



REQUIREMENTS FOR  
WATER SUPPLIES AND  
ACCESS FOR SUBDIVISIONS  
IN RESIDENTIAL 1 AND 2  
AND TOWNSHIP ZONES

OCTOBER 9, 2006

## Table of Contents

<b>Glossary of Terms</b>	3
<b>Introduction</b>	3
<b>Where Do These Requirements Apply?</b>	4
<b>Statutory Requirements</b>	4
<b>Water Supply Requirements</b>	
Hydrant Provision	5
Hydrant Markers	5
Hydrant Location	5
<b>Access Requirements</b>	
Road Width	6
Road Construction	6
Road Grades	6
Turning Bays	7

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## Glossary of Terms

**In this document, the terms are limited to the meanings described below.**

**Building fire** means a fire in a dwelling and the associated structures. It does not apply to fires in other structures that may occur in residential areas such as a milk bar or an aged care facility where other requirements may apply.

**CFA** means Country Fire Authority

**Fire truck** is a vehicle used to combat a fire. A typical fire truck (a tanker) is approximately 3.02m wide, 7.7m long and it is typically used in residential areas within rural municipalities. In metropolitan settings, a pumper is more commonly used. Other larger fire trucks (such as aerial trucks) are used occasionally but the characteristics of the 3.4 tanker are used as the benchmark for determining performance levels in residential areas. Detailed specifications of a 3.4 tanker are available from the CFA if design solutions are required for specific situations.

**Hydrant** means a facility on a pipeline/water main where water can be drawn for firefighting purposes and includes a below-ground, L-type, or pillar hydrant, but does not include millcock (see fig. 1).

**Reticulated water supply** is permanent infrastructure provided to deliver water to lots from a water supply external to the general vicinity of the subdivision.

**Road** means a road as defined in the Planning and Environment Act (includes highway, street, lane, footway, square, court, alley or right of way, whether a thoroughfare or not and whether accessible to the general public or not). A **constructed road** for the purpose of defining widths, includes the part of the road reserve set aside for traffic and also includes roll-over kerbs but does not include the remaining part of the road reserve (see fig. 4).

**Static water supply** means a body of water confined within an enclosure (such as a tank located above or below ground) for use in the event of fire. Swimming pools or dams are excluded unless specifically referenced in the document.

**Trafficable width** refers to that width of the constructed road that is unimpeded by encroachments such as street furniture or landscaping, and is available for free movement of fire trucks.

**Wildfire Management Overlay** means an area of land included within an overlay map of a planning scheme within which buildings and people are particularly vulnerable to wildfires.

## Introduction

The Country Fire Authority is responsible for the protection of life and property from the adverse effects of fire. Loss of life and property in building fires, particularly in dwellings, is a major concern. Residential subdivisions must be designed and located to provide ready access by fire trucks to structures and water supplies.

These water supply and access requirements for subdivision are a planning tool for permit applicants and municipalities. They outline fire safety requirements to cope with structure fires to assist with the design and approvals process for residential subdivisions. Additional considerations are applicable in areas that are at risk from wildfires.

The document reflects State Government policy of promoting sustainable development that achieves economic, social and environmental objectives, including safety. The provisions are flexible allowing subdivision planners and designers to economically achieve safety objectives without compromising aesthetics or amenity. They are provided to streamline the approvals process.

The document outlines objectives, performance levels and CFA preferred requirements. The objectives must be met and the performance level defines the general standard of performance. The CFA preferred requirements give examples of ways that the relevant objectives and performance levels can be met. If a proposed subdivision is designed to meet the CFA preferred requirements it will be deemed to comply with the CFA requirements and the CFA is unlikely to object to the proposal. If the CFA preferred requirements are met, the CFA will process the application with a minimum of delay. Explicit indication of compliance with the CFA preferred requirements on an application will assist the CFA in reducing the time required to process the application.

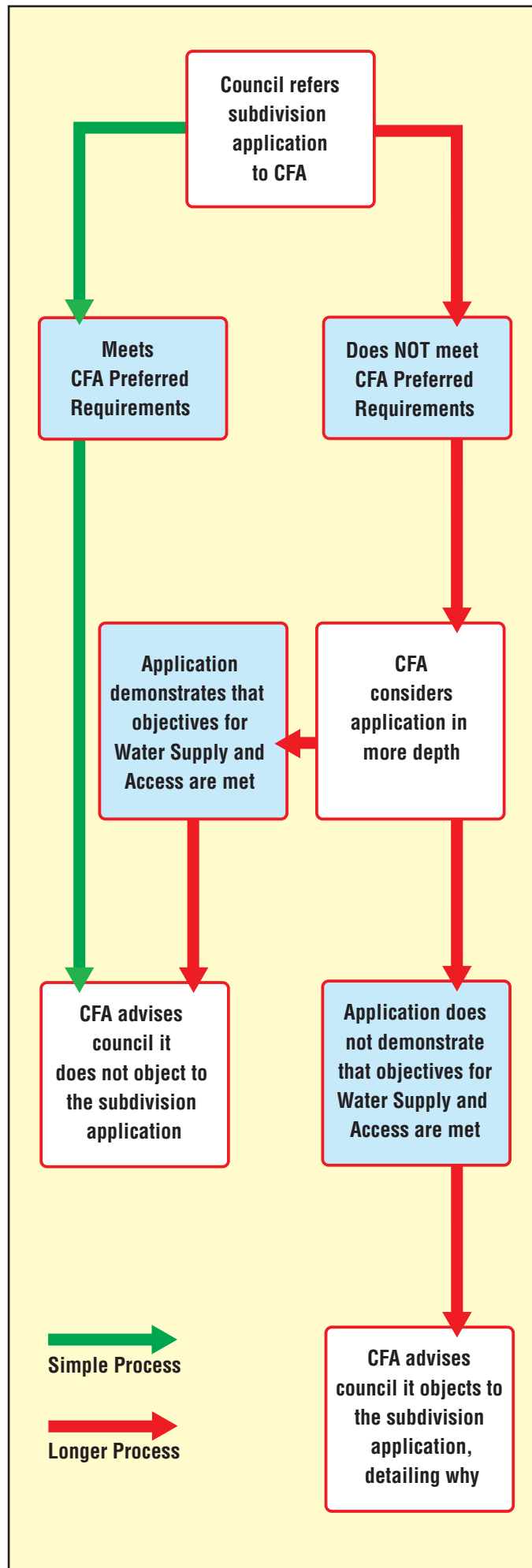
While it is anticipated that most subdivisions will meet the CFA preferred requirements, an applicant may achieve the objectives in other ways. If an application can demonstrate to the satisfaction of the CFA that the subdivision will achieve the objectives for both access and water supply, the CFA is likely to approve it. The CFA will consider each case on its merits. This assessment process may take longer than one that meets the CFA preferred requirements.

The diagram over page demonstrates the alternative processes for assessment.

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## Alternative Processes for Assessment of Subdivisions



## Where Do These Requirements Apply?

The requirements apply to all residential subdivisions in urban areas in Victoria for the following zones:

- Residential 1 and 2; and
- Township

They apply to subdivision for medium and low density dwellings, both attached and detached. They are not designed for commercial or industrial subdivision.

## Statutory Requirements

The CFA is a referral authority under Section 55 of the Planning and Environment Act for subdivisions that create a road. The council must refuse a planning permit application if the CFA objects to the application when acting as a referral authority. If the CFA does not object but advises on conditions, the council must place them on the permit if it decides to issue it.

When councils seek the advice of the CFA in situations where the CFA is not a formal referral authority (under Section 52 of the Planning and Environment Act), councils are not bound to follow the advice.

This document will be used by the CFA as a basis for examining planning permit applications for subdivision. If the subdivision meets the CFA preferred requirements the CFA is likely to consent with conditions.

***The CFA does not require that all applications must meet the requirements. An applicant may decide that the CFA preferred requirements are not appropriate and alternatives may be proposed. The CFA will consider the application in light of the objectives for water supply and access.***

If the objectives are not met, the CFA will object to the permit application and the council must then decide to not issue the permit. A non-successful applicant may seek an Order for Review at the Victorian Civil and Administrative Tribunal and the CFA will defend its decision as appropriate.

Further considerations apply in a Wildfire Management Overlay and the objectives and outcomes required to be met are specified in the planning scheme.

# Water Supply Requirements

## Objective:

Water is available to every lot in a subdivision for firefighting purposes in locations and amounts to enable firefighters to safely and efficiently carry out an initial attack on a residential building fire.

Hydrant Provision	
Performance Level	CFA Preferred Requirements
Where reticulated water is available, operable hydrants are provided.	Hydrants above ground or below must be provided

## Rationale

Firefighters use water as a prime tool of attack for structure fires. Reticulated water pipes have hydrants (above ground or below) that enable firefighters to tap into the reticulated system and control the flow. The water is pressurised by pumps in the fire truck and delivered via hoses to the fire.

Hydrant markers	
Performance Level	CFA Preferred Requirements
Hydrants are suitably identified so that firefighters can locate them at all hours.	Hydrants must be identified as specified in 'Identification of Street Hydrants for Firefighting Purposes' (see fig. 1) available under Publications on the CFA web site ( <a href="http://www.cfa.vic.gov.au">www.cfa.vic.gov.au</a> )

## Rationale

Firefighters need to rapidly locate water supplies in emergencies. A separate set of guidelines has been published by the fire services to ensure that a hydrant is identified as a hydrant, the location is easily identified by the fire appliances approaching from either direction and the exact location is found (see fig. 1).

Note: Recycled water hydrant marker posts may differ.

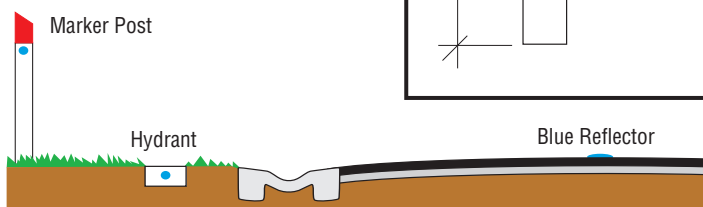


Figure 1

Hydrant Location	
Performance Level	CFA Preferred Requirements
Hydrants are located in positions that will enable firefighters to access water safely, effectively and efficiently.	The maximum distance between a hydrant and the rear of a lot must be 120m and hydrants must be no more than 200m apart (see fig 2).

## Rationale

On arriving at a structure fire firefighters normally park the fire truck so they can safely access both the building and the water supply.

## The location of the fire truck is based on the need to:

- Safely establish a control point as a base for managing the fire.
- Quickly supply water for rescue, crew safety, protection of other buildings under threat and firefighting.
- Enable firefighters carry out multiple tasks quickly.
- Communicate by voice and visually (including, but not limited to hand signals).
- Collect information visually.
- Light the scene using facilities on trucks.
- Access equipment (such as breathing apparatus, first aid kit, axe or a ladder) at short notice.



Figure 2

# Access Requirements

## Objective:

To enable a fire truck to gain access to locations in the close vicinity of dwellings to deliver water to the fire and to facilitate the provision of services and equipment to firefighters.

Road Width	
Performance Level	CFA Preferred Requirements
Roads are wide enough for fire trucks to gain access to a safe working area close to dwellings and water supplies whether or not on-street parking spaces are occupied.	Constructed roads must be as specified in table C1.

## Rationale

Fire trucks often used in residential areas are typically 3.02m wide and 7.7m long. The road width must allow room for safe passage of a fire truck with additional margins for human error and safe clearances. A 3.5m clearance is required horizontally and 4m vertically for access by a fire truck. A road at least 7.3m wide will allow for parking on both sides of the road and still enable access by a fire truck. A road 5.5m wide will allow parking on one side of the road only. Widths between these may encourage parking on both sides of the road so that access by a fire truck is not possible.

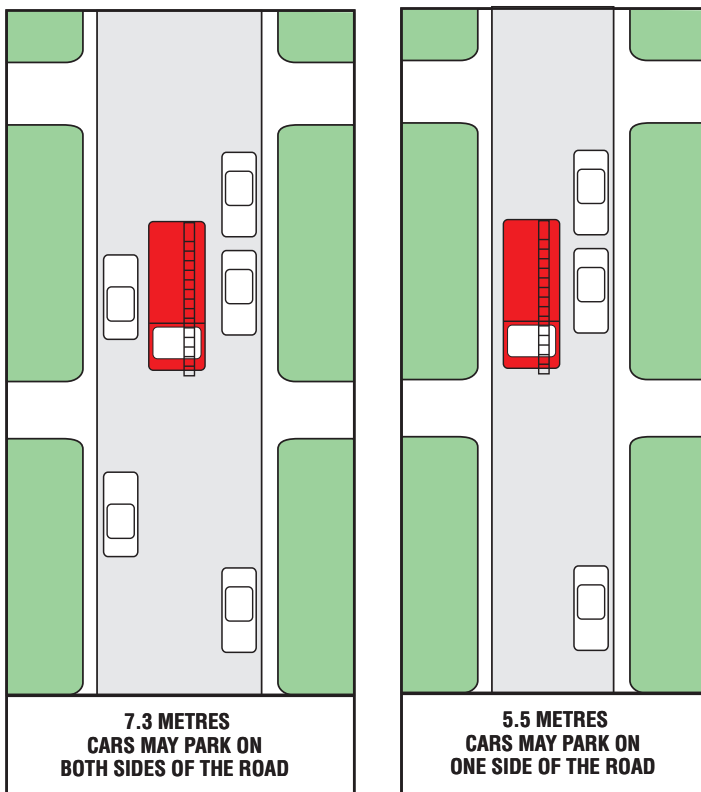


Figure 3

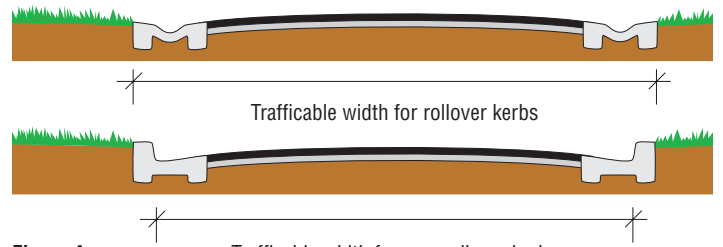


Figure 4

**Note:** The trafficable width includes the full extent of rollover kerbs, but for non-rollover kerbs the trafficable width is the distance between the kerb risers.

Road Construction	
Performance Level	CFA Preferred Requirements
Roads must be constructed to facilitate the safe passage of a laden fire truck in all seasons	Roads must be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width.

## Rationale

Roads must be trafficable in all weather conditions. Most fire trucks in residential areas currently weigh less than 13 tonnes. However, trucks heavier than 13 tonnes are possible in future. To deal with this circumstance, the CFA preferred requirement is 15 tonnes.

**Note:** If roads are constructed to cater for the Austroads Design Service Vehicle they will be constructed to a standard to carry a fire truck.

Road Grades	
Performance Level	CFA Preferred Requirements
Grades of roads must facilitate the safe passage of a fire truck.	The average grade must be no more than 1 in 7 (14.4%) (8.1 degrees) with a maximum of no more than 1 in 5 (20%) (11.3 degrees) for no more than 50 metres.  Dips must have no more than a 1 in 8 (12.5%) (7.1 degree) entry and exit angle.

## Rationale

Steep slopes affect the free movement of fire trucks and hinder safe firefighting. Severe short dips may limit access due to the overhang of the body from the wheels.

Turning Bays	
Performance Level	CFA Preferred Requirements
Provision is made for fire trucks to turn at the end of dead end roads.	<p>Constructed roads more than 60m in length from the nearest intersection must have a turning circle with a minimum radius of 8m (including roll-over kerbs if they are provided).</p> <p>Other solutions using T or Y heads of specified dimensions are also appropriate. (see fig. 5).</p>

**Rationale**

It is dangerous for emergency vehicles to be required to back along roads for excessive distances in urban areas. Turning is normally carried out after the incident is under control when an emergency movement is not required. Even then, large trucks backing in residential areas create safety concerns. Fire trucks occasionally need to seek an alternative route necessitating a 180 degree turn in emergency conditions. Using a three point turn, fire trucks require a turning circle radius of 8m to turn safely. Alternative designs using specified T or Y heads are also appropriate. This area needs to be clear of obstructions.

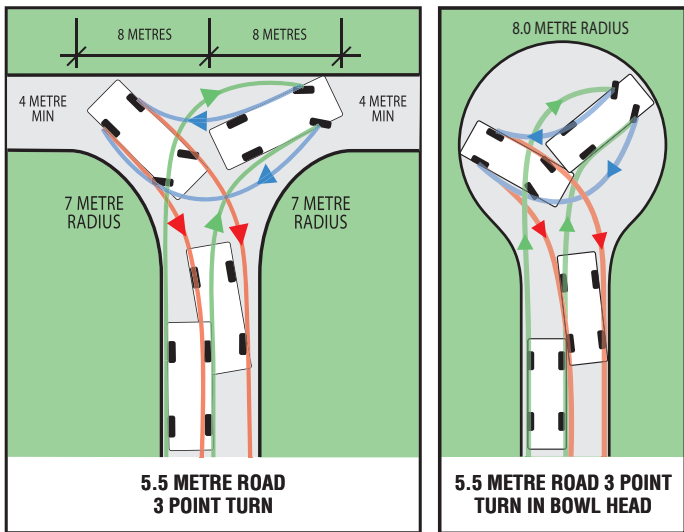


Figure 5

Table C1 Carriageway Widths of Roads and Neighbourhood Streets	
Street Type	Carriageway Width
<p><b>Access Lane</b> A side or rear lane principally providing access to parking on lots with another street frontage.</p>	5.5m with no parking spaces to be provided. Appropriately signed.
<p><b>Access Place</b> A minor street providing local residential access with shared traffic pedestrian and recreation use, but with pedestrian priority.</p>	<p>5.5m wide with 1 hard standing verge parking space per 2 lots.</p> <p><b>or</b></p> <p>5.5m wide with parking on carriageway – one side. Appropriately signed.</p>
<p><b>Access Street - Level 1</b> A street providing local residential access where traffic is subservient, speed and volume are low and pedestrian and bicycle movements are facilitated</p>	5.5m wide with 1 hard standing verge parking place per 2 lots.
- Level 2	7.3m-7.5m wide with parking on both sides of carriageway. 7.0m-7.2m with rollover curbs. Note: widths differ from CI 56 of VPP's.
<p><b>Connector Street - Level 1</b> A street that carries higher volumes of traffic. It connects access places and access streets through and between neighbourhoods.</p>	<p>6m-6.5m wide with indented parking on both sides on a bus route</p> <p><b>or</b></p> <p>7m-7.5m wide with indented parking on one side and kerbside parking opposite on a bus route</p> <p><b>or</b></p> <p>7.2m-7.5m wide with parking on both sides of carriageway</p>
-Level 2	<p>2 x 5.5m wide carriageways with central medium. Parallel parking should be provided in locations that allow cars to exit in a forward direction from a parking space.</p> <p><b>or</b></p> <p>7.2m-7.5m wide carriageway with indented parking on both sides and turning lanes at intersections with other Level 2 connector Streets and Arterial Roads.</p> <p>Bus bays to be indented.</p>



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