Transport
Roads & Maritime
Services

SF2012/010916/1; CR2012/005956; WST11/000132/02

Manager Energy Infrastructure Projects
Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Sir

MP10_0157 Exhibition of Environmental Assessment for Bodangora Wind Farm

Thank you for your letter received 6 June 2012 referring the Environmental Assessment (EA) for the above project to Roads and Maritime Services (RMS) for comments.

RMS notes:

- The design vehicle used in Figure 3 of Attachment K is shown as 45 m long in the diagram and as 55 m long in the key. The proponent is to confirm that the swept path analysis was based on a 55 m vehicle passing through the intersection of Goolma Road (MR233) and Gillinghall Road.

RMS does not object to the proposal and provides the following comments for Department of Planning & Infrastructure to consider:

- Safe Intersection Sight Distance (SISD) is to be maintained at the intersection of each access road and Goolma Road (MR233). The minimum SISD outlined in the Austroads Guide to Road Design and RMS Supplements to Austroads Guide to Road Design for a 100 km/h speed zone is 248 m.
- The intersection of each access road and Goolma Road (MR233) is to conform to the Austroads (2009) design requirements for a Rural Property Access (copy enclosed) that can accommodate the largest type of load that would access the site. Right turn and left turn treatments (Austroads (2009) Type BAR and BAL, copies enclosed) are required at the intersection of each access road and Goolma Road (MR233) to allow for safe turning movements into and out of the site.
- Each access point is to be sealed for a minimum of 20 m from the edge of Goolma Road (MR233) to prevent edge break, improve traction and reduce the risk of vehicles tracking particles onto the road.
- The seal is to be extended at the intersection of Gillinghall Road and Goolma Road (MR233) to widen the turning path and to improve traction.
- To maintain longitudinal drainage a suitably sized (minimum 375mm diameter) reinforced concrete culvert is to be installed under each access. Any culvert within the clear zone is to have sloped headwalls to avoid a traffic hazard.
- All redundant access points (that are not required for ongoing maintenance activities) are to be permanently removed following construction.

- If a gate, grid or similar structure is constructed on any accesses it is to provide suitable lateral clearance to cater for the largest type of load that would access the site (this is expected to be a 55 m load).
- Any damage within a classified road reserve, as a result of the proposal, is to be repaired to pre-existing or better conditions by the proponent. This would include any damage to road pavement (travel lanes or shoulders), culverts, bridges, causeways, stock grids, signage, verges or traffic facilities (such as roundabouts or islands).
- RMS requires a commitment from the proponent to provide funding for the maintenance and repair of any classified roads that are damaged as a result of the proposal.
- The proponent is required to undertake private financing and construction of any works that are to be undertaken on a road in which RMS has a statutory interest (State Roads). A formal agreement in the form of a Works Authorisation Deed will be required between the proponent and RMS for such works.
- All works associated with the development are to be at no cost to RMS.

Oversize and overmass loads:

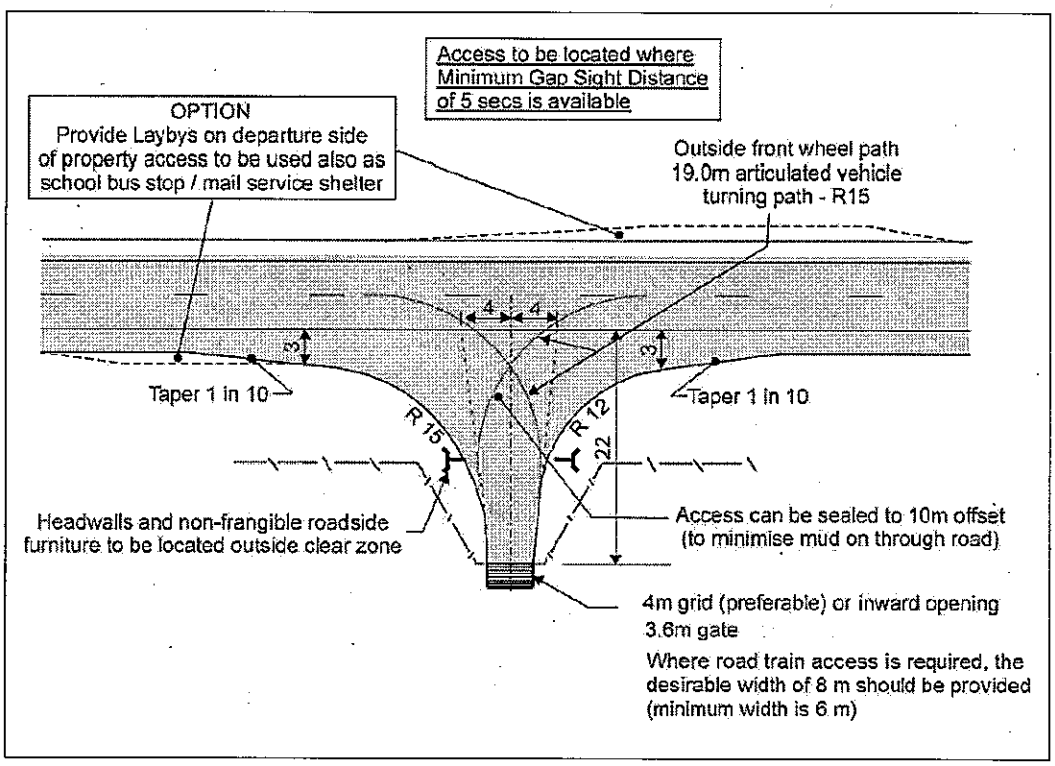
- Vehicles transporting oversize or overmass loads are not to travel in convoys or platoons.
- The applicant must ensure that all bridges (such as the Mitchell Creek Crossing, Bodangora) that would be used by oversize and overmass loads would have adequate capacity and strength to accommodate the loads. A bridge assessment by a structural engineer will be required.
- The applicant must obtain permits for any oversize or overmass vehicles that are used during the construction or operation of the proposal. These permits can be obtained from the RMS Special Permits Unit in Glen Innes, Ph 1300 656 371.
- All arrangements for traffic control on classified roads are to be carried out in accordance with the RMS Traffic Control at Work Sites Manual Volume 4. A Road Occupancy Licence will be required before any works are carried out within three metres of the traffic lanes of any classified roads. This can be obtained by contacting Mr Paul Maloney on (02) 6861 1686. Submission of a traffic control plan is required as part of this licence.

Please keep RMS informed of the progress of the project application.

Should you require any further information please contact Dave White (02) 6861 1479.

Yours faithfully

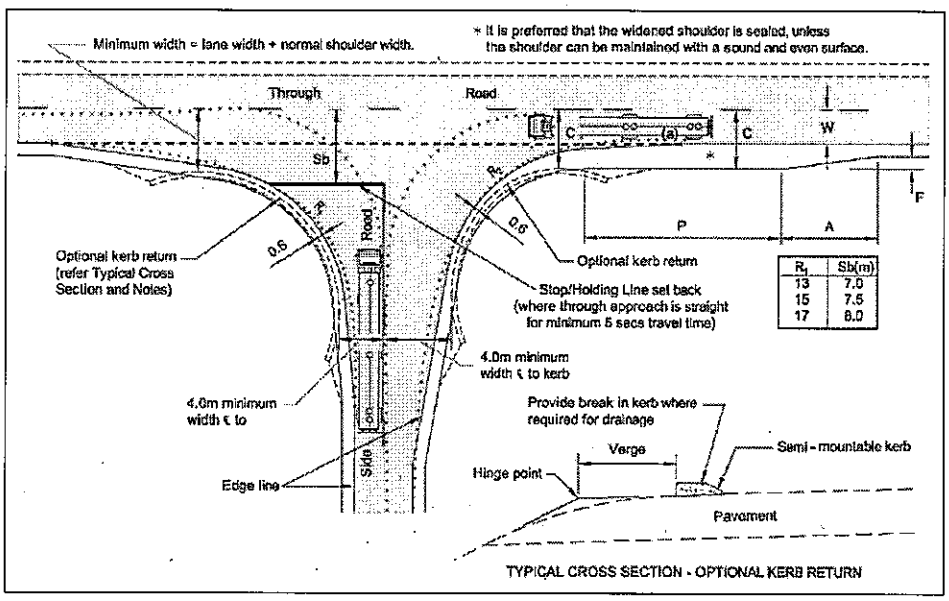
Tony Hendry
Road Safety & Traffic Manager
Western



Note: Minimum requirement for a single carriageway with design AADT <2000 or minimum requirement for dual carriageway left-in – left-out access for single unit truck. Where AADT >1000 and access is required for a semi-trailer then use the layout.

Source: Based on Austroads (2005).

Figure 7.4: Example of a rural property access specifically designed for articulated vehicles on a two-lane two-way road



Notes:

1. R1 and R2 are determined by the swept path of the design vehicle.
2. The dimensions of the treatment are defined thus:

W = Nominal through lane width (m) (including widening for curves).

C = On straights – 6.0 m minimum.
On curves – 6.0 m plus curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle).

A = $\frac{0.5VF}{3.6}$

V = Design speed of major road approach (km/h).

F = Formation/carriageway widening (m).

P = Minimum length of parallel widened shoulder (Table 8.1).

Source: QDMR (2006).

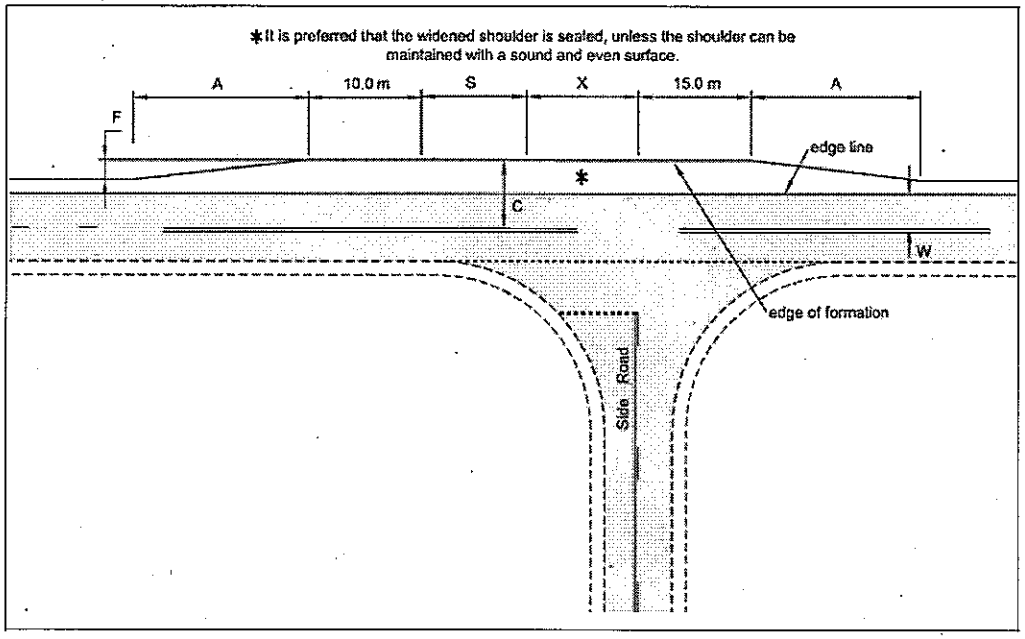
Figure 8.2: Rural basic left-turn treatment (BAL)

Table 8.1: Minimum length of widened parallel shoulder

Design speed of major road approach (km/h)	Minimum length of parallel widened shoulder P (m)
50	0
60	5
70	10
80	15
90	20
100	25
110	35
120	45

Note: Adjust the length for grade using the 'correction to grade' factor in Table 5.3

Source: QDMR (2006).



Notes:

1. This treatment applies to the right turn from a major road to a minor road.
2. The dimensions of the treatment are defined thus:

W = Nominal through lane width (m) (including widening for curves). Width to be continuous through the intersection.

C = On straights – 6.5 m minimum

7.0 m minimum for Type 1 & Type 2 road trains

On curves – widths as above + curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle).

A = $\frac{0.5VF}{3.6}$

Increase length A on tighter curves (e.g. those with a side friction demand greater than the maximum desirable). Where the design through vehicle is larger than or equal to a 19 m semi-trailer the minimum speed used to calculate A is 80 km/h.

V = Design speed of major road approach (km/h).

F = Formation/carriageway widening (m).

S = Storage length to cater for one design turning vehicle (m) (minimum length 12.5 m).

X = Distance based on design vehicle turning path, typically 10–15 m.

Source: QDMR (2006).

Figure 7.5: Basic right (BAR) turn treatment on a two-lane rural road