

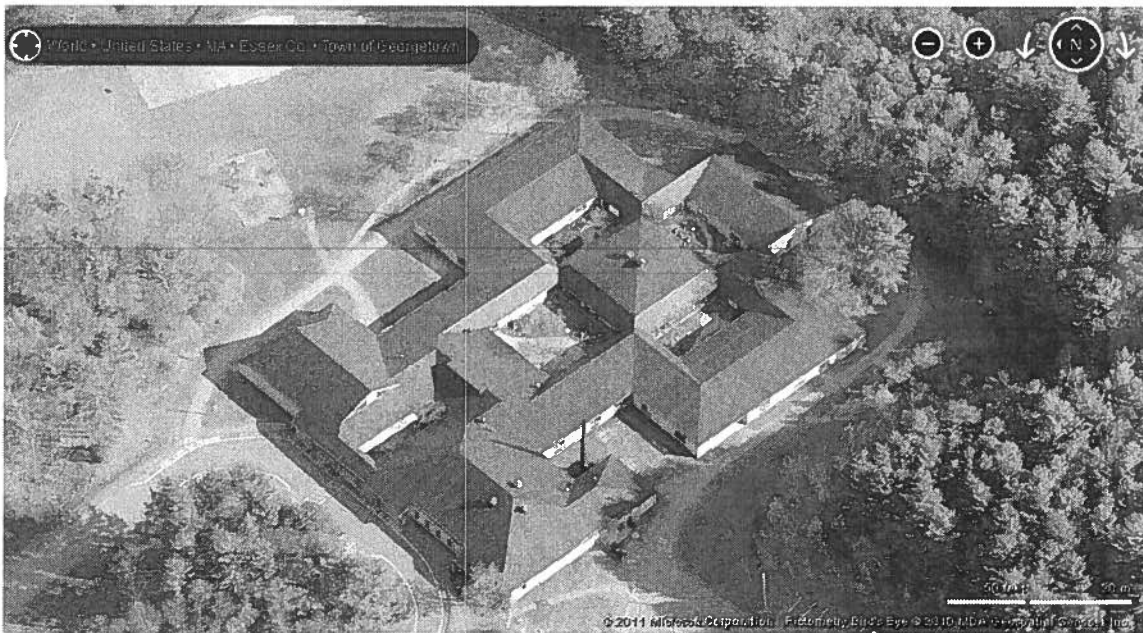
Penn Brook Elementary School

Georgetown, MA

FEASIBILITY STUDY

Preliminary Design Program

Draft - 27-Sep-11



Prepared By:
Drummev Rosane Anderson, Inc., Architects
And Consultants

With:
Municipal Building Consultants, Inc.

Table of Contents

3.1.1 INTRODUCTION

3.1.2 EDUCATIONAL PROGRAM

3.1.3 INITIAL SPACE SUMMARY

3.1.4 EVALUATION OF EXISTING CONDITIONS

3.1.5 SITE DEVELOPMENT REQUIREMENTS

3.1.6 PROPOSED LIST OF ALTERNATIVES

APPENDIX A - Previous Reports and Studies

APPENDIX B - Consultants Reports

Structural
Site Assessment
Hazardous Materials
HVAC and Electric

APPENDIX C - Letter regarding Site Ownership

APPENDIX D - Facility Deficiencies

See Attached SOI and SOI Summary Report

APPENDIX E - Date of the Invitation from the MSBA Board of Directors to conduct a Feasibility Study

See Attached MSBA Board Action Letter

APPENDIX F - Agreed Upon Design Enrollment

See Attached Executed design enrollment certification

APPENDIX G - Capital Budget Statement

APPENDIX H - Project Directory

APPENDIX I Project Schedule

3.1.1 INTRODUCTION

Penn Brook Elementary School is an elementary school in the Town of Georgetown currently serving grades 2 through 5. Grades Pre-K, K and 1 are currently in the Perley School, and grade 6 is currently housed in the science classrooms of the High School. The Penn Brook building was constructed in 1970, and has had no major building-wide renovations since that time. It is the last of the school buildings in town to be renovated.

The planning process for upgrading the various school facilities in Georgetown started more than a decade ago. In 2002, an extensive study was conducted by the Town, who hired Dore and Whittier, Architects, to examine existing conditions, enrollment projections, and consider options for improvements or replacement. The portion of that study devoted to the Penn Brook Elementary School, is attached as an appendix to this report. After following appropriate submission protocols and processes, the Massachusetts School Building Authority, in 2010, accepted the Penn Brook School Statement of Interest to conduct a Feasibility Study and Schematic Design to determine the best course of action for future work.

The Feasibility Study will first research and determine the appropriate Educational Program, and will then consider various options to meet the needs of the students and staff. The Schematic Design effort will result in a detailed outline of the MSBA-approved preferred option design, including a cost estimate. This will then go to the Town to vote for approval of funding, in the spring of 2012.

Time-Line of past events:

- 1997; Renovation of Georgetown Middle/High School
- 1997; Renovation of the Perley Elementary School
- Summer 2001; Parking and traffic improvements made
- 2002; Study of all schools by Dore and Whittier
- Nov. 2008: Statement of Interest (SOI) Submitted to MSBA for Penn Brook School
- May 2009: Georgetown passes override to allocate funds for this Feasibility Study
- March 31, 2010: MSBA approves Feasibility Study to “identify and study possible solutions and, through a collaborative process with the MSBA, reach a mutually agreed-upon solution.”
- May 2011: Municipal Building Consultants, Inc., hired as Owner’s Project Manager (OPM).
- July 2011: Drummey Rosane Anderson, Inc., (DRA) hired as Architects.
- August 2011: Feasibility Study effort begins with kick-off at Penn Brook with MSBA.
- Sept. 15, 2011: Community forum held on project process and existing conditions issues.
- Sept. 21, 2011: Town of Georgetown School Committee votes unanimously to express the preference for a K-6 grade level configuration at the future Penn Brook Elem. School.

Overview of Process

The process leading up to the completion of this “Preliminary Design Program” has included the following activities:

- **Grade Level Determination:** A significant question still remained, at the start of this effort in September of 2011, regarding the preferred grade-level configurations for Georgetown Public Schools, and this building. The current Penn Brook building serves grades 2-5. In response to uncertainty within the Town, the MSBA and the Town agreed that 3 grade level configurations should be considered within the Feasibility Study process:
 - Grades 2 – 5 (as currently configured)

- Grades K - 6
- Grades 1 – 6

Projected enrollments were determined as part of the Feasibility Study Agreement, as follows:

- Grades 2 – 5 440 students
- Grades K – 6 665 students
- Grades 1 – 6 770 students

Widely varying Educational Programs and widely varying building/renovation options are determinant upon the grade level decision. In order to narrow the range of options, it was important to first make this target grade-level determination. As noted above, the Georgetown School Committee has expressed a unanimous preference for the K – 6 configuration. (In accordance with the MSBA requirements, all configurations will still be studied, with emphasis put on the preferred K – 6 configuration.

- **Bi weekly Progress Review meetings** with the **Building Committee** to review process, identify and define project goals and milestones, discuss correspondence and communications and calibrate direction of study options. The Building Committee has also been very active in refining the program that was originally drafted through the School Administration.
- **Programming meetings** with Staff to discuss spatial requirements, adjacencies, connections, teaching aids, manipulatives, storage, etc. In addition to the discussions regarding the practical matters of space and relationships between spaces, there was also conversations regarding teaching and learning philosophies, passive learning opportunities, shared planning and individualized vs. group instruction.
- **Principal Conferences:** DRA has met and communicated regularly with the principals of the Pery School, the Middle School, and the Penn Brook School, as well as Dr. Carol Jacobs, Superintendent of the Georgetown Public Schools. These conferences have been invaluable in establishing data and familiarity with existing facilities, promoting public understanding of the project and refining and perfecting the educational program.
- **Community Workshops:** The first of three community workshops was held on Sept. 15, 2011 following collection of existing conditions information and establishment of base plans of the existing buildings and site. The workshop was an open public forum for the exchange of information and ideas. DRA presented a preliminary outline of the project process, and a brief overview of existing conditions evaluation and educational programming work done to date. Approximately 40 Georgetown citizens attended, including faculty, administration, and parents, who took advantage of the opportunity to express their support, opinions and concerns about the pending project. At the workshop, small-group sessions were held focusing on three topic centers: the site and traffic, the building (renovation vs. new construction), and the educational program.
- **Community Agency Meetings:** The design team has presented status reports to the Board of Selectmen, the School Committee and the monthly Department Heads meeting attended by all key departments in Georgetown, including Police, Fire, Highway, Planning, Conservation, Schools, Council on Aging, Health and Water departments.

Facility Deficiencies

See Attached SOI and SOI Summary Report under Appendix D

Date of the Invitation from the MSBA Board of Directors to conduct a Feasibility Study

See Attached MSBA Board Action Letter under Appendix E

Agreed Upon Design Enrollment

See Attached Executed design enrollment certification under Appendix F

Capital Budget Statement

See Attached capital budget statement under Appendix G

Project Directory

A complete project directory has been included under Appendix H.

Project Schedule

A draft project schedule has been included under Appendix I

3.1.2 EDUCATIONAL PROGRAM

The Georgetown Public School District currently operates three buildings housing the PK-12 school population. Grades PK-1 are located at the Perley School. Grades 2-5 are located at the Penn Brook School, which is the focus of this study. Grades 6-12 are located at the Georgetown Middle/High School.

The primary objective for this project is to create a state-of-the-art facility to meet all of the needs of the Georgetown Public Schools for the elementary grades. This proposed facility would be larger than the existing Penn Brook building, to address the space deficiencies in grades 2-5, as well as adding (in different configurations to be considered) grades K, 1, and 6 to the school.

Grade and School Configuration Policies

The desire is to alter the grade configuration to a model housing grades K through six, or grades 1 through 6. This new model would exist as a school-within-a-school with carefully zoned areas of the building. One zone would be designated for students up to and including second grade and separated from the other zone designated for grades three through six. This addresses limitations and inefficiencies related to staffing, supervision, and space usage.

Class Size Policies

The Georgetown School Committee does not have a written policy regarding class size, however the following guidelines are used:

Grades K-2	15-18 students
Grades 3-5	18-22 students
Grades 6-8	22-25 students
Grades 9-12	25 students

School Scheduling Methodology

The master schedule for the school is created by the principal. She determines when each class will have their lunch and specialist blocks when students have art, music, physical education and library. Individual classroom teachers schedule their instructional blocks during the day since they primarily work in self-contained classrooms. There are some cases, particularly at the older grades where teachers switch classes for science and social studies. The classroom teachers also coordinate schedules with specialists and therapists based upon the educational plans of their special education students.

Teaching Methodology and Structure

Georgetown School Department Mission Statement:

The Georgetown Public School District is dedicated to educating all students to their fullest potential so that they may become responsible, tolerant, and successful individuals.

Georgetown School Department Belief Statement:

In the Georgetown Public School District our beliefs drive our commitments, decisions and actions. Specifically we believe that:

- *Our students come first! Their individual, intellectual, physical, social and emotional growth is a priority.*
- *Our students can reach high standards.*

- *Our schools must promote academic excellence, creativity, innovation and the achievement of personal excellence.*
- *Our schools should foster pride in self, school, community, country and world.*
- *Our curriculum should be state of the art, comprehensive and challenging for all students.*
- *Our students will become responsible problem solvers and become critical thinkers.*
- *Our schools must create life long learners who demonstrate moral and ethical integrity and contribute to the shaping of society.*
- *Our teachers, parents/guardians and community are partners in understanding and educating every student. Their role is to encourage and support the achievement of our students' goals and dreams.*
- *Technology is a critical learning tool essential for future success in our global society.*
- *Our schools will be welcoming, inclusive and safe places to learn where individual differences are respected and valued.*

Teaching Methodology and Structure

Each grade level at Penn Brook is located in a clustered distinct area of the school, making it possible to coordinate programs and activities. There are approximately six teachers at each grade level, depending on the number of students in that grade. As stated above, the teachers have their own assigned classrooms in which they teach their assigned students throughout the day.

Teacher Planning and Room Assignment Policies

The principal assigns the room annually. If a teacher leaves the school usually that classroom is assigned to the replacement. Teachers receive 200 minutes per week of planning time which occurs when their students are assigned to special subjects such as art, music, physical education and library. This provides teachers at each grade level with the opportunity to have a common planning time. Once a month, the principal and each grade level team of teachers meet to discuss educational issues together. The specialists receive planning time during the week as well.

Pre-Kindergarten

The district has a preschool program at the Perley School. It is an early intervention program but the majority of the students do not have special needs. The special education students do not pay tuition but all other students pay the same tuition to attend. There is no sliding scale. This program is self-sufficient in that all costs, including staff, are funded by the tuition that is collected. We offer both full day and part day programs depending on the needs of the families.

Kindergarten

The district has five kindergarten classrooms at the Perley Elementary School. These programs are all full day programs with no cost to the families. Prior to 2009, programs were half day for all students with the option to pay a fee for an extended day. Given the state standards and the readiness of students, the district transitioned to full day for all and feels that this was a good decision educationally.

Lunch Programs

The Penn Brook School has a self-sufficient kitchen. All meals are prepared and served on site. The cafeteria space is sufficient in size to accommodate scheduled lunch periods but the kitchen space is small, particularly the serving area. The cafeteria offers a variety of food choices from the daily hot lunch to a la carte items, prepared tossed salads and pizza.

Technology Instruction

The Penn Brook School has very limited technology. There is one stationary lab that has five year old computers thanks to the generous donation of the town's educational foundation (Georgetown Educational Foundation or GEF). This room is appropriately wired and cooled by a portable air conditioning unit. The lab has a Smart Board that can be used for instruction. The individual classroom computers vary both in availability and quality. They are largely donated computers that are mismatched and not sufficient to run contemporary software. There are exceptions thanks to the generous donation of parents (and in some cases matching funds from their employers), the GEF and the PTA. A growing number of classrooms now have Smart Boards and document cameras and a few have laptops and iPads. There is one portable lab of 12 computers available on a sign-out basis. There is some wireless capacity made possible by several wireless routers throughout the school. The wiring in the school is outdated making wide scale upgrading of the technology at the school difficult without additional infrastructure costs. The fact that the computers are not all of the same type and quality makes it difficult for the network technology specialist to maintain and service all of the classroom needs. The principal of the school is very committed to acquiring technology so she works with her staff to target funds from fundraisers such as Square One Art and mini-grants from the Georgetown Education Foundation.

Art

Art instruction is delivered to students weekly in a classroom designated for art. It is an undersized room which limits the type of projects that can be done. There is one art teacher for the school and one art room.

Music/Performing Arts

The music program at Penn Brook has expanded in the past couple of years with the hiring of a new teacher. All classes of students have vocal music one period per week. In addition, interested students can take music lessons and participate in the 4th and 5th grade bands. There are currently 140 students in the band. Third grade students have the chance to learn to play the recorder. There are concerts several times per year. The school gathers monthly for community meetings and frequently there are musical performances by students. In addition, each year the fifth graders put on a large play in the spring which is quite a production. It is performed during the day and in the evening for parents and the community.

Physical Education

Like the other specials, students receive physical education weekly. The teacher is focused on health and physical activity with the students. The gym is sufficient size for the type of activities that occur in physical education classes but the rubberized floor is old and showing signs of disrepair.

Special Education

Special education for students with disabilities is provided in both inclusion and pullout sessions. There is also a continuum of programs at each school to address the specific needs of students with academic, social/emotional, developmental and language-based disabilities. At Penn Brook, there are also two substantially separate programs for students on the autism spectrum and with behavioral challenges. Most of the time, students receive inclusion support in the classrooms and pull out when the intervention requires it. The lack of available and sufficient space in which to work with individual and small groups of students is a problem. The lack of up to date computers and assistive technology to assist special education students also limits the programs that can be offered.

Transportation Policies

The school district provides bus transportation to students that live 1.5 miles or more from the school. For the past twenty years, the district has contracted 4 or 5 buses to transport all of the elementary students. This has necessitated a double bus run for students that required half of the students arriving at school one hour before school started and the other half arriving right before the start of the school day. The reverse process was done on the end of the day with half of the students arriving home at 4:30 PM (dismissal is at 2:45 PM). Three years ago, the district implemented a bus registration process and awarded bus passes. Even though there is no fee to ride the bus, this process has resulted in the near elimination of the double bus run. With the exception of two short runs to specific neighborhoods in town, all students arrive and leave school within 15 minutes of the beginning and end of the school day.



Aerial photo at pick-up time

At the Penn Brook School, during the pickup period there are many cars lined up along the entrance drive, and sometimes backing up onto Elm Street. Two hundred cars per day are estimated to come to the site this year (2011). Car and bus traffic is separated as vehicles circulate around the two outer lanes in the parking lot. The buses queue along the sidewalk facing the school at the north edge of the parking, and the cars proceed to the front canopy of the school to pick up students (see the accompanying diagram).

Teacher Planning and Room Assignments

Every effort is made to provide each academic instructor with his/her own dedicated instructional space, which is largely achieved with the full time staff. Specialty staff such as part time Special education, Speech, Therapists, etc. do not have committed space but share storage and workspace as well as other resources. Teacher planning is largely accommodated in the existing faculty lounges, which also serve other functions over the course of the day. Therefore, there is currently no space



that is completely committed to Teacher Planning, where groups of teachers can collaborate with one another. There is a strong desire to accommodate this function.

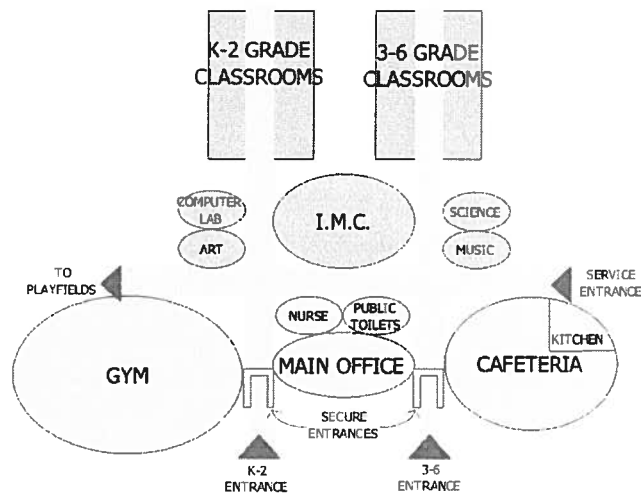
Functional and Spatial Relationships and Adjacencies

The Georgetown Public Schools sees value in and has a desire to organize the academic programs offered into developmental program areas in an effort to support small developmental learning communities of grades K-2 and grades 3-6.

There is a desire to support these developmental learning communities by centrally locating the shared arts spaces, computer lab, and science classroom.

There is a desire to integrate special services efficiently and effectively by locating a core Special education space within each developmental wing.

There is a desire for the Gymnasium and Cafeteria and consequently the food service kitchen to be located in close proximity to a public entrance, the outdoor athletic fields, and located in such a way as to allow the remainder of the building to be secure during public events.



Spatial Relationship Diagram

Security and Visual Access Requirements

As an operational policy, exterior doors are locked to the greatest extent possible during the school day with the exception of the main entry door of the school, which is manned by an administrative assistant. The program requires that the main entry be visible from the administrative assistant desk and that as much of the building is supervised from the corridors as possible.

3.1.3 INITIAL SPACE SUMMARY

Compiled in accordance with MSBA guidelines, and based upon the agreed-upon values for future enrollment, the initial space needs summaries are presented on the following pages. Three versions of these Space Summaries are included to reflect the Feasibility Study Agreement to consider three different grade configurations: 2 to 5, 1 to 6, and K to 6.

The Town of Georgetown School Committee has voted unanimously to express their preference for the K-6 grade configuration.

Proposed Space Summary- Elementary Schools

4 Grades
Gr. 2-5

DRAFT-9/9/2011

RENOVATION/ADDITION Version

PENN BROOK E.S.			
ROOM TYPE	Existing Conditions		
	Room Number(s)	ROOM NFA ¹	# OF RMS area totals
CORE ACADEMIC SPACES			22 19,140
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet		0	
Kindergarten w/ toilet		0	
General Classrooms - Grade 1-8	*	870	22 19,140
SPECIAL EDUCATION			3,190
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED	39, 17	895	2 1,790
Self-Contained SPED - toilet		0	
Resource Room	37	350	1 350
Sm Group Rm / Reading/ Literacy/ Math	32, 49	273	3 820
OT/PT	47	230	1 230
ART & MUSIC			2,380
Art Classroom - 25 seats	41	870	1 870
Art Workroom w/ Storage & kiln		0	
Music Classroom / Large Group - 25-50 seats	87	1,400	1 1,400
Music Practice / Ensemble	68, 69	55	2 110
HEALTH & PHYSICAL EDUCATION			6,880
Gymnasium	57	6,140	1 6,140
Gym Storeroom	58	300	1 300
Health Instructor's Office w/ Shower & Toilet	58	150	1 150
MEDIA CENTER			3,330
Media Center / Reading Room	36	3,180	1 3,180
Office/Storage	33	150	1 150
DINING & FOOD SERVICE			7,400
Cafeteria Dining	65	3,780	1 3,780
Stage/ Platform	86	560	1 560
Chair / Table / Equipment Storage		0	
Kitchen	71	2,740	1 2,740
Staff Lunch Room	72	320	1 320
MEDICAL			420
Medical Suite Toilet	56	30	1 30
Nurses' Office / Waiting Room	56A	340	1 340
Examination Room - Resting		0	
Storage	56	50	1 50
ADMINISTRATION & GUIDANCE			1,888
General Office / Waiting Room / Toilet	54	770	1 770
Teachers' Mail and Time Room		0	
Duplicating Room		0	
Records Room		0	
Principal's Office w/ Conference Area	2	450	1 450
Principal's Secretary / Waiting		0	
Assistant Principal's Office/SpEd Facilitator	51	230	1 230
Supervisory/Spare Off/Psychologist/Behavior	70	155	1 155
Conference Room		0	
Guidance Office	50	190	1 190
Guidance Storeroom		0	
Teachers' Work Room		0	
Speech	48	190	1 190
CUSTODIAL & MAINTENANCE			1,830
Custodian's Office (w/in Receiving Rm)	81	60	1 60
Custodian's Workshop		0	
Custodian's Storage/ Janitor's Closets	24, 29, 81	37	3 110
Recycling Room / Trash	8:	140	1 140
Receiving and General Supply	81	120	1 120
Storeroom	1, 26, 42	300	5 1,500
Network / Telecom Room	82, 83	0	
OTHER			870
Science CR		0	
Computer Lab	10	870	1 870
Total Building Net Floor Area (NFA)			47,235
Proposed Student Capacity / Enrollment			
Total Building Gross Floor Area (GFA)²			63,640
Grossing factor (GFA/NFA)			1.35

PROPOSED								
Existing to Remain/Renovated			New			Total		
ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals
		17,400			0			18,000
870	20	17,400	900	0	-	900	20	18,000
		3,190			810			3,960
895	2	1,790	900	0	-	900	2	1,800
0	0	0	60	1	60	60	1	60
350	1	350	450	0	-	450	1	450
273	3	820	250	0	-	250	3	750
230	1	230	450	1	450	450	2	900
		2,640			75			2,715
1,000	1	1,000	1,000	0	-	1,000	1	1,000
150	1	150	150	0	-	150	1	150
1,400	1	1,400	1,400	0	-	1,400	1	1,400
55	2	110	75	1	75	75	3	225
		6,880			0			6,880
6,140	1	6,140	6,140	0	-	6,140	1	6,140
300	1	300	300	0	-	300	1	300
150	1	150	150	0	-	150	1	150
		3,330			190			3,480
3,180	1	3,180	3,180	0	-	3,180	1	3,180
150	1	150	150	1	150	150	2	300
		7,400			347			8,187
3,780	1	3,780	3,780	0	-	3,780	1	3,780
560	1	560	1,000	0	-	1,000	1	1,000
0	0	0	347	1	347	347	1	347
2,740	1	2,740	2,740	0	-	2,740	1	2,740
320	1	320	320	0	-	320	1	320
		420			200			610
30	1	30	60	0	-	60	1	60
340	1	340	250	0	-	250	1	250
0	0	0	100	2	200	100	2	200
50	1	50	0	0	-			
		2,295			395			2,680
770	1	770	770	0	-	770	1	770
0	0	0	0	0	-	0	0	0
0	0	0	0	0	-	0	0	0
0	0	0	110	1	110	110	1	110
450	1	450	450	0	-	450	1	450
0	0	0	0	0	-	0	0	0
230	1	230	230	0	-	230	1	230
155	1	155	155	0	-	155	1	155
0	0	0	250	1	250	250	1	250
190	1	190	155	0	-	155	1	155
0	0	0	35	1	35	35	1	35
310	1	310	370	0	-	370	1	370
190	1	190	155	0	-	155	1	155
		1,830			575			1,720
60	1	60	150	0	-	150	1	150
0	0	0	375	1	375	375	1	375
37	3	110	375	0	-	375	1	375
140	1	140	140	0	-	140	1	140
120	1	120	180	0	-	180	1	180
300	5	1,500	300	0	-	300	1	300
0	0	0	200	1	200	200	1	200
		2,020			0			1,000
1,100	1	1,100	1,000	0	-	1,000	1	1,000
820	1	820	1,000	0	-	1,000	1	1,000
		47,235			2,252			48,902
		63,640			3,513			67,153
								1.37

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				Comments
ROOM NFA ¹	# OF RMS	area totals		
	19	18,800		
1,200		-	1,100 SF min - 1,300 SF max	
1,200	3	3,600	1,100 SF min - 1,300 SF max	
950	16	15,200	800 SF min - 1,000 SF max	
		4,630		
950	3	2,850	6% of pop. in self contained SPED	
800	3	180		
500	2	1,000	1/2 size Gen. Circ	
500	1	500	1/2 size Gen. Circ	
		2,575		
1,000	1	1,000	assumed schedule 2 times / week / student	
150	1	150		
1,200	1	1,200	assumed schedule 2 times / week / student	
75	3	225		
		6,300		
8,000	1	8,000	8000 SF Min. Rate	
150	1	150		
150	1	150		
		2,650		
2,650	1	2,650		
		6,697		
3,300	1	3,300	2 lockers - 15SF per seat	
1,000	1	1,000		
347	1	347		
1,740	1	1,740	600 SF for line 300 + 1 SF/Student Adult	
210	1	210	75 SF/lockers	
		519		
60	1	60		
250	1	250		
100	2	200		
		2,155		
370	1	370		
190	1	190		
190	1	190		
110	1	110		
375	1	375		
125	1	125		
120	0	-		
120	1	120		
250	1	250		
150	1	150		
35	1	35		
370	1	370		
		2,040		
150	1	150		
375	1	375		
375	1	375		
400	1	400		
247	1	247		
293	1	293		
200	1	200		
		46,157		
		440		
		72,013		
		1.58		

* Existing General Classrooms include Rooms 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 20, 40, 43, 44, 45

¹ Individual Room Net Floor Area (NFA) includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

² Total Building Gross Floor Area (GFA) includes the entire building gross square footage measured from the outside face of exterior walls.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: _____

Name of Principal Architect: _____

Signature of Principal Architect: _____

Date: _____

Proposed Space Summary- Elementary Schools

6 Grades
Gr. 1 - 6

DRAFT- 9/9/2011

RENOVATION / ADDITION Version

PENN BROOK E.S.				
ROOM TYPE	Room Number(s)	Existing Conditions		
		ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES				
(List classrooms of different sizes separately)				
Pre-Kindergarten w/ toilet			0	
Kindergarten w/ toilet			0	
General Classrooms - Grade 1-6	*	870	22	19,140
SPECIAL EDUCATION				
(List rooms of different sizes separately)				
Self-Contained SPED	39 12	895	2	1,790
Self-Contained SPED - toilet			0	
Resource Room	3	350	1	350
Sm Group Rm / Reading/ Literacy Math	31 49	273	3	820
OT/PT	4	230	1	230
ART & MUSIC				
Art Classroom - 25 seats	41	870	1	2,380
Art Workroom w/ Storage & kiln			0	
Music Classroom - Large Group - 25-50 seats	67	1,400	1	1,400
Music Practice - Ensemble	88 66	55	2	110
HEALTH & PHYSICAL EDUCATION				
Gymnasium	57	6,140	1	6,140
Gym Storeroom	58	300	1	300
Health Instructor's Office w/ Shower & Toilet	53	150	1	150
MEDIA CENTER				
Media Center / Reading Room	35	3,180	1	3,180
Office/ Storage	33	150	1	150
DINING & FOOD SERVICE				
Cafeteria / Dining	5	3,780	1	3,780
Stage/ Platform	66	560	1	560
Chairs / Table / Equipment Storage			0	
Kitchen	1	2,740	1	2,740
Staff Lunch Room	2	320	1	320
MEDICAL				
Medical Suite Toilet	56	30	1	30
Nurses' Office / Waiting Room	56A	340	1	340
Examination Room - Resting			0	
Storage	55	50	1	50
ADMINISTRATION & GUIDANCE				
General Office / Waiting Room / Toilet	54	770	1	770
Teachers' Mail and Time Room			0	
Duplicating Room			0	
Records Room			0	
Principal's Office w/ Conference Area	52	450	1	450
Principal's Secretary / Waiting			0	
Assistant Principal's Office/SpEd Facilitator	51	230	1	230
Supervisory/SpEd Off/Psychologist/Behavior	70	155	1	155
Conference Room			0	
Guidance Office	50	190	1	190
Guidance Storeroom			0	
Teachers' Work Room			0	
Speech	48	190	1	190
CUSTODIAL & MAINTENANCE				
Custodian's Office (w/in Receiving Rm)	81	80	1	80
Custodian's Workshop			0	
Custodian's Storage/ Janitor's Closets	24 29 61	37	3	110
Recycling Room / Trash	85	140	1	140
Receiving and General Supply	81	120	1	120
Storeroom	21 28 42	300	5	1,500
Network / Telecom Room	82 68		0	
OTHER				
Science CR			0	
Computer Lab	10	870	1	870
Total Building Net Floor Area (NFA)				47,235
Proposed Student Capacity / Enrollment				
Total Building Gross Floor Area (GFA)²				63,640
Grossing factor (GFA/NFA)				1.35

PROPOSED											
Existing to Remain/Renovated			New			Total					
ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals			
18,140			7,200			27,000					
870	22	19,140	900	8	7,200	900	30	27,000			
3,190			1,880			5,310					
895	2	1,790	900	1	900	900	3	2,700			
0	0	0	60	1	60	60	1	60			
350	1	350	450	1	450	450	2	900			
273	3	820	250	0	250	250	3	750			
230	1	230	450	1	450	450	2	900			
2,380			1,425			3,775					
870	1	870	1,000	0	1,000	1,000	1	1,000			
0	0	0	150	1	150	150	1	150			
1,400	1	1,400	1,200	1	1,200	1,200	2	2,400			
55	2	110	75	1	75	75	3	225			
6,590			0			6,590					
8,140	1	8,140	6,140	0	0	6,140	1	6,140			
300	1	300	300	0	0	300	1	300			
150	1	150	150	0	0	150	1	150			
3,330			180			3,500					
3,180	1	3,180	3,600	0	0	3,600	1	3,600			
150	1	150	150	1	150	150	2	300			
7,400			422			8,422					
3,780	1	3,780	3,780	0	0	3,780	1	3,780			
560	1	560	1,000	0	1,000	1,000	1	1,000			
0	0	0	422	1	422	422	1	422			
2,740	1	2,740	2,900	0	2,900	2,900	1	2,900			
320	1	320	320	0	320	320	1	320			
420			300			610					
30	1	30	60	0	0	60	1	60			
340	1	340	250	0	0	250	1	250			
0	0	0	100	3	300	100	3	300			
50	1	50	0	0	0	0	0	0			
1,985			1,030			2,945					
770	1	770	770	0	0	770	1	770			
0	0	0	0	0	0	0	0	0			
0	0	0	0	0	0	0	0	0			
0	0	0	110	1	110	110	1	110			
450	1	450	450	0	0	450	1	450			
0	0	0	0	0	0	0	0	0			
230	1	230	230	0	0	230	1	230			
155	1	155	155	1	155	155	2	310			
0	0	0	250	1	250	250	1	250			
190	1	190	155	0	155	155	1	155			
0	0	0	35	1	35	35	1	35			
0	0	0	480	1	480	480	1	480			
190	1	190	155	0	155	155	1	155			
1,830			575			1,720					
80	1	80	150	0	150	150	1	150			
0	0	0	375	1	375	375	1	375			
37	3	110	375	0	375	375	1	375			
140	1	140	140	0	140	140	1	140			
120	1	120	180	0	180	180	1	180			
300	5	1,500	300	1	300	300	1	300			
0	0	0	200	1	200	200	1	200			
870			1,000			2,000					
0	0	0	1,000	1	1,000	1,000	1	1,000			
870	1	870	1,000	0	0	1,000	1	1,000			
47,235			13,962			62,272					
63,640			20,560			84,200					
1.35						1.35					

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				
ROOM NFA ¹	# OF RMS	area totals	Comments	
29				
28,800				
1,200	-	-	1,000 SF min - 1,300 SF max	
1,200	5	8,000	1,000 SF min - 1,300 SF max	
950	24	22,600	800 SF min - 1,000 SF max	
7,550				
950	5	4,750	2% of pop. n self-contained SPED	
80	5	300		
500	3	1,500	1/2 size Genl. C. Rm	
500	2	1,000	1/2 size Genl. C. Rm	
5,000				
1,000	2	2,000	assumed schedule - times / week / student	
150	2	300		
1,200	2	2,400	assumed schedule 2 times / week / student	
75	4	300		
6,300				
6,000	1	8,000	2000 SF Min Size	
150	1	150		
150	1	150		
3,663				
3,963	1	3,663		
8,640				
4,988	1	4,988	2 lockers - 1500 per seat	
1,000	1	1,000		
422	1	422		
1,965	1	965	1300 SF for first 200 + 1 SF/Student Add'l	
266	1	266	20 SF/lockers	
610				
60	1	60		
250	1	250		
100	3	300		
2,650				
483	1	483		
100	1	100		
150	1	150		
110	1	110		
375	1	375		
125	1	125		
120	1	120		
120	1	120		
250	1	250		
150	2	300		
35	1	35		
483	1	483		
2,265				
150	1	150		
375	1	375		
375	1	375		
400	1	400		
322	1	322		
443	1	443		
200	1	200		
65,478				
665				
96,425				
1.47				

* Existing General Classrooms include Rooms: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 20, 40, 43, 44, 45

¹ Individual Room Net Floor Area (NFA) Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

² Total Building Gross Floor Area (GFA) Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: _____

Name of Principal Architect: _____

Signature of Principal Architect: _____

Date: _____

Proposed Space Summary- Elementary Schools

PENN BROOK E.S.			
ROOM TYPE	Existing Conditions		
	Room Number(s)	ROOM NFA ¹	# OF RMS area totals
CORE ACADEMIC SPACES			22 18,140
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet		0	
Kindergarten w/ toilet		0	
General Classrooms - Grade 1-6	* 670	22	18,140
SPECIAL EDUCATION			3,190
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED	39 12	895	2 1,790
Self-Contained SPED - toilet		0	
Resource Room	37	350	1 350
Sm Group Rm - Reading/ Literacy/ Math	32 49	273	3 820
OT/PT	47	230	1 230
ART & MUSIC			2,890
Art Classroom - 25 seats	41	870	1 870
Art Workroom w/ Storage & kiln		0	
Music Classroom - Large Group - 25-50 seats	67	1,400	1 1,400
Music Practice - Ensemble	68 69	55	2 110
HEALTH & PHYSICAL EDUCATION			8,690
Gymnasium	57	6,140	1 6,140
Gym Storeroom	58	300	1 300
Health Instructor's Office w/ Shower & Toilet	58	150	1 150
MEDIA CENTER			3,330
Media Center - Reading Room	36	3,180	1 3,180
Office - Storage	33	150	1 150
DINING & FOOD SERVICE			7,400
Cafeteria - Dining	61	3,780	1 3,780
Stage/ Platform	66	560	1 560
Chair - Table - Equipment Storage		0	
Kitchen	71	2,740	1 2,740
Staff Lunch Room	72	320	1 320
MEDICAL			420
Medical Suite Toilet	56	30	1 30
Nurses' Office - Waiting Room	5A	340	1 340
Examination Room - Resting		0	
Storage	51	50	1 50
ADMINISTRATION & GUIDANCE			1,985
General Office - Waiting Room - Toilet	54	770	1 770
Teachers' Mail and Time Room		0	
Duplicating Room		0	
Records Room		0	
Principal's Office w/ Conference Area	72	450	1 450
Principal's Secretary - Waiting		0	
Assistant Principal's Office/SpEd Facilitator	71	230	1 230
Supervisory/Spare Off/ Psychologist/Behavior	70	155	1 155
Conference Room		0	
Guidance Office	50	190	1 190
Guidance Storeroom		0	
Teachers' Work Room		0	
Speech	48	190	1 190
CUSTODIAL & MAINTENANCE			1,930
Custodian's Office (w/in Receiving Rm)	81	60	1 60
Custodian's Workshop		0	
Custodian's Storage/ Janitor's Closets	24 29 51	37	3 110
Recycling Room - Trash	85	140	1 140
Receiving and General Supply	1	120	1 120
Storeroom	21 26 42 82 88	300	5 1,500
Network / Telecom Room		0	
OTHER			870
Science CR		0	
Computer Lab	10	870	1 870
Total Building Net Floor Area (NFA)			47,235
Proposed Student Capacity / Enrollment			
Total Building Gross Floor Area (GFA)²			63,640
Grossing factor (GFA/NFA)			1.35

PROPOSED								
Existing to Remain/Renovated			New			Total		
ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals	ROOM NFA ¹	# OF RMS	area totals
		18,140			12,900			32,700
870	22	18,140	1,100	6	6,600	1,100	6	6,600
			900	7	6,300	900	29	26,100
		3,190			3,210			6,660
895	2	1,790	900	2	1,800	900	4	3,600
0	0	0	60	1	60	60	1	60
350	1	350	450	2	900	450	3	1,350
273	3	820	250	0	0	250	3	750
230	1	230	450	1	450	450	2	900
		2,890			2,900			4,890
870	1	870	1,000	1	1,000	1,000	2	2,000
0	0	0	150	1	150	150	1	150
1,400	1	1,400	1,200	1	1,200	1,200	2	2,400
55	2	110	75	2	150	75	4	300
		8,690			0			8,690
6,140	1	6,140	6,140	0	0	6,140	1	6,140
300	1	300	300	0	0	300	1	300
150	1	150	150	0	0	150	1	150
		3,330			180			4,100
3,180	1	3,180	3,800	0	0	3,800	1	3,800
150	1	150	150	1	150	150	2	300
		7,400			457			8,827
3,780	1	3,780	3,850	0	0	3,850	1	3,850
560	1	560	1,000	0	0	1,000	1	1,000
0	0	0	457	1	457	457	1	457
2,740	1	2,740	3,000	0	0	3,000	1	3,000
320	1	320	320	0	0	320	1	320
		420			400			718
30	1	30	60	0	0	60	1	60
340	1	340	250	0	0	250	1	250
0	0	0	100	4	400	100	4	400
50	1	50						
		1,985			1,246			3,160
770	1	770	770	0	0	770	1	770
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	110	1	110	110	1	110
450	1	450	450	0	0	450	1	450
0	0	0	0	0	0	0	0	0
230	1	230	230	0	0	230	1	230
155	1	155	155	1	155	155	2	310
0	0	0	250	1	250	250	1	250
190	1	190	155	0	0	155	1	155
0	0	0	35	1	35	35	1	35
0	0	0	540	1	540	540	1	540
190	1	190	155	1	155	155	2	310
		1,930			575			1,720
60	1	60	150	0	0	150	1	150
0	0	0	375	1	375	375	1	375
37	3	110	375	0	0	375	1	375
140	1	140	140	0	0	140	1	140
120	1	120	180	0	0	180	1	180
300	5	1,500	300	0	0	300	1	300
0	0	0	200	1	200	200	1	200
		870			1,000			2,000
0	0	0	1,000	1	1,000	1,000	1	1,000
870	1	870	1,000	0	0	1,000	1	1,000
		47,235			22,437			71,117
								72,999
								770
								111,650
								1.53

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guide(lines))			
ROOM NFA ¹	# OF RMS	area totals	Comments
	33	32,850	
1,200			1,100 SF min - 1,300 SF max
1,200	6	7,200	1,000 SF min - 1,300 SF max
950	27	25,650	800 SF min - 1,000 SF max
		8,060	
950	6	5,700	6th of pop. in self-contained SPED
80	6	360	
500	4	2,000	1/2 size Genl. Cmn
500	2	1,000	1/2 size Genl. Cmn
		5,076	
1,000	2	2,000	Insulated schedule 2 times / week - student
150	2	300	
1,200	2	2,400	Insulated schedule 2 times / week / student
75	5	375	
		6,300	
6,000	1	6,000	8000 SF Min. Size
150	1	150	
150	1	150	
		4,135	
4,135	1	4,135	
		9,684	
5,775	1	5,775	1 seatings - 1500 per seat
1,000	1	1,000	
457	1	457	
2,070	1	2,070	800 SF for min 300 + 1 SF/student Addl
293	1	293	1 SF/occupant
		710	
60	1	60	
250	1	250	
100	4	400	
		2,806	
535	1	535	
100	1	100	
150	1	150	
110	1	110	
375	1	375	
125	1	125	
120	1	120	
120	1	120	
250	1	250	
150	3	450	
35	1	35	
535	1	535	
		2,370	
150	1	150	
375	1	375	
375	1	375	
400	1	400	
357	1	357	
513	1	513	
200	1	200	
		0	
		72,999	
		770	
		111,650	
		1.53	

* Existing General Classrooms include Rooms 1, 2, 3, 4, 5, 6, 7, 8, 11, 13, 14, 15, 16, 17, 18, 19, 20, 40, 43, 44, 45

¹ Individual Room Net Floor Area (NFA) Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms

² Total Building Gross Floor Area (GFA) Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: _____

Name of Principal Architect: _____

Signature of Principal Architect: _____

Date: _____

3.1.4 Evaluation of Existing Conditions

As a component of this Feasibility Study, DRA Architects and its consultants conducted an evaluation of the existing conditions that included the following:

- Evidence of Legal Title
- Availability for Development
- Historic Restrictions
- Developmental Restrictions
- Evaluation of Code Compliance
- Evaluation of Significant Physical Conditions
- Determination for Need and Schedule for Soils Exploration and Geotechnical Evaluation
- Phase I Environmental Analysis
- Hazardous Materials Assessment

DRA and its consultant team conducted site visits and reviewed documentation provided by the owner. The results have been compiled into this report. Additional information is available in the Appendix.

Penn Brook Elementary School

Located at 68 Elm St., Georgetown, MA, the Anne T. Dunphy Elementary School was originally constructed in 1970, the building has had no major renovations since. The existing building consists of 63,700 gross square feet and houses approximately 500 students in grades two through five.



Aerial photo of school; from the North

Evidence of Legal Title

Refer to town letter dated _____ included as Appendix C.

Availability for Development

Refer to town letter dated _____ included as Appendix C.

Historic Restrictions

Refer to town letter dated _____ included as Appendix C.

Developmental Restrictions

Refer to town letter dated _____ included as Appendix C.

Evaluation of Building Code Compliance

A preliminary analysis of code compliance relative to current relevant codes including but not limited to the 8th Edition of Commonwealth of Massachusetts Building Code and the current edition of the regulations of the Massachusetts Architectural Access Board.

The building is assumed to have complied with applicable codes and regulations in force at the time of construction. Further, modifications made to the building and systems during the intervening years, are also assumed to have complied with the codes and regulations in force at the time the work was completed. Further, we are not aware of any currently open citations issued against the building by the local Fire Marshal, the local Building Inspector, or by any other Authority Having Jurisdiction. Therefore, the following comments are presented from the point of view of the overall building being in compliance at this time, with certain items of concern, and items noted which clearly would not meet the codes, regulations and standards for new construction in force today.

The following items were identified as areas of concern.

- Egress
 - Doors for egress from courtyard areas swing in the wrong direction. (not a problem if occupancy load of courtyard is under 50 persons)
 - Doors to assembly areas do not have appropriate UL lable.
 - Low headroom condition at (unoccupied storage area) mezzanine in the library, at one location 6' – 1".
 - Isolated low headroom condition at light fixture in Media Production room.
 - Protruding coat hooks in hallways could encumber egress, and could be considered generally dangerous. Also, open storage of coats and packs is not allowed in egress corridors.
- Fire Protection
 - Fully protected with sprinkler system.
- Fire Alarms
 - System lacks adequate number of annunciation devices to meet current regulations, particularly with regard to accessibility codes (visual notification devices and devices in toilet rooms).
 - Otherwise, the system appears to be in good working order.
- Accessibility
 - No lift or elevator to Mezzanine in Library
 - Most of the doors in the building have knob-type door hardware; should all be levers.
 - Lack of appropriate signage including tactile features.
 - Lack of clear floor space adjacent to the latch side of the door in many instances.
 - Entrances to toilet rooms are too narrow and do not afford appropriate turning radius for wheelchair users.
 - Classroom sinks are not accessible.

- Courtyards are not accessible, but do appear to be intended for use by students and staff as outdoor learning areas, in some instances.
- Outdoor play structure does not appear to be accessible.
- Structural Systems
 - At several locations in the building, vertical steel posts which support the wood glue-laminated timber roof framing system, are in turn supported on short (approximately 6' high) masonry (CMU) walls. This creates a 'hinge point' in the structural framing system that is inadequate in design to resist lateral (wind and/or earthquake) loads, as required by today's codes. Approximately 20% of the roof framing support system is so constructed. (Any significant modifications to the building will trigger remediation of this condition, also including general seismic bracing of all CMU walls.)
- Other / General
 - Downspout extensions on the exterior of the building are, in many instances, torn and bent, with exposed sharp metal (aluminum) edges.
 - Exterior walkways are deteriorated with uneven walking surfaces
 - Fire department has made multiple requests to not store misc. equipment in boiler room; and not close to boilers. Fire Chief considers this symptomatic of a general lack of storage space in the building.
 - Cross-corridor smoke doors are propped open on a regular basis.
 - Fire fighting apparatus ability to negotiate tight turns in the fire-lane at the rear of the building, is questionable, due to proximity to steep adjacent slopes.
 - Stormwater management is poor. Run-off is uncontrolled, with few curbs to divert water towards the few catchbasins. Most stormwater simply sheets off of the paved surfaces into surrounding wetlands.

Evaluation of Significant Physical Conditions

The information contained in the paragraphs that follow highlights the existing conditions of the major building systems at each school. That data contained in this sub-section is assembled from previous studies and current field surveys.

Architectural

Interior

- Ceilings: No suspended ceilings (typical); exposed "tectum" roof deck and structural framing.
- Corridors: walls are typically painted CMU and generally in good condition.
floors are 12x12 resilient tile; aging, gaps, cracks at corridor intersections.
corridor lighting appears to be adequate; good daylighting from courtyards.
wide, low fin-tube enclosures are damaged in some locations.
large industrial-type sinks in recesses in corridors.
accessible drinking fountain protrudes into clear corridor egress path.
another D.F. is recessed in corridor wall, non-accessible, and broken.
Sharp 90-degree corner on wood guardrail at corridor intersections.
- Exposed mechanical systems overhead are painted and in good condition; potential for dust to accumulate on surfaces that are out of view, on top sides of ductwork and piping.
- Gymnasium: old composition floor needs to be replaced; lines are faded.
low ceiling height on sides and end walls.
no seating.
- Cafetorium: stage accessible by lift.
moveable wall separates rear of stage, used as music classroom;

poor acoustical separation.

only two serving lines tends to limit ability to move children quickly;
this in turn limits the number of lunch seatings.

- Classrooms: designed in 'pods' of 4 square rooms, with moveable divider walls. Teachers report that walls are 'never opened' for shared learning space use, and that acoustic privacy is compromised by the design, with sounds travelling freely between rooms.
- Windows: single-glazed, steel frames. In-swing hoppers for ventilation with wood screens; 90% of screens are missing or damaged and ineffective.
- Most interior doors have older style 'knob' hardware.
- Sinks in classrooms generally do not meet accessibility standards.
- No lockers. No storage cubbies in classrooms. Small classroom sizes limits storage space, and forces coats to be hung on exposed hooks in corridors.

Exterior

- Exterior split-face masonry units (CMU 'brick' veneer) has significant cracking and delamination from backup substrate at numerous locations. This is a pervasive problem around the entire exterior of the building, indicating that extensive repair and/or reconstruction may be needed, if the building is renovated.
- Original roof, shingles (either wood or composition asphalt) was replaced with adhered black EPDM rubber. The visual appearance is very poor, giving the building an unwelcoming appearance. The EPDM roof is also problematic in the fact that winter-time snow and ice does not adhere to the surface, and sheets off of the roof in a dangerous manner without warning. Temporary wooden sheds have been constructed over exit doors to protect persons from falling snow and ice. (There has been at least one incidence of a student being struck and injured.)
- Gutters exist only at certain locations over some doorways, and at least one was observed to be full of debris and growing plants.
- Downspouts: several are missing entirely. None are fully complete and operational. All downspout extensions are damaged or missing. Some have jagged exposed sharp tears in the aluminum that pose a threat to pedestrians.
- Accommodations for integration of technology including data and power wiring were observed to be surface-mounted and inappropriate for 21-st century learning.
- 'Weed trees' growing in fencing near boiler stack.
- Unsightly metal storage container in courtyard near boiler room; presumably this is for storage of lawn equipment, etc.

Hazardous Materials

- No samples were taken and no laboratory testing was done for this report.
- Surprisingly, 12" x 12" resilient flooring is cited by a previous report as being asbestos-containing. This flooring is in place throughout the building.
- In addition, the previous report cites suspected asbestos-containing material as:
 - Certain pipe fittings and duct insulation.
 - Carpet mastic; vinyl base mastic.
 - Window glazing compound
 - Interior and exterior caulking and sealants.
 - Sheet rock (gypsum drywall) and related compounds
 - Sink coatings
 - Grout at ceramic tile flooring.
- Potential for PCBs in caulking and sealants should be investigated further.

- Light ballasts (potential PCB-Containing) have been reportedly replaced under energy rebate programs.
- An earlier report states that it is unclear if the underground oil storage tank, has been upgraded or replaced since originally installed. This is an item of significant concern, given the age of the tank and apparent proximity to bedrock, which is often associated with high ground water.
- The same earlier report expressed concerns about apparent oil seeps into the floor slab in the boiler room, and proximity to a floor drain. This should be investigated further.
- An older pad-mounted transformer on a pad near the loading dock, is suspected of containing PCBs. This should be investigated further.

Structural

Basic structural system is wood glue-laminated timber frame, with roof deck constructed of 'Tectum' panels and bulb-tee system spanning between laminated beams. Laminated beams are sloped, and carry to the ground slab at the gymnasium and cafetorium. At other locations, laminated wood beams are supported in turn by a steel frame and column system.

Observations made by Engineers Design Group as a component of this current feasibility study confirm earlier observations that the structure has serious deficiencies. Although there is no evidence of current over-stress or failure, the original design of the structural system is such that it would require extensive remediation in the event of any building renovation, in order to meet current codes. As noted above, at several locations in the building, vertical steel posts which support the wood glue-laminated timber roof framing system, are in turn supported on short (approximately 5' high) masonry (CMU) walls. This creates a 'hinge point' in the structural framing system that is inadequate in design to resist lateral (wind and/or earthquake) loads, as required by today's codes. Approximately 20% of the roof framing support system is so constructed. The complete engineer's report is appended to this report.

HVAC

The systems are generally original and therefore about 40 years old and beyond their useful service life. The building has a gas fired hydronic heating system. There has been recent work done in the boiler room including a new boiler (one year ago) and a new Domestic Hot water Heater system (a few years ago). Boilers and DHW run on gas. One boiler heats entire school. They have not used the backup boiler (original one) since they installed the new one. Oil has not been used in over 3 years according to the custodian. Other than that, everything appears to be as described in the 2002 report.

Custodial staff reports that the original underground fuel oil tank(s?) are still in place. This was also noted in the 2002 report, as an item of significant concern.

The classrooms are served by unit vents, smaller spaces (offices) are served by fan coil units, and the assembly areas are served by Heating and Ventilating systems. The H&V units are installed in the rooms they serve (Gym (2 units), Library, Cafetorium). All controls are pneumatic. Unit in Library was noisy according to the Custodian, while the ones in the Gym and Cafetorium are not.

The fresh air intakes for the unit vents serving the classroom are close to the ground and are a problem in snow storms. Snow falls off the roof and covers the vents on a regular basis.

Most systems are fully exposed in the spaces they serve or in the corridors. There is a minimal amount of equipment on the roof.

Some interior occupied rooms appear to have only minimal or no exhaust and no supply air. Note that there are very few rooms that are interior.

If decision is made to reuse the building, the HVAC system in general would need to be replaced except for the new boiler and new domestic water system. These systems are not the high efficiency systems being installed currently in new schools and therefore, might be an issue with CHPS. Most of the energy efficiency points are related to the boiler systems.

Plumbing

- Sanitary waste is handled by an on-site septic field, located within a wooded area to the south of the end of the parking lot. Condition is suspect due to overgrowth.
- Potable water is provided by municipal service.
- Insufficient number of toilet rooms and fixtures reported; one adult female toilet only serves 45 female staff persons, located at the front of the building.
- Entrances to student toilet rooms are not accessible to wheelchair users.
- Multiple minor issues of non-compliance with accessibility regulations; some modifications have been made in this regard, but full technical compliance with current regulations is not provided.
- At least one drinking fountain is non-operational.
- Large industrial style 'gang' sinks are located in recesses in the corridors, intended for student use. These are non-accessible.
- Not enough bathrooms, one ladies room for 45 staff.
- Custodial staff reports that pipes leak, (some pipes are buried under the slabs, but most pipes are exposed.)

Fire Protection

- The building is entirely protected by an active sprinkler system.
- History of recent testing is unknown.
- Earlier 2002 report indicated that sprinkler heads in the kitchen area had been concealed above a new suspended ceiling.

Electrical

- The service provider is the local utility company; Georgetown Municipal Light Company. Generally, rebate programs such as those available with larger utility company providers, are not available here.
- Service and Distribution (Main Service Disconnect - 1200A @ 120/208V 3ph. 4w.)
- The majority of all of the distribution equipment is original to the building putting it at 40 + years old, at or beyond its average life expectancy.
- The capacity of the service and distribution equipment would probably not support major mechanical upgrades.
- There were no reports of any nuisance tripping of breakers or overloaded circuits other than at the teachers dining where an additional panel was added to handle the vending, microwave and other loads associated with this space.
- Other than as noted for the teacher's dining there have been no upgrades to the service and/or distribution equipment.
- It was reported that there are not enough outlets/power to handle many of the space programming needs. In many classrooms additional outlets have been added by way of surface conduit, extending existing circuits from existing receptacles to new receptacles.

Lighting

- It was reported that lighting is poor in many areas.
- Most of the lighting is original to the building. There was a utility retrofit of most fixtures in the last five years.
- Lighting in common areas such as the corridors primarily consist of bare lamp strips within a wooden frame, many lamps have been removed.
- The gym and cafeteria utilize HID fixtures, metal halide lamp sources.
- Exterior lighting consists of building mounted fixtures at canopies and entries. There are cobra head street lighting fixtures on utility poles along the entry drive. The parking area is lit via flood lights from the last utility pole at the entry drive.

Emergency Lighting

- Emergency lighting consists of a central battery system as well as local batteries with heads and exit fixtures with batteries.
- There is no emergency generator.

General

- The kitchen has gas cooking. There is an exhaust hood, the hood has lighting and exhaust only, there is no fire suppression system.

Fire Alarm

- The fire alarm system was reported as operating without problems.
- There is no smoke or heat detector coverage, the building is fully sprinklered.
- In general manual pull station coverage is adequate with the exception of a few egress locations that today would require manual pull stations.
- Audio/visual coverage appears OK although many classrooms as well as a few other locations do not have devices. A system being installed today would have more audio/visual coverage.

Clock System

- It was reported that the clock system is not operational. This is apparent as the majority of system clocks have been removed and replaced with battery operated clocks.

Program System

- It was reported that the program system is not operational.

Intercom System

- The intercom system is operational. There are speakers throughout the building, classrooms have privacy switches, no telephones.

Security System

- The security system was reported as not working. There appeared to be minimal coverage, door contacts at some doors and a motion sensor at the computer lab.

Cable System

- There is no cable TV service to the building.

Determination for Need and Schedule for Soils Exploration and Geotechnical Evaluation

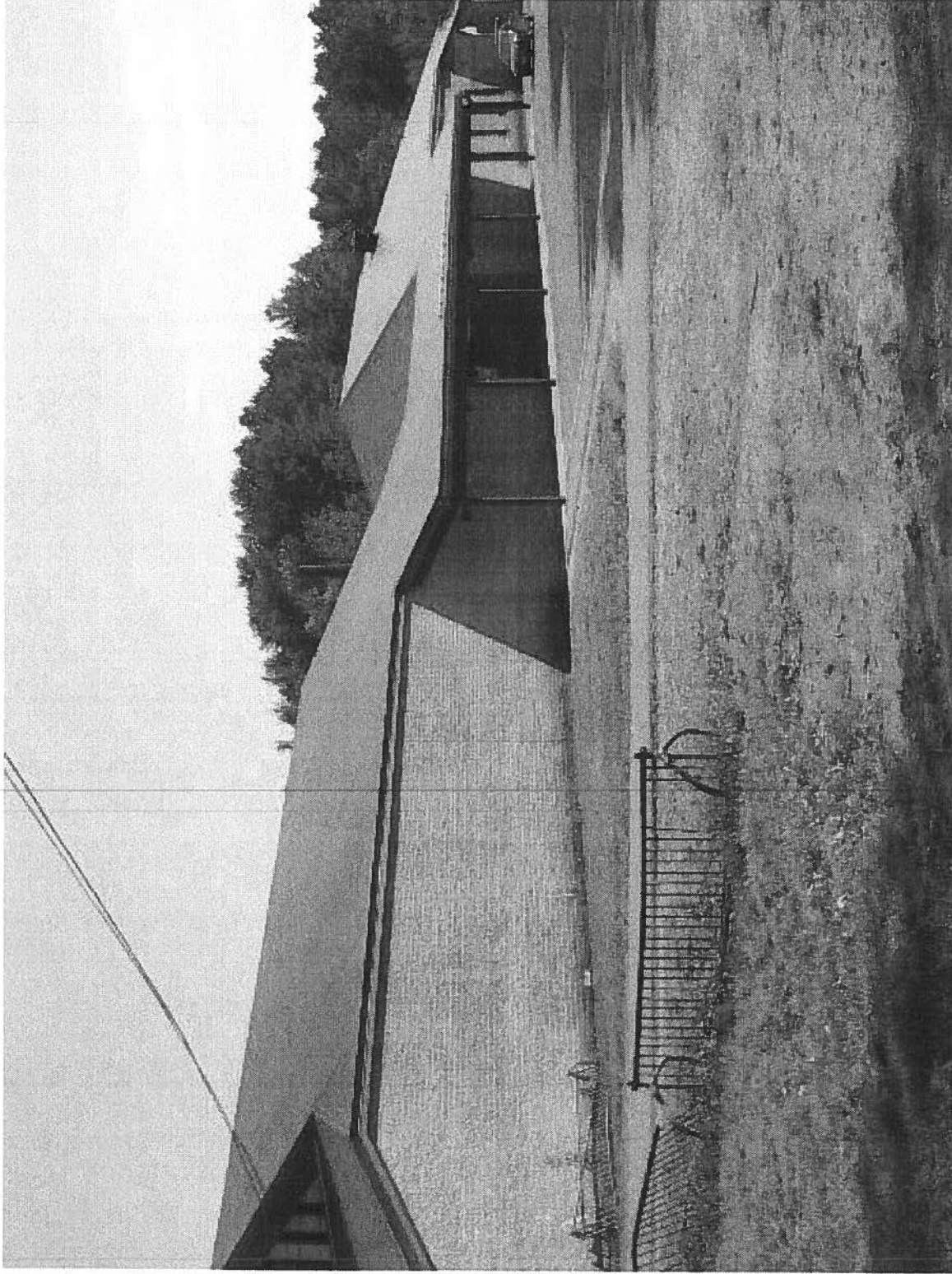
See attached Proposal for scope of Geo-Tech services. Work is about to get underway, and is targeted to be completed within 3 weeks.

Phase I Environmental Assessment

A Phase I Environmental Assessment will be conducted by a Licensed Site Professional as part of the Geotechnical Evaluation scheduled for next month.

Existing Floor Plans

Floor plan diagram of the existing building follows on the subsequent page for reference.



Front of building. Black EPDM roof. No concrete pad for bike rack.

Approx.
80
photos with
captions.
not copied
(to save file size)

3.1.5. SITE DEVELOPMENT REQUIREMENTS

Site access and circulation

In general, improvements to the site must provide in safe entry and exit to the site from the adjacent Elm Street roadway and ensure adequate separation between pedestrians and vehicles. In addition, separation between bus drop-offs and parent drop-offs need to be considered to ensure efficient circulation and adequate student safety.

Currently, traffic is a serious issue at the school. The limited number of busses means that most students are picked up and dropped-off by private automobile. Particularly at pick-up times, traffic often backs up all the way out the entrance drive onto Elm Street, which is only a two lane road, but is one of the major cross-town roads. Consequently, significant traffic jams result. In order to move traffic as efficiently as possible and minimize the impact to Elm St. traffic, the School has adopted a complicated system of snaking private autos and busses through the side parking lot prior to approaching the front of the building. This maximizes off-street stacking area. The School has also instituted an ingenious numbering system, wherein cars have assigned permanent numbers, and students are called by number to approach the car as the driver approaches the front of the school. This is personnel-intensive, and there is a strong need to make further improvements.

Pedestrian circulation to and from the site will also require attention to ensure safe connections to off-site destinations and adjacent play fields.

Parking

Currently, there is adequate on-site daytime parking for teachers and staff only. Events at adjacent play fields, which are frequent at certain times of the year, cause the need for parking to exceed the available capacity.

The parking lots and roadways are all paved using bituminous concrete. The curbing along the parking, where it exists, is bituminous curb in fair to poor condition. The curbing at the main entry is concrete curbing. (total parking spaces unknown at this time)

Facility service

Dumpster and trash pick-up areas are at the loading dock area to the south of the school, in the south side parking lot. This is also the deliveries area.

The length of the loading bay is not sufficient to handle a vehicle over 25' ± without interfering with vehicular circulation at the bus loop/parking area. There is no screening of the loading/service area that would buffer views from the main entry loop.

Code issues

Access for disabled persons is limited, and is not in conformance with current regulations. There is a curb-cut at the main entrance drop-off area, but the accessible parking is located on the opposite side of the drive, forcing persons who need the ramp to cross the busiest traffic area on the campus. Accessible parking is not properly signed.

There is no accessible path of travel to the adjacent play fields, and no separate designated accessible parking for those areas, or for the nature trails area to the South of the school.

Zoning issues and limitations

Parcel 10A-45 has 4 Zoning designations that impact development:

1. Flood Plain District
2. Water Resource District
3. Residence C District
4. Permanently Protected Open Space. (We have contacted the Planning Dept., and Con. Comm for clarification of this district.)

** There is also the edge of wetlands presumable as part of the Penn Brook the runs north south on the northeastern portion of the property.

Emergency vehicle access

There is a Fire Lane which circles the back side of the building, but the corners on this paved surface are too tight, and the proximity to steep drop-off topography is too close, for any large fire-fighting apparatus to safely navigate.

Utilities

See existing conditions report for additional information.

Water Systems: The school is currently serviced by an unknown water main size and type in Elm Street. This line runs up the school entry and feeds two fire hydrants and the school building. The following is a description of the locations of the hydrants and fire sprinkler connection:

- A fire hydrant is installed near the north side of the Penn Brook School near the bike racks;
- A fire hydrant is installed at the entrance to the main parking lot and bus drop off;
- The fire sprinkler connection is installed at the southwest corner of the existing building.

There does not appear to be any irrigation installed for the ball fields and site landscaping.

Any new school buildings would be fed from the existing water service in the school entry driveway. There is likely adequate fire protection volume and pressures in the area of the project site, however a flow test will need to be performed to confirm that the existing water lines will be sufficient for proposed fire and domestic water demands for the new school building.

Sanitary Sewer:

Based on Record Documents, there is a 4-inch cast iron gravity sanitary sewer, which discharges to a 2,000 gallon grease trap and then to a 11,000 gallon septic tank. The effluent discharges in a six (6) inch cast iron pipe to two (2) leach fields located south of the parking lot. The leach fields are located in a low spot in the woods about 150 feet

from the edge of the main parking lot. The septic fields do not appear to be maintained as the field is over grown with shrubs and tree saplings.

It is presumed that any new school buildings would connect into a new septic system including tanks and soil absorption field. The new septic system may require a pump chamber and duplex pump system.

Gas/Oil:

The Penn Brook School is served by an unknown diameter and type gas line. The existing gas line enters the building at the gas meter enclosed within a chain link fence at the boiler room on the south end of the existing school.

An underground oil tank of unknown size and type is located at the south west corner of the building. The oil tank is located within an earth mound close to the grease trap.

This is an item of significant concern requiring further investigation.

Electric:

Electric service is supplied by over head wires from Elm Street to the main parking lot. Electric service is routed underground from utility pole #8 to the existing electrical transformer located on a concrete pad near the loading dock.

Lighting is provided by street lights on the utility poles along with flood lights located on the tops of some of the utility poles to provide additional lighting. There are wall packs located at the front of the school main entrance. Flood lights are provided for the two baseball fields and play area north of the existing school building.

Athletic fields and outdoor educational spaces

On the northern portion of the property there are 3 existing athletic fields. One baseball field and two softball fields. The baseball field and one softball field are located in the proper solar orientation. One softball field (looks like a practice field) does not have the proper solar orientation.

Drainage

The site is currently served by an existing closed drainage system made up of underground pipes conveying stormwater runoff collected in catch basins. There are only four catch basins and two drain manholes. This system discharges to a small drainage pond. This pond discharges stormwater via a culvert under the access driveway and down a slope toward a wetland over 100 feet away from the discharge outlet. Additional leaching catch basins are located around the school and in landscaped areas. All roof runoff is sent to external roof down spouts or drips off the roof edge. No roof runoff is infiltrated into the ground.

Proposed drainage for the new school project will consist of updating the existing drainage system and installing a new closed drainage system incorporating deep sump catch basins, with hoods and as many Low Impact Development elements as possible, such as grassed swales, porous pavement, and biofiltration (if appropriate). A retention/detention element will most likely need to be included as part of the proposed stormwater design. This could be in the form of underground pipes/arch chambers or a surface detention basin. Water Quality will also need to be addressed as part of the

stormwater design. Proprietary Units such as Stormceptor or Vortechincs could be used or more site integrated water quality options can be implemented as part of the stormwater design.

Permitting

Wetlands:

There are existing wetland resource areas located within or adjacent to the project site west and east of the school building. Therefore the Massachusetts DEP may take jurisdiction over the site depending on the location of the new school building, roadways and other site structures that may be within the 100 foot buffer zone of a wetland. Coordination with the Town of Georgetown Conservation Commission will be required to determine the extent, if any, of their jurisdiction over any work on this project. This permitting requirement will be reviewed as the project moves forward in the design development phase.

Environmental Protection Agency (NPDES program)

Construction activities that disturb more than one acre are regulated under the United States Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) Program. In Massachusetts, the USEPA issues NPDES permits to operators and owners of regulated construction sites. Regulated projects are required to develop and implement stormwater pollution plans (SWPPP) in order to obtain permit coverage.

Massachusetts Environmental Protection Act (MEPA):

Development of this site does not appear to trigger any MEPA thresholds and will likely not require an ENF or EIR to be filed with MEPA. Further evaluation is required as the project proceeds to the design development phase.

Massachusetts Collaborative for High Performance Schools (CHPS):

The following is a list of the site civil related points for 2009 MA-CHPS and a quick analysis of whether it will be possible to achieve the point (Nitsch is assuming that all pre-requisites will be met and any site points not discussed herein require the input from other disciplines to determine achievability):

- Credit SS.C1.1: Sustainable Site Selection: 1 point** - This credit is **Achievable** because the project is not proposing to temporarily or permanently modify land, which prior to acquisition for the project was public parkland, conservation land, or land acquired for water supply protection.
- Credit SS.C1.2: No Development on Flood Plain: 1 point** - This credit is **Achievable** because the project does not propose to develop buildings within the 100-year flood plain as defined by FEMA.
- Credit SS.C1.3: No Development Near Wetlands: 1 point** - This credit **may be Achievable** because the project does not propose to develop within 50 feet of wetland resource areas as defined by the Massachusetts Wetlands Protection Act. .
- Credit SS.C1.4: No Development of Greenfields: 2 points** (for additions and renovations) - This credit **may be Achievable** because the project does not propose to develop a previously undeveloped parcel of land.

- Credit SS.C2 Centrally Located Smart Growth: 1 point** - This credit is **not Achievable** because the project site looks to be within ½ mile of 8 of the basic services as required in the CHPS guidelines.
- Credit SS.C5 Locate Near Public Transportation: 1 point** - This credit is **possibly Achievable** because there is nearby bus and MBTA train service that may meet the requirements in the CHPS guidelines.
- Credit SS.C6 Pedestrian/Bike Access: 2 points** - This credit **may be partially Achievable (1 point)** because there are existing sidewalks extending out from the school property that may meet the criteria required in the CHPS guidelines for one of the two points for this credit.
- Credit SS.C8 Post –Construction Stormwater Management: 1 point** - This credit is **most likely Not Achievable** because the project probably not be able to any of the 4 Options to decrease the stormwater rate and volume by 25% as required in the CHPS guidelines. This credit can be reexamined as the design moves forward to see if changes can be made to the design that may be able to get this credit to be achievable.



PENN BROOK SCHOOL - Georgetown, MA
 Site Analysis
 September 26, 2011

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Georgetown, MA Penn Brook Elementary School Feasibility Study Options Being Considered 9/26/2011
FAMILIES OF OPTIONS

Icon	Family Label	Description	4 Grades 2 - 5	6 Grades 1 - 6	7 Grades K - 6
	A "Do Nothing" Reactive Approach	<i>DO NOTHING means reacting to system maintenance issues as they occur. No MSBA participation.</i>	A 4. Repairs and maintenance only will not address space needs; lacks approximately 5,000 sf for current population, 3,500 sf for future enrollment	NOT FEASIBLE Repairs and maintenance only will not address increased space needs	NOT FEASIBLE Repairs and maintenance only will not address increased space needs
	B Renovate Selective Approach	<i>Selective system upgrades. Partial MSBA participation.</i>	B 4. Renovations only will not address space needs; lacks approximately 5,000 sf for current population, 1,200 sf for future enrollment	NOT FEASIBLE Renovations only will not address increased space needs	NOT FEASIBLE Renovations only will not address increased space needs
	C Renovate As New Comprehensive Approach	<i>Comprehensive systems upgrades for code compliance current energy efficiency standards within the existing footprint. Full MSBA participation.</i>	C 4. Renovations only will not address space needs; lacks approximately 5,000 sf for current population, 3,500 sf for future enrollment	NOT FEASIBLE Renovations only will not address increased space needs	NOT FEASIBLE Renovations only will not address increased space needs
	D Renovate As New - Addition Comprehensive Approach	<i>Comprehensive systems upgrades for code compliance current energy efficiency standards with addition(s) to achieve better programmatic alignment. Full MSBA participation</i>	D 4. 3,500 - 5,000 sf addition required	D 6. 20,000 sf addition required	D 7. 34,000 sf addition required
	E Demolish, Renovate As New - Addition Comprehensive Approach	<i>Partial Demolition of existing building. Comprehensive systems upgrades for code compliance current energy efficiency standards with addition(s) to achieve better programmatic alignment. Full MSBA participation</i>	E 4. NOT FEASIBLE Demolition not advantageous Existing major spaces are adequate per Preliminary Space Summary	E 6. NOT FEASIBLE Demolition not advantageous Existing major spaces are adequate per Preliminary Space Summary	E 7. NOT FEASIBLE Demolition not advantageous Existing major spaces are adequate per Preliminary Space Summary
	F All New Construction Program Alignment	<i>Phased demolition of existing building and construction of new facility on existing site aligned with 21st century educational paradigm.</i>	F 4. 67,000 sf (min) - 72,000 sf (max) New Building	F 6. 84,000 sf (min) - 96,000 sf (max) New Building	F 7. 98,000 sf (min.) - 112,000 sf (max) New Building

Preliminary Alternatives

The design team will be studying multiple alternatives during this Feasibility Study process. As part of the Feasibility Study Agreement, the Town and MSBA have agreed to study three different grade configurations, so there will be multiple variations of each alternative studied. See the "Families of Options" matrix.

The list of Preliminary Alternatives includes:

A. "Do Nothing"

Although this is not a viable option, this alternative will be studied as a baseline for comparison purposes. It assumes that no major project is undertaken and only capital repairs will be attended to over the foreseeable future. It obviously does not address educational or programmatic issues.

B. Renovate Only

Selective approach to upgrade certain components such as windows and roofs that are currently defective or have a limited lifespan. This option obviously does not address space needs, even for the current grade configuration and is therefore not feasible for the larger grade configurations (1-6 or K-6).

C. Renovate As New

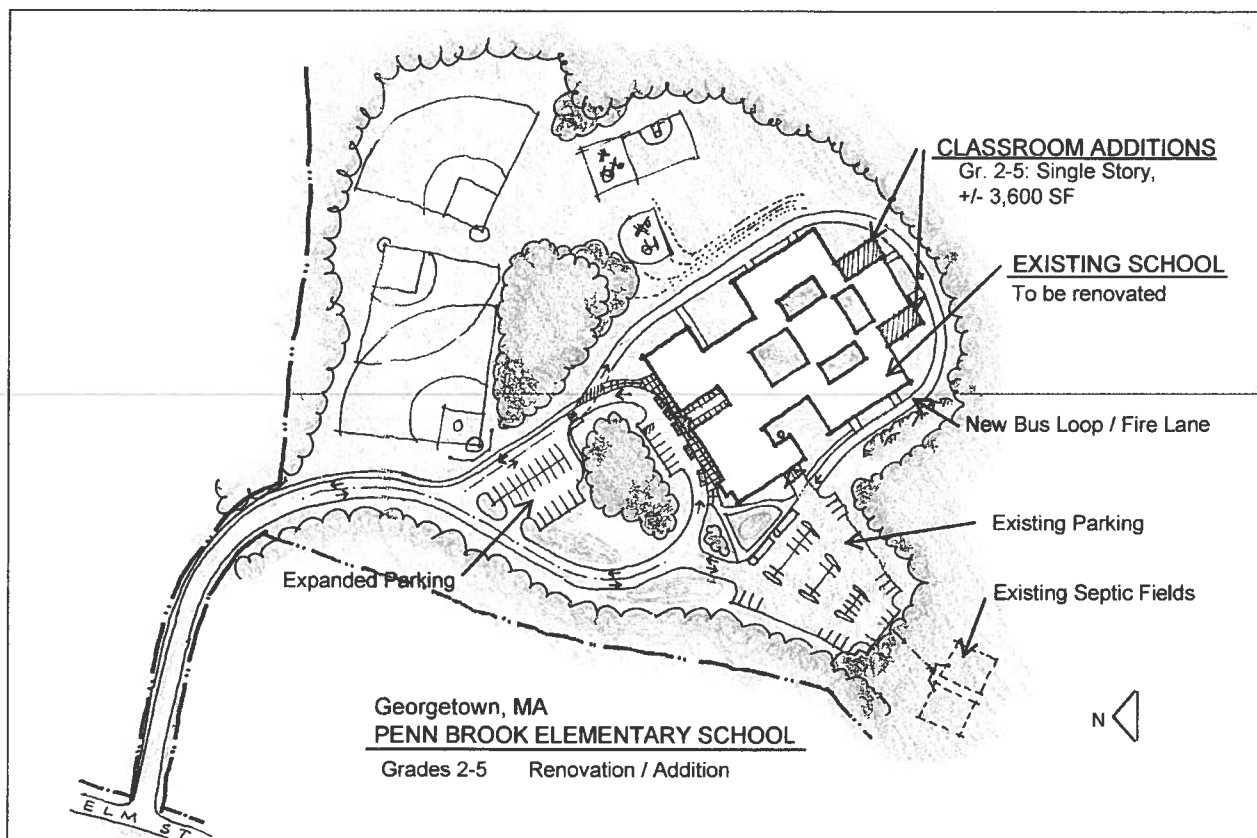
Comprehensive approach to proactively upgrade systems for code compliance and energy efficiency within the existing footprint. This option does not address space needs, even for the current grade configuration and is therefore not feasible for the larger grade configurations (1-6 or K-6).

D₁. Renovation and Small Addition

One option to be investigated by the design team is a complete renovation of the existing school with a small addition to address the space needs for Grades 2 through 5. This option is consistent with the original building design from 1972 which anticipated future expansion in two specific areas of the site. The building's structure and roof configuration anticipates these additions.

These additions alone (equating to four general classrooms) are not adequate to satisfy the space needs of the other grade configurations to be studied as part of this Feasibility Study. (see the "large addition" version for Gr. 1-6 and K-6 options).

Each renovation option will need to address the issues of swing space, phasing and construction activity adjacent to on-going education. These issues include: logistics of construction access, traffic, safety, and disruption. Cost estimates will include allowances for remobilization costs of multiple phases and rental of temporary structures if necessary.

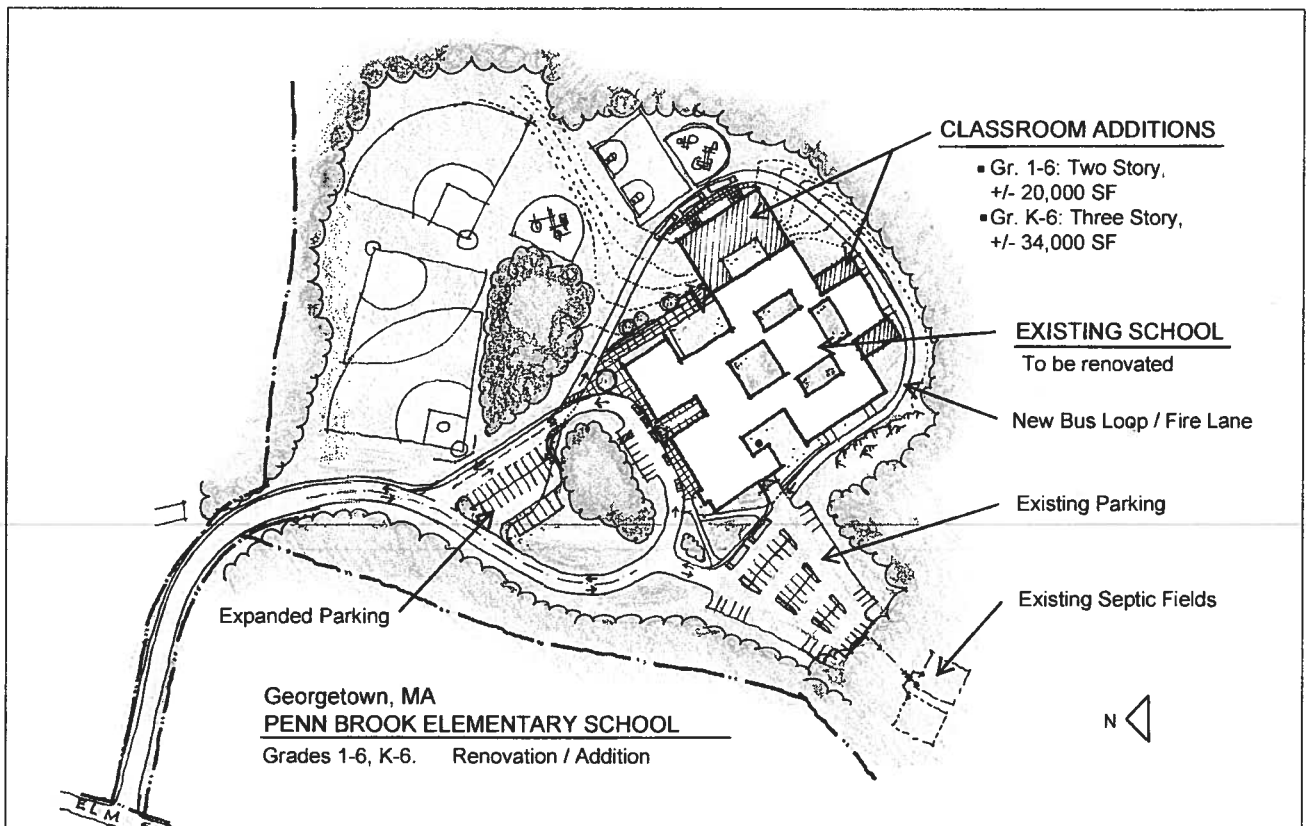


Grades 2-5; Renovation and Small Addition

D₂. Renovation and Large Addition

A second renovation option to be investigated by the design team will be the complete renovation of the existing school with a large, multi-story addition to address the space needs for Grades 1 through 6 and K through 6. This option may also utilize the future expansion potential identified in the original building design from 1972.

The major addition repeats the original configuration of the classroom wings by extending the existing corridors to the east. By utilizing another lightwell/courtyard, all existing classrooms will maintain their exposure to natural daylight. This addition will also take advantage of the site's natural sloping topography to provide daylight to a lower level. This two-story addition will provide appropriate increase in area to satisfy the space needs of the 1 to 6 grade configuration. To address the K to 6 configuration an upper level can be added to the same footprint.



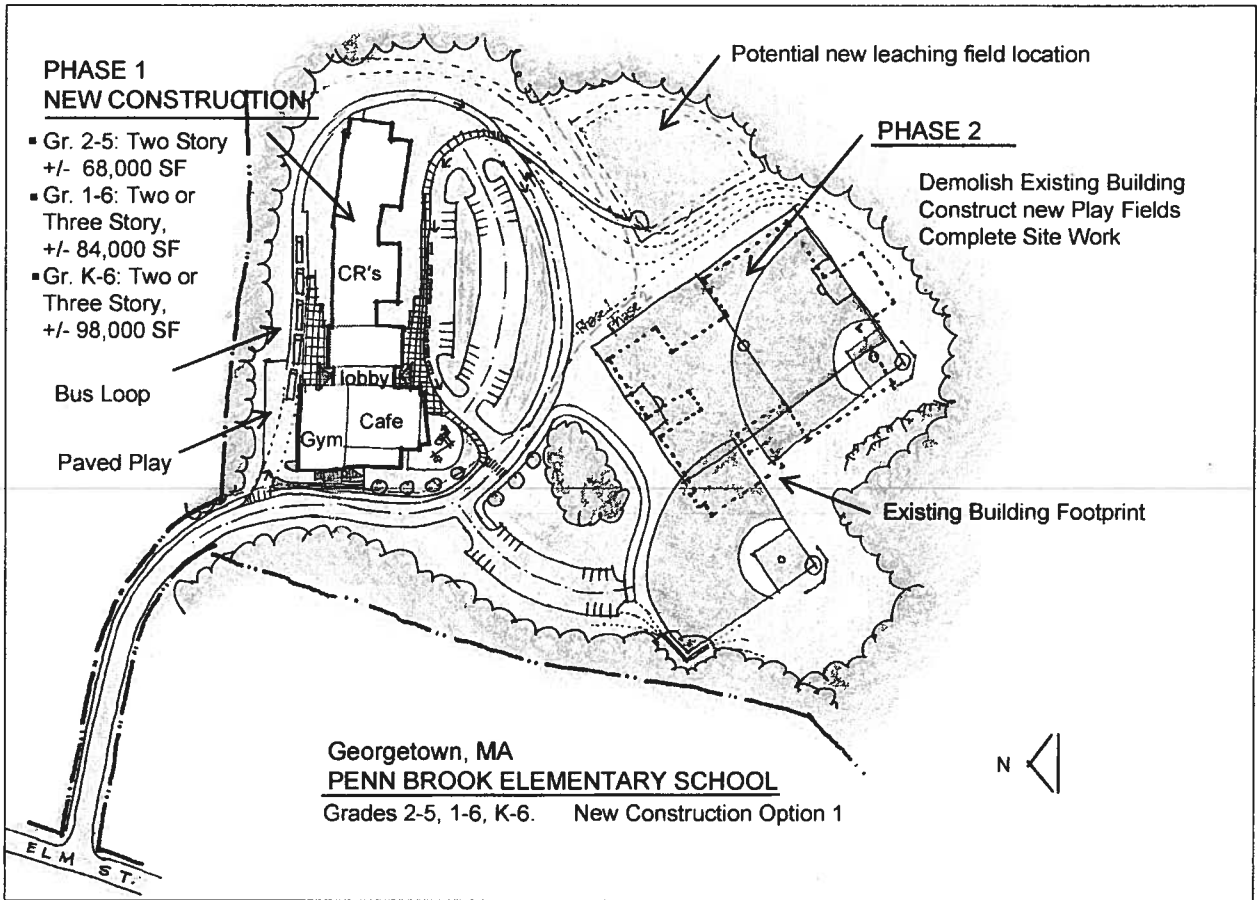
Grades 1-6 or K-6; Renovation and Larger Addition

F₁. New Construction

Several versions of new construction will be studied as an option to house each of the proposed grade configurations. The general strategy would be to site the new school in a location to allow the existing school operations to continue with minimal disruption during the construction period.

Alternative layouts will be studied, from one story to two story to possibly three story structures to consider best fit on this limited site. It appears that a new school can be sited in such a way that it can be constructed in one single phase. It appears however that for the larger grade configurations (1-6 and K-6), multi-story configurations will be required in order to accommodate the program requirements.

The second phase of the project would be to demolish the existing school, construct new playing fields and complete the site work of parking areas, sidewalks and planting.



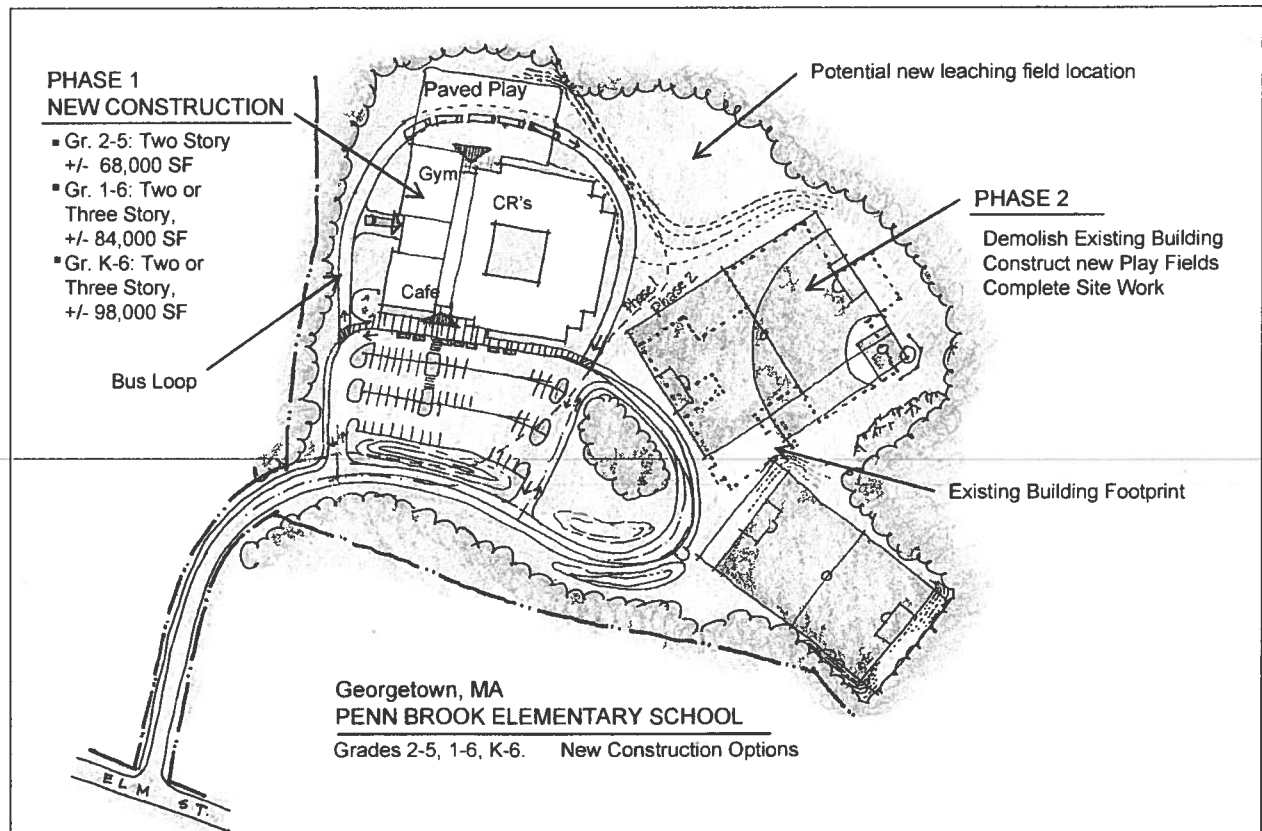
New Construction Option 1

F₂. New Construction

Alternative versions of new construction will be studied to consider best fit on this limited site. For instance a more compact, courtyard type configuration might better conserve the available building area.

Issues such as traffic circulation, grading and preservation of existing resources will also be considered in generating and evaluating these alternative layouts.

Topographic survey and geotechnical information will also reveal whether alternative building zones exist in currently wooded areas and whether a secondary access drive can be developed to improve traffic flow and car/bus separation.



New Construction Option 2