

Fire Chief Rick Eichler
Gorham Fire Department
347 Main St.
Gorham, NH 03581

Dear Chief Eichler,

April 24, 2007

At your request, and pursuant to Saf-C 6002.01(19) the NH State Fire Marshal's Office was contacted to perform inspections of Gorham Middle High School and Fenn Elementary School. I walked through the schools with you and Dave Goyette, Building and Grounds Director.

The request to inspect was initiated by the Superintendent and with the understanding that there would need to be a plan of action for correction of violations and discrepancies.

All code violations noted are based on the current codes found in the State Fire Code in force at the time of the inspection. The primary Code is National Fire Protection "Life Safety Code" (hereafter, NFPA 101), 2003 edition, as adopted.

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The first structure was the High School; a mixed construction type building that has sections dating from 1924. Sections of the building two stories in height. Multiple additions and renovations have occurred over the years, but some original features dating from 1924 still exist. The building is not fully sprinklered. Grades 7-12 reside in the facility.

The following items were noted:

Boiler Room: Pipe penetrations out of the room must be sealed with fire-resistant caulking. Larger openings not used for piping may be mortared. Evaluation of the two chimneys on the building should be completed and based on the evaluation; repairs required must be completed to assure the safety and stability.

Wood Shop: Place all flammable liquids into the storage cabinet. Keep areas around electrical panels clear 3 feet in all directions. The emergency rescue window in the classroom area shall be checked for compliance with NFPA 101:15.2.11.1.2(4). Such window shall be kept clear for use. In the garage area, a broken fixture on an explosion-proof light shall be replaced.

Band Room: Heating/Ventilation system shall be kept clear of instrument storage. All curtains shall demonstrate flame resistance by methods in NFPA 701.

Kitchen/ Cafeteria: It is noted that the "Range Guard" extinguishing system is tagged as non-compliant with the current UL Standard. The system appears intact and charged. The stove is not used for cooking any grease laden vapor products and shall not be, until the system is compliant. Evaluation for a compliant system must begin immediately.

The exit/center core hallway leading to the cafeteria shall have the interior finish upgraded to Class A.

(Doors in the means of egress from cafeteria meeting the provisions of NFPA 101:7.2.1.2.4(4), do not need to be replaced. This clarifies the question on the doors leading to the outside of the building.)

Storage Areas (all): All storage areas shall be separated by a 1-hour barrier or automatic sprinklers. Sprinklers shall comply with NFPA101:8.7 Janitor closets may use the provision of NFPA101:9.7.1.2.

Gym: Trophy case in the egress corridor shall be Class A rated. All wiring in the gym must be evaluated/ upgraded to meet the provisions of National Electrical Code. Any wiring not meeting Code, shall be replaced/eliminated.

Most critical, is the issue of the exterior wall. The school has had an engineer evaluate integrity of the wall and found it to be questionable. While monitoring of the conditions is in place, further actions must be taken. A complete study with repair plans should be begun immediately. Should it be determined that an unsafe condition exists, the facility shall not be used until discussions are held with the State Fire Marshal. Work on this project must begin immediately and is considered high priority.

The boy's locker area has an exit door with a 20" drop on the exterior grade. A suggested means to change this would be to ramp the sidewalk up to meet the door, and ramp it down on the other side, with a slope of 1 in 12. A railing must be installed along the ramp on the street side. The interior partitions of the locker rooms shall be Class C rated or coated with a fire-resistant paint, meeting NFPA 703. The girls locker room, located on the second floor has two stairs leading to it from the gym. There are no intervening doors or passageways to make a second means of egress. Therefore, the area lacks a second egress and is in violation of NFPA101:15.2.4 This area shall not be permitted to be used until a second means of egress is established.

Chemistry Lab: Repair read exit door closer. Evaluate all lab table wiring in accordance with NFPA 70. Non-compliant tables must not be used.

Family and Consumer Science Room: Replace laundry dryer vent piping with metal venting meeting UL standards.

Room 104: Remove electrical cord that is installed from front wall and continues above ceiling tile.

Library: Windows appear to not meet requirements for rescue purposes, as per NFPA101:15.2.11.1

Administrative office area: Paneling on interior walls shall meet Class C requirements. Information on rating may be found on back of panels.

The following are general fire safety requirements. Because the items were found in multiple locations, or because there was no way to evaluate a specific detail of construction without further study, the following items are placed together.

General requirements: Storage is not permitted in means of egress. Door with closing devices shall not be blocked open. Evaluate 1st floor window for requirements of rescue purposes, as per NFPA101:15.2.11.1, where no second means of egress exist. Artwork attached to walls shall not exceed 20% of wall space. Extension cords are not permitted to be used as permanent wiring. In the 1924 section, doors have transoms that function. Transoms are no longer permitted in the Code. An evaluation of the entire ventilation system in this section must be performed to determine fire stopping, vent terminations and other fire safety criteria.

The entire building fire alarm system consists of manual activation devices, some heat detectors, some smoke detectors and a partial sprinkler system. A new control panel has been installed, but wiring methods and type may not meet Code. Some existing variances are in place with our office, but may now be expired. Evaluation of the system and upgrading must begin immediately.

It was also noted that there are multiple leaks in the ceilings and buckets are in place to catch leakage. Such catch methods shall not interfere with fire protection systems or be hung on sprinkler piping.

Teachers and staff should be made aware that the Code requires a daily check of egress paths, and maintain them in a free and clear condition.

The extent of repairs to this facility will be extensive. Due to age and unknown construction practices over the years, it is suggested that a Fire Protection Engineer, approved for work in New Hampshire, be consulted and hired. Such individuals will best be able to evaluate the scope and best methods of accomplishing the required tasks. I have enclosed a list of known Engineers, for your review.

Fenn Elementary School.

For this facility, the Principal joined us for part of the inspection. The building is a single-story non-combustible structure constructed in 1954-59 time frame.

Specific rooms with Code violations:

Kitchen: Plug/ remove unused gas line located behind stove. Remove electrical multi-tap located below serving line. Shield hot water line to heating radiator to prevent student exposure.

Janitor closets: Sprinklers required; may use the provision of NFPA101:9.7.1.2.

Music Room: Seal opening in wall to hallway. Clear area around fire alarm strobe to make it visible to entire room.

Speech Therapy Room: If the room exceeds 250ft sq., and will require a rescue window per NFPA101:15.2.11.1 Room wall paneling shall be Class C rated. Remove extension cord on refrigerator.

Room #38: Sound wall to be rated Class C

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General requirements: Ceiling tile in much of the building hallway appears to be original, and must be evaluated for a Class A or B rating. Evaluate windows in classrooms for compliance with NFPA101:15.2.11.1 Drapes installed by teachers in classrooms shall comply with flame resistance by methods in NFPA 701. Carpeting pieces installed in classrooms shall meet ASTM D 2859 requirements for flammability. Remove all extension cords from use. Remove all unused, old fire alarm parts/wiring and paint over all unused fire alarm boxes to cover red coloration.

Teachers and staff should be made aware that the Code requires a daily check of egress paths, and maintain them in a free and clear condition. This includes the egress paths from classroom to classroom.

This evaluation of both schools should be presented to the school system as soon as possible. Minor items, such as extension cords, should be fixed immediately. Other items will require some form of plan to complete using best methods and engineering practices. The Office of the State Fire Marshal works on a 3-year plan. This plan must be submitted in writing to the office, for final approval. I am here to help the school achieve this plan in whatever capacity I may assist. I will be willing to discuss this letter, meet with officials, and attend planning sessions as needed. Please contact me should you have any questions on this report.

Best regards,

Charles Chalk, Investigator
Encl: Fire Prot. Engineer list
Cc:
Gorham office file
file