



28 October 2022

**To:** Waikato District Council (**Council**)

**Subject:** Submission on Variation 3 – Intensification to the Waikato District Plan (**Variation 3**)

### **Scope and nature of submission**

1. KiwiRail welcomes the opportunity to provide feedback on Variation 3 to the Proposed Waikato District Plan (**Proposed Plan**) to enable intensification of housing in urban areas as required under the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (**Amendment Act**).
2. This submission relates to the following proposed zones of Variation 3 (as well as any other zones affected by Variation 3) which are in the vicinity of the railway corridor:
  - (a) General Residential Zone (**GRZ**); and
  - (b) Medium Density Residential Zone 2 (**MRZ2**).
3. The relief KiwiRail seeks is set out at **Annexure A**. In summary, KiwiRail seeks that rail be retained as a qualifying matter pursuant to s771(e) and s770(e) of the Resource Management Act 1991 (**RMA**) and seeks (consistent with KiwiRail's appeal on the Proposed Plan) that:
  - (a) a 5m setback apply to all buildings, not just buildings containing sensitive land uses; and
  - (b) acoustic insulation and ventilation standards be applied to all (new and altered) noise sensitive activities within 100m of the railway corridor; and
  - (c) a vibration standard be applied to all (new and altered) noise sensitive activities within 60m of the rail corridor.
4. KiwiRail could not gain an advantage in trade competition through this submission.
5. KiwiRail wishes to be heard in support of this submission.

### **KiwiRail's operations**

6. KiwiRail is the State-Owned Enterprise responsible for the construction, maintenance and operation of New Zealand's rail network. KiwiRail is also a Requiring Authority that holds railway purpose designations in District Plans throughout New Zealand.
7. KiwiRail's national railway network (which comprises of 3,700km of track, over 200 locomotives, 18,100 hectares of land and 1,350 modern and heritage buildings)<sup>1</sup> is a

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<sup>1</sup> Half Year Annual Report 2022 and Unaudited Financial Statements for the Six Months Ended 31 December 2021 (KiwiRail, 2022) at page 5.



nationally and regionally significant infrastructure asset. The rail network is critical to the safe and efficient movement of freight and passengers throughout New Zealand, and forms an essential part of the national transportation network and the wider supply chain. New Zealanders have invested significantly in the rail network and it is a critical public asset.

8. The benefits of rail to the New Zealand economy were estimated in 2019 to be in the order of \$1.7 – 2.1 billion.<sup>2</sup> The economic significance of rail and the critical role it plays in reducing New Zealand's carbon emissions has been recognised by the Government through its continued investment in rail infrastructure. Transport modal shifts to more climate-friendly modes of transport, like rail, are critical to reduce carbon emissions. As a result, rail is experiencing a renaissance as evidenced by the significant investment being made by the Government to reinvigorate the railway network, demonstrating a strong and continued confidence in rail's current and future potential.
9. In the most recent budget, the Government allocated \$349 million to replace and modernise New Zealand rail assets,<sup>3</sup> which has gone towards a number of major projects nationwide, including the rejuvenation of the Northland railway lines, the reopening of the Napier to Wairoa line, establishing a multi-million dollar regional freight hub in Palmerston North, and significant upgrades to the Auckland, Wellington and Hamilton metro networks.
10. The designated corridor of the North Island Main Trunk passes through the Waikato District and carries freight from various ports to the rest of the nation as well as the Te Huia passenger service from Hamilton to Auckland. The Rotowaro Line also carries material from the quarry and freight from industries to the North Island Main Trunk. This makes this corridor a key part of the KiwiRail network nationally. KiwiRail seeks to protect its ability to develop, operate, maintain and upgrade these lines into the future.

### **Urban Development around the Rail Corridor**

11. The fundamental driver of the Amendment Act and Variation 3 is to enable intensification of housing in urban areas. KiwiRail supports urban development, including around transport nodes, and recognises the benefits of co-locating housing near transport corridors which provide passenger connections.
12. It is critical that Variation 3 provides for adequate management of the interface between urban development and lawfully established, critical infrastructure, such as the railway network. This is necessary to ensure our communities are built in healthy living environments, and the railway network can operate and develop in the future without constraint. An integrated and proactive approach to planning is critical to support the overall vision of our urban environments, and to ensure that our transport network can support the increasing growth and housing intensification.
13. The nature of railway operations means KiwiRail cannot fully internalise all its effects within the railway corridor boundaries. Environmental legislation and caselaw recognises the lawful emission of such effects. Increasing development around railway corridors consequentially means the introduction of more sensitive receivers to adverse effects of existing and lawful railway activities. With a proposed increase in sensitive activities in

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<sup>2</sup> The Value of Rail in New Zealand – Report for the Ministry of Transport (EY, Wellington, 2021) at page 8.

<sup>3</sup> Wellbeing Budget 2022 – A Secure Future (New Zealand Government, Wellington, 2022) at page 82.



proximity to the railway corridor as a result of the increased density enabled by Variation 3, KiwiRail is concerned that without appropriate planning measures in place at a territorial level, the risk of adverse health and amenity effects impacting people locating in proximity to the railway corridor, and reverse sensitivity effects constraining our operations is significantly elevated.

14. The two primary ways which KiwiRail seeks to manage this interface at a national level is through the inclusion of the following controls in district plans:
- (a) **Noise and vibration controls** – requiring acoustic insulation and ventilation to be installed in new (or altered) sensitive uses within 100m of the railway corridor. Within 60m of the railway corridor, controls are sought that buildings containing new (or altered) sensitive uses are constructed to manage the impacts of vibration. These controls are important to ensure new development is undertaken in a way that achieves a healthy living environment for people locating within proximity to the railway corridor, minimising the potential for complaints about the effects of the railway network; and
  - (b) **Boundary setbacks** – requiring a "no-build" setback within 5m of the railway corridor for new buildings or structures on sites adjoining the railway corridor. This is to ensure that people can use and maintain their land and buildings safely without needing to extend out into the railway corridor, minimising the risks of physical interference on railway operations and health and safety hazards on these residents.

### Proposed Plan and Variation 3

15. The Amendment Act enables the Council to amend the MDRS and intensification requirements where a "qualifying matter" applies. The qualifying matters expressly include:<sup>4</sup>
- (a) the need to give effect to a designation (but only in relation to the land that is subject to that designation); and
  - (b) matters "required for the purpose of ensuring the safe or efficient operation of nationally significant infrastructure". The rail network is nationally significant infrastructure for the purposes of the Amendment Act.
16. The Council has recognised the rail corridor as a qualifying matter in Variation 3, and recognised the potential for reverse sensitivity effects to occur and the increased safety risk of residential activities as a result of intensification near nationally significant infrastructure.<sup>5</sup> KiwiRail strongly supports the recognition of the rail network as a qualifying matter and seeks amendments to Variation 3 to ensure development near the rail corridor does not adversely affect the safe or efficient operation of the rail corridor.
17. KiwiRail acknowledges the Council is considering how the appeals in relation to the Proposed Plan and Variation 3 interact and will be reporting to the Court on a proposed approach for resolving appeals that are impacted by Variation 3. KiwiRail understands this

<sup>4</sup> RMA, Sections 77I(e) and (g); 77O(e) and (g).

<sup>5</sup> Section 32 Report Volume 2 – Qualifying Matters at pages 68 and 69.



will be provided after the close of submissions on Variation 3. In light of that and for the avoidance of doubt, KiwiRail has included submission points in this submission on Variation 3 that correspond to its appeal on the Proposed Plan.

#### *Noise and vibration controls*

18. In the decisions version of the Proposed Plan there are no noise or vibration standards to manage noise sensitive activities located in proximity to the rail corridor. KiwiRail has appealed against the decision and sought the following controls be applied in the AINF – All Infrastructure Chapter (or in the alternative in all zones):
  - (a) acoustic insulation and ventilation standards be applied to all (new and altered) noise sensitive activities within 100m of the railway corridor; and
  - (b) a vibration standard be inserted for all (new and altered) noise sensitive activities within 60m of the rail corridor.
19. Acoustic and vibration standards are important controls to ensure the ongoing health and wellbeing of the occupants of the higher density living areas and are instrumental in ensuring that reverse sensitivity effects on rail are minimised particularly where intensive residential development is proposed adjacent to the rail corridor. The acoustic and vibration standards do not affect the density of development near the rail corridor, but rather seek to ensure that where urban development co-locates near the rail corridor, the health and amenity of residents is not adversely affected, and the rail corridor is protected from reverse sensitivity effects.
20. KiwiRail considers it is appropriate that these controls apply on a district-wide basis as provisions that are necessary to ensure intensification in and around the rail corridor is appropriately managed (particularly in the context of the additional intensification proposed through Variation 3).

#### *Setbacks*

21. In respect of the Amendment Act and Variation 3, the MDRS mandate a 1m setback from side and rear yards, and a 1.5m setback from front yards.<sup>6</sup> The Council is as part of recognising rail as a qualifying matter requiring a 5m setback for buildings containing sensitive land uses from the North Island Main Trunk Line in the GRZ and MRZ2. The inclusion of the 5m setback is supported by KiwiRail. However, consistent with the relief sought in its appeal on the Proposed Plan, KiwiRail seeks that the setbacks from the rail corridor applies to all buildings (not just sensitive land uses) in all zones affected by Variation 3.

#### **General reasons for the submission**

22. The identification of the rail corridor as a qualifying matter and provisions sought by KiwiRail will:

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<sup>6</sup> 14G2.4 and 14H2.4

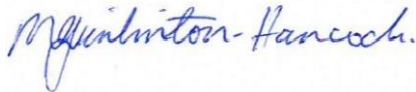


- (a) promote sustainable management of resources, achieve the purpose of the RMA, and are not contrary to Part 2 and other provisions of the RMA;
- (b) meet the reasonably foreseeable needs of future generations;
- (c) enable the social, economic and cultural wellbeing of the community in the Waikato district;
- (d) provide and promote the greatest health, safety and amenity outcomes and preserve operational and developmental capacity and efficiency for nationally significant infrastructure; and
- (e) be, in terms of section 32 of the RMA, the most appropriate way to give effect to the purpose of the RMA and the Amendment Act and the objectives of the Proposed Plan.

### Relief Sought

23. KiwiRail seeks the relief set out in **Annexure A** to this submission and such further or other consequential relief, as may be necessary, to fully give effect to the relief sought.

Yours faithfully

A handwritten signature in blue ink that reads "Michelle Grinlinton-Hancock".

Michelle Grinlinton-Hancock  
RMA Team Leader

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## ANNEXURE A – RELIEF SOUGHT

Provision	Support / Oppose	Reasons for KiwiRail's submission	Amendment sought (Variation 3 text in <u>black underline</u> and <del>strike through</del> and KiwiRail's proposed changes shown in <u>red underline</u> and <del>strike through</del> )
Definitions – Qualifying Matters	Support	KiwiRail supports the definition of 'Qualifying Matters'. KiwiRail considers it is appropriate to use the statutory definition set out in the Resource Management Act 1991 which includes, nationally significant infrastructure (such as the rail corridor).	Retain as notified.
SD-O14	Support	KiwiRail considers this objective is appropriate to give effect to Objective 1 of the NPS-UD. Providing for the health and well-being of our communities relies on having infrastructure in place to support communities and appropriate planning provisions, such as controls on development near the rail corridor.	Retain as notified.
SD-P2	Support	KiwiRail supports Policy SD-P2 which appropriately recognises restraint on intensification in areas where a qualifying matter (such as nationally significant infrastructure) is present.	Retain as notified
MRZ2-O5	Support	<p>KiwiRail supports the inclusion of Objective MRZ2-O5 and the recognition that medium density residential development may need to be limited where a qualifying matter applies.</p> <p>As the rail corridor is recognised as a qualifying matter under Variation 3, it is appropriate that development capacity is limited where necessary through additional</p>	Retain as notified



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		controls, such as increased setbacks, in order to ensure the ongoing safety and efficiency of the rail corridor.	
MRZ2-O6	Support with amendment	<p>KiwiRail supports, Objective MRZ2-O6, to the extent it recognises the need to avoid and minimise the potential for reverse sensitivity effects by managing the location and design of sensitive activities, including through building setbacks.</p> <p>However, KiwiRail seeks amendment to Objective MRZ2-O6 to include the use of acoustic insulation and vibration measures which are additional controls necessary to manage reverse sensitivity effects. The objective also needs to be amended to refer to public health and safety impacts, as setbacks are also important controls to manage safety effects on built development (not just sensitive development) near nationally significant infrastructure.</p>	<p>Amend Objective MRZ2-O6 as follows:</p> <p>(1) <u>Avoid or minimise the potential for reverse sensitivity and risks to public health and safety by managing the location and design of sensitive activities through:</u></p> <p>(a) <u>The use of building setbacks; and</u></p> <p>(b) <u>The design of subdivisions and development-; and</u></p> <p>(c) <u>The design of buildings, including use of acoustic insulation, ventilation and vibration measures.</u></p>
MRZ2-P6	Support with amendment	<p>KiwiRail supports Policy MRZ2-P6 which recognises that where a qualifying matter is present, residential development is to be restricted to an appropriate level to protect and provide for that qualifying matter.</p> <p>However, KiwiRail seeks that reference to "residential" within the Policy is deleted to ensure that all development is managed to appropriate levels where a qualifying matter exists.</p>	<p>Amend Policy MRZ2-P6 as follows:</p> <p><u>Restrict residential development to an appropriate level to provide for and protect any relevant qualifying matters.</u></p>
MRZ2-P11	Support with amendment	KiwiRail supports Policy MRZ2-P11, insofar that it recognises the need to manage reverse sensitivity effects. However, while adequate building setbacks are an	Amend Policy MRZ2-P11 as follows:



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		<p>important tool for managing development near infrastructure, they are primarily to manage impacts on health and safety. KiwiRail considers the policy needs to be amended to recognize this.</p> <p>There are additional tools available for avoiding or minimising reverse sensitivity effects, including acoustic insulation and vibration controls. KiwiRail considers that to ensure consistency with Objective MRZ2-O6, express reference to other design measures should be recognised through this Policy.</p>	<p>Maintain appropriate setback distances between new <u>sensitive (and altered)</u> land uses and existing lawfully established activities <u>and require buildings to be designed with acoustic insulation and vibration measures to minimise the potential that may result in for reverse sensitivity effects and risks to public health and safety.</u></p>
<p>GRZ-S20 Building setback – sensitive land use</p> <p>MRZ2-S14 Building setback – sensitive land use</p>	<p>Support with amendment</p>	<p>KiwiRail supports a 5m setback from the rail corridor. However, KiwiRail considers it necessary for the setback to apply consistently across all zones and to apply to all new building development (not just development containing sensitive land uses).</p> <p>To that effect, KiwiRail seeks the building setbacks in the GRZ and MRZ2 are amended, and a standalone setback standard is included as set out below.</p>	<p>Amend GRZ-S20 as follows:</p> <p>1) Activity status: PER Where:</p> <p>(a) <u>Any new building or alteration to an existing building for a sensitive land use shall be set back a minimum of:</u></p> <p><del>(i) 5m from the designated boundary of the railway corridor;</del></p> <p><del>(ii)(i) 15m from the boundary of a national route or regional arterial;</del></p> <p><del>(iii)(ii) 25m from the designated boundary of the Waikato Expressway;</del></p> <p><del>(iv)(iii) 300m from the edge of oxidation ponds that are part of a municipal wastewater treatment facility on another site;</del></p> <p><del>(v)(iv) 30m from a municipal wastewater treatment facility where the treatment process is fully enclosed; and</del></p> <p><del>(vi)(v) 300m from the boundary of the Alstra Poultly intensive farming activities located on River Road and Great South Road, Ngaaruawaahia.</del></p>





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			<p>[....]</p> <p>Amend MRZ2-S14 as follows:</p> <p>(1) Activity status: PER Where:</p> <p>(a) Any new building or alteration to an existing building for a sensitive land use shall be set back a minimum of:</p> <p><del>(i) 5m from the designated boundary of the railway corridor;</del>  <u>(ii)(i) 15m from the boundary of a national route or regional arterial;</u>  <del>(iii)(ii) 25m from the designated boundary of the Waikato Expressway;</del>  <u>(iv)(iii) 300m from the edge of oxidation ponds that are part of a municipal wastewater treatment facility on another site;</u>  <u>(v)(iv) 30m from a municipal wastewater treatment facility where the treatment process is fully enclosed; and</u>  <u>(vi)(v) 300m from the boundary of the Alstra Poultry intensive farming activities located on River Road and Great South Road, Ngaaruawaahia.</u>  <del>(vii)(vi) 6m from the centre of a gas transmission line identified on the planning maps</del></p>
RX- Building Setback – railway corridor	Insert new activity status and standard	KiwiRail seeks a new permitted activity standard be inserted into the GRZ and MDZ2 (and all relevant zones adjoining the rail corridor affected by Variation 3) requiring buildings and structures to be setback 5m from a	Insert a new permitted activity standard into the GRZ and MDZ2 (and all relevant zones adjoining the rail corridor affected by Variation 3) as follows:



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		<p>boundary with a railway corridor. This amendment ensures that an appropriate setback is applied for all development, rather than only applying to sensitive land uses.</p> <p>This proposed standard will not prevent the establishment of new buildings or structures within 5 metres of the rail corridor. The standard sought is a permitted activity standard, and where this is infringed, resource consent can still be sought as a restricted discretionary activity.</p>	<p><u>(1) Activity status: PER</u> <u>Where:</u></p> <p><u>(a) Any new building or alteration to an existing building must be setback 5 metres from any designated railway corridor boundary.</u></p>
RX- Building Setback – railway corridor	Insert new activity status and matters of discretion	KiwiRail seeks the insertion of a new restricted discretionary activity status where the building setback standard is not complied with and matters of discretion, with impacts on the safety and efficiency of the rail corridor listed as matters of discretion.	<p>Insert a new restricted discretionary activity standard into the GRZ and MDZ2 (and all relevant zones adjoining the rail corridor affected by Variation 3) as follows:</p> <p><u>(2) Activity status where compliance not achieved: RDIS</u> <u>Council's discretion is restricted to the following matters:</u></p> <p><u>(a) The size, nature and location of buildings the on the site;</u> <u>(b) The extent to which the safety efficiency and of rail operations will be adversely affected;</u> <u>(c) The outcome of any consultation with KiwiRail;</u> <u>(d) Any characteristics of the proposed use that will make compliance unnecessary.</u></p>
RX – Indoor railway noise	Insert new activity status and standards	KiwiRail seeks that noise controls be included to apply to (new and altered) sensitive uses within 100m of the legal boundary of any railway boundary to manage potential reverse sensitivity effects and adverse health and amenity effects on landowners adjoining the rail corridor.	Insert a new permitted activity standard into the GRZ and MDZ2 (and all relevant zones affected by Variation 3) as follows:



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		<p>KiwiRail seeks that non-compliance with the proposed permitted activity standard be assessed as a restricted discretionary activity with appropriate matters of discretion.</p>	<p><b><u>Sensitive land uses near the rail corridor (indoor railway noise)</u></b></p> <p><u>(1) Activity status: PER</u></p> <p><u>(a) Any new building or alteration to an existing building for a sensitive land use within 100m of the legal boundary of any railway network</u></p> <p><u>Activity-specific standards:</u></p> <p><u>1. Any new building or alteration to an existing building that contains a sensitive land use where the building or alteration:</u></p> <p><u>(a) is designed, constructed and maintained to achieve indoor design noise levels resulting from the railway not exceeding the maximum values in the following table; or</u></p> <table border="1" data-bbox="1317 874 2029 1315"> <thead> <tr> <th><u>Building type</u></th> <th><u>Occupancy/activity</u></th> <th><u>Maximum internal noise level <math>L_{Aeq}(1h)</math></u></th> </tr> </thead> <tbody> <tr> <td rowspan="2"><u>Residential</u></td> <td><u>Sleeping spaces</u></td> <td><u>35 dB</u></td> </tr> <tr> <td><u>All other habitable rooms</u></td> <td><u>40 dB</u></td> </tr> <tr> <td rowspan="2"><u>Education</u></td> <td><u>Lecture rooms/theatres, music studios, assembly halls</u></td> <td><u>35 dB</u></td> </tr> <tr> <td><u>Teaching areas, conference rooms, drama studios, sleeping areas</u></td> <td><u>40 dB</u></td> </tr> </tbody> </table>	<u>Building type</u>	<u>Occupancy/activity</u>	<u>Maximum internal noise level <math>L_{Aeq}(1h)</math></u>	<u>Residential</u>	<u>Sleeping spaces</u>	<u>35 dB</u>	<u>All other habitable rooms</u>	<u>40 dB</u>	<u>Education</u>	<u>Lecture rooms/theatres, music studios, assembly halls</u>	<u>35 dB</u>	<u>Teaching areas, conference rooms, drama studios, sleeping areas</u>	<u>40 dB</u>
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			<p><u>i. provides mechanical ventilation to satisfy clause G4 of the New Zealand Building Code; and</u></p> <p><u>ii. is adjustable by the occupant to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour; and</u></p> <p><u>iii. provides relief for equivalent volumes of spill air;</u></p> <p><u>iv. provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18 degrees Celsius and 25 degrees Celsius; and</u></p> <p><u>v. does not generate more than 35 dB LAeq(30s) when measured 1 metre away from any grille or diffuser.</u></p> <p><u>(b) For other spaces, is as determined by a suitably qualified and experienced person.</u></p> <p><u>Design report [alternatively may be replaced with development meeting construction schedule 'Y' to demonstrate compliance].</u></p> <p><u>3. A report is submitted to the council demonstrating compliance with clauses (1) and (2) above (as relevant)</u></p>



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			<p><u>prior to the construction or alteration of any building containing sensitive land use.</u></p> <p><u>Advice note: In the design railway noise is assumed to be 70 LAeq(1h) at a distance of 12 metres from the track, and must be deemed to reduced at a rate of 3 dB per doubling of distance up to 40 metres and 6 dB per double of distance beyond 40 metres.</u></p>
RX- Indoor railway noise	Insert new activity status and matters of discretion	KiwiRail seeks the insertion of a new restricted discretionary standard where the above standards are not met, and that the matters of discretion be updated to specifically direct consideration of noise effects from the railway network.	<p>Insert a new restricted discretionary activity standard into the GRZ and MDZ2 (and all relevant zones affected by Variation 3) as follows:</p> <p><u>(2) Activity status where compliance is not achieved: RDIS</u></p> <p><u>(a) location of the building;</u></p> <p><u>(b) the effects of any non-compliance with the activity specific standards;</u></p> <p><u>(c) special topographical, building features or ground conditions which will mitigate vibration impacts;</u></p> <p><u>(d) the outcome of any consultation with KiwiRail.</u></p>
R4- Rail Vibration	Insert new activity status and standards	<p>KiwiRail seeks that vibration controls be included to apply to all (new and altered) sensitive uses within 60m of the legal boundary of any railway boundary.</p> <p>KiwiRail seeks that non-compliance with the proposed permitted activity rule be assessed as a restricted discretionary activity with appropriate matters of discretion.</p>	<p>Insert a new permitted activity standard into the GRZ and MDZ2 (and all relevant zones adjoining the rail corridor) as follows:</p> <p><u>(1) Activity status: PER</u></p> <p><u>(a) Any new building or alteration to an existing building for a sensitive land use within 60m of the legal boundary of any railway network</u></p>



Provision	Support / Oppose	Reasons for KiwiRail's submission	Amendment sought (Variation 3 text in <u>black underline</u> and <del>strike through</del> and KiwiRail's proposed changes shown in <u>red underline</u> and <del>strike through</del> )
			<p><u>Activity-specific standards:</u></p> <p><u>(1) Any new buildings or alterations to existing buildings containing a sensitive land use, closer than 60 metres from the boundary of a railway network must be:</u></p> <p><u>(a) designed, constructed and maintained to achieve rail vibration levels not exceeding 0.3 mm/s vw,95 or</u></p> <p><u>(b) a single-storey framed residential building with:</u></p> <ul style="list-style-type: none"> <li><u>i. a constant level floor slab on a full surface vibration isolation bearing with natural frequency not exceeding 10 Hz, installed in accordance with the supplier's instructions and recommendations; and</u></li> <li><u>ii. vibration isolation separating the sides of the floor slab from the ground; and</u></li> <li><u>iii. no rigid connections between the building and the ground.</u></li> </ul>
RX- Rail Vibration	Insert new activity status and matters of discretion	KiwiRail seeks the insertion of a new restricted discretionary standard where the above standards are not met, and that the matters of discretion be updated to specifically direct consideration of vibration effects from the railway network.	<p>Insert a new restricted discretionary activity standard into the GRZ and MDZ2 (and all relevant zones affected by Variation 3) as follows:</p> <p><u>(2) Activity status where compliance is not achieved: RDIS:</u></p> <p><u>(a) location of the building;</u></p>





Provision	Support / Oppose	Reasons for KiwiRail's submission	Amendment sought (Variation 3 text in <u>black underline</u> and <del>strike through</del> and KiwiRail's proposed changes shown in <u>red underline</u> and <del>strike through</del> )
			<p><u>(b) the effects of any non-compliance with the activity specific standards;</u></p> <p><u>(c) special topographical, building features or ground conditions which will mitigate vibration impacts;</u></p> <p><u>(d) the outcome of any consultation with KiwiRail.</u></p>





**Schedule Y Construction Schedule for indoor noise control**

<b><u>Elements</u></b>	<b><u>Minimum construction for noise control in addition to the requirements of the New Zealand Building Code</u></b>	
<b><u>External walls</u></b>	<u>Wall cavity infill of fibrous insulation, batts or similar (minimum density of 9 kg/m<sup>3</sup>)</u>	
	<u>Cladding and internal wall lining complying with either Options A, B or C below:</u>	
	<u>Option A – Light cladding: timber weatherboard or sheet materials with surface mass between 8 kg/m<sup>2</sup> and 30 kg/m<sup>2</sup> of wall cladding</u>	<u>Internal lining of minimum 17 kg/m<sup>2</sup> plasterboard, such as two layers of 10mm thick high density plasterboard, on resilient/isolating mountings</u>
	<u>Option B – Medium cladding: surface mass between 30 kg/m<sup>2</sup> and 80 kg/m<sup>2</sup> of wall cladding</u>	<u>Internal lining of minimum 17 kg/m<sup>2</sup> plasterboard, such as two layers of 10mm thick high density plasterboard</u>
	<u>Option C – Heavy cladding: surface mass between 80 kg/m<sup>2</sup> and 220 kg/m<sup>2</sup> of wall cladding</u>	<u>No requirements additional to New Zealand Building Code</u>
<b><u>Roof/ceiling</u></b>	<u>Ceiling cavity infill of fibrous insulation, batts or similar (minimum density of 7 kg/m<sup>3</sup>)</u>	
	<u>Ceiling penetrations, such as for recessed lighting or ventilation, shall not allow additional noise break-in</u>	
	<u>Roof type and internal ceiling lining complying with either Options A, B or C below:</u>	



<u>Elements</u>	<u>Minimum construction for noise control in addition to the requirements of the New Zealand Building Code</u>	
	<u>Option A – Skillion roof with light cladding: surface mass up to 20 kg/m<sup>2</sup> of roof cladding</u>	<u>Internal lining of minimum 25 kg/m<sup>2</sup> plasterboard, such as two layers of 13mm thick high density plasterboard</u>
	<u>Option B – Pitched roof with light cladding: surface mass up to 20 kg/m<sup>2</sup> of roof cladding</u>	<u>Internal lining of minimum 17 kg/m<sup>2</sup> plasterboard, such as two layers of 10mm thick high density plasterboard</u>
	<u>Option C – Roof with heavy cladding: surface mass between 20 kg/m<sup>2</sup> and 60 kg/m<sup>2</sup> of roof cladding</u>	<u>No requirements additional to New Zealand Building Code</u>
<u>Glazed areas</u>	<u>Aluminium frames with full compression seals on opening panes Glazed areas shall be less than 35% of each room floor area</u>	
	<u>Either, double-glazing with:</u> <u>a laminated pane of glass at least 6mm thick; and</u> <u>a cavity between the two panes of glass at least 12mm deep; and</u> <u>a second pane of glass at least 4mm thick</u> <u>Or any other glazing with a minimum performance of Rw 33 dB</u>	
<u>Exterior doors</u>	<u>Exterior doors with line-off-site, to any part of the state highway road surface or to any point 3.8 metres above railway tracks</u>	<u>Solid core exterior door, minimum surface mass 24 kg/m<sup>2</sup>, with edge and threshold compression seals; or other doorset with minimum performance of Rw 30 dB</u>





<u>Elements</u>	<u>Minimum construction for noise control in addition to the requirements of the New Zealand Building Code</u>	
	<u>Exterior door shielded by the building so there is no line-of-sight to any parts of the state highway road surface or any points 3.8 metres above railway tracks</u>	<u>Exterior door with edge and threshold compression seals</u>

