

Transport noise Barrier continuity

NOISE BARRIER CASE STUDY 5



NZ TRANSPORT AGENCY
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Terminations and junctions of barriers and bunds require careful design

Earth bunds and timber fences

As a result of reverse sensitivity controls (refer to Case Study 4) many subdivisions around Christchurch have occurred with earth bunds adjacent to the state highway, usually with a timber fence on top. These noise barriers provide useful comparative examples of good and bad design. These examples reinforce key design considerations from the *NZTA state highway noise barrier design guide*.

Barrier ends

Section 2.7 of the *Noise barrier design guide* details the requirements for the length of barriers to extend beyond the house being protected, or to return at the ends. The top three photographs to the right show situations where there is space for the barrier to continue past the last section in the subdivision and taper down in height. In these cases there is a council reserve behind the area where the barrier reduces in height. In cases where it is desired to maximise the number of sections by the state highway, the barrier should return along the side of the last section, perpendicular to the road.

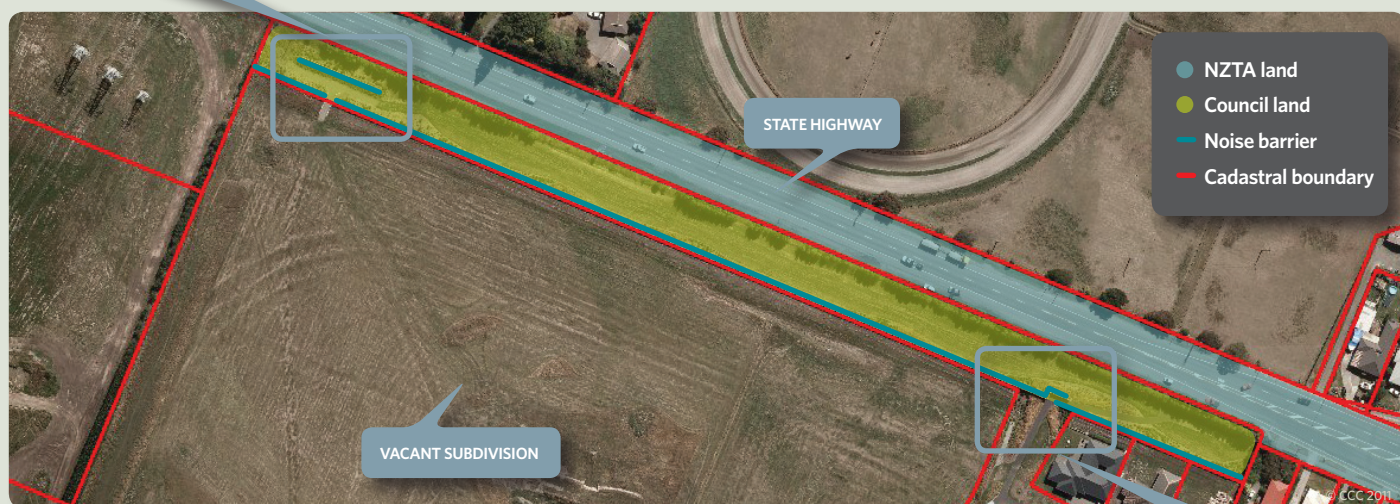
The photograph at the top of this page shows a timber fence returning adjacent to the last section behind a barrier. This interface also includes a block wall forming the entrance to the subdivision from the state highway. This is an example of good urban design.

The bottom photograph shows a fence returning perpendicular to the state highway. In this instance the main bund running parallel to the state highway stops abruptly in a retaining wall. This is an example of poor urban design as the fence is not visually integrated with the retaining wall.



Continuity

Breaks in noise barriers are often required to allow for pedestrian access and should be incorporated into the acoustics and landscape design. Two examples by SH73 Yaldhurst Road are shown below, although the overlaps are shorter than recommended. The overlapping length should be 3-4 times the separation between the front and back barrier elements, as shown in section 2.8 of the *Noise barrier design guide*.



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