

**Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION
School Building Assistance
Middle/High School Educational Specifications**

Date: 1/10/01

Version #: 1

School District: Natick Public Schools

School Name: Natick High School

Completed by: Merrimack Education Center

Type of Project: New School for _____ Students Addition of _____ Seats & Core Renovation of _____ Spaces
Acquisition/Renovation of 1,400 Seats & Related Core Facilities

ENROLLMENT INFORMATION

Grades	Current Enrollments as of (Yr.)	Grades	Projected Enrollments as of (Yr.)
9	291		381
10	282		369
11	256		335
12	240		315
TOTAL	1,069		1,400

In order to determine the teaching station for the projected enrollment, the following information is needed to complete the Tables in this form.

- A) Subjects offered through project.
- B) Projected students in each class: the total number of students who will be taking each subject.
- C) Class size: the maximum proposed class size for each project.
- D) Sections: the number of sections of each course needed to serve the projected enrollment. Divide the total projected enrollment by the class size.
- E) Sessions per week: the number of times the class meets each week (usually 3 or 5).
- F) Periods per week: the number of periods each day times 5.
- G) Teaching stations required for program: multiply the number of sections by the sessions per week that each subject is taught.

TABLE A - SPACE NEEDS SUMMARY

Total columns H, I, K, & N from Table I for all regular classroom curriculum including only those business and science courses that do NOT require specialized spaces; total all specialized teaching stations needed for basic educational use; then total all miscellaneous educational space and fill out the table below.

Teaching Station	# Needed	Sq.Ft. Area	# Available	Sq. Ft. Area	# New Stations Needed	Sq. Ft. Area
GENERAL CLASSROOMS						
ENGLISH	12	10320	13	10320	0	0
MATH	14	10629	12	8829	2	1800
SCIENCE	11	11534	12	11534	0	0
SOCIAL STUDIES	10	9020	11	9020	0	0
FOREIGN LANGUAGE	7	8200	10	8200	0	0
BUSINESS/COMP. LAB	5	4520	6	4520	0	0
ART	2	1970	2	1970	0	0
CHILD DEVELOPMENT	2	1600	2	1600	0	0
Subtotal General Instruction:	63	57793	68	55993	2	1800

SPECIALIZED TEACHING STATIONS

FOOD	1	1100	1	1100	0	0
MATH COMPUTER LAB	1	800	1	800	0	0
INDUSTRIAL TECHNOLOGY	1	1000	1	1000	0	0
PLANETARIUM	1	1680	1	1680	0	0
WRITING LAB	1	760	1	760	0	0
CHORUS	1	988	1	988	0	0
BAND	1	1380	1	1380	0	0
Subtotal Specialized Teaching Space:	7	7708	7	7708	0	0

**TABLE B
 MISCELLANEOUS EDUCATIONAL SPACE**

Station/Space	Sq. Ft. Required	- Sq. Ft. Available	New Area = Needed	Comments
Administration	4025	- 4025	= 0	
Auditorium/Stage	16530	-16530	= 0	Capacity: 1400
Cafeteria	7850	-7850	= 0	Seatings: 3
Guidance	2150	-2150	= 0	
Health Suite	1125	-1125	= 0	
Library/IMC	8575	-8575	= 0	
Locker/Shower Rooms	23560	-23560	= 0	
Kitchen	3950	-3950	= 0	
Teachers' Planning & Dining	821	-821	= 0	
Other: Teachers lounge	890	-890	= 0	
Other:			= 0	
Subtotal Miscellaneous Space	69476	-69476	= 0	

OTHER SPACE (Non-Educational): 112,885 Sq.Ft.

TABLE C - SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Summarizes the square footage of the educational program space in Tables A and B to determine the maximum allowable cost for the proposed school project.

TABLE C Description of Space	(I) New Construction		(II) Renovated Space		(III) Total Planned Space	
	Sq.Ft.	%	Sq.Ft.	%	Sq.Ft.	%
1. Basic Educational	1800	100	100752	35.6%	102552	36.0%
2. Miscellaneous Educational	0	0	69476	24.5%	69476	24.4%
3. SUBTOTAL (Basic+Misc.)	1800	100	170228	60.1%	172028	60.4%
4. Other Space			112885	39.9%	112885	39.6%
5. TOTAL Gross (Educational+Other)	1800	100	283113	100%	284913	100%

D. MAXIMUM ALLOWABLE SQUARE FOOTAGE

The allowable square feet per pupil as provided for in the School Building Assistance Regs is 115 for elementary schools. The following other spaces may be approved in excess of this base and should be included in the table above.

Special Needs: (Yellow)	<u>2280</u>	Sq.Ft.	Collaboratives: (Yellow)	<u>5000</u>	Sq.Ft.
TBE: (Blue)	_____	Sq.Ft.	Community: (Red)	<u>38,195</u>	Sq.Ft.
Remedial: (Green)	_____	Sq.Ft.	Technology: (Orange)	<u>6320</u>	Sq.Ft.
				(# _____ of Computer Stations x 30 sq. ft.)	

Total Allowable Square Feet in Excess of Base: 51795 Sq.Ft.

E. MAXIMUM ALLOWABLE CONSTRUCTION COST

The cost allowed per square foot for new school construction is published in the regulations and updated annually. Renovation costs vary widely depending on the age and overall condition of the existing schoolhouse and be reviewed on an individual basis by DOE staff prior to recommendation to the Board for approval.

1. <u>(1400 x 155) = 217000</u>	+	<u>51795</u> Sq.Ft.	=	<u>268795</u> Sq.Ft. High
Projected Enrollment x Sq. ft. allowance		+ Total Approved Excess (Table D)		= Maximum Gross Sq. Ft.
2. <u>\$185.00</u>	x	<u>1800</u> Sq.Ft.	=	<u>\$333,000</u> New
Allowable Cost per Sq.Ft.		Gross Sq.Ft. New		= Maximum Allowable Cost New
3. <u>\$185.00</u>	x	<u>283117</u> Sq.Ft.	=	<u>\$52,376,645</u> Renovation
Allowable Cost per Sq.Ft.		Renovated Sq.Ft.		= Allowable for Renovations
<u>\$333,000</u>	+	<u>\$52,376,645</u>	=	<u>\$52,709,645</u>
New		+ Renovations		= Maximum Allowable Cost

645-5M/S

In order to determine the number of NEW teaching stations needed for projected enrollments, the following information is needed:
Use the worksheet following these instructions in order to complete Summary Tables A-C.

1) After you determine the total number of teaching stations required, subtract the number of teaching stations currently available from the teaching stations required to support your educational program, to determine the number of new stations that will be needed to serve the projected enrollment (only needed for additions).

2) Determine the net area of each station, both new and existing (proposed renovations). Include storage space:

Subtotal the net basic educational space, the net miscellaneous space and the gross square footage; these figures will be used in the space computations on the last page and are necessary to evaluate the efficiency of the structure.

The following column designations and calculations will determine the net educational space to be renovated and/or newly constructed:

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq.Ft. each Station	Total Area Available	New Stations Required	Sq.Ft. each Station	Total Area New

Calculations**Step 1: Sections**

$$\frac{B}{C} = D$$

Step 2: Total Sessions

$$D \times E = F$$

Step 3: Stations Required

$$\frac{F}{G} = H$$

Step 4: New Stations Needed

$$H - I = L$$

Step 5: Total Area Available

$$I \times J = K$$

Step 6: Total New Area to be built

$$L \times M = N$$

TABLE I - BASIC EDUCATIONAL SPACE FOR PLANNED PROGRAM WORKSHEET

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq.Ft. each Station	Total Area Available	New Stations Required	Sq.Ft. each Station	Total Area New
ENGLISH	1726	20	86	5	430	35	12	13		10,320	1		0
MATH	1726	18	96	5	480	35	14	12		8,829	1	900	1,800
SCIENCE	1443	18	80	5	400	35	11	12		12,534	2		
SOC. STUDIES	1393	20	70	5	350	35	10	11		9,020	0		0
FOR. LANG.	1019	20	51	5	255	35	7	10		8,200	0		0
BUS./COMP. LABS	626	18	35	5	175	35	5	6		4,520	0		0
CHILD DEVEL.	233	21	11	5	55	35	2	2		1600	0		0
FOOD	140	18	8	5	40	35	1	1		1100	1		0
ART	312	18	17	5	85	35	4	4		4,135	1		
GUIDANCE	697	22	32	1	32	35	1	1		830	0		0
MATH COMP. LAB						35	1	1		800	0		0
PLANETARIUM							1	1		1,680	0		
INDUSTRIAL TECHNOLOGY							1	1		1,000	0		
WRITING LABS						35	1	1		760	0		0
CHORUS						35	1	1		988	0		0
BAND						35	1	1		1380	0		
PRACTICE (4)							4	4		320			
INDUSTRIAL ARTS							5	5		6096	0		
TOTAL							75	86		73282	2	900	1800

TABLE I Continued

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Avail	Sq.Ft. each Station	Total Area Avail	New Stations Required	Sq.Ft. each Station	Total Area New

PHYSICAL EDUCATION

Teaching Station 1							1	1	4600	4600	0		0
Teaching Station 2							1	1	4600	4600	0		0
Teaching Station 3							1	1	4400	4400	0		0
Teaching Station 4							1	1	4300	4300	0		0
Other:							4	4	1650	6600	0		0

SPECIAL EDUCATION

Special Needs:							3	3		2280	0		0
Special Needs:													
Special Needs:													
Small Group													
Small Group													
Bilingual 1													
Bilingual 2													
Collaborative Class							5	5		5000	0		0
Other:													
METCO							1	1		490	0		0
TOTAL							12	12		27470			