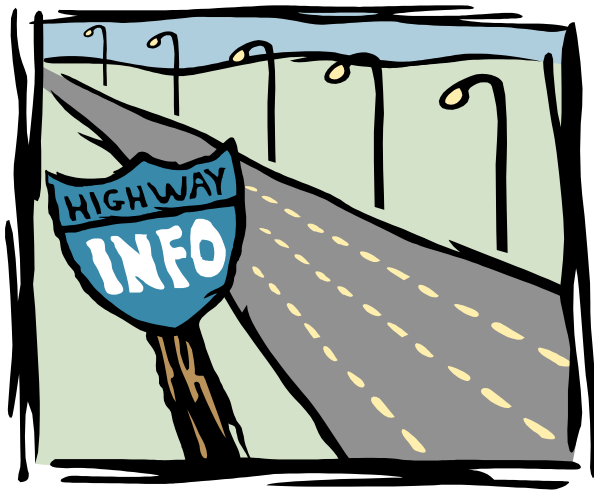


# FIRE LANES, ACCESS ROADS, AND SIGNAGE REQUIREMENTS

## INFORMATION PACKET



**Exeter Township Fire Department**  
Fire Codes Office



2010

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## **FIRE APPARATUS ACCESS ROAD DESIGN**

1. Public roadways shall be constructed to Township Standards

2. All roadways proposed for fire department access shall be engineered and constructed of an all-weather driving surface of asphalt or concrete capable of supporting the imposed load of fire apparatus weighting at least 80,000 pounds.

- Alternative methods such as brick pavers, road base, gravel, etc. may be considered on a case-by-case basis. A State of Pennsylvania Certified Civil Engineer must approve the design and installation as meeting the weight requirement in writing.
- Access roadways designed to incorporate materials that allow grass to grow through or upon the surface such as Grassrings, Geoblock, Grasstone, or Grass Crete may be considered on a case-by-case basis. The roadway must be clearly defined through some type of means. An example would be using landscaping to identify curves in the roadway.

3. Minimum widths for apparatus access shall be as follows. Widths are measured curb face to curb face or, edge of pavement to edge of pavement where there are no curbs. These areas must be maintained unobstructed.

- Access roadways with a width of 34 feet or more do not require fire lane signs. Parking is allowed on both sides of the roadway (see Figure 1).
- Access roadways with a width of 26 to 34 feet wide shall have fire lane signs posted on one side of the roadway. Parking is allowed on only one side of the street (see Figure 1).
- Access roadways with a width of 20 to 26 feet require fire lane signs on both sides of the street.
- Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet. See figure # 6
- Access roadways in parking lots may be reduced to a minimum of 24 feet where parking spaces are designed back to back. Where parking is designed back to curb, a minimum of 28 feet shall be provided without fire lane posting (see Figure 1).
- Roadways with features such as landscape islands, traffic calming devices, etc. that cause a one way or reduction in width of roadway shall be a minimum 20 feet in width and no longer than 200 feet in length. Fire lane signs shall be posted on both sides (see Figure 2).

4. Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet. (See figures # 3, 5).

- Unobstructed vertical clearance of 13 feet, six inches, shall be maintained above all fire department access ways. Obstructions include but are not limited to wires, tree limbs, awnings, etc.

5. Dead-end apparatus access roads in excess of 150 feet shall be provided with width and turnaround provisions in accordance with Table D103.4 of IFC (See figure # 5)

6. Cul de sac bulbs shall be constructed to the following widths:

- Dead-ends exceeding 151 feet require a minimum 96-foot bulb.
- Cul de sacs and dead-end access roads exceeding 750 feet shall be provided with intermediate turnarounds as deemed necessary by the ETFD

7. GRADES - Fire apparatus access roadway shall not exceed 10 percent grade. Intersections and turnarounds shall be level (maximum 5%) with the exception of crowing for water run-off.

## 8. GATES

- Minimum gate widths shall be 20 feet
- Gates shall be of the sliding or swinging type
- Construction of gates shall be of materials that allow manual operation of one person.
- Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. (approval by fire code official)
- Gates and other approved devices designed to limit access shall be provided with the Knox Rapid Entry System with a manual override
- Locking device specifications shall be submitted for approval by the fire code official.

## COMMERCIAL / INDUSTRIAL DEVELOPMENTS

- Buildings or facilities exceeding 30 feet or three stories in height shall have at least three means of fire apparatus access for each structure.
- Buildings or facilities having a gross building area of more than 62,000 sq. ft. shall be provided with two separate and approved fire apparatus access roads.

- Where two access roads are required, they shall be placed a distance equal to not less than ½ of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses. (See example # 4)

*\*Automatic Sprinkler Protection (Exception)*  
When buildings are completely protected with an approved automatic fire sprinkler system, the requirements for fire access may be modified as approved by the fire code official.

### **RESIDENTIAL DEVELOPMENTS**

Private driveways for one and two-family dwellings shall be provided with fire department access to within 150 feet of all first story exterior portions of the structures upon the property.

- Driveways shall be provided and maintained with a minimum of 12 feet of unobstructed width.
- Grades shall not exceed 10%.
- Dead-end driveways that are required for fire department access and exceed 150 feet shall be provided with an approved turnaround (see approved turnaround figures 3, 5).
- Dead-end fire access roadways in excess of 150 feet must be provided with an approved turnaround (see approved turnaround examples).

- Developments that exceed 30, one and two-family dwelling units shall be provided with two separate, remote and approved access roads. (See figure # 4)
- Multi-family residential projects that exceed 100 dwelling units shall be equipped with two separate, remote, and approved access roads. (See example # 4)
- **REMOTENESS:** Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

### **ACCESS TO BUILDINGS UNDER CONSTRUCTION OR MODIFICATION**

- Required street and on-site fire hydrants/water mains shall be installed, operable tested, inspected, and approved by ETRD prior to starting construction.
- Fire department access roads shall be established, engineered, and maintained serviceable for fire protection and emergency purposes in accordance with the approved development plan, and the International Fire Code.

- Access roads shall be kept clear of all obstructions such as but not limited to low hanging wires, construction materials, construction equipment, contractor trailers, and contractors' vehicles.
- Where required, fire lanes shall be posted when the access road is established.
- Street name identification and building addresses shall be installed at the time the access road is established.

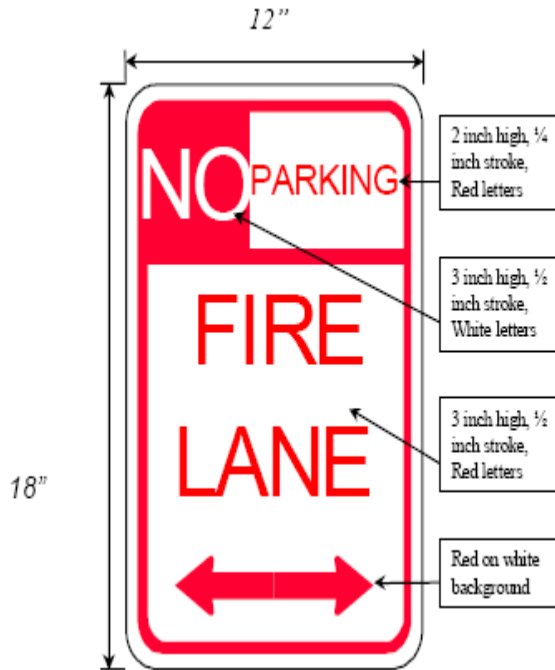
## **TRAFFIC CALMING DEVICES**

Plans for these devices must be submitted for the Department's review and approval. We support the design of safe streets and the need for devices intended to slow traffic, i.e., islands, roundabouts, and bump outs; however, we discourage the use of speed bumps. In most cases, these devices can be designed within our minimum requirements (see figure 2). Plans for these devices must be submitted for our review and approval.

## FIRE LANE SIGNS

### **Dimension**

The "No Parking Fire Lane" sign shall be 12 inches wide and 18 inches high.



### **Characteristics**

The signs are to be all-season durable with red lettering on a white background.

### **Where Required**

"No Parking Fire Lane" signs are required in areas that meet the following criteria:

- Fire department access roadways **less than 28 feet wide** - Signs shall be posted on **both sides**
- Fire department access roadways **between 28 feet wide and 34 feet wide** – Signs shall be posted on **one side only**.

- Fire department access roadways **exceeding 34 feet wide** - No Fire Lane restriction signage requirement.

### **Installation**

The NO PARKING signs shall be installed as follows:

- One at the beginning of the restriction (one arrow pointing towards the restriction zone).
- One at the end of the restriction (one arrow pointing back into restricted zone).
- One *at least* every 150 ft within the restricted area (double arrow pointing in each direction, to indicate the continuing restriction).
- Spaced evenly within the restriction (for straight curbs/zones).
- Spaced so that at least one readable sign is visible in front of a parked vehicle from any point along the restriction (for curved curbs/zones and areas that may present visual obstacles).

Some areas may need additional fire lane signs. Check with the Office of Fire Codes for any additional requirements.

### **Painting of Curbs or Streets**

The ETRFD *does* permit fire lanes to be painted with curb markings. Per *IFC, D 103.6* approved signage or curb markings shall identify fire lanes.

The diagrams below indicate the types of signs that can be used and the recommended placement of these signs with the appropriate arrows.



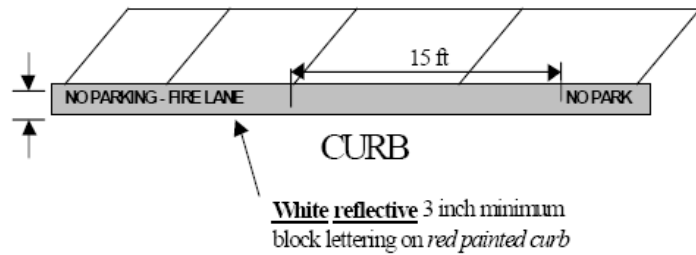
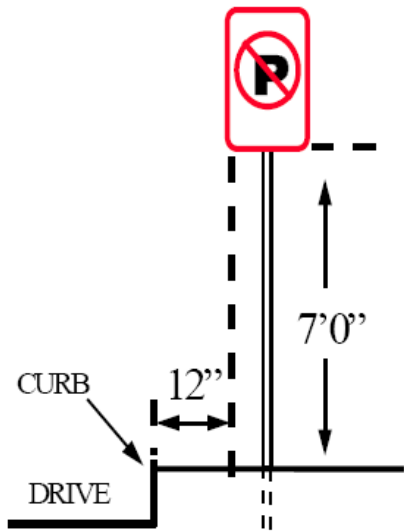
Either type may be used provided the same type is used consistently.



←200 ft.→



←200 ft.→

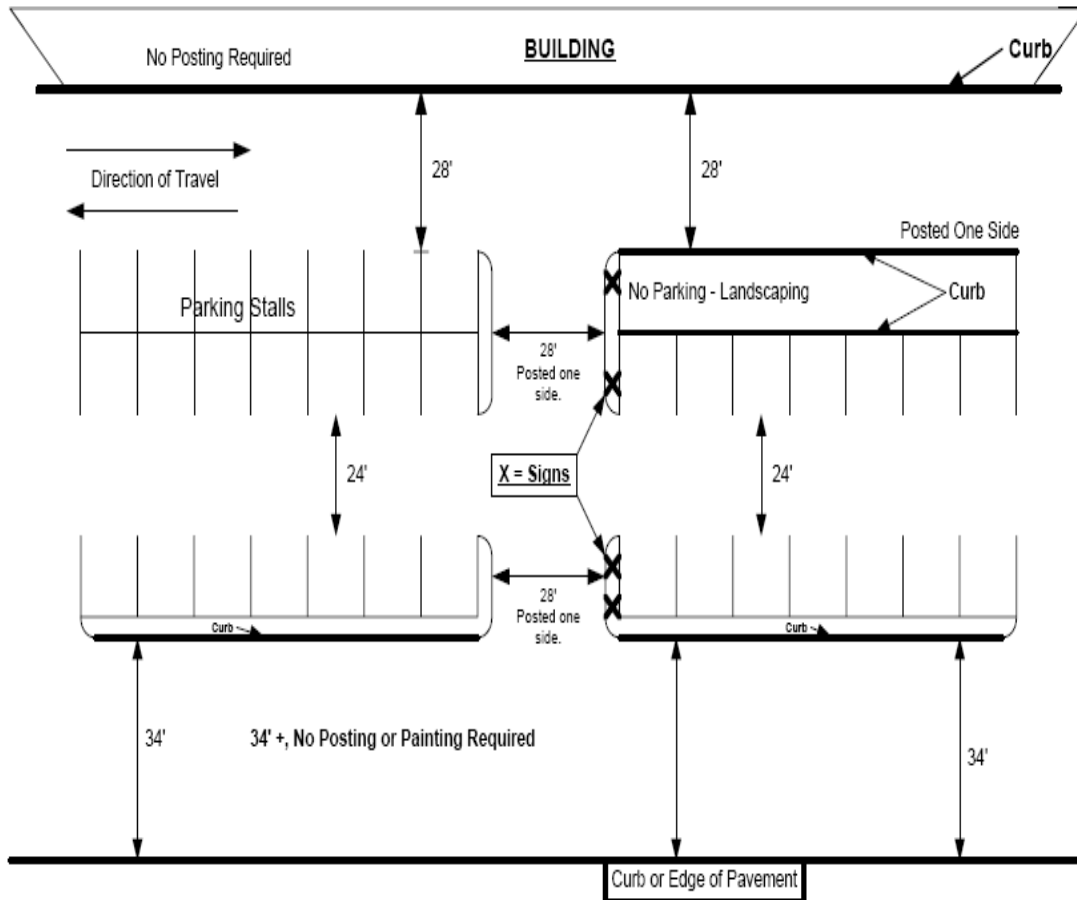


**Curb Painting Diagram.**



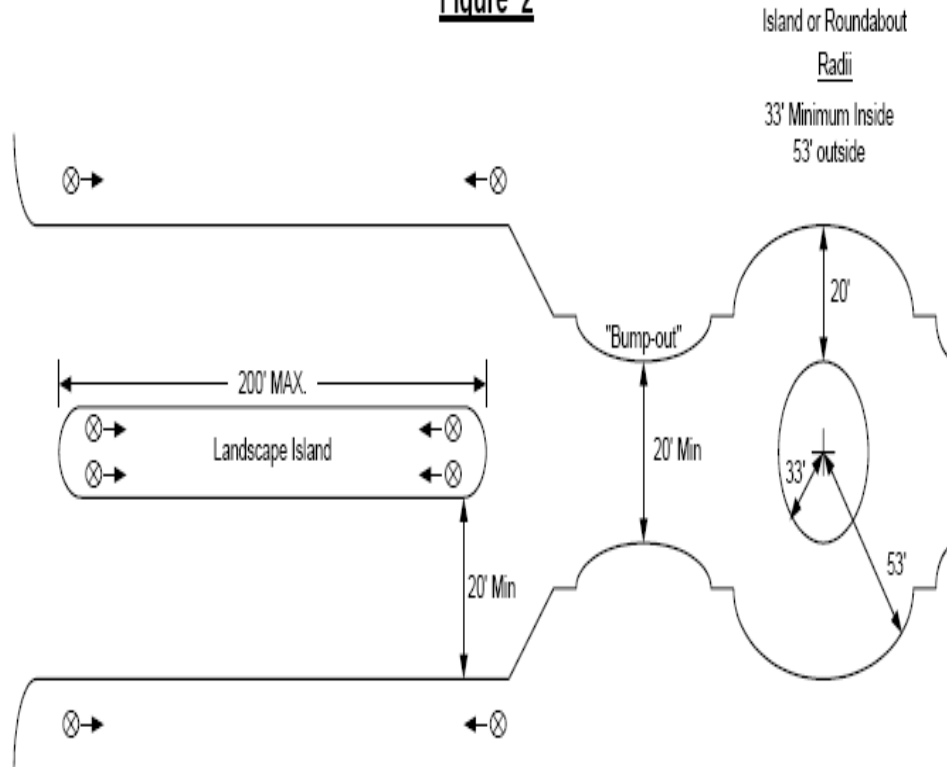
# Typical Fire Access

## Figure 1



# Traffic Calming Devices *Exaggerated*

**Figure 2**

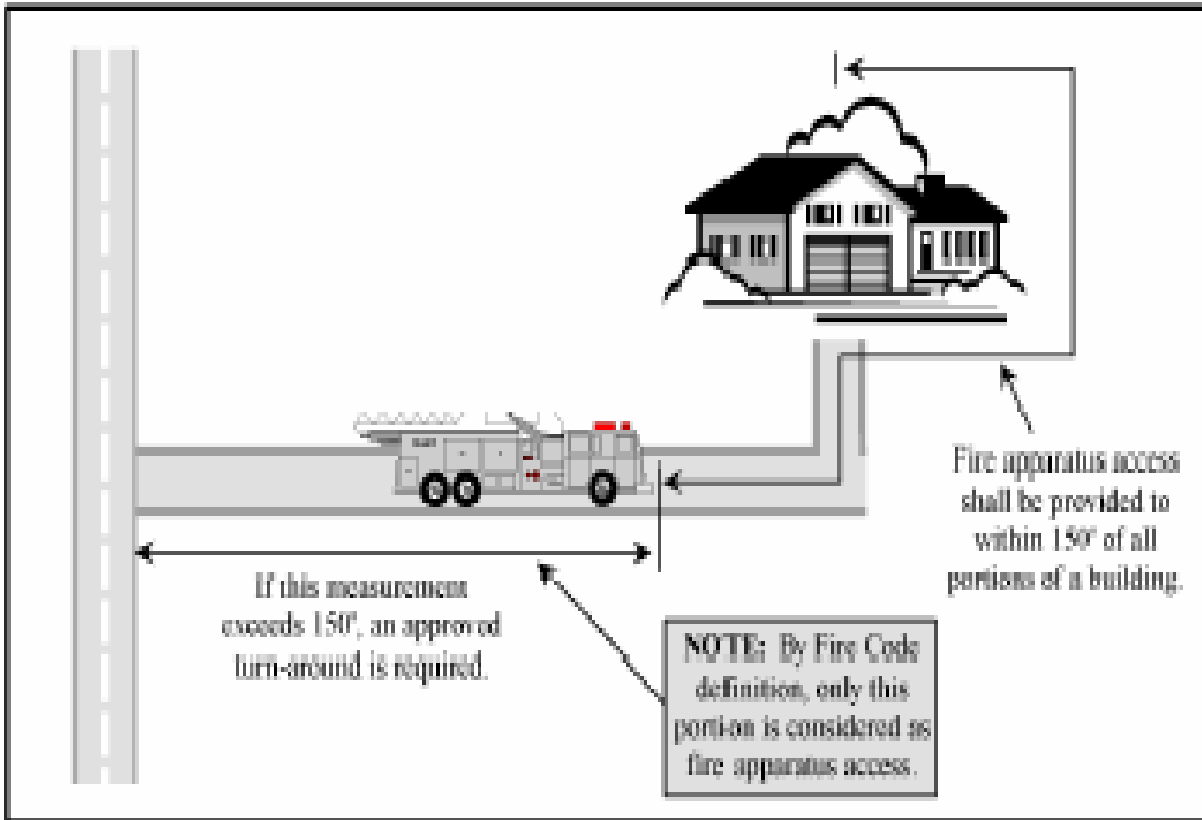


Island or Roundabout  
Radii  
33' Minimum Inside  
53' outside

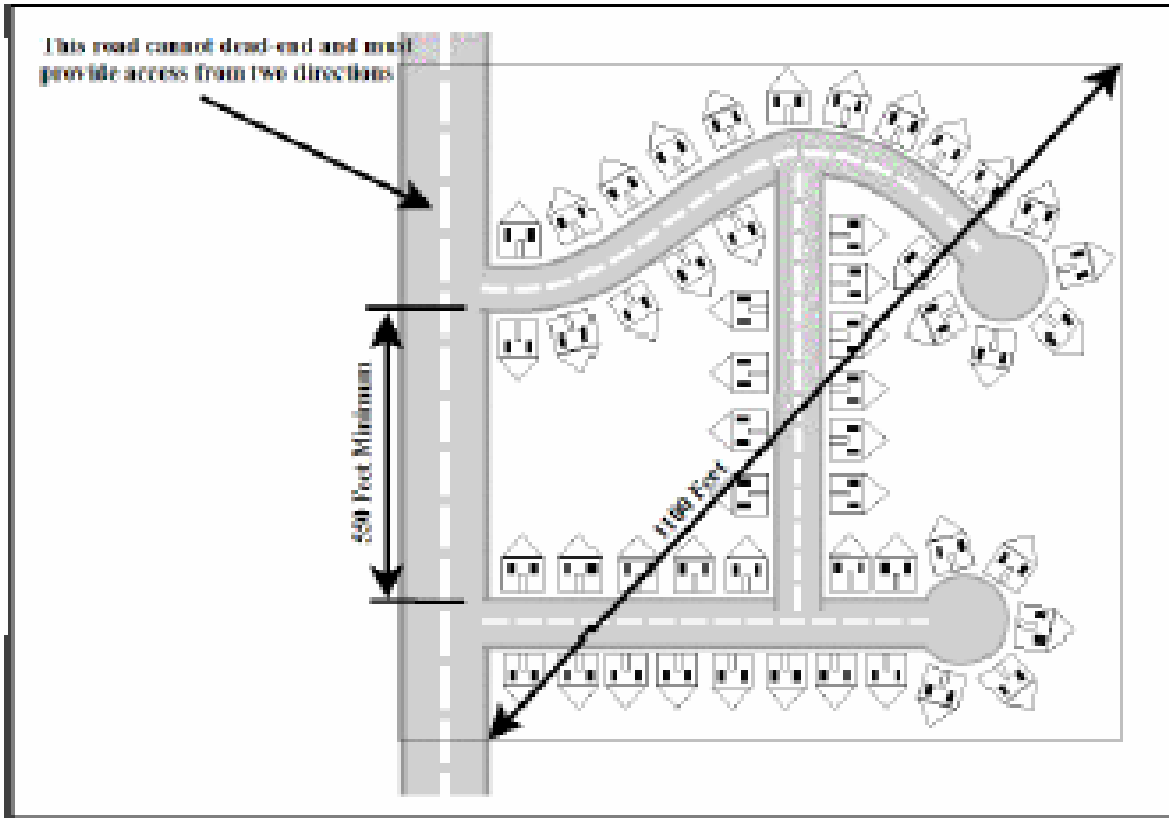
Speed Bumps are Discouraged

⊗ ←  
⊗ → Fire Lane Signs (Directions)

**FIGURE # 3**



**FIGURE # 4**



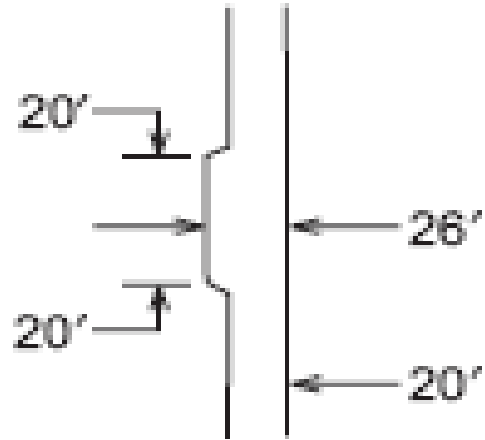
## FIGURE # 5

TABLE D103.4  
REQUIREMENTS FOR DEAD-END FIRE  
APPARATUS ACCESS ROADS

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20	None required
151-500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
501-750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
Over 750		Special approval required

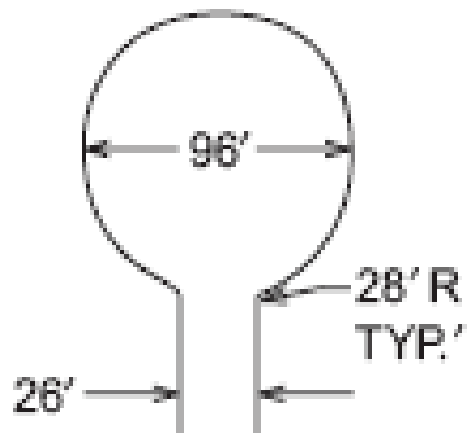
For SI: 1 foot = 304.8 mm.

**FIGURE # 6**

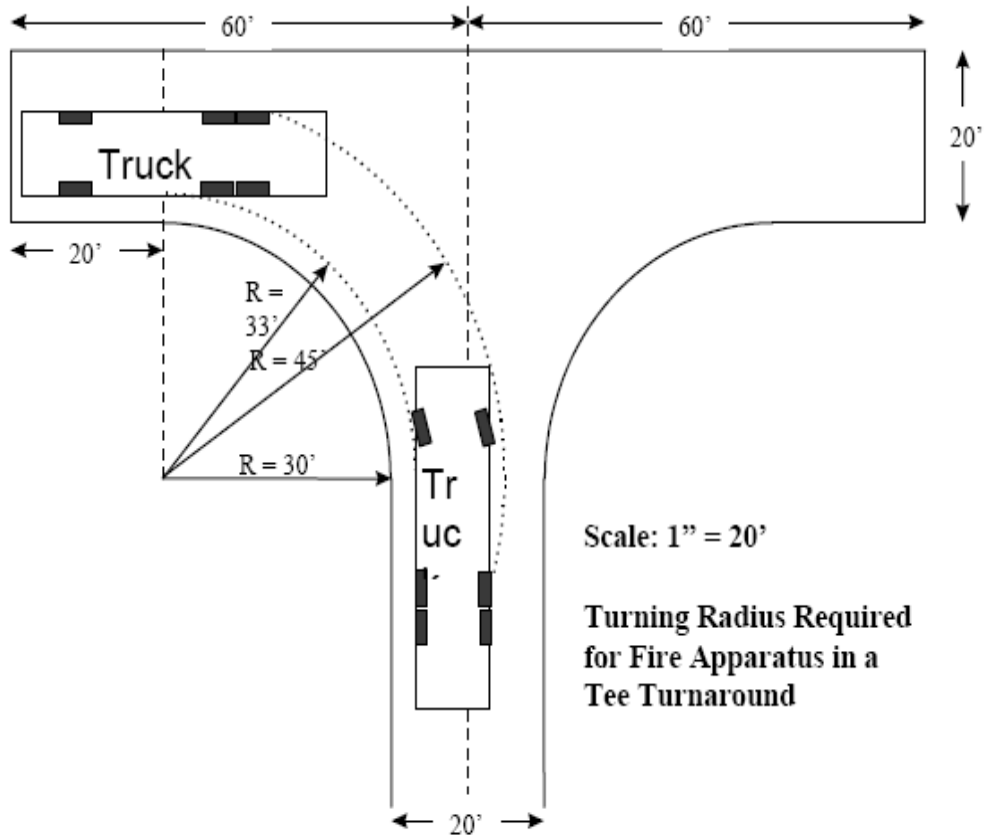


**MINIMUM CLEARANCE  
AROUND A FIRE  
HYDRANT**

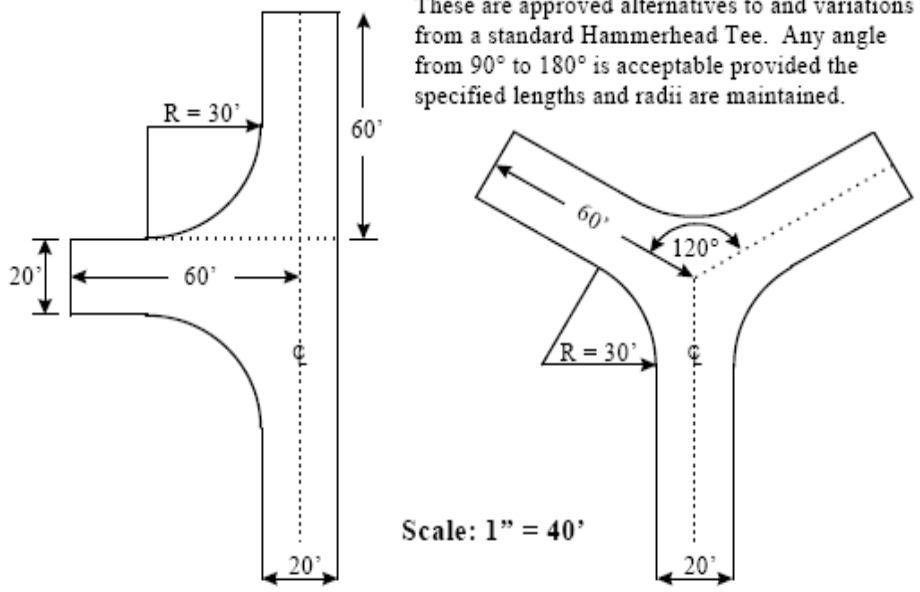
**EXAMPLES OF DEAD END TURNAROUNDS**



**96' DIAMETER  
CUL-DE-SAC**



The 20 ft access width is a **minimum** for use only with an *exclusive* fire department emergency access way. For roadways or public streets, these access widths must be increased. The end length of 60 ft may remain the same, however. Variations of this hammerhead are shown



These are approved alternatives to and variations from a standard Hammerhead Tee. Any angle from 90° to 180° is acceptable provided the specified lengths and radii are maintained.

elow: