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# TOWN OF MEDWAY

FIRE DEPARTMENT

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Stephanie A. Mercandetti  
Director, Community & Economic Development  
Town of Medway  
155 Village Street  
Medway, MA 02053

Dear Stephanie,

April 19, 2016

I have reviewed plans for the proposed Timber Crest Estates to be located between Winthrop Street and Holliston Street in Medway, MA.

I have several concerns about this project. The water supply for this area is limited. Some of the buildings proposed are in excess of 4,000 square feet. If one of these buildings were to be well involved in fire the required water flow for that fire would be more than 1,000 gallons per minute. It is unclear if the present water system in that area would be able to supply enough water to fight a fire of that magnitude.

*NFPA 1 18.3.1\** An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with Section **18.4**.

*18.3.1.1\** Where no adequate or reliable water distribution system exists, approved reservoirs, pressure tanks, elevated tanks, fire department tanker shuttles, or other approved systems capable of providing the required fire flow shall be permitted.

**18.4.5 Fire Flow Requirements for Buildings.**

**18.4.5.1 One- and Two-Family Dwellings.**

*18.4.5.1.1* The minimum fire flow and flow duration requirements for one- and two-family dwellings having a fire flow area that does not exceed 5000 ft<sup>2</sup> (334.5 m<sup>2</sup>) shall be 1000 gpm (3785 L/min) for 1 hour.

*18.4.5.1.1.1* A reduction in required fire flow of 50 percent shall be permitted when the building is provided with an approved automatic sprinkler system.

*18.4.5.1.1.2* A reduction in the required fire flow of 25 percent shall be permitted when the building is separated from other buildings by a minimum of 30 ft (9.1 m).

*18.4.5.1.1.3* The reduction in **18.4.5.1.1.1** and **18.4.5.1.1.2** shall not reduce the required fire flow to less than 500 gpm (1900 L/min).

Also, for buildings on sheets 8 and 9, marked A 108-111, and 59-66, there is no place for fire apparatus or ambulances to turn around safely. If we have an incident at one of these units fire apparatus would be required to back a significant distance to get out. In life or death situations seconds count and if apparatus has to back to leave to establish a water supply, or particularly an ambulance, valuable time will be lost. It is also unsafe to back these vehicles due to their size

and limited visibility. Furthermore, there is no detail provided for the emergency access road proposed to connect to Road E. This surface must be a hard surface and be able to sustain 75,000 pounds. It also must have clear access at all times. I am also concerned with the number of cul-de-sacs. More details must be provided to show these areas will accommodate the turning radius for all of our apparatus.

*NFPA 1 18.2.2.3 Access Maintenance. The owner or occupant of a structure or area, with required fire department access as specified in 18.2.2.1 or 18.2.2.2, shall notify the AHJ when the access is modified in a manner that could prevent fire department access.*

**18.2.3 Fire Department Access Roads.**

**18.2.3.1 Required Access.**

**18.2.3.1.1** *Approved fire department access roads shall be provided for every facility, building, or portion of a building hereafter constructed or relocated.*

**18.2.3.1.2** *Fire department access roads shall consist of roadways, fire lanes, parking lot lanes, or a combination thereof.*

**18.2.3.1.3\*** *The provisions of 18.2.3.1 through 18.2.3.2.2.1 shall be permitted to be modified by the AHJ where any of the following conditions exists:*

- (1)

*One- and two-family dwellings protected by an approved automatic sprinkler system in accordance with Section 13.1*

- (2)

*Existing one- and two-family dwellings*

- (3)

*Private garages having an area not exceeding 400 ft<sup>2</sup>*

- (4)

*Carports having an area not exceeding 400 ft<sup>2</sup>*

- (5)

*Agricultural buildings having an area not exceeding 400 ft<sup>2</sup>*

- (6)

*Sheds and other detached buildings having an area not exceeding 400 ft<sup>2</sup>*

**18.2.3.1.4** *When fire department access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades, or other similar conditions, the AHJ shall be authorized to require additional fire protection features.*

**18.2.3.2 Access to Building.**

**18.2.3.2.1** *A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building.*

**18.2.3.2.1.1** Where a one- or two-family dwelling, or townhouse, is protected with an approved automatic sprinkler system that is installed in accordance with NFPA 13D or NFPA 13R, as applicable, the distance in **18.2.3.2.1** shall be permitted to be increased to 150 ft (46 m).

**18.2.3.2.2** Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility.

**18.2.3.2.2.1** When buildings are protected throughout with an approved automatic sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance in **18.2.3.2.2** shall be permitted to be increased to 450 ft (137 m).

**18.2.3.3 Multiple Access Roads.** More than one fire department access road shall be provided when it is determined by the AHJ that access by a single road could be impaired by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access.

#### **18.2.3.4 Specifications.**

##### **18.2.3.4.1 Dimensions.**

**18.2.3.4.1.1** Fire department access roads shall have an unobstructed width of not less than 20 ft (6.1 m).

**18.2.3.4.1.2** Fire department access roads shall have an unobstructed vertical clearance of not less than 13 ft 6 in. (4.1 m).

**18.2.3.4.1.2.1** Vertical clearance shall be permitted to be reduced, provided such reduction does not impair access by fire apparatus, and approved signs are installed and maintained indicating the established vertical clearance when approved.

**18.2.3.4.1.2.2** Vertical clearances or widths shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.

**18.2.3.4.2 Surface.** Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with an all-weather driving surface.

##### **18.2.3.4.3 Turning Radius.**

**18.2.3.4.3.1** The turning radius of a fire department access road shall be as approved by the AHJ.

**18.2.3.4.3.2** Turns in fire department access roads shall maintain the minimum road width.

**18.2.3.4.4 Dead Ends.** Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around.

I am concerned about the separation distances between buildings on sheet 5. More detail needs to be provided.

#### *NFPA 1141 6.2 Building Separation.*

**6.2.1** Unless governed by other locally adopted regulations, any building shall be separated from another building by at least 30 ft (9.144 m) and shall be set back at least 30 ft (9.144 m) from a property line.

**6.2.1.1** If adjacent buildings are both protected with automatic sprinkler systems meeting NFPA 13, Standard for the Installation of Sprinkler Systems, the separation between the structures or separation from a property line shall be permitted to be reduced to 15 ft (4.5 m).

**6.2.1.2** If an accessory building is 400 ft<sup>2</sup> (37 m<sup>2</sup>) or less in ground floor area, the separation from the principal structure shall be permitted to be reduced to 15 ft (4.5 m) where both buildings have a separation from a property line of at least 30 ft (9.144 m).

**6.2.1.3** *If an accessory building is 400 ft<sup>2</sup> (37 m<sup>2</sup>) or less in ground floor area, the separation from a property line shall be permitted to be reduced to 15 ft (4.5 m) where the accessory building has a separation from the principal structure of at least 30 ft (9.144 m).*

**6.2.2** *Any building that exceeds two stories or 30 ft (9.144 m) in height above average adjacent ground elevation and is not protected by an automatic sprinkler system installed and maintained according to **NFPA 13**, Standard for the Installation of Sprinkler Systems, or **NFPA 13R**, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height, shall be separated from any other structure by at least 50 ft (15.2 m) and shall be set back at least 30 ft (9.144 m) from a property line.*

Hydrant locations are not shown on the plans. Furthermore, hydrants must be installed prior to the beginning of construction.

**16.4.3.1 Water Supply.**

**16.4.3.1.1\*** *A water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material accumulates. [241:8.7.2.1]*

**16.4.3.1.2** *There shall be no delay in the installation of fire protection equipment. (See **4.16.4.1.5**.) [241:8.7.2.2]*

**16.4.3.1.3\*** *Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to commencing construction work on any structure. [241:8.7.2.3]*

More detail must be provided.

Building groups with 3 or more units connected are required to be sprinklered.

If you have any questions please feel free to contact me.

Sincerely,



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Jeffrey P. Lynch  
Chief of Department