

Leicester School  
Building Project  
November 20, 2019

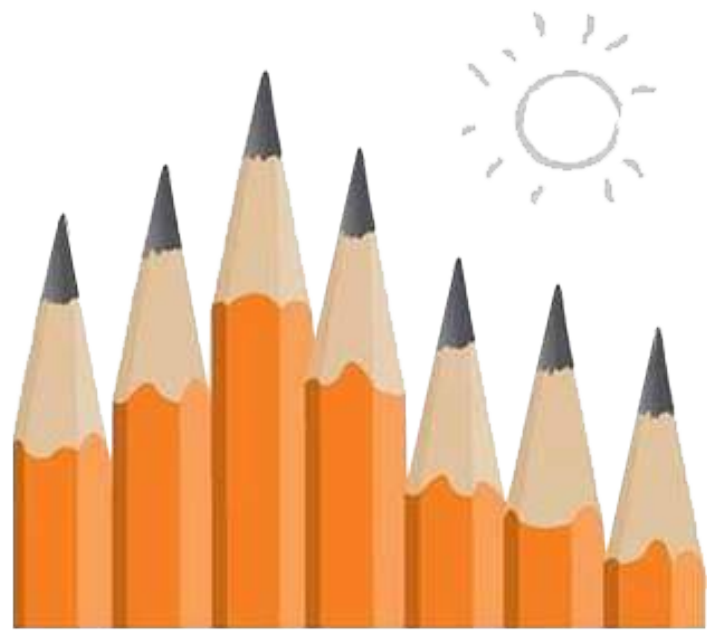


Community Forum # 3  
Leicester School

Mark Armington	Community Member and Engineer
Jeff Berthiaume	Director of Technology and Digital Learning
Tina Boss	School Principal, Elementary School
Harry Brooks	SBC Chair, Member Board of Selectmen
Chris Clark	Community Member and Parent
Chris Fontaine	School Principal, Leicester Middle School
David Genereux	Town Administrator, SBC who is MCPPO certified
Tom Lauder	School Committee
Kristina Looney	Leicester MS Teacher, Music Education
Cady Maynard	Director of Finance and Operations
Dennis McGrail	Finance Advisory Board and Parent
Paul McCarthy	Community Member and Parent
Jim Reinke	Committee Member/Contractor
Marilyn Tencza	School Superintendent
David White	Local Official for Building Maintenance
Eileen Boisvert	Community Member and Parent
Tim Hickey	Community Member and Parent

## School Building Committee Members

August 28, 2019	MSBA Board Vote: Preferred Alternative
August 2019	Begin Schematic Design
February 2020	Complete Schematic Design to MSBA
April 2020	MSBA Board Vote: Project Scope and Budget Agreement
June 6, 2020	Town Meeting – Funding Approval
June 9, 2020	Election

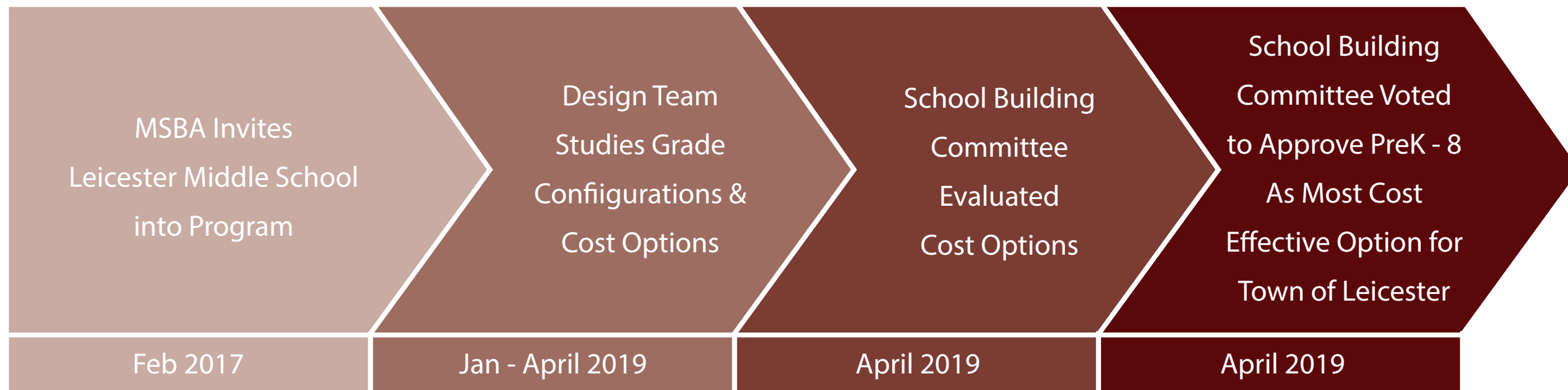


**Massachusetts School  
Building Authority**

2019 Base Reimbursement Rate for Leicester is 59.21%

- Applies only to eligible school project costs
  - Limits site reimbursement
  - Limits size of project and cost/SF
  - Does not apply to auditoriums and playing fields
- Rate may be increased for incentive points
  - Sustainable Design – 2.0% (LEED Silver)
  - Maintenance Program – 1.72%
- Incentive points subject to change by the MSBA

**MSBA Effective Reimbursement Rate**



How Did We Get Here

Grade Configurations / Building Options	Elementary School	Leicester MS	New School - Fields	Total Project Budget Costs (Constr. Costs + Soft Costs)	District Share	State Share	Annual RE Tax Impact (Average Home Assessment of \$244,650)	Remarks
Grades 5-8: Add/Reno to Existing LMS	\$ -	\$ 45,500,000	\$ -	\$ 58,000,000	\$ 28,500,000	\$ 29,500,000	\$ 519	
Grades 5-8: New Stand Alone Building in Fields	\$ -	\$ -	\$ 48,000,000	\$ 60,700,000	\$ 33,900,000	\$ 26,800,000	\$ 617	
Grades PK-8: New Stand-alone PK-8 in Fields (Preferred Option)	\$ -	\$ -	\$ 70,200,000	\$ 87,000,000	\$ 45,500,000	\$ 41,500,000	\$ 832	Preferred Option as discussed by SBC
Grades PK-8: Add/Reno to Existing LMS (PK-8)	\$ -	\$ 62,100,000		\$ 78,000,000	\$ 37,500,000	\$ 40,500,000	\$ 682	
Grades PK-8: Add/Reno to Existing LMS (5-8); Add/Reno to Elementary School (PK-4)	\$ 23,800,000	\$ 45,500,000		\$ 86,500,000	\$ 57,000,000	\$ 29,500,000	\$ 1,037	All Elementary School Costs are District costs; no reimbursement from the State; (2) Separate Schools

Notes/ Frequently Asked Questions (FAQ):

- 1) MSBA will not participate in any construction costs to Elementary School.
- 2) Elementary School Addition/Renovation based upon costs to upgrade school to 21st century learning/ MSBA Guidelines.
- 3) A PK-8 Add/Reno option to the Elementary School is not practical given area and topography limitations.
- 4) Options if vote fails: One option - vote again on same MSBA approved Project (PK-8); otherwise start over.

Building Option/Estimated costs at Feasibility April 2019

	Total Project Cost	State Share (MSBA)	District Share (Leicester)
Renovate Existing Elementary and Middle Schools *	\$31,068,545	\$0	\$31,068,545
New Pre-K - 8 School:	\$87,000,000	\$41,500,000	\$45,500,000

\* Johnson Roberts Maintenance Report - 2014 with Project Cost for 2019 (3% escalation/year)

Visioning Workshop # 1: January 29, 2019  
Visioning Workshop #2: February 5, 2019  
School Tours: February 14, 2019  
Visioning Workshop #3: February 29, 2019  
Faculty Workshop: March 5, 2019



## Guiding Principles for Design

1. Innovation and Engagement
2. Collaboration and Cooperation
3. A Place You Want to Be
4. Community Access
5. Adaptability and Flexibility
6. Outdoor and Nature Connections
7. Sustainability





# LEICESTER MIDDLE SCHOOL SITE PLAN

## LEGEND

- 1** CAMPUS COMMONS
- 2** HARD SURFACE PLAY
- 3** K-5 PLAY
- 4** SCHOOL GARDEN
- 5** SENSORY GARDEN
- 6** AMPHITHEATER COURTYARD (FLEX-USE)
- 7** PRE-K-2 PLAY
- 8** EDUCATIONAL TRAIL
- 9** RENOVATED + NEW TENNIS COURTS
- 10** NEW SOFTBALL FIELD
- 11** SECONDARY ENTRANCE + OUTDOOR DINING
- 12** PRIMARY ENTRANCE + PLAZA
- 13** BASEBALL FIELD
- 14** NEW SYNTHETIC TURF + RECONSTRUCTED TRACK
- 15** BLEACHERS, PRESSBOX CODE RETROFIT
- 16** SERVICE AREA

**PARKING**  
190 SPACES (9' X 18')



# LEICESTER SCHOOL CAMPUS PROPOSED SPORTS LAYOUT

## LEGEND

- 1** YOUTH SOCCER, (3) 50'X80' AND (1) 90'X150'
- 2** BASKETBALL, (1) HALF COURT, (1) FULL COURT
- 3** RECONSTRUCTED TRACK
- 4** SYNTHETIC TURF FIELD, (3X USE, FOOTBALL, SOCCER, FIELD HOCKEY)
- 5** BASEBALL FIELD, 330' OUTFIELD
- 6** VARSITY SOCCER, 195'X330'
- 7** U-12 SOCCER FIELD (210'X135') AND FOOTBALL PRACTICE
- 8** SOFTBALL FIELD, 225' OUTFIELD
- 9** RENOVATED TENNIS COURTS, (4)
- 10** NEW TENNIS COURT (1)

## TRACK AND FIELD EVENTS

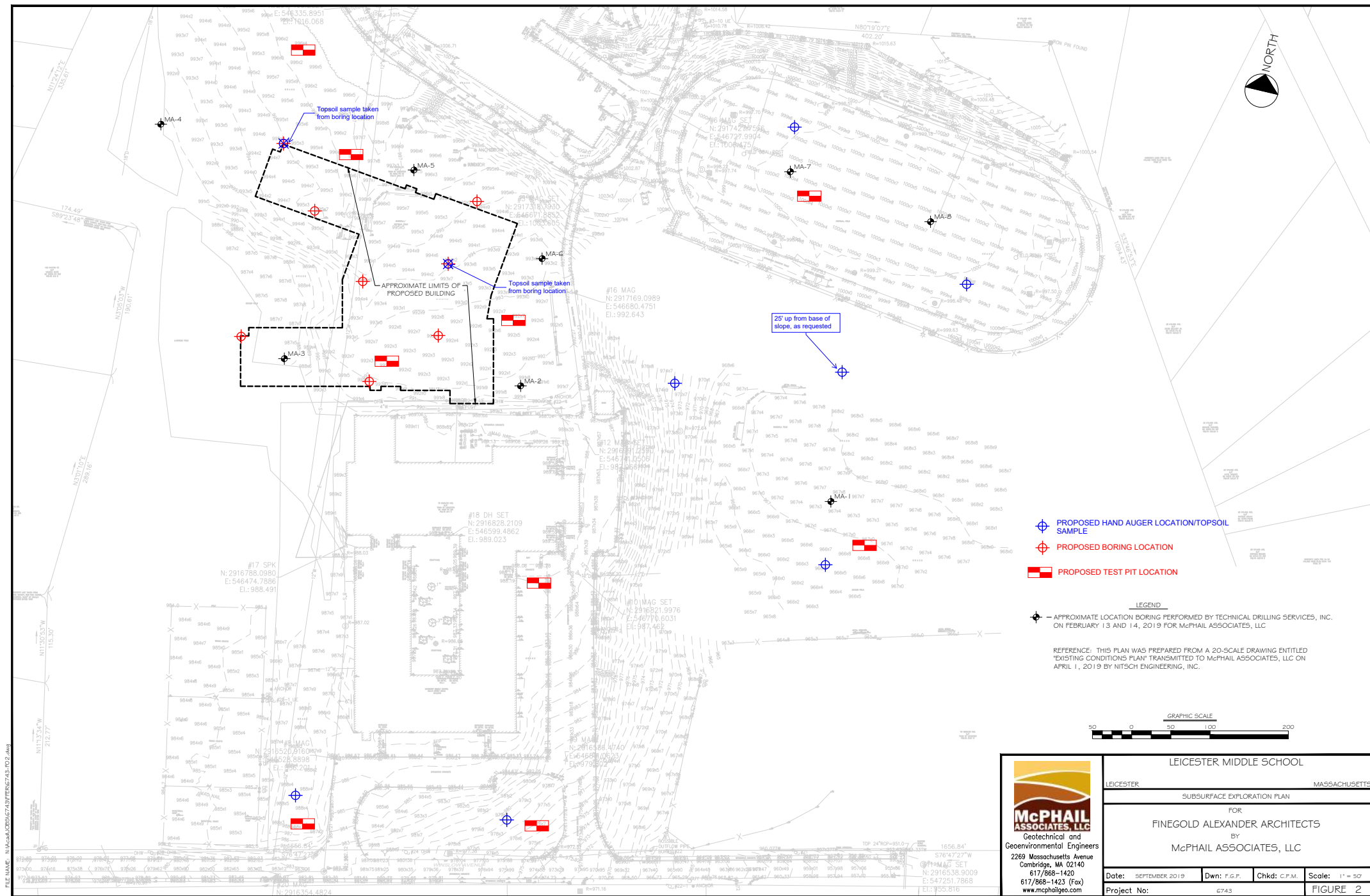
### LEGEND

- A** DISCUS
- B** LONG JUMP
- C** SHOTPUT
- D** JAVELIN
- E** HIGH JUMP

## CROSS COUNTRY

NEW PATHWAYS TO PROVIDE OPPORTUNITIES FOR X-COUNTRY COURSE





# Subsurface Exploration Plan

<b>Project:</b> Leicester Middle School		<b>Job #:</b> 6743.2.00		<b>Boring No.</b>						
<b>Location:</b> 70 Winslow Avenue		<b>Date Started:</b> 3-5-19		<b>MA-3</b>						
<b>City/State:</b> Leicester, MA		<b>Date Finished:</b> 3-5-19								
<b>Contractor:</b> Technical Drilling Services		<b>Casing Type:</b> 4 1/2" HSA		<b>Groundwater Observations</b>						
<b>Driller/Helper:</b> Brett/Donnie		<b>Casing Hammer (lbs)/Drop (in):</b> N/A		<b>Date</b>	<b>Depth</b>					
<b>Logged By/Reviewed By:</b> C. Miller		<b>Sampler Size/Type:</b> 24" Split Spoon		<b>Elev.</b>	<b>Notes</b>					
<b>Surface Elevation (ft):</b> 987.5		<b>Sampler Hammer (lbs)/Drop (in):</b> 140LB/30"								
Depth (ft)	Elev. (ft)	Symbol	Depth/Elev. to Stratum Change (ft)	Stratum	Sample				Sample Description and Boring Notes	
					N-Value RQD	No.	Pen./Rec. (in)	Depth (ft)		Blows/6" MinR
1	987	[Symbol]	4.0 / 983.5	FILL	24	S1	18/16	0.0-1.5	13	Compact, dark brown, SILTY and SAND, trace gravel. (Fill)
2	986				20	S1A	6/6	1.5-2.0	10	Compact, light brown, SAND and GRAVEL, some silt. (Fill)
3	985				19	S2	24/23	2.0-4.0	9	Compact, light brown/orange-brown, SILTY SAND, trace gravel. (Fill)
4	984				14					
5	983	[Symbol]	14.7 / 972.8	GLACIAL TILL	18	S3	24/24	4.0-6.0	8	Compact, light brown, SILTY SAND, some gravel. (Glacial Till)
6	982				10					
7	981				26	S4	24/16	6.0-8.0	13	Compact, light brown/orange-brown, SILTY SAND, some gravel. (Glacial Till)
8	980				15					
9	979				5					
10	978				30	S5	24/20	8.0-10.0	12	Dense, orange-brown, SILTY SAND, some gravel, occasional cobbles. (Glacial Till)
11	977				18					
12	976				22					
13	975				8					
14	974				24	S6	20/11	13.0-14.7	16	Dense, orange-brown, SILTY SAND, some gravel, occasional cobbles. (Glacial Till)
15	973	8					Split spoon refusal at 14.7' below ground surface.			
16	972	Bottom of borehole 14.7' below ground surface.								
17	971									
18	970									
19	969									
20	968									
21	967									
22	966									
23	965									
<b>GRANULAR SOILS</b>		<b>SOIL COMPONENT</b>								
<b>BLOWS/FT.</b>	<b>DENSITY</b>	<b>DESCRIPTIVE TERM</b>	<b>PROPORTION OF TOTAL</b>	<b>SOIL CONTAINING THREE COMPONENTS EACH OF WHICH COMPRISE AT LEAST 25% OF THE TOTAL ARE CLASSIFIED AS "A" WELL-GRADED MIXTURE OF"</b>						
0-4	V.LOOSE	"TRACE"	0-10%							
4-10	LOOSE	"SOME"	10-20%							
10-30	COMPACT	"ADJECTIVE" (eg SANDY, SILTY)	20-35%							
30-50	DENSE	"AND"	35-50%							
>50	V.DENSE									
<b>COHESIVE SOILS</b>		<b>Notes:</b>								
<b>BLOWS/FT.</b>	<b>CONSISTENCY</b>	Frost from 0'-1.25' below ground surface.								
<2	V.SOFT									
2-4	SOFT									
4-8	FIRM									
8-15	STIFF									
15-30	V.STIFF	Weather: Clear								
>30	HARD									



## Memorandum

**Date:** October 1, 2019  
**Recipient:** Finegold Alexander Architects  
 Regan Shields Ives and Christopher Lane  
**Sender:** Jonathan W. Patch, P.E.  
**Project:** Leicester Middle School  
**Project No.:** 6743.2.00  
**Subject:** Preliminary Geotechnical Review of Proposed Building Location

The purpose of this letter is to confirm that the preliminary foundation design recommendations contained in our Preliminary Foundation Engineering Report (PFER) dated April 1, 2019 are still applicable to the proposed construction now that the location of the proposed building on site has been determined.

The location of the proposed building on the site had not been determined at the time the subsurface exploration program was completed as part of our preliminary geotechnical study. As such, eight (8) borings were performed across the entire site for the purpose of obtaining subsurface information in order to provide preliminary foundation design recommendations not knowing where on site the building would be located. The borings indicated that the ground surface is underlain by a thin, surficial layer of topsoil. Below the topsoil, the borings encountered about 2 to 7 feet of uncontrolled fill which was underlain by a dense natural glacial till deposit. Groundwater was observed within five (5) borings upon completion of drilling at depths ranging between 6 and 8 feet below the existing ground surface.

Recently, the proposed building location was determined and is in close proximity to borings MA-2, MA-3, MA-5 and MA-6 which encountered the dense natural glacial till deposit at depths of 4 to 5 feet. Based on this preliminary boring information, it is recommended that foundation support for the proposed building be provided by conventional footing foundations in conjunction with slab-on-grade construction as outlined in the above-referenced PFER. Please reference the aforementioned PFER for additional recommendations regarding foundation design and building pad preparation.

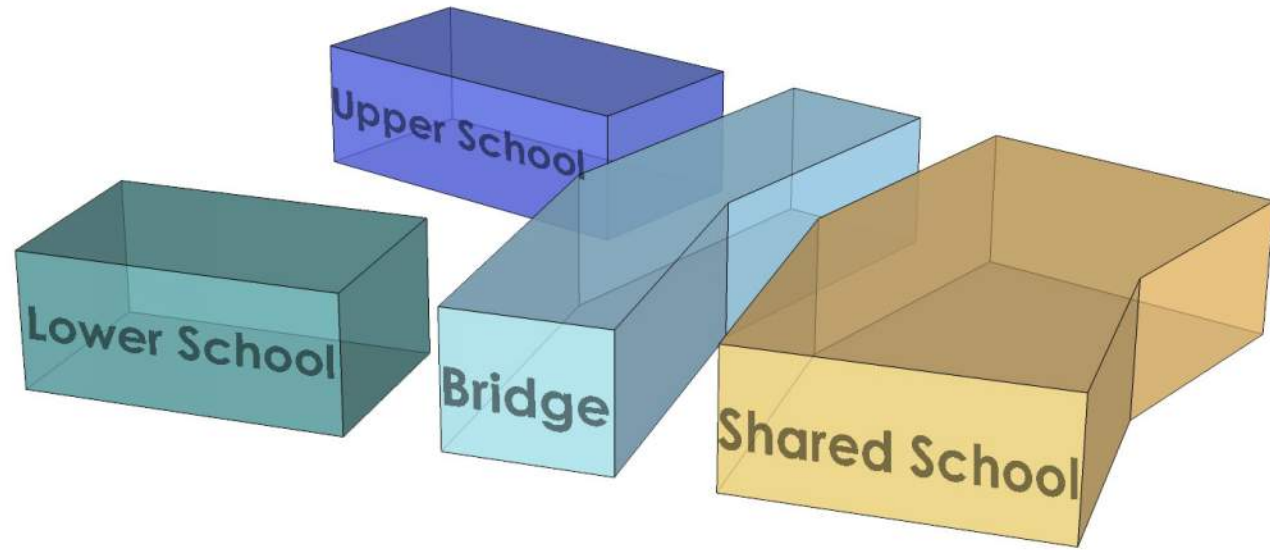
Additional subsurface explorations (borings and/or test pits) will need to be performed to further delineate the depth to the natural glacial till deposit across the proposed building footprint. The information obtained from these explorations will be utilized to prepare a Final Foundation Engineering Report, however, at this time, it is not anticipated that the conditions observed within these explorations will result in an alteration of McPhail's foundation design recommendations as presented in the PFER. Lastly, it is not anticipated

GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERS  
 2269 Massachusetts Avenue  
 Cambridge, Massachusetts 02140  
 (617) 868-1420

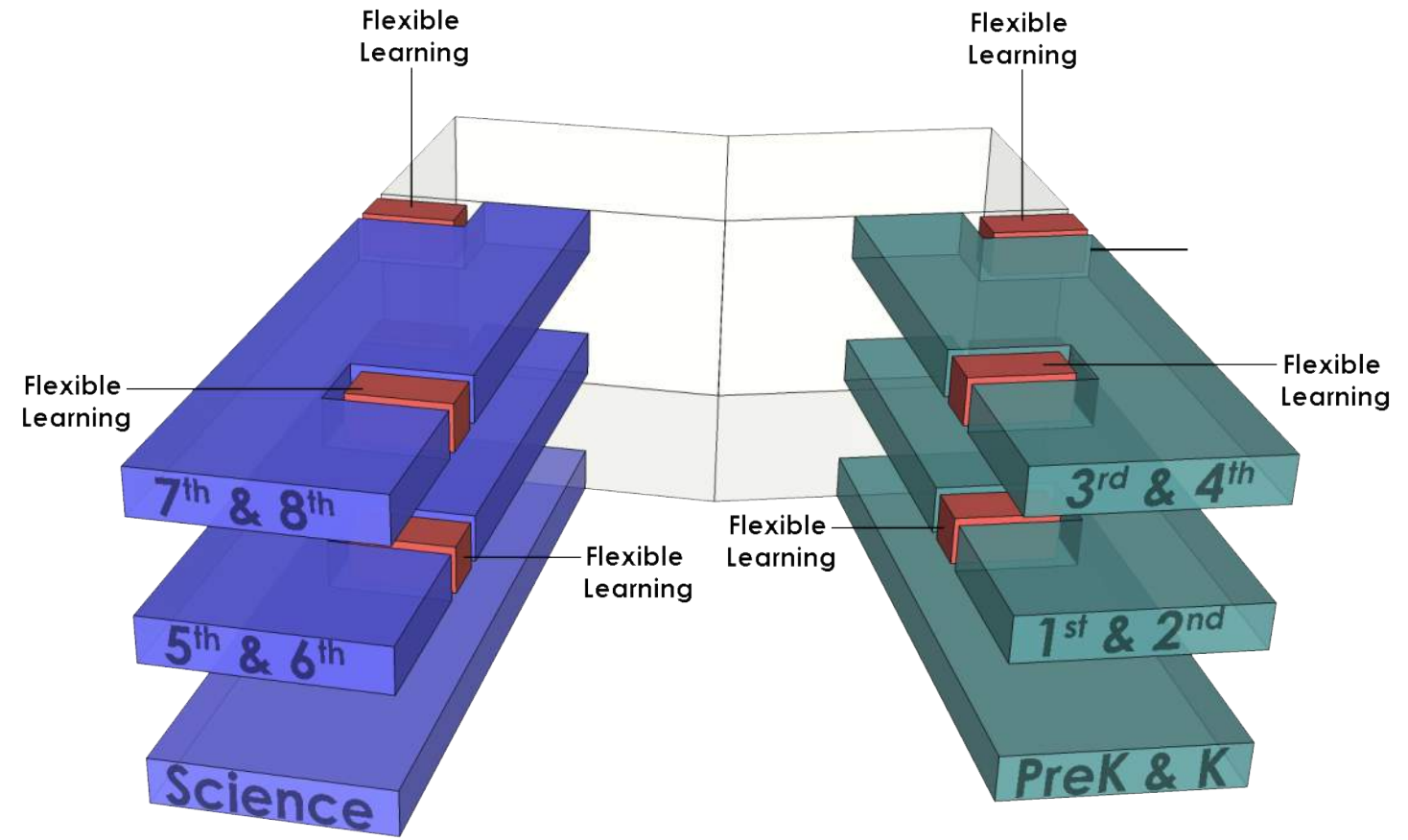
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Site Drainage Overview



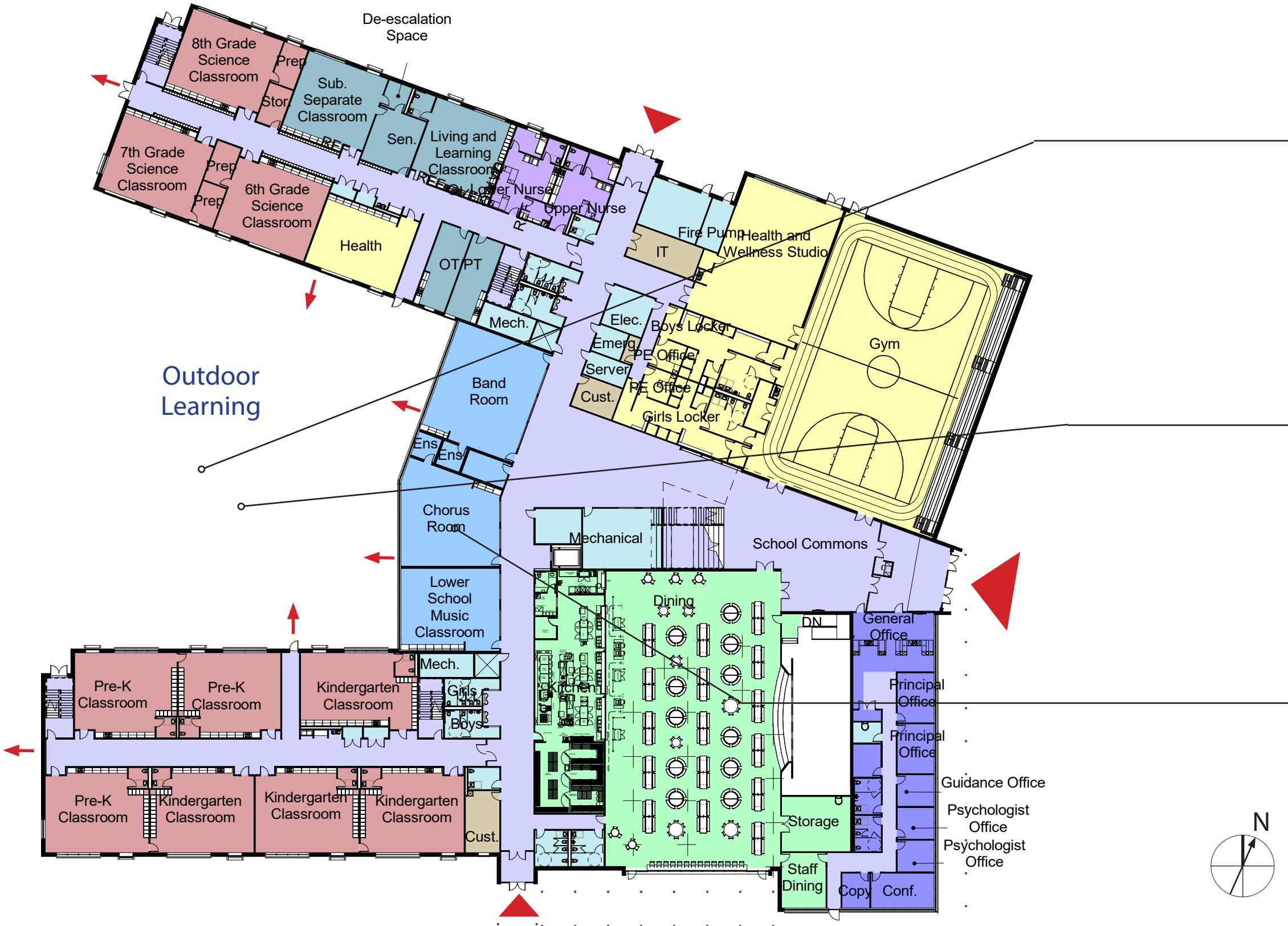
2 Schools, 1 Roof



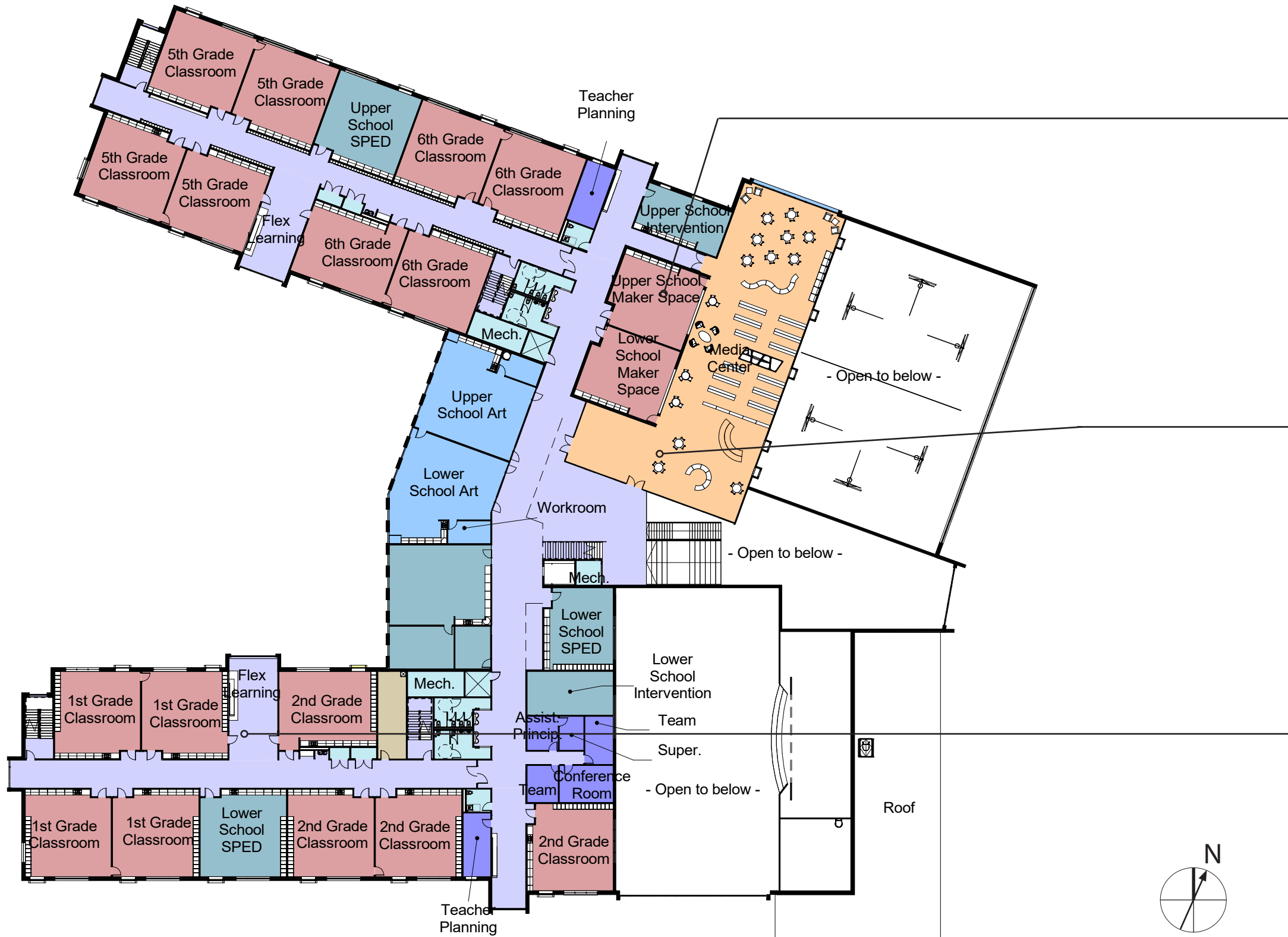
Grade Neighborhoods  
Flexible Learning Space



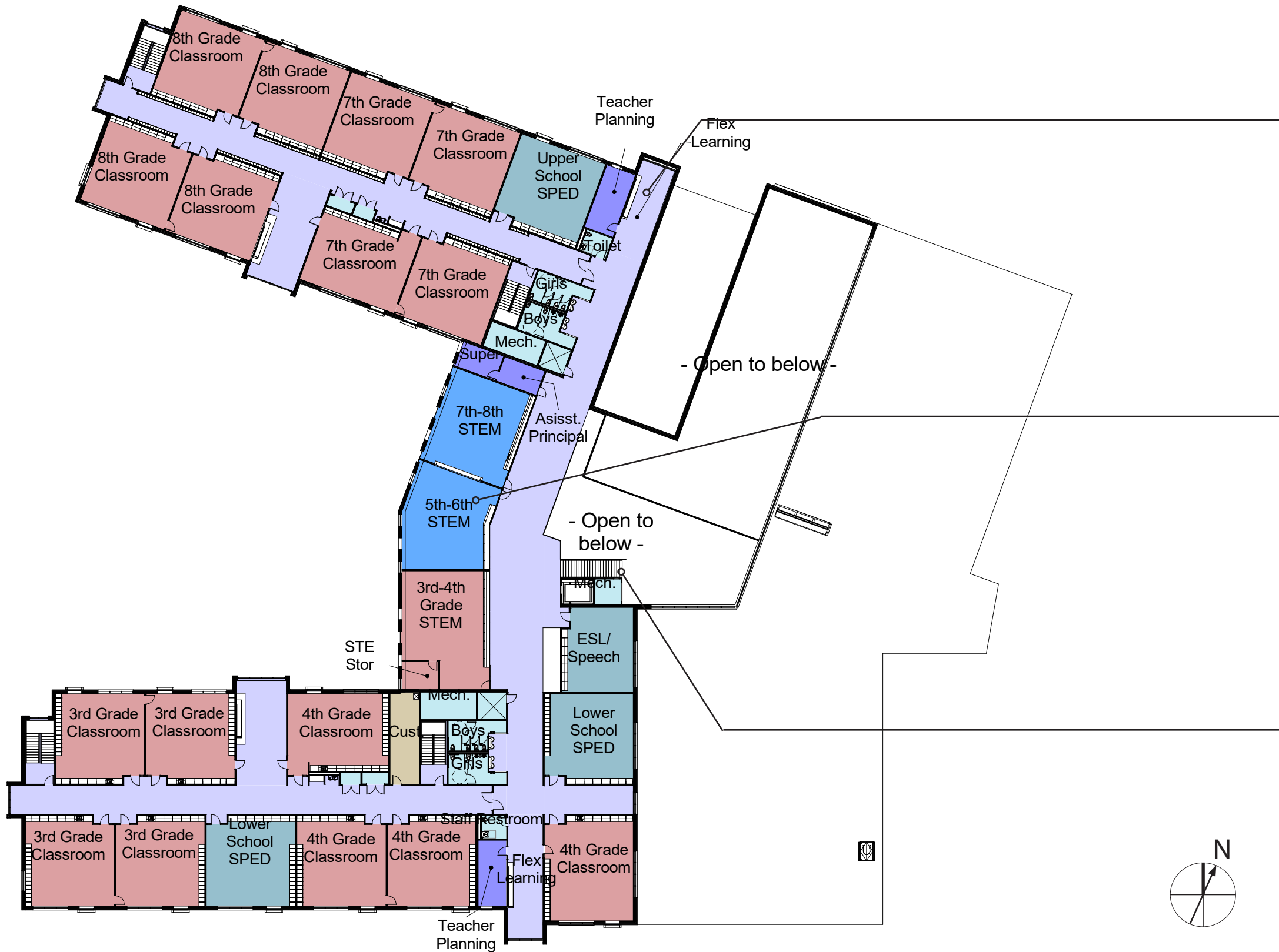




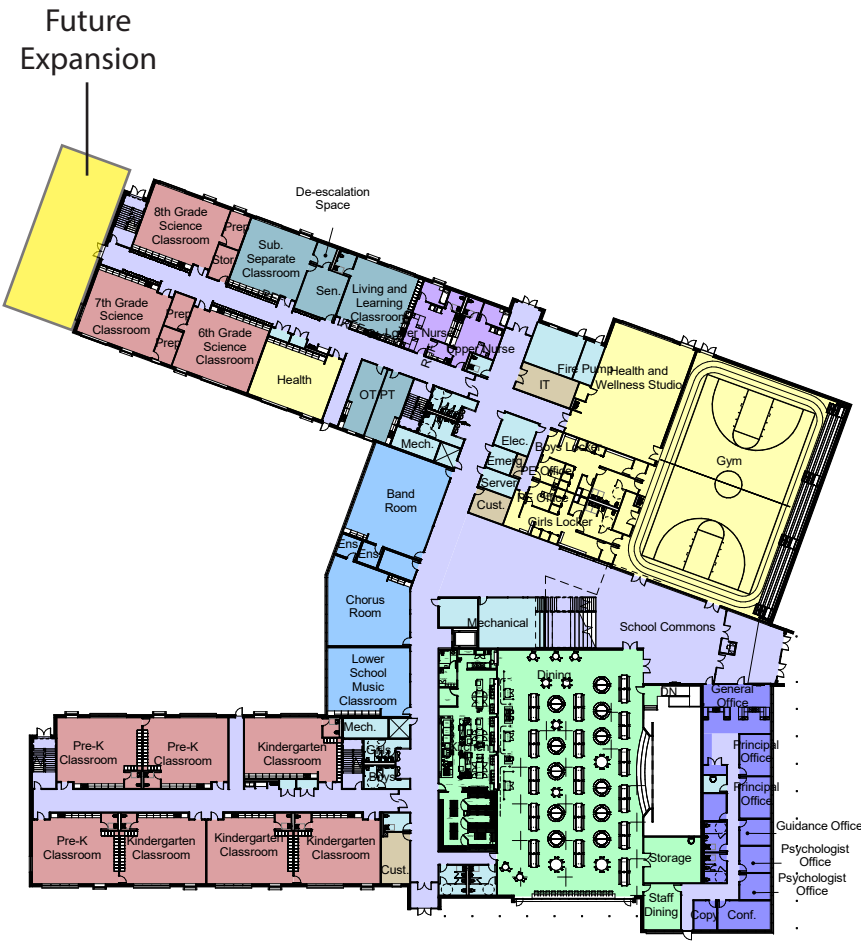
First Floor Plan



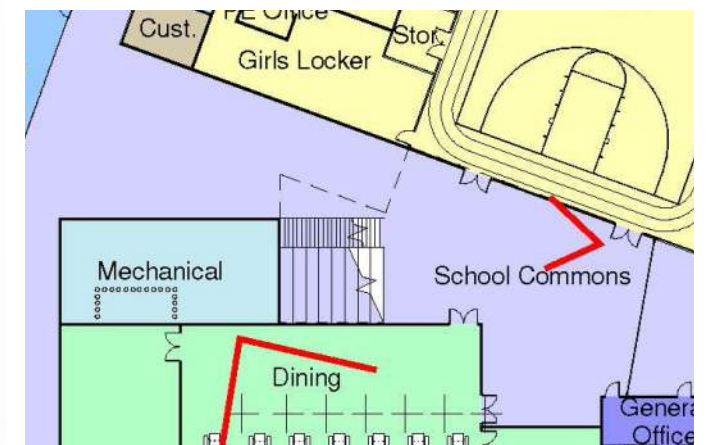
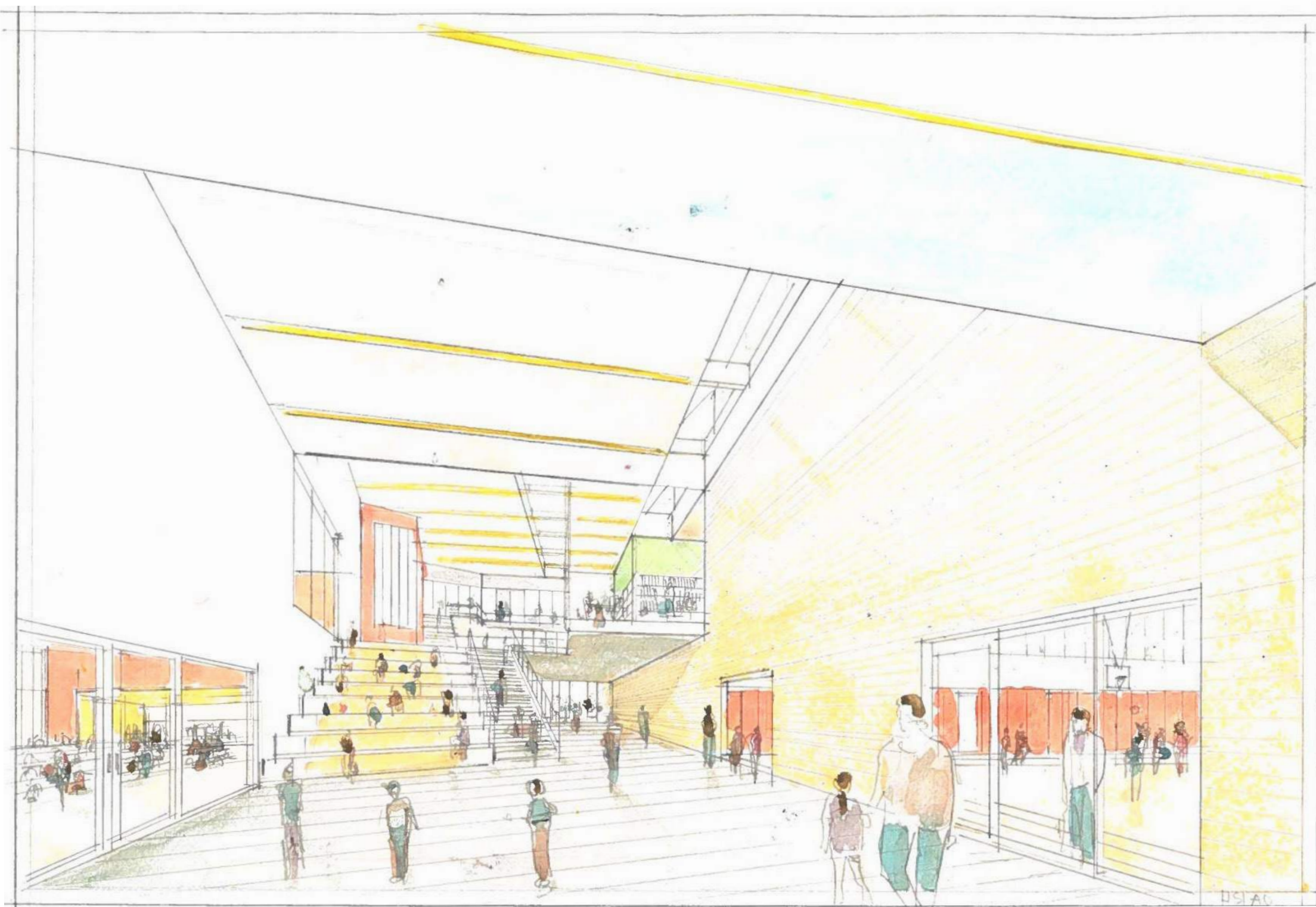
Second Floor Plan



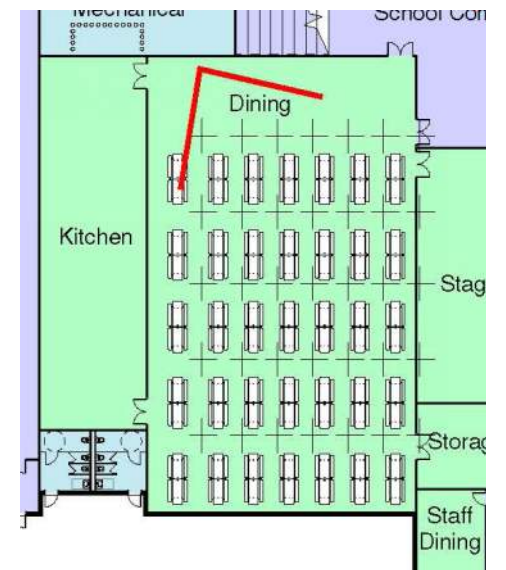
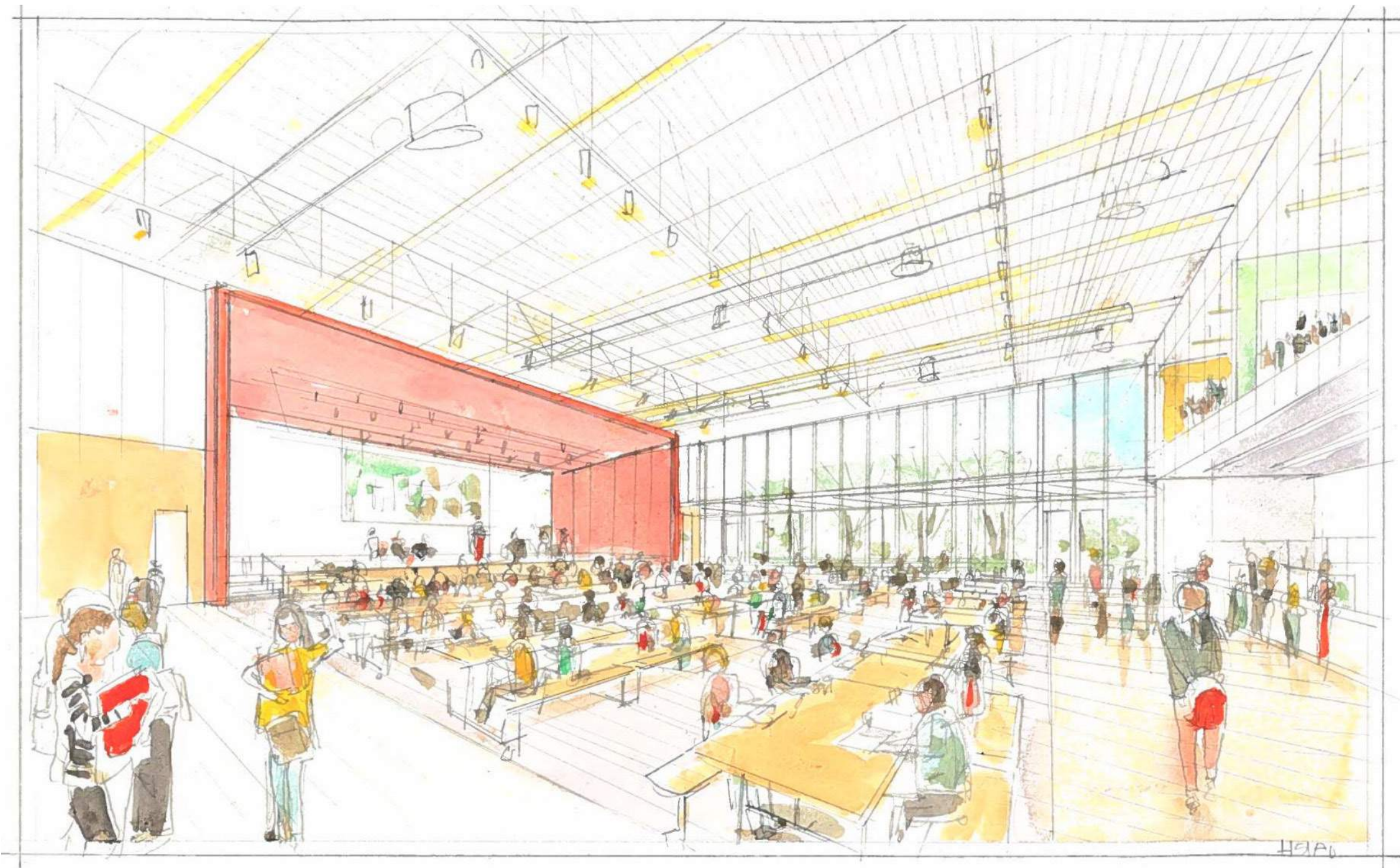
Third Floor Plan



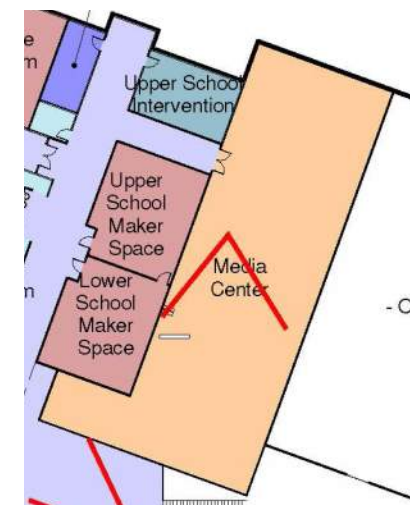
Preferred Solution Future Expansion



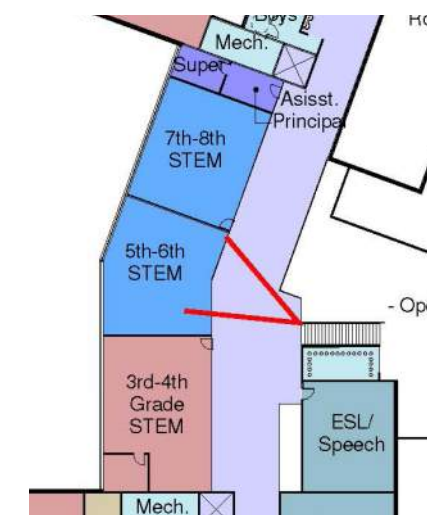
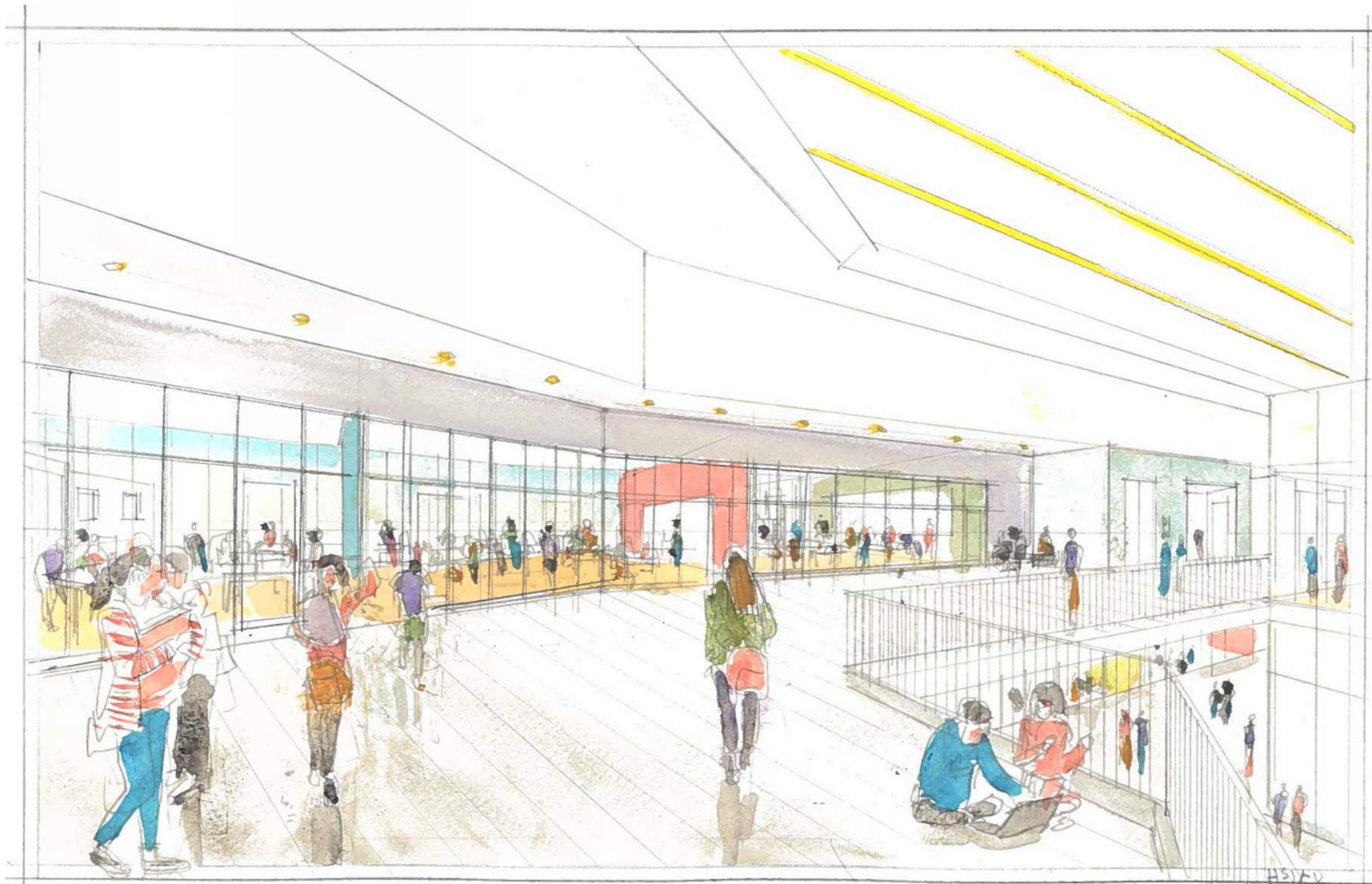
School Commons



Cafetorium

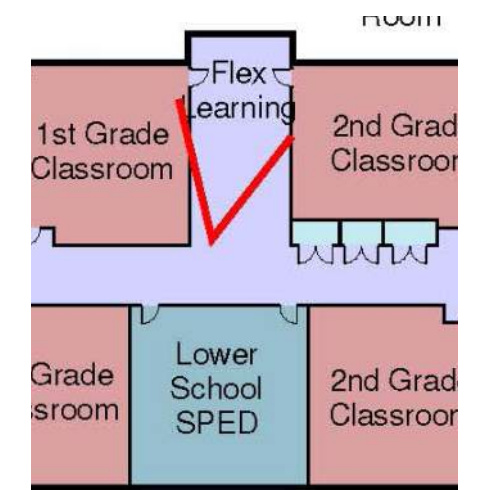


Media Center



STEM Space





Flexible Learning



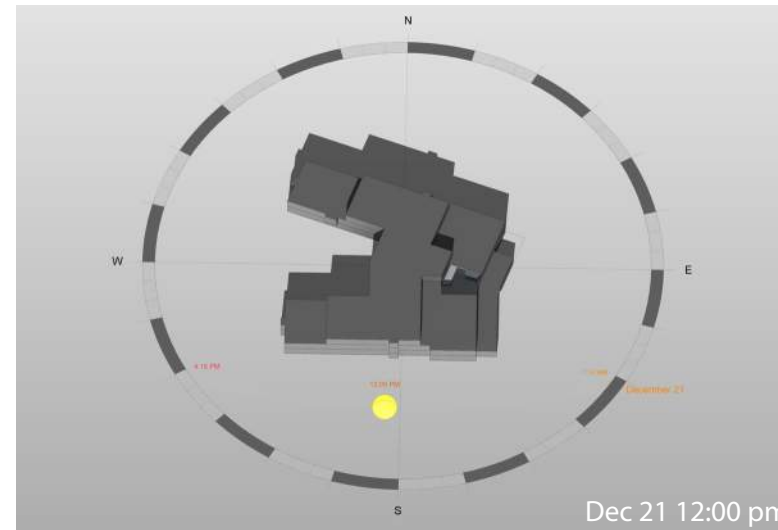
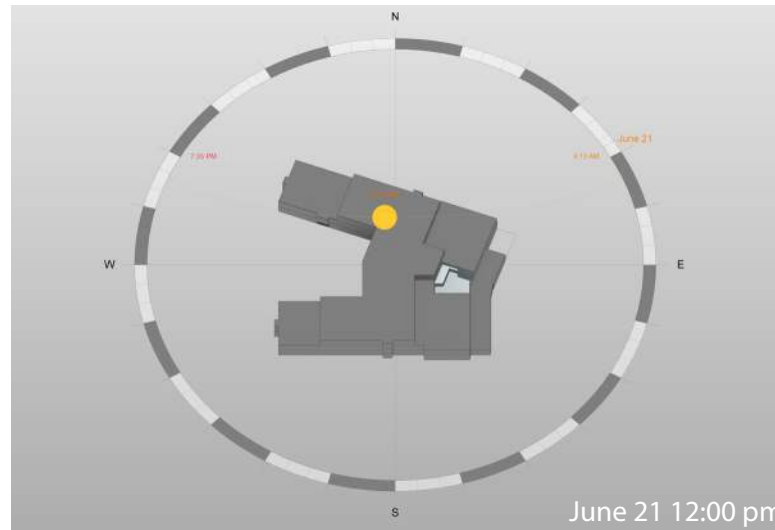
Exterior View Towards Main Entry



Exterior View at Courtyard

# Sustainability Design Goals:

- ✓ 2 schools under one roof for building and site efficiencies
- ✓ Pursuing LEED-S V4 Silver
- ✓ Optimal solar orientation with classroom “wings” oriented north-south
- ✓ Durable, sustainable finish materials on interior for optimal indoor air quality
- ✓ “Wings” frame open outdoor classroom space oriented to wetlands
- ✓ Heat Loss Form Factor (compactness) is 1.38 which is exceptional



LEEDv4 BD+C: Schools (LEEDv4 SC) Project Scorecard		Project: Leicester School MS Address: 174 Paxton Street, Leicester, MA 01524 Date: 30-May-19		The Green Engineer Sustainable Design Consulting	
LEED Goal		MSGA 2%			
Bldg Area		140,000			
Parking					
Site Area					
Staff		130-140			
Students		930			
Visitors					
<b>POINT TOTALS</b>					
Yes		M+		No	
41		49		8	
12					
GENERAL PROJECT DOCUMENTATION					
Req'd	Team	Notes			
REQUIRED: Project must meet all MRPs to be eligible for LEED certification. TGE will work with Nitsch on developing LEED boundary.					
INTEGRATIVE PROCESS					
Req'd	Team	Notes			
1	Team	CREDIT: Perform energy and water-use analyses in early design through the use of a "simple box" model and development of a water budget, respectively. Follow-up discussion is needed in the next few weeks to determine if this credit will be pursued.			
LOCATION & TRANSPORTATION					
Req'd	Team	Notes			
15	Team	CREDIT: Project located in a LEED ND development.			
1	Nitsch	CREDIT: Locate the development footprint on land that has been previously developed. Project is less than 100' to wetland.			
1-2	Nitsch	CREDIT: Locate on a brownfield where soil or groundwater contamination has been identified, and where the local state, or national authority (whichever has jurisdiction) requires remediation. There may be underground contamination. Project is not in a DDA.			
1-4	TGE	CREDIT: Avg. surrounding density >22,000 sf (2pts) or >35,000 (4pts) and/or within 1/2 mile walking distance of at least 8 diverse uses (2pts). Multiple uses within 1/2 mile. Calculations need to be done for walking distance.			
1-4	TGE	CREDIT: 1pt: 72 wkdy & 40 wknd; 3 pts: 140 wkdy & 108 wknd; 5 pts: 360 wkdy & 216 wknd tps. Project does not have enough daily trips by bus to meet the credit.			
1	FAA/TGE	CREDIT: Locate within 200 yds of bicycle network and provide long-term bike storage for at least 5% of all regular building occupants and short-term storage for at least 25% of all peak visitors. Provide one shower for the first 100 regular building occupants and one additional for every 150 thereafter. There likely will not be staff showers in the school.			
1	Nitsch	CREDIT: Do not exceed the minimum local code requirements for parking capacity. Provide parking capacity that is a 40% reduction below the base ratios recommended by the Parking Consultants Council. Provide preferred parking for carpools for 5% of the total parking capacity. Calculations need to be performed to determine if the parking count meets the requirements. In addition, the number and location of carpool parking will need to be determined.			
1	Nitsch/BLW	CREDIT: Designate 5% of all parking spaces as preferred parking for green vehicles (a discounted parking rate of at least 20% for green vehicles is an acceptable substitute). In addition, install electrical vehicle supply equipment (EVSE) in 2% of all parking spaces used by the project. The project will need to provide electric charging stations in addition to green vehicle parking spaces. Eversource and National Grid have a new program supporting EV charging infrastructure cost for up to 5% of the site's parking spaces.			
SUSTAINABLE SITES					
Req'd	Team	Notes			
12	Nitsch/CM	REQUIRED: Create/Implement an ESC plan for all construction activities associated with the project. The plan must conform to the requirements of the 2012 U.S. EPA Construction General Permit (CGP). The project will implement an ESC plan.			
1	Env. Eng.	REQUIRED: Conduct a Phase I Environmental Site Assessment as described in ASTM E1527-05 (or a local equivalent) to determine whether environmental contamination exists at the site. If contamination is suspected, conduct a Phase II Environmental Site Assessment as described in ASTM E1903-11 (or a local equivalent). If a site is contaminated, remediate the site to meet local, state, or national environmental protection agency region residential (unrestricted) standards, whichever are most stringent. Phase I site assessment and survey has been completed.			
1	FAA/Nitsch/WL	CREDIT: Complete and document a site assessment that includes: Topography, Hydrology, Climate, Vegetation, Soils, Human Use, Human health effects. Project team will perform a site assessment. There are drainage issues on site - a lot of grading needed. A lot of large rocks on the site.			
1-2	WL	CREDIT: Preserve and protect from all development and construction activity 40% of the greenfield area on the site (if such areas exist) and restore 30% (including the building footprint) of the previously developed site area with native & adaptive vegetation OR provide financial support equivalent to at least \$0.40 per square foot for the total site area to a nationally or locally recognized land trust or conservation organization. Project will include native and adapted vegetation. Too early in design to determine if credit can be achieved.			
1	WL	CREDIT: Provide outdoor space greater than or equal to 30% of the total site area (including building footprint). A minimum of 25% of that outdoor space must be vegetated (but grass does not count as vegetation) or have overhead vegetated canopy. The outdoor space must be physically accessible. Calculations will have to be performed as the design develops to determine if the credit can be achieved. School wants to create site education opportunities - gardens, etc.			
2-3	Nitsch	CREDIT: On site, manage the runoff from the developed site for the 95th percentile (3pts) or 98th percentile (3pts) of regional or local rainfall events using LID & G strategies that best mimic natural site hydrology OR manage on site the annual increase in runoff volume from the natural land cover condition to the post-developed condition. (3 pts). This credit can be difficult to achieve. Nitsch will look at the LEED v4.1 version of this credit and determine if the credit can be achieved. A cistern, vegetated swales, rain gardens were discussed as possibilities.			
1-2	WL/FAA	CREDIT: Use any combination of non-roof Measures, high-Reflectance roof, or vegetated roof to be equal to or greater than the total roof + hardscape area on-site AND/OR place a minimum of 75% of parking spaces under cover. Project will have a light colored roof. Project team should consider light colored materials for walkways and other hardscape.			
1	BLW	CREDIT: Do not exceed allowable backlight, uplight or glare (BUQ) ratings for all exterior lighting as determined by the project's lighting zone (LZ). Project will have a limited amount of outdoor lighting - only have the quantity needed for safety. Full cut off lighting that is dark sky compliant will be specified. There will be a flag pole that will require lighting.			

Sustainable Design Goals

Approved Enrollment:	930 Student Enrollment (Grades Pre-K - 8)	
Approximate Project Size:	141,241 SF per MSBA Space Templates	
Est. Construction Cost:	\$494/SF* per Independent Est. Firms	
Add Soft Costs:	Approximately 25% of construction cost	
Adjust for Escalation:	Estimated 3% per year / year to construction mid-point	
New K-8 on Existing Site:	Estimated Total Project Cost:	\$87 mil
	Estimated Facilities Grant:	\$41.5 mil
	Estimated District Share:	\$45.5 mil
	Estimated Average Residential Tax Impact:	\$832/year

\*MSBA will reimburse up to \$333/SF

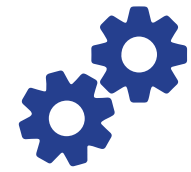
## Preliminary Project Cost Scenarios

<u>Total Project Budge Line Items (Major Exclusions)</u>	<u>Estimated Budget</u>	<u>Excluded Value</u>	<u>Notes</u>
Direct Building Costs	\$ 41,440,000	\$ 15,895,000	1) Excluded - construction costs exceeding MSBA sf foot cost cap
GC's, Estimating Conting., Ins./Bonds, OH&P	\$ 20,860,928	\$ 1,713,300	2) Excluded - GC costs based upon MSBA cap exclusion
Sitework	\$ 4,777,140	\$ 1,461,940	3) Excluded - site costs above MSBA cap
Vinyl Asbestos Tile - Existing LMS	\$ 250,000	\$ 250,000	4) Excluded - VAT categorically by MSBA

Notes:

- 1) Current MSBA Construction Cap \$ 333/sf  
Current Leicester Construction Cost per Sf \$ 494/sf
- 2) For costs noted in Item 1, MSBA also excludes a pro-rated exclusion against GC costs
- 3) MSBA excludes site construction costs above 8% of construction costs
- 4) MSBA excludes abatement and removal of VAT





Efficiency



Safety



Community Improvement



Increased Property Value



Community Use



Financially Responsible Choice





[leicesterbuildingproject.com](http://leicesterbuildingproject.com)

