

6. Recommendations

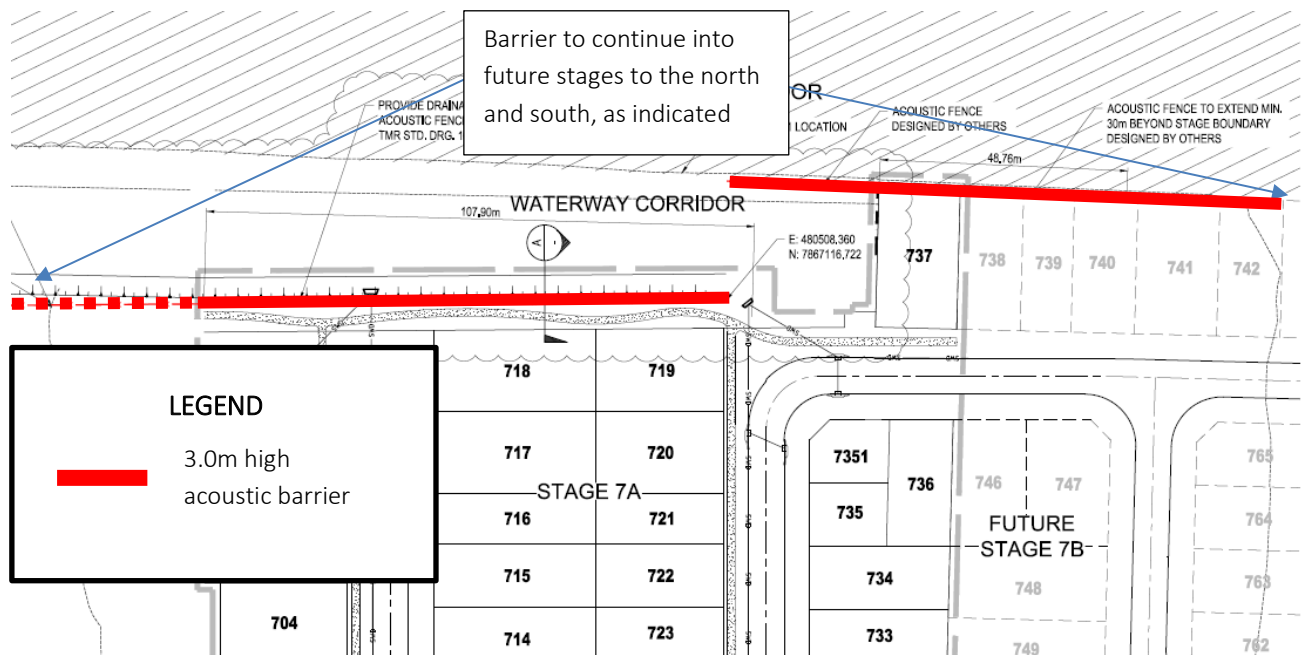
Compliance with the criteria is predicted based on the implementation of the recommendations detailed below.

6.1. Acoustic Barrier

Acoustic barriers are recommended to reduce the QDC MP4.4 construction requirements for the ground floor level of dwellings. The location and extent of the acoustic barrier is shown in Figure 7. Barrier recommendations are as follows:

- The acoustic barrier should be minimum 3.0m high along the eastern site boundary. The recommendation assumes the barrier will continue along the same alignment into future stages to the north and to the south.
- The barrier height is relative to finished earthwork levels, or at a minimum RL 3.9m.
- The barrier should be constructed of a material with a surface density of at least 15kg/m^2 and be constructed in accordance with Queensland Rail *Civil Engineering Technical Requirement – CIVIL-SR – Design of noise barriers adjacent to railways*.
- No gaps or holes should be evident in the fence construction.

Figure 7: Recommended Acoustic Barrier



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6.2. Dwelling Treatments

To ensure compliance with the internal noise criteria, noise categories of QDC MP4.4 are recommended.

The QDC MP4.4 requires that habitable rooms in residential buildings located in a transport noise corridor are adequately protected from transport noise to safeguard occupant's health and amenity.

In order to achieve the performance requirements of the QDC MP4.4, the external building envelope of habitable rooms must comply with the minimum R_w for each building component specified in Schedule 1 to achieve a minimum transport noise reduction level for the relevant noise category by either one of the following:

- a. Using materials specified in Schedule 2 of the QDC MP4.4;

OR

- b. Using materials with manufacturer's specifications that, in combination, achieve the minimum R_w value for the relevant building component and applicable noise category.

For application of Point (b), possible alternative constructions can be determined by the glazier (for glazing) and construction manuals such as 'The Red Book' by CSR (for walls and roof/ceiling).

The QDC Noise Categories for Stage 7 of the development are presented in Table 7.

Table 7: QDC Noise Categories - Stage 7 Lots

QDC Noise Category	Lots Requiring Acoustic Treatment	
	Ground Floor Level	First Floor Level
Noise Category 4	n/a	n/a
Noise Category 3	n/a	717-720, 735-747, 765-768
Noise Category 2	704-708, 714-723, 733-749, 759-768	700-716, 721-734, 748-764
Noise Category 1	700-703, 709-713, 724-732, 750-758	n/a
Noise Category 0	n/a	n/a

The construction requirements for each noise category are outlined in Schedule 1 and Schedule 2 of QDC MP4.4. An extract of that document is provided in Appendix D.

Dwellings may be constructed in accordance with the QDC Noise Category construction requirements for the nominated lot, or alternatively an individual acoustic assessment can be conducted by a suitably qualified acoustic consultant once building plans are available.

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