OTOROHANGA DISTRICT COUNCIL

Evaluation and approval of new rural vehicle entrances Guidelines

Methodology for the evaluation and approval of new rural vehicle entranceways

General

This procedure sets out the steps and actions to determine the requirements for new entranceways, and the approval of newly constructed or upgraded entranceways to the rural roading network within the Otorohanga District. The object is to provide a method of best practice to achieve compliance with the best practice safety requirements, and is a guideline for Council officers.

1. Establish location of vehicle entranceway

The application to Council for Resource or Building Consent is to clearly identify the location of new or existing entranceways to allow Council staff to provide accurate consent conditions for construction or upgrading works.

2. Establishment of design speed

The design speed for traffic approaching the vehicle entranceway from both directions is to be determined in the first instance by staff through a site speed assessment. The staff member is to drive the approach to the entrance at increasing speeds until it is felt that the driver is uncomfortable with level of control of the vehicle (to a maximum of 100kph). The intent is to establish a speed at which nine out of ten passenger vehicles would travel at or below. It is accepted that in practice this may provide an overestimation of the 85th percentile operating speed, but the assessed speed is not to be unnecessarily inflated.

In order to maintain a degree of consistency in speed assessments, as far as practical each assessment is to be carried out by the same staff member while they hold the role of Contracts Engineer (Roading) as part of the process for providing roading comments to the Environmental Services team on behalf of the Roading Manager.

If the applicant or their specialist representative disputes the design speed, the applicant is to be met on site and following an explanation of the methodology, another site assessment undertaken with the applicant as a passenger, and a mutual agreement on the speed met if possible.

If agreement is not made, a metro traffic counter is to be placed at the current end of the visibility distance for a seven day count, and from the recorded figures the 85th percentile passenger car design speed calculated.

The cost of the traffic count is to be met by consent applicant ($300 + gst)

The applicant will first need to agree that the time to arrange for and complete a traffic survey will increase the time for the entranceway to be approved.

3. Setting of required visibility distance

Using the design speed established in step 2 above, and the average gradient of the carriageway within the visibility distance, select the appropriate visibility distance from the attached tables.

4. Provision of approval conditions

Provide an entranceway formation or upgrade condition to the Environmental Services Department for inclusion in the consent, based on the following typical wording. Note that entranceways on unsealed carriageways do not require sealing. It is preferable in all circumstances to provide an actual visibility distance required, than to rely on the applicant determining the design speed and visibility requirements.

> *A vehicle crossing (constructed and sealed in accordance with the or upgraded to meet the) (Residential or Light Commercial or Heavy Commercial) specification DCS301 of the*

Hamilton City Development Manual shall be provided to service Lot(s) (??) to the satisfaction of the Engineering Manager, except that the culvert need not be 4.0m from the edge of seal. Entranceway visibility of a minimum of (??) in each direction measured along the centreline of the roadway shall be provided. This shall be a continuous inter-visibility measured at a height of 1.05m above the road surface, from the drivers position on the roadway and 1.05m above a point 3.5m back from the edge of the carriageway on the centreline of the (new or upgraded) entranceway. This distance shall be measured along the carriageway centreline.

If it is clear from the site inspection that extensive, and potentially expensive works are required to achieve the minimum entranceway sight distances, include a brief note confirming it is Councils belief that extensive works will be required. For example, the following sentence might be added as appropriate.

In order to achieve the minimum entranceway sight distance, it is likely that (significant earthworks to form a sight bench / removal of existing mature trees etc) will be required to achieve compliance with the minimum safety standards prescribed.

5. Provision of advice during formation of the entrance

The Councils Contracts Engineer (Roading) will be available to make a site inspection with the applicant and/or their specialist representative and/or contractor to discuss new or upgraded entranceway requirements. An appointment can be made either prior to application or following granting of consent with entranceway conditions.

This requested site inspection for engineering advice will be undertaken at no cost to the applicant, but all subsequent site visits or meetings to discuss entranceway formation requirements will be charged to the applicant as part of the consent costs.

6. Measurement of visibility envelope

Prior to final approval of the entranceway, the entranceway is to be physically inspected and the sight distances measured to confirm the consent conditions have been achieved, and a safe and practical vehicle entrance has been provided.

The inspection is to be carried out by the Contracts Engineer (Roading) on behalf of the Roading Manager, and a written record kept of the inspection, filed against the particular consent.

A vehicle is to be parked in the entranceway 1.0m back from the edge of the carriageway, and the required sight distances measured out along the road centreline with a measuring wheel. The car drivers / passengers window is to be visible from a height of 1.05m continuously within the required visibility length.

Measurement tolerances

Some discretion is able to be applied to accepting entranceway visibility distances which do not meet the prescribed standards. The general guidelines for application of that discretion are as follows.

i. Minor works which will allow the full visibility requirements to be met, or nearly met, which are inexpensive and easily undertaken shall be completed prior to the entranceway being approved.

ii. Works which will be expensive to complete, but give only limited improvements in visibility distances will not be enforced, so long as the absolute tolerances below will be met.

iii. Works required on adjacent landowners property or road frontage which disrupt the use or affect the value of that land, for which the landowner might reasonably withhold permissions will not be enforced, so long as the absolute tolerances below will be met.

iv. Traffic volumes on the roadway section involved, and the speed of that traffic which defines the risk of injury resulting from the new entranceway is to be considered in the application of discretion to accept an entranceway which does not meet the prescribed standards.

v. An existing entranceway which has no records of crashes or near misses, and no definable change in traffic use, can also be considered to have demonstrated an existing level of safety, and this can be taken into account.

The following tolerances for entranceway sight distances shall apply in all cases, and provide an upper limit when approving entrances with the discretion prescribed above.

State Highways – zero tolerance

Arterial roads – 2%

Collector roads – 3%

All other roads over 200 vehicles per day – 4%

All other roads under 200 vehicles per day – 6%

Arterial Roads	**Collector Roads**	**Other roads over 200 vpd**
Ngutunui Road	Bayley Road	Waikeria rd
Waipapa Road	Honikiwi Road (SH 31 to Bromley Rd)	Kio Kio Station Rd
Harbour Road	Lethbridge Road	Old Golf Rd
Ouruwhero Road	Maihiihi Road (Mangaorongo Rd to Paewhenua Rd)	Magauika Rd
Pokuru Road	Mangaorongo Rd	Ngahape Rd (Happy Valley Rd to Whibley Rd)
	Mangawhero Road	Morrison Rd
	Ngahape Rd (SH 3 to Whibley Rd)	Aotea Rd
	Ngaroma Rd	
	Old Te Kuiti Rd	
	Otewa Rd	
	Rangiatea Rd	
	Seafund Road	
	Te Kawa Rd	
	Waitomo Valley Rd	
	Wharepuhunga Rd	
	Whibley Rd	

7. Secondary entrances

Rural properties other than lifestyle properties may apply to create secondary entrances for genuine farm use. The definition of a secondary entrance is an entrance which is used intermittently for farm operations such as feeding stock in isolated paddocks, and seasonal harvesting and feed cropping operations etc.

Approval for these entrances will be limited to location and the best practical option, but can not create an unsafe environment. If practicable standard entranceway sight distance shall be provided.

Entranceway visibility sight distances

Entranceways onto Sealed roads

design speed	Level	Upgrade			Down Grade		
		4%	8%	12%	4%	8%	12%
40	28	28	28	28	28	28	33
50	44	44	44	39	44	49	49
60	63	63	58	58	63	68	73
70	86	86	76	76	91	96	101
80	115	110	105	100	120	125	140
90	140	130	125	120	150	160	170
100	170	160	150	145	180	195	215
110	210	195	185	180	225	245	270
120	250	230	220	210	270	300	335

Entranceways onto Un-sealed roads

design speed	Level	Upgrade			Down Grade		
		4%	8%	12%	4%	8%	12%
40	45	45	45	45	45	45	50
50	65	65	65	60	65	70	70
60	85	85	80	80	85	90	95
70	110	110	100	100	115	120	125
80	140	135	130	125	145	150	165
90	170	160	155	150	180	190	200
100	210	200	190	185	220	235	255
110	250	235	225	220	265	285	310

Note: Design speed is the assessed speed or the 85th percentile of measured speed.

Sealed road distances taken from Item 13.0 of the Hamilton City Development Manual, Volume 5: District Council supplement - Item 13.0, and Austroads part 5: Intersections at Grade, Table 5.2 - Grade corrections

Unsealed road distances taken from Transport Canada Technical Standards, Section 4: design considerations – Stopping Sight Distance, table 4-5: on wet pavement and gravel surfaces.