

APS Taylor ES

FEASIBILITY - ABBREVIATED STUDY

10-SEPTEMBER 2025

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- Summary of Options

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- Existing Program Analysis

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- Detailed summary of options

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- Combined Program Analysis (side-by-side)



01.

INTRODUCTION

Evaluated three design options for the school to maintain existing student capacity as much as possible, while upgrading spaces to meet education specification size requirements.

Conducted a comprehensive assessment of the existing building, focusing on:

- Mechanical, electrical, and plumbing (MEP) systems for their reuse or replacement potential.
- Limitations of existing layout, in particular with relation to sound control and natural light.
- Existing classroom configurations and spatial flexibility.

Engaged with school leadership:

- Met with the principal and assistant principal to understand current programming beyond core classrooms and identify any operational challenges with existing building layout.
- Aimed to retain the benefits of collaborative open spaces while ensuring acoustic privacy and enclosure as needed.

Updated the educational specifications (Ed Specs) to define:

- Existing programming requirements and space needed to retain existing level of programming.
- Required number of classrooms, and type, of classrooms to achieve ideal distribution while maintaining existing student capacity.

Conducted walkthroughs of recently renovated schools:

- To gather feedback on positive design elements.
- Including grade-level community spaces, to be re-created as part of this renovation.

For the new building option:

- Positioned new construction away from the existing facility to allow uninterrupted school operations.
- Cost of new assumed utility connections was weighed as more beneficial trade off when compared to need for temporary swing space and re-using utility connections.

Design Capacity Targets:

- Design Capacity Target = 628 Students with 4 classrooms minimum for Grades K-5 each
- Per APS provided *Taylor Classes by Homeroom* distribution, the existing enrollment is 530.
- Per APS provided *Taylor Classes by Homeroom* distribution, the calculated existing design capacity is 640 (includes 5th grade relocatables).
- Options 1, 2, and 3 scenarios target the existing design capacity. Note that capacity targets for each option are slightly less than the provided existing design capacity based on different assumptions for maximum students per classroom between current APS standards and previous iterations. However, the required square footage for each classroom type is accounted for.

Option 1 - Renovation

- **Renovation of existing elementary school** to meet the current Building Code & ADA Requirements.
- **Attempt to increase the general size of all spaces**, if feasible, to meet requirements of Ed Spec.
- **Enlarge the capacity of Shared Spaces** (Kitchen/Servery, Cafeteria/Multi-Purpose Room, & Gym), if feasible, to meet requirements of Ed Spec.
- **Mechanical Systems Upgrades** as required to match distribution and size of student capacity based on requirements of Ed Spec.
- **Student capacity will be reduced** below the current enrollment.

Option 1A: Renovation + Classroom Addition

- **New Addition** to provide a total of 30 Classrooms and reach the current student design capacity.

Option 2 - Renovation + Addition

- **Renovation of existing elementary school** to meet the current Building Code & ADA Requirements.
- **Increase the general size of all spaces**, if feasible, to meet requirements of Ed Spec.
- **New and Enlarged Shared Spaces** (Kitchen / Servery, Cafeteria / Multi-Purpose Room, and Gym), to meet requirements of Ed Spec.
- **Mechanical Systems Upgrades** as required to match distribution and size of student capacity based on requirements of Ed Spec.
- **New Addition** to provide a total of 30 Classrooms and reach the current student design capacity.

Option 2A: Renovation + Addition + Phase 2

- **Addition Capacity** Phase 2 Addition to provide a total of 36 Classrooms and increase capacity beyond the current student design capacity.

Option 3 - New Build

- **Utilize the existing school as swing space** during construction of the new school building
- **Accommodate Students** with the general size of all spaces meeting requirements of the Ed Spec.
- **Primary mechanical equipment** sized to accommodate larger capacity, if done in the future.
- **EUI target** goal of 22 kBtu/sf/yr
- **New Build Capacity** to provide a total of 30 classrooms and reach the current student design capacity.

Option 3A: New Build + Phase 2 Addition

- **Addition Capacity** Phase 2 addition to provide a total of 36 Classrooms and increase capacity beyond the current student design capacity.

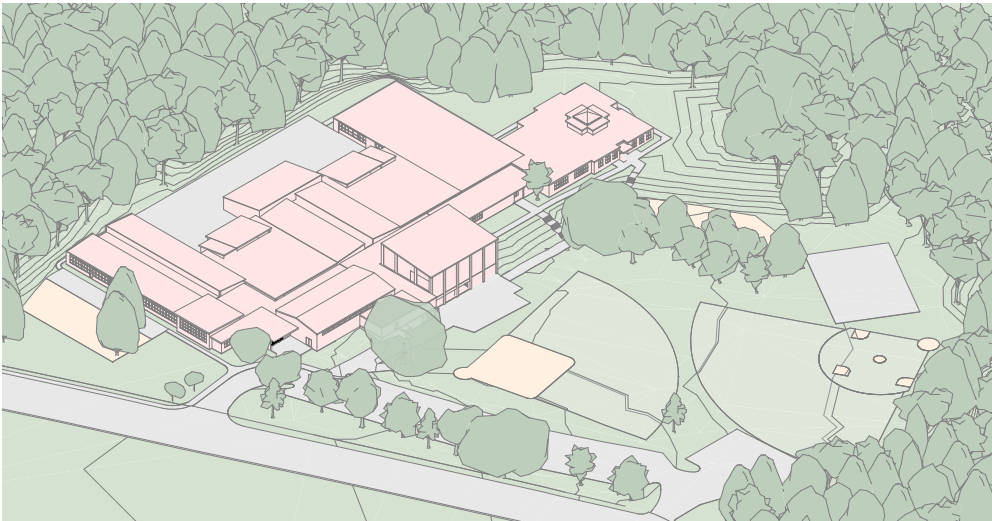
Existing Grades 1st through 3rd Classrooms:

- Grades 1st through 3rd currently inhabit open concept pods. These classrooms are not enclosed, but are instead open to adjacent classrooms and circulation.
- **APS reported this existing architectural arrangement as a driving factor in selecting the school for renovation/replacement.**
- The configurations raises safety concerns; without a defined classroom students are not secure within an enclosed area. This affects internal classroom management for teachers as well as safety from external factors.
- Significant noise transfer across classrooms and corridors leads to challenges such as lowered concentration, auditory fatigue and vocal strain.
- Visual distractions make it harder for students to focus on tasks and can create sensory overload.



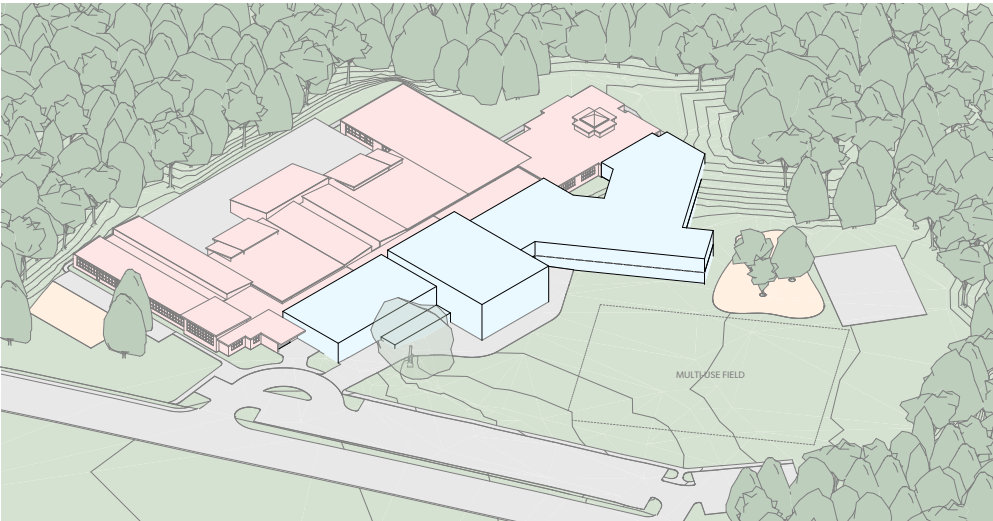
Existing Programs Undersized:

- Many of the existing school's facilities do not meet APS's current Education Specification requirements.
- A majority of existing classrooms are undersized, with the smallest only 56% of the Ed Spec requirement.
- The existing Gymnasium is 57% of the Ed Spec requirement. The stage is 83%.
- The existing Kitchen is 63% of the Ed Spec requirement and only contains one serving line, the standard is for two. The Dining Commons is 88%.



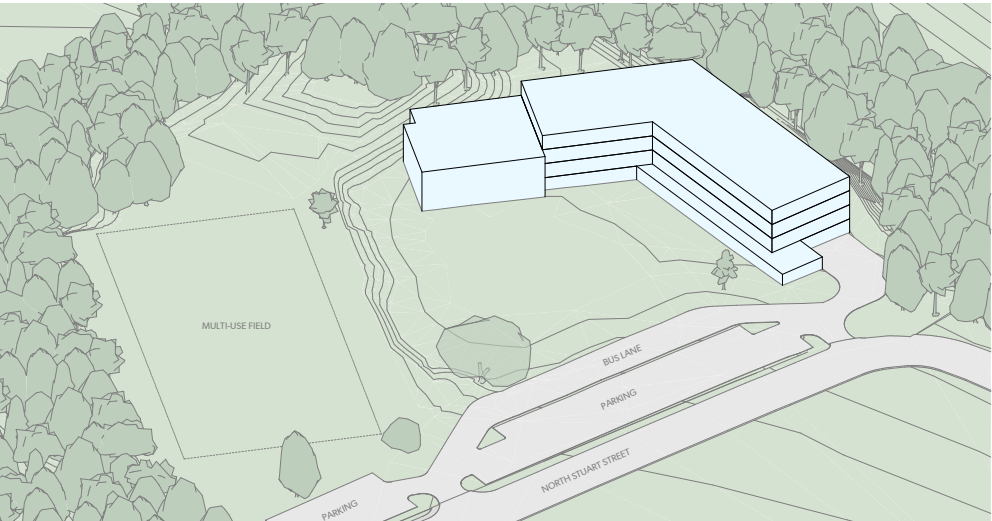
Option 1: Renovation

Total Gross Square Feet (GSF):	±79,331
Capacity	376 Students
Classrooms	18
Cost	\$58,496,961 (\$737/SF)



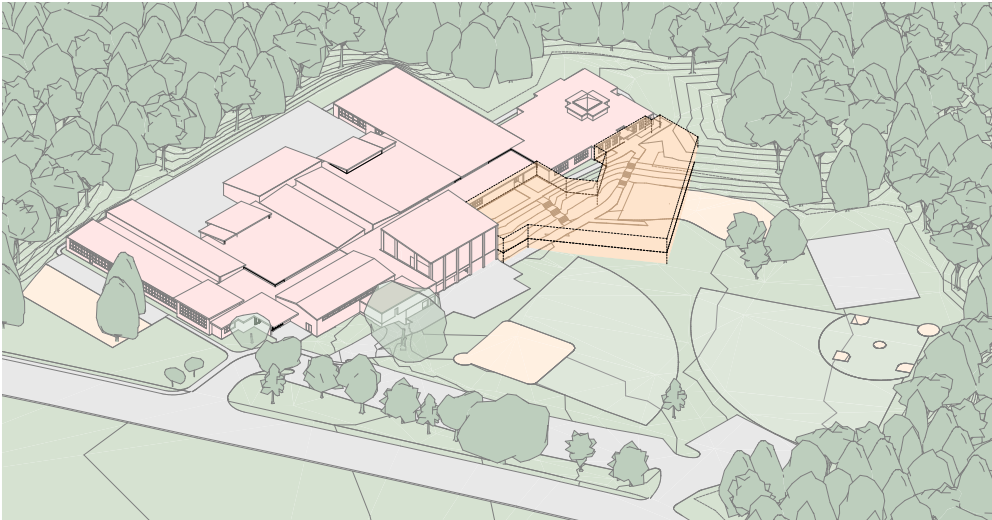
Option 2: Renovation + Addition

Renovation Gross Square Feet (GSF)	±79,331
Addition Gross Square Feet (GSF)	±35,814
Total Gross Square Feet (GSF)	±115,145
Capacity	628 Students
Classrooms	30
Cost	\$98,309,723 (\$854/SF)



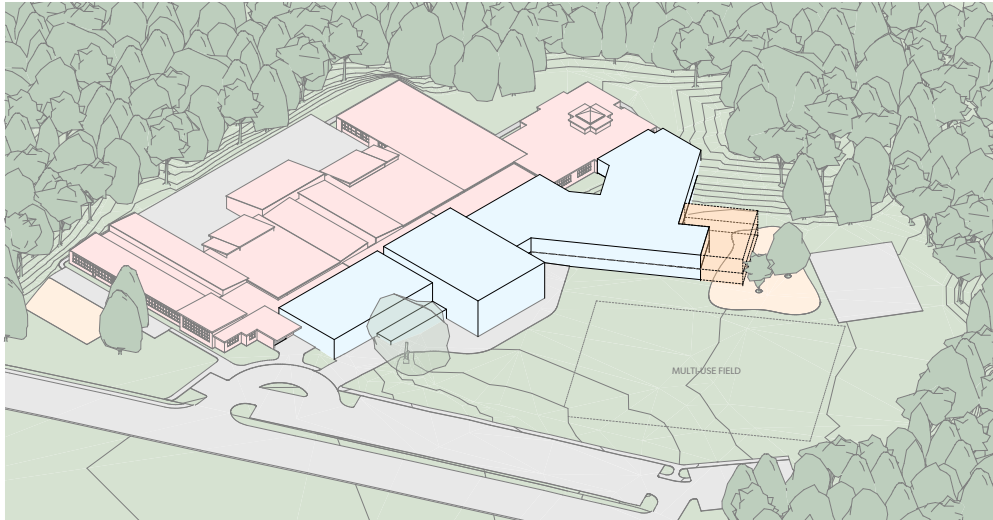
Option 3: New Build

Total Gross Square Feet (GSF)	± 110,595
Capacity	646 Students
Classrooms	30
Cost	\$103,719,593 (\$938/SF)



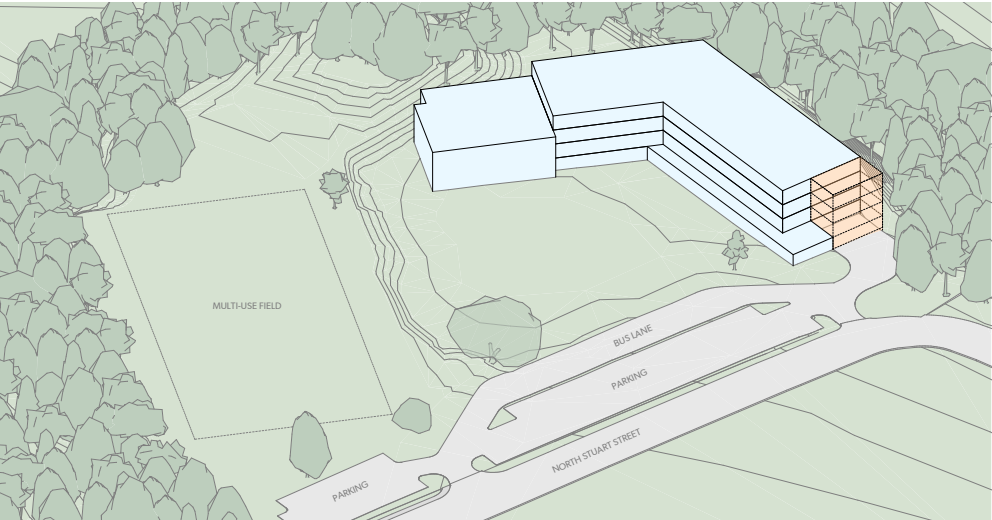
Option 1A: Renovation + Classroom Addition

Renovation Gross Square Feet (GSF)	±79,331
Addition Gross Square Feet (GSF)	±31,219
Total Gross Square Feet (GSF)	±110,550
Capacity	628 Students
Classrooms	30
Cost	\$88,230,596 (\$798/SF)



Option 2A: Renovation + Addition + Phase 2

Renovation Gross Square Feet (GSF)	±79,331
Additions Gross Square Feet (GSF)	±44,334
Total Gross Square Feet (GSF)	±123,665
Capacity	766 Students
Classrooms	36
Cost	\$103,807,924 (\$839/SF)

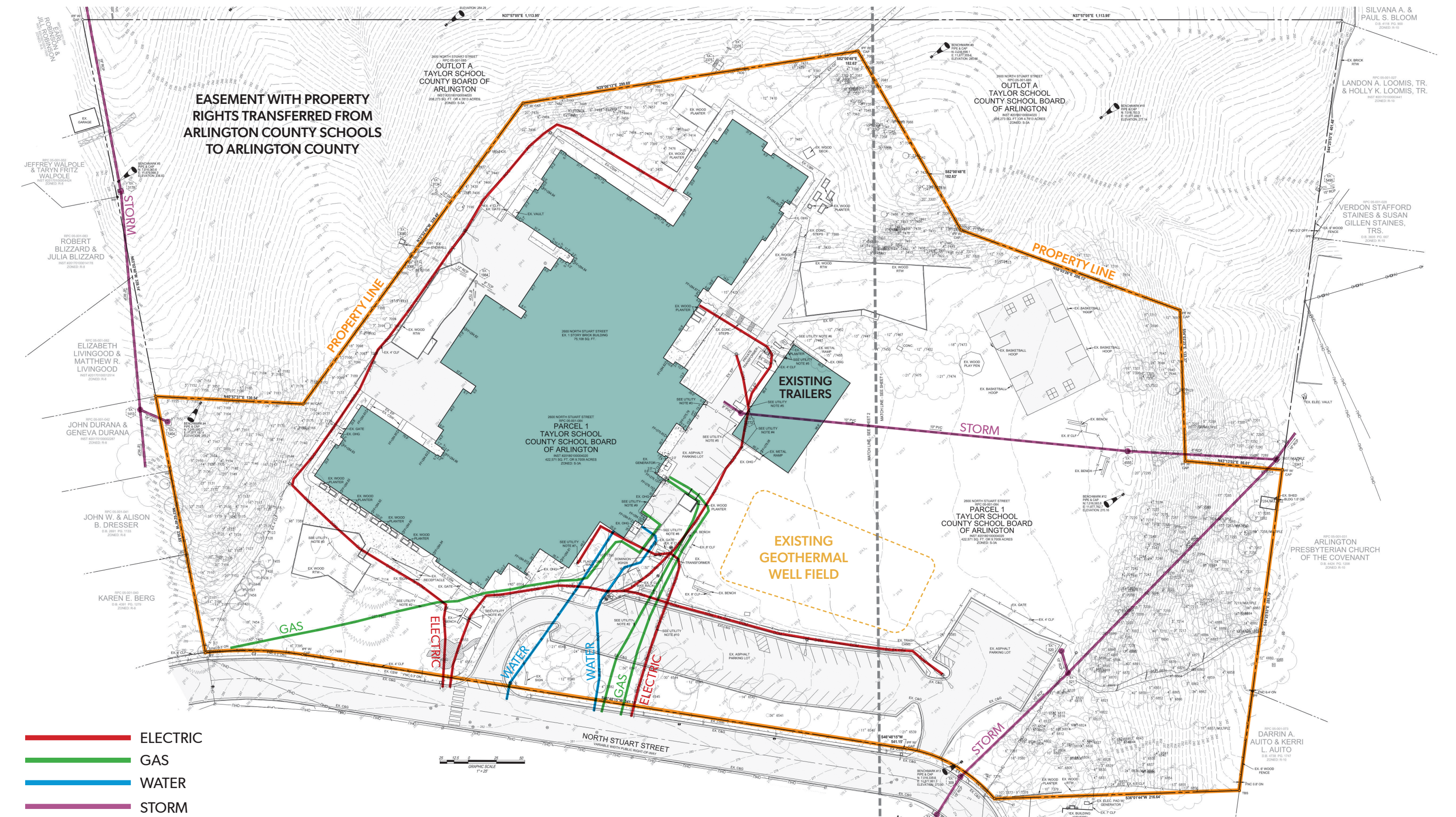


Option 3A: New Build + Phase 2

Total Gross Square Feet (GSF)	±119,104
Capacity	766 Students
Classrooms	36
Cost	\$111,120,499 (\$933/SF)

02.

PLANNING, DESIGN CONSIDERATIONS & EXISTING CONDITIONS





	REQUIRED: ZONE: P S-3A	PROPOSED
FAR	N/A	N/A
LOT AREA	6,000 SF MIN	MEETS MINIMUMS
LOT WIDTH	60' AVG. MIN	MEETS MINIMUMS
LOT OCCUPANCY	N/A	N/A
BUILDING HEIGHT	45 FEET	OPTION 1 (Renovation): No Changes to Height OPTION 2 (Reno.+Addition): ~36-40 FT OPTION 3 (New Build): ~55-60 FT - REQUIRES RELIEF
NUMBER OF STORIES	N/A	N/A
SETBACK FROM STREET	NOT LESS THAN 1/2 HEIGHT OF BUILDING TO	VARIES, MEETS MINIMUMS
REAR YARD SETBACK	AT R-ZONES, 8' PLUS 2' FOR EACH 10' BUILDING HEIGHT ABOVE 10 (OR FRACTION THEREOF)	VARIES, MEETS MINIMUMS
SIDE YARD SETBACK	N/A	VARIES
COURTS	INNER COURTS: WIDTH 20' MIN, NO DIMENSION LESS THAN HEIGHT OF BUILDING OUTER COURTS: MIN RATIO 1:1.5	VARIES, MEETS MINIMUMS
PARKING	1 PER EACH 7.5 STUDENT FOR EMPLOYEES, 1 PER EACH 40 STUDENTS FOR VISITORS. UP TO 15% COMPACTS	91 SPACES - REQUIRES RELIEF
LOADING BERTHS	ONE LOADING BERTH (12'X25')	1 BERTH
STANDING SPACES	N/A	0 STANDING SPACES

Program Totals - Existing

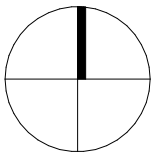
Net Square Feet (NSF)	46,993
Circulation & Support	32,338

Gross Square Feet (GSF)	79,331
Gross Up Multiplier	1.69

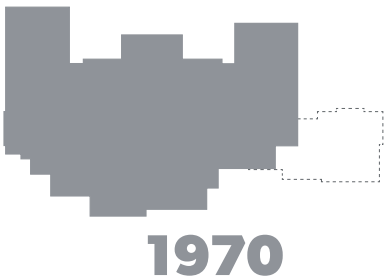
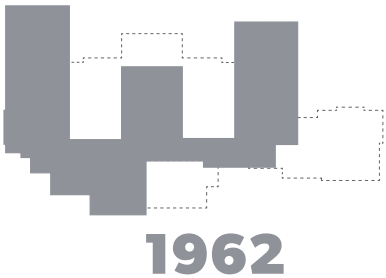
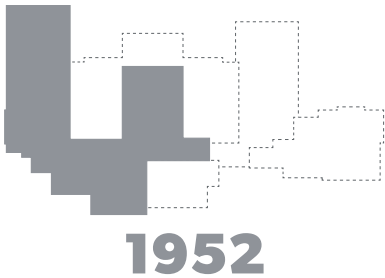
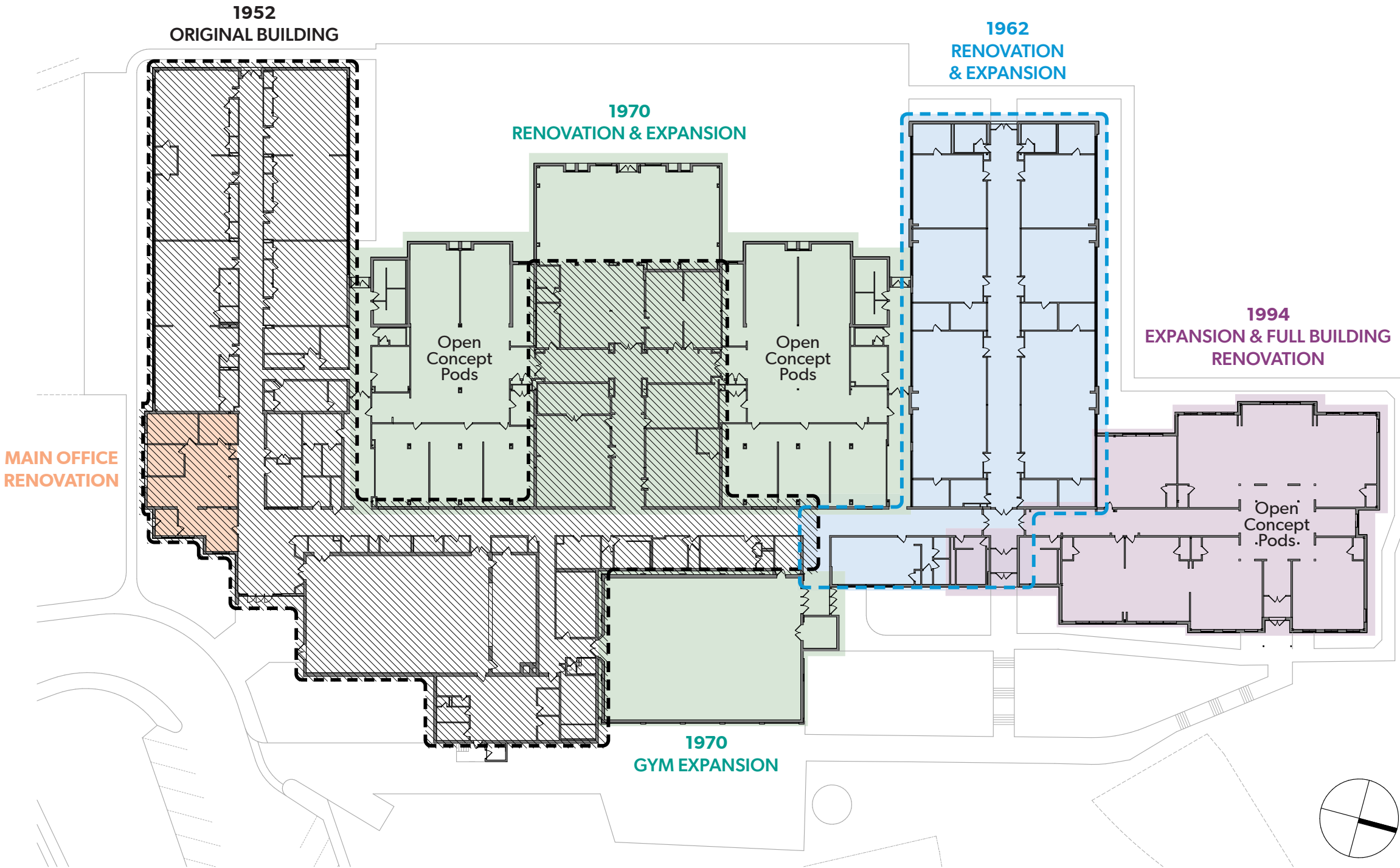
Existing Main Bldg Capacity	528 Students
Existing Grade 5 Relocatables	112 Students
Total Existing Capacity	540 Students

GSF per Student	150.25GSF/Student
Classrooms - Main Bldg	25

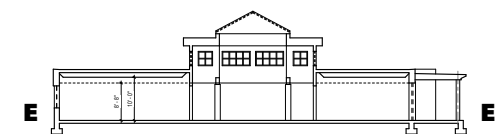
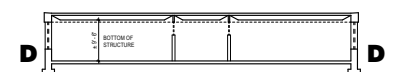
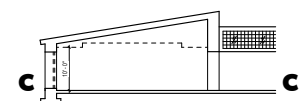
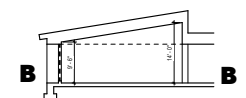
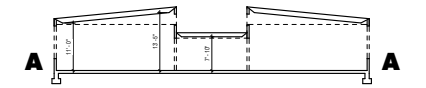
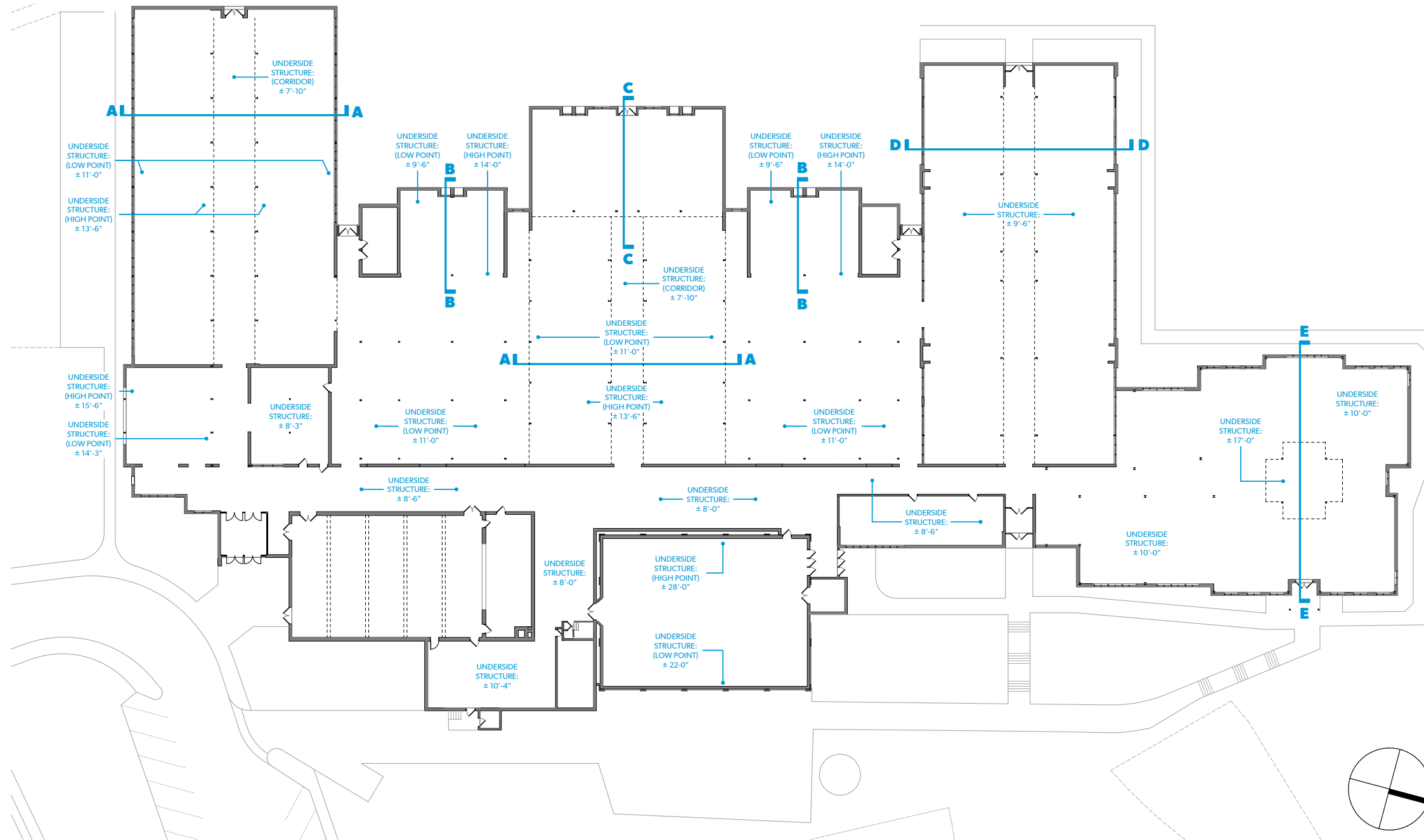
Capacity information may vary slightly from other published data depending on how many students / classroom were used.



Existing Building Analysis - Construction History



Existing Building Analysis - Structural Considerations



KEY FINDINGS

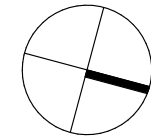
- 1. Classrooms are generally undersized
- 2. Cafeteria & Kitchen are undersized, with only one serving line (standard is two serving lines)
- 3. Gymnasium is undersized



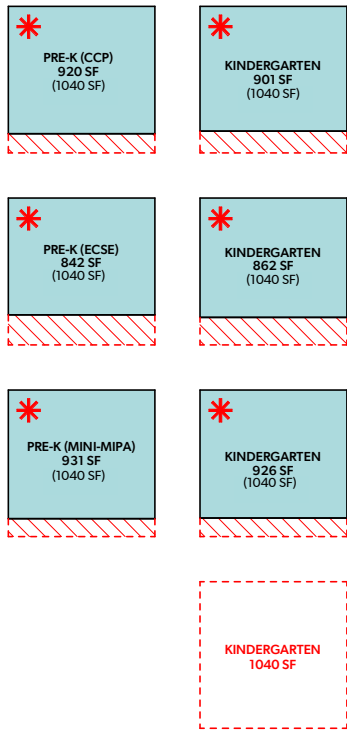
Lower Level

Space Typology

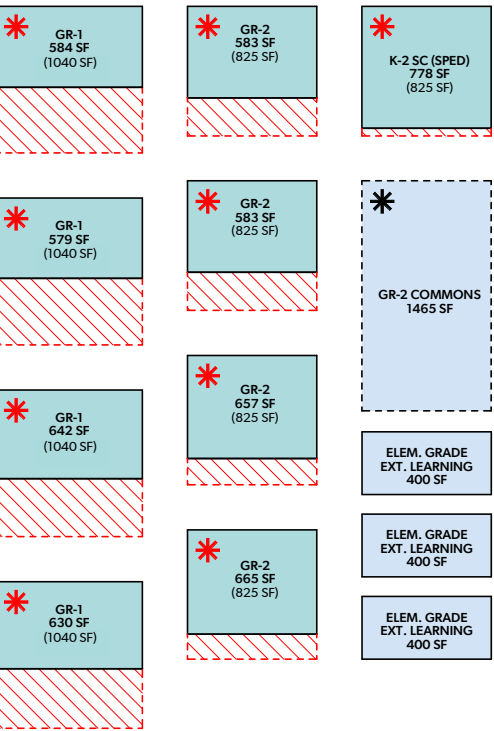
- CLASSROOMS
- RESOURCE
- ADMIN / GUIDANCE
- ARTS
- SHARED LEARNING
- ATHLETICS
- CUSTODIAN / BUILDING SERVICES
- RESTROOMS



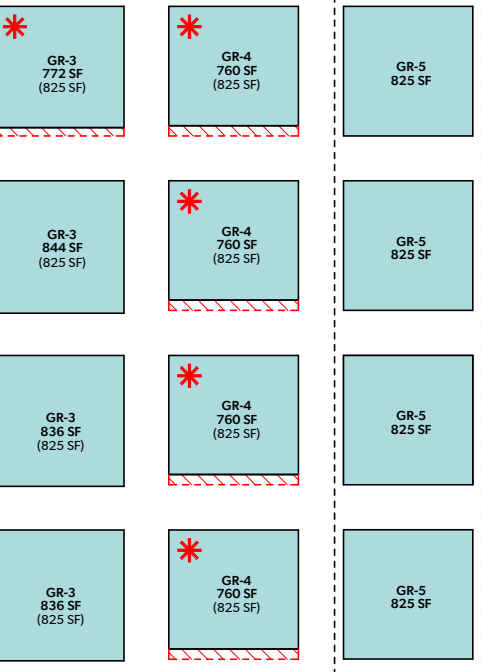
EARLY CHILDHOOD



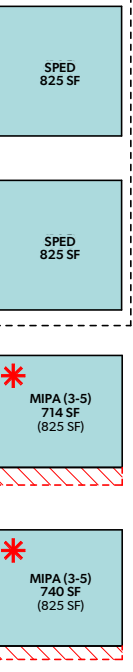
PRIMARY GRADES



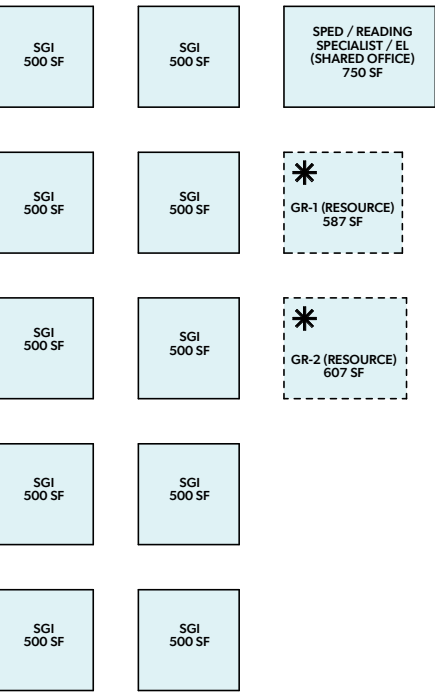
INTERMEDIATE GRADES



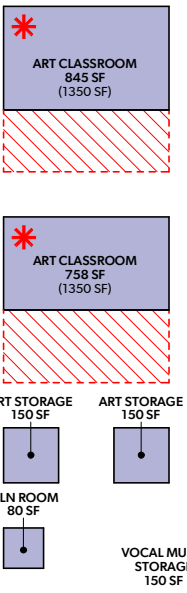
RELOCATABLES



SMALL GROUP INSTRUCTION



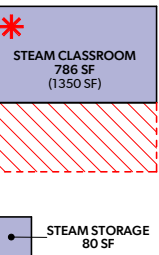
ART



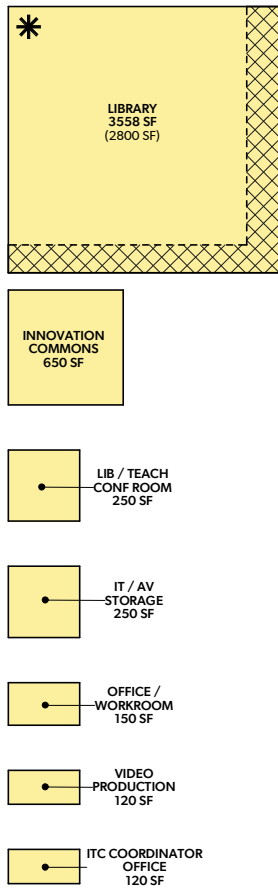
MUSIC



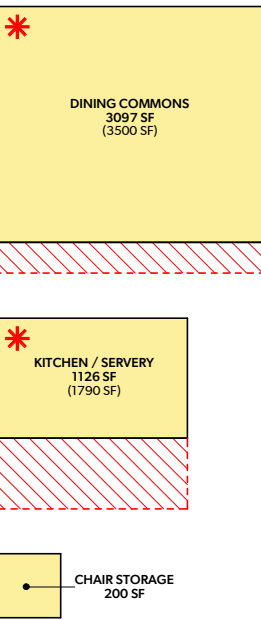
STEAM



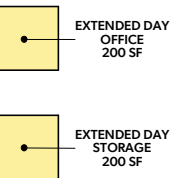
LIBRARY



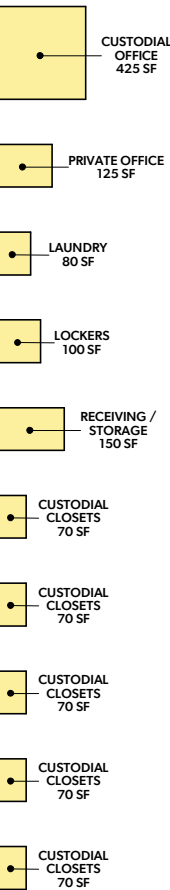
FOOD SERVICES



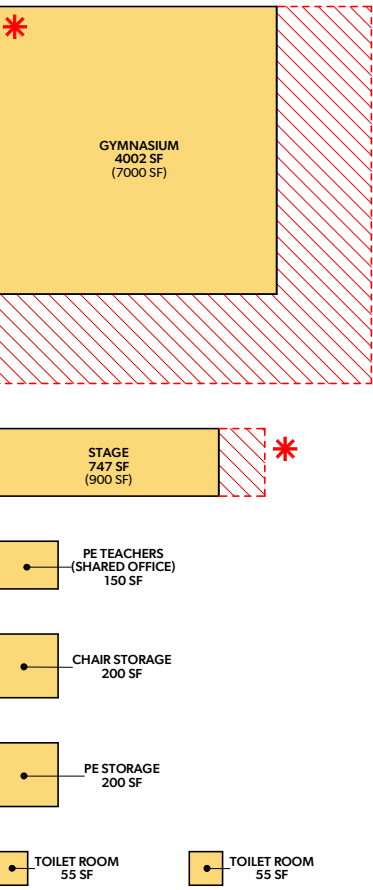
EXTENDED DAY



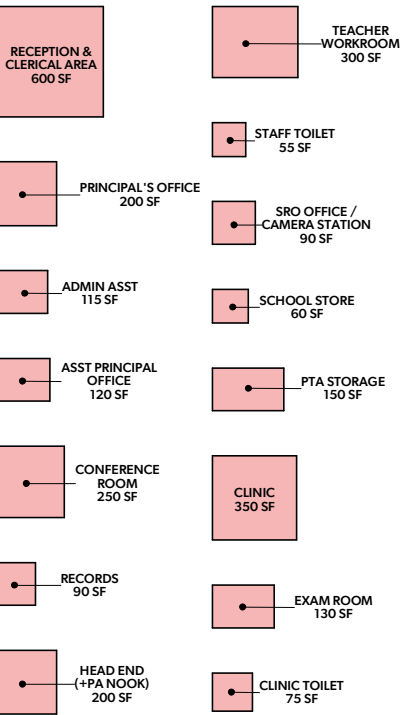
CUSTODIAL



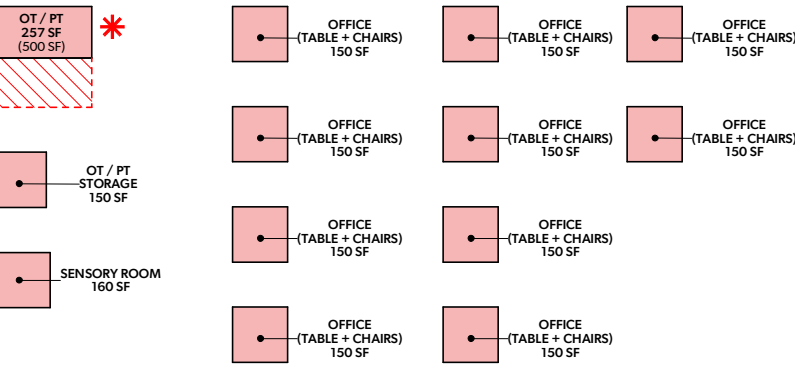
PHYSICAL EDUCATION



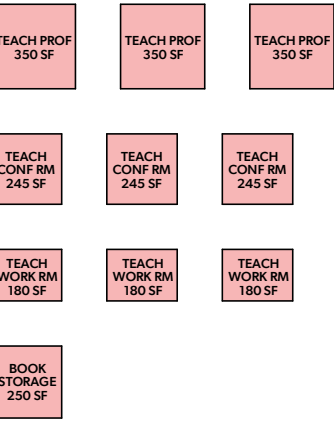
ADMINISTRATIVE SUITE



STUDENT SERVICES



TEACHER SUPPORT



LEGEND
GR-3 825 SF
825 SF
837 SF
ROOM NAME
SQ FT PER PLANS
SQ FT PER ED SPEC
OVERSIZED (EXISTING SQ FT LARGER THAN ED SPEC)
UNDERSIZED (EXISTING SQ FT SMALLER THAN ED SPEC)

1.1 EARLY CHILDHOOD	
A	Pre-K (plus Toilet & Changing Table)
B	Kindergarden (plus Toilet)
C	FLEX (Flexible Classroom)

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
919	3	2,757	9.33	28.00
881	3	2,644	24.00	72.00
-	0	-	6.00	0.00
5,401				100.00

1.2 PRIMARY GRADES 1-2	
A	1st Grade Classroom (plus Toilet)
B	2nd Grade Classroom
C	K-2 Self-Contained SPED (plus Toilet)

*Excluded from Existing Calculations

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
580	4	2,318	24.00	96.00
600	4	2,400	26.00	104.00
781	1	781	16.00	16.00
5,499				200.00

1.3 INTERMEDIATE GRADES 3-5	
A	3rd Grade Classroom
B	4th Grade Classroom
C	5th Grade Classroom
D	MIPA - Intermediate Grades 3-5 (plus Toilet)

*Excluded from Existing Calculations (Learning Cottages)

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
817	4	3,266	26.00	104.00
768	4	3,070	28.00	112.00
808	4	3,232	28.00	112.00
724	2	1,447	6.00	12.00
7,783				228.00

2.1 EXTENDED LEARNING AREA	
A	Early Childhood Extended Learning Area (COMMONS)
B	Primary Grade Extended Learning Area (COMMONS)
C	Elementary Grade Extended Learning Area (COMMONS)
D	SPED / READING SPECIALIST / EL (SHARED OFFICE)

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
-	0	-	0.00	0.00
1,435	2	2,870	0.00	0.00
814	1	814	0.00	0.00
745	1	745	0.00	0.00
4,429				0.00

2.2 SGI	
A	Small Group Instruction

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
		-	0.00	0.00
		-		0.00

Classrooms - Building Capacity

25	23,112	528.00
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3.1 ADMINISTRATIVE SUITE	
A	Reception / Clerical Area
B	Principal's Office
C	Principal's Administrative Ass't Office (Admin Hub)
D	Assistant Principal's Office
E	Conference Room
F	Record Storage
G	Head End (+PA Nook)
H	Teacher Workroom
I	Staff Toilet
J	Clinic w/toilet
K	Clinic - Exam Room
L	Clinic - Toilet
M	SRO Office / Camera Station
N	School Store
O	PTA Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
615	1	615		0.00
217	1	217		0.00
164	1	164		0.00
163	1	163		0.00
231	1	231		0.00
		-		0.00
		-		0.00
222	1	222		0.00
		-		0.00
230	1	230		0.00
80	1	80		0.00
25	1	25		0.00
		-		0.00
60				
53	1	53		0.00
2,000				0.00

3.2 STUDENT SERVICES	
A	Office + Table w/ 4 Chairs
B	Occupational Therapy / Physical Therapy
C	OT / PT - Storage
D	Sensory Room

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
156	1	156		0.00
256	1	256		0.00
28	1	28		0.00
167	1	167		0.00
607				0.00

3.3 TEACHER SUPPORT (DISTRIBUTED)	
A	Teacher Conference Room
B	Teacher Professional / Itinerant Teacher Space, plus Kit.
C	Teacher Work Room with Copier
D	Book Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
287	1	287		0.00
681	1	681		0.00
208	4	831		0.00
		-		0.00
1,799				0.00

Administrative / Guidance Totals

4,406

4.1 ART CLASSROOMS	
A	Art Classroom
B	Art Storage
C	Kiln Room

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
802	2	1,603		0.00
122	2	243		0.00
28	1	28		0.00
1,874				0.00

4.2 MUSIC CLASSROOMS	
A	Vocal Music
B	Vocal Music - Storage
C	Instrumental Music
D	Instrumental Music - Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
1,169	2	2,338		0.00
131	1	131		0.00
742	1	742		0.00
76	1	76		0.00
3,287				0.00

4.3 STEAM CLASSROOMS	
A	STEAM Classroom
B	STEAM Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
755	1	755		0.00
-	0	-		0.00
755				0.00

Arts Totals

5,916

5.1 LIBRARY	
A	Library (9,000 - 12,000 volumes per APS...to be confirmed)
B	Library / Teacher Conference Room
C	Video Production
D	Office / Workroom
E	IT / AV Storage
F	ITC Coordinator Office (Instructional Tech.)
G	Innovation Commons (located remotely from Library)

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
3,587	1	3,587		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
398	1	398		0.00
		-		0.00
3,985				0.00

5.2 FOOD SERVICES	
A	Dining Commons
B	Kitchen + Servery (2 Serving Lines)
	Kitchen Office
	Refrigerator / Freezer
	Dry Storage
	Dish Room
	Receiving Room
	Trash Room
C	Chair Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
3,294	1	3,294		0.00
1,089	1	1,089		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
4,383				0.00

5.3 EXTENDED DAY	
A	Extended Day - Office
B	Extended Day - Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
181	1	181		0.00
200	1	200		0.00
381				0.00

5.4 CUSTODIAL / BUILDING MAINTENANCE	
A	Custodial Office
B	Private Office
C	Laundry
D	Lockers
E	Receiving / Storage
F	Custodial Closets (w/mop sink)

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
		-		0.00
-				0.00

Shared Learning - Totals

8,749

6.0 PHYSICAL EDUCATION*	
A	Gymnasium
B	Stage
C	PE Teachers' Shared Office
D	Chair Storage
E	PE Storage
F	Toilet Room

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
4,056	1	4,056		0.00
682	1	682		0.00
147	1	147		0.00
		-		0.00
		-		0.00
		-		0.00
4,885				0.00

6.1 CLASS ONE	
A	Class 1 Bike - Storage
B	Class 1 Bike - Toilet & Shower

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
		-		0.00
		-		0.00
-				0.00

6.2 PARKS & RECREATION	
A	Parks & Rec. Storage

Existing				
Area	Qty	Net SF	Capacity	Total Capacity
		-		0.00
		-		0.00

Athletics - Totals

4,885

PROGRAM TOTALS - EXISTING

Net Square Feet (NSF) ±49,993

Circulation & Support (Gross Up Area) ±32,338

Gross Square Feet (GSF) ±79,331

Gross Up Multiplier 1.69

Program Capacity-Main Bldg 528 Students

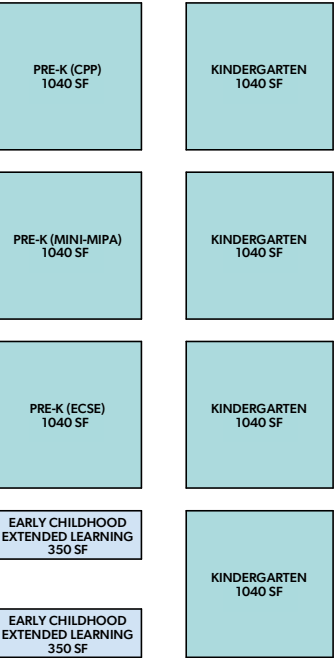
Program Capacity-Grade 5 Relocatables 112 Students

Total Program Capacity 640 Students

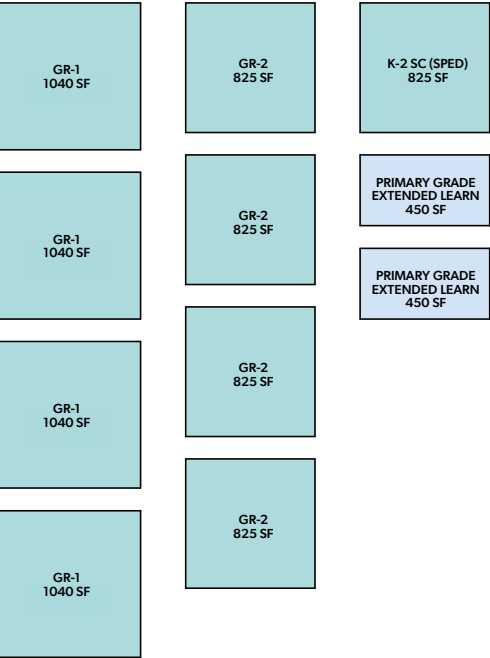
GSF per Student- Main Bldg 150.25 GSF / Student

Classrooms-Main Bldg 25

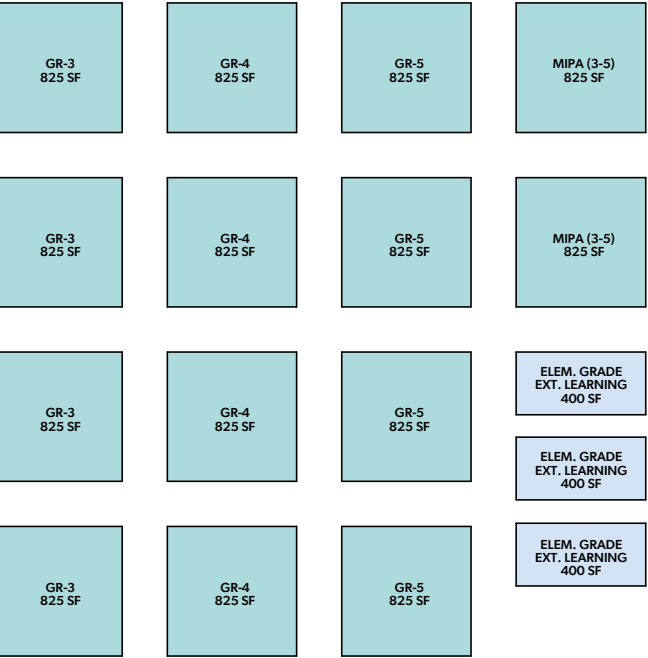
EARLY CHILDHOOD



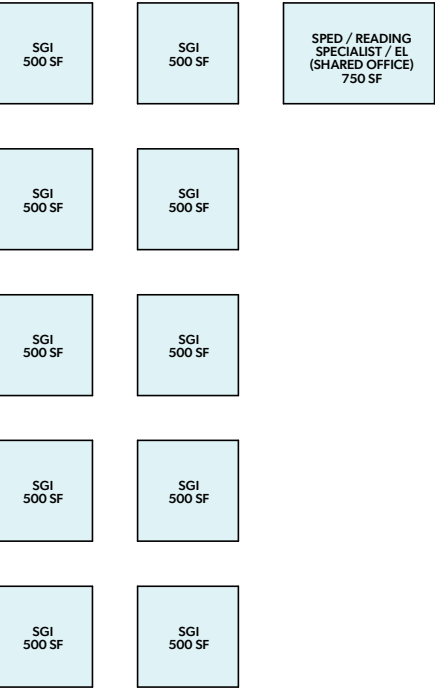
PRIMARY GRADES



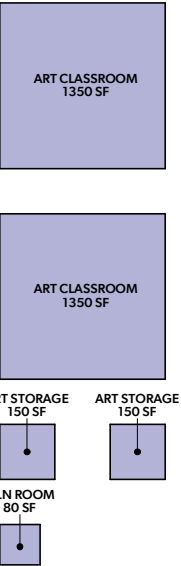
INTERMEDIATE GRADES



SMALL GROUP INSTRUCTION



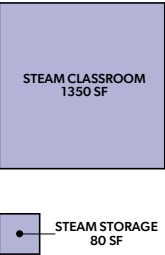
ART



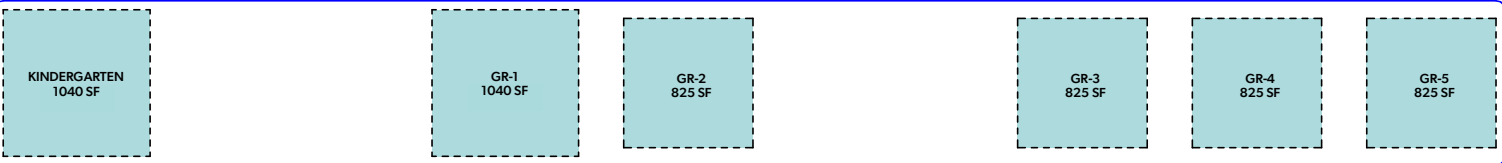
MUSIC



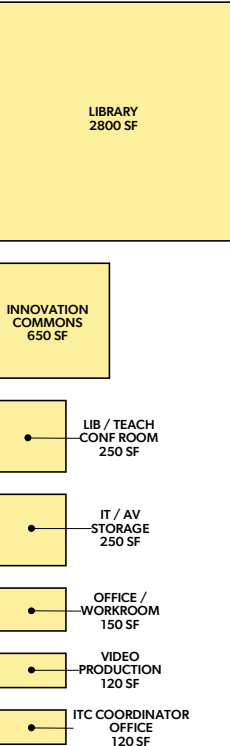
STEAM



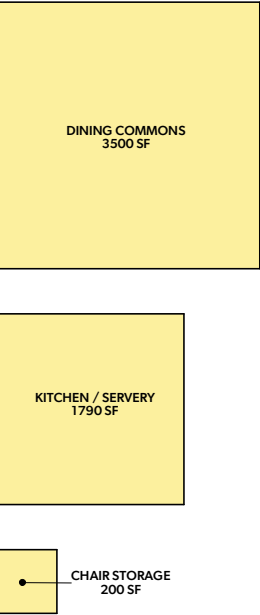
PHASE 2
ADDITIONAL
CLASSROOMS



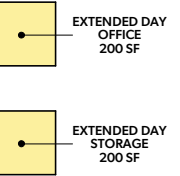
LIBRARY



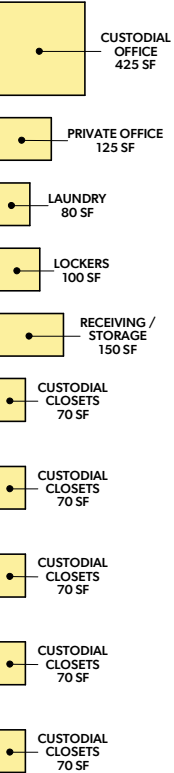
FOOD SERVICES



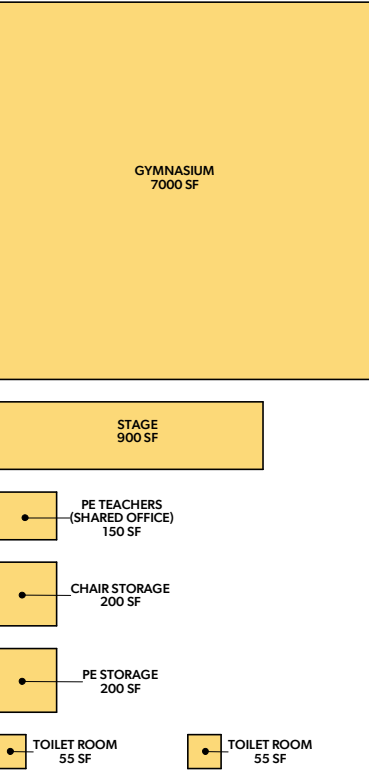
EXTENDED DAY



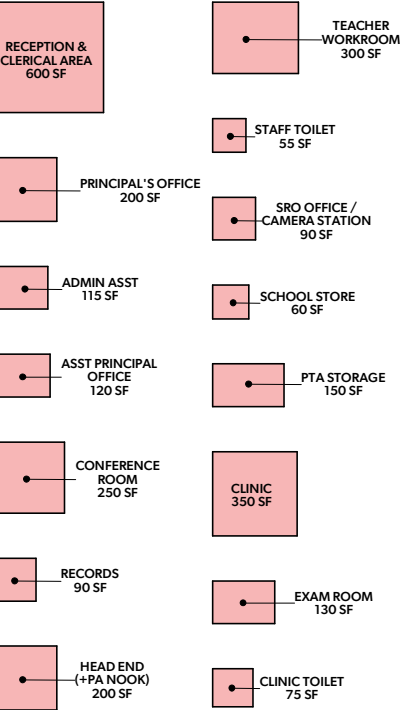
CUSTODIAL



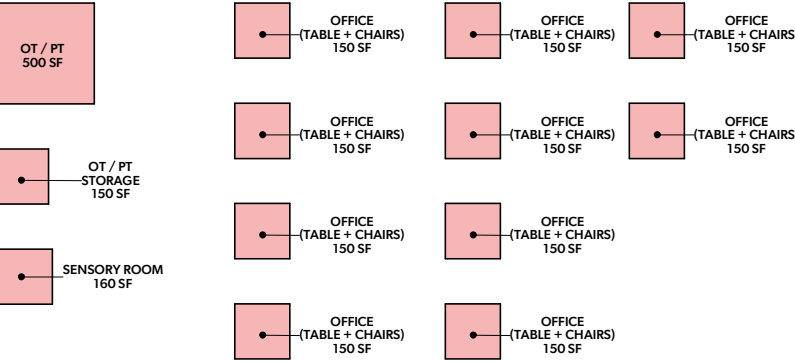
PHYSICAL EDUCATION



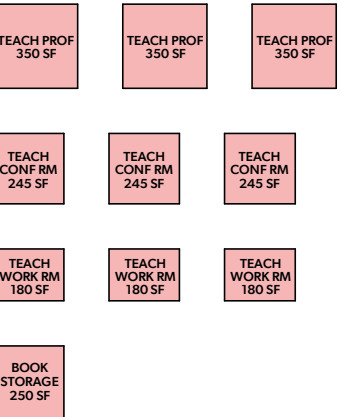
ADMINISTRATIVE SUITE



STUDENT SERVICES



TEACHER SUPPORT



03.1

OPTION 1 & 1A - RENOVATION

Design Goals

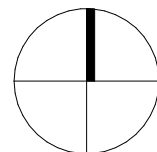
- Renovate existing spaces to meet the current Building Code & ADA Requirements
- Provide spaces that meet requirements of Ed Spec, even if that will reduce student capacity below current enrollment.
- Limit interior circulation
- Limit demolition of existing as much as possible
- Limit site disturbance & grading
- Consider construction logistics
- Retain site open area
- Retain curb cut locations at N Stuart St.

MEP Considerations

- Assumes the building does not need to meet an EUI of 22
- All new MEP systems and distribution will be provided
- Re-use (84) existing geothermal wells. Will require assessment and potentially refurbishment of existing well sleeves.
- Planning for water-source heat pumps, w/distributed closets
- Assumes roof-mounted DOAS units with heat recovery

Site & Utility Considerations

- Existing relocatables and associated utilities to be demolished, abandoned and capped as needed.
- Electrical service supply will need to be upsized.
- Separate stormwater drainage connection to main is required.
- Portions of site pavement, parking, and walkways will need to be replaced to meet ADA code.

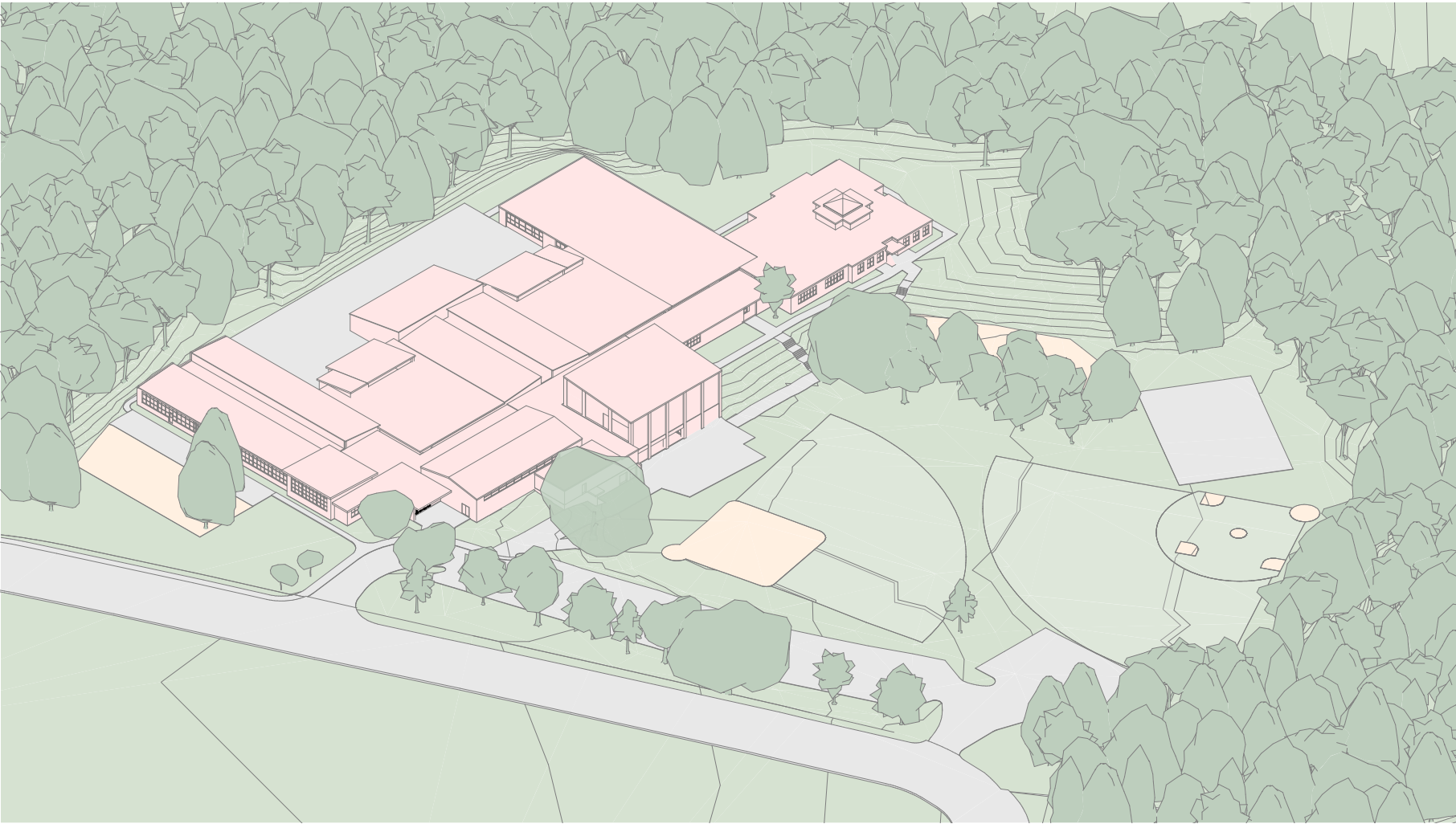


Option 1: Renovation

Gross Square Feet (GSF)	±79,331
Capacity	376 Students

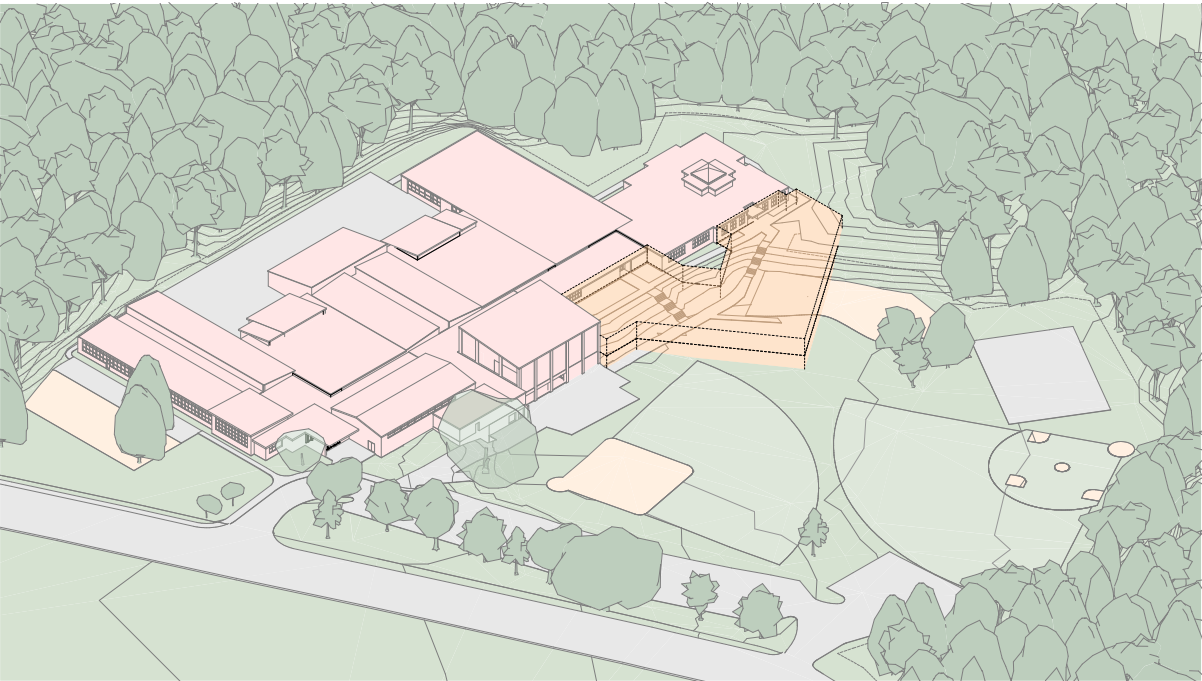
Option 1: Program Totals

Net Square Feet (NSF)	±53,807
Circulation & Support (Gross Up Area)	±25,524
Gross Square Feet (GSF)	±79,331
Gross Up Multiplier	1.47
Capacity	376 Students
GSF per Student	211 GSF / Student
Classrooms	18
Total Project Cost	\$58,496,961
	\$737/SF



Option 1A: Renovation + Classroom Addition

Renovation Gross Square Feet	±79,331
Addition Gross Square Feet	±31,219
Total Classrooms	13
Total Gross Square Feet (GSF)	±110,550
Total Classrooms	30
Capacity	628 Students
Total Project Cost	\$88,230,596
	\$798/SF



KEY FINDINGS - RENOVATION (1.0)

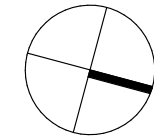
- 1. Student capacity is reduced from the current enrollment
- 2. Classrooms are generally designed to 90% of Ed Spec
- 3. The building will not achieve the EUI goal of 22
- 4. Cafeteria, Gymnasium, & Library are undersized
- 5. Art, Music, & STEAM Classrooms are undersized



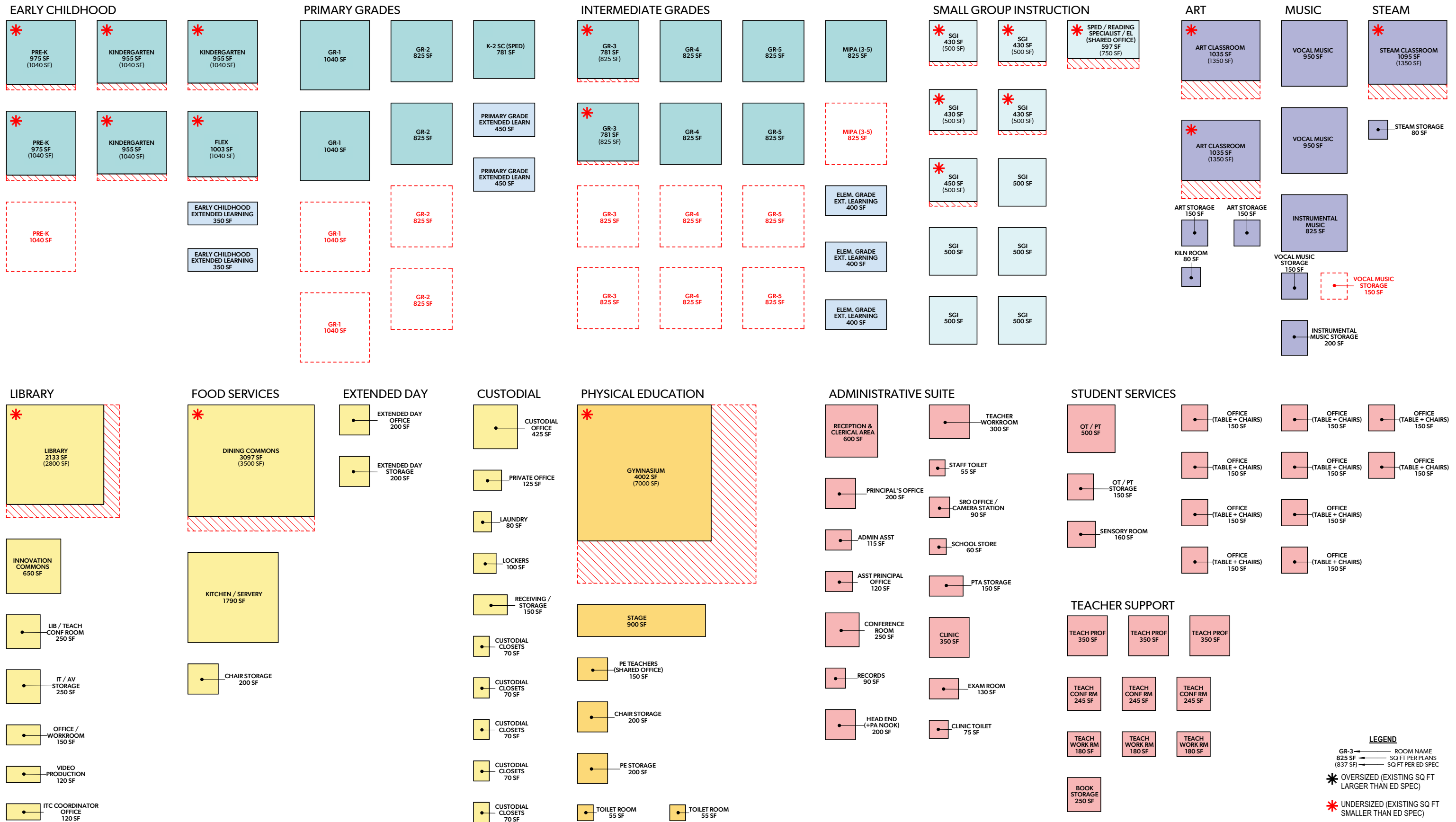
Lower Level

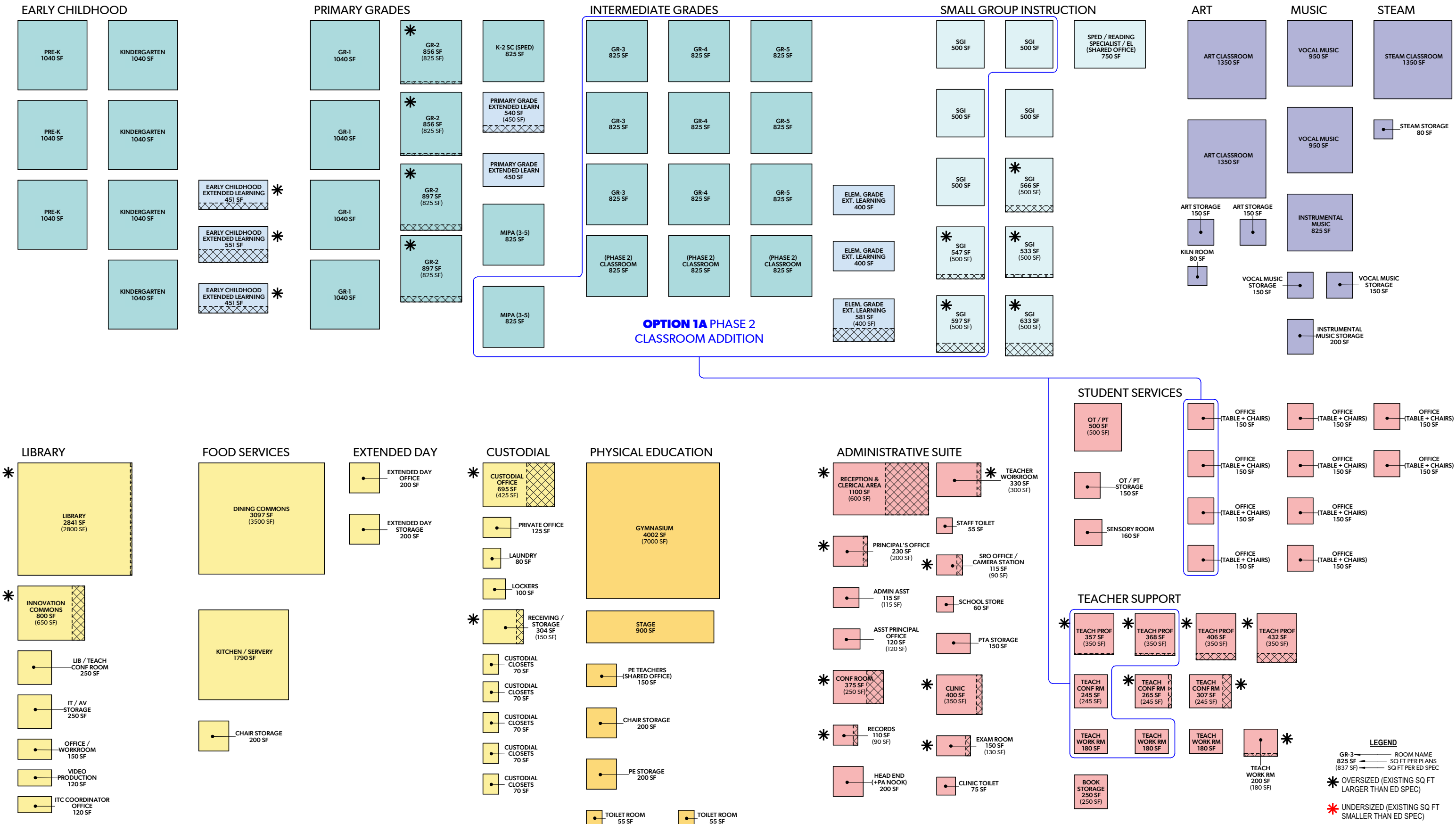
Space Typology

- CLASSROOMS
- RESOURCE
- ADMIN / GUIDANCE
- ARTS
- SHARED LEARNING
- ATHLETICS
- CUSTODIAN / BUILDING SERVICES
- RESTROOMS



Option 1 - Renovation: Graphic Program





Building Envelope

- Replacement of existing standing seam metal roof and bitumen rolled roofing systems to meet Virginia Energy Code.
- Replacement of all window and door systems to meet Virginia Energy Code.
- Repointing of cracked mortar joints at existing window lintels.
- New sealant and flashing be installed at exterior wall penetrations.

Structure

- Reinforce existing roof joists by installing additional joists in between existing joists to accommodate additional loading from new PV panels.

MEP – Mechanical

- Test and refurbish existing 84 well ground-source system.
- Replace existing ducting.
- Replace existing 120-ton open cooling tower, variable speed condenser water distribution pumps, distributed water-source heat pumps, five (5) constant volume rooftop DOAS units, two (2) air-cooled heat pump rooftop units serving multipurpose room, and two (2) water-cooled heat pump rooftop units serving gym in kind.
- Replace plate and frame heat exchanger between open loop and closed loop condenser water systems.
- Replace (2) natural gas boilers with high efficiency natural gas condensing boilers (1240 MBH each).

MEP – Electrical

- Update electrical service to 3000A-4000A, 3-Phase, 480V.
- Replace all existing electrical distribution equipment with new.
- Install new addressable fire alarm system with voice evacuation devices.
- New LED lighting fixtures and controls.
- Update BAS to interface with new and existing MEP equipment and systems.

MEP – Plumbing

- Replace existing domestic hot and cold water lines.
- New high-efficiency plumbing fixtures with appropriate water filtration components throughout.
- New fire suppression system throughout to replace existing fire suppression system that only partially covers building.

Transportation

- Replace existing sidewalks around the parking lot to ensure compliance with ADA code.
- Mill, repave and re-stripe existing parking lot to meet ADA code.

Other

- Demolish existing trailer classrooms.
- Abandon temporary utility connections for trailer classrooms.
- Landscaping work necessary to fill in area of field where existing trailers will be demolished.
- Replace exterior paving and install appropriate railings across the campus.
- Temporary swing space to be used during renovation.

Option 1 - Renovation: Program Analysis

APS TAYLOR ES 10-SEPTEMBER 2025

1.1 EARLY CHILDHOOD	
A	Pre-K (plus Toilet & Changing Table)
B	Kindergarden (plus Toilet)
C	FLEX (Flexible Classroom)

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
975	2	1,950	16.00	32.00	
955	2	1,910	23.00	46.00	
1,000	2	2,000	23.00	46.00	
				5,860	124.00

1.2 PRIMARY GRADES 1-2	
A	1st Grade Classroom (plus Toilet)
B	2nd Grade Classroom
C	K-2 Self-Contained SPED (plus Toilet)

*Excluded from Existing Calculations

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
1,060	2	2,120	23.00	46.00	
825	2	1,650	23.00	46.00	
780	1	780	16.00	16.00	
				4,550	108.00

1.3 INTERMEDIATE GRADES 3-5	
A	3rd Grade Classroom
B	4th Grade Classroom
C	5th Grade Classroom
D	MIPA - Intermediate Grades 3-5 (plus Toilet)

*Excluded from Existing Calculations (Learning Cottages)

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
780	2	1,560	23.00	46.00	
825	2	1,650	23.00	46.00	
825	2	1,650	23.00	46.00	
825	1	825	6.00	6.00	
				5,685	144.00

2.1 EXTENDED LEARNING AREA	
A	Early Childhood Extended Learning Area (COMMONS)
B	Primary Grade Extended Learning Area (COMMONS)
C	Elementary Grade Extended Learning Area (COMMONS)
D	SPED / READING SPECIALIST / EL (SHARED OFFICE)

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
350	2	700	0.00	0.00	
450	2	900	0.00	0.00	
328	3	985	0.00	0.00	
600	1	600	0.00	0.00	
				3,185	0.00

2.2 SGI	
A	Small Group Instruction

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
470	10	4,704	0.00	0.00	
				4,704	0.00

Classrooms - Building Capacity

18 23,984 376.00

3.1 ADMINISTRATIVE SUITE	
A	Reception / Clerical Area
B	Principal's Office
C	Principal's Administrative Ass't Office (Admin Hub)
D	Assistant Principal's Office
E	Conference Room
F	Record Storage
G	Head End (+PA Nook)
H	Teacher Workroom
I	Staff Toilet
J	Clinic w/toilet
K	Clinic - Exam Room
L	Clinic - Toilet
M	SRO Office / Camera Station
N	School Store
O	PTA Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
640	1	640	0.00	0.00	
227	1	227	0.00	0.00	
115	1	115	0.00	0.00	
125	1	125	0.00	0.00	
250	1	250	0.00	0.00	
90	1	90	0.00	0.00	
200	1	200	0.00	0.00	
325	1	325	0.00	0.00	
55	1	55	0.00	0.00	
350	1	350	0.00	0.00	
130	1	130	0.00	0.00	
75	1	75	0.00	0.00	
90	1	90	0.00	0.00	
72	1	72	0.00	0.00	
55	1	55	0.00	0.00	
				2,799	0.00

3.2 STUDENT SERVICES	
A	Office + Table w/ 4 Chairs
B	Occupational Therapy / Physical Therapy
C	OT / PT - Storage
D	Sensory Room

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
150	10	1,500	0.00	0.00	
500	1	500	0.00	0.00	
140	1	140	0	0.00	
160	1	160	0	0.00	
				2,300	0.00

3.3 TEACHER SUPPORT (DISTRIBUTED)	
A	Teacher Conference Room
B	Teacher Professional / Itinerant Teacher Space, plus Kit.
C	Teacher Work Room with Copier
D	Book Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
269	3	807	0.00	0.00	
322	3	967	0.00	0.00	
188	3	564	0.00	0.00	
250	1	250	0	0.00	
				2,588	0.00

Administrative / Guidance Totals

7,687

4.1 ART CLASSROOMS	
A	Art Classroom
B	Art Storage
C	Kiln Room

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
1,035	2	2,070	0.00	0.00	
150	2	300	0.00	0.00	
80	1	80	0	0.00	
				2,450	0.00

4.2 MUSIC CLASSROOMS	
A	Vocal Music
B	Vocal Music - Storage
C	Instrumental Music
D	Instrumental Music - Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
925	2	1,850	0.00	0.00	
125	2	250	0.00	0.00	
825	1	825	0.00	0.00	
125	1	125	0	0.00	
				3,050	0.00

4.3 STEAM CLASSROOMS	
A	STEAM Classroom
B	STEAM Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
1,095	1	1,095	0.00	0.00	
100	1	100	0	0.00	
				1,195	0.00

Arts Totals

6,695

5.1 LIBRARY	
A	Library (9,000 - 12,000 volumes per APS...to be confirmed)
B	Library / Teacher Conference Room
C	Video Production
D	Office / Workroom
E	IT / AV Storage
F	ITC Coordinator Office (Instructional Tech.)
G	Innovation Commons (located remotely from Library)

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
2,150	1	2,150	0.00	0.00	
250	1	250	0.00	0.00	
120	1	120	0.00	0.00	
150	1	150	0.00	0.00	
160	1	160	0.00	0.00	
120	1	120	0.00	0.00	
660	1	660	0.00	0.00	
				3,610	0.00

5.2 FOOD SERVICES	
A	Dining Commons
B	Kitchen + Servery (2 Serving Lines)
	Kitchen Office
	Refrigerator / Freezer
	Dry Storage
	Dish Room
	Receiving Room
	Trash Room
C	Chair Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
3,096	1	3,096	0.00	0.00	
1,889	1	1,889	0.00	0.00	
-	0	-	0.00	0.00	
-	0	-	0.00	0.00	
-	0	-	0.00	0.00	
-	0	-	0.00	0.00	
-	0	-	0.00	0.00	
-	0	-	0.00	0.00	
200	1	200	0	0.00	
				5,185	0.00

5.3 EXTENDED DAY	
A	Extended Day - Office
B	Extended Day - Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
200	1	200	0.00	0.00	
200	1	200	0	0.00	
				400	0.00

5.4 CUSTODIAL / BUILDING MAINTENANCE	
A	Custodial Office
B	Private Office
C	Laundry
D	Lockers
E	Receiving / Storage
F	Custodial Closets (w/mop sink)

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
330	1	330	0.00	0.00	
-	1	-	0.00	0.00	
-	1	-	0.00	0.00	
-	1	-	0.00	0.00	
164	1	164	0.00	0.00	
70	5	350	0	0.00	
				844	0.00

Shared Learning - Totals

10,039

6.0 PHYSICAL EDUCATION*	
A	Gymnasium
B	Stage
C	PE Teachers' Shared Office
D	Chair Storage
E	PE Storage
F	Toilet Room

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
4,000	1	4,000	0.00	0.00	
722	1	722	0.00	0.00	
150	1	150	0.00	0.00	
210	1	210	0.00	0.00	
210	1	210	0.00	0.00	
55	2	110	0.00	0.00	
				5,402	0.00

6.1 CLASS ONE	
A	Class I Bike - Storage
B	Class I Bike - Toilet & Shower

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
-	1	-	0.00	0.00	
-	1	-	0.00	0.00	
				-	0.00

6.2 PARKS & RECREATION	
A	Parks & Rec. Storage

Option 1: Renovation					
Area	Qty	Net SF	Capacity	Total Capacity	
-	1	-	0.00	0.00	
				-	0.00

Athletics - Totals

5,402

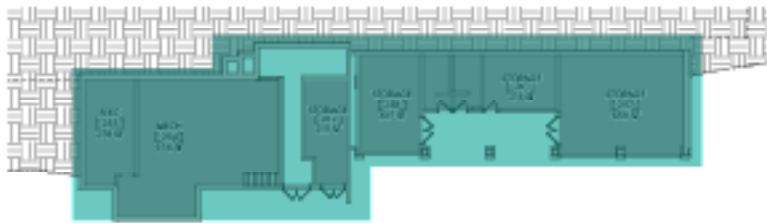
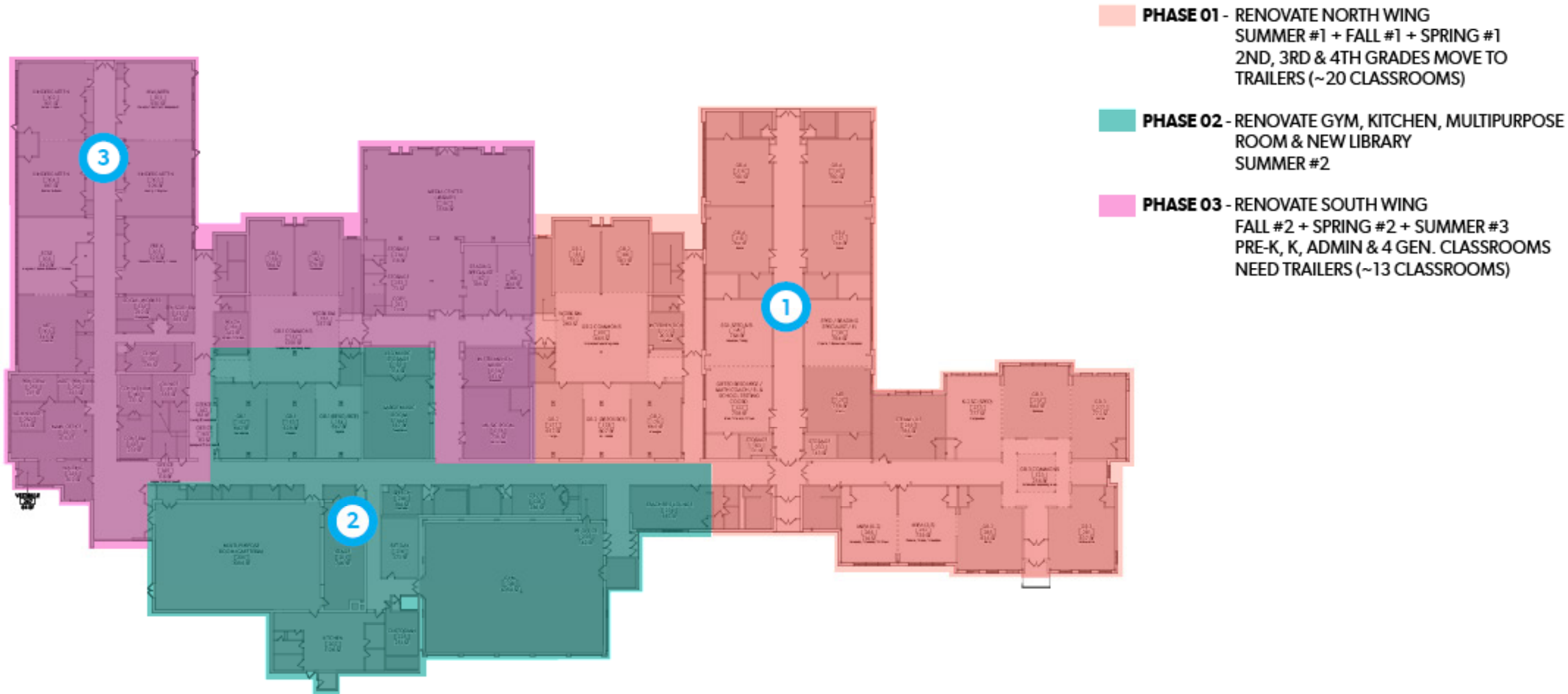
Option 1: Renovation

Net Square Feet (NSF) ±53,807
Circulation & Support (Gross Up Area) ±25,524
Gross Square Feet (GSF) ±79,331
Gross Up Multiplier 1.47
Capacity 376 Students
GSF per Student 211 GSF / Student
Classrooms 18

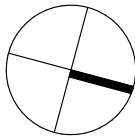
Option 1A: Renovation + Classroom Addition

Renovation Gross Square Feet (GSF) ±79,331
Addition Gross Square Feet (GSF) ±31,219
Addition Classrooms 13

Total Gross Square Feet (GSF) ±



Lower Level



03.2

OPTION 2 & 2A- RENOVATION + ADDITION

Design Goals

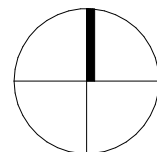
- Provide additional classrooms
- Enlarge Gym, Cafeteria, and Kitchen / Served
- Limit interior circulation
- Limit demolition of existing as much as possible
- Limit site disturbance & grading
- Consider construction logistics
- Retain site open area
- Retain curb cut locations at N Stuart St.

MEP Considerations

- Assumes the building does not need to meet an EUI of 22
- All new MEP systems and distribution will be provided
- Re-use (84) existing geothermal wells. Will require assessment and potentially refurbishment of existing well sleeves.
- Add an additional 50 geothermal wells to the system.
- Planning for water-source heat pumps, w/ distributed closets
- Assumes roof-mounted DOAS units with heat recovery

Site & Utility Considerations

- Existing relocatables and associated utilities to be demolished, abandoned and capped as needed.
- Electrical service supply will need to be upsized.
- Separate stormwater drainage connection to main is required.
- Portions of site pavement, parking, and walkways will need to be replaced to meet ADA code.



Option 2: Renovation + Addition

Gross Square Feet (GSF)	±115,145
Capacity	628 Students

Option 2: Program Totals

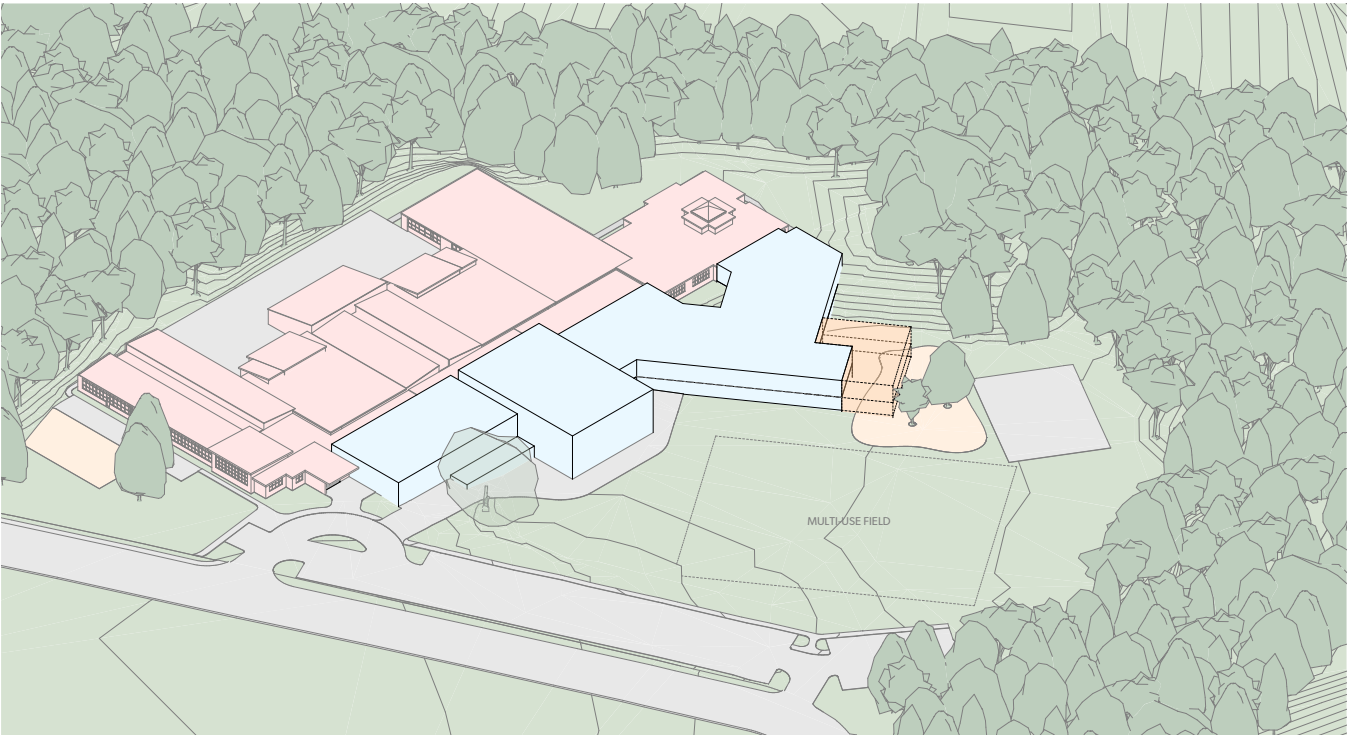
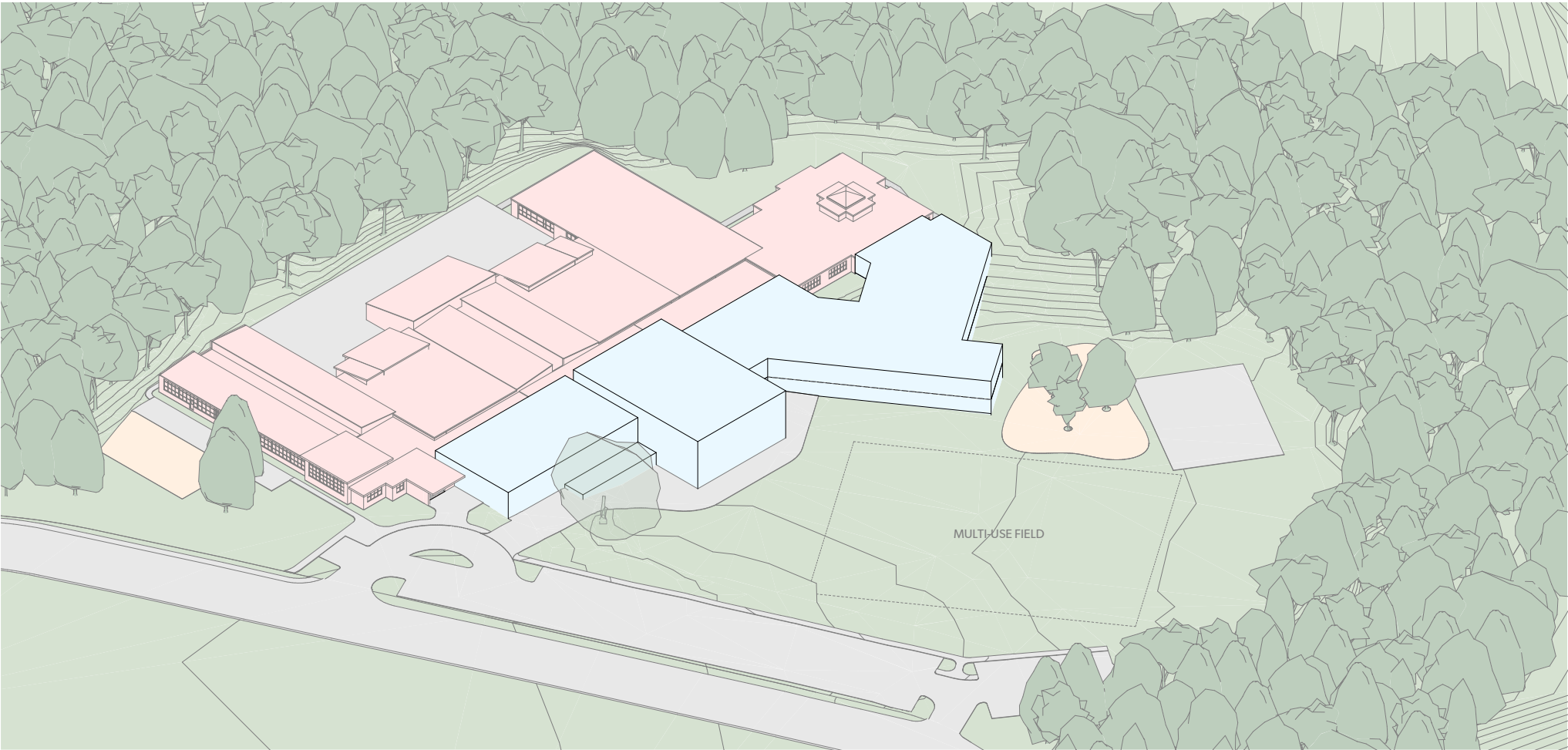
Renovation Gross Square Feet	±79,331
Addition Gross Square Feet	±35,814
Gross Square Feet (GSF)	±115,145
Net Square Feet (NSF)	±71,235
Circulation & Support (Gross Up Area)	±43,910
Gross Up Multiplier	1.62
Capacity	628 Students
GSF per Student	183.35 GSF / Student
Classrooms	30

Total Project Cost	\$98,309,723
	\$854/SF

Option 2A: Program Totals + (Phase 2)

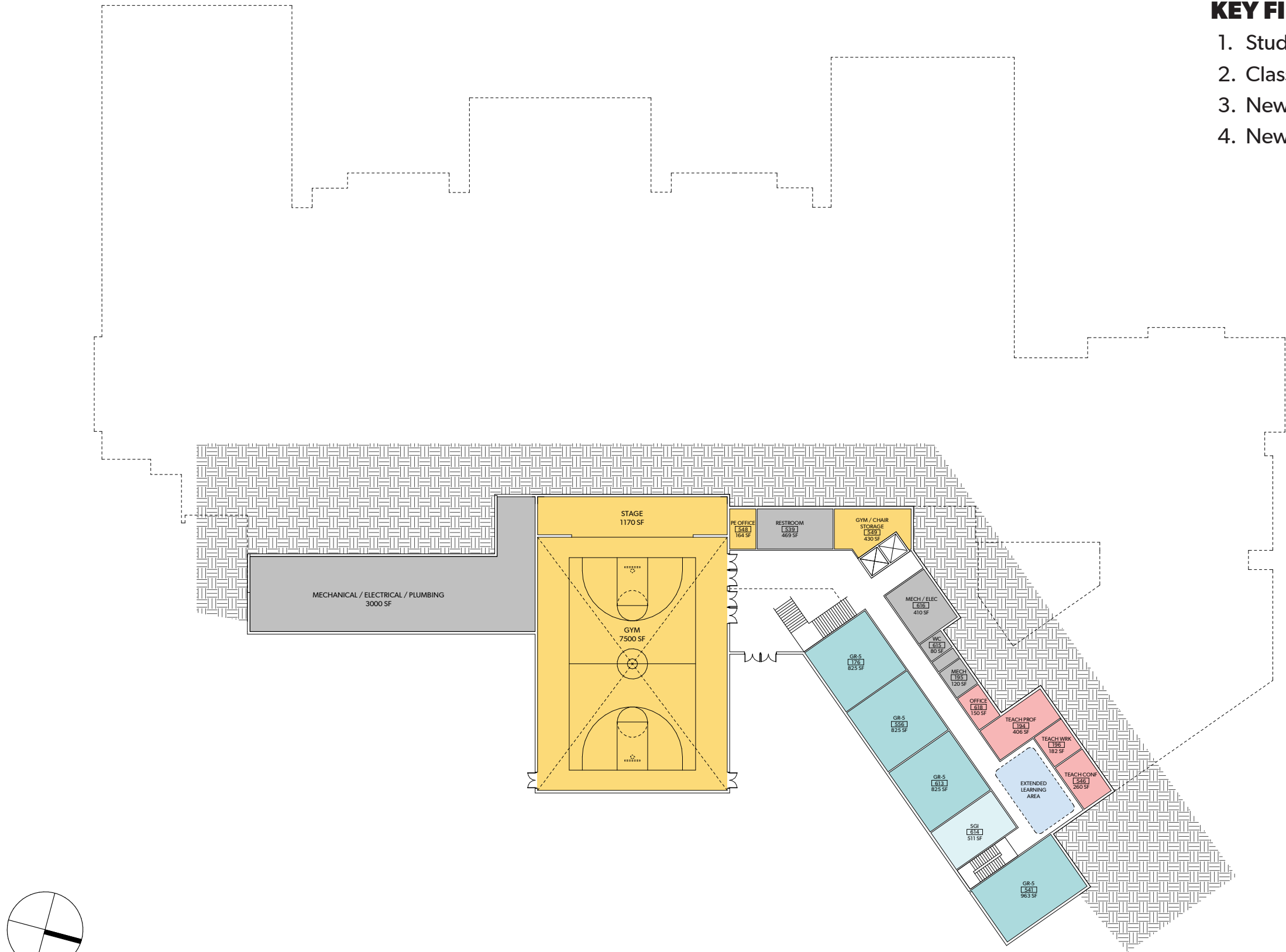
Renovation Gross Square Feet	±79,331
Addition Gross Square Feet	±35,814
(Phase 2) Gross Square Feet (GSF)	±8,520
(Phase 2) Classrooms	6
Total Gross Square Feet (GSF)	±123,665
Total Classrooms	36
Capacity	766 Students

Total Project Cost	\$103,807,924
	\$839/SF



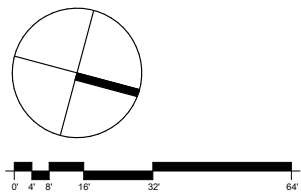
KEY FINDINGS - RENOVATION + ADDITION

- 1. Student capacity is increased from the current enrollment
- 2. Classrooms are generally designed to 100% of Ed Spec
- 3. New Gymnasium & Stage
- 4. New Cafeteria, Kitchen / Servery & Loading / Receiving



Space Typology

- CLASSROOMS
- RESOURCE
- ADMIN / GUIDANCE
- ARTS
- SHARED LEARNING
- ATHLETICS
- CUSTODIAN / BUILDING SERVICES
- RESTROOMS



Option 2 - Renovation + Addition: Floor Plan - Level 1

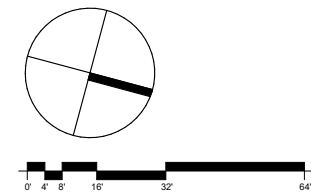
KEY FINDINGS - RENOVATION + ADDITION

- 1. Student capacity is increased from the current enrollment
- 2. Classrooms are generally designed to 100% of Ed Spec
- 3. New Gymnasium & Stage
- 4. New Cafeteria, Kitchen / Servery & Loading / Receiving

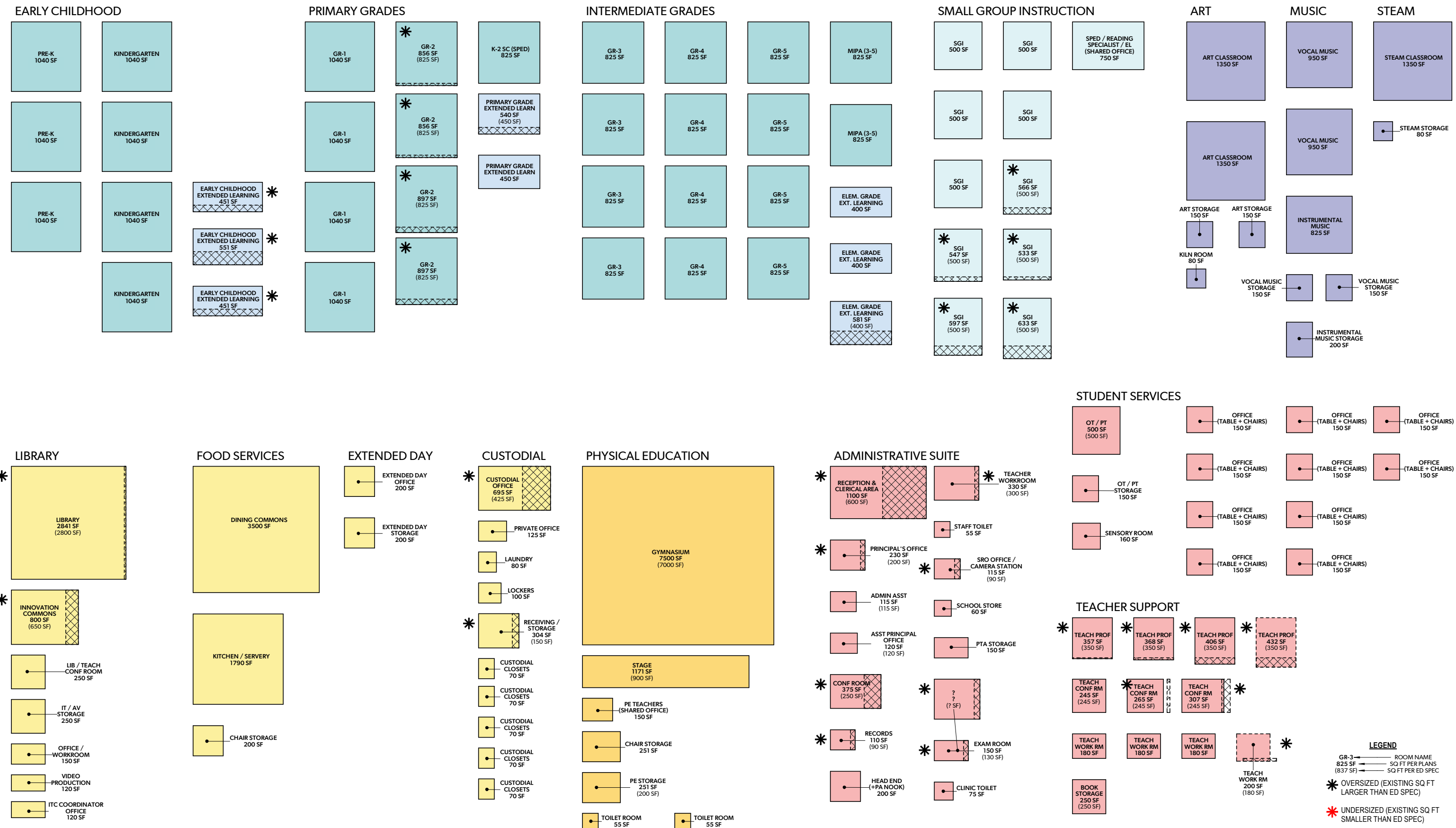


Space Typology

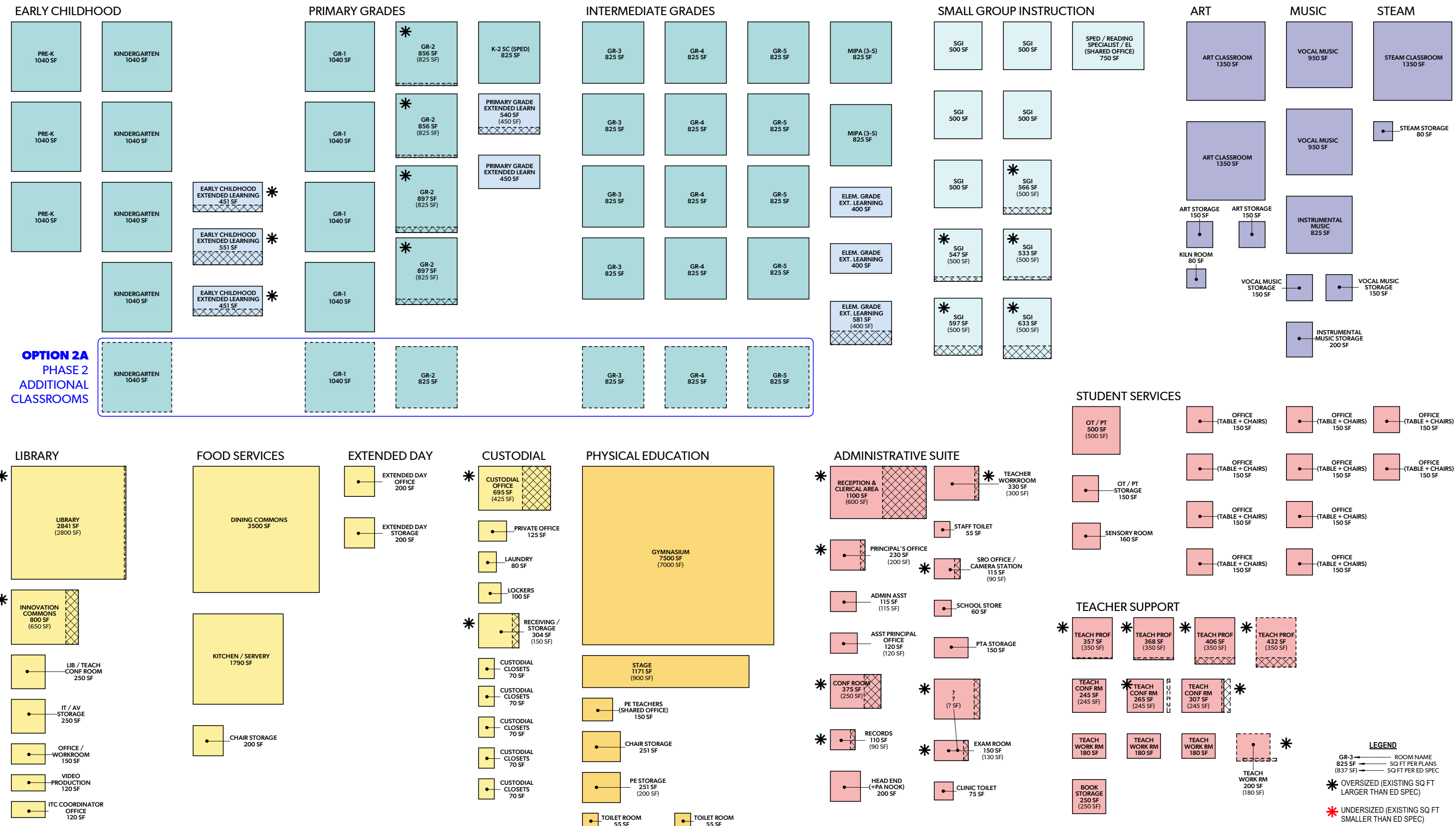
- CLASSROOMS
- RESOURCE
- ADMIN / GUIDANCE
- ARTS
- SHARED LEARNING
- ATHLETICS
- CUSTODIAN / BUILDING SERVICES
- RESTROOMS



Option 2 - Renovation + Addition: Graphic Program



Option 2A - Renovation + Addition: Graphic Program



Building Envelope

- Replacement of existing standing seam metal roof and bitumen rolled roofing systems to meet Virginia Energy Code.
- Replacement of all window and door systems to meet Virginia Energy Code.
- Repointing of cracked mortar joints at existing window lintels.
- New sealant and flashing be installed at exterior wall penetrations.
- New bitumen rolled roofing system at addition.
- New brick cladding, to match look of existing exterior, at addition.

Structure

- Reinforce existing roof joists by installing additional joists in between existing joists to accommodate additional loading from new PV panels.
- Addition will be steel-framed with composite deck concrete slabs. Concrete walls to be buried at change in elevation to retain soils.
- To create a column-free space at the gym, long span open-web steel joists spanning between new CMU walls.
- The lateral system for the addition shall be load-bearing CMU walls to match the existing building.
- The Addition will be structurally independent from the existing building, with an expansion joint at the interface.
- Approximately 100 LF of underpinning at the interface between the existing building and the addition.
- New concrete strip footings for load bearing CMU walls at the frost depth or dropped to match elevation of adjacent existing footings.
- For pricing purposes, assume 10psf for steel framing and 3psf for braced frames. The composite deck can be assumed to be 3-1/4" lightweight concrete on 2" metal deck.

Transportation

- Enlarge existing parking lot to separate the bus loop from the staff parking lot and increase the parking capacity from 76 to 91 spaces while maintain the existing curb cuts on N Stuart Street.
- Build appropriate pedestrian facilities to accommodate the location of new ADA parking spaces to meet the Arlington County and ADA standards.

Other

- Demolish existing trailer classrooms.
- Abandon temporary utility connections for trailer classrooms.
- Landscaping work necessary to fill in area of field where existing trailers will be demolished.
- Replace exterior paving and install appropriate railings across the campus.
- Approximately 200 LF of SOE along existing building line to allow for installation of basement at joint between addition and existing building.
- Temporary food service and gymnasium facilities to be used during gymnasium and cafeteria replacement.
- Temporary swing space to be used during renovation.

MEP – Mechanical

- Test and refurbish existing 84 well ground-source system, plus install 50 additional ground-source wells.
- Replace existing ducting to accommodate new room layout and extend ducting system to accommodate addition.
- Replace existing 120-ton open cooling tower, variable speed condenser water distribution pumps, distributed water-source heat pumps, five (5) constant volume rooftop DOAS units, two (2) air-cooled heat pump rooftop units serving multipurpose room, and two (2) water-cooled heat pump rooftop units serving gym in kind.
- Replace plate and frame heat exchanger between open loop and closed loop condenser water systems.
- Replace (2) natural gas boilers with high efficiency natural gas condensing boilers (1240 MBH each).
- New water-source heat pumps and two (2) constant volume rooftop DOAS units to condition the spaces throughout the addition
- A web based DDC Building Automation System (BAS) will be provided for control, monitoring, scheduling and trending of MEP equipment.

MEP – Electrical

- New electrical service 4000A, 3-Phase, 480V.
- New main electrical room on Lower Level with two (2) new distribution electrical closets.
- New 40-60KW Gas fired emergency Generator for emergency and standby loads.
- New addressable fire alarm system with voice evacuation devices.
- New LED lighting fixtures and controls.

MEP – Plumbing

- Provide a new 4-inch sanitary outfall to serve the addition with new duplex sewage ejector pump for sanitary waste.
- Provided a new wet-pipe fire suppression system to provide full coverage in each space.
- New downspout boots at grade or new roof drains to tie into site storm systems for the addition. Horizontal storm water piping above the ceiling as needed to reach existing storm water system.
- New elevator sump pump with oil minder
- New foundation drainage system tied to the existing site storm system by gravity.
- New groundwater sump pump at new utility space.
- Extend domestic water, sanitary and vent distribution to new plumbing fixtures.

Option 2 - Renovation + Addition: Program Analysis

1.1 EARLY CHILDHOOD		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Pre-K (plus Toilet & Changing Table)	1,040	3	3,120	16.00	48.00
B	Kindergarden (plus Toilet)	1,040	4	4,160	23.00	92.00
C	FLEX (Flexible Classroom)	-	0	-	23.00	0.00
					7,280	140
1.2 PRIMARY GRADES 1-2		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	1st Grade Classroom (plus Toilet)	1,040	4	4,160	23.00	92.00
B	2nd Grade Classroom	876	4	3,504	23.00	92.00
C	K-2 Self-Contained SPED (plus Toilet)	825	1	825	16.00	16.00
					8,489	200
		*Excluded from Existing Calculations				
1.3 INTERMEDIATE GRADES 3-5		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	3rd Grade Classroom	825	4	3,300	23.00	92.00
B	4th Grade Classroom	825	4	3,300	23.00	92.00
C	5th Grade Classroom	825	4	3,300	23.00	92.00
D	MIPA - Intermediate Grades 3-5 (plus Toilet)	825	2	1,650	6.00	12.00
					11,550	288
		*Excluded from Existing Calculations (Learning Cottages)				
2.1 EXTENDED LEARNING AREA		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Early Childhood Extended Learning Area (COMMONS)	350	2	700	0.00	0.00
B	Primary Grade Extended Learning Area (COMMONS)	450	2	900	0.00	0.00
C	Elementary Grade Extended Learning Area (COMMONS)	400	3	1,200	0.00	0.00
D	SPED / READING SPECIALIST / EL (SHARED OFFICE)	750	1	750	0.00	0.00
					2,800	0
2.2 SGI		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Small Group Instruction	538	10	5,384	0.00	0.00
					5,384	0
		Classrooms - Building Capacity				
		30	35,503	628.00		
3.1 ADMINISTRATIVE SUITE		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Reception / Clerical Area	1,100	1	1,100	0.00	0.00
B	Principal's Office	230	1	230	0.00	0.00
C	Principal's Administrative Ass't Office (Admin Hub)	115	1	115	0.00	0.00
D	Assistant Principal's Office	125	1	125	0.00	0.00
E	Conference Room	375	1	375	0.00	0.00
F	Record Storage	110	1	110	0.00	0.00
G	Head End (+PA Nook)	200	1	200	0.00	0.00
H	Teacher Workroom	330	1	330	0.00	0.00
I	Staff Toilet	55	1	55	0.00	0.00
J	Clinic w/toilet	400	1	400	0.00	0.00
K	Clinic - Exam Room	130	1	130	0.00	0.00
L	Clinic - Toilet	64	1	64	0.00	0.00
M	SRO Office / Camera Station	115	1	115	0.00	0.00
N	School Store	70	1	70	0.00	0.00
O	PTA Storage	150	1	150	0.00	0.00
					3,569	0
3.2 STUDENT SERVICES		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Office + Table w/ 4 Chairs	150	10	1,500	0.00	0.00
B	Occupational Therapy / Physical Therapy	500	1	500	0.00	0.00
C	OT / PT - Storage	170	1	170	0.00	0.00
D	Sensory Room	160	1	160	0.00	0.00
					2,330	0
3.3 TEACHER SUPPORT (DISTRIBUTED)		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Teacher Conference Room	272	3	817	0.00	0.00
B	Teacher Professional / Itinerant Teacher Space, plus Kit.	390	4	1,561	0.00	0.00
C	Teacher Work Room with Copier	188	5	940	0.00	0.00
D	Book Storage	250	1	250	0.00	0.00
					3,568	0
		Administrative / Guidance Totals				
		9,467				

4.1 ART CLASSROOMS		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Art Classroom	1,350	2	2,700	0.00	0.00
B	Art Storage	160	2	320	0.00	0.00
C	Kiln Room	90	1	90	0.00	0.00
					3,110	0
4.2 MUSIC CLASSROOMS		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Vocal Music	950	2	1,900	0.00	0.00
B	Vocal Music - Storage	150	2	300	0.00	0.00
C	Instrumental Music	840	1	840	0.00	0.00
D	Instrumental Music - Storage	200	1	200	0.00	0.00
					3,240	0
4.3 STEAM CLASSROOMS		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	STEAM Classroom	1,350	1	1,350	0.00	0.00
B	STEAM Storage	80	1	80	0.00	0.00
					1,430	0
		Arts Totals				
		6,350				
5.1 LIBRARY		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Library (9,000 - 12,000 volumes per APS...to be confirmed)	2,840	1	2,840	0.00	0.00
B	Library / Teacher Conference Room	350	1	350	0.00	0.00
C	Video Production	120	1	120	0.00	0.00
D	Office / Workroom	150	1	150	0.00	0.00
E	IT / AV Storage	250	1	250	0.00	0.00
F	ITC Coordinator Office (Instructional Tech.)	120	1	120	0.00	0.00
G	Innovation Commons (located remotely from Library)	800	1	800	0.00	0.00
					4,630	0
5.2 FOOD SERVICES		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Dining Commons	3,500	1	3,500	0.00	0.00
B	Kitchen + Servery (2 Serving Lines)	1,800	1	1,800	0.00	0.00
	Kitchen Office	-	0	-	0.00	0.00
	Refrigerator / Freezer	-	0	-	0.00	0.00
	Dry Storage	-	0	-	0.00	0.00
	Dish Room	-	0	-	0.00	0.00
	Receiving Room	-	0	-	0.00	0.00
	Trash Room	-	0	-	0.00	0.00
C	Chair Storage	200	1	200	0.00	0.00
					5,500	0
5.3 EXTENDED DAY		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Extended Day - Office	200	1	200	0.00	0.00
B	Extended Day - Storage	200	1	200	0.00	0.00
					400	0
5.4 CUSTODIAL / BUILDING MAINTENANCE		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Custodial Office	695	1	695	0.00	0.00
B	Private Office	125	1	125	0.00	0.00
C	Laundry	80	1	80	0.00	0.00
D	Lockers	100	1	100	0.00	0.00
E	Receiving / Storage	200	1	200	0.00	0.00
F	Custodial Closets (w/mop sink)	70	5	350	0.00	0.00
					1,550	0
		Shared Learning - Totals				
		10,530				

6.0 PHYSICAL EDUCATION*		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Gymnasium	7,500	1	7,500	0.00	0.00
B	Stage	1,170	1	1,170	0.00	0.00
C	PE Teachers' Shared Office	160	1	160	0.00	0.00
D	Chair Storage	250	1	250	0.00	0.00
E	PE Storage	250	1	250	0.00	0.00
F	Toilet Room	55	1	55	0.00	0.00
					9,385	0
6.1 CLASS ONE		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Class I Bike - Storage	-	0	-	0.00	0.00
B	Class I Bike - Toilet & Shower	-	0	-	0.00	0.00
					-	0
6.2 PARKS & RECREATION		Option 2: Renovation + Addition				
		Area	Qty	Net SF	Capacity	Total Capacity
A	Parks & Rec. Storage	-	0	-	0.00	0.00
					-	0
		Athletics - Totals				
		9,385				

Option 2: Renovation + Addition

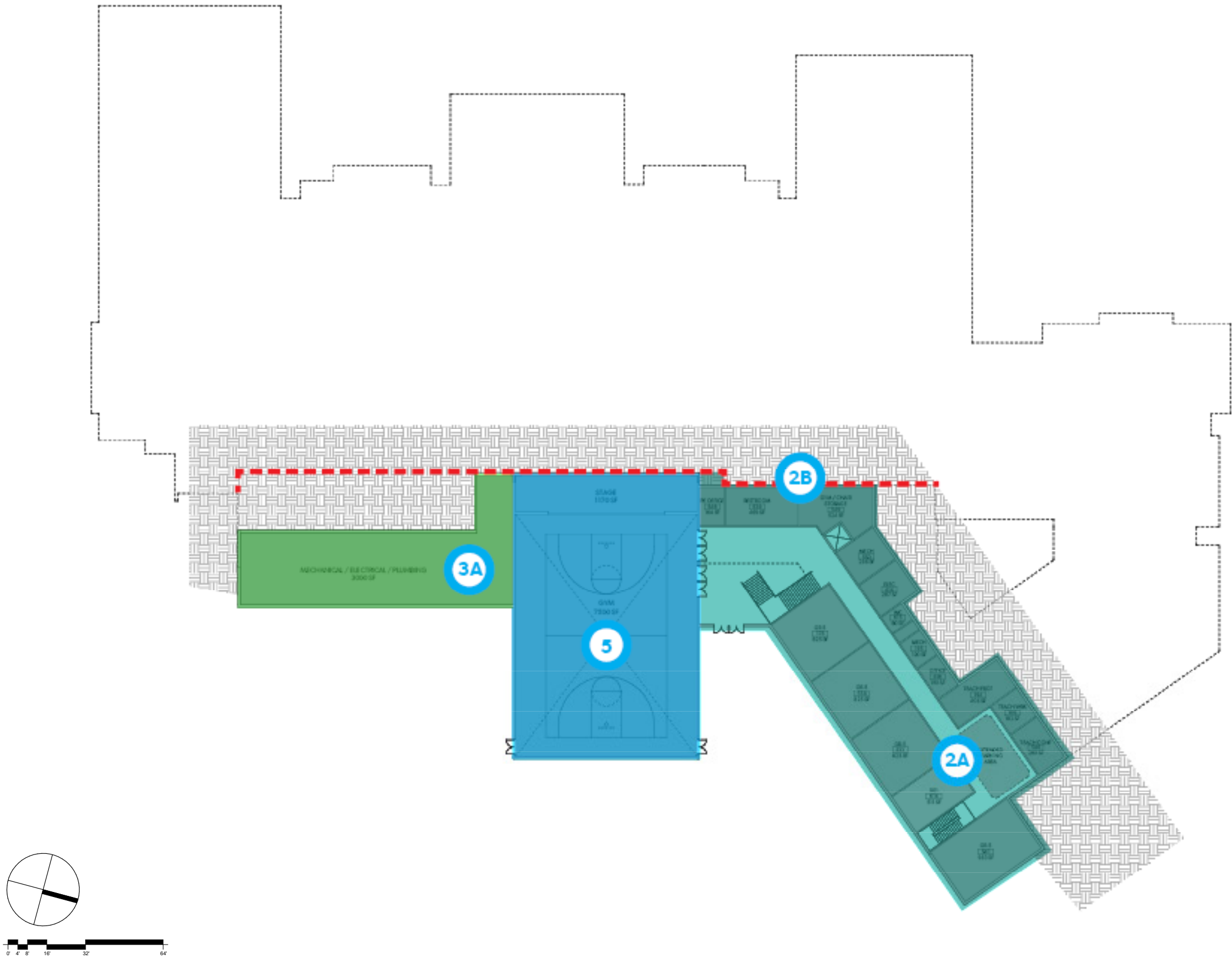
Renovation Gross Square Feet	±79,331
Addition Gross Square Feet	±35,814
Gross Square Feet (GSF)	±115,145
Net Square Feet (NS)	±71,235
Circulation & Support (Gross Up Area)	±43,910
Gross Up Multiplier	1.62
Capacity	628 Students
GSF per Student	183.35 GSF / Student
Classrooms	30

Option 2A: Program Totals + (Phase 2)

Renovation Gross Square Feet	±79,331
Addition Gross Square Feet	±35,814
(Phase 2) Gross Square Feet (GSF)	±8,520
(Phase 2) # Classrooms	6
Total Gross Square Feet (GSF)	±123,665
Total Classrooms	36
Capacity	766 Students

Option 2 - Renovation + Addition: Phasing Plan - Lower Level

APS TAYLOR ES 10-SEPTEMBER 2025



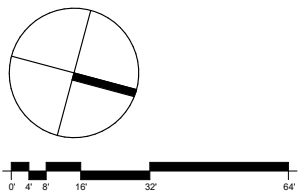
- PHASE 01** - RENOVATE NORTH WING
SUMMER #1 + FALL #1 + SPRING #1
2ND, 3RD & 4TH GRADE MOVE TO TRAILER (~16 CLASSROOMS)
- PHASE 2A** - NEW CONSTRUCTION (ADDITION)
SUMMER #2 + FALL #2 + SPRING #2
1ST, 2ND & 3RD GRADE MOVE INTO RENOVATED SECTION (PHASE 01).
4TH GRADE REMAIN IN TRAILERS
- PHASE 2B** - UNDERPINNING & SOE WORK
SUMMER #2
- PHASE 3A** - DINING COMMONS WORK
SUMMER #3
- PHASE 3B** - KITCHEN & CUSTODIAN
SUMMER #3 + FALL #3 - MAY STILL NEED FOOD DELIVERED OR TEMP. KITCHEN
- PHASE 04** - RENOVATE SOUTH WING
FALL #3 + SPRING #3 + SUMMER #4
1ST, 2ND, 3RD, 4TH & 5TH MOVE INTO FINAL CLASSROOMS
PRE-K, K, ADMIN & LIBRARY NEED TRAILER (~8 CLASSROOMS)
- PHASE 05** - GYM REPLACEMENT
SUMMER #4 + FALL #4

Option 2 - Renovation + Addition: Phasing Plan - Level 1

APS TAYLOR ES 10-SEPTEMBER 2025



- PHASE 01 - RENOVATE NORTH WING**
SUMMER #1 + FALL #1 + SPRING #1
2ND, 3RD & 4TH GRADE MOVE TO TRAILER (~16 CLASSROOMS)
- PHASE 2A - NEW CONSTRUCTION (ADDITION)**
SUMMER #2 + FALL #2 + SPRING #2
1ST, 2ND & 3RD GRADE MOVE INTO RENOVATED SECTION (PHASE 01).
4TH GRADE REMAIN IN TRAILERS
- PHASE 2B - UNDERPINNING & SOE WORK**
SUMMER #2
- PHASE 3A - DINING COMMONS WORK**
SUMMER #3
- PHASE 3B - KITCHEN & CUSTODIAN**
SUMMER #3 + FALL #3 - MAY STILL NEED FOOD DELIVERED OR TEMP. KITCHEN
- PHASE 04 - RENOVATE SOUTH WING**
FALL #3 + SPRING #3 + SUMMER #4
1ST, 2ND, 3RD, 4TH & 5TH MOVE INTO FINAL CLASSROOMS
PRE-K, K, ADMIN & LIBRARY NEED TRAILER (~8 CLASSROOMS)
- PHASE 05 - GYM REPLACEMENT**
SUMMER #4 + FALL #4



03.3

OPTION 3 & 3A - NEW BUILD

Design Goals

- Utilize existing school for swing
- Locate gym and lower school classrooms near play
- Locate kitchen & dining near loading dock
- Balance compact footprint with vertical circulation for students
- Adjust parking area to allow for on-site drop off and bus-parking

MEP Considerations

- Assumes the building is designed to meet an EUI of 22
- All new MEP systems and distribution will be provided
- Approximately 110 geothermal wells added. Existing wells abandoned.
- Planning for water-source heat pumps, w/ distributed closets
- Assumes roof-mounted DOAS units with heat recovery



Option 3: New Build

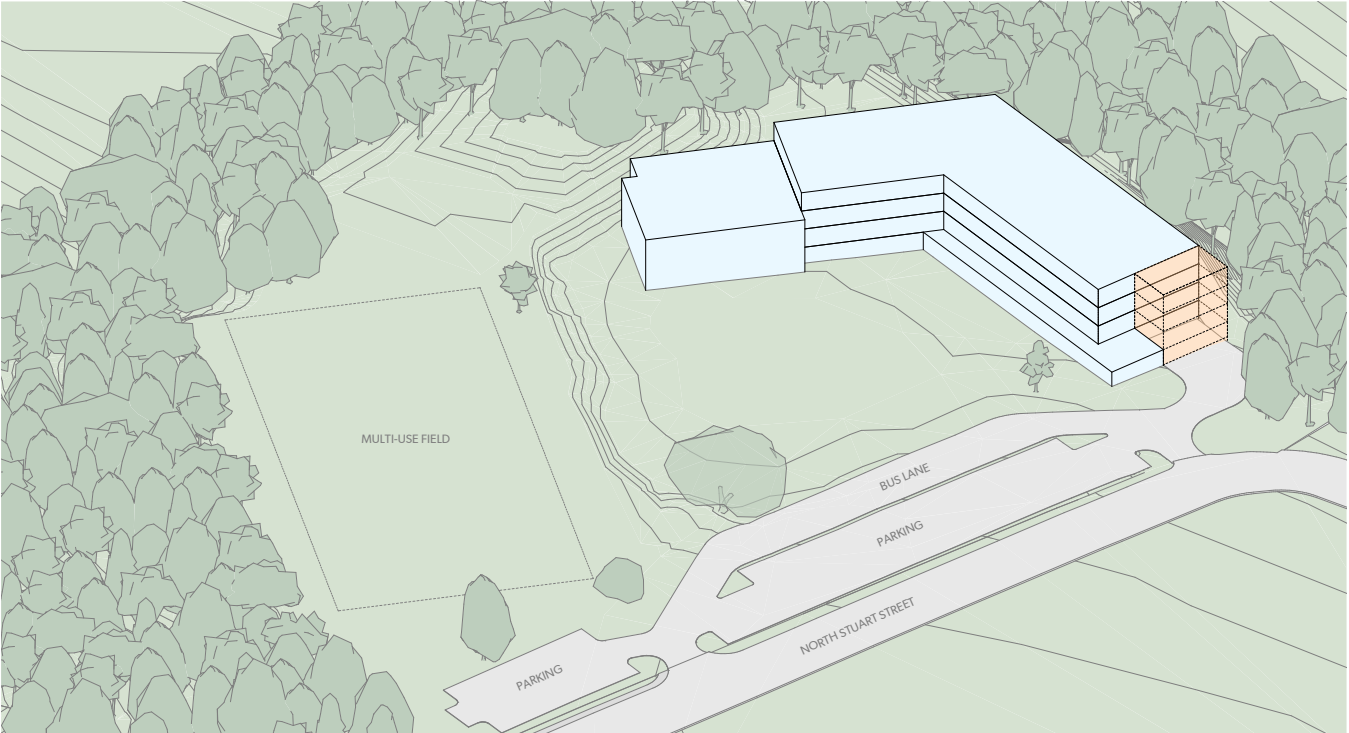
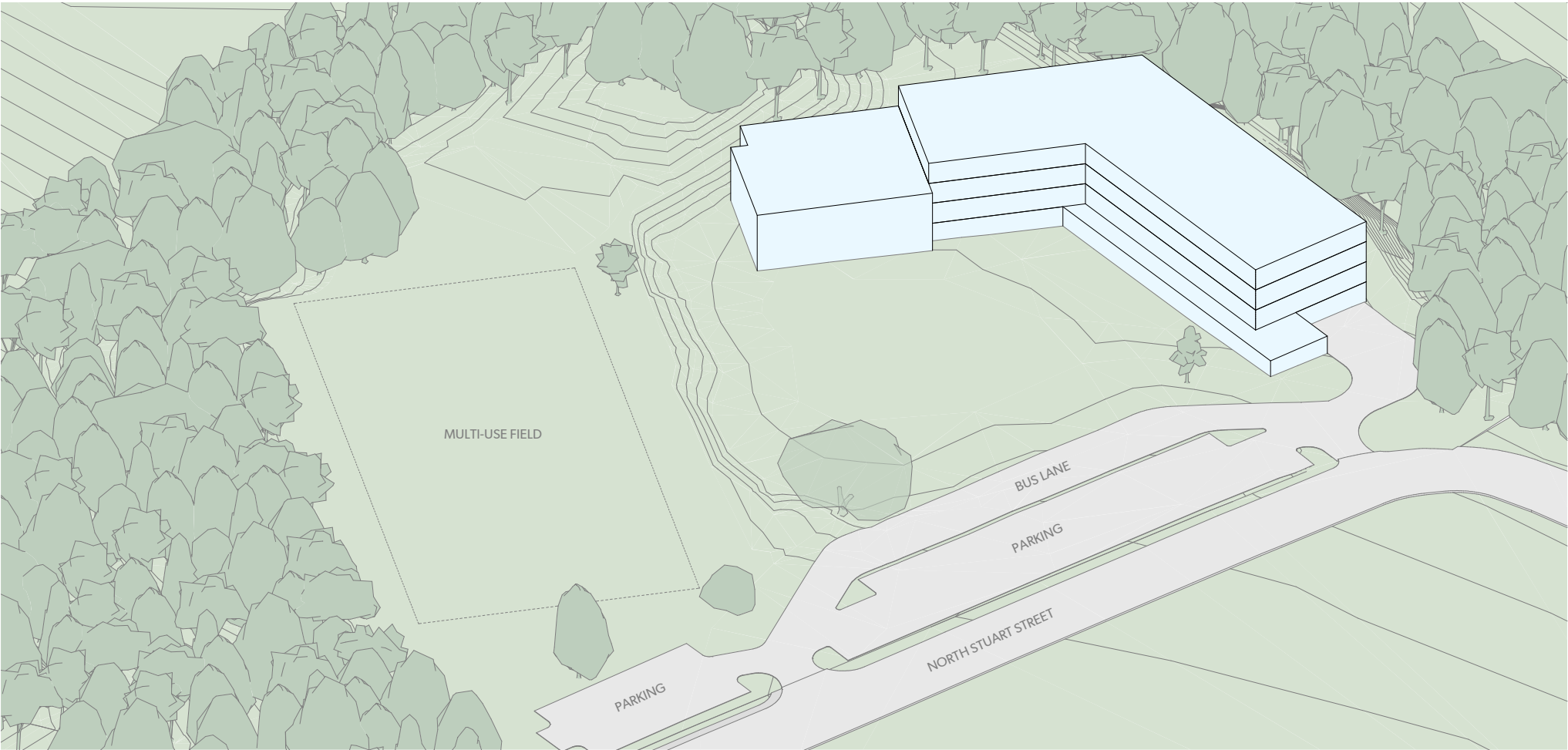
Gross Square Feet (GSF)	±110,595
Capacity	628 Students

Option 1: Program Totals

Net Square Feet (NSF)	±74,692
Circulation & Support (Gross Up Area)	±35,903
Gross Square Feet (GSF)	±110,595
Gross Up Multiplier	1.48
Capacity	628 Students
GSF per Student	176.11 GSF / Student
Classrooms	30
Total Project Cost	\$103,719,593
	\$938/SF

Option 3A: Program Totals + (Phase 2)

(Phase 2) Gross Square Feet (GSF)	±8,510 (inc'l circulation)
(Phase 2) Classrooms	6
Total Gross Square Feet (GSF)	±119,104
Total Classrooms	36
Capacity	766 Students
Total Project Cost	\$111,120,499
	\$933/SF



Option 3 - New Build: Floor Plans

Level 1

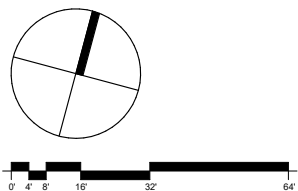


Level 2











KEY FINDINGS - RENOVATION + ADDITION

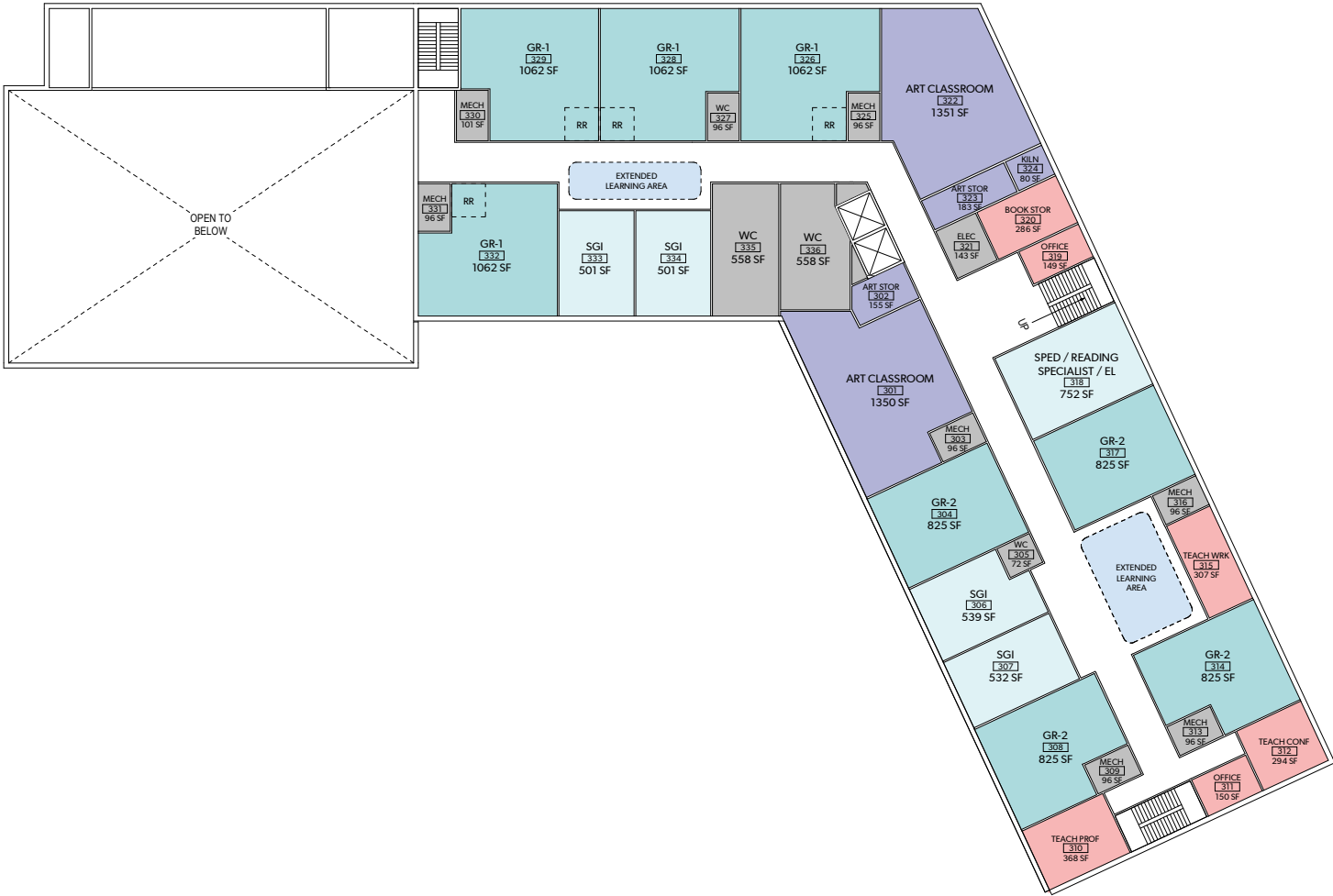
1. Student capacity is increased from the current enrollment
2. Classrooms are designed to 100% of Ed Spec



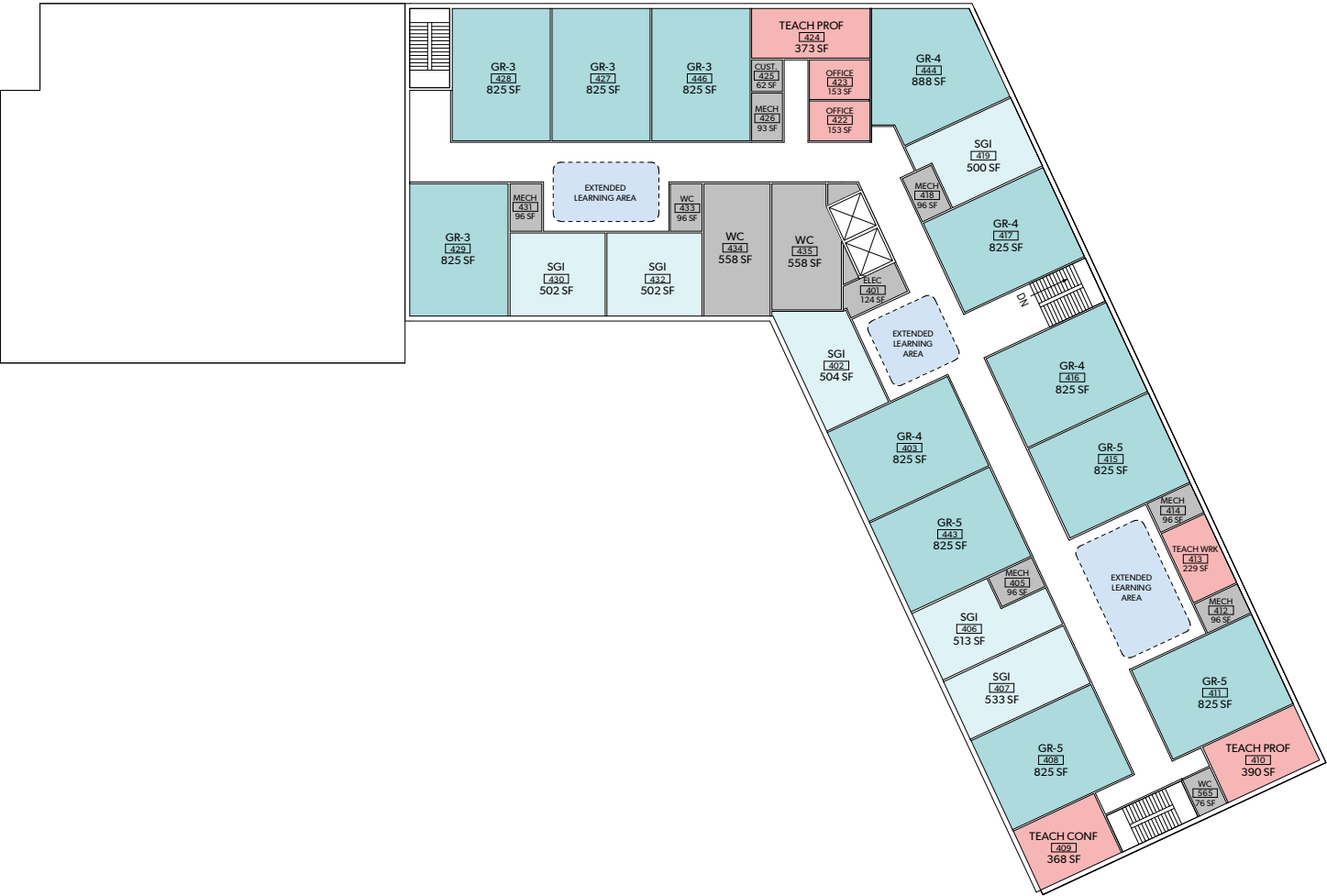
Space Typology

-  CLASSROOMS
-  RESOURCE
-  ADMIN / GUIDANCE
-  ARTS
-  SHARED LEARNING
-  ATHLETICS
-  CUSTODIAN / BUILDING SERVICES
-  RESTROOMS

Level 3



Level 4

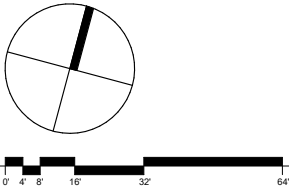


KEY FINDINGS - RENOVATION + ADDITION

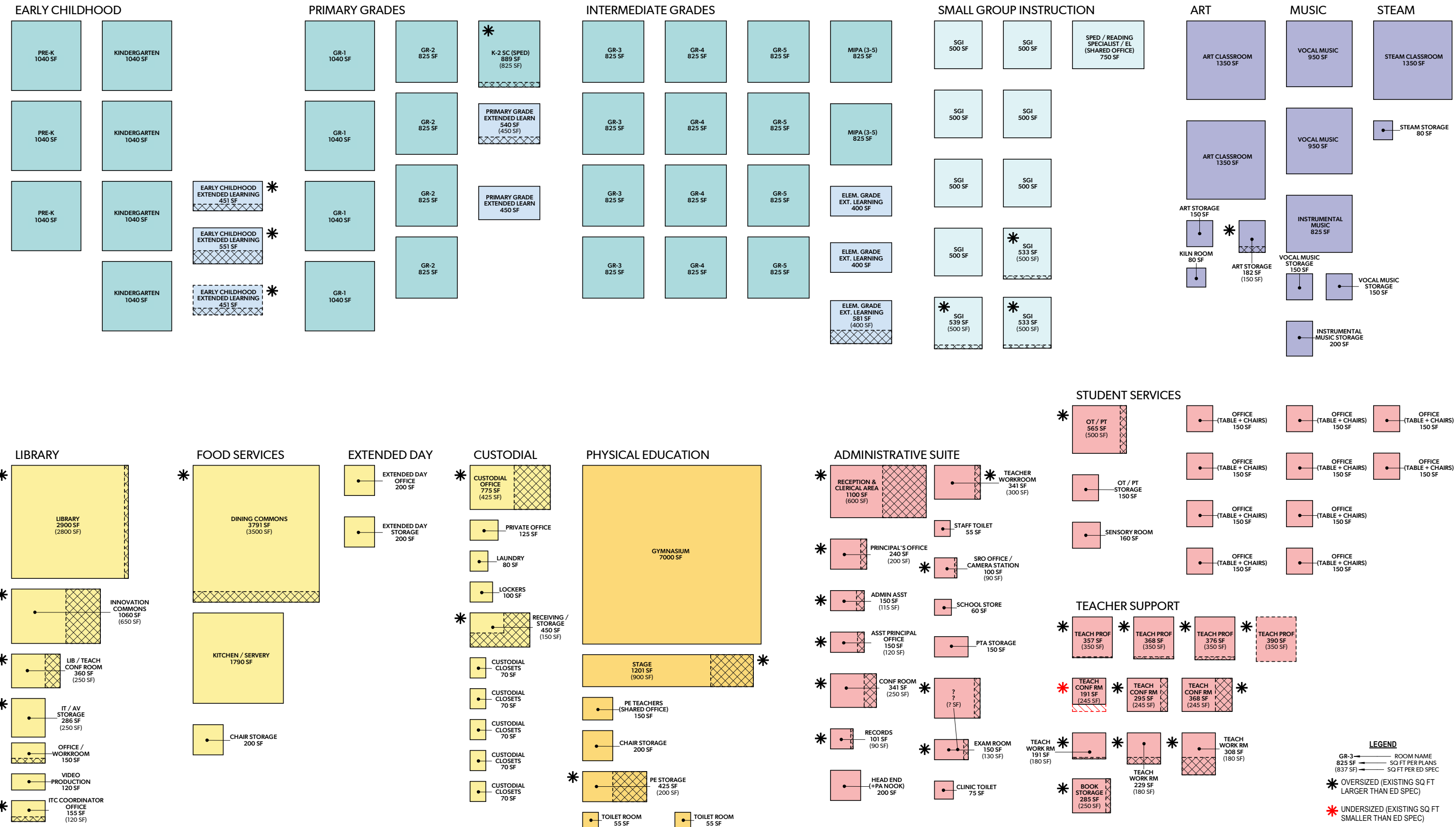
- 1. Student capacity is increased from the current enrollment
- 2. Classrooms are designed to 100% of Ed Spec

Space Typology

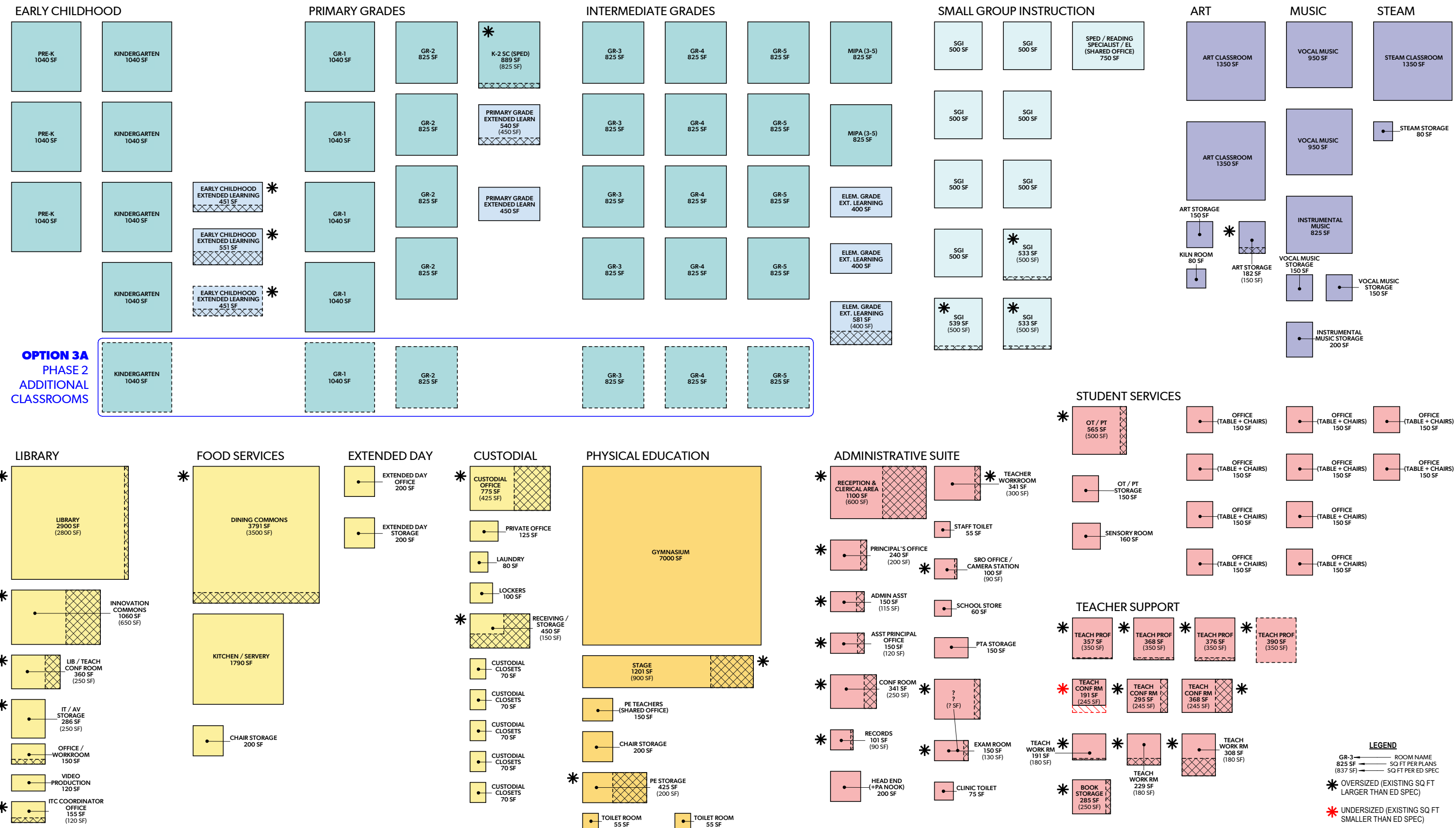
- CLASSROOMS
- RESOURCE
- ADMIN / GUIDANCE
- ARTS
- SHARED LEARNING
- ATHLETICS
- CUSTODIAN / BUILDING SERVICES
- RESTROOMS



Option 3 - New Build: Graphic Program



Option 3A - New Build: Graphic Program



Building Envelope

- Bitumen rolled roofing system with insulation to meet Virginia Energy Code.
- Cladding system to meet Virginia Energy Code and with approximately 27% of window coverage across all exterior walls.

Structure

- Structure will be steel-framed with composite deck concrete slabs.
- The lateral system will consist of ordinary steel braced frames.
- Long span open web steel joists will frame out the gymnasium to create a column-free space.
- The roof would be untopped metal roof deck designed to support PV panels.
- The building set back at the dining room will require columns extending through the space to avoid a column transfer.
- For pricing purposes, assume 10psf for steel framing and 3psf for braced frames. The composite deck can be assumed to be 3-1/4" lightweight concrete on 2" metal deck.

MEP – Mechanical

- New Ground-source system with 110 wells (assuming 2.5 ton per well @ 600' deep)
- Distributed water-source heat pumps
- Variable volume water-source rooftop DOAS unit (17,000 CFM)
- Two (2) Water-source heat pump rooftop units serving gym

MEP – Electrical

- New electrical service 4000A, 3-Phase, 480V.
- New 40-60KW Gas fired emergency Generator for emergency and standby loads.
- New addressable fire alarm system with voice evacuation devices.
- New LED lighting fixtures and controls.
- New BAS to interface with new and existing MEP equipment and systems.

MEP – Plumbing

- New 4-inch domestic water service line with water meter and new domestic hot and cold water lines.
- New high-efficiency plumbing fixtures with appropriate water filtration components throughout.
- New 6-inch fire service connection to the main to serve new fire suppression system with a 40-HP fire pump and 5-HP jockey pump to maintain pressure in the sprinkler system. A NFPA 14 standpipe system is required in the new building as the greatest distance from the lowest level of fire fighter access to the highest occupied floor level exceeds 30-feet.
- New 6-inch sanitary connection to the city main.
- New 3-inch gas connection to the city main.

Transportation

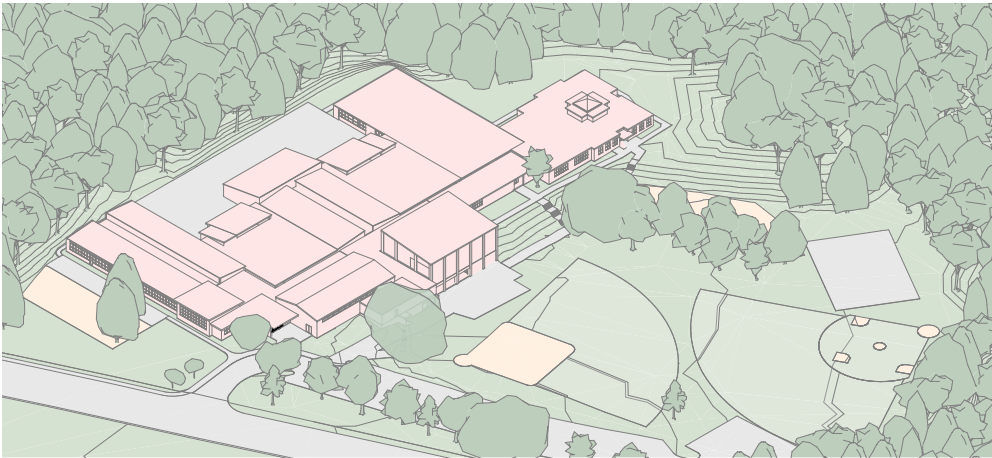
- Enlarge existing parking lot to separate the bus loop from the staff parking lot and increase the parking capacity from 76 to 92 spaces while maintaining the existing curb cuts on N Stuart Street.
- Build appropriate pedestrian facilities to accommodate the location of new ADA parking spaces to meet the Arlington County and ADA standards.

Other

- Demolish existing trailer classrooms and existing building.
- Abandon temporary utility connections for trailer classrooms.
- Landscaping work necessary to re-grade the site to allow for new fields to be installed in place of existing building.
- New playgrounds to replace existing playgrounds.
- New exterior paving with ADA compliant railings

04.

SUMMARY OF OPTIONS

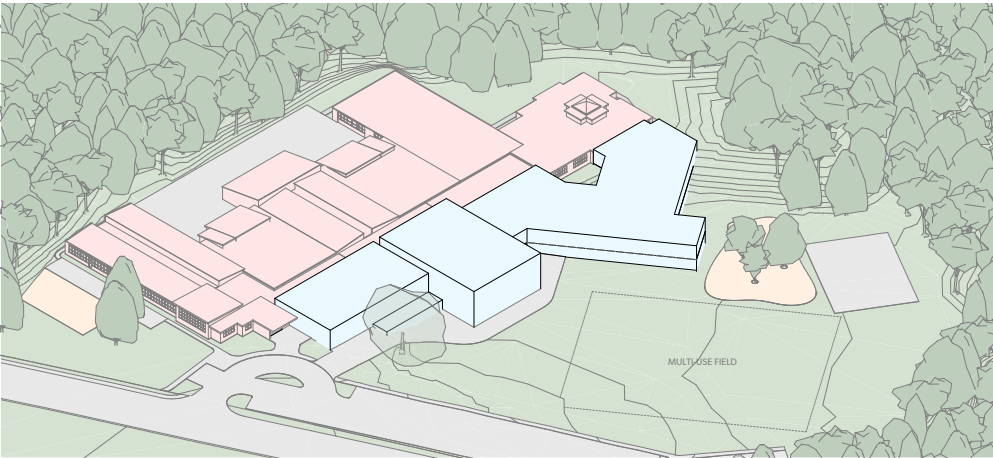
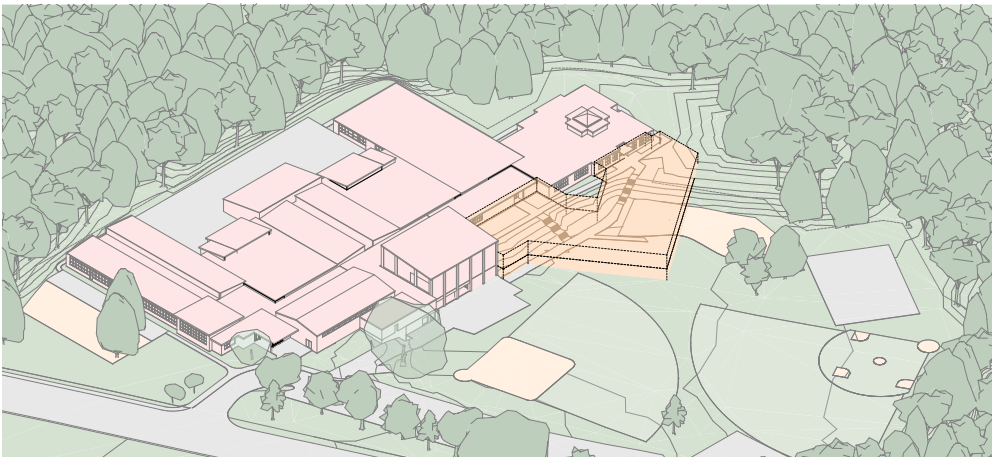


Option 1: Renovation

Net Square Feet (NSF)	53,807
Circulation & Support (Gross Up Area)	25,524
Gross Square Feet (GSF)	±79,331
Gross Up Multiplier	1.47
Capacity	376 Students
GSF per Student	211 GSF / Student
Classrooms	18

Option 1A: Renovation + Classroom Addition

Addition Gross Square Feet	31,299 GSF
Addition Classrooms	13
Total Gross Square Feet (GSF)	±110,550
Total # Classrooms	30
Capacity	628 Students

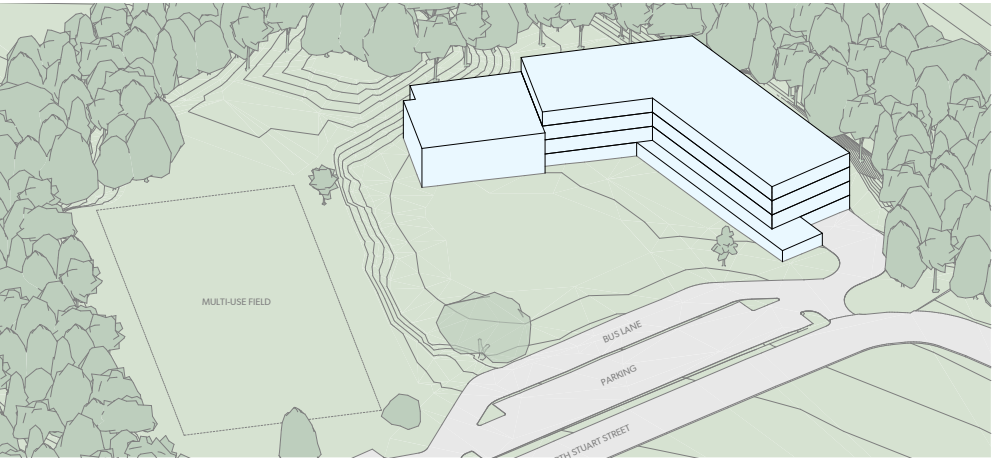
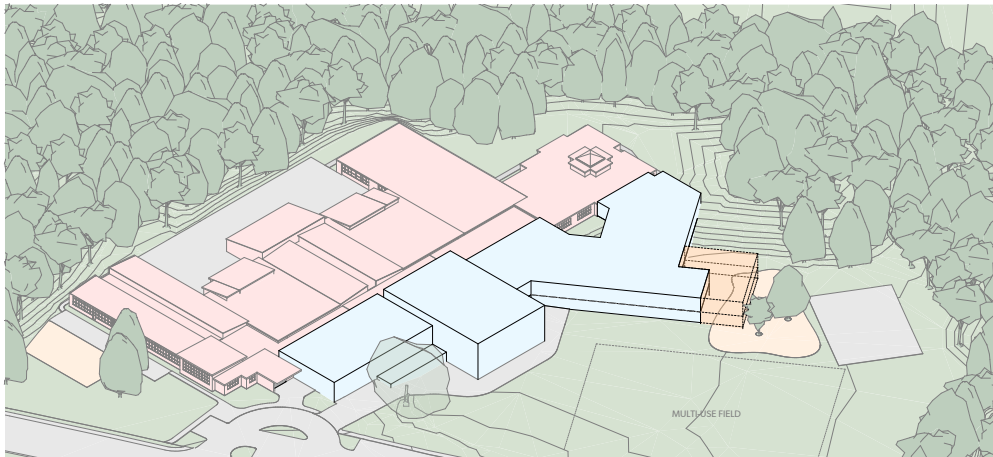


Option 2: Renovation + Addition

Net Square Feet (NSF)	71,235
Circulation & Support (Gross Up Area)	43,910
Gross Square Feet (GSF)	±115,145
Gross Up Multiplier	1.62
Capacity	628 Students
GSF per Student	183.35 GSF / Student
Classrooms	30

Option 2A: Renovation + Addition + (Phase 2)

(Phase 2) Gross Square Feet (GSF)	8,510 (inc'l circulation)
(Phase 2) Additional Classrooms	6
Total Gross Square Feet (GSF)	±123,665
Total # Classrooms	36
Capacity	766 Students

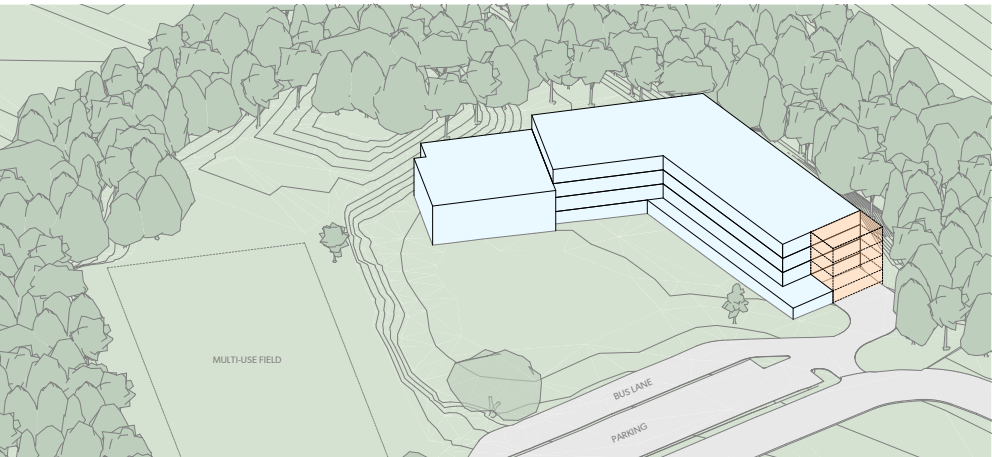


Option 3: New Build

Net Square Feet (NSF)	74,692
Circulation & Support (Gross Up Area)	35,903
Gross Square Feet (GSF)	±110,595
Gross Up Multiplier	1.48
Capacity	628 Students
GSF per Student	176.11 GSF / Student
Classrooms	30

Option 3A: New Build + (Phase 2)

(Phase 2) Gross Square Feet (GSF)	8,510 (inc'l circulation)
(Phase 2) Additional Classrooms	6
Total Gross Square Feet (GSF)	±119,104
Total # Classrooms	36
Capacity	766 Students



Iteration	Energy Cost		Site EUI		CO2	
	(\$/sqft/yr)	% Savings	(kBtu/sqft/yr)	% Savings	(kg/sqft)	% Savings
Existing Building Data (2021-2023)	\$0.78	-	38.2	-	3.3	-
Renovation	\$0.64	17.6%	33.5	12.2%	1.8	44.6%
Renovation & Addition	\$0.65	17.4%	29.7	22.1%	3.6	-8.5%
New Build - Option 1	\$0.40	48.3%	17.7	53.7%	1.7	49.6%
New Build - Option 2	\$0.45	42.0%	19.8	48.2%	1.9	43.6%
New Build - Option 3	\$0.53	32.1%	26.3	31.1%	2.2	33.9%

Renovation has the second highest EUI (33.5 kBtu/sqft/yr) which is 12.2% better than the Existing building. It also has an annual normalized energy cost of 0.64 \$/sqft/yr, being 17.6% better than the Existing building.

Renovation & Addition has an EUI of 29.7 kBtu/sqft/yr, which is 22.1% better than the Existing building. This option is better than Option 1 - Renovation but worse than all New Build options in the Site EUI.

New Build - Option 1: Full GSHP w VAV DOAS & ERV has the lowest Site EUI (17.7 kBtu/sqft/yr), as well as the lowest normalized annual energy cost (0.40 \$/sqft/yr) of all design options. It performs 53.7% better than the Existing building in Site EUI and 48.3% in normalized energy cost.

New Build - Option 2: GSHP & Heat Recovery Chiller w VAV DOAS & ERV has the second lowest Site EUI (19.8 kBtu/sqft/yr), as well as the lowest normalized annual energy cost (0.45 \$/sqft/yr) of all design options. This option has 48.2% Site EUI saving and 42.0% in normalized energy cost saving compared to the Existing building.

New Build - Option 3: Air-Sourced Heat Recovery Chiller w VAV DOAS & ERV has the close-to-average Site EUI (26.3 kBtu/sqft/yr), as well as the close-to-average normalized annual energy cost (0.53 \$/sqft/yr) of all design options. It performs only 31.1% better in Site EUI and 32.1% better in normalized energy cost than the Existing building.

STUDIOS

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