

SHROPSHIRE FIRE AND RESCUE SERVICE

FIRE SAFETY ADVICE SHEET

EMERGENCY FIRE APPLIANCE ACCESS FOR FIRE FIGHTING AND RESCUE

Introduction

Vehicle access to the exterior of a building is needed to enable high reach appliances, such as turntable ladders and hydraulic platforms, to be used, and to enable pumping appliances to supply water and equipment for rescue and fire fighting activities. Access requirements increase with building size and height.

Fire mains enable fire fighters within the building to connect their hoses to a water supply. In buildings fitted with fire mains, pumping appliances need access to the perimeter at points near the mains, where fire-fighters can enter the building and where in the case of dry mains, a hose connection will be made from the appliance to pump water into the main.

The vehicle access requirements described in Table 1 below for buildings without fire mains, do not apply to blocks of flats & maisonettes because access is required to each individual dwelling, or to buildings with fire mains. Vehicle access routes and hard-standings should meet the criteria described in Design of access routes and hard standings (below) where they are to be used by emergency fire service vehicles.

1. Domestic dwelling houses

There should be vehicle access for a pumping appliance to within 45m of all points within the dwelling house. Every elevation to which vehicle access is provided should have a suitable door, not less than 750mm wide, giving access to the interior of the building.

2. Buildings not fitted with fire mains

There should be vehicle access for a pumping appliance to small buildings (those of up to 2000m² with a top storey up to 11m above ground level) to the less onerous of either:

- * 15% of the perimeter; or
- Within 45m of every point on the projected plan area (or 'footprint') of the building.
- There should be vehicle access for a pumping appliance to blocks of flats or maisonettes to within 45m of all points within each dwelling.

Note

If the provisions of the above paragraph cannot be met, a fire main should be provided in accordance with British Standard 9990:2006

For other buildings that do not have fire mains, emergency fire vehicle access should be provided in accordance with Table 1. Every elevation to which vehicle access is provided should have a suitable door, not less than 750mm wide, giving access to the interior of the building.

| Table 1 Emergency fire service vehicle access to buildings (excluding blocks of flats) not fitted with fire mains | | | |
|--|---|--|--------------------------|
| Total floor area of building m2 | Height of floor of top storey above ground | Provide vehicle access to: | Type of appliance |
| up to 2000 | up to 11 over 11 | See * 15% of perimeter | pumping high reach |
| 2000-8000 | up to 11 over 11 | 15% of perimeter 50% of perimeter | pumping high reach |
| 8000 – 16000 | up to 11 over 11 | 50% of perimeter 50% of perimeter | pumping high reach |
| 16000 – 24000 | up to 11 over 11 | 75% of perimeter 75% of perimeter | pumping high reach |
| Over 24000 | up to 11 over 11 | 100% of perimeter 100% of perimeter | pumping high reach |

| Table 2 Typical fire service vehicle access route specification | | | | | | |
|--|---|-------------------------------------|---|---|------------------------------------|---|
| Appliance type | Minimum width of road between kerbs(m) | Minimum width of gateways(m) | Minimum turning circle between kerbs (m) | Minimum turning circle between walls (m) | Minimum clearance height(m) | Minimum carrying capacity (tonnes) |
| Pump | 3.7 | 3.1 | 16.8 | 19.2 | 3.7 | 12.5 |
| High reach | 3.7 | 3.1 | 26.0 | 29.0 | 4.0 | 17.0 |

Note

The specifications detailed above are typical for standard fire service appliances. However, the table below details specialist vehicles utilised by Shropshire Fire and Rescue Service which exceed the standard vehicle weights.

| VEHICLE | TEST WEIGHT (KG) |
|---------------------------|-------------------------|
| ALP (High Reach Vehicle) | 25400 |
| HPU (Heavy Pumping Unit) | 15880 |
| HPU (Hose Recovery) | 16180 |

3. Buildings fitted with fire mains

In the case of a building fitted with dry fire mains there should be access for a pumping appliance to within 18m of each fire main inlet connection point. The inlet should be visible from the appliance.

In the case of a building fitted with wet mains the pumping appliance access should be to within 18m, and within sight of, a suitable entrance giving access to the main, and in sight of the inlet for the emergency replenishment of the suction tank for the main.

4. Design of access routes and hard standings.

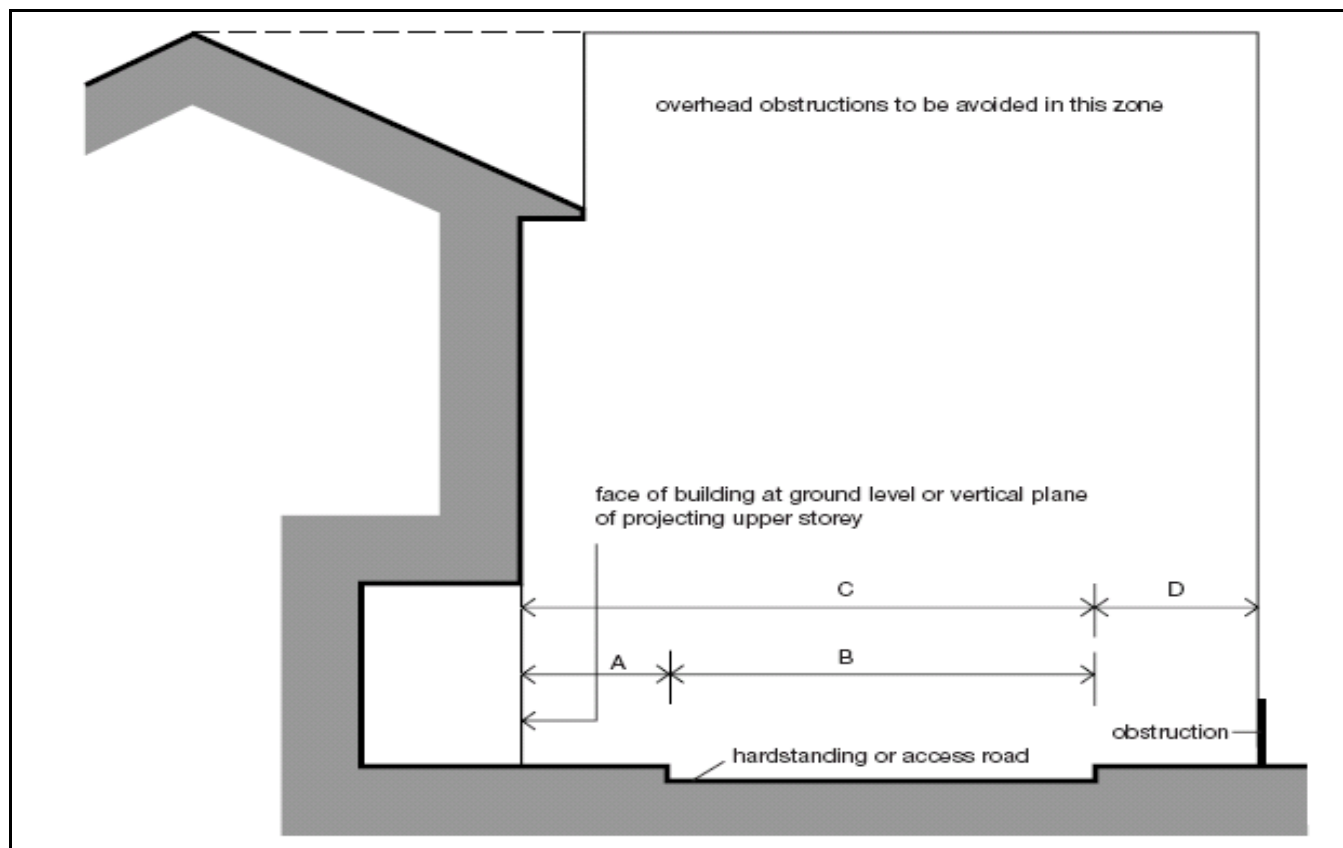
A vehicle access route may be a road or other route which, including any manhole covers and the like, meets the standards in Table 2 and the following paragraphs.

Where access is provided to an elevation in accordance with Table 1:

- a. for buildings up to 11m in height, there should be access for a pumping appliance adjacent to the building for the percentage of the total perimeter specified;
- b. for buildings over 11m in height, access routes should meet the guidance detailed in Table 3

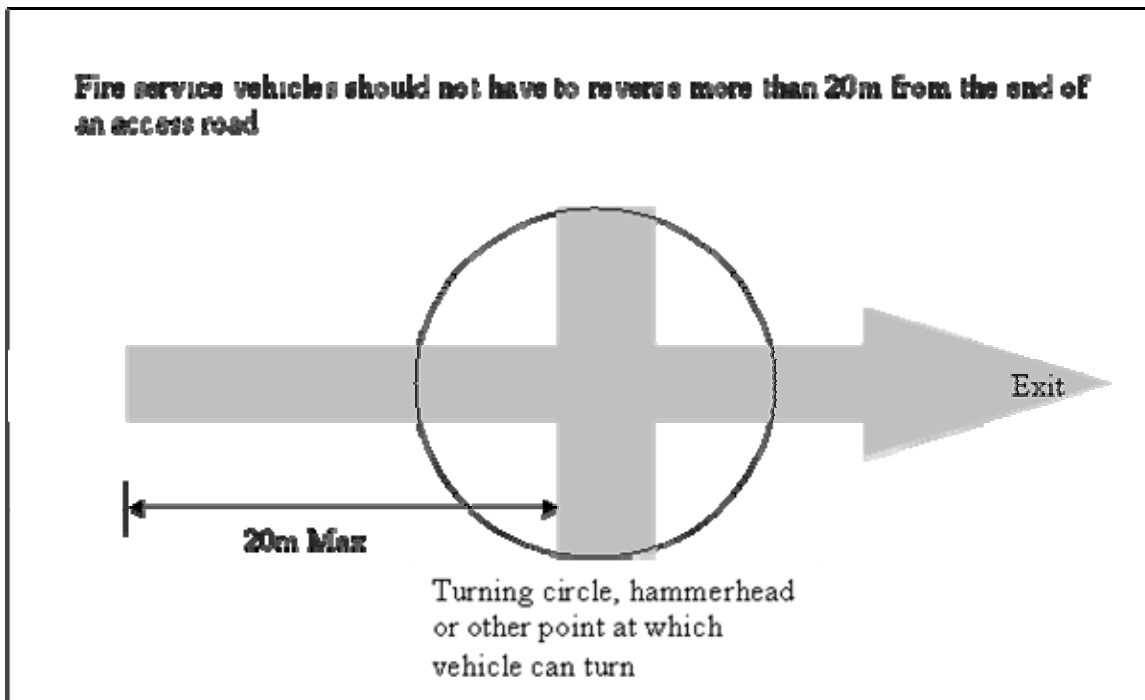
Where access is provided to an elevation for high reach appliances in accordance with Table 1, overhead obstructions such as cables and branches that would interfere with the setting of ladders etc should be avoided in the zone indicated in Table 3.

Table 3
Relationship between building and hardstanding/access roads for high reach fire appliances



| | Type of Appliance | |
|--|-----------------------------------|-------------------------------------|
| | Turntable Ladder Dimension (m) | Hydraulic Platform Dimension (m) |
| A. Maximum distance of near edge of hardstanding from building | 4.9 | 2.0 |
| B. Minimum width of hardstanding | 5.0 | 5.5 |
| C. Minimum distance of further edge of hardstanding from building | 10.0 | 7.5 |
| D. Minimum width of unobstructed space (for swing of appliance platform) | N/A | 2.2 |
| Notes 1. Hardstanding for high reach appliances should be as level as possible and should not exceed a gradient of 1 in 12 2. Fire appliances are not standardised. Appliances can vary in weight and size. The relevant dimensions and ground loading capacities should be adopted following consultation with the Fire and Rescue Service | | |

Turning facilities should be provided in any dead-end access route that is more than 20m long. This can be by a hammerhead or turning circle, designed on the basis of the diagram below.



This advice sheet is produced from information contained in “The Building Regulations 2000 (2006 Edition) Fire Safety Approved Document B”. The full text for the access requirements for emergency fire vehicles is available from the Department for Communities and Local Government web site at www.communities.gov.uk

For general fire safety matters, Shropshire Fire and Rescue Service can be reached on **01743 260 260** or via our web site at www.shropshirefire.gov.uk