

Process:

The required MSBA “No-Build” Option addresses needed building repairs, replacement of obsolete systems and/or systems that have exceeded their life expectancy, and addresses mandatory building code upgrades. The approach assumes that no additional square footage will be added to the structure and that use of modular classrooms will continue. The implications of the solution’s ability to support the current Grade 5 and 6 population will be addressed elsewhere in the Feasibility Study.

At a minimum, the following scope would be included:

- Replacement of the 10 obsolete modular classrooms
- Replacement of any MEP systems that have exceeded their life expectancy including the HVAC and lighting systems
- Roof replacement
- Window replacement
- Any hazardous material abatement associated with the scope indicated
- Recaulk and repoint exterior masonry and openings
- Any code required upgrades associated with the scope indicated and/or issuance of waivers from AAB and Massachusetts Building Code compliance alternatives
- Installation of a full fire protection system is required per code section 3408.1.
- Full compliance with AAB regulations is required per Architectural Access Board Regulations section 3.3.1.b, since the cost of the work will be in excess of 30% of the assessed value and \$500,000,. The scope for this option assumes that a waiver from full compliance on selective items will be granted by AAB.
- Preliminary Phasing Plan: 3 year phased occupancy plan. Provide 18 rented portable classrooms for swing space during occupied construction, or extend to 60 months, or vacate building.

Sherwood Middle School

Sherwood Avenue, Shrewsbury, Massachusetts

Addition/Renovation Alternative – Scope of Work

20 August 2009

Process:

Utilizing the MSBA template and the School District's Grade 5 and 6 Educational Program, several options were studied within the Add/Reno Alternative. The objective of the add/reno solution is to provide for the necessary programmatic spaces while minimizing disruption to the student school year and minimizing the construction cost.

The proposed phased Addition/Renovation Alternative Scope of Work includes the following:

DEMOLITION:

- 11,000 sf modular classroom addition
- 8,000 sf at 2 story elevator/locker room at southeast end of the building
- Selective demolition as required for systems installation including all ceilings
- Selective demolition in approx. 25% of the existing building to accommodate program

ADDITION:

- Phase 1: approximately 35,000 sf addition with cafetorium, music, administration, lobby, and expanded gym station
- Phase 2: approximately 35,000 sf additions for classroom wings, Part 1 Renovation

RENOVATION:

- Approximately 25% of the existing school would undergo "major" renovation with substantial demolition followed by new partitions, finishes, doors, etc.
- Approximately 75% of the existing school would undergo "moderate" renovation with minor patching after selective demolition, new finishes, new millwork, etc.
- All Architectural Access Board required updates
- Roof, window, and door replacement
- Repointed and recaulked exterior
- Abate all hazardous materials
- Replacement of MEP systems

AREA SUMMARY:

- Demolition: 20,600 sf
- Selective demolition: 80,000 sf
- Additions: 70,000 sf
- Major Renovations: 20,000 sf
- Moderate Renovations: 60,000 sf
- Total Addition/Renovation Project: 150,000 sf

SITE

- Add Crescent St. connection
- Redirect Hutchins Ave. connection
- Site Utilities upgrades/reconnections
- New paved play area/service entrance
- 150 parking spaces at Sherwood and associated drives
- Landscaping at former paved areas
- New softball field

Sherwood Middle School

Sherwood Avenue, Shrewsbury, Massachusetts

Addition/Renovation Alternative – Scope of Work

20 August 2009

PRELIMINARY PHASING PLAN:

Phase I (assume 12 month construction schedule):

- Demo elevator/locker room
- Construct new 35,000 sf cafetorium, music, administration, lobby, and expanded gym station at SE end of the building
- Install new boilers, electric room, upgrade gas service, etc.

Phase 2 (assume 12 month construction schedule):

- Move cafeteria/kitchen, administration, etc. to new construction
- Construct new 35,000 sf classroom wings
- Major renovation at former administration/cafeteria wing

Phase 3 (assume 3 month unoccupied summer construction schedule):

- Moderate renovation at south wing
- Final connection to classroom wing systems
- Move Modular and east wing classrooms to new construction

Phase 4 (assume 6 – 9 month construction schedule):

- Demolish modular classrooms
- Moderate renovation at east wing classrooms

Process:

Several site and building objectives were considered for the new construction options including:

- Improved site circulation to facilitate separate bus and parent pick up traffic
- Maintain existing athletic features to the greatest extent possible
- Develop new construction options that would allow the existing Sherwood school to remain in session during construction
- Design a highly compact school that minimizes site impact, construction costs, and minimizes operating costs
- Address the program priorities and goals to an optimum level

From these objectives, two conceptual directions evolved, both with similar building plans. The design works to build the structure into the sloped landscape in both cases, taking advantage of the topography to develop a compact plan that presents a scale at the entrance appropriate to middle school students. In both plans, a new connection to Crescent St. is developed to better accommodate vehicular traffic in a clear manner. Both options allow for the existing school to remain in operation while the new facility is under construction.

CONNECTION OPTION

One alternative locates the building on the northeast side of the existing Oak Middle School. While maintaining autonomous middle schools, this scheme addresses the programmatic desire to establish a grade 5 – 8 middle school complex where shared facilities are encouraged. In this scheme the buildings are clustered close together with the athletic fields behind and dispersed parking.

CAMPUS OPTION

The second alternative positions the new building on the southeast section of the site creating a campus plan with Oak and Sherwood Schools separated by athletic fields. In this scheme, each school will be distinctly independent with site pathway connections only.

For planning purposes, the floor plans for each option are the mirror image of each other to address the topographical and site access issues of each location.

Both New Construction Options include the following scope:

DEMOLITION:

- Existing Sherwood School

NEW CONSTRUCTION:

- 144,000 sf on 3 floors

FEASIBILITY STUDY

1.09 DEVELOPMENT OF ALTERNATIVES
Comparison of Alternatives (Options)

The following is a summary of the Conceptual Alternatives (Options) presented at the August 11, 2009 Building Committee Meeting.

At the August 20, 2009 Building Committee Meeting, budget comparisons for the Addition/Renovation Concept 4, New Construction Concepts, and "No Build" Concept will be presented. From this presentation, the Building Committee will be expected to endorse one concept as the "Preferred Solution" for MSBA approval.

ADDITION/RENOVATION ALTERNATIVE (4 CONCEPTS/OPTIONS)
<p>All concepts include:</p> <ul style="list-style-type: none"> ▪ approximately 150,000 sf (80,000sf existing, 70,000sf additions) ▪ Crescent St. connection ▪ Replacement softball field ▪ Assumption that selective Architectural Access Board waivers will be granted
<p>Concept 1:</p> <ul style="list-style-type: none"> ▪ Existing main entrance is maintained ▪ New construction: cafeteria, one gym station, 3 story classroom addition ▪ Major renovation: Existing cafeteria becomes administration, kitchen, mechanical room ▪ Moderate renovation: Existing gym, classrooms <p>Merits:</p> <ul style="list-style-type: none"> ▪ Entrance visible from Sherwood Avenue/Hutchins St. access ▪ Relatively compressed plan <p>Limitations:</p> <ul style="list-style-type: none"> ▪ Cafeteria/kitchen construction would impact school year forcing alternative lunch program ▪ Lower level Media Center is not centrally located to academic areas ▪ Classroom wings highly separated from each other ▪ Existing undersized classrooms remain ▪ Existing undersized classrooms remain
<p>Concept 2:</p> <ul style="list-style-type: none"> ▪ Existing main entrance is maintained ▪ New construction: cafeteria/kitchen, one gym station, 3 story classroom addition ▪ Major renovation: Existing cafeteria becomes administration, lower level media center ▪ Moderate renovation: Existing administration, classrooms, gym <p>Merits:</p> <ul style="list-style-type: none"> ▪ Entrance visible from Sherwood Avenue/Hutchins St. access ▪ Reasonable phased occupancy plan ▪ Least amount of heavy renovation of existing school ▪ Access from cafeteria to athletic fields/play areas <p>Limitations:</p> <ul style="list-style-type: none"> ▪ Poor circulation patterns ▪ Media center not in prominent location ▪ Music separated from stage limits flexible use of spaces ▪ Lack of daylight in majority of administration area ▪ Multiple major building entries (cafeteria/gym administration) ▪ Wing additions close together with little open space between

ADDITION/RENOVATION ALTERNATIVE (4 CONCEPTS/OPTIONS)

Concept 3:

- Replaces existing main entrance
- New Construction: Cafeteria/kitchen, one gym station, 3 story classroom addition
- Major Renovation: Existing cafeteria and administration become new entry circulation and administration, lower level Media Center
- Moderate Renovation: Existing gym and classrooms

Merits:

- Entrance visible from Sherwood Avenue/Hutchins St. access
- Compact plan

Limitations:

- New entrance and administration renovation complicate phasing plan while occupied
- Poor circulation patterns
- Media center not in prominent location
- Lack of access from cafeteria to athletic fields/play areas
- Separated gym stations poor
- Media Center not centralized to academic areas
- Music separated from stage limits flexible use of spaces

Concept 4:

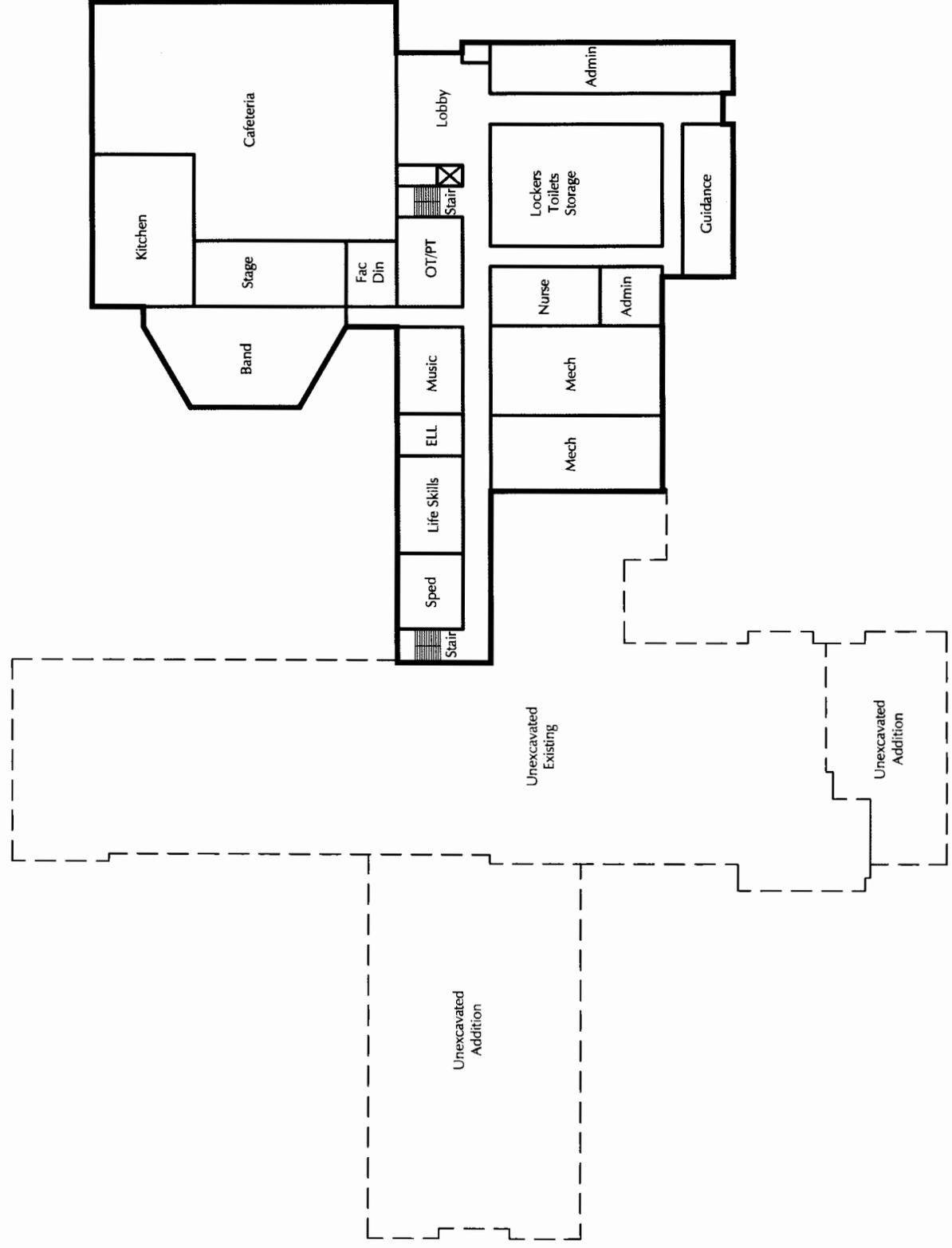
- Recommended by LPA as best addition/renovation concept
- Main entrance faces Crescent St. access
- New Construction: Cafeteria/kitchen, administration, one gym station, one 2-story classroom addition, one 1-story classroom addition
- Major Renovations: Existing administration/cafeteria wing becomes a classroom wing, existing kitchen and locker room become the Media Center, mechanical room expansion
- Moderate Renovations: Existing gym and classrooms

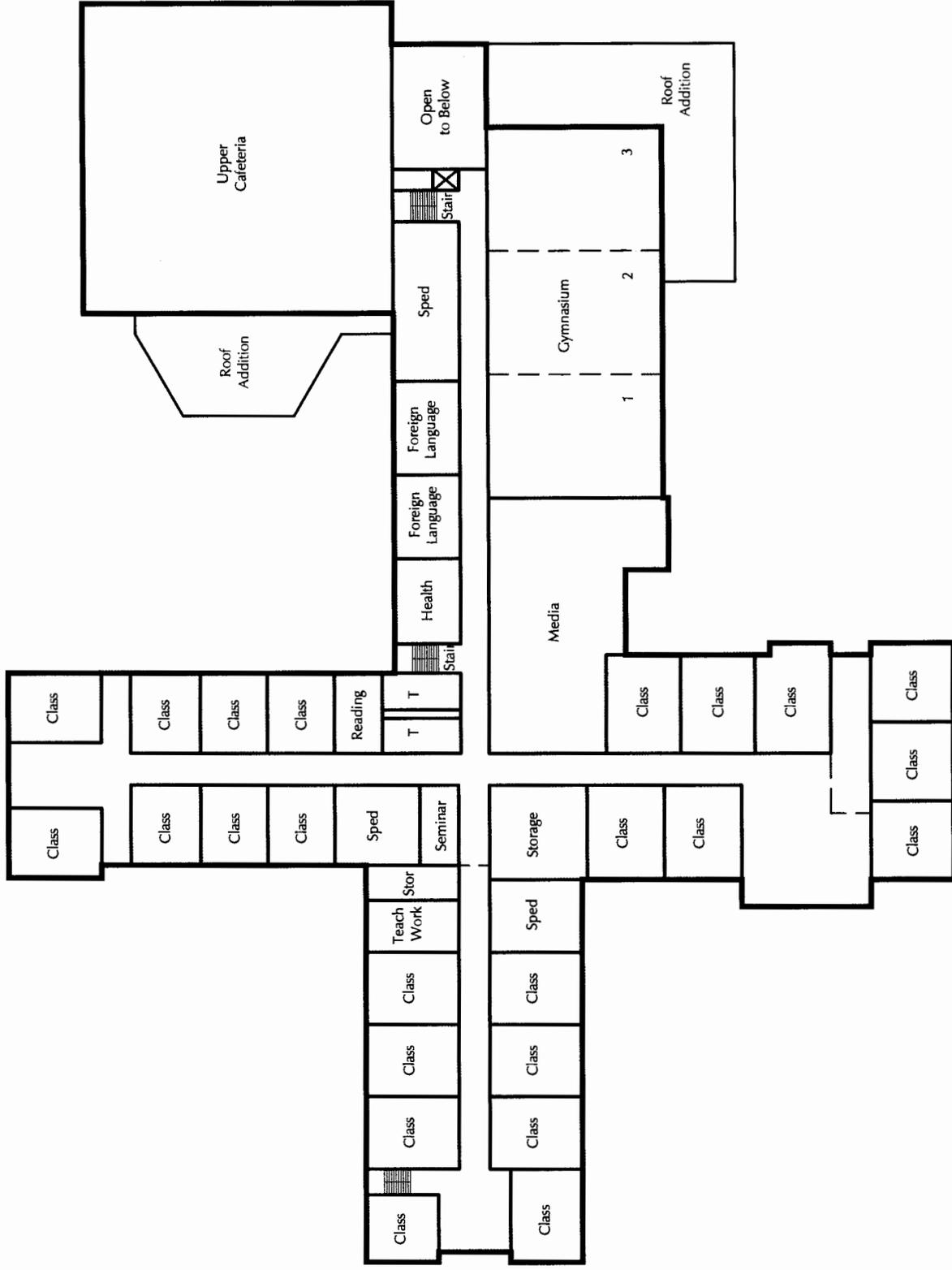
Merits:

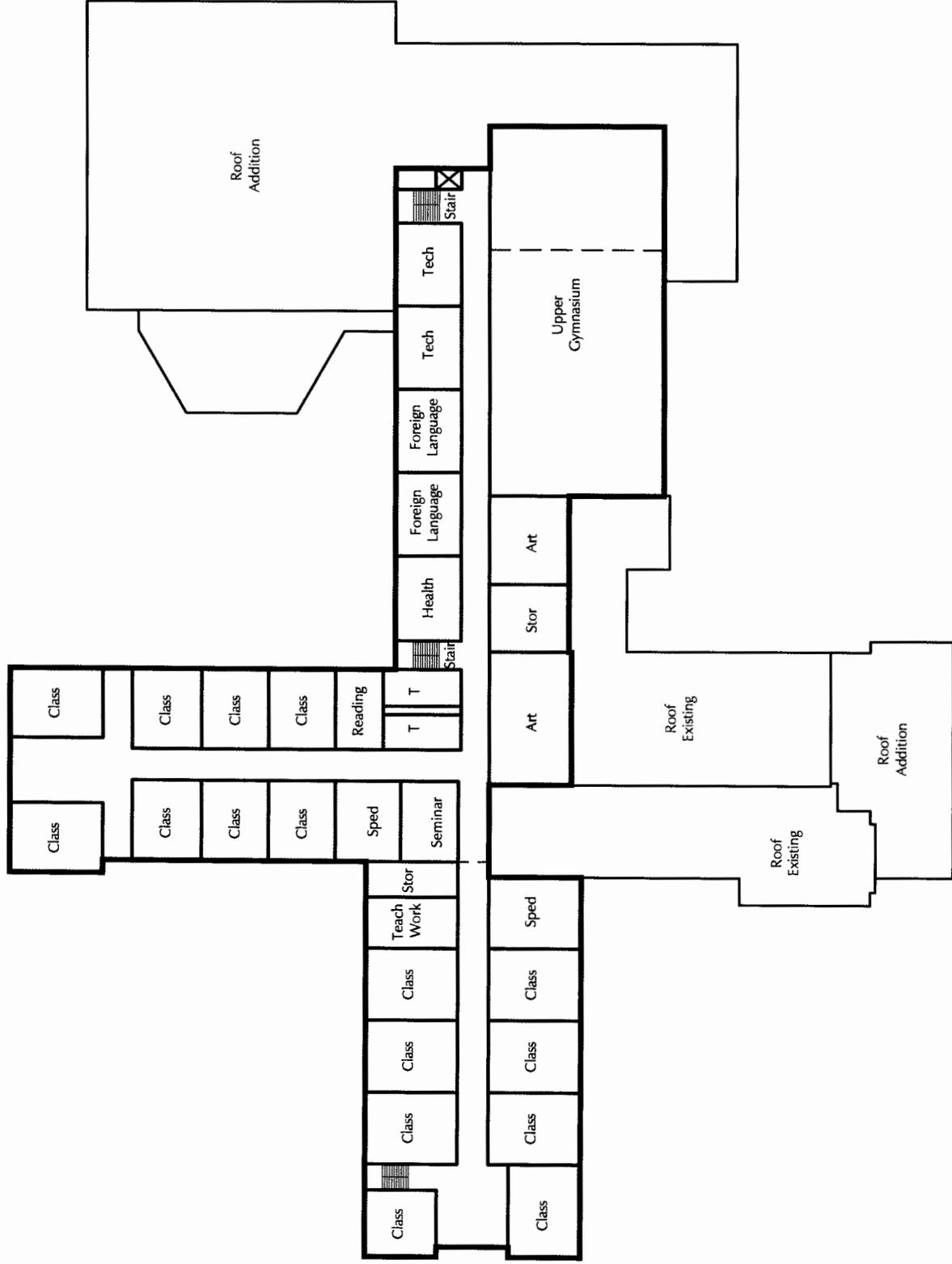
- Best phasing plan
- Consolidated main entrance
- Community spaces (cafeteria/gym) segregated from academic areas
- Clear circulation plan
- Consolidated academic wings
- Centralized Media Center
- Cafeteria adjacent to athletic fields/play area
- Music program integrated with stage/assembly area

Limitations:

- Not visible from Sherwood or Hutchins access. Focuses on Crescent St. access.
- Media Center adjacent to gym will require special acoustic separation
- Single loaded corridor adjacent to gym results in long circulation path to academic clusters

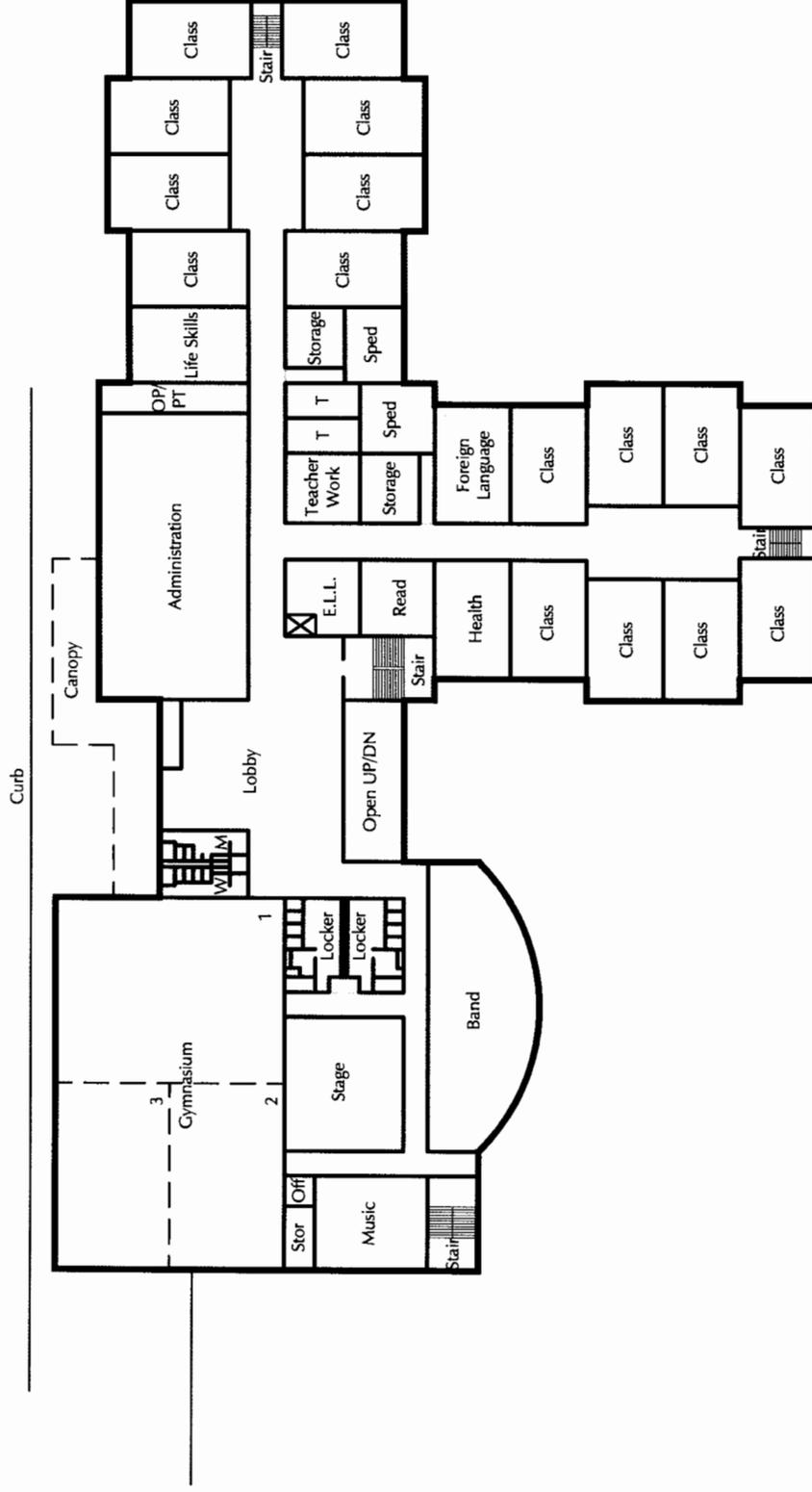


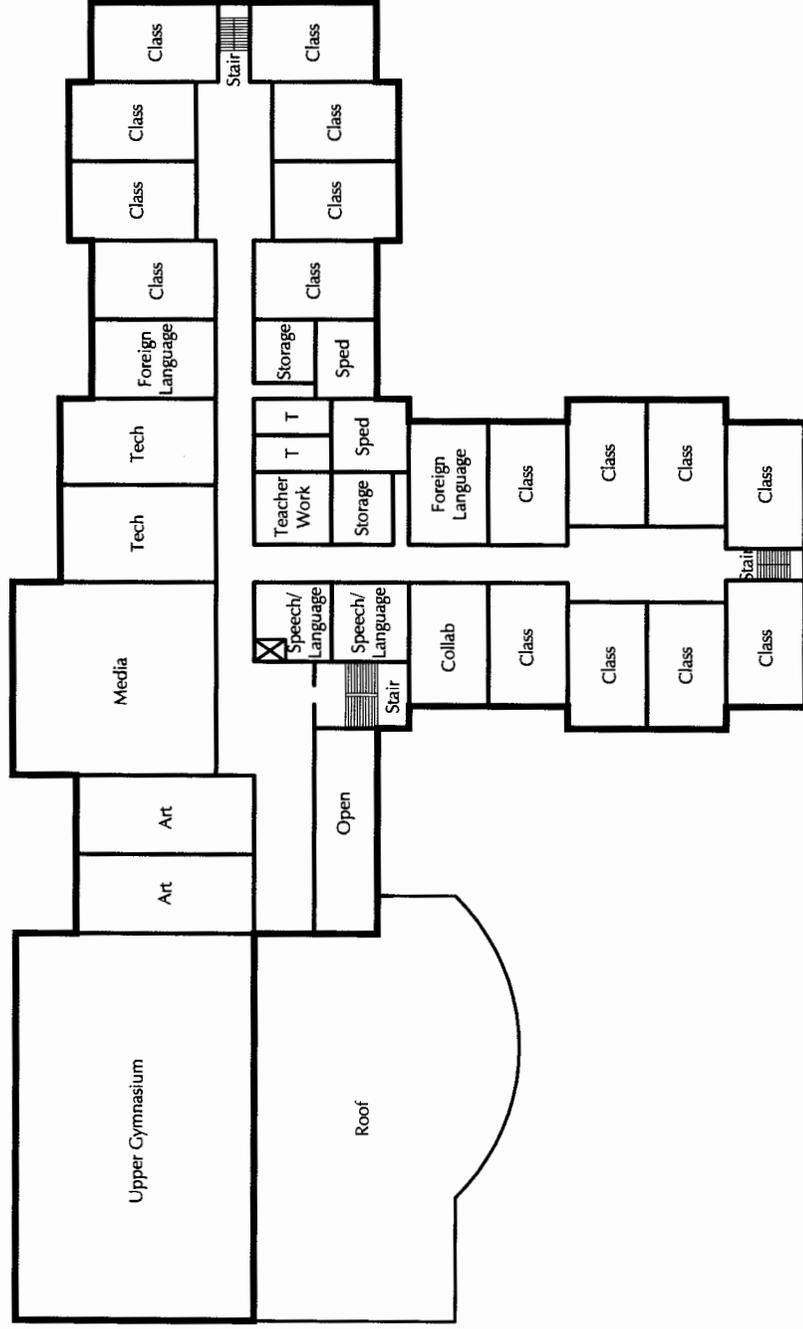




NEW CONSTRUCTION ALTERNATIVE
<p>Both concepts include:</p> <ul style="list-style-type: none">▪ 144,000 sf plans (one the mirror image of the other) built into the existing sloped topography▪ Compact plan to limit site impact, construction costs, and operating budget▪ Crescent St. access▪ Existing Sherwood School will remain in operation during construction▪ Allow for separate parking areas at each school to facilitate parent pick-up/drop off▪ 18 month construction period
<p>Oak/Sherwood Connection Concept:</p> <ul style="list-style-type: none">▪ Groups Sherwood and Oak Middle School close together▪ Zones athletic fields together▪ Baseball field is replaced, existing baseball field becomes a softball field <p>Merits:</p> <ul style="list-style-type: none">▪ Better addresses the possibility of shared resources with Oak Middle▪ Visible from Sherwood/Hutchins access points▪ Limits time between bus pick up at each school <p>Limitations:</p> <ul style="list-style-type: none">▪ Central location on site may present challenge for separate contractor access during construction
<p>Campus Concept:</p> <ul style="list-style-type: none">▪ New Sherwood School at existing softball field location▪ New softball field at existing school location▪ Ring road circulation to facilitate service and ease vehicular circulation <p>Merits:</p> <ul style="list-style-type: none">▪ Open space surrounds each school▪ Easily separated from existing schools during construction▪ Limits site work near Oak <p>Limitations:</p> <ul style="list-style-type: none">▪ More visible from Crescent St. access than from Sherwood or Hutchins▪ Elevation would require septic pump or easement through Harriet Ave.







Based on the conceptual solutions for "No Build", "Renovation/Addition", and "New Building" concepts, Feasibility Study cost estimating has been completed. Cost estimates based on conceptual design are prepared utilizing historic data and adjusted for unique features of the options, if any. In the case of the three alternatives under consideration, no extraordinary site or building conditions are anticipated. The cost estimates presented in the following chart are useful for comparative purposes only and should not be misconstrued as a cost estimate for final design. At the conclusion of the Schematic Design Phase, should the project proceed, cost estimates will be prepared for the "Preferred Schematic Design" that will form the basis of an agreement between the Town of Shrewsbury and the MSBA.

FEASIBILITY STUDY CONSTRUCTION COST ESTIMATES

"No Build" Option

Construction Cost:	\$18,999,991.00
Cost per square foot:	\$190/sf

"Renovation/Addition" Option

Construction Cost:	\$44,436,791.00
Cost per square foot:	\$311/sf

"New Building" Option

Construction Cost:	\$46,410,977.00
Cost per square foot:	\$322/sf

Sherwood Middle School
Shrewsbury, MA

August 17, 2009

GRAND SUMMARY

"NO BUILD" OPTION				
RENOVATION	(88,902 sf)			\$12,500,336
SITWORK				N/A
REPLACE MODULAR CLASSROOM	11,000	SF	\$125	\$1,375,000
TOTAL DIRECT COST				----- \$13,875,336
GENERAL CONDITIONS (2 PHASES)	24	MOS	\$65,000	\$1,560,000
GENERAL ADMINISTRATIVE O&P		5%		\$771,767
P&P BOND		1.5%		\$243,107
PERMIT		by owner		
CONTINGENCY		10%		\$1,645,021
ESCALATION (SPRING 2010)		5%		\$904,761
TOTAL CONSTRUCTION COST				----- \$18,999,991
COST PER S.F.				\$190.19

RENOVATION/ADDITION OPTION				
RENOVATION				\$12,840,770
ADDITION				\$17,850,000
SITWORK	1	LS	\$3,069,077	\$3,069,077
TOTAL DIRECT COST				----- \$33,759,847
GENERAL CONDITIONS (3 PHASES)	36	MOS	\$65,000	\$2,340,000
GENERAL ADMINISTRATIVE O&P		5%		\$1,804,992
P&P BOND		1.5%		\$568,573
PERMIT		by owner		
CONTINGENCY		10%		\$3,847,341
ESCALATION (SPRING 2010)		5%		\$2,116,038
TOTAL CONSTRUCTION COST				----- \$44,436,791
COST PER S.F.				\$310.96

GRAND SUMMARY

PAGE 2

NEW BUILDING OPTION				
NEW BUILDING/HAZ MAT/DEMO				\$32,857,863
SITWORK	1	LS	\$3,285,786	\$3,285,786

TOTAL DIRECT COST				\$36,143,649
GENERAL CONDITIONS (2 PHASES)	24	MOS	\$65,000	\$1,560,000
GENERAL ADMINISTRATIVE O&P		5%		\$1,885,182
P&P BOND		1.5%		\$593,832
PERMIT		by owner		
CONTINGENCY		10%		\$4,018,266
ESCALATION (SPRING 2010)		5%		\$2,210,047

TOTAL CONSTRUCTION COST				\$46,410,977
COST PER S.F.				\$322.30

*Renovated areas includes sprinkler system, seismic upgrade, ADA upgrade, roofing, window and MEP replacement

*Excludes temporary relocation costs

PROJECT: Sherwood Middle School
 LOCATION: Shrewsbury, MA
 CLIENT: Lamoureux Pagano Associates Architects
 DATE: 17-Aug-09

No.: 09075

Sherwood Middle School - Options 8/17/2009

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
"NO BUILD" OPTION				
RENOVATION				
Hazardous materials abatement	1	LS	600,000.00	600,000
Demolition:				
Remove interior finishes/selective demo	88,902	GSF	6.00	533,412
Remove MEP	88,902	GSF	1.50	133,353
Remove windows	8,400	GSF	3.50	29,400
Seismic bracing part.	88,902	GSF	2.50	222,255
Lateral brace frame	50	TONS	3,850.00	192,500
New elevator	2	STOP	45,000.00	90,000
Replace gym tectum roof deck	6,000	SF	22.00	132,000
Replace mebrane roof	60,607	SF	12.00	727,284
New alum. window	8,400	SF	65.00	546,000
New interior finish (partition and doors to remain)	88,902	GSF	25.00	2,222,550
Exterior masonry repair	1	LS	100,000.00	100,000
Replace casework	88,902	GSF	3.25	288,932
Sprinkler system	88,902	GSF	5.00	444,510
Plumbing	88,902	GSF	12.00	1,066,824
HVAC	88,902	GSF	28.00	2,489,256
Electrical	88,902	GSF	25.00	2,222,550
ADA upgrade	88,902	GSF	5.00	444,510
New fire service	1	LS	15,000.00	15,000
TOTAL "NO BUILD" OPTION - RENOVATION				12,500,336

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
RENOVATION/ADDITION OPTION				
RENOVATION				
Hazardous materials abatement (83,000 GSF)	1	LS	600,000.00	600,000
Partial demo of existing school	8,000	GSF	8.00	64,000
Demolition of modular classroom	11,000	GSF	5.00	55,000
Major renovation (incl. structural reconfig)	30,000	GSF	175.00	5,250,000
Moderate renovation (int. gut)	50,902	GSF	135.00	6,871,770
TOTAL RENOVATION OPTION				12,840,770
ADDITION				
Phase 1 - café/music/lobby/admin	35,000	GSF	270.00	9,450,000
Phase 2 - classroom wing	35,000	GSF	240.00	8,400,000
TOTAL ADDITION OPTION				17,850,000
NEW BUILDING OPTION				
NEW BUILDING/HAZ MAT DEMO				
Hazardous materials abatement (83,000 GSF)	1	LS	600,000.00	600,000
Removal of existing school	88,902	GSF	6.50	577,863
New middle school	144,000	GSF	220.00	31,680,000
TOTAL NEW BUILDING/HAZ MAT DEMO				32,857,863



Shrewsbury Public Schools

Joseph M. Sawyer, Ed.D.
Superintendent

August 20, 2009 (Revised from August 19 version)

To: Sherwood Middle School Building Committee
From: Joe Sawyer
Re: Issues relative to relocating students during possible renovation/addition

At our last meeting Mr. Morgado suggested that the School Department investigate possibilities relative to reducing the student population at Sherwood Middle School during the construction period for a possible renovation/addition, as reducing the spaces in use could allow the work to progress more quickly. Specifically, the idea of moving the sixth grade to Oak Middle School and the eighth grade from Oak to Shrewsbury High School was discussed. This memorandum expands upon my comments at the meeting and outlines additional issues associated with this scenario.

When Oak Middle School was being renovated during the two school years from 2002-2004, the eighth grade was housed at Shrewsbury High School (sixth and seventh grades were at the Sherwood building, then called Shrewsbury Middle School, while fifth grades were in the elementary schools). The population of eighth grade, grades nine through twelve, and the total population at SHS for those years, plus our projected enrollment for the three school years that would be affected by the renovation of Sherwood are displayed in the table below:

	Grade 8	Grades 9-12	Total Grade 8 + SHS
2002-2003	402	1250	1652
2003-2004	437	1312	1749
2010-2011	469	1690	2159
2011-2012	456	1696	2152
2012-2013	458	1723	2181

The population at SHS, should the eighth grade be housed there in the fall of 2010, would be over 400 students greater than 2004, an increase of almost 25%. The impact of this population would include the following:

- SHS core facilities were designed for 1,700 students, while the design capacity for teaching is 1,450, which was already exceeded when the eighth grade was housed there. Increasing the total population to over 2,100+ students would put enormous stress on the facility from everyday use. It also raises questions about safety related to evacuating the building in a timely fashion, etc., depending on design of stairwells, etc.
- When the eighth grade was at SHS, there was enough space to segregate the program in its own wing; this would not be possible with the larger population and would require juggling of rooms among the high school program, negating the design where academic departments are housed together.

- Specialized spaces for visual arts, music and drama, physical education, technology, etc. would not be sufficient for the needs of the eighth grade program and the SHS program; either eighth grade offerings in special subjects or high school electives would need to be reduced.
- Athletics and co-curricular programming (clubs, musical, speech and debate, etc.) for each program would be competing for space at SHS, or transportation would need to be arranged to return eighth graders to the Oak site to participate, which would increase costs and could negatively impact participation levels.
- All high school study halls would need to be held in the Commons (cafeteria), due to all other rooms being used for classes at all times. This would place the school in violation of Department of Elementary and Secondary Education regulations, and would logistically be extremely difficult given the need to run over 2,100+ students through lunches in the same space. Regarding lunch, kitchen and line capacity, how many seatings would be needed, overall time required, etc. could also have an impact on scheduling.
- Specialized special education space would not be sufficient to meet the needs of students in eighth grade and SHS. The population of students with severe special needs has been growing and will require more space at SHS over the next few years; combining the population that would have still remained at Oak exacerbates this problem. Efficiencies that are built into the special education program the way it currently exists would be lost by concentrating more programming at SHS. The potential for students with severe special needs to require an out of district placement due to lack of appropriate space and programming would increase.
- It is possible that additional nursing support would need to be added in order to address the medical needs of a 2,100+ student population.
- With the current reduction to two secretaries in each middle school and the reduction of a position at SHS, the hiring of a secretary to serve the eighth grade program would be necessary.
- Cost efficiencies in place by sharing staff across Sherwood and Oak could be compromised with the eighth grade located away from the middle school campus (travel time reduces scheduling availability and flexibility). Similarly, academic programming efficiencies connected to classes currently designed specifically for Sherwood and/or Oak may not be able to be replicated on two sites without hiring additional staff.
- Administrative space for the eighth grade program (assistant principal, adjustment counselor, administrators traveling from Oak for portions of the day, etc.) would be difficult for SHS to provide without compromising the needs of both programs.
- The curriculum model currently in place at the middle level would be challenged by placing one of the four middle level grades across town (lost time to curriculum coordinators' travel, less collaboration between 7th and 8th grade teachers in the same department, etc.)
- The impact of 2,100+ students on the physical plant, where custodial support has been reduced from five full time custodians and one plant manager to two full time custodians and the plant manager, could be problematic.

In addition to the logistical issues associated with a student population this large at SHS, with two different types of academic programs (middle and high school) vying for space, there are several qualitative issues that would also emerge:

- A 2,100+ student population in a building designed for 1,450 will have an extremely crowded “feel” that makes maintaining a positive school culture where students are engaged with educators even more of a challenge; the larger and more impersonal a school feels to students,

the higher the likelihood of vandalism and other antisocial behaviors, placing more students at risk and decreasing the quality of the high school experience.

- The Sherwood and Oak faculties have worked closely with one another for multiple years now and have adjusted to the new middle school configuration; uprooting half of each faculty and placing them at another site for this time period would undo the collegial cultures that have formed and would have a significant negative impact on morale.
- Many members of the SHS faculty would be displaced from their rooms, shared faculty spaces would become overcrowded (planning space, meeting space, etc.), departments would no longer be housed together, etc., all negatively affecting morale there as well.
- The grade shifts outlined above would affect every student and faculty member from grades five through twelve over multiple years, compared with affecting only the Sherwood faculty and the classes of students passing through Sherwood during a phased renovation/addition should both grades be kept on site.

While the idea of drawing down the population of Sherwood to make a possible renovation/addition more efficient and potentially less costly is important to consider, for the reasons outlined above the School Department does not recommend shifting grades to enable such a plan. It should be noted that moving the fifth grade back to the elementary level is also not feasible during the coming years due to the lack of available classroom space, nor is the School Department aware of any substitute space within Shrewsbury that could house the Sherwood program temporarily in a way that would provide an adequate environment for learning. Finally, the School Department also strongly advises against the idea of double sessions to utilize the same classroom spaces with different students over a longer period of the day (e.g., fifth, sixth, seventh, and eighth graders all being housed at the Oak building with half of the population attending in the afternoon through the evening). More specific information could be provided on such a scenario should the Committee wish to learn more.