

The Davis School Building Project

FinCom Presentation

September 21, 2017

Davis School Building Committee

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Explanation of Need: Enrollment and Program

Enrollment Finding:

- Unmitigated school age population growth attributed to continued Bedford move-ins, and an additional 18 student minimum increase in Davis numbers attributed to housing developments not included in the Lane study. *The Space Needs Task Force Davis School Update*
- Average of 600 students at Davis through at least 2025
- Actual numbers exceed projections each year since 2013 (this year, Kindergarten enrolled 9 more students than expected, while 1st and 2nd dipped slightly due to families not finding housing in Bedford

BPS: STUDENT ENROLLMENT: 1999 - Present (Excluding Pre-School)							
Year	NESDEC 1		NESDEC 2		Actual		Kind
	Davis	Total	Davis	Total	Davis	Total	
10/1/2009	506	2400			506	2400	187
10/1/2010	496	2422			486	2371	148
10/1/2011	513	2449			513	2424	157
10/1/2012	505	2495	513	2424	492	2487	158
10/1/2013	532	2515	491	2480	542	2507	202
10/1/2014	522	2515	542	2505	567	2494	186
10/1/2015	480	2502	567	2490	587	2510	190
10/1/2016	468	2508	604	2509	598	2579	192
9/5/2017	476	2497	595	2527	597	2622	197

Enrollment Growth at Lane and JGMS Indicate Continued Trend

	FY 18 Budget Projection	As of September 5, 2017
Kindergarten	189	197
Davis	598	597
Lane	603	608
JGMS	582	594
BHS	826	823
Subtotal	2609	2622
Pre-school	48	48
Total	2657	2670

Programmatic Needs

The educational program at Davis School has expanded during the past twenty years to include components that did not previously exist: e.g., in-house special education programs, English Language Learner programs, additional specialists, etc.

- Drop off and pick up constraints imposed by the present site configuration results in 20 minutes of lost learning time every day
- The cafeteria is overcrowded even with four lunches and entrance and egress are limited to the same door.
- Music has been displaced into an inadequately shaped, sized and acoustically unsound room
- The SAIL classroom is undersized
- Insufficient storage, conference and office space

Resulting Davis School Space Needs

Enrollment-driven Needs

- 2 classrooms to replace modular
- 1 kindergarten class (10th)
- Prudent: 1 first grade, 1 second grade, 1 combined art/music classroom

Program-driven Needs

- Program Needs
- 1 Adequately sized, shaped and acoustically sound music room
- 1 Expanded SAIL classroomThe SAIL program needs an expanded space (internal)
- Expanded OT/PT space (SAIL and pre-school) (internal)
- Expanded cafeteria- present tight squeeze, four sittings, must use same door for entry and exit
- Reconfigured parking and bus/parent pick-up and drop-off- will gain 20 minutes of teaching and learning time per day- additional parking spaces as well
- Office, conference and storage space (internal and new)

DUE DILIGENCE

- Sought efficiencies by examining JGMS and BHS space needs
- Closely examined 15 options including drawings and cost estimates
- Compared costs and programmatic advantages associated with three individual projects vs. various combined projects- for example:

		SCENARIO 1: Three Independent Projects		SCENARIO 2: Pre-School to Davis, Keep CASE at BHS, Move Central Office to BHS	SCENARIO 3: Pre-School to Davis, Keep CASE at BHS, Keep Central Office at JGMS	SCENARIO 4: Pre-School and CASE to Davis, Central Office to BHS
Option		Davis 5A (10,10,9)	Davis 5B (10,10,10)	Davis 4B	Davis 4B	Davis 4A
DAVIS ELEMENTARY SCHOOL	Estimated Project Cost	\$6,300,000	\$7,880,000	\$13,210,000	\$13,210,000	\$13,110,000
	Estimated Expansion Cost	\$5,580,000	\$7,140,000	\$12,450,000	\$12,450,000	\$12,340,000
	SF All Renovation	7277	7527	8001	8001	8263
	SF New Building Expansion	7983	10799	19352	19352	19352
	Interior Reconfiguration (address program needs)	\$110,000	\$110,000	\$130,000	\$130,000	\$140,000
	Cafeteria Expansion 798	\$260,000	\$260,000	\$260,000	\$260,000	\$260,000
	Sitework Option 2 (Parking, Minor Bus Loop)	\$370,000	\$370,000	\$370,000	\$370,000	\$370,000
	A/E Fees (included in project cost)	\$554,610	\$676,660	\$1,031,610	\$1,031,610	\$1,025,040
	Option		JGMS 1 / 1A (1A included below)	JGMS 1 / 1A (1A included below)	JGMS 2 / 2A (2A included below)	JGMS 1 / 1A (1A included below)
JGMS	Estimated Project Cost	\$5,310,000	\$5,310,000	\$3,230,000	\$5,310,000	\$3,230,000
	SF New Building Expansion	7522	7522	2132	7522	2132
	SF Renovation	2112	2112	10499	2112	10499
Option		BHS 1	BHS 1	BHS 2	BHS 3	BHS 4A / 4B (4B included below)
BHS	Estimated Project Cost	\$5,460,000	\$5,460,000	\$2,670,000	\$1,300,000	\$2,050,000
	SF New Building Expansion	7280	7280	3432	0	1201
	SF Renovation	2044	2044	1254	7790	6994
Total Estimated Scenario Cost		\$17,070,000	\$18,650,000	\$19,110,000	\$19,820,000	\$18,390,000

Space Needs at the Three Schools

DAVIS

- **Davis Minimal:** 2 classrooms to replace modular, 1 kindergarten (10), 1 music room, 1 (SAIL an existing room expanded), 1 additional (first or second grade) (plus café expansion, drop off/pickup reconfiguration, OT, office, conference and storage)
- **Davis Prudent:** 2 classrooms to replace modular, 1 kindergarten (10), 1 music room, 1 (SAIL an existing room expanded), 1 additional (first or second grade) plus 1 additional (10, 10, 10) plus 1 art/music room (plus café expansion, drop off/pickup reconfiguration, OT, office, conference and storage)

JGMS

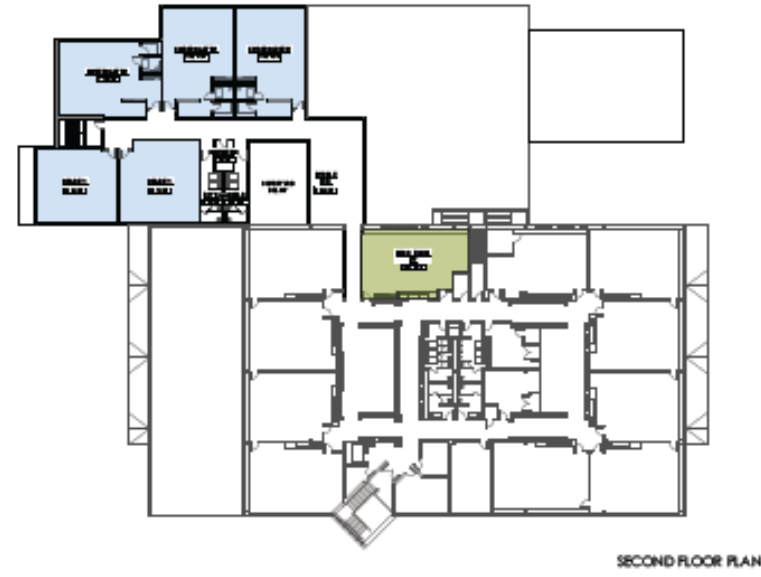
- **JGMS 4.5 rooms-** 1.5 SAIL/OT, 1 Art/Health, 1 FL, 1 Teachers, Solve Orchestra through FTE and keep Learning Strategies in LGI - solving the orchestra/learning strategies space conflict by adding staff
- **JGMS 6.5-** 1.5 SAIL/OT, 1 Art/Health, 1 FL, 1 Teachers, 2 Learning Strategies (Orchestra/Band/LGI)- solving the orchestra/learning strategies space conflict by adding rooms

BHS

- **BHS Minimal-** 1.5 SAIL, 1 Famco, .5 LC, .5 ELL, .5 Offices
- **BHS Optimal-** 1.5 SAIL, 1 Famco, .5 LC, .5 ELL, .5 Offices, plus 1 Transitions/Life Skills, plus 1 large Dir Study for Subs

Davis Option 4B and Conceptual 3-School Scenario

- Move Integrated Pre-school from BHS to Davis
- Implement option 4B: Phased 11 classroom addition/renovation (\$12,265,000)
- Add Davis roof project originally slated for 2015, then moved to 2018 and again to 2024 to the Davis Project (\$1,200,000)
- Begin planning for expected 4.5-5 room addition at JGMS (\$3,700,000), and 4 room renovation of BHS D wing (\$1,300,000)
- Move timeline for JGMS and BHS from 2022 (JGMS) and 2024 (BHS) to 2019, with feasibility studies funded in 2018 and construction begun in 2019.



- To recap, then, the 4B Davis option includes:
- | | |
|--|---------------------------------------|
| 1 kindergarten classroom | Adult bathrooms |
| 2 classrooms to replace the modular classrooms | Expanded Cafeteria |
| 1 first grade classroom (margin of error) | Modified parking/drop-off and pick-up |
| 1 second grade classroom (margin of error) | Offices/conference rooms |
| 1 combined art/music room | Expanded OT/PT |
| 1 music room (internal) | 4 Integrated Pre-school rooms |



SCALE 1" = 40'
ON ORIGINAL

LT. ELEAZER DAVIS SCHOOL
FEASIBILITY STUDY

410 DAVIS ROAD
BEDFORD, MA

**OPTION 4B (PHASED) - TWO-STOREY EXPANSION
DAVIS AND PRE-K SITE PLAN**

DATE: 11/20/21
BY: [Signature]
SCALE: 1" = 40'

TBA ARCHITECTS, INC.
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PLANNERS
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"BY THE PEOPLE"



Recommended Scenario		Move Pre-School to Davis
		SCENARIO 3: Pre-School to Davis, Keep CASE at BHS, Keep Central Office at JGMS
DAVIS ELEMENTARY SCHOOL	Option	Davis 4B Phased (10, 10, 10 - 30 classrooms + 4 Pre-school)
	Scope	Two storeys - Add 6 classrooms for Davis + 4 Pre-school classrooms and OT/PT + renovate for shared Art/Music Room
	Estimated Project Cost	\$12,265,080
	Estimated Expansion Cost	\$10,410,000
	SF A II Renovation	8601
	SF New Building Expansion	18873
	Interior Reconfiguration (address program needs)	\$111,000
	Cafeteria Expansion 768	\$232,000
	Sitework Option 2 (Parking, Minor Bus Loop)	\$295,000
	A/E Fees (included in project cost)	\$970,080
	FF&E (furnishings & equipment)	\$247,000
JGMS	Option	JGMS 1 (add 4.5, make music staffing change)
	Scope	Two Storey - add 4 classrooms, 2 per floor infilling southeast corner
	Estimated Project Cost	\$3,770,000
	SF New Building Expansion	5366
	SF Renovation	1507
A/E Fees (included in project cost)	\$357,950	
BHS	Option	BHS 3 (renovate D-block for 4.5 classrooms)
	Scope	Renovate D-block to relocate CASE classrooms and create 4 contiguous classrooms
	Estimated Project Cost	\$1,300,000
	SF New Building Expansion	0
	SF Renovation	7790
A/E Fees (included in project cost)	\$126,150	
Total Estimated Scenario Cost		\$17,335,080

1. Total Estimated Project Cost is inclusive of estimated: Chapter 149 Construction, Design & Construction Contingencies, Inflation to Anticipated Bid Date, Design Fees, & Testing Fees.



Lt. Eleazer Davis School Alterations and Expansion
 Conceptual Program Cost Estimate
 9/12/2017

Option 4B (Phased) - Two-Storey Expansion Davis and Preschool without CASE

	Unit	No. Unit	Unit Cost	Location	Total
1.1B					
SITE					
Site Preparation	ee	1	\$ 8,508.70	\$ 10,040.27	\$ 10,040
Excavation & Trenching	s.f.	10400	\$ 5.00	\$ 5.90	\$ 61,360
Stormwater Management	ee	1	\$ 53,733.33	\$ 63,405.33	\$ 63,405
Final Grading & Seeding	ee	1	\$ 7,700.00	\$ 9,086.00	\$ 9,086
Access Road (16' wide)	l.f.	225	\$ 152.00	\$ 179.36	\$ 40,356
Retaining Wall	l.f.	100	\$ 278.00	\$ 328.04	\$ 32,804
Subtotal building site					\$ 217,052
New Parking	ee	44	\$ 1,690.00	\$ 1,994.20	\$ 87,745
Demo Existing	sy	2667	\$ 40.00	\$ 47.20	\$ 125,867
Subtotal parking					\$ 213,611
CLASSROOM ADDITION					
First Floor	g.s.f.	10400			
Second Floor	g.s.f.	8473			
Efficiency Factor	0%				
GROSS SQUARE FEET	g.s.f.	18873	\$ 310.00		\$ 5,850,630
INTERIOR RENOVATION - FULL					
Classroom	n.s.f.	4125			
Efficiency Factor	10%	412.5			
GROSS SQUARE FEET	g.s.f.	4537.5	\$ 80.00		\$ 363,000
INTERIOR RENOVATION - FINISHES					
Classroom	n.s.f.	4063			
Efficiency Factor	0%	0			
GROSS SQUARE FEET	g.s.f.	4063	\$ 20.00		\$ 81,260
INTERIOR CIRCULATION					
Stair	ee	1	\$ 11,575.00		\$ 11,575

CAFETERIA ADDITION					
Cafeteria	g.s.f.	768			
Efficiency Factor	0%	0			
GROSS SQUARE FEET	g.s.f.	768	\$ 200.00		\$ 153,600

Building Subtotal, direct construction costs building	(rounded)	\$ 6,460,000
Site Associated with Building Subtotal, direct construction costs	(rounded)	\$ 217,000
Parking Subtotal, direct construction costs	(rounded)	\$ 214,000

ESTIMATED DIRECT CONSTRUCTION COST (rounded) \$ 6,891,000

General Requirements	14%	\$ 964,740
Overhead & Fee - including Ch 149	17%	\$ 1,335,476
TOTAL - DIRECT COST & CH&P		\$ 9,191,216
Escalation to Bid Date	5%	\$ 459,561

ESTIMATED CONSTRUCTION BID (rounded) \$ 9,651,000

Design & Construction Contingency 15% \$ 1,378,682

RECOMMENDED CONSTRUCTION BUDGET (rounded) \$ 11,029,000
 Cost per SF, building & site \$ 391

Estimated A/E Fees (includes Civil)	8.5%	\$ 937,465
Reimbursables: soils, hazmat testing		\$ 47,000
FF&E (furnishings & equipment)		\$ 247,000
Owner's Project Manager		\$ 100,000

ESTIMATED PROJECT COST** (rounded) \$ 12,360,000 *

* Includes \$100K Project Manager

Questions

Why is the Davis project approximately 3.0 times more expensive, but only 2.57 times the size of the Lane project?

- Classroom size, bathrooms, hallway space, site complexity, exterior wall, inflation, interior construction bid environment, for example:

Interior Renovation Projects Summers of 2016 and 2017

	Wayland			Lexington			Average of Single Building Projects
	Happy Hollow & Loker	Happy Hollow	Loker Re-bid	Nurse	Nurse - re-bid	LABBB	
SF	3107	1320	1600	1200	1200	1600	1384
Estimate	\$ 349,223	\$ 225,000	\$ 340,729	\$ 260,319	\$ 260,319	\$ 366,987	\$ 290,670.80
Estimate Cost/SF	\$ 112.40	\$ 170.45	\$ 212.96	\$ 216.93	\$ 216.93	\$ 229.37	\$ 209.33
Bid	\$ 562,390	\$ 337,100		\$ 429,567	\$ 429,567	\$ 503,248	\$ 424,870.50
Bid Cost/SF	\$ 181.01	\$ 255.38		\$ 357.97	\$ 357.97	\$ 314.53	\$ 257.17
Differential	61%	50%		65%	65%	37%	54%

Notes

	Rebid for a single school.	
	Only one bid received.	
Two bids received. Three filed sub categories and one without a bid.	Project was rebid under separate contracts and with internal contractors.	Awaiting bid for summer 2018 construction

Total - Estimated Project Cost	\$ 4,091,985	\$ 12,265,080	3.00
addition (sf)	7,350	18,873	2.57
renovation (sf)	4,918	8,600	1.75
ratio of add to reno	1.49	2.19	1.47
perimeter wall (lf)	276	559	2.03
classroom # addition	6	12	2.00
classroom # renovation	2	3	1.50
classroom size (average)	950	1,083	1.14
parking size (sy)	303	4,190	13.84

Questions

Have we applied to the MSBA for state funding assistance?

We have applied for two years in a row to the Massachusetts School Building Authority for state funding assistance and we have been denied each time. With approximately 15 projects being selected from 100 plus applications, many of them whole school projects in queue for 10 years, it is highly unlikely that we will receive state funding assistance.

Questions

How do enrollment numbers and program needs compare to 20 years ago when the new Davis School was built?

Year	Davis	Kindergarten	# Classes	Average	Use Differences
1999	486	150	8	18.75	CASE in small room
2017	597	197	8 + 1 Integrated Classroom	22.63 16	CASE in large room, SAIL, ELL, Quiet Room, BCBA, adjustment counselor (comp lab)

Questions

Will the cost of construction eliminate the fiscal savings derived from the creation and expansion of in-house special education programs?

- Keeping in mind that serving students in the least restrictive environment is the primary motivation, and fiscal savings the secondary motivation, the answer is absolutely not.

With annual projected tuition cost savings/avoidance, ranging from \$6,400,000 in 2017 to \$8,400,000 by 2028, measured against program costs running from \$3.1 million in 2017 to \$5.4 million in 2028, we are netting a \$3,000,000 annual savings/cost avoidance. The \$30,000,000 cost savings/avoidance over only 10 years alone far exceeds the cost of the entire projects, let alone the space that is specifically required for special education.

Questions

What is the plan for the modular classrooms?

- We have secured a transitional three month lease to allow us to learn whether the project will be proceeding (STM approval of the construction documents)
- If it will proceed, we will move to a two year lease at \$1100 per month, and then pay the \$27,000 originally planned for to have the company dismantle them.
- If the project is not supported this year, we will have to purchase them at \$54,000 and \$10,000 for eventual dismantling. They will not meet code to be used as classrooms in a new project, but could be used for temporary office space.

Questions

What are the staffing implications associated with the project?

	Professional Staff	Support Staff
September, 2019	Likely 1 special educator	.8 to 1.0 EA
Beyond 2019 Moderate Growth	1 classroom teacher	TA's based upon individual student special education needs (0 – 2)
Beyond 2019 Major Growth	2 classroom teachers .25 part-time art .25 part-time music Possibly 1 special ed Possibly .5-1.0 ELL	TA's based upon individual student special education needs (0 – 3)

Nursing staff, recently increased to address medical fragility needs,. Should be sufficient (plus CASE nurse)

(Italics indicate needs based upon individual students rather than numbers)

Questions

Should we do the Davis School roof as part of the Davis School Building Project?

Yes, we recommend doing so.

Question

Are we confident that we can meet the prescribed deadlines for STM & ATM?

- Absolutely.
- Lane School example.
- Lane had tighter timeline.
- Our strong working relationship with TBA, its excellent track record.
- Mr. Alani's proven planning

Questions

What Figure Will Be Put Forward for Construction Documents at STM?

- \$990,000