

## Grafton High School Schematic Design Building Code Review

December 17, 2009

Massachusetts State Building Code, 780 CMR, Seventh Edition  
Architectural Access Board Regulations, 521 CMR

### A. Use Group Classifications:

Education, Group E (Section 305) is the primary use of the building

Other Uses:

Cafeteria – Assembly, Group A2r, 1<sup>st</sup> floor

Gymnasium – Assembly, Group A4, 1<sup>st</sup> floor

Library – Assembly, Group A3, 1<sup>st</sup> floor

### B. Occupancy Separations

None

(MSBC 313)

### C. Proposed Construction Types – New construction is Type 1B (Table 503)

Allowable for New Construction (Type 1):

Unlimited area

### D. Fire Separations: (Table 601)

	Type 1B
Structural Frame, including columns, girders, trusses	2 hour
Bearing Walls	2 hour
Nonbearing walls and partitions – exterior	see Table 602
Nonbearing walls and partitions – interior	0 hour
Floor construction including supporting beams and joist	2 hour
Roof construction including supporting beams and joist construction is over 20' above finished floor level.)	1 hour (typical, 0 hour if roof)

### E. Exterior fire resistance rating requirements (Table 602) Groups A & E

Fire separation distance < 5 feet	1 hour
Fire separation distance < 10 feet	1 hour
Fire separation distance > or = 10	1 hour
Fire separation distance < 30	1 hour
Fire separation distance > or = 30	0 hour

**F. Egress Requirements:**

Occupancy Calculations:

3<sup>rd</sup> Floor anticipated occupancy 190 persons

2<sup>nd</sup> Floor anticipated occupancy 349 persons

1<sup>st</sup> Floor anticipated occupancy 2,488 persons includes gym at 858; auditorium at 700, cafeteria at 563

Size stairs to largest upper story load = 2<sup>nd</sup> floor at  $349 \times 0.2 = 69.8$ " of stair req. < 180 proposed

Size doors to exterior at largest load = 1<sup>st</sup> floor at  $2,488 \times .15 = 373$ " of door req. < 792" proposed

Gymnasium - assume 3 exits required

Auditorium – assume 3 exits required

Cafeteria – assume 3 exits required

**G. Accessibility:** Facility to conform with Architectural Access Board Regulations, 521 CMR