

Part 6

EIT – Energy, infrastructure and transport

APP22 – Vehicle access and crossing standards

1. Application of APP22 – Vehicle access and crossing standards

- a. A vehicle access and vehicle crossing must be provided, formed and maintained on each site in accordance with APP22 – Vehicle access and crossing standards where:
 - i. a building is constructed, or substantially reconstructed, altered or added to; or
 - ii. the building is not a small unstaffed network utility building; or
 - iii. it is proposed to construct or alter one or more buildings or other works in stages, and the total proposed construction or alteration would, if carried out other than in stages, constitute a substantial reconstruction, alteration or addition. Provided that stage works that occurred two calendar years prior to the current proposal need not be counted; or
 - iv. there is a change in the use of any land or building; or
 - v. it is otherwise required by a rule in the Nelson Plan.
- b. Any vehicle access or crossing must comply with the relevant design and construction standards specified in Section 4 (Transportation) of the Nelson Tasman Land Development Manual 2019.
- c. Any subdivision that creates sites that are steeper than 1 in 8 for residential activities or 1 in 16 for non-residential activities, shall show on the subdivision consent application plans an indicative access to a parking space within each lot, and the extent of works, including cut and fill batters and retaining, that would be needed. Any retaining structures must be located on private land and not on legal roads. Final details of the access construction will be required to be shown on engineering plans submitted in accordance with Section 4 (Transportation) of the Nelson Tasman Land Development Manual 2019.

2. Minimum distance of vehicle crossing from intersections

- a. No part of a vehicle crossing shall be closer to a road intersection than the distances permitted in APP22 – Table 1: Minimum distance of vehicle crossing from intersection.
- b. Where the boundaries of the site do not allow the provision of any vehicle crossing in conformity with the distances set out in APP22 – Table 1: Minimum distance of vehicle crossing from intersection, a single vehicle crossing may be constructed, provided it is located adjoining an internal boundary of the site in the position which is closest to the provisions in APP22 – Table 1: Minimum distance of vehicle crossing from intersection.
- c. For roads with gazetted speed limits that fall between speed values shown in APP22 – Table 1: Minimum distance of vehicle crossing from intersection, the distance measurements must be proportioned using the method in row 4 – Calculation of distance values between tabled speeds of Table 1.
- d. Vehicle crossings should always be located on the road of the lowest order, where the intersection is between two streets of different categories.

- e. Distances shall be measured along the boundary parallel to the centreline of the road, from the kerb or formed edge of the intersecting road.

APP22 – Table 1: Minimum distance of vehicle crossing from intersections

| Frontage road | Intersecting road type (in metres) | | |
|---|--|----------------------|----------------------|
| | State Highway/ Arterial | Principal/ Collector | Sub Collector/ Local |
| 1. Speed limit-up to 50 km/hr | | | |
| State Highway/Arterial | 60 | 50 | 35 |
| Principal/Collector | 50 | 35 | 20 |
| Sub Collector/Local | 30 | 25 | 10 |
| 2. Speed limit-80km/hr | | | |
| State Highway/Arterial | 110 | 90 | 60 |
| Principal/Collector | 85 | 70 | 50 |
| Sub Collector/Local | 60 | 50 | 40 |
| 3. Speed limit-greater than or equal to 100 km/hr | | | |
| State Highway/Arterial | 170 | 130 | 90 |
| Principal/Collector | 125 | 100 | 75 |
| Sub Collector/Local | 80 | 70 | 60 |
| 4. Calculation of distance values between tabled speeds | | | |
| Formulae: | $\frac{[(D2-D1)]}{(\text{Tabled Speed2} - \text{Tabled Speed1})} \times (\text{actual speed limit} - \text{Tabled Speed1}) + D1$ | | |
| Where: | | | |
| D2 is the distance in the higher tabled speed limit | | | |
| D1 is the distance in the lower tabled speed limit for the same road type | | | |

3. Maximum number and minimum spacing of vehicle crossings

- a. The maximum number of vehicle crossings permitted for each site shall be in accordance with APP22 – Table 2: Maximum number of vehicle crossings permitted.
- b. For sites with frontage to a Classified road where the speed limit is 80km/h or higher, the minimum spacing between successive vehicle crossings shall be 200 metres. For all other roads,

the minimum distance between vehicle crossings shall be 7.5 metres. The spacing of accesses applies within both sites and between adjacent sites.

- c. The maximum number of crossing must be rounded to the nearest whole number. For example: 2.6 crossings will be rounded up to 3 crossings but 2.4 crossings will be rounded down to 2 crossings.

APP22 – Table 2: Maximum number of vehicle crossings permitted

| Zone | Frontage length (m) | Frontage road hierarchy | | |
|-------------|---------------------|-------------------------|-----------------------|--------------------------|
| | | Unclassified | Collector / Principal | State Highway / Arterial |
| Residential | - | 1 | 1 | 1 |
| Other zones | < 60 | 2 | 1 | 1 |
| | 60 - 100 | 2 | 2 | 1 |
| | > 100 | 3 | 2 | 2 |

4. Design of vehicle access

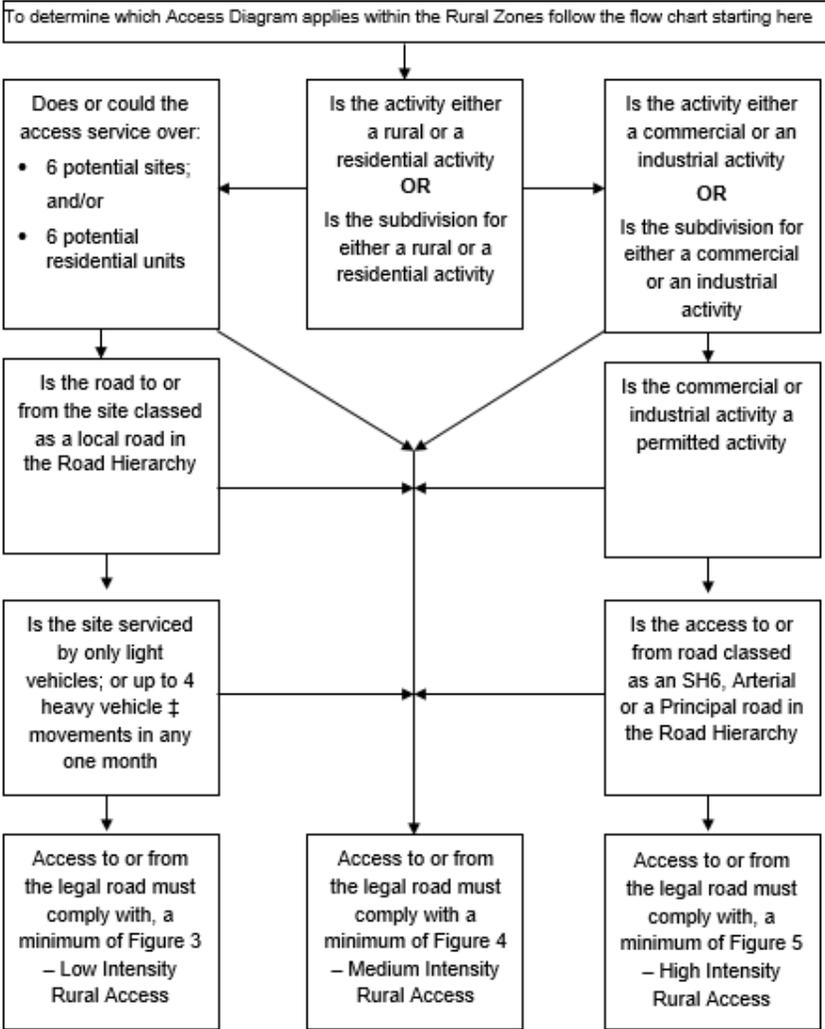
- a. Any access must comply with the relevant design and construction standards specified in Section 4 (Transportation) of the Nelson Tasman Land Development Manual 2019.
- b. Access to a site in any RURZ – Rural zone must comply with the layout shown in APP22 – Figures 3, 4 or 5. To determine the applicable figure to use within the RURZ- Rural zones, APP22 – Figure 1 – Application of access diagrams as set out in 5. below, must be used.

5. Application of access diagrams with any RURZ – Rural zone

- a. Definitions
- i. Light vehicle means a motor vehicle up to 3500kg gross laden weight.
 - ii. Heavy vehicle as defined.
 - iii. Road hierarchy means the road classification set out on the Nelson Plan Maps. For the purpose of APP22 – Figure 1 – Application of access diagrams within the RURZ – Rural zones, a ‘proposed’ classification is deemed to be the same as the main classification.
- b. For the purpose of applying APP22 – Figure 1 – Application of access diagrams within the RURZ – Rural zones to subdivision, if the activity to which the subdivision relates is not known then the activity is deemed to be a rural activity.
- c. In relation to a controlled activity subdivision, the standards of access shown in APP22 – Figure 1, 3 and 4 apply. For the purpose of assessing the matters of control for a subdivision in relation to vehicle access, where any legal road is not shown on the Road hierarchy it shall be deemed to be classed as local road.

- d. 'Of movement in relation to heavy vehicles' means the same or different heavy vehicles arriving once and departing once, or vice versa, from the access, shall be counted as 2 vehicle movements.
- e. 'One off activities in relation to heavy vehicle movements' means:
 - i. There will be no limit on heavy vehicle movements in relation to the clause marked ‡ in APP22 – Figure 1: Application of access diagrams within the RURZ – Rural zones, in which case APP22 – Figure 1: Application of access diagrams within the RURZ – Rural zones will apply, if the activity is a one off activity, such as an on-site private building project, and:
 - A. the prior written consent of the adjoining road controlling authority is obtained for the one off activity, in relation to the effects on the adjoining road; and
 - B. any damage which, in the opinion of the road controlling authority, has been done to the road in the course of the activity or work shall be reinstated by the user or at their cost, to the satisfaction of that authority.
 - f. Any application in which this part of the Nelson Plan is to be used, must include the prior written consent and a statement signed by the person with financial or controlling authority for the activity or work agreeing to reinstate any such damage in accordance. For sites which adjoin or are capable of gaining vehicle access from publicly owned and operated carpark, no vehicle entrance may be provided to any site from any road, if access is obtainable from publicly owned and operated carparks or from any Right of Way or proposed or existing service lane. If no such access is available the vehicle entrance must be on the road of the lowest order as shown on the Nelson Plan Maps.

APP22 – Figure 1 – Application of access diagrams within the RURZ: Rural zones.



6. Application of APP22 – Figure 1 in any OSRZ – Open space and recreation zone

- a. Vehicular access to any site zoned OSRZ – Open space and recreation must comply with the layout shown in APP22 – Figure 1: Application of access diagrams within the RURZ – Rural zones (Low intensity rural access) where it:
 - i. is surrounded by land zoned RURZ – Rural zones; or
 - ii. any vehicular access for the site adjoins or is directly opposite to a rurally zoned site.

7. Vehicle oriented commercial activities

- a. Vehicle oriented commercial activities include service stations, truck stops, supermarkets, shopping centres and drive-in or drive-through retail outlets.
- b. Notwithstanding the above rules, all vehicle oriented commercial activities must comply with the following:
 - i. Any canopy must be set back 2 metres from the road boundary.

- ii. Vehicle crossings into vehicle oriented commercial activities must comply with the minimum distance of vehicle crossing from intersections contained in APP22 – Figure 1: Application of access diagrams within the RURZ – Rural zones.
- iii. Vehicle crossings into vehicle oriented commercial activities must comply with the following minimum separation distances from other access ways.
 - A. Between vehicle crossings for residential activities – 7 metres.
 - B. Between vehicle crossings for other activities – 15 metres.
- iv. The width of any driveway into a vehicle oriented commercial activity shall comply with the following:
 - A. One way – minimum of 4.5 metres and maximum of 6 metres.
 - B. Two way – minimum of 6 metres and maximum of 9 metres.
 - C. No driveway with a width greater than 9 metres.
 - D. Any one way entrance or exit must be signposted as such and may also have road marking on-site.
- v. The site layout shall be such that all vehicles can enter and leave the site in a forward direction without any need for additional on-site manoeuvring or manoeuvring on the frontage road.
- vi. For all driveways from State Highways, arterial or principal roads to be used by heavy vehicles, the first 20 metres of the driveway shall be generally at the same level as the frontage road itself. All accesses on to limited access roads are to comply with NZ Transport Agency standards and will require NZ Transport Agency approval.
- vii. For queuing provisions refer to APP23 – Standards and terms for parking and loading.
- viii. Site size shall be sufficient to ensure that no vehicles being serviced, entering a carpark, awaiting service, or servicing the establishment require to be parked on the road or in such a location that impedes entry, exit, and visibility to or from the entranceway.
- ix. On-site car parking and vehicle manoeuvring shall be designed and constructed in accordance with the requirements of the activity but should not impact on the adjacent road network.
- x. The road boundary of the site shall be bordered by a nib wall or other device to control traffic flows and to clearly define entrance and exit points.
- xi. The design of the vehicle access and the minimum sight distances from accesses shall be provided in compliance with APP22 – Figure 1: Application of access diagrams within the RURZ – Rural zones.
- xii. Adequate on-site provision shall be made for service vehicles and for goods loading and unloading in accordance with standards set out in APP22 – Vehicle access and crossing standards and APP23 – Standards and terms for parking and loading. The areas set aside shall be sufficiently dimensioned for the largest expected vehicles, plus manoeuvring space about those vehicles and the numbers of those vehicles expected to be at the site at any one time.
- xiii. The design and site layout of vehicle oriented commercial activities shall make provision for the safe movement of pedestrians about the site, at the vehicle crossings associated with the site

and for their safe movement across roads in the vicinity of the site without an adverse effect on the operation of the frontage road.

8. Gates

- a. Gates, garage doors and other like openings must be hung so that they swing into the site and not over any road or adjoining site. Tilting garage doors and similar openings must not, at any time, overhang any road or adjoining site.
- b. Building doors or windows when opened must not overhang any required vehicle access.

9. Assessment criteria for resource consents

a. Access

- i. Whether adequate sight lines are available from alternative access points.
- ii. The extent to which the safety and efficiency of the adjoining road would be compromised by an access point located closer to an intersection or with lesser unobstructed sight distances, than is permitted by the Nelson Plan.
- iii. The extent to which conflicts between vehicles would be created by vehicles queuing across the vehicle crossing. Confusion between vehicles could be created by vehicles queuing across the vehicle crossing, or between vehicles turning at the crossing or the intersection, or by an inadequate rate of driver assimilation of data, thereby adversely affecting the safety of the road.
- iv. Whether the hours of operation of activities on the site coincide with the peak flows and vehicle queues on the road.
- v. Whether the speed and volume of vehicles on the road could increase the adverse effects of the access on the safety of road users. Whether the geometry of the road could mitigate the adverse effects of the access.
- vi. The ability to provide access to allotments without the need for extensive retaining walls, and in particular, without the need for any retaining walls located on a legal road.
- vii. The ability of the proposed vehicle crossing(s) to minimise conflict points with people walking and cycling on shared paths/footpaths and to maximise the berm and on street parking area so as to contribute to a high amenity road environment.

b. Vehicle orientated commercial activities

- i. The design and layout of accesses, manoeuvring aisles, car parking and loading areas and the potential effect of these on the safety and efficiency of the frontage road.
- ii. Provision for the safe movement of pedestrians about the site and on the adjacent frontage road.
- iii. The safety and efficiency of the access taking into account the regulating speed limit on the frontage road, available visibility, road geometry, and vehicle volumes on the frontage road.
- iv. The relative proximity of other accesses or road intersections and the potential for cumulative adverse effects on the safety and efficiency of the frontage road.
- v. Any proposed design or works, on-road or on-site to mitigate any potential adverse effect of the access on the safe and efficient functioning of the frontage road.

- vi. The degree to which the location of the site in combination with the position of any proposed and existing access points will affect the safe and efficient movement of traffic onto and off the site and along the adjoining roadway taking into account the following matters:
 - A. the types of manoeuvres anticipated to be undertaken at the intersection;
 - B. the forms of control at adjacent intersections;
 - C. the functions of the frontage road and any intersecting roads;
 - D. the speed and volumes of through traffic;
 - E. the physical features of the roadway, i.e. number of lanes, visibility; and
 - F. whether the driveway will be on an upstream or downstream side of the intersection.
- vii. The ability for vehicles to queue and be serviced on-site without affecting the safe movement of vehicles or pedestrians along the adjoining road or footpath or the movement of vehicles and pedestrians using the facilities on the site. The design and appearance of any building, its visual impact from the road, and its proximity to residential areas. The degree to which any heavy commercial vehicles and other service vehicles may enter and exit the site without excessive manoeuvring or disruption to vehicles being serviced on the site or serving the activity or the safe movement of vehicles along the adjoining road.

10. Reasons for rules

a. Distances of vehicle crossings from intersections

In order to simplify the driving task by reducing potential conflict points and areas of distraction, there is a requirement to locate entrances at varying distances from intersections depending on the function of the road. Arterial roads typically carry the highest traffic volumes at higher operating speeds. Distances, therefore, need to be greater on these roads to allow for driver reaction times and also for longer queuing distances at intersections. It also reduces confusion for drivers who may not otherwise be able to tell whether an indicating vehicle is intending to turn at the driveway or the intersection. Similarly, principal and collector roads carry higher traffic volumes at higher operating speeds than local roads and distances of vehicle crossings from intersections are accordingly required to be greater on these roads.

b. Maximum number, spacing and width of vehicle crossings

In order to simplify the driving task the number, spacing and width of vehicle crossings has been regulated. Arterial roads generally operate at higher speeds and volumes and drivers have an expectation that there will be less activity from adjoining land. Controls on the number of access per property aims to reduce conflict points between vehicles and pedestrians and cyclists on shared paths and footpaths. The controls also maximise the amount of berm for landscaping and maximise the area available for on street parking thereby improving the amenity of the road environment. The control on the width of crossings provides adequate width for the vehicles likely to be using them while defining the point where vehicles are likely to enter and exit the site.

c. Design of vehicle access

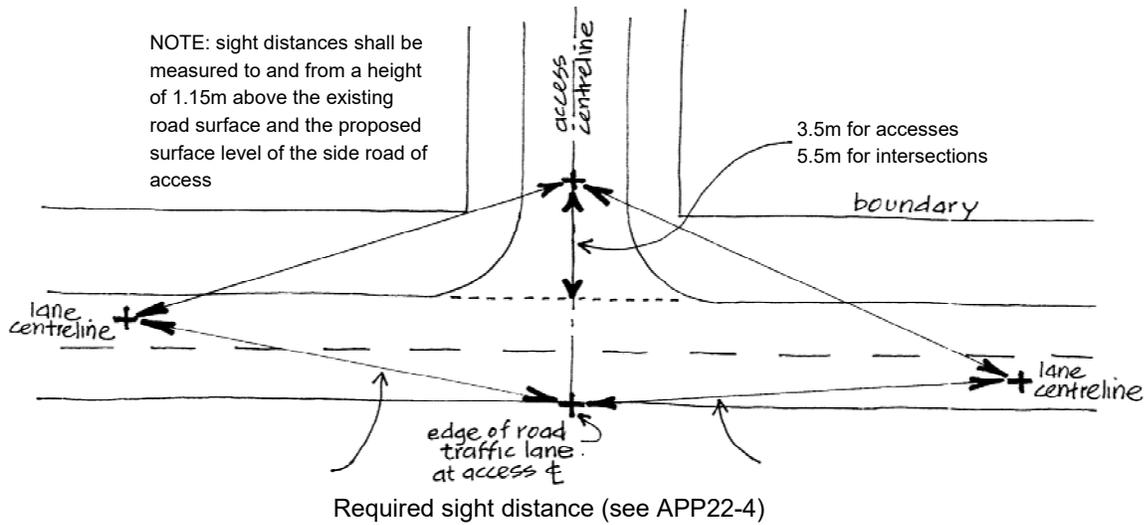
- i. The controls on the design of accesses onto State Highways and arterial roads recognise that the safety and efficiency of these routes should be maintained. The controls on the angle of the road access positions the driver such that they are able to see approaching vehicles in either

direction. In addition, drivers have to slow to enter the access which provides an obvious signal to following drivers and improves on-site safety.

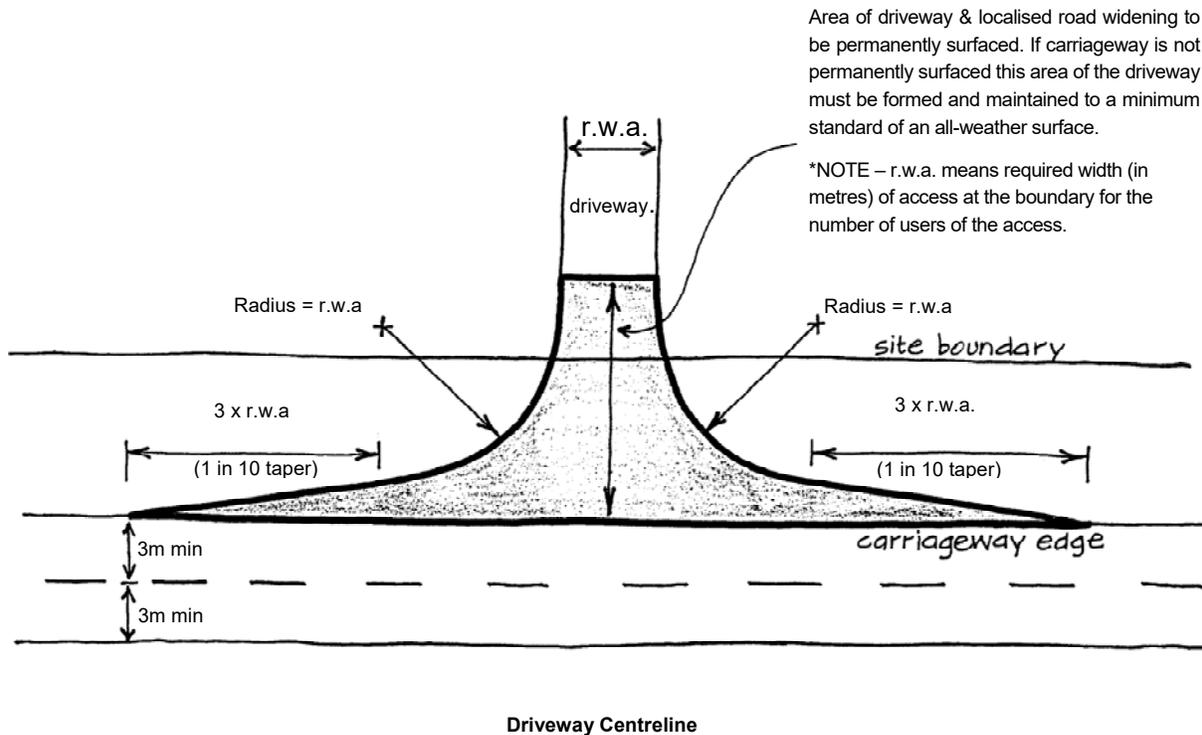
- ii. The seal widening provided for on State Highways and arterial roads where the speed limit is over 50 km/hr provides an additional sealed area. This ranges from a design where drivers can slow down out of the traffic, or move around vehicles making a turn with less effect on through traffic, to a design which provides for the manoeuvring of trucks such as milk tankers. In the latter case it provides for a vehicle to make its manoeuvre on a sealed surface without the need to cross into the opposing traffic lane when making a left turn into an access.
 - iii. The minimum visibility distances are required to maintain the safety of the roading network. The distances are related to the 85th percentile speed of approaching vehicles as stopping distances are related to traffic speed. The distances are less for residential uses which have lower traffic numbers and more regular users than other activities. The maximum gradient and restrictions on breakover angles is to provide for ease of access.
 - iv. Design plans for access to individual lots are required at subdivision consent and engineering design approval stages to ensure that Nelson City Council and future owners can be satisfied that practical access is able to be constructed.
- d. Vehicle orientated commercial activities

It is necessary that vehicles entering and exiting these activities can do so without adversely affecting the safety and efficiency of traffic along the adjoining roadway. Crossings must, therefore, have sufficient width to allow the safe movement of vehicles but at the same time not be so wide that vehicles are poorly channelled into the site. The vehicle manoeuvring areas should be designed such that there is sufficient space for the queuing of all vehicles wishing to access the activity for whatever reason.

APP22 – Figure 2: Required sight distance

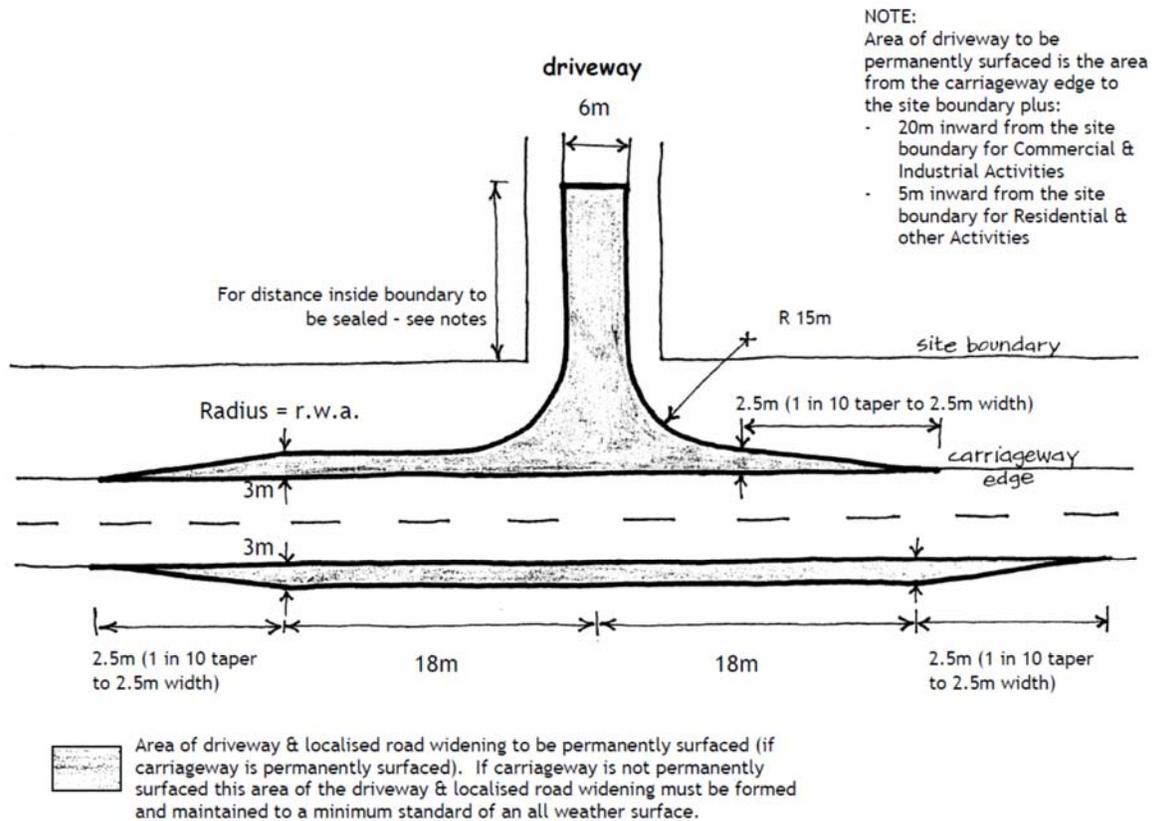


APP22 – Figure 3: Low intensity rural access



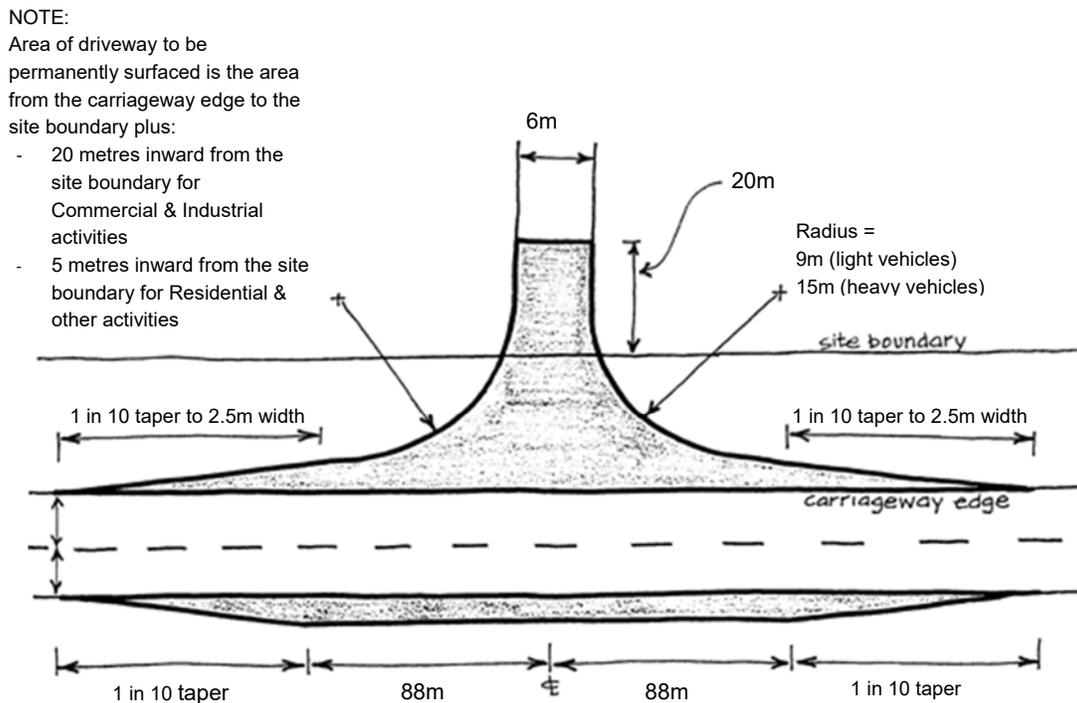
For details of required access taper and surfacing refer APP22-6.a. For non-rural areas see APP22-10.c.iii.

APP22 – Figure 4: Medium intensity rural access

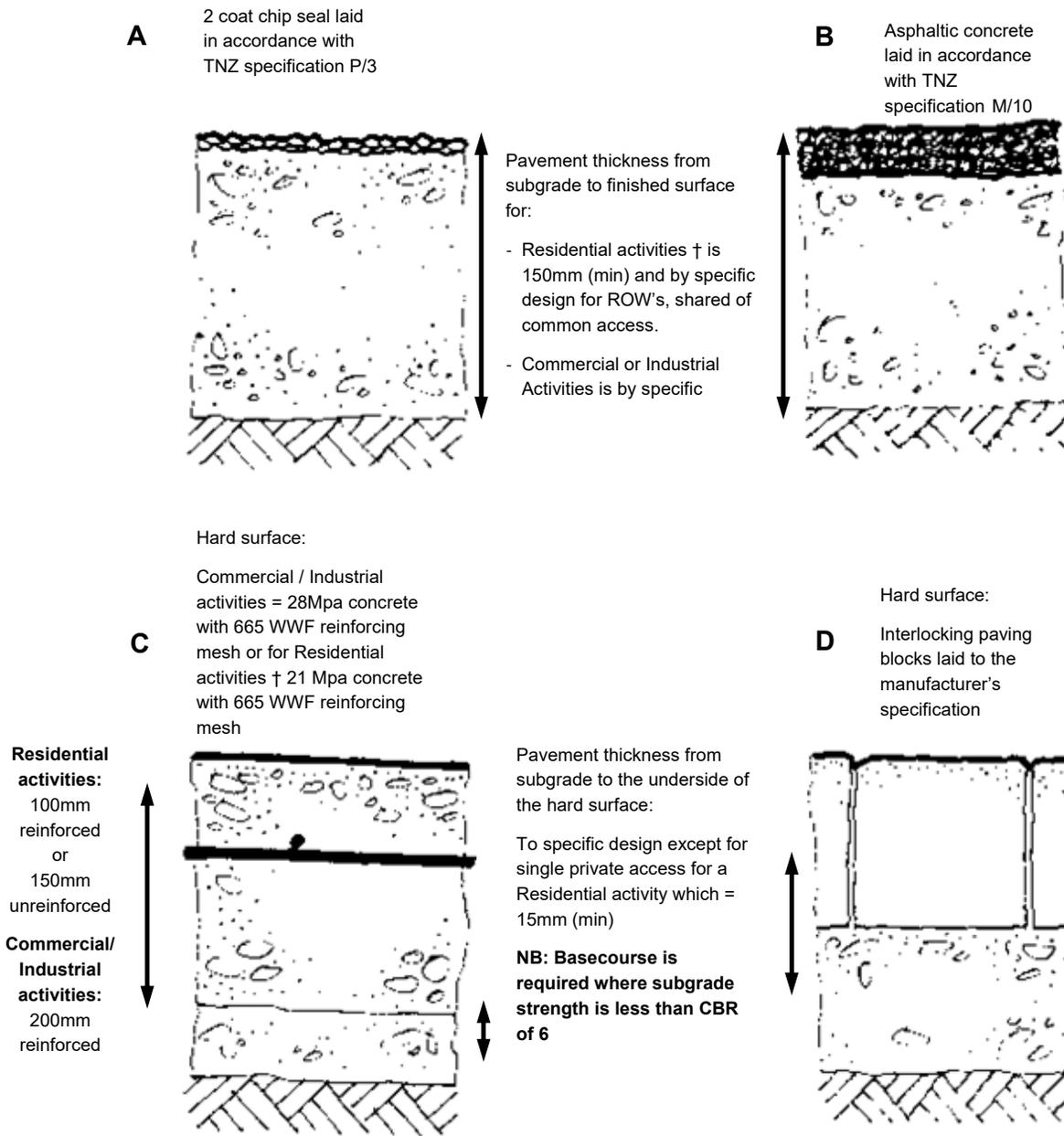


For details of required access taper and surfacing refer APP22-6.a. For non-rural areas see APP22-10.c.iii.

APP22 – Figure 5: High intensity rural access: details of required access taper, access surfacing, and localised road widening



APP22 – Figure 6: Typical examples of complying permanent surface



Refer definition of Permanent surface.

11. Interpretation of APP22 – Figure 6: Typical examples of complying permanent surface

a. Residential activities:

For the purpose of APP22 – Figure 6: Typical examples of complying permanent surface residential activities excludes any non-residential activity. The excluded activities are deemed to be Commercial activities for the purpose of this figure.

b. Rural access:

For the purpose of APP22 – Figure 6: Typical examples of complying permanent surface: the Residential activity standards of this figure shall apply to any Low intensity rural access, and

the Commercial or Industrial standards of this figure shall apply to any Medium or High intensity rural access (see Figures 3, 4, 5).

c. Pavement thickness:

Means the layers of material between the subgrade and the finished surface. The minimum standard of pavement is an all-weather surface.

d. Specific design:

Means the pavement shall be designed in accordance with recognised techniques which include, but are not limited to:

- i. CBR Method. (Information reference: CBR design curves are given on NCC Standard Drawing SD405 or TNZ State Highway Pavement Design and Rehabilitation Manual);
- ii. Scala / Dynamic Cone Penetrometer. (Information reference: design curves are given on NCC Standard Drawing SD406);
- iii. Design method based on Benkleman beam deflections. (Information reference: design curves are given on NCC Standard Drawing SD404); and
- iv. The designer must state the method used and supply any information necessary to support the design method for any application under this part of the Nelson Plan.