the Resource Management Act 1991 (RMA) is to ensure that plans are developed using sound evidence and rigorous policy analysis, leading to more robust and enduring provisions.

Central Government's National Policy Statement on Urban Development 2020 (NPS-UD) directed Council plans to enable more people to live in urban environments to free up housing supply, increase housing affordability, respond to the changing needs of communities for development options, and better integrate this with infrastructure planning and funding. The NPS-UD came into effect on 20 August 2020. The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act (the Amendment Act), which amends the NPS-UD and the RMA, came into force 20 December 2021.

This legislation requires tier 1 councils (e.g. Auckland, Hamilton, Wellington, Christchurch, Waimakariri and Selwyn) to change their district plans to expressly include specified medium density residential standards (MDRS), which include bulk and location, site coverage, open space and height rules, to most of the urban residential areas of Waimakariri. The changes to Policy 3 of the NPS-UD require the District Plan to provide building heights and density of urban form commensurate with the level of commercial activities and community services within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent).

This s32 responds to the Government's direction. For the variations to the PDP proposed under the NPS-UD and the Amendment Act, the purpose of this evaluation report is not to assess the costs and broader impacts of the proposed changes themselves and the objectives and policies of the NPS-UD, which have already been determined, but rather those matters where the Council has options or alternatives for how best to address the issues. It also identifies the qualifying matters the Council is proposing to use for where alternative density standards are proposed, together with the required assessment under the Amendment Act.

2.2 Christchurch International Airport

Christchurch International Airport Limited (CIAL) operates the international airport located to the west of Christchurch City, separated by State Highway 1. The airport caters for domestic and international passenger services, small local services, domestic and international freight, military flights, aircraft maintenance and services Antarctica. The airport operates a 24 hour service with approximately 175,000 aircraft movements per year. Projected flights are expected to increase by 3% up to 226,000 by 2035¹, a total growth of 29% across the period. The air traffic growth figures assume a continuation of post pandemic growth in travellers and air freight.

The airport has recently reviewed the operative noise contour and are proposing a new noise contour. The existing airport noise contour was developed in 2008 and was proposed to be remodelled every ten years. The new contours take into account the change in flight paths that are presently operating for most aircraft arriving and departing from the airport. The airport noise contour may be considered as a qualifying matter in accordance with the Amendment Act in relation to the safe or efficient operation of a nationally significant infrastructure. Council can recommend that MDRS standards are

¹ Airbiz, 2021. Christchurch Airport - Aircraft Noise Contour Update: Ultimate Runway Capacity Report. Proposed Waimakariri District Plan Section 32 ISPP Airport Noise Contours Qualifying Matter
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not applied to areas which is affected by qualifying matters and propose a different set of standards in that area.

2.3 Airport Noise Contours

This Section 32 responds to the Government’s direction. For the variations to the PDP proposed under the NPS-UD and the Amendment Act, the purpose of this evaluation report is not to assess the costs and broader impacts of the proposed changes themselves and the objectives and policies of the NPS-UD, which have already been determined, but rather those matters where the Council has options or alternatives for how best to address the issues. It also identifies the qualifying matters the Council is proposing to use for where alternative density standards are proposed, together with the required assessment under the Amendment Act.

Price Waterhouse Coopers (PWC)² concluded that the MDRS would enable nearly 74,600 (base estimate) additional dwellings above what would otherwise take place in New Zealand’s fastest growing cities in the medium term. 11,500 of those dwellings would be within the Christchurch area, which included the Waimakariri District for the purposes of that evaluation. Of the additional dwellings, 269 were estimated to be within the Waimakariri District within the next five to eight years. Kaiapoi has been projected to get 68 additional dwellings as a result of the MDRS. The primary economic benefit of the MDRS is the supply of new houses to meet demand and the lowering of new and existing house prices.

There are two main effects resulting from the presence of the airport and the associated noise contours. The first is the positive economic effects from the movement of people and freight for Canterbury and the wider South Island. The second is the restriction of noise sensitive activities on land within the airport noise contour.

The airport noise contour within the ODP and PDP correspond to the existing 50 and 55 dBA³ Ldn⁴ noise contours. These are shown on the ODP planning map 138 (ODP) and as an overlay in the PDP (Option A). A new noise contour has recently been released by CIAL (2021) and is awaiting review by independent expert panel on behalf of Environment Canterbury (Option B). The proposed new noise contour is known as the Annual Average Outer Control Boundary (AAOCB), covering a larger area of the district, but a smaller area of Kaiapoi (Table 1 and Figure 1).

50 dBA Ldn Noise Contour	Urban Zones	Whole contour
Operative noise contour	5.8 km ²	21 km ²
Proposed AAOCB area	3.5 km ²	45 km ²

Table 1. Approximate land area under noise contours.

The airport noise contour attempts to control certain land-use activities within the contour. Noise sensitive activities such as, education facilities, travellers’ accommodation, residential dwellings and retail activities, have certain restrictions under the relevant ODP and/or PDP that limit their ability to establish or require them to install acoustic insulation. Where acoustic insulation is not provided and doesn’t meet the relevant Noise Control Indoor Design Levels, noise sensitive activities will become restricted discretionary activities within Kaiapoi under the PDP. Consideration needs to be given to

² PWC, 2022. The Medium Density Residential Standards under the Resource Management Act: Estimates of development impacts at the Statistical Area 2 level. Prepared for Ministry of the Environment.

³dBA is decibels A, a measure of the relative loudness of sounds in air as perceived by the human ear

⁴ Ldn is the day-night average noise level over a 24-hour period.

the fact that acoustic insulation is only effective when windows and doors are closed, and does not necessarily reflect normal occupancy conditions.

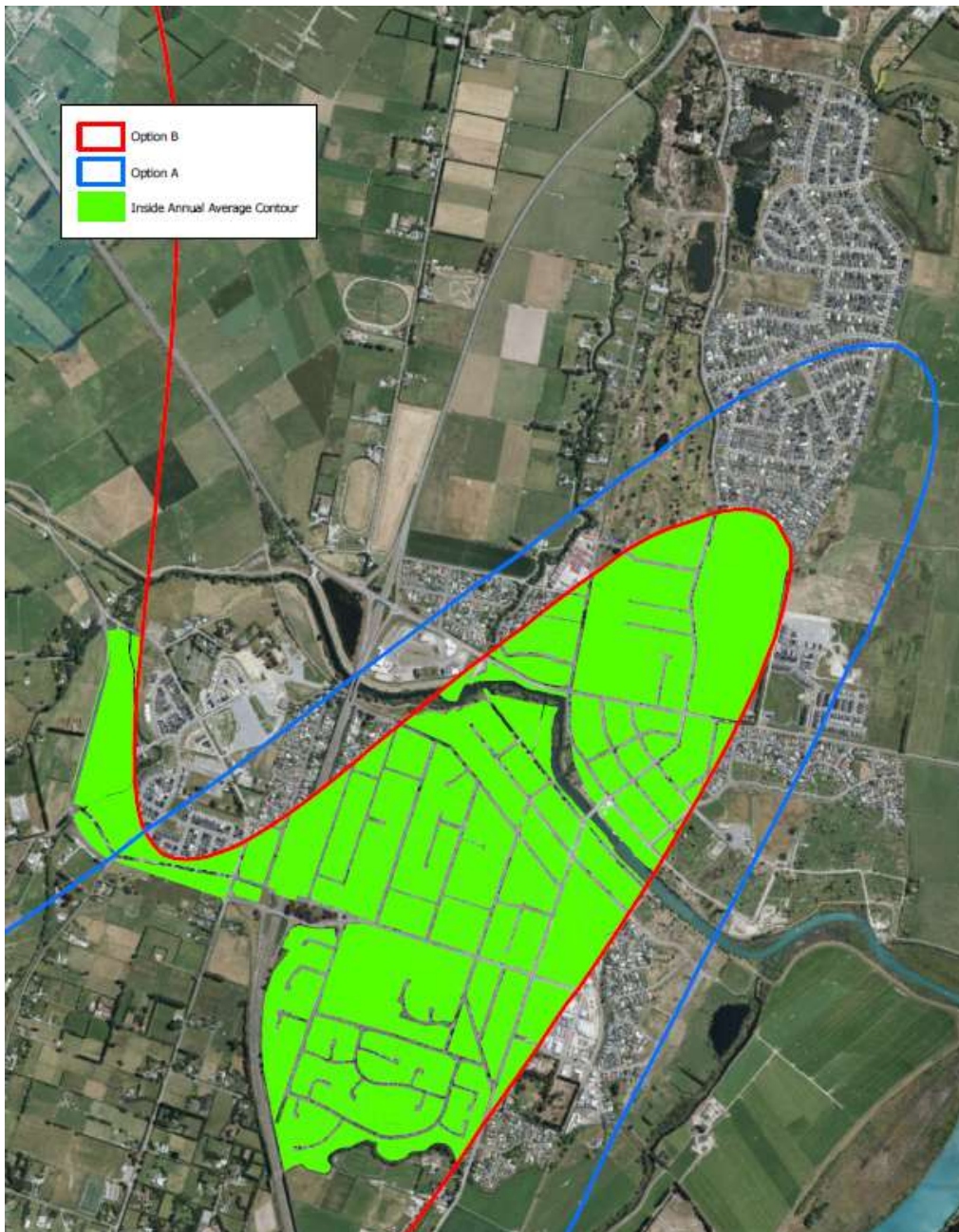


Figure 1. The overlap between the operative noise contour (blue line) and the proposed AAOCB (green area) within Kaiapoi and surrounds.

2.4 Current Objectives, Policies and Methods

This section looks at the relevant objectives, policies, rules and methods across the three main statutory documents.

2.4.1 Canterbury Regional Policy Statement

Canterbury Regional Policy Statement (CRPS) contains objectives and policies that give direction to regional and local council plans.

Policy 6.3.5(3) provides for the maintenance of, efficient and effective functioning of infrastructure. This is slightly different to Section 771(e), which is safe or efficient operation of a nationally significant infrastructure.

Policy 6.3.5(4) only allows for new development where it does not affect the efficient operation, use, development, appropriate upgrading and safety of existing strategic infrastructure, including by avoiding noise sensitive activities within the 50 dBA Ldn noise contour for Christchurch International Airport., **unless the activity is within an existing residentially zoned urban area, residential greenfield area identified for Kaiapoi.**

Policy 6.3.5(5) seeks to manage the effects of land use activities on infrastructure, including avoiding activities that have the potential to limit the efficient and effective, provision, operation, maintenance or upgrades of strategic infrastructure and freight hubs.

The exclusion for existing residential areas and greenfield in Kaiapoi in Policy 6.3.5(4) of the CRPS enables development inside the infrastructure boundary without having to avoid noise sensitive activities in response to the 2010/2011 Canterbury Earthquake. The exemption under Policy 6.3.5(4) of the CRPS is not density constrained and is not specifically tied to the ODP. It is envisaged that intensification within the urban environment would occur. Policy 6.3.1(3) enforces this point by stating:

Policy 6.3.1(3) enable development of existing urban areas and greenfield priority areas, including intensification in appropriate locations, where it supports the recovery of Greater Christchurch. This policy is linked to Map A of the CRPS that shows existing urban areas and priority areas for development within Greater Christchurch. These areas are identified as being required to provide sufficient land zoned for urban purposes to enable recovery and rebuilding through to 2028.

Policy 6.3.12 enables urban development within future development areas, including the provision of opportunities for higher density living environments as identified in Map A.

Policy 6.3.9 requires rural residential development to avoid noise sensitive activities occurring within the 50 dBA Ldn airport noise contour. The CRPS only requires rural residential activities to avoid the noise contour, residential development is enabled in existing residential zoned urban land and residential greenfield area, where it does not affect the efficient operation, use, development, appropriate upgrading and safety of existing strategic infrastructure. It is understood that there is no information on how the existing urban development within Kaiapoi has had an effect upon the operation of Christchurch International Airport.

Variation 1, on the basis of the evaluation below is proposing to use the airport noise control spatial layer as a qualifying matter under section 77K of the Amendment Act. This will apply to the medium density residential zone area in Kaiapoi. Development will be restricted to one dwelling per 200m² in line with the subdivision standard set out in the PDP.

2.4.2 Operative District Plan

The Operative District Plan has a number of provisions that seek to mitigate the effects of noise associated with aircraft, while limiting noise sensitive activities within the rural zone. The ODP uses the 50dBA and 55 dBA Ldn noise contour to identify those areas likely to be affected by aircraft noise.

For the airport noise contours the ODP⁵ notes:

⁵ Explanation to Policy 12.1.1.12

“For these defined areas of Kaiapoi, under the 50 dBA Ldn aircraft noise contour, consideration is made for the provision of residential development, having regard for the form and function of Kaiapoi and to offset the displacement of households within the Kaiapoi Residential Red Zone which were already within the 50 dBA Ldn contour and which were displaced as a consequence of the 2010/2011 Canterbury earthquakes. It also provides, as part of greenfield residential development, for Kaiapoi’s long term projected growth. Such development provides for the contiguous and consolidated urban development of Kaiapoi. In recognition of the potential adverse effects of aircraft noise over Kaiapoi in the future, information relating to the 50 dBA Ldn aircraft noise contour and the potential for increased aircraft noise will be placed on all Land Information Memoranda for properties within the 50 dBA Ldn aircraft noise contour for Christchurch International Airport.”

This explanation states that noise effects from the Christchurch International Airport will be identified on Land Information Memorandums for properties within the 50 dBA Ldn noise contour, but will not restrict development under the contour within Kaiapoi.

Objective 12.1.1 deals with the maintenance of amenity values and the quality of the environment. The amenity values of the environment includes such aspects as noise and the effect of peoples’ enjoyment of the environment.

Policy 12.1.1.11 seeks to avoid noise adversely affecting the amenity values and health and safety of people on neighbouring sites or zones. The policy is mainly aimed at motorised watercraft and other noise emitting activities, such as bird scaring devices.

Policy 12.1.1.12 relates to avoiding the noise effects from aircraft. This policy is aimed at Rangiora Airfield and Christchurch International Airport, through the use of the 50 dBA Ldn noise contour. While development within the existing urban areas of Kaiapoi is enabled through the earthquake recovery legislation, information is provided to the public through the Land Information Memoranda for those properties that are under with 50 dBA Ldn noise contour.

Rule 31.12.1.6 allows for permitted activities where they comply with the sound insulation calculations in Table 31.2 Indoor Design Levels within 55dBA Ldn noise contour. The approach taken by Council is to get various rooms within habitable dwellings to insulate to achieve a specific indoor noise level.

The ODP rules make noise sensitive activities permitted where they meet noise insulation standards. The activity becomes non-complying where they don’t meet noise insulation standards within the 55 dBA Ldn noise contour for Christchurch International Airport, otherwise they are restricted discretionary activities.

Consideration under section 32.1.3(r) is given for the effects of operation of the Christchurch International Airport on subdivision and the effects of aircraft noise. The effects of subdivision is not considered as a constraint on Christchurch International Airport operations.

Objective 15.1.4 Efficient use of urban areas that incorporate urban design best practice for comprehensive residential development.

Policy 15.1.4.1. requires integration of new development, subdivision and activities in a way that maintains and enhances, form, function and amenity values through a number of outcomes. The outcomes focus on the proximity of housing to urban centres and transport routes, walkability, natural

hazards, utility networks, open space and the protection of significant ecological landscape, cultural and historic heritage. Comprehensive residential development does not consider the impacts of the airport noise contour on noise sensitive activities.

Airport and aircraft noise is considered as a matter of control (section 32.1.3). However, the wording is based on the effect that the operation of the Christchurch International Airport and aircraft noise has on subdivision, not the effects that the increase in housing density has on the safe or efficient operation of the airport.

Rule 32.2.14 enables subdivision of a site or sites within Residential 1, 2 or 6 Zones for comprehensive residential development as a restricted discretionary activity. Discretion is restricted to considerations on utilities, the natural environment, cultural heritage, esplanades and financial contributions. No consideration is given to the subdivision size or the airport noise contour as part of the any urban intensification as part of a comprehensive residential development.

The ODP allows for subdivision development down to 300m² in Residential 1 Zone, 600m² in Residential 2 Zone, and 150-500m² in Residential 7 Zone, in Kaiapoi (Table 2). Comprehensive residential development is also allowed within Kaiapoi, enabling development down to any scale as long as it complies with the 50% site coverage restriction and is appropriately designed. This degree of density is exactly the same as proposed within the MDRS standards and that these provisions apply as a minimum of 4 dwellings. The difference between the two is that MDRS enables the density as a permitted activity, while comprehensive residential development requires a restricted discretionary resource consent. Subdivision is normally a controlled activity under the district plan.

2.4.3 Proposed District Plan

The existing noise contour was used in the PDP and there were no major changes in the direction of objectives and policy. Development within the areas of Kaiapoi under the noise contour and the rural zone within the 50 dBA Ldn is enabled.

Objective Noise-O2 deals with reverse sensitivity effects from noise sensitive activities with respect to the operation of regionally significant infrastructure and strategic infrastructure. This is supported by policy Noise-P4 which protects the Christchurch International Airport from reverse sensitivity effects by requiring noise sensitive activities within the 50 dBA Ldn Noise Contour to have acoustic insulation.

The PDP proposes to rezone most of Kaiapoi as medium density residential zone. Those areas that are being zoned medium density will be general residential zone for the flood prone areas, town centre and mixed use zone for the commercial area of the town, sports and recreation zone for parts of the red zone and special purpose zone Kaiapoi regeneration for other red zoned land (figure 2).

General residential zone policy gives direction for growth, sustainability, form, scale, design and amenity values. Residential growth, location and timing outcome in RESZ-O1 encourages more housing in appropriate locations and in a timely manner to meet growth needs. Supporting policies focus on urban design elements and the provision of higher density. No consideration is given in the policies to avoid higher densities within Kaiapoi as a result of the airport noise contour.

RESZ-O1 Residential growth, location and timing -Sustainable residential growth that:

- 1. provides more housing in appropriate locations in a timely manner according to growth needs;*
- 2. is responsive to community and district needs; and*
- 3. enables new development, as well as redevelopment of existing Residential Zones.*

The medium density residential zone policies encourage development to be located close to amenities with a range of housing typologies (MRZ-O1). Policy MRZ-P1 provides for residential activities that support and maintain the character and amenity values anticipated within the zone. Some of the built form standards in the PDP are not too dissimilar to the MDRS standards. Site coverage and building height were slightly greater in the PDP than the MDRS standards. These have subsequently been changed under Variation 1 to align with the MDRS standards.

The proposed allowable density under Medium Density Residential Zone is one dwelling on a 200m² site. The change in density is supported by the section 32 for subdivisions and residential zones. The increase intensification is in line with Policy 6.3.1(3) of the CRPS and the exemption for existing urban areas under Policy 6.3.5(4). The PDP proposed rezoning of the residential areas of Kaiapoi and is consistent with the National Planning Standards.

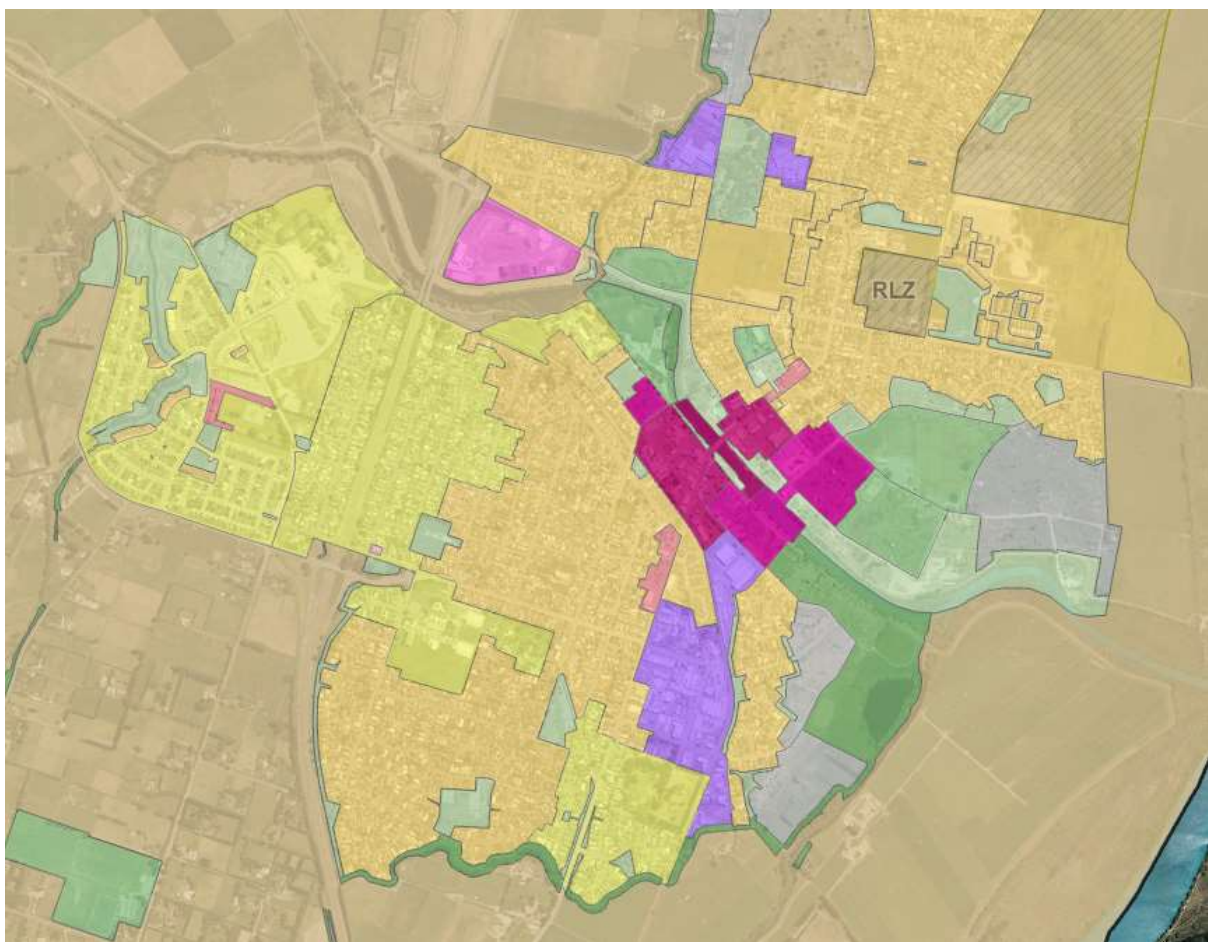


Figure 2. Residential zoning layout within Kaiapoi under the PDP.

2.5 Information and Analysis

Information sources below cover the two noise contours, operative and the proposed noise contour, and the development density beneath the contour.

2.5.1 Operative Noise Contour

The implications for the existing noise contours is covered within the Section 32 report for the Noise Chapter.

Other documents used in the assessment for the operative airport noise contour include:

- NZS 6805:1992. Airport Noise Management and Land Use Planning.

2.5.2 Average Annual Outer Control Boundary Noise Contour

For the AAOCB contour, the following documents were used to develop and assess the effects of the proposed update to the airport noise contour:

- RMG, 2022. Airport Related Qualifying Matters in the proposed Waimakariri District Plan – Kaiapoi.
- 2021 Christchurch International Airport Expert Update of the Operative Plan Noise Contours (2021),
- Airbiz, 2022. Christchurch International Airport Air Noise Contours: Outer Control Boundary and Airport Safeguarding at Christchurch International Airport,
- Marshall Day Acoustics, 2022. Christchurch Airport Community Response to Aircraft Noise Literature Review,
- Marshall Day Acoustics, 2022. Community Response to Aircraft Noise, Kaiapoi Memo;
- Marshall Day Acoustics, 2022. Christchurch International Airport Land Use Planning,
- Marshall Day Acoustics, 2022. Christchurch Airport Recontouring Assessment of Noise Effects: Annual Average Updated Contour,
- World Health Organisation, 2018. Environmental Noise Guidelines for the European Region. WHO Regional Office for Europe.

An analysis provided by CIAL concludes that the new airport noise contour should be used as part of Variation 1 to the PDP. The new contour is known as the Average Annual Outer Control Boundary (AAOCB) and broadly represents the 50 dBA Ldn noise level. The change in name is to recognise that the noise levels inside the contour are not always 50 dBA Ldn, but may vary dependent upon the type of aircraft, height of approach and weather conditions. The AAOCB reflects the new take off operations that are being presently used by aircraft. This results in a decrease in the noise footprint over Kaiapoi, but has an increased footprint over the rural areas to the west of Kaiapoi (figure 2).

2.5.3 Development Density

Council has undertaken an assessment of dwelling density and zoning within the following documents:

- Subdivision section 32 report,
- Residential zone section 32 report,

The PDP amended the subdivision standard size within the areas of Kaiapoi as part of the PDP review. Table 2 shows the difference in housing density for Kaiapoi between the ODP and the PDP. It should be noted that a main and minor residential unit could be built on each section where it has a delineated area and meets a number of other standards.

Zoning	ODP - PER ⁶	Comprehensive residential development (ODP) - RDIS	PDP - PER	MDRS provisions -PER
Residential 1	300m ²	60% site coverage	200m ²	50% site coverage
Residential 2	600m ²	50% site coverage	500m ²	50% site coverage

⁶ A main and minor residential unit is allowed on each property where there is sufficient delineated area.
Proposed Waimakariri District Plan Section 32 ISPP Airport Noise Contours Qualifying Matter
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Residential Silverstream	7	150-500m ²	N/A	200m ²	50% site coverage
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Table 2. Housing Density provisions at Kaiapoi.

Under the ODP a restricted discretionary consent could be obtained for a comprehensive residential development with the same density provisions as the proposed MDRS. The difference between the two is that the MDRS will enable intensification as a permitted activity under the district plan.



Figure 2. Spatial extent of the AAOCB (hatched area) over the district compared to the existing airport noise contour.

2.6 Consultation Undertaken

The operative noise contour is from the existing Operative District Plan and was also notified in the Proposed District Plan.

Extensive consultation was undertaken as part of the District Plan Review process with key stakeholders and the local community. Submissions relating to specific policy and rules were generally supportive of the proposed approach.

First schedule consultation was received from a number of stakeholders, however, the Canterbury Regional Council was the only stakeholder to provide any direct feedback regarding the noise contours as a qualifying matter. Their comment related to avoiding noise sensitive activities within the airport noise contour. This comment is not consistent with the relevant policies within the CRPS.

Date	Group	Subject Matter	Feedback and response
13 July 2022	Canterbury Regional Council	Variation 1 Housing intensification	The CRPS requires avoidance of noise sensitive activities

			within the 50 dBA Ldn noise contour, with limited exceptions.
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2.7 Iwi Authority Advice

Clause 3(1)(d) of Schedule 1 of the RMA sets out the requirements for local authorities to consult with iwi authorities during the preparation of a proposed plan. Clause 4A requires the District Council to provide a copy of a draft proposed variation to iwi authorities and have particular regard to any advice received. This section summarises the consultation feedback/advice received from the iwi authority relevant to Airport Noise Contours, and the District Council's consideration of, and response to (as required by Section 32(4A)(b) of the RMA), that feedback/advice.

Date	Iwi Authority	Subject Matter	Advice Received	Consideration of, and response to, Advice
23 November 2021	Ngāi Tūāhuriri Rūnanga	Noise R14 Rule Buildings in the 55 dBA Ldn Noise Contour for Christchurch International Airport, and Noise –R17 Noise sensitive activities (50dBA Ldn Airport Contour)	No submissions were made by Ngāi Tūāhuriri or their agents.	No changes to the PDP are considered.
12 July 2022	Ngāi Tūāhuriri Rūnanga	Variation 1	The submission from Mahaanui Kurataiao Ltd with respect to the qualifying matters in variation 1 did not provide any comment on the operative airport noise contours.	No amendments are considered.

2.8 Reference to Other Relevant Evaluations

This Section 32 topic report should be read in conjunction with the following evaluations:

- a) [Te orooro/Noise Section 32 analysis:](#)

The Noise provisions contains one policy (Noise-P4), two rules (Noise-R14 and R17) and one table (Noise-Table 2) that cover the effects of the noise contour on land-use beneath the contour. Noise-P4 is intended to protect Christchurch International Airport from reverse sensitivity effects through the limiting development within the rural area. The policy limits residential development to one dwelling per 4ha within the rural zoning and requires noise insulation within the 50 and 55dBA Ldn noise contour. There is no constraint on development density within the residential zones of Kaiapoi.
- b) [Wāwāhia whenua/Subdivision Section 32 analysis:](#)

The subdivision provisions are designed to enables development and provides land for residential and commercial activities, and enabling the community to provide for its social, cultural and economic wellbeing. It is, however, important that subdivision occurs within an environmentally sustainable framework, so that land is used in a way, and at a rate, that enables future generations to provide for their wellbeing. Policy within the chapter promotes consolidation of the urban development, supports a variety of housing density while recognising the need to minimise reverse sensitivity effects on infrastructure.
- c) [Waitua Nohonoho/Residential Zones Section 32 analysis:](#)

The residential provisions provide for housing and settlement in the District. The zones are part of the District's urban areas and include rural residential activity (as defined in the Canterbury Regional Policy Statement). The Kaiapoi area has been proposed to be zoned medium density residential, this is in line with the Amendment Acts requirement for Tier 1 Councils to change their residential zones to medium density. Policy requires the higher density suburban residential zone to be located close to amenities and provide a range of housing typologies. The general policies for all residential zones provides for more housing in appropriate locations in a timely manner.
- d) Section 32 form Resource Management Group (RMG) on behalf of the CIAL (Appendix 1):

The section 32 analysis focused on the economic benefit of the airport and acoustic information in relation to international research. There is a section 77K analysis for the AAOCB Noise Qualifying Matter, although no section 77J assessment as a new qualifying matter (different to Map A CRPS). There was no assessment on housing density as part of the Section 32 analysis, beyond a recommendation that Council keeps with the subdivision size within the ODP.

2.9 Any plans of adjacent or other territorial authorities

The District Council is required to have regard to the extent to which the district plan needs to be consistent with the plans and proposed plans of adjacent territorial authorities under Section 74(2)(c) of the RMA. Christchurch City Council has proposed to use the AAOCB as the qualifying matter within their MDRS variation to the City Plan. While showing the extent of the AAOCB, Council is not consistent with Christchurch City Council over its approach to the noise contour qualifying matter. At the time of analysis, the City Council has not undertaken a section 77J assessment of the AAOCB. No information is known as to whether the city has undertaken an assessment of the housing density beneath the noise contour as determined what effect, if any, the MDRS standards would have on the safe or efficient operation of the Christchurch International Airport.

Selwyn District Council has restricted subdivision development beneath the airport 55 dBA Ldn Noise Control overlay. There is no subdivision controls for land beneath the 50 dBA Ldn noise contour. Comprehensive development is controlled in the general, low density and settlement residential zones as a restricted discretionary activity, but does consider airport noise as a matter of discretion. Rule Noise-R4 of the Proposed Selwyn District Plan enables noise sensitive activities within the airport 55 dBA Ldn noise control overlay where they meet the indoor design noise level acoustic insulation requirements. There are no controls for any residential activity within the airport 50 dBA Ldn noise control overlay. This evaluation is broadly consistent with the approach taken by Selwyn District Council.

3. ISSUES AND OPTIONS

3.1 National Policy Statement –Urban Development

The Residential Zoning Section 32 summarised the NPS-UD below:

The NPS-UD is the second NPS on urban development, replacing the 2016 National Policy Statement on Urban Development Capacity (NPS-UDC). The NPS-UD came into effect in August 2020. The NPS-UD provides direction to decision-makers on planning for well-functioning urban environments, enabling them to grow and change in response to the changing needs of the community, and to provide enough room for populations to live and work through intensification of existing areas and releasing greenfield development land. The intent is to ensure that housing and business land supply meets demand for urban areas. Greater Christchurch, of which much of Waimakariri is a part, is identified as a high growth urban area, and as such, all of the provisions of the NPS-UD apply to the district. There are eight objectives to the NPS-UD and in summary they seek that:

- New Zealand has well-functioning urban environments that enable people to provide for their wellbeing
- Planning decisions improve affordability by supporting competitive markets
- Plans enable more people to live centrally, in areas serviced by public transport, and in areas where there is high demand for housing or business land
- Urban environments change in response to needs
- Planning decisions relating to urban environments take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)
- Local authority decisions are integrated with infrastructure planning and funding, are strategic, and are responsive
- Local authorities have robust and frequently updated information about the urban environments to inform planning decisions
- Urban environments support reductions in greenhouse gas emissions and are resilient to current and future effects of climate change.

Policies 1-10 set out the requirements of the NPS-UD, seeking well-functioning urban environments that cater for growth. Specifically, they provide for targeted multi-level development and intensification in key locations in urban areas, recognising that changes as a result of intensification may result in significant change.

The policies seek that decision-makers are responsive to plan changes that would add significant capacity and contribute to well-functioning urban environments, even if unanticipated by RMA planning documents or include out-of-sequence planned land release. The policies also require removal of car-parking requirements for tier 1, 2, and 3 growth councils. The NPS-UD then sets out a

number of directions for Councils to undertake as part of implementing the NPS-UD, including providing development capacity, monitoring requirements for evidence-based decision-making, development of a Future Development Strategy, housing and business development capacity assessments, intensification within districts, amendment of development outcomes for the zones and removal of car parking provisions. The Greater Christchurch Partnership has developed a Future Development Strategy, prepared under the NPS-UDC but still relevant under the NPS-UD, in order to achieve the objectives of both NPS's, titled "Our Space 2018-2048 Greater Christchurch Settlement Pattern Update Whakahāngai O Te Hōrapa Nohoanga".

3.2 Christchurch International Airport Changes

Christchurch International Airport is changing part of their flight operations⁷. They have an estimated growth of 3% per year in air traffic, which will result in an estimated increase of 50,000 aircraft movements by 2035. Despite aircraft becoming quieter over time, the increase in aircraft movements is likely to result in more noise in and around Kaiapoi. Christchurch International Airport has also changed the flight path for aircraft arriving and leaving the airport to the north, getting them to swing more to the west after taking off⁸. The spatial extent of the proposed new noise contour was shown in Figure 2 above.

3.3 Qualifying Matter Natural Hazards

Natural hazards also form a qualifying matter as part of the MDRS assessment. Due to the low lying nature of the Kaiapoi township there are parts of the town that have an identified flood risk and allowing greater intensification in these areas has the potential to increase the overall risk to people and property from flooding.

The section 32 evaluation of this qualifying matter concludes that it is appropriate to exclude some parts of Kaiapoi where it considered the flood risk is too significant to allow for further intensification without subjecting the development to a typical consenting process. The proposed MDRS exclusion zones are shown in Figure 3 below. As can be seen, this area has been split into Area A and Area B. A development density of 200m² is proposed for Area A and 500m² for Area B. Areas A and B are identified within the new 'Qualifying Matter Natural Hazards' Layer for the planning maps proposed within this Variation. Development which does not take into account the natural hazard risk has the potential to have significant health and safety impacts and well as economic costs from the resulting damage. The qualifying matter natural hazards covers an area of 366ha in total, of which 53ha of residential zoned land will be in Area B and have the 500m² density and 119ha of residential zoned land in Area A at 200m² density. The remaining land is either town centre, mixed use, open space, industrial or large format zone.

All of the land subject to the qualifying matter natural hazard sits beneath the qualifying matter airport noise. This will mean that 53ha of land beneath the qualifying matter airport noise overlay will only be able to have one residential unit per 500m².

⁷ Christchurch Airport, 2021. 2021 Christchurch International Airport Expert Update of the Operative Plan Noise Contours.

⁸ Marshall Day Acoustics, 2022. Christchurch Recontouring Noise Modelling Report. Prepared for Christchurch International Airport Ltd.

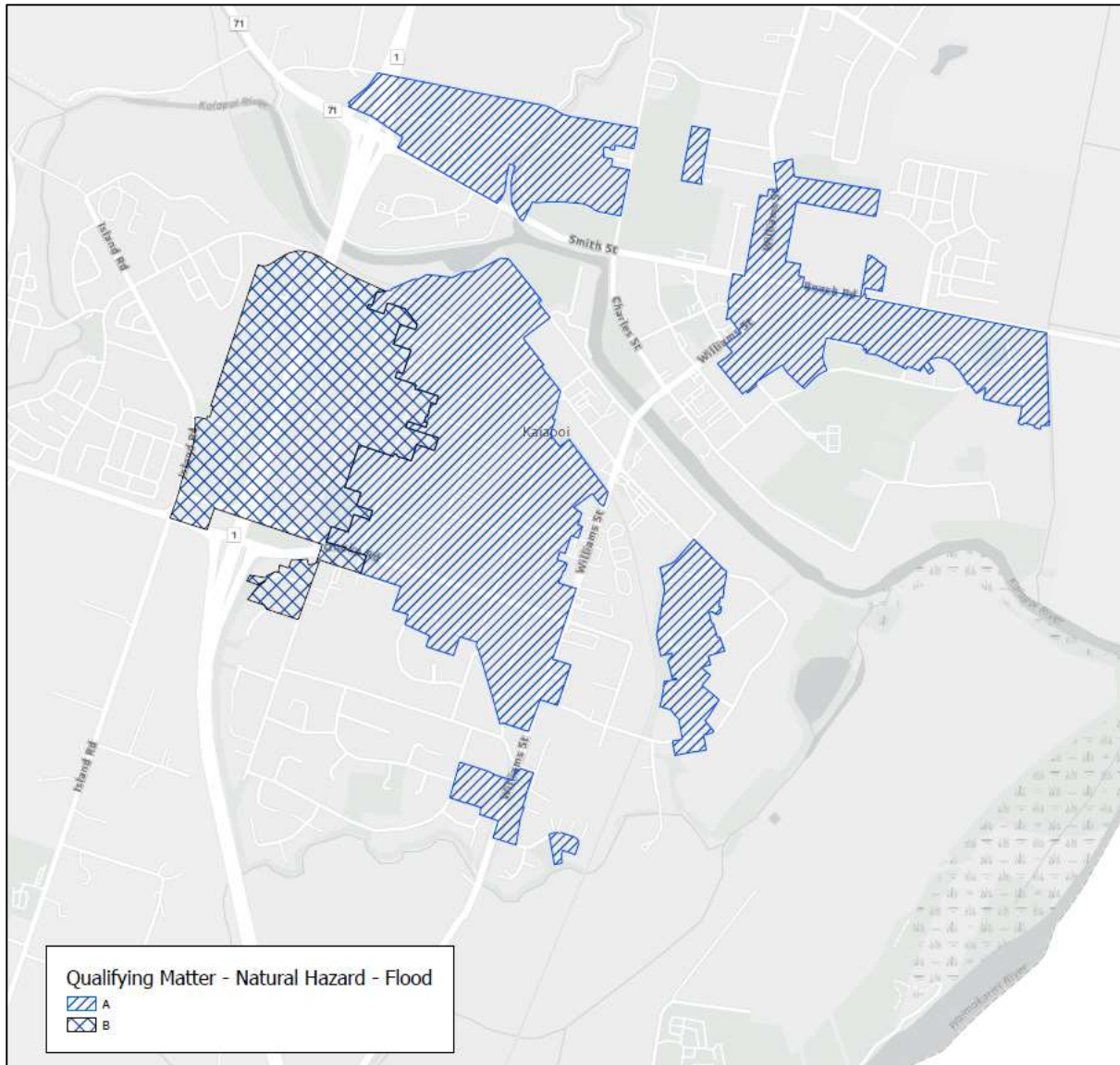


Figure 3: Qualifying Matter Natural Hazards (MDRS exclusion)

4. SCALE AND SIGNIFICANCE EVALUATION

Section 32 (1)(c) of the RMA requires that a Section 32 report contain a level of detail that corresponds with the scale and significance of the environmental, economic, social and cultural effects that are anticipated from the implementation of the proposed objectives, policies and methods.

The level of detail undertaken for the subsequent evaluation of the proposed objectives, policies and methods has been determined by this scale and significance assessment.

In particular, Section 32 (1)(c) of the RMA requires that:

- (a) Any new proposals need to be examined for their appropriateness in achieving the purpose of the RMA;
- (b) The benefits and costs, and risks of new policies and methods on the community, the economy and the environment need to be clearly identified and assessed; and

- (c) All advice received from iwi authorities, and the response to the advice, needs to be summarised.

Further, the analysis has to be documented to assist stakeholders and decision-makers understand the rationale for the proposed objectives, policies and methods under consideration.

In making this assessment regard has been had to a range of scale and significance factors, including whether the provisions:

- (a) Are of regional or district wide significance;
- (b) Involve another matter under Section 7 of the RMA;
- (c) Address an existing or new resource management issue;
- (d) Adversely affect a large number of people;
- (e) Result in a significance change to development opportunities or land use options;
- (f) Whether the effects have been considered implicitly or explicitly by higher order documents.

Policies and methods have been evaluated as a package, as together they address a particular issue and seek to meet a specific objective.

4.1 Evaluation of Scale and Significance

	Low	Medium	High
Degree of change from the Operative Plan		✓	
The addition of the qualifying matter overlay into the variation will introduce some new information to the public. There are no land use constraints over than acoustic insulation under the operative noise contours, as intensification is enabled within existing urban areas due to the CRPS exemption. The AAOCB noise contour is new information that, while is publicly available, has not been widely discussed with the public.			
Effects on matters of national importance		✓	
The Christchurch International Airport has been identified as a strategic infrastructure for the district in the PDP and by the airport as one of two airports in New Zealand that does not have flight restrictions based on surrounding land use. The airport plays a significant role in the South Island economy ⁹ .			
Scale of effects geographically (local, district wide, regional, national)	✓		
The use of the operative noise contours as a qualifying matter will not have any significant geographical effect. The airport noise contour covers only 5.9km ² of Kaiapoi and apart from acoustic insulation, do not have any effect on housing density.			
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?)	✓		
The operative noise contours are not going to change in effect on Kaiapoi. The development has been allowed under the noise contour by the ODP and is proposed to be allowed under the PDP.			

⁹ Property Economics, 2022. Potential economic impacts of operational constraints on Christchurch Airport.

	Low	Medium	High
Scale of effects on those with specific interests, e.g., Mana Whenua, industry groups	✓		
There are no major land use considerations within Kaiapoi that would be affect specific interests, such as, mana whenua or industry groups outside of the CIAL.			
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice? Is it consistent, inconsistent or contrary to those?		✓	
While the operation noise contour has been established since 2008, the CRPS, development has occurred within the urban area of Kaiapoi as part of the exemption. The proposed medium density residential zone provisions in the PDP will enable intensification in accordance with the provisions of the CRPS. Information provided by CIAL identifies the risks of reverse sensitivity from communities under the airport noise contour associated with higher density of development. The approach taken by CIAL is a complete ban on increased development density above that allowed for under the ODP.			
Likelihood of increased costs or restrictions on individuals, communities or businesses		✓	
Any noise sensitive development, such as residential development, will be required to install acoustic insulation within the qualifying matter overlay. The MDRS standards will not apply to the qualifying matter airport noise area, and will mean that some property owners will not be able to intensify development on their property.			
Summary - Scale and Significance Low			
The scale of significance for the operative noise contour impacts on the section sizes within Kaiapoi could be considered to be of medium concern. As a qualifying matter the airport noise will restrict development within the Kaiapoi township to one dwelling per 200m ² .			

4.2 Section 77 Assessment

4.2.1 Introduction and Background

Both the ODP and PDP contain policy and rules regarding to land use under the 50 dBA Ldn airport noise contour. There is a requirement for noise sensitive activities to install acoustic insulation where they are located beneath the 50 dBA Ldn noise contour. The Resource Management Group Section 32 analysis identified that sound insulation on its own was not sufficient to control annoyance issues from aircraft noise¹⁰ (Appendix 1). There is no information regarding complaints from Kaiapoi residents or undertaken a survey to ascertain whether Kaiapoi residents are annoyed by noise from the airport operations¹¹. It is difficult to understand what the effect of the level of development in Kaiapoi has had on the safe or efficient operation of the Christchurch International Airport.

4.2.2 Identify by location where this QM applies (s77K(1)(a))

The area is identified within the PDP planning maps. The qualifying matter airport noise covers an area across the middle and southern part of Kaiapoi and combines the operative noise contour and the area within Silverstream that is covered by the AAOCB (Appendix 2).

4.2.3 Specify the alternative density standards proposed (s77K(1)(b))

Policy 6.3.5(4) CRPS enables intensification of the urban areas and the greenfield areas in Kaiapoi where it is within the 50 dBA Ldn airport noise contour. The exemption enables intensification to occur within the urban and greenfield areas of Kaiapoi.

¹⁰ Resource Management Group, 2022. Airport related qualifying matters in the proposed Waimakariri District Plan – Kaiapoi.

¹¹ Marshall Day Acoustics, 2022. Community response to aircraft noise memo.

The appended Section 32 report from RMG considers that the exemption for Kaiapoi under Policy 6.3.5(4) is no longer relevant (Appendix 1). They state:

Given the above, it is valid to consider two issues. First, has the loss of land from the 2010/2011 earthquake sequence already been offset by subsequent residential subdivision and development? In short the answer is yes. The Airport has investigated this issue and found that there were some 700 land parcels in Kaiapoi residential red zone, and just over 800 parcels in the post-earthquake Silverstream residential subdivision alone (May 2022). That said it is noted that there remains a number of undeveloped stages of the subdivision which will lead to the provision of additional residential development opportunities.

There were just under 1,000 houses that were purchased by the government that formed part of the Red Zoned land within Kaiapoi, more than the 700 parcels mentioned by RMG. The Silverstream development was going through the resource consent stage prior to the September 2010, and had previously been identified as being inside the UDS urban limit and as a UDS Greenfield areas¹². The assessment that recent greenfield development has more than compensated for the loss of residential land within the Red Zone is incorrect, as the greenfield areas were identified for development prior to the earthquakes and are cannot be considered as offsetting land lost due to the earthquakes.

Central Government purchased all of the Red Zoned land and has amalgamated the titles and given this to Council for future land use considerations. The PDP enables development of the Red Zoned land as mixed use zone, where geotechnical and other matters have been addressed.

The MRDS standards allows permitted development of three dwellings per lot were they don't exceed 50% site coverage. Other MDRS standards enable housing up to 11 metres (or 12 metres if certain roof pitch requirements are met) in height, rear and side yard setbacks of 1m and front yard of 1.5m. The section 32 analysis in appendix 1 concludes that the height and boundary setbacks are acceptable, but that the density is not appropriate. The concern is that an increase in housing density will result in more people living underneath the airport noise contour which could generate more complaints and result in restrictions being placed on Christchurch International Airport operations similar to that occurring at other airports around the country. No information on the number of complaints has been provided as part of that assessment. The Marshall Day Acoustic community response to aircraft noise memo (2022) states that no complaints have been received from Kaiapoi regarding aircraft noise, stating that residents within Kaiapoi received less than 50 dBA Ldn aircraft noise. It is however noted that this may change given the projected increase in the number of flights and lengthening of the runway.

4.2.4 Identify the s32 report relied on (s77K(1)(c))

This section 32 report covers the urban area in Kaiapoi located below the operative noise contour. An alternative section 32 report has been provided by Resource Management Group, but does not address the impact of having a qualifying matter on development density.

4.2.5 Describe the level of development that would be prevented by accommodating the qualifying matter, compared with that permitted by the MDRS and policy 3 (s77K(1)(d))

While some urban intensification is allowed under the PDP, it is proposed that the MDRS provisions will not apply to that area beneath the qualifying matter airport noise. The proposed medium density residential zoning in the PDP will allow for subdivision down to 200m² and enable a single residential unit to be constructed on site as a permitted activity. This type of development is envisaged as

¹² Greater Christchurch Urban Development Strategy and Action Plan, 2007.

complying with the intent of the Canterbury RPS, enabling development within Kaiapoi post Canterbury Earthquakes. Built form standard provisions will apply enabling building up to 11m height with setbacks of 1.5m from the road boundary and 1m from side boundaries. These are same as those proposed within the MDRS, but provide some constraint around density (Table 3).

Standards Residential 2 Zone	MDRS Standards	Proposed DP Standards	Operative DP Standards
Housing density	No restriction	200m ²	600m ²
Height	11 +1m	11m	8m
Setbacks	1m	1m	2m
Site coverage	50%	50%	35%

Table 3. Housing standards

Discussions with CIAL have confirmed that the airport noise contour will not affect some of the MDRS building standards. Provisions around height, setbacks, outdoor areas, site coverage, and height in relation to boundary, windows to street and landscaped area are not affected by either of the airport noise contours (Operative Noise Contour and AAOCB). The only MDRS standard that is proposed to be affected by the airport noise contour is density. The increase in the number of people beneath the airport noise contour could potentially result in a greater number of people having an adverse reaction to noise from airport operations. International research shows that 18% of people that sit beneath a 50 dBA Ldn airport noise contour are highly annoyed by the noise (figure 4)¹³. The 18% of highly annoyed people is obviously dependent upon the density of people beneath the contour, meaning the higher the density more people that are highly annoyed. The outcome of having more highly annoyed people beneath the noise contour, the greater the likelihood that constraints will be placed upon airport operations.

Marshall Day Acoustics (2022) stated that “...with increased density comes the risk of complaints and community pressure to curtail airport operations”. This has become issue overseas, with Marshall Day Acoustic highlighting a number of national¹⁴ and international¹⁵ airports that have recently had operation constraints placed upon them as a result of increased opposition for residents living in new urban development areas within the 50 dBA Ldn noise contours.

In undertaking an assessment of noise effects within Christchurch from changing flight operations, Marshall Day Acoustics have identified that there will be an increase in the estimated number of highly annoyed people living under the AAOCB¹⁶. On this basis, it may be difficult to separate out any impact increasing development density would have from changes in airport flight operations on community annoyance.

The NPS UD contains objectives and policies that promote the development of well-functioning urban environments, while increasing the housing development. The principal focus of the NPS-UD is to increase housing development, while considering people and communities social, economic, and cultural well-being, and for their health and safety in the future. Policy 6 require planning decision makers to have regard to the urban form anticipated by RMA documents that give effect to the NPS-

¹³ World Health Organisation, 2018. Environmental Noise Guidelines for the European Region. WHO Regional Office for Europe.

¹⁴ Marshall Day Acoustic, 2022. Christchurch International Airport Land Use Planning.

¹⁵ Airbiz, 2022. Christchurch International Airport – Air Noise Contours: Outer Control Boundary and Airport Safeguarding at Christchurch International Airport.

¹⁶ Marshall Day Acoustics, 2022. Christchurch Airport Recontouring Assessment of Noise Effects- Annual Average Updated Contours.

UD and are consistent with a well-functioning urban environment. Despite the MDRS provisions not applying to the area of Kaiapoi covered by the qualifying matter airport noise, the proposed housing density within the PDP is consistent with the NPS-UD. A discussion of the NPS-UD is contained in Section 3.1.

The area of land that will have the PDP medium residential density zoning under the qualifying matter airport noise will be 201ha of the 580ha of urban zoned land beneath the operative airport noise contour once you exclude the area.

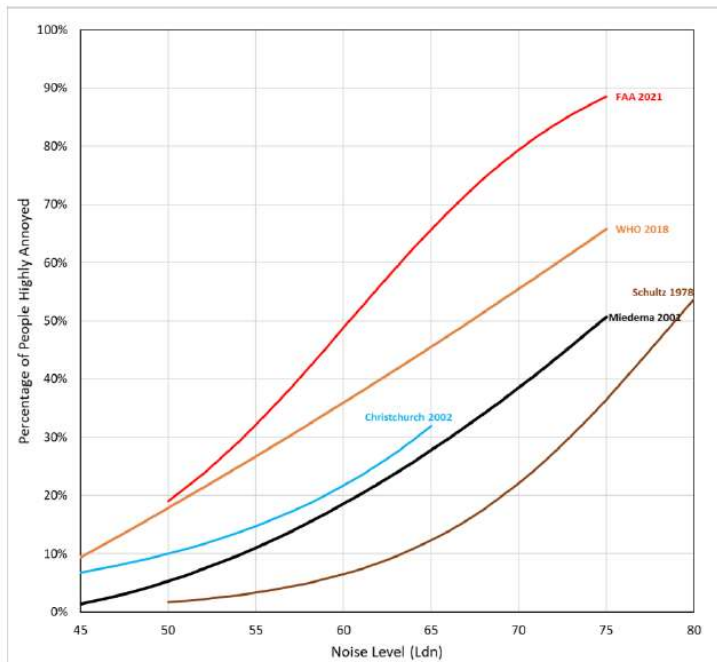


Figure 4. Noise annoyance curve for aircraft noise (Marshall Day, 2022)¹⁷.

5. EVALUATION OF PROPOSED APPROACH

Section 32 (1)(b) of the RMA requires an evaluation of whether the proposed policies and methods are the most appropriate way to achieve the proposed objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of the proposed policies and methods in achieving the objectives, and summarising the reasons for deciding on the proposed policies and methods.

The level of detail undertaken for the evaluation of the proposed policies and methods has been determined by the preceding scale and significance assessment.

The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the proposed policies and methods, including opportunities for economic growth and employment.

The assessment must, if practicable, quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

¹⁷ Marshall Day Acoustic, 2022. Christchurch Airport Recontouring Assessment of Noise Effects: Average Annual Updated Contours.

Policies and methods have been evaluated as a package, as together they address a particular issue and seek to meet a specific objective.

5.1 Evaluation of Proposed Approach

The evaluation table below considers three options: the application of the MDRS provisions, the housing density proposed in the PDP and the housing density within the ODP.

The Amendment Act and NPS-UD Policy 3 are required to be applied unless qualifying matters apply. As such, they are considered to be the status quo option and therefore relevant parts of the s32 from the PDP Noise Chapter has been reproduced here. While the proposed AAOCB noise contours is consistent with the objectives and policies of the PDP an assessment between the two has been undertaken.

Option A: MDRS Provisions	Benefits environmental, economic, social and cultural effects anticipated,	Costs environmental, economic, social and cultural effects anticipated,	Efficiency and Effectiveness	Risk of acting / not acting if there is uncertain or insufficient information about the subject matter of the provisions
<p>This option is for the implementation of the MDRS standards as required under the Amendment Act (2021)</p> <p>The MDRS standards can be altered when an area is covered by a qualifying matter.</p>	<p>Environmental: The MDRS standards will enable greater levels of intensification within existing urban environments, reducing the need for new greenfield land. Existing urban areas within the district have infrastructure boundaries that constrain new urban development outside of the boundaries, while enabling development inside the boundaries. In order to accommodate projected growth for the district, Council will need to provide for intensification inside the urban areas.</p> <p>The environmental benefits include the protection of highly productive land.</p>	<p>Environmental: Environmental costs associated with MDRS standards are associated with how the density is applied. Given the setback requirements of 1m on the side and rear boundaries and the daylighting height of 4m with a 60° angle, some neighbouring properties could potentially lose any heating from solar radiation and visual amenity outlook where MDRS development occurs on their northern boundary.</p> <p>The higher density will affect stormwater generation. The increased potential for flooding is a qualifying matter for parts of Kaiapoi.</p>	<p>The implementation of the MDRS standards for housing density will improve the efficiency and effectiveness of public transport, infrastructure services and reduce transport related greenhouse gas emissions. The provisions enable housing intensification to occur without the need for a resource consent, assuming that other non-limiting matters are not breached.</p> <p>There are likely to be some adverse environmental effects associated with uncontrolled increased development density.</p>	<p><i>Risks of not acting:</i></p> <ul style="list-style-type: none"> (a) failure to implement the National Planning Standards; (b) The MDRS standards implementation does not take into account qualifying matter airport noise; (c) there is insufficient information on how the airport operations impact upon density; (d) the quality of the environment and amenity values may not be maintained within the District and development is forced upon Council through the courts. <p><i>Risk from acting:</i></p> <ul style="list-style-type: none"> (a) local authorities have been instructed to implement the provisions within the Amendment Act;

	<p>Higher density will improve the financial sustainability of public transport, reducing commuting distances to services, and thereby reduce greenhouse gas emissions from transport.</p>	<p>While there will be an increase localised noise associated with higher density, aircraft noise may exasperate any annoyance effect from a general increase in noise.</p> <p>There will also be a potential decrease in local air quality associated with higher levels of traffic congestion and reduction in air movement on the leeward side of buildings at lower wind speeds¹⁸.</p>		<p>(b) The community are aware of new provisions but may be slow in taking up any opportunities; (c) Generally low risk as the provisions are required by Central Government. (d) CIAL will oppose the change in zoning to meet the MDRS standards.</p>
	<p>Economic: The MDRS standards will result in economic benefits through intensification of urban development within the existing urban areas. The increase in housing supply is a mechanism to alleviate the housing crisis, making them more affordable. The MDRS will also enable property owners to develop their own properties, being of financial benefit to them. There will also be an economic benefit for utility services resulting is lower engineering costs and subdivision costs making development more affordable, and the ability to utilise the growth capacity of the utilities.</p>	<p>Economic: Additional compliance costs and delay associated with building consent process is required at the PIM stage to ensure that all non-limiting rules and policies are complied with.</p> <p>Where development densities are too high, upgrades to utilities may be required where insufficient growth capacity hasn't been provided.</p> <p>Additional cost for design and construction of buildings for noise sensitive activities in locations will be required through the addition of acoustic insulation with the qualifying matter airport noise.</p>		<p>Overall, there is sufficient information to act and the risk from not acting is higher than the risk of acting.</p>

¹⁸ Hu, K., Cheng, S., and Qian Y., 2018. CFD Simulation analysis of building density on residential wind environment. Journal of Engineering Science and Technology Review, Vol. 11(1), pp. 35-43.

	<p>Social and Cultural: The MDRS standards will provide for additional housing near town centres and services, enabling cheaper housing enabling more people to rent or purchase houses. The MDRS will also reduce the potential of urban sprawl, ensuring that surrounding land is still available for agricultural production or recreation.</p>	<p>Social and Cultural: Intensification will potentially result in an increase in localised noise. Literature shows that where housing intensification occurs, noise increases where the community commutes for employment¹⁹. Airport noise will exasperate noise conditions given the overall increase in background noise.</p>		
<p>Opportunities for economic growth and employment</p>				
<p>The MDRS standards enables intensification of the existing urban areas. This is intended to supply more housing, reduce house prices, and improve the utilisation of public transport and utility services. Property owners should see some financial benefit from further development of their sections. There is a potential for more employment through additional development as a result of the freeing up development standards. Uncontrolled development and higher housing density may result in more reverse sensitivity reactions to aircraft noise, but this has not been quantified. Should reverse sensitivity effects occur there is likely to be implications on airport operations.</p>				
<p>Alternative Housing densities - PDP</p>				
<p>Option B: PDP Housing Density</p> <p>The PDP was notified in September 2021 and included some intensification of the existing urban areas. For Kaiapoi this is the provision of a medium density standard that acknowledges Councils requirement to comply</p>	<p>Benefits environmental, economic, social and cultural effects anticipated,</p>	<p>Costs environmental, economic, social and cultural effects anticipated,</p>	<p>Efficiency and Effectiveness</p>	<p>Risk of acting / not acting if there is uncertain or insufficient information about the subject matter of the provisions</p>
	<p>Environmental: The environmental benefits are the reduction in greenhouse gas emissions and the protection of highly productive land associated with higher intensification when compared to urban sprawl.</p>	<p>Environmental: The environmental costs associated with using the PDP development densities will be similar to that of MDRS, given that apart from density, the other development standards will apply. This includes the impacts upon access to daylight for buildings on the</p>	<p>(a) The increase in housing density will improve the efficiency and effectiveness of public transport and utility services; (b) Intensification of urban development will reduce sprawl and enable the protection of highly production land that is around Kaiapoi;</p>	<p><i>Risks of not acting:</i> (a) failure to implement the National Planning Standards, or address the issues and gaps identified; (b) existing infrastructure may not be adequately utilised and the growth capacity is not fully used;</p>

¹⁹ Tong H, and Kang J, 2021. Relationship between urban development patterns and noise complaints in England. EPB Urban Analytics and City Science, Vol. 48(6), pp. 1632-1649.

<p>with the NPS-UD and the exemption for intensification under the CRPS.</p> <p>The PDP housing density will enable intensification at a rate of one dwelling per 200m². While this is less than the MDRS standards.</p> <p>Given that they both have similar site coverage conditions it is unlikely that single story houses will be less than 100m² in footprint, and the engineering cost of building up would add a significant cost to development.</p>	<p>Kaiapoi is surrounded by highly productive land, with class 1 soils to the south, class 2 soils to the northwest and northeast and class 3 soils in the other areas. This is supported by the approach in Objective 5.2.1(1) of the CRPS where development is consolidated, well designed and has sustainable growth in and around existing urban areas, and supported by Policy 5.3.12 which maintains and enhances natural and physical resources that contribute to rural production by avoiding development that forecloses the ability of land to be used for primary production.</p>	<p>southern boundaries and the potential for more noise.</p> <p>The potential flooding risk in Kaiapoi is reduced by using the PDP development density compared to the MDRS density. Analysis recommends using the PDP density for one area and a higher density of 500m² in line with the General Residential Zone standard.</p>	<p>(c) The qualifying matter airport noise will not have a significant effect on development density as there is an exemption for all existing urban areas due to the CRPS exemption;</p> <p>(d) Intensification will reduce greenhouse gas emissions by concentrating development around services and reducing commuting distances.</p>	<p>(c) quality of the environment and amenity values may not be maintained within the District;</p> <p>(d) The MDRS standards may be applied without any controls.</p> <p><i>Risk from acting:</i></p> <p>(a) Generally low risk as the provisions are supported by Central Government direction within the NPS-UD;</p> <p>(b) The community are aware of new provisions through the PDP and some are waiting for its' implementation;</p> <p>(c) CIAL opposes the housing intensification as required by the Amendment Act on the basis of perceived effects to their operation.</p> <p>In summary the impacts of not acting are higher than of acting.</p>
	<p>Economic: The economic benefits of the PDP density standards will be slightly less than the MDRS but more than the ODP density standards. The ability to subdivide and redevelop existing properties will be reduced where small houses and tiny homes have been built, but is similar to the MDRS for larger houses.</p> <p>There will also be an economic benefit for utility services resulting in lower engineering costs and subdivision costs making development more affordable, and the ability to utilise the growth capacity of the utilities.</p>	<p>Economic: The economic costs of applying the PDP density standards is that it may not generate high enough densities for efficient public transports.</p> <p>The economic costs of applying the qualifying matter airport noise</p> <p>Additional cost for design and construction of buildings for noise sensitive activities in locations will be required through the addition of acoustic insulation.</p>		<p>The proposed medium density provisions is a mid-point between full MRDS standards and the ODP provision. The provisions recognise that some intensification is required, but that uncontrolled intensification may result in a greater community annoyance from aircraft noise.</p> <p>Development has already occurred at a slightly higher density as part of the comprehensive residential development provisions.</p>

	This will not occur, should a lower development density such as the ODP is used as proposed by CIAL. Loss of highly productive land will be reduced due to urban sprawl.			
	Social: The social benefits of enabling housing density in line with the PDP standards is the provision of cheaper housing through intensification and enabling people with large sections to earn some money through development.	Social: Intensification will potentially result in an increase in localised noise. Intensification will exasperate noise conditions given the overall increase in background noise. However, acoustic insulation will reduce the indoor noise environment in line with the PDP and ODP standards.		
	Cultural: The cultural benefits of using the PDP development density is that less land will be converted to residential use, limiting the effects of earthworks on archaeological and cultural sites. The Kaiapoi area was one of the main settlement areas for Ngāi Tūāhuriri, and is likely to contain a number of unrecorded culturally significant sites.	Cultural: There are no major cultural costs associated with using the PDP density standards.		

Opportunities for economic growth and employment

The medium density residential standards under the PDP will enable some intensification at a lower density than the MDRS. This will provide a balance between higher densities, while enabling some consideration around the impacts of aircraft noise on housing density.

Alternative Housing Density - ODP

Option C: ODP Housing Density	Benefits environmental, economic, social and cultural effects anticipated,	Costs environmental, economic, social and cultural effects anticipated,	Efficiency and Effectiveness	Risk of acting / not acting if there is uncertain or insufficient information about the subject matter of the provisions
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<p>The ODP became operative in 2005 and is based on the old effects based approach as against the activities based approach in the PDP and as required under the National Planning Standards.</p>	<p>Environmental: Applying the ODP density standards as part of the qualifying matter will result in lower housing density and, by sheer weight of numbers less people will live under the airport noise contour.</p> <p>There will be a reduction in local environmental effects by spreading any impacts over a wider area. Stormwater discharges from Kaiapoi will be slightly less due to a lower areas of impervious surfaces. Lower housing density will also reduce the potential for microclimate heat conditions from occurring.</p>	<p>Environmental: The use of ODP density standards will have negative effects through requiring urban sprawl to meet housing needs. There will be a loss of highly productive land, Kaiapoi is surrounded by class 1-3 soils, where housing development spreads into the surround rural zoned land. The increase in sprawl will increase greenhouse gas emissions, as greater distances are required for commuting to services, encouraging more people to drive rather than walk. Public transport will also not be as efficient due to greater travel distances with lower population densities.</p>	<p>(a) The application of the ODP for development density within Kaiapoi will not meet the requirements of the NPS-UD, the intent of the Amendment Act, and the direction of Policy 5.3.1 of the CRPS around housing intensification.</p> <p>(b) Outside of the east Kaiapoi development area, the infrastructure boundary around Kaiapoi constrains growth. Without new greenfield areas becoming available, the only provision for growth is intensification;</p> <p>(c) There will be adverse consequences on managing greenhouse gas emissions through lower densities and the need for sprawl;</p> <p>(d) The provisions will effectively establish and manage the expectations for noise within zones, amenity values, character and air quality of the environment.</p>	<p><i>Risks of not acting:</i></p> <p>(a) failure to implement the National Planning Standards;</p> <p>(b) there is insufficient information to quantify the extent of impacts noise from the airport operations has on housing density;</p> <p>(c) there has also been no assessment of housing numbers or density within the qualifying matter airport noise that will not have an effect on the safe and efficient operation of the airport;</p> <p>(d) existing activities and significant infrastructure may not be adequately protected to provide security to operate in the future;</p> <p>(e) quality of the environment and amenity values may not be maintained within the District</p> <p>(f) Management of noise across zone boundaries may not be adequately controlled</p> <p><i>Risk from acting:</i></p> <p>(a) the ODP density will be inconsistent with the NPS-UD and Central Government direction;</p> <p>(b) Community awareness of new provisions may take time to achieve;</p> <p>(c) The central and southern part of Kaiapoi are the areas which contain the older housing stock on larger sections and the most likely areas where development could occur;</p> <p>(d) Risk of implementing the provisions is not supported by technical evidence;</p>
	<p>Economic: Compared to the other proposed densities, the ODP development density will not have a direct beneficial economic effect on Kaiapoi. There will be positive economic effects on the wider Canterbury if the higher development densities had an effect on the safe and effective operation of Christchurch International Airport. However, this has not been quantified.</p>	<p>Economic: The cost associated with having the ODP development density is the loss of individual development potential. The PWC report estimated that there would be up to 68 new dwellings that could development using the MDRS provisions within the next 5 to 8 years.</p>		
	<p>Social: The ODP development density within the qualifying matter airport noise will mean less people are exposed to aircraft noise.</p>	<p>Social: As with the economic cost, the ODP development density will impact upon property</p>		

	There will also be less health effects associated with poorer air quality from traffic congestion.	owners' ability to further develop their land.		<p>e) implementing the ODP density standard can be considered as taking a precautionary approach in the absence of evidence.</p> <p>Overall, the ODP development density will be a significant constraint on intensification within the urban area.</p>
	Cultural: There are no additional cultural benefits of using the ODP density standards.	Cultural: The additional cultural costs associated with using the ODP development densities is associated with disturbance of unrecorded archaeological and cultural sites as part of urban sprawl.		
Opportunities for economic growth and employment				
The ODP development density will have a significant impact upon growth within Kaiapoi. Outside of the East Kaiapoi development area, which has significant flooding issues, there is no opportunity for Kaiapoi to grow. Central Government has sent a clear direction to local authorities that they want them to enable intensification within existing urban areas. The application of the ODP development density standards will not provide any economic or employment growth within the district.				
Quantification Section 32(2)(b) requires that if practicable the benefits and costs of a proposal are quantified.				

5.2 Summary - Evaluation of Proposed Policies and Methods

This report provides three options for development densities within the qualifying matter airport noise contour over Kaiapoi. The ODP development density under the qualifying matter airport noise contour will constrain residential development within Kaiapoi. While the MDRS standards may result in uncontrolled development across Kaiapoi. The effects of uncontrolled development are unknown with respect to their impact upon the safe and efficient operation of Christchurch International Airport. The PDP medium density development standards are a compromise between MDRS and ODP, in that they will enable some intensification of the existing urban area, while recognising that there may be some effect from a potential increase in aircraft noise due to changes in airport operations.

The CRPS exemption to enables development to occur under the noise contour without any constraint on height, setbacks, outdoor living space and density. Given the CRPS exemption, this evaluation concludes that applying the PDP density standards across the whole of the residential area within the qualifying matter airport noise, where there is no other qualifying matter, is considered appropriate.

6. SUMMARY

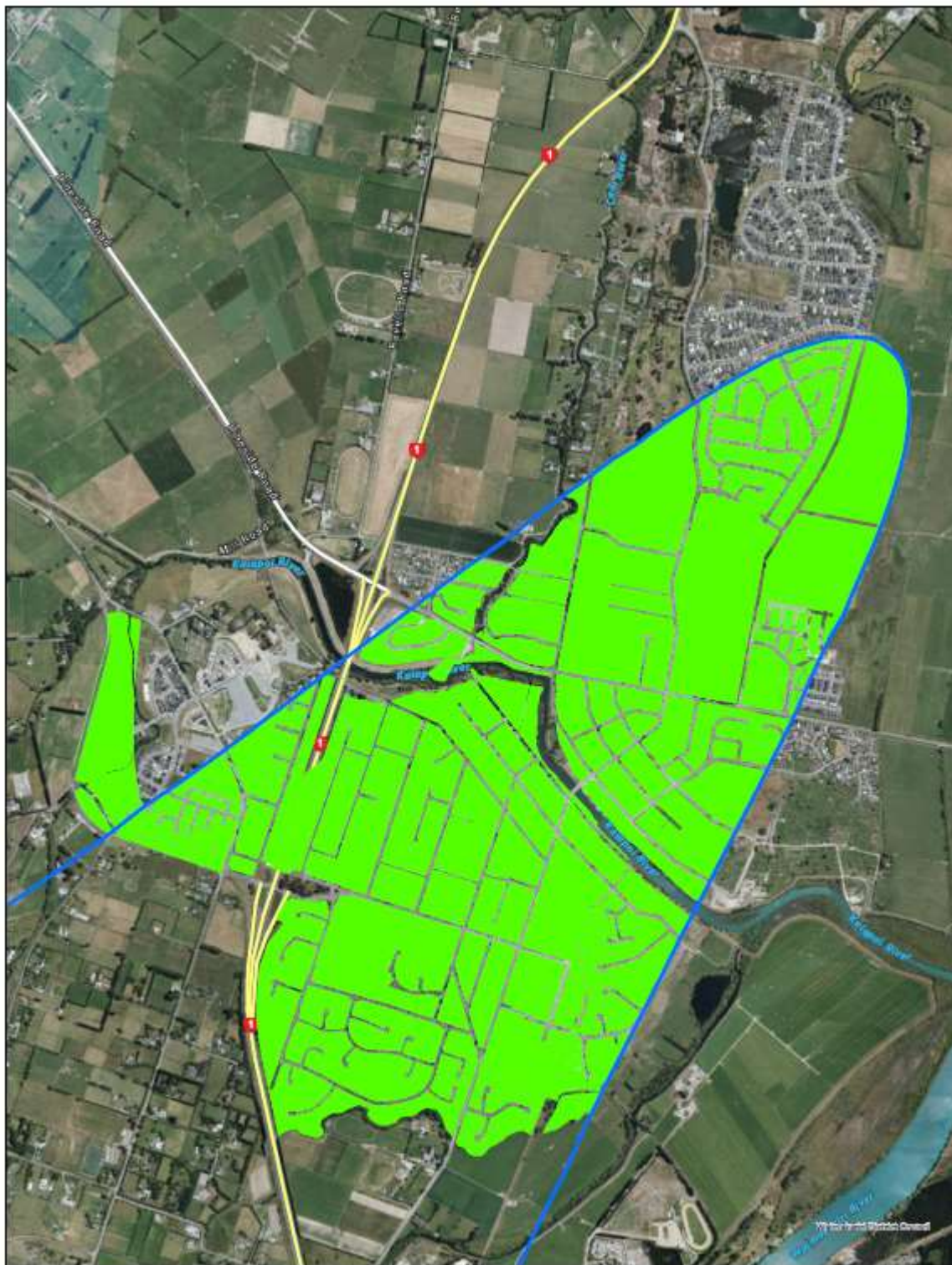
Section 771(e) of the Amendment Act allows for the safe or efficient operation of nationally significant infrastructure as a qualifying matter. Christchurch International Airport is one of only two airports in New Zealand which does not have restrictions on their operation resulting from planning constraints associated with aircraft noise. In order to protect the operation of the airport, CIAL are proposing that the noise contour is a qualifying matter within Variation 1. As a qualifying matter, the MDRS standards would not apply.

CRPS has policy that enables development and existing urban areas and greenfield priority areas, including intensification in appropriate locations. Policy 6.3.5(4) of the Canterbury Regional Policy Statement that enables noise sensitive activity development to occur within Kaiapoi. On this basis that Kaiapoi has an exemption under the CRPS, the use of the ODP development density is not justified. While the Operative Airport Noise Contour is considered a qualifying matter, that this evaluation focused on the ODP as the appropriate option; however this s32 tests the proposed plan density as an option and concludes that this most effective and efficient.

This evaluation concludes the medium density development standards from the PDP is appropriate for Kaiapoi. This enable one dwelling per 200m² as a permitted activity. There will be no other constraints on the MDRS standards such as, height, setbacks, site coverage, outdoor space and road facing windows.

Appendix 1: RMG Section 32 Airport Related Qualifying Matters in the Proposed Waimakariri District Plan – Kaiapoi.

Appendix 2: Airport Noise Qualifying Matter Area



0 5000 10000 20000
Meters

Scale 1:14,500
Original Size - A3

Noise Control Qualifying Matter Overlay

Date: 9/06/2022

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