CONSULTANT ADVICE

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## The TTPP has a rule for noise insulation near the Rail network

One of the rules for the noise chapter for the Te Tai O Poutini Plan (TTPP) relates to insulation/mitigation requirements for buildings establishing or being altered near the railway network. This rule was subject to multiple submissions (both in support and opposition), many of which sought amendments to the rule.

One of the substantive submissions received was from KiwiRail which was generally supportive, but it did seek several amendments, including standard constructions and the use of a mapped overlay to replace a specified setback distance within which the rule requirements applied.

There were also submissions from the West Coast Councils which raised concerns about the logistics and consenting requirements that would be placed on the Council with the rule as it was notified.

Many of the details in the rule provisions were discussed and dealt with during the Hearings on the Noise chapter, within which the relevant rule was defined.

The outstanding issue is whether the use of an overlay or a setback distance is the best method to adopt in the rules. This is the subject of this memo.

## The potential railway noise effects can be adequately managed using either approach

In my view, using either a setback distance or an equivalent overlay provides adequate protection against reverse sensitivity effects and ensures adequate acoustic/and or vibration mitigation is required. This conclusion is on the basis that the distances specified in the rule or inherent in the spatial extent of the overlay are suitable.

I note that in the Joint Witness Statement, the Council and Kiwirail's experts agreed that the effects eventuate from the tracks themselves, but that the track could move within the Designation.

At present, the rule text currently stipulates a setback of 100m for noise and 60m for vibration, both measured from the track edge.

The potential rail noise overlay provided by KiwiRail uses the same numerical setback distances but is applied from the Designation boundary instead of the physical track edge, thus accommodating any potential track alignment within the Designation. This does mean that the overlay is in many cases larger than the specified setback distance.

Because of this, the overlay would still provide an acceptable, albeit conservative, level of mitigation requirements to manage noise and/or vibration effects.

Regarding the overlays, whilst ensuring any hypothetical railway noise/vibration emissions (from tracks being located at any point within the designation) would be appropriately mitigated, would also at times result in a greater level of protection than strictly necessary.

Because of the nature of the Designation, which includes additional geographic areas for ancillary operations (sidings, access roads etc) there are several instances where the resultant overlays extend over houses that

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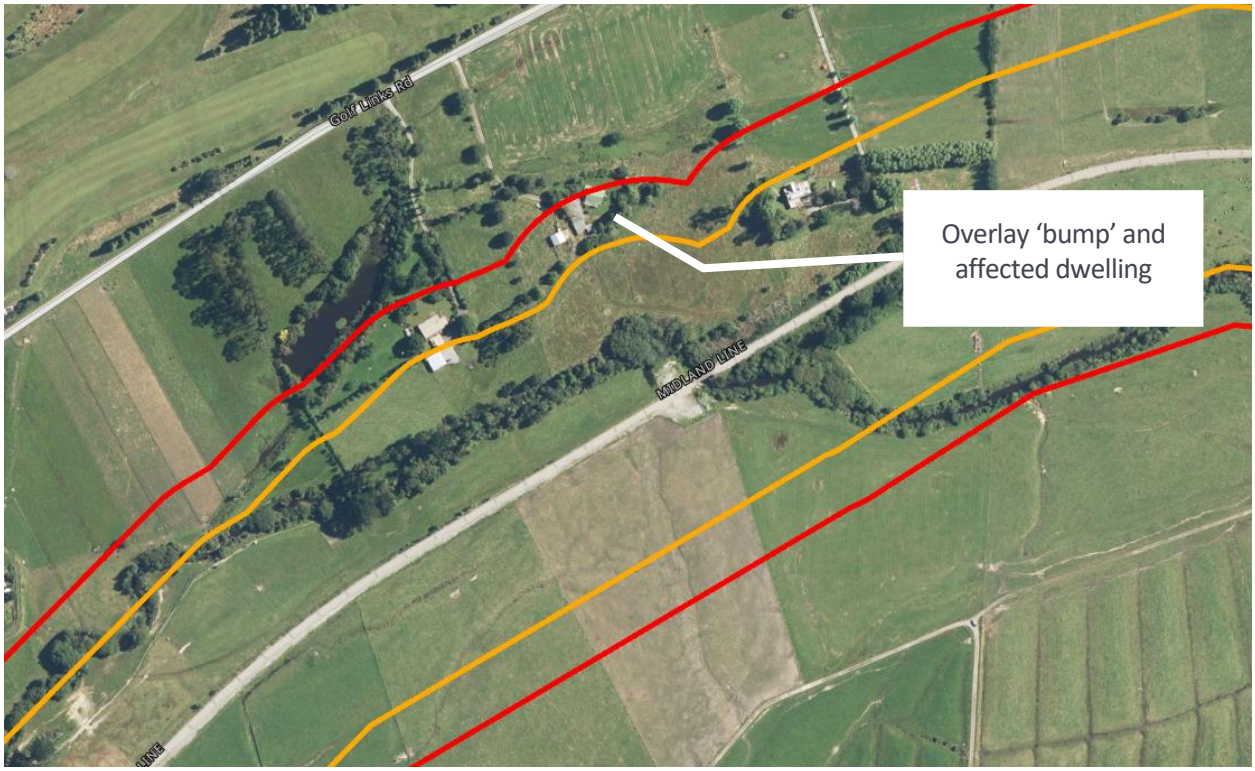
would never realistically be as close as 100m (from a noise perspective) or 60m (from a vibration perspective) to the cause of the noise/vibration emission (i.e. trains using the tracks).

The implication therefore is that the potential rule framework may require these dwellings to mitigate the effects of railway noise/vibration that would never eventuate in practice. This may be considered too onerous by the Panel.

An example of this anomaly is shown in the image below, where a house falls within the rail noise overlay (red line) because of an access way being part of the Designation for a small part of the rail alignment, which pushes the overlay out in a 'bump' at this point. Either side, the Designation offset follows more closely the actual track, and therefore the offset overlay distance is consequently less.

There is an existing dwelling where this 'bump' occurs, meaning it would theoretically have to mitigate rail noise should an alteration to the house be sought in accordance with Noise Rule R3. By using a setback distance from the physical track edge, this would not be required.




Further the rail noise overlay, unlike the road noise overlay, takes no account of building screening effects, as shown in the image below. This means that for the noise overlay aspect, the setback distance of 100m is in some areas overly conservative. Whilst this is no different to the 100m offset currently in the proposed rule, the overlay has the effect of graphically highlighting this anomaly and expanding the area of influence further. This may give rise to more concerns from residents about the burden on them regarding mitigation that is potentially required.

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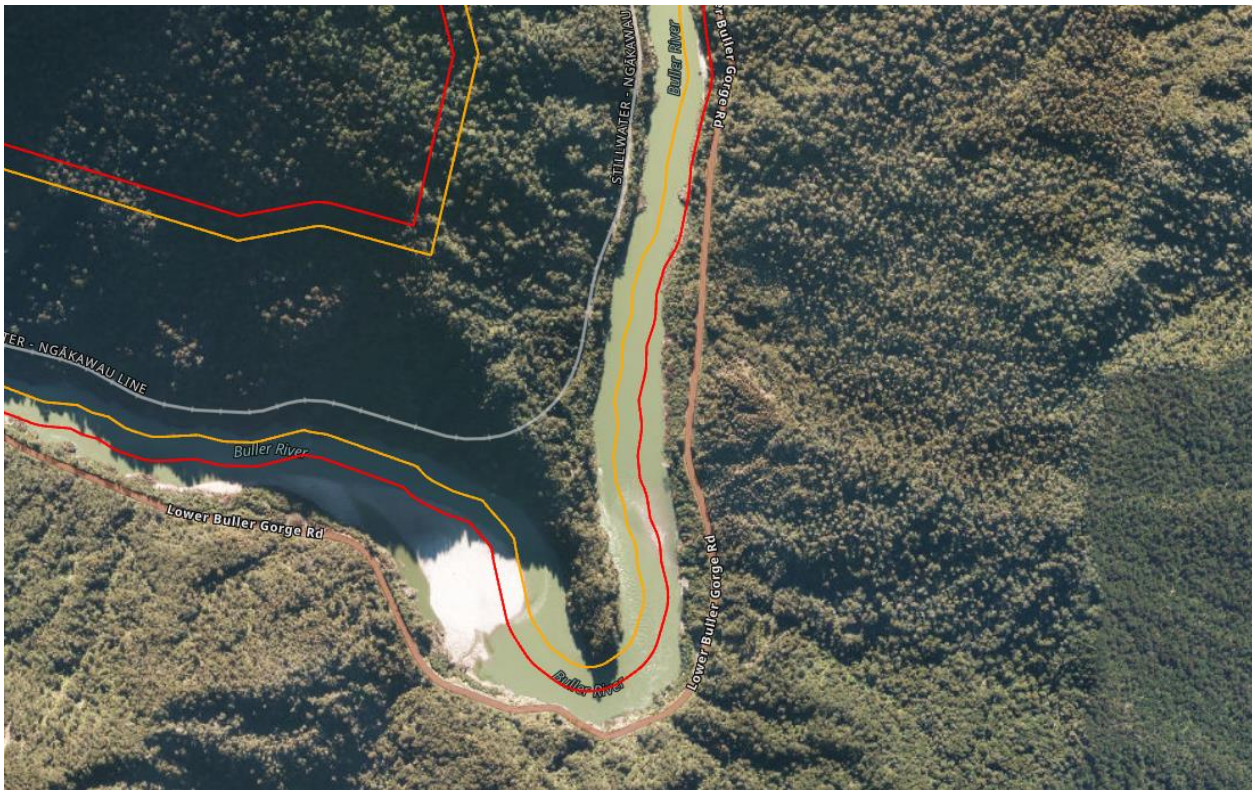
Finally, there are some parts of the District, notably in sparsely populated areas or open space zones, where the Designation covers a far larger extent than will ever be used for track formation. This is highlighted in the image below. Whilst there will never be development on the spur of land in the river bend, the mere presence of the overlay suggests noise and or vibration effects that would never occur in practice. I consider this overly conservative, and this would be avoided by simply using a setback distance specified in the rule.

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### The choice of which approach to use is largely a planning matter

Despite the discussion points I have highlighted above, there is no significant or material difference in the resultant noise or vibration effects that would occur following mitigation implemented in accordance with rule R3, whether a setback distance or overlay is used.

That is, if either option were used as the screening tool to determine where mitigation is to be applied, both would result in satisfactory noise/vibration outcomes.

I consider the decision to use either the overlay or the specified setback distance is a planning matter/ preference.

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