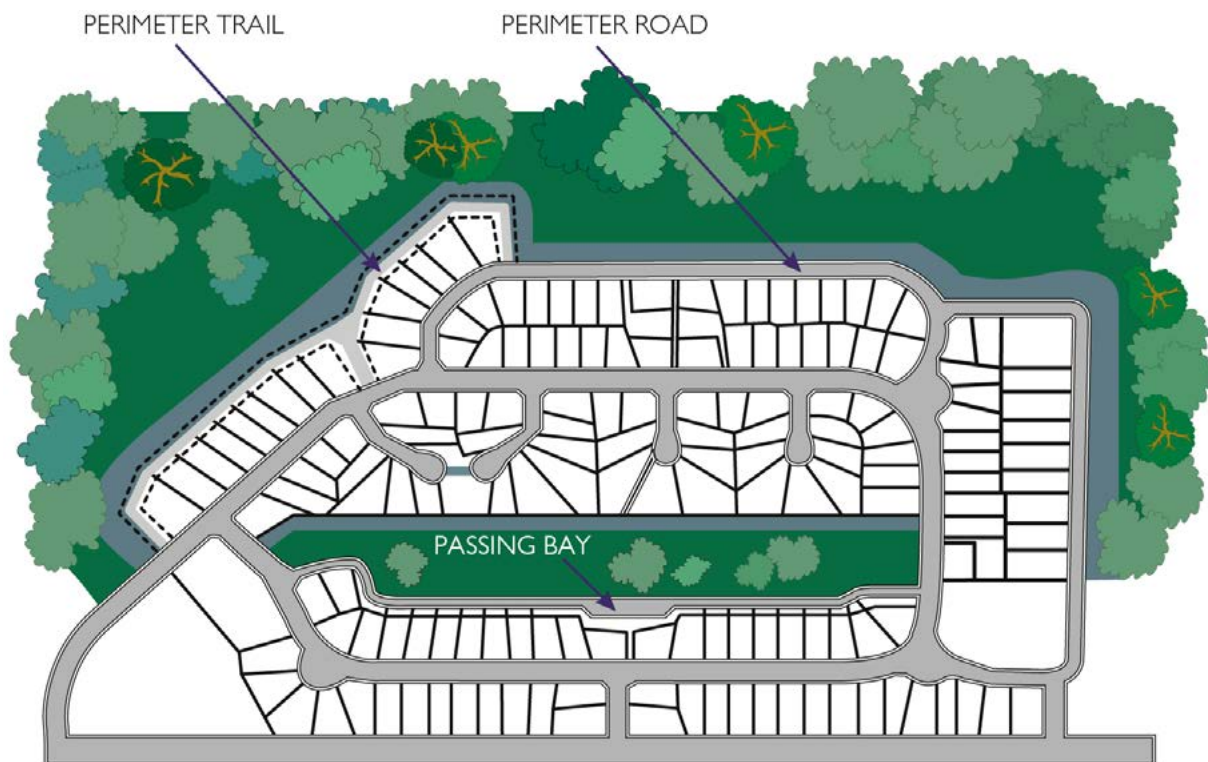


BUILDING FOR BUSHFIRE

Subdivision



Subdivisions in bushfire prone areas need careful planning to provide for public safety in these areas of increased risk.

The subdivision of land in bushfire-prone areas is subject to the provisions of the Bushfire-Prone Areas Code and is regulated through the planning system. The Code requires that a bushfire hazard management plan is provided to ensure that use and development is appropriately designed, serviced and located to reduce the risk to human life and property.

A subdivision of land within a bushfire prone area must be able to demonstrate how all lots which are bushfire affected can accommodate adequate hazard management areas, building areas, firefighting water supplies and vehicular access. This protection must be provided to all lots in each stage of a staged subdivision. These concepts are discussed in the following sections.

A subdivision bushfire hazard management plan can be used by lot owners for building compliance purposes. Subdividers should therefore ensure they make these plans available to their customers.

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HAZARD MANAGEMENT AREAS

A subdivision must provide sufficient separation between building areas and bushfire prone vegetation to reduce the risks associated with radiant heat, direct flame and ember attack to acceptable levels.

To achieve this, each lot must be provided with adequate hazard management areas which must be shown on a bushfire hazard management plan. Each lot must be able to accommodate a BAL-19 building area for the subdivision to be acceptable. The bushfire attack level (BAL) is determined using assessment methods specified in AS3959 Construction of Buildings in Bushfire Prone Areas and must be completed by an Accredited Bushfire Hazard Practitioner.

Hazard management areas must be appropriate to;

- The risk posed to lots at any stage of a staged subdivision (interim hazard management areas may be necessary until the development is completed);
- The nature of the bushfire-prone vegetation including the type, fuel load, structure and flammability;
- The topography, including the slope on site;
- Any other potential forms of fuel and ignition sources;
- The suitability of building areas to accommodate future development; and
- The practicalities associated with future maintenance of hazard management areas (e.g. slope, land ownership, etc).

As part of the subdivision design, there may be opportunities to provide additional separation between bushland and residential lots through the location of road reserves and public open space. In addition to reducing risk to life and property, this may have other advantages from a development perspective. For example, increasing flexibility for building siting and reducing building construction costs.



PUBLIC AND FIREFIGHTING ACCESS

Subdivisions must be designed to facilitate safe and efficient access and egress for road users during an emergency.

Firefighter intervention requires access to water supplies, to the bushfire-prone vegetation and to properties. Residents and emergency personnel also require safe evacuation routes.

As well as conforming to appropriate engineering standards, the access network should provide for connectivity, multiple evacuation routes and perimeter access.

SUBDIVISION ROADS

The Bushfire-Prone Areas Code provides minimum standards for new roads created as part of a subdivision development. This includes requirements for:

- Load capacity;
- Carriageway width and surface;
- Horizontal and vertical clearance;
- Gradient and cross-fall;
- Turning heads;
- Curve radius; and
- Use of 'No Parking' zones.

Figures 1,2 and 3 illustrate these requirements.



Figure 1 Cross fall angles

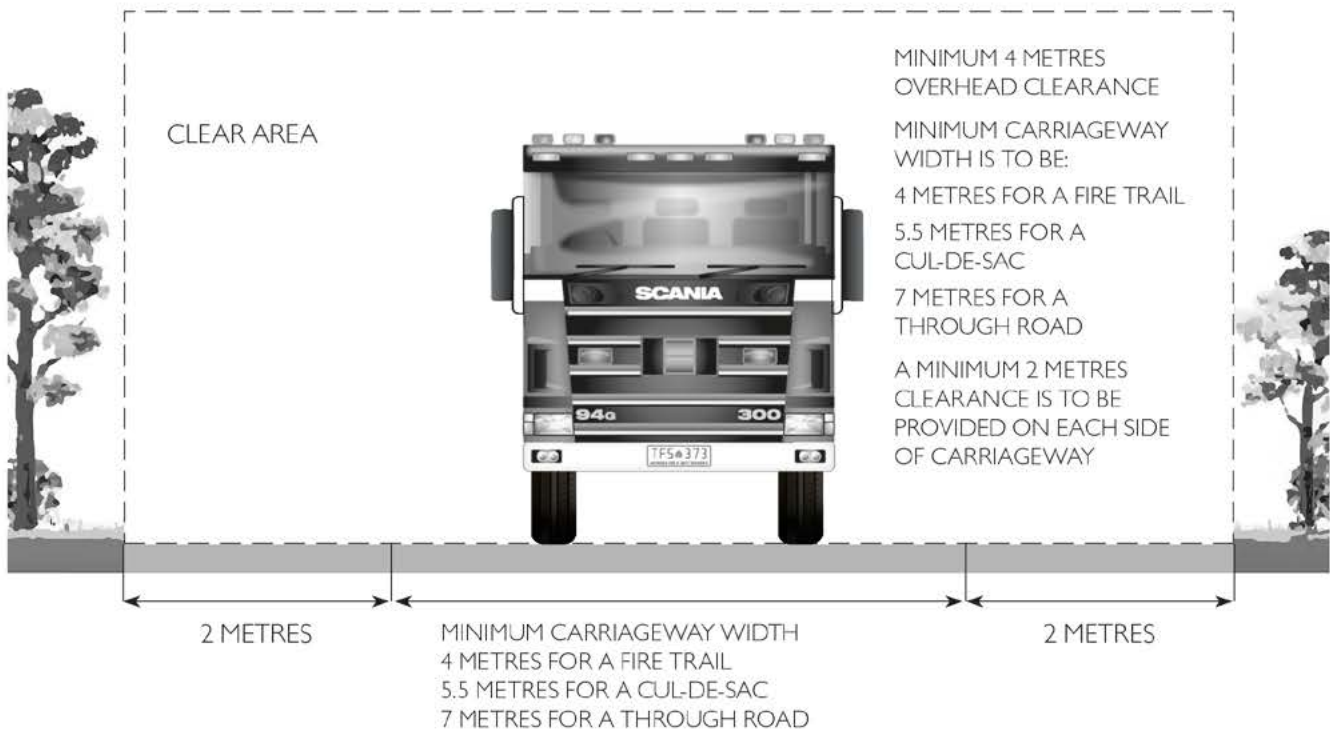


Figure 2 Carriageway width and clearance

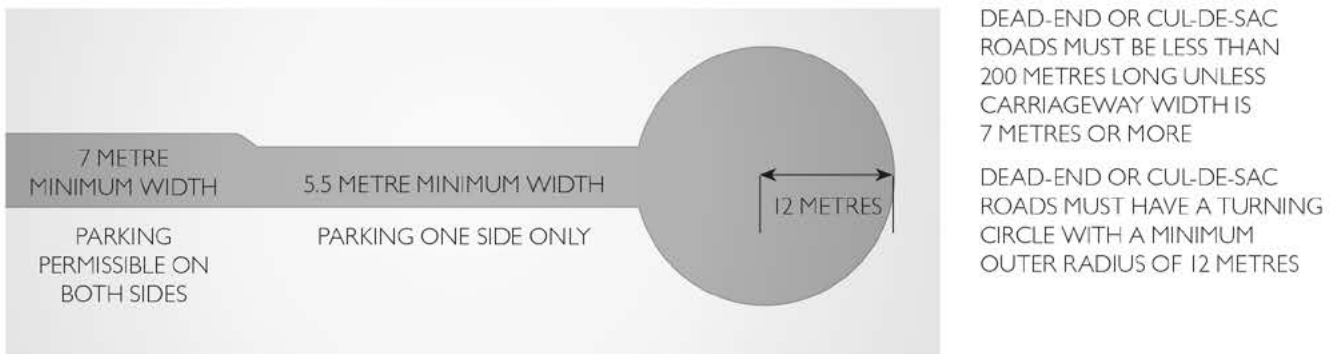


Figure 3 Dead-end roads or cul-de-sacs

PROPERTY ACCESS

Apart from crossovers from the road, the subdivider will usually not be required to construct private accesses as part of a subdivision development. Private accesses are normally constructed as part of subsequent building work.

However, the subdivision design must ensure that future buildings on the proposed lots can be provided with an access that will conform to minimum standards provided in the Bushfire-Prone Areas Code.

Where internal lots are proposed, the subdivision must provide an access strip of sufficient dimensions to accommodate the required carriageway, horizontal clearances and passing bays.

Where a building area will require a property access of 30m length or more, the subdivision design must ensure a suitable alignment can be provided that conforms to Code requirements and that the lot has suitable dimensions to accommodate provision for onsite turning.

More details on specific property access requirements can be found on the TFS website.

FIRE TRAILS

Subdivision design should consider opportunities to incorporate fire trails where appropriate to support firefighter intervention in an emergency. Properly designed perimeter fire trails along an urban interface can greatly assist the ability of firefighters to protect properties.

Where provided as part of a subdivision, fire trails are required to conform to minimum standards provided in the Bushfire-Prone Areas Code.

FIREFIGHTING WATER SUPPLIES

It must be demonstrated at the subdivision stage that allowances have been made for the protection of life and property associated with the subsequent use and development of bush-fire prone areas. Proposed subdivisions must ensure that adequate, accessible and reliable water supplies are available for the purpose of firefighting.

Municipal and zoning requirements will dictate whether a proposed subdivision will be required to include a reticulated water supply, or whether lots within the subdivision will rely on static water supplies to meet statutory requirements. The subdivider will generally not be responsible for the supply of static water supplies to households. Provision of these supplies will normally be a requirement for individual land owners and residents, and will most likely be met through installation of tanks which capture rain water.

In most cases where reticulated water is specified, developers will be required to meet these requirements. They will also be required to ensure that all lots within the subdivision can meet the requirements for access to building areas where static water supplies might be located. Factors including the steepness of the block will need to be considered as will distance requirements for fire hydrants.

RETICULATED WATER SUPPLIES

Distance

The following requirements apply:

- The building area to be protected must be located within 120 metres of a fire hydrant; and
- The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area (refer to Figure 4).

Design criteria for fire hydrants

The following requirements apply:

- Fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA Edition 2.0; and
- Fire hydrants are not installed in parking areas.

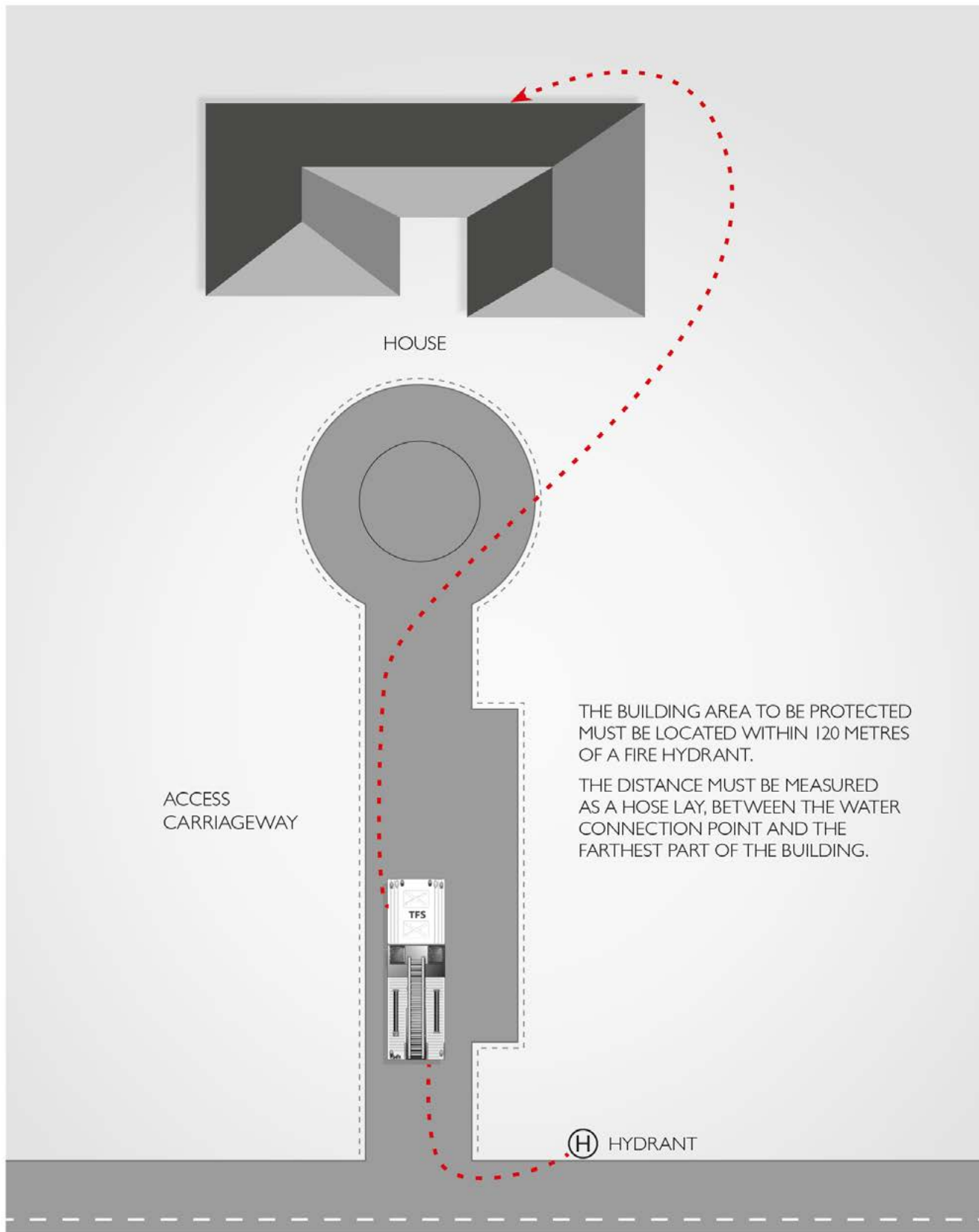


Figure 4 Hydrant detail



GLOSSARY OF TERMS

Bushfire Attack Level (BAL) – means the bushfire attack level as defined in AS3959 Construction of Buildings in Bushfire Prone Areas as ‘a means of measuring the severity of a building’s potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire’.

Bushfire hazard management plan – means a plan showing means of protection from bushfires in a form approved in writing by the Chief Officer of the Tasmania Fire Service.

Bushfire-prone area means:

- (a) land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; and
- (b) (i) where there is no overlay on a planning scheme map; or
(ii) where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.

Bushfire-prone vegetation – means contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.

Carriageway – means the section of road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulders.

Fire hydrant – means as described in AS 2419.1 Fire hydrant installations – System design, installation and commissioning: An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for fire- fighting.

Hazard management area – means the area, between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.

Hose lay – means the distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.

Property access – means the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area.

Reticulated Water supply – a continuous supply of water which has been made available from a network of pressurised underground mains which are supplied from the municipal water supply.

Static water supply – means water stored in a tank, swimming pool, dam, or lake, that is available for firefighting purposes at all times.

TFS – means Tasmania Fire Service.

Firefighting water point – means the point where a fire appliance is able to connect to a water supply for firefighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake or pool).



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