

Code Review

Jan 31, 2017

Baxter Academy at 185 Lancaster Street

IBC 2009

NFPA 101 2009

2 floors above grade

502.1

Sprinklers

NFPA 13

NFPA 13

Fire Alarm

Monitored Fire Alarm Required

Monitored Fire Alarm Required

Smoke and CO Detectors

Smoke and CO detectors required

Smoke and CO detectors required

Emergency Lighting

Emergency Lighting

Areas

First floor Tenant area = 19,211 sf

Second floor Tenant area = 12,360 sf

1004.1.1

Classrooms 20 net sf per occ.

7.3.1.2

Classrooms 20 net sf per occ.

Shops and Vocational 50 net sf per occ.

Labs, Shops 50 net sf per occ.

Occupant Load

T 1004.1.1

First Floor = 350 Occupants

7.3.1.2

First Floor = 350 Occupants

Second Floor = 310 Occupants

Second Floor = 310 Occupants

Total Building Occupant Load = 660**Total Building Occupant Load = 660**

Use Group(s)

305.1

First and Second Floor - Educational

14.1.10

Educational

304.1

Basement First and Second Floor - Business

38.1.10

Business

Construction Type

T 503

3B - mixed-combustible

III (200) Mixed-combustible

Building Height

T 503

E = 2 stories, 55 feet

B = 3 stories, 55 feet

Building Area

T 503

E = 14,500 sf

B = 19,000 sf

			First Floor Footprint. = 53,779 sf		
		506.2	Building area Frontage Increase If = (1309'/1309'-0.25) 30'/30 If = 0.75 Aa = 10,875+(14,500x3) Aa = 54,375 sf allowed		
Building Elements	T 601	0 hr	Structural Frame	14.1.6	Educational (No Minimum Construction requirements)
	T 602	2 hr	Bearing Walls Exterior	38.1.6	Business (no minimum requirements)
	T 601	0 hr	Bearing Walls Interior		
	T 601	0 hr	Non-Bearing Walls Interior	14.1.1.2	Classrooms over 50 occ are Assembly
	T 602	1 hr	Non-Bearing Walls Exterior (sep. dist 10' <= 30')		
	T602	1hr	Non-Bearing Walls Exterior (sep. dist 0' < 10')		
	T 602	0 hr	Non-Bearing Walls Exterior (sep. dist >30')		
	T 601	0 hr	Floor Construction and secondary members		
	T 601	0 hr	Roof Construction		
	1007.3 (3)		Areas of Refuge are not required at exit stairs with sprinkler systems		
Separations					
	506.1		NON-Separated Use	6.1.14.2.1	Multiple Occupancy Educational and Business
	708.4	1 hr	Elevator Shaft < 4 stories	8.6.5	1 hr < 4 stories
	708	2 hr	Mechanical Shaft >= 4 stories		
	708	1 hr	Mechanical Shaft < 4 stories		
	1022.1	1 hr	Stair Shaft < 4 stories		
	1018.1		(smoke partitions) 0 hr Corridor with sprinkler for B and E	14.3.6.1.2	Corridor walls to be smoke partitions with sprinkler
	508.2.5	1 hr	Boiler Room	14.3.2.1.1	1 hr Boiler Room
	508.2.5	1 hr	Trash Room	14.3.2.1.1	1 hr Trash Room
	508.2.5	1 hr	Storage Room	14.3.2.1.1	1 hr Storage Room
	508.2.5	1 hr	Laundry Room	14.3.2.1.1	1 hr Laundry Room

		715.4	60 minute Stairwell Doors (1hr shaft)		
Distances and Exits		1018.1	Corridors 44" wide	14.2.3.2	Corridors to be 6' wide clear minimum
		1018.1	Corridors 72" wide in E occupancy with 100 occupants		
		1021.1	2 Exits required (less than 500 occ. per story)	14.2.4	2 Means of Egress required
			3 Exits required (more than 500 occ. per story)		
		1016.1	250' Travel Distance to exits with Sprinklers E occupancy	14.2.6.3	200' Travel distance with sprinkler
		1014	75' common path of travel	14.2.5.3.1	100' Common Path of Travel
		1018.4	50' Dead End with sprinkler	14.2.5.2	50' Dead End with sprinkler
				14.2.5.4	Rooms larger than 1000 sf or 50 occupants need 2 exit doors that lead to separate exits
				14.2.5.6	Doors cannot swing into exit corridor (provide recess)
				14.2.11.1.2	Window for Rescue - not required with sprinkler
				14.3.3.2	Interior finishes Wall Ceiling Class A or B
				14.3.3.3	Floors to be Class I or II (exits to have Class II)
Unprotected Openings		T 705.8	15% when exterior wall sep. dist. is 3'>5'		
		T 705.8	45% when exterior wall sep. dist. is 10'>15'		
		T 705.8	75% when exterior wall sep. dist. is 15'>20'		
		T 705.8	Unlimited when exterior wall sep. dist. is 25'>30' (allows '0' hr exterior walls per footnote 'h' in 2012 and 104.11 in 2009)		
		T 705.8	Unlimited when exterior wall sep. dist. is 25'>30' (allows '0' hr exterior walls per footnote 'h' in 2012 and 104.11 in 2009)		
		T 705.8	Unlimited when exterior wall sep. dist. is >30' (allows '0' hr exterior walls per footnote 'h' in 2012 and 104.11 in 2009)		
Elevator Lobby		708.14.1.4	Not required with sprinkler		
Elevator as MoE		1007.2.1.1	Not required as it is less than 4 stories		
Egress width		1005.1	Stairs from second floor (0.3 times 310 occupants) = 93" 2 stairs each needs to be 46.5" wide		
			Corridors on second floor (0.2 times occupants 310) = 62"		
			Corridors on first floor (0.2 times occupants 350) = 70"		

Egress Stairs	1009.1	Occ. Load >50 = 44" min width	24.2.5.4	36" min. stair width	
	1009.1	Occ. Load <=50 = 36" min width	7.2.2.2.1.2(B)	44" min. over 50 occ.	
	1003.3	Handrails can protrude into stair 4.5" max	7.2.2.2.1.2	Handrails can protrude into stair 4.5" max	
	1005.2	Door Swings may not reduce egress width by > 1/2			
	1009.2	80" min headroom	7.2.2.2.1.1(a)	6'-8" min. headroom	
	1009.3	7" max. riser	7.2.2.2.1.1(a)	7" max. riser	
	1009.3	11" min Tread depth	7.2.2.2.1.1(a)	11" min. tread	
	1009.6	12' max. total rise between floors or landings	7.2.2.2.1.1(a)	12' max. height between landings	
Ramps	1010.2	1:12 (8%) Max slope	7.2.5.2(a)	1:12 max. slope	
	1010.6	60" long landings at top and bottom			
	1010.6	2% max slope of landings	7.2.5.2(a)	1:48 max. cross slope	
	1010.8	>6" rise must have handrails on both sides of ramp			
Egress Corridors	1018.2	44" min. when Occ. > 50			
	1018.2	36" min. when Occ. <= 50			
	1018.2	24" min. at service corridors to mechanical equipment			
	1018.1	Corridors 44" wide			
	1018.1	Corridors 72" wide in E occupancy with 100 occupants			
Accessibility	Ch 11 of IBC 2009 does not apply as State of ME did not adopt it as part of MUBEC				
	Must meet ADAAG 2010				
	Maine Human Rights Act Applies				
Plumbing	205 male students				
UPC 2015	Secondary	Toilets 1 per 50 = 5 toilets			
		Urinals 1 per 100 = 3 urinals			
		Lavatory 1 per 40 = 6 Lavatories			
		Water Fountains 1 per 150 = 2			
	205 female students				
	Secondary	Toilets 1 per 30 = 7 toilets			
		Lavatory 1 per 40 = 6 Lavatories			

		30 male staff			
			1 per 50 occ = 1 toilet		
			1 per 100 = 1 urinal		
			1 per 40 = 1 lavatory		
		30 male staff			
			1 per 30 occ = 1 toilet		
			1 per 40 = 1 lavatory		