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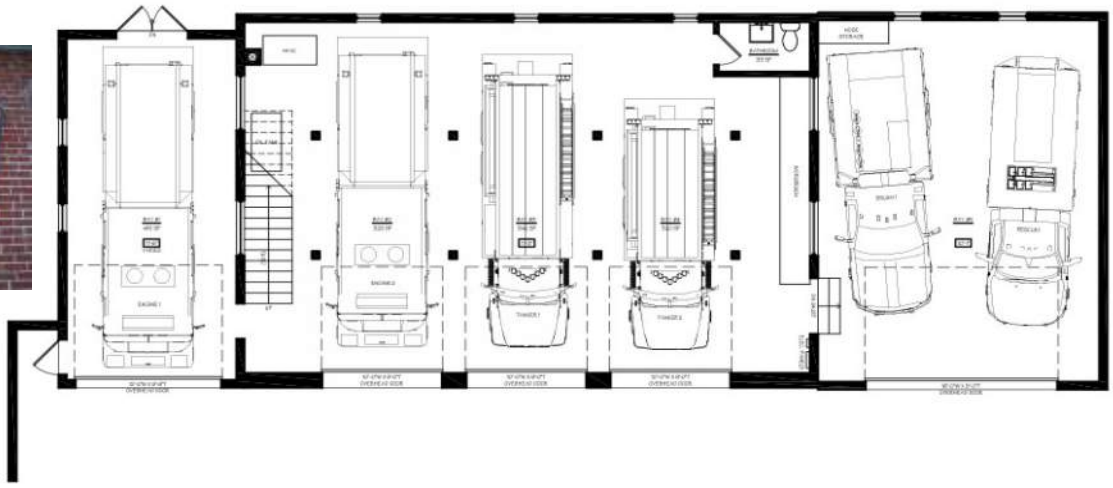
## FIRE STATION ASSSESSMENT SUMMARY- RECOMMENDATION

**Taken together, the building and the site assessments have determined that the existing Fire Station is not adequate to serve the Town of Westmoreland safely. Both the volunteer members of the department and the Town's equipment are At Risk.**

**We do not see an economically feasible solution to renovate the building, as the disqualifying site problems would remain. If the 2nd floor uses were replaced with an addition to the south to accommodate the accessible offices, meeting rooms and new toilet facilities, the unsafe apparatus room and apron area adjacent to Rte. 63 would remain.**

**On the face of it such an addition would solve the ADA accessibility issues and eliminate the 2 hour separation required between the fire station and the current 2nd floor functions, but would then bring up the other site issues of the adjacent stream. The unsafe issues within the apparatus room would not be solved. Without major overhaul, essentially starting anew, the truck doors cannot be structurally increased in width or height, the bays cannot be made wider or longer to provide adequate exiting. By the building codes, if more than 50% of the value of the building is renovated (easily reached in this case), then the entire structure needs to be brought up to current codes- not easily achieved, as noted above.**

**RECOMMEDATION:**
**If the existing site is to be considered, by expansion, our fiscal and functional recommendation is to build a new structure well behind the existing building. The location would need to provide an appropriate apron distance from Rte. 63 and avoid the adjacent wetland conditions. The existing structure could continue to house the equipment during construction, and then be removed.** **1/18/2017**

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# ASSESSMENT REPORT- WESTMORELAND FIRE STATION

**WESTMORELAND FIRE STATION,**
**located at 772 NH Rte. 63.**

- The original station was built in 1953, with a flat roof. This was converted to a pitched roof, with an attic space addition, about 1955.
- The West end bay was added in the late '70s, or early '80.
- The East bay was added in 2000.
- All wall construction is non-insulated concrete masonry units construction; unsure if the wood frame roof is insulated

## NATURE OF THE WESTMORELAND FIRE DEPARTMENT/EMS

- The Department serves a community of approximately 1700 residents, with a total of approximately 780 housing units in a town of 36.9 square miles.
- Total calls to the Department in 2015 were 140. Approximately 49 were medical emergencies and the rest range from motor vehicle accidents, fires, and mutual aid.
- Department has about 22 volunteers; could conceivably grow to 25
- Meeting attendance is typically about 18-20 members, once a month.
- Harry Nelson is the Fire Chief
- Tom Finnegan is the Emergency Management Director

## INFORMATION TO DATE

The Westmoreland Fire Department Building Committee prepared a 5 page report dated November 18, 2014 (revised 2/18/15) that identified several topics:

- Pros & Cons of the existing building and location as solutions to the known deficiencies at that time.
- ADA- Compliance issues
- Standard fire trucks will not fit into the existing building. New trucks are custom made to fit at considerable expense.
- Turn out gear cannot be washed on site.
- Ice dams can create issues with the overhead doors freezing to the ground (somewhat solved)

**EXISTING BUILDING EVALUATION**

The building needs to be evaluated for

- Adequacy of the housing and protection of the equipment.
- Suitability of life and safety of the working facilities for the Fire Department and EMS members.
- Compliance with the ADA guidelines.
- Structural integrity of the structure.
- Suitability of optional expansion possibilities to meet the Department facility requirements into the foreseeable future.

**CURRENT EQUIPMENT**

Current Trucks/size

- 36 Engine 1 27'6" l x 9' h
- 36 Engine 2 26'6" l x 9' h
- 36 Rescue 1 23' l x 8'6" h
- 36 Tanker 1 25' l x 9'6" h
- 36 Tanker 2 21'6"l x 9' h
- 36 Brush 1 22'6" l x 8'h

The current trucks are literally shoe-horned into the building.

**THE BAYS ARE TOO NARROW, TOO SHORT, AND TOO LOW.**

There is not adequate circulation around the trucks, or from one bay to another. Typically there is about 12'-14" from the columns and less than 10" clear for the lights and mirrors.

The bays are so narrow that the trucks, and specifically their mirrors, are in jeopardy every time they are backed into place.

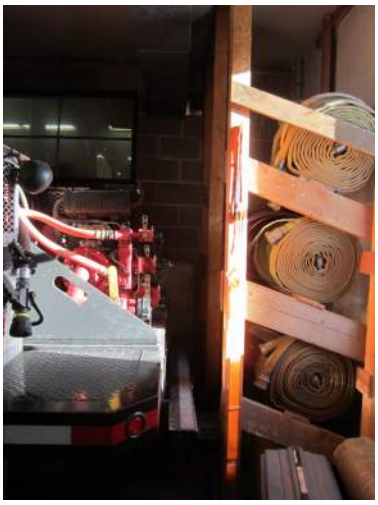
**OTHER EQUIPMENT ISSUES, AS RELATED BY THE DEPARTMENT**

Two tankers are required in the town.

- There is no current need for a ladder truck, as surrounding towns have them, and the tall Maplewood is sprinkled.
- There is no current need for an Ambulance.
- In the current building, the trucks are not adequately protected in case of a fire, putting the Town's investment in jeopardy.

**DOORS**

- Bay #1 is barely adequate at 12 feet wide.
- The narrow doors of bays 2, 3, and 4, at 10 feet wide, put the trucks and their mirrors in jeopardy.
- Bay #5, houses two trucks of about 8 feet width each. This requires a literal shoe horn parking, resulting in at least one truck right up against the wall with one side inaccessible.
- With 4 out of 5 overhead doors at 9 feet high, the 16 foot wide, put the trucks and their mirrors in jeopardy
- With 4 out of 5 overhead doors at 9 feet high, the trucks need to be custom built and still many of the light bars just clear. If there is a build-up of snow outside, they are in jeopardy.



**TURN OUT GEAR**

There is no room for turn-out gear lockers. Equally there is no on site ability to clean and decontaminate the gear after a fire. This is not healthy for the volunteer fire fighters, or their families if the equipment is taken home. At best, gear is cleaned and decontaminated at the Keene Fire Station. Both turn-out gear lockers and de-contamination cleaning facilities need to be provided. There is no room for such in the existing station.

**HOSE RACKS**

The existing hose racks are inadequate and inaccessible.

**WORK ROOM**

There is no work room to repair equipment and store items such as Speedy Dry. There is an inadequate bench serving as a work room.

**INSULATION**

There is no insulation in the walls or roof. It is very inefficient for the Town to heat an unoccupied and non-insulated building to the 65 degrees desired by the department. The resulting snow and ice coming off the roof can cause such ice dams that the low clearance trucks are damaged by going over the ice as they must in any emergency.

**EXITS**

There is no means to evacuate the 2nd floor other than the open stairway.
There is only one main door on the first floor- and the trucks are in so tightly, even this door is not easily accessible as an exit.

**MECHANICAL**

- The oil fired furnace is in the open immediately adjacent to one of the trucks.

- There is no fire suppression sprinkler system
- There is no ventilation system as required to run the trucks inside. This further jeopardizes the health of the volunteers in the truck bays and in the administration area upstairs.
- There is no 2nd floor heat, or cooling under the non-insulated roof in the summer,
- There is no biohazard washing/cleaning area

**ELECTRICAL** (from Talbot/Ingram email: 2015)

- There is currently a stand by generator,
- There is no NFPA-72 compliant Fire Alarm System
- There is no exit lighting on the 2nd floor

**TOILET FACILITY & WATER**

- The existing toilet facility is essentially a closet with a toilet and janitor's slop sink. This is not a healthy mix and is too small.
- There is no pretense of ADA accessibility
- There is no shower facility.
- There is no eye-wash system
- There is no rapid fill system to re-load the tanker trucks.

**ADMINISTRATION OFFICE / MEETING ROOM / EMS OFFICE / EMS STORAGE**

An ungainly open space of about 18 feet wide by 45 feet long on the 2nd floor serves both as the Fire Department and EMS offices, and a large central table becomes the meeting table.

- It is fine to have a conference room do double duty as an office, but both the Fire Department and EMS offices need their own lockable spaces.
- The EMS supply storage of Hazmat materials, containment booms, absorbent pads/Speedy-Dry needs to be adjacent to the rescue truck, not stuck up stairs and over 125 feet away from the rescue truck.
- There is only one, unprotected, stair to the second floor, sitting above at least 3 trucks full of fuel. Without a rated floor separation and or sprinkler system this is not adequate protection of the members of the volunteer fire department and of the EMS service.
- EM, Emergency Management needs its own office space

**COVER TRUCKS**

- With non-standard doors smaller than those of modern trucks, Cover Trucks from other departments cannot use the station. This is particularly a problem in freezing weather.

**CODE REVIEW SUMMARY**
**Building Areas:**

Existing First Floor = 2,600 sf
Existing Second Floor = 850 sf

**Use & Occupancy Classification**

First Floor = Use Group S-2 Low-Hazard Storage - Apparatus Storage
Second Floor = Use Group B - Office

**General Building Heights & Areas**

Allowable Building Square Footage and Heights –Type VB Construction & Non Sprinkled
IBC Table 503: Use Group B = 2 story 9,000 sf and Use Group S-2 = 2 story 13,500 sf

**Summary of Deficiencies:**

- There should be a 2-hour rating floor/ceiling assembly between the first and second floors. This would include the supporting beams and columns.
- The stairway from the second floor should be enclosed with 1-hour rated walls and doors. This stair should lead directly to the exterior of the building.
- The current stair to the second floor and also to the western most bay does not have proper number and configuration of handrails.
- The furnace (assuming it is rated for over 400,000 BTU/Hr should be separated from the remainder of the building with a 1-hour fire rated enclosure,
- First Floor: Typically there should be two exits from each floor of a building. Type S occupancies located on the first floor are permitted one exit if the total occupancy load is 29 or less and the maximum travel distance to an exit is 50'. The current travel distance exceeds 115 feet. A second exterior door, located at the west end of the building, could be added to correct this. However the bigger egress issue is the lack of clear egress exit pathway.
- The minimum width of the egress exit path is typically 44 inches except that when the occupancy is less than 50 people which is the case for this building, the width should not be less than 36 inches. Where doors open into this egress path they cannot reduce the clear width by more than 50%.

- The current clear exit width is less than 36 inches in many locations. This includes between the trucks and first floor columns and particular along the main egress pathway along the north side (along the overhead doors) of the building. In fact the clearance in the western most truck bay, where the only exit door is located is less then 12 inches (Overhead doors are not considered exits only swing type can be

used for exits).

- Second Floor; Type B occupancies located on the second floor are permitted one exit if the total occupancy load is 29 or less, which it is, and the maximum travel distance to an exit is 75 feet. This is measured from the most remote point of the second floor to the exit door from the building. Currently this travel distance is over 100 feet. Even if the existing stair was enclosed with a fire rating that lead directly to the exterior of the building, the travel distance would most likely exceed the 75 feet.
- If there were two exits at the first and second floors the permitted maximum travel distance would be increased to 200 feet.
- With two exits the maximum travel distance for Group B & S-2 without a sprinkler system is 200'
- In accordance with the ADA, as a *public building* the second floor should be accessible. The only exception for public buildings is when the second floor has a maximum occupancy load of 5 people and does not contain *public use space*. This would require the installation of elevator or lift in a fire rated enclosure.
- Since the occupancies of the building exceed 15 people separate men's and women's toilet families are required. Based on the total occupancy of the building only one men's and one women's toilets are required. In this case two unisex toilet rooms may be used. If separate men's and women's toilets are used both need to meet accessibly requirements. If unisex toilet rooms are used only one needs to be accessible.
- The main entrance does not meet accessibility requirements for clearance adjacent to the door and threshold exceed 1/2 inch total height.

- Further field verification is required on these three items -

  Emergency Lighting shall be provided along the means of egress.

  Portable fire extinguishers are provided in accordance with NFPA 10

  Smoke detectors shall be provided in all work and general storage areas.

## PROGRAM OF FUNCTIONAL SPACES- Existing and Required

| WESTMORELAND FIRE STATION EXISITNG / NEW PROGRAM | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | EXISTING | | | | | PROGRAM REQUIREMENTS | | | | |
| | | | Dimensions | SF | Plus 15% | Area SF | | Dimensions | SF | Plus 15% | Area SF |
| **Apparatus floor** | | | | | | | | | | | |
| Vestibule | | | | 0 | | | | | 65 | | |
| Trucks | 36 Engine 1 | | | 415 | | | | *18x40* | 720 | | |
| | 36 Engine 2 | | | 345 | | | | | 720 | | |
| | 36 Rescue 1 | | | 329 | | | | | 720 | | |
| | 36 Tanker 1 | | | 345 | | | | | 720 | | |
| | 36 Tanker 2 | | | 288 | | | | | 720 | | |
| | 36 Brush 1 | | | *329* | | | | | 720 | | |
| | Boat | | none | 0 | | | | *18 x30* | 300 | | |
| | ATV | | none | 0 | | | | *10x18* | 180 | | |
| Firematic Storage | | | | | | | | | | | |
| | Turnout Gear for 25 | | none | 0 | | | | | 220 | | |
| | Speedy Dry | | | | | | | | 80 | | |
| | Hose racks | | | 15 | | | | | 40 | | |
| | Gear Washers | | *none* | *0* | | | | | 192 | | |
| Administration | | | approx. | 850 | | | | | | | |
| | Desk- radios- files, office | | | " | | | | | 150 | | |
| | Meeting room for 22 | | | " | | | | 16x30 | 480 | | |
| | JC closet | | | | | | | | 65 | | |
| | Stair | | | 72 | | | | | | | |
| Emergency Management office | | | | | | | | | 150 | | |
| Emergency Medical Service | | | | | | | | | | | |
| | Desk- office | | | " | | | | | 150 | | |
| | Storage,near Rescue truck | | | " | | | | | 150 | | |
| Work Bench/room | | | | 120 | | | | | 160 | | |
| Mechanical | | | | | | | | | | | |
| | HVAC/Elec | | | 70 | | | | 12x12 | 144 | | |
| | Compressors | | | 9 | | | | 6 x6 | 36 | | |
| | Toilet Facilities | | | 33 | | | | uni-sexADA | 65 | | |
| | | | | 3220 | x 1.15 | **3,703 SF** | | | 6947 | x 1.15% | **7,989 SF** |
| | | | | | 1st floor | 2,800 | | | | | |
| | | | | approx | 2nd floor | 850 | | | | | |
| | | | | | two floors | **3,650** | | | | one floor | **7,989 SF** |
| SITE | | | | | **0.33** | **acres** | | | | **2** | **acres** |

The attached Program is a list of the functional spaces that currently exist and those functional spaces that are needed for adequate accommodation for protection of the equipment, in a safe manner for the volunteers.

In the simplest of terms, this list of functional spaces indicated the station should be approximately a 8,000 square foot building, when the existing facility is about 3,650 SF, less than half what is needed.

Future Equipment:

- With the west side of Westmoreland being the Connecticut River, the FD should have a boat, with trailer.
- With the rural character of Westmoreland, much of it forested or fields, some with trails, an ATV, all-terrain-vehicle, should be immediately available as required.

There is no interior room to accommodate such equipment- requiring an addition be provided to house this equipment.

**EXISTING BUILDING ASSESSMENT: CONCLUSION**

- **Independent of the additional site issues called out in the following Site Assessment Report, as noted above, the existing Westmoreland Fire Station is woefully in-adequate and puts both the volunteer fire-fighters and the Town's equipment *AT RISK.***

**SITE ASSESSMENT REPORT**
**WESTMORELAND FIRE STATION**
**ROUTE 63**
**WESTMORELAND, NH**

The Westmoreland Fire Station is located on Route 63 in Westmoreland Center on Tax Map U7 Lot 16. The lot is 0.33+/- acres and is in the Village Commercial Zone. This lot also contains the town hall building, post office and a parking lot. The station was originally constructed in 1953. One addition in 1993 required a boundary line adjustment between the fire station/town hall lot and the abutting parcel to the west to add sufficient land area for the addition. The second addition on the east side required a retaining wall between the existing town hall parking lot and the fire station because of the difference in elevation. The station is approximately 2,750 sf on the first floor with a smaller second floor over the original building. The second floor is used for storage, meeting space, office space and emergency management. The building is located very close to Route 63 with a small apron in front of the station. There is a paved parking area between the fire station and the town hall that is used by both buildings. The station is centrally located in the town center with good road access to most all areas of the town.

**Site Data:**

- **Lot Size-** 0.33 +/- acres
- **Site Access and Apron** – The property is accessed through a wide open frontage with no defined entrances. There is parking for firemen on the east side of the site in the lot shared with the town hall and the post office. The front apron is approximately 24 feet from the building to the travel lane and Route 63. The length available to safely park fire trucks away from the travel lane and leaving space between the doors is approximately 20 feet. All of the town fire trucks are over 21 feet long. Therefore the existing apron is not sufficient to park fire trucks for cleaning or washing the trucks. This also requires the traffic to be halted in Route 63 to back trucks into the station.

**Apron at front of station.**

- **Sight Distance on Route 63** – The speed limit on this section of Route 63 is 30 miles per hour. The sight distance to the west is good at approximately 600 feet. Sight distance to the east from the eastern most bay is poor at less than 160 feet and is further limited by vehicles parking at the town hall and in the lot adjacent to the town hall. NH DOT requires a minimum of 400 feet all season sight distance for driveway entrances onto state highways.

**Sight distance along 63 looking east**.

- **Topography** – The lot slopes to the west along Route 63. A retaining wall was constructed adjacent to the parking lot at the town hall to compensate for grade difference when the last addition was added to the building.
- **Uplands/Wetlands** – There is a seasonal brook that crosses under Route 63 and is culverted under the parking lot between the fire station and the town hall. The brook then travels behind the fire station very close to the rear wall. The proximity of the brook to the building is causing moisture problems within the building due to high ground water. The location of the brook on two sides of the building also limits the future expansion potential of the building.

**Rear of fire station – Brook can be seen on left side of picture.**

- **Soils** – NRCS soils maps indicate soil group 410B (Haven very fine sandy loam) on the entire lot.
- **Floodplain** – The property is not in the 100 year floodplain.
- **Site Configuration** – The site is roughly rectangular in shape. Two sides of the lot front on Route 63 along a sharp curve in the road. The station is bounded by the town hall to the east and the village store to the south. To the west is a vacant lot and several residential homes to the north across Route 63.
- **3 Phase Power** – 3 phase power exists on Route 63.
- **Sewer** – The building is served by a on site septic system. Condition and location of the system is unknown.
- **Floor Drains –** No floor drains were noted.
- **Water** – The property is served by an onsite well that is shared by the town hall. The well was drilled in 2003 to a total depth of 140 feet and has a tested yield of 15 gallons per minute.
- **Parking** – Parking is available in the town hall lot. Parking is not adequate for use by the fire station if an activity is taking place at the town hall. No ADA spaces are available for use by the fire station.
- **Site Lighting** – Site lighting is provided by wall mounted fixtures on the existing building and pole mounted fixtures on the utility poles along Route 63.
- **Propane/Oil** – Oil fired system.
- **Special Equipment** – Emergency generator behind building.
- **Site Drainage** – The site drains to the west.

**Site Observations:** Site visit on December 05, 2016

- No fire suppression system.
- No ADA parking or ADA accessibility evident.
- Condition and location of septic unknown.
- Inadequate site lighting for nighttime access.
- Inadequate parking for volunteers if there is a function at the town hall.
- Inadequate apron in front of the building.
- Inadequate sight distance along Route 63.
- Building too short and doors too low for modern fire trucks.
- Expansion to west not possible without purchasing additional property.
- Expansion to the south and east limited due to existing wetland/brook and topography.

**Conclusions:**

Based on the data collected and onsite observation of the existing building and site configuration, expansion of the fire station on this site is not recommended. There are many constraints on and off the existing site that limit the ability of the existing station to function efficiently and safely. Issues like the apron that is too short, the sight distance along Route 63 and the lack of room to further expand the building cannot be rectified by renovating the existing building in the existing location.