LONDON FIRE BRIGADE

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Request:

Hi, is there any information available for road widths and clearance for engines etc.

Response:

Further to your request, please find details below of information on road widths and clearance for engines.

3 General

3.1 Access roads may be public highways, private roads, footpaths or specially strengthened and defined routes through the land surrounding the buildings. The recommendations for London Fire Brigade pumping appliances, aerial appliances and special large appliances are detailed below:

Appliance Type	Min. width of road between kerbs(m)	Min. width of gateways (m)	Min. turning circle between kerbs (m)	Min. turning circle between walls (m)	Min. clearance height (m)	Min. carrying capacity (tonnes)
Pump	3.7	3.1	16.8	19.2	3.7	14.0
Aerial	3.7	3.1	26.0	29.0	4.27	32.0
Special Appliance	6.1	3.1	27.5	32.0	4.27	32.0

Table 1 - Typical vehicle access route specification

3.2 It should be noted that any or all of the appliances noted could be attending a fire or other incident at any location and therefore, the upper number for width and weight considerations should be utilised in any deliberations for access at any location. It should also be noted that the weight and width considerations should be through any gateway and into the surrounding area

as firefighters will need to gain access to the appliance concerned. In addition, aerial appliances will need to extend jacks from the appliances if they are to be used in any work environment.

3.3 Due to the weight of high and special reach appliances being distributed over a number of axles, it is considered that their infrequent use of a carriageway or route designed to 14.0 tonnes should not cause

damage. It would therefore be reasonable to design the road base to 14.0 tonnes, although structures such as bridges should have the full 32.0 tonnes capacity.

4 Access

Access for all appliance types

4.1 Access roads for appliances should be provided with a minimum 10 metre working area(s) at appropriate locations where appliances are to be positioned and used around the building. This will enable all types of appliance to operate at their optimum height and reach. Roads, including any inspection covers and public utility service pits, should be capable of carrying the maximum weight set out in Table 1.

4.2 With regard to Diagram 15.2 of ADB B5 Volume 2, the maximum and minimum distances and width of aerial appliances for the LFB are;

A = 4.9 metres

B = 7.0 metres

C = 12.0 metres

D = 2.2 metres

Access road gradients

4.3 Gradients on any access road to be used by fire appliances should be no greater than 1 in 4 (25%). The approach and departure angles to any gradient should not exceed 12°.

5 Turning and Sweep Circles of Appliances

5.1 When providing access for appliances, allowance should be made for an appliance's turning circle and sweep circles. Additional turning spaces should be provided where corners have to be negotiated, and sweep circles should not be obstructed above kerb height.

6 Dead End Access

6.1 Turning facilities should be provided in any dead end access route that is more than 20m long This can be a hammerhead or turning circle as described in Diagram 15.3 Turning facilities, of Volume 2 of ADB.

7 Access for Buildings

7.1 Access to the exteriors of the building is needed to enable high reach appliances to be used and pumping appliances to supply water and equipment for fire fighting and rescue activities. These access requirements increase with the building size and height. Vehicle access requirements are commented on in the current versions, Volumes 1 and 2 of ADB, Requirement B5: Access and facilities for the fire service. Alternatively, the current version of BS 9999 Fire safety in the design,

management and use of buildings Code of practice (Section 6) or BS 9991 Fire safety in the design, management and use of residential buildings Code of practice can be utilised (Section 8).

8 Obstruction to Access

8.1 All access roads for Fire Brigade appliances should be kept clear of any obstructions. It may, however, be considered necessary to restrict unauthorised entry and various arrangements are set out below.

8.2 Before any obstructions are installed the proposed arrangements should be agreed with the Traffic Liaison Officer who can be contacted through at the LFB's local borough Fire & Community Safety Centre.

9 Posts and Bollards

9.1 Siting of bollards must not obstruct the use of hydrants.

Fixed and removable posts or bollards

9.2 When considering the type of post or bollard to be used, either fixed or removable, it is particularly important to bear in mind the type of scheme being considered.

9.3 If the scheme is a simple environmental improvements scheme in a thoroughfare it may be acceptable for a row of fixed bollards to be spaced along the kerb line. If this is not acceptable to the traffic authority, there are a number of options:

(a) Intermediate bollards of a lower height i.e., below 230mm in height.

(b) A removable bollard - one only for any access route. Removable bollards may be of galvanised steel tube. They should be secured in position with a standard Fire Brigade (FB) padlock or GERDA key.

Collapsible posts or bollards

9.4 Collapsible posts and bollards are acceptable in certain cases provided they do not project more than 150mm above ground level when folded and are not of such a type that an appliance passing over one end of the collapsed bollard will raise the other end and foul the appliance. Collapsible posts may be of iron pivoted near the ground. They should be secured by a standard FB padlock or GERDA key.

Flexible posts or bollards

9.5 Any proposal to use flexible bollards of a new or improved design should be referred (with particulars of the design) to the Traffic Liaison Officer at the LFB's local borough Fire & Community Safety Centre.

10 Width Restrictions

10.1 Closure of the roadway by a lockable gate or removable post(s) is not permitted where the restriction extends the attendance times. A raised paved area of any sort in the centre section of a width restriction is not acceptable except where it forms a control island with posts to prevent traffic mounting the pavement. It should have a kerb height not exceeding 100mm. It is essential to ensure that these posts are easily removable.

10.2 Any gate or removable post(s) must be secured only at one point and with a standard FB padlock or GERDA key.

10.3 If an appliance would have to mount the pavement to pass a restriction there should be no obstructions in the form of shop blinds, trees or street furniture which might impede its passage. The

total width available for the passage of appliances, i.e., combined width of road and pavement, must not be less than 3.1m with a straight approach. Where the approach is at an angle, up to 5m may be necessary.

11 Gate Barriers

11.1 Barriers are not acceptable on through routes and only one barrier is acceptable on a route to an estate. Thus, if a barrier is provided on an estate, the route from the local fire station to that estate must not be additionally obstructed in any way.

11.2 Tests have shown that at least a minute is lost through the appliance and crew negotiating their way through a barrier through stopping, dismounting, removing an obstruction, remounting and proceeding. This assumes that the lock is in good order and the obstruction can be easily removed.

11.3 Most types of gate barrier are acceptable if they meet the following criteria:-

(a) They must be quickly and easily openable by LFB personnel.

(b) They must be only secured at one point by a standard FB padlock or Gerda key.

11.4 Any proposal to install electrically operated barriers should be referred to the Traffic Liaison Officer at the LFB's local fire safety office. Measures should be taken to ensure that parking will not take place in the immediate vicinity of a barrier and where it is known that parking is likely to take place, the scheme should not be allowed.

12 Speed Control Humps

12.1 The Highways (Road Humps) Regulations 1999 stipulate precise and demanding criteria for the construction, siting and signing of road humps on public roads.

12.2 Regulation 3(b) of the Highways (Road Humps) Regulations 1999 confirms the London Fire Brigade should be consulted when a borough proposes introducing a road hump scheme.

12.3 Written notification of the final scheme details should be presented to the LFB at least one month prior to implementation. Such notification would enable the Officers to consider and introduce any contingency arrangements that may be possible.

12.4 Proposals to amend any part of an existing scheme should be subject to further notification and consultation in order that Officers may consider the full implications of the revised scheme and with regard to any adjacent traffic management schemes.

12.5 Although the LFB is supportive of the aims of traffic management schemes it should be remembered that each road hump delays a fire appliance by approximately ten seconds. (Six humps represent a delay of one minute). Every consideration should be given to the introduction of other traffic calming measures in place of road humps, with road humps only being used to complement the total scheme.

12.6 A typical location for a road hump system would be a long and fairly straight secondary road situated in a residential area. The LFB's case will then need to be based on the distance from the nearest fire station and whether the road on which the humps are to be constructed is one which is essential for access, and for which no suitable alternative is available. Additional factors to be considered include:-

(a) Type of road humps: Round top humps are preferred to those with a flat top.

(b) Size: Humps of 50mm high are preferable to those of 75mm or 100mm high. The overall length of a specific type of hump should be as near to the recommended minimum as possible.

(c) Distance between humps: In general, the Brigade would prefer the maximum possible distance between humps. However, there may be specific sections of a road on which it is desired to achieve a more defined speed limitation and which consequently will result in closer positioning of humps. Accordingly, such measures should not apply to the whole length of the road.

(d) Number of humps: The removal of previous restrictions on the number of humps in a series may lead to a tendency to identify road(s), which though worthy of the installation of road humps, could result in unnecessarily extensive series of road humps. This tendency should be avoided and humps only installed where their specific benefits have been identified.

(e) Location of road humps: Generally, the placement of road humps within close proximity of bus stops, round-a-bouts, road junctions and on dual carriageways are likely to lead to speed reductions, but correspondingly heavier traffic congestion which would, invariably, further delay appliances attending emergency incidents. Therefore, such proposals would be discouraged.

(f) Speed Tables: The Highways (Road Humps) Regulations 1999 indicate a minimum length for a road hump but not a maximum length. This allows a road to be raised for a considerable distance to provide a flat topped table, these are known as Speed Tables.

12.7 Speed Cushions are normal road humps with gaps to allow the passage of large vehicles, e.g. fire appliances and buses. Conditions a) – f) above also apply to speed cushions although they are generally more acceptable to the LFB.

13 Pedestrianised Areas

13.1 A clearly defined fire path at least 3.7m wide, and capable of supporting the weight of a pumping appliance, i.e., maximum 14.0 tonnes, is required through a pedestrianised area. (This may be indicated by the use of different coloured concrete or different paving patterns). Where tall buildings abut, the fire path will need to be 6.1m wide for use by turntable ladders or hydraulic platforms with a working width of 8m and capable of taking a maximum weight of 32.0 tonnes.

13.2 The siting of the fire path should take into account building design features, e.g., canopies, extended shop fronts, etc. and any other road furniture. (these features may affect the positioning and operational use of aerial appliances and/or ladders).

13.3 No physical obstructions including seating, trees or flower beds should obstruct the fire path and no street furniture e.g., lamp posts, should be allowed which could prevent the use of ladders by firefighters.

13.4 If appliance access to a pedestrianised area crosses a kerb, it should be ramped with a steady incline for a minimum length of 500mm with the difference in levels not exceeding 100mm and both ends inset.