

# CHARLOTTE VOLUNTEER FIRE and RESCUE SERVICES, INC.

PO BOX 85

CHARLOTTE, VERMONT 05445

~ DRAFT 3 Oct 2019 ~

## RECOMMENDED STANDARDS FOR DEVELOPMENTS & HOMES

### ROADS:

#### DEVELOPMENT ROADS TO BE TOWN HIGHWAYS AND MAJOR ACCESS ROADS

Must conform to ALL Town Highway standards as outlined in Vermont Agency of Transportation Standard A-76.

#### ACCESS ROADS:

Access Roads are roads that serve (6) or more house sites or driveways. They are to be a minimum of 18 feet wide with 2-foot-wide shoulders with a minimum of 18" of gravel with a 4" crusher run stone wearing surface. The usable road must be able to bear the weight of a 50,000 lb. (25 ton) fire truck on all 18' of road. The maximum grade shall not exceed **12%** at any time. If the access road is not a through road, it must have a turn around at the end large enough to accommodate at least 3 emergency vehicles (40' X 40' Hammerhead or 80' diameter circular turn around). Tree limbs and any other obstructions are to be removed to a height of 12'. All access roads longer than 500' will have vehicle bump-outs (15' X 50') at or near the half-way point or every 600 feet. Any access road that serves 6 or more houses shall have a usable fire pond with a dry hydrant that is accessible year-round.

#### DRIVEWAYS:

Driveways serve 1-5 house sites or driveways. They shall be a minimum of 14' wide with 2-foot-wide shoulders with a minimum of 18" gravel with a 4" crusher run wearing surface. The usable road must be able to bear the weight of a 50,000 lb. fire truck. The maximum grade shall not exceed **12%** at any time.

#### CVFRS Chief's comments:

Driveways or access roads no greater than 12% grade at any time, if over 10% at any time, the residence shall be sprinklered with 13D or 13R sprinkler system, shall also have a monitored fire alarm system.

All driveway entrances intersections must be at least 18' wide for the first 20' of driveway, tapering to 14' to allow for emergency vehicles to turnaround. Driveways longer than 500' or more in traveled length shall have a turnaround at the end large enough to accommodate at least 3 emergency vehicles (40' X 40' Hammerhead or 80' diameter circular turn around). Trees and other obstructions are to be removed to a height of 12'. All driveways longer than 500' will have vehicle bump-outs (15' X 50') at or near the half-way point or every 600 feet.

### EMERGENCY WATER SUPPLY

#### Fire Ponds

Any project of six (6) or more house sites, units or driveways shall have a minimum of 90,000 gallons of usable water. Usable water does not include water lower than the dry hydrant intake pipe or water that will freeze in the winter. There must be a fire department usable water source within 1,500' of all dwellings in the development. Each water source will be served by a dry hydrant or drafting basin installed to the specifications of Charlotte Fire & Rescue. Applicant shall provide a plan and documentation by a professional engineer for the 90,000 usable water volume for each required pond design. The plan must show the dry hydrant and the pull off or access to the hydrant. The hydrant access must be maintained by the homeowners to allow fire department access year-round.

**CVFRS Chief's comments:**

Any fire pond shall have 150,000 usable gallons of water. In a development that a fire pond is required, the fire pond may not be any more than 1,500 road feet from the dry hydrant, if it is, than another pond may have to be installed.

## **DRY HYDRANT CONNECTIONS**

Access to dry hydrants shall be within 6' of the access road or driveway. For all dry hydrants there shall be a 15' wide X 50' long bump out by the dry hydrant so that the pumper working at the hydrant will not block traffic. The connection on the hydrant shall be a 6" metal National Standard male thread with attached blue cap and shall be at least 36" and not more than 48" above grade and shall be pointed toward the road. The hydrant shall also be protected by two wooden posts not less than 4" X 4".

**CVFRS Chief's comments:**

Fire department connection at least 2', no more than 4' from ground, 6" male threads with blue cap. Protected by at least 2 posts no less than 4" X 4", no crossbars. Pipe must be usable and maintained year round and pointed toward driveway or road. Pond and dry hydrant must be an approved fire department design and tested by the fire department before being approved.

The riser from the intake pipe to the fire department connection shall be no more than 10'. The riser and all elbows must be Schedule 40 or greater, welded steel pipe of 6 – 8" diameter. The intake pipe must be the same diameter of the riser. It must have an approved strainer at least 4' below the water surface and no less than 2' off the bottom. The design and construction must be so that it will not freeze in the winter. The water source and dry hydrant must be tested by the department before it is deemed operational. It must be operational before any framing is to start.

**CVFRS Chief's comments:**

Yes on the strainer no less than 10' below the lowest possible water level at all times and at least 2' off the bottom of the pond with strainer suspended out with the PVC pipe sitting on crushed stone base No concrete at the connection of the riser and the pipe going into the pond, the riser must be steel 6 - 8" steel, no more than a 10' rise from the bottom of the pipe.

It may be necessary to periodically dredge and/or control aquatic growth around the strainer and in the water source. The access to the dry hydrant must be plowed and maintained year-round and shall be suitably marked and the riser shall be painted red.

## **HOME SITE STANDARDS**

**CVFRS Chief's comments:**

if the access road or driveway to the home site exceeds 10% at any time, the residence shall be sprinklered with 13D or 13R sprinkler system, shall also have a monitored fire alarm system. Any residence that has any fire alarm system shall have a knox box. Any residence 3,600 SF or more shall have a sprinkler system and a monitored fire alarm system and knox box.