



# MANCHESTER MEMORIAL ELEMENTARY SCHOOL

SCHEMATIC DESIGN PHASE  
**SBC MEETING #26**  
MAY 22ND, 2018



MANCHESTER MEMORIAL ELEMENTARY SCHOOL  
MANCHESTER-ESSEX REGIONAL SCHOOL DISTRICT, MASSACHUSETTS



JCJ ARCHITECTURE



# **TODAY'S AGENDA**

## **PROJECT UPDATE**

## **LANDSCAPE DESIGN**

## **DESIGN UPDATE**

## **REVIEW BASIS OF DESIGN**



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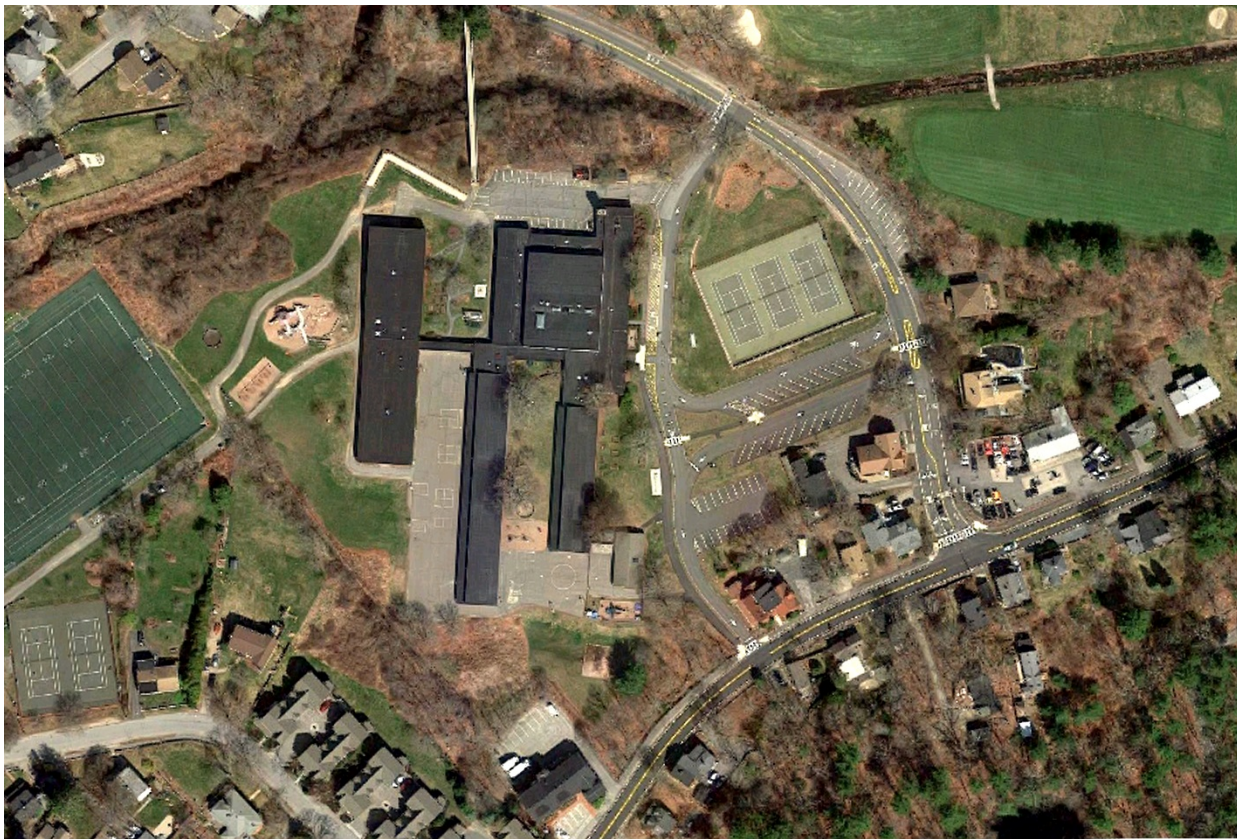


**MANCHESTER MEMORIAL ELEMENTARY SCHOOL**  
**MANCHESTER-BY-THE-SEA, MA**

**SCHEMATIC LANDSCAPE REVIEW**



# EXISTING CONDITIONS



**MANCHESTER MEMORIAL ELEMENTARY SCHOOL**

MANCHESTER-ESSEX REGIONAL SCHOOL DISTRICT, MASSACHUSETTS



# EXISTING CONDITIONS



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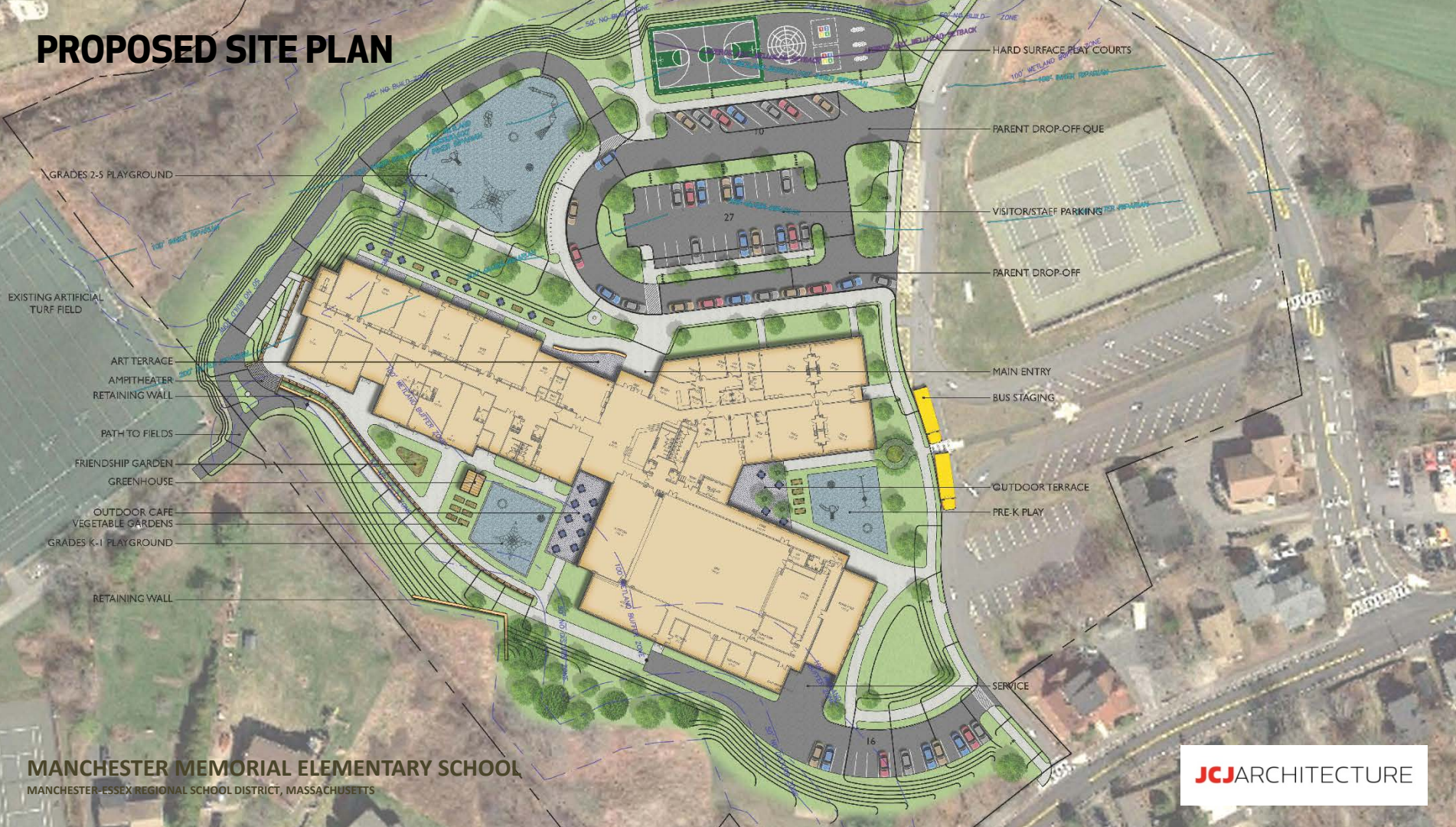
# EXISTING CONDITIONS



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# PROPOSED SITE PLAN



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# EXISTING VS PROPOSED

	EXISTING	PROPOSED
PARENT DROP-OFF QUE	680 FT	700 FT
BUS STAGING	2 BUSES	2 BUSES
PRE-K PLAYGROUND	1,622 SF	2,584 SF
K-1 PLAYGROUND	1,664 SF	2,367 SF
GRADES 1-5 PLAYGROUND	5,583 SF	8,268 SF
HARD SURFACE PLAYCOURT	24,000 SF	8,070 SF
RAISED GARDEN BEDS	12 BEDS (+ 8 SMALL)	12 BEDS



# PLAYGROUND EQUIPMENT - PRESCHOOL AGE (2-6 YEARS)

- SENSORY AND MOTOR SKILLS
- ROLE PLAY
- IMAGINATION AND FRIENDSHIPS





# PLAYGROUND EQUIPMENT - PRESCHOOL AGE (2-6 YEARS)

- THEMED PLAY
- SPRINGERS
- SEESAWS
- BALANCE AND MOVEMENT
- SWINGS
- CAROUSELS AND SPINNERS





# PLAYGROUND EQUIPMENT - SCHOOL AGE (6+ YEARS)

- AGILITY, BALANCE, COORDINATION
- “RULE PLAY” SCENARIOS
- FRIENDSHIPS



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# PLAYGROUND EQUIPMENT - SCHOOL AGE (6+ YEARS)

- URBAN CLIMBING
- CAROUSELS & SPINNERS
- BALANCE & MOVEMENT
- SLIDES





# PLAYGROUND EQUIPMENT - NAUTICAL THEME



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# PLAYGROUND EQUIPMENT - NAUTICAL THEME



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# PLAYGROUND EQUIPMENT - NATURE THEME





# PLAYGROUND EQUIPMENT - NATURE THEME



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# PLAYGROUND EQUIPMENT - INCLUSIVE PLAY

- SENSORY SKILLS
- MOTOR SKILLS
- COGNITIVE SKILLS
- SOCIAL SKILLS



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# PLAYGROUND EQUIPMENT - MUSICAL



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# PLAYGROUND EQUIPMENT - HARD COURT GAMES



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# PLAYGROUND SURFACING – ENGINEERED WOOD FIBER

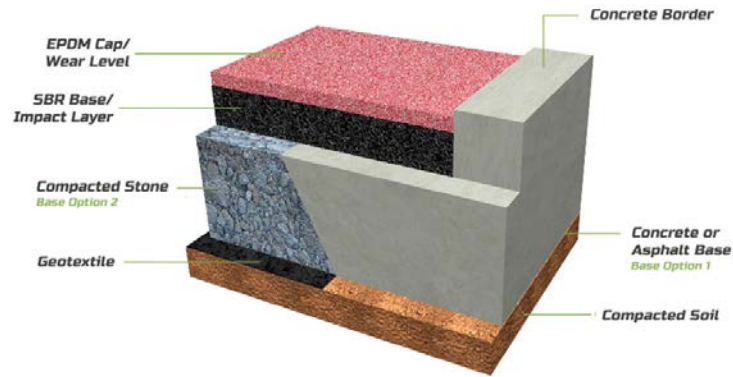
- MOST ECONOMIC**
- REQUIRES MAINTENANCE**
- ACCESSIBILITY QUESTIONS**





# PLAYGROUND SURFACING – POURED-IN-PLACE RUBBER

- CUSTOM SHAPES/COLORS
- SHOCK ABSORPTION
- LOW MAINTENANCE
- ACCESSIBLE
- HIGHER COST





# PLAYGROUND SURFACING – COMBINED RUBBER/WOOD FIBER

- ECONOMICS
- SAFETY



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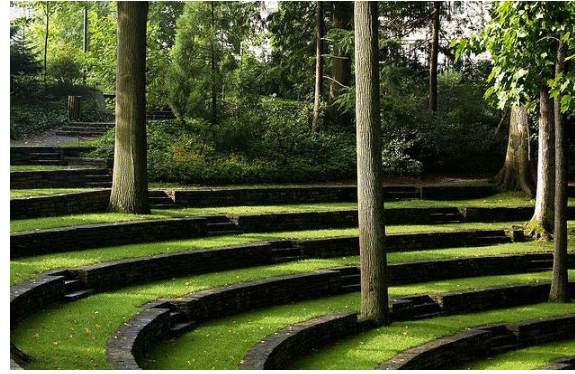
# PLAYGROUND EQUIPMENT - SHADE



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# OUTDOOR LEARNING - CLASSROOMS



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# OUTDOOR LEARNING – KITCHEN GARDENS



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# OUTDOOR LEARNING – BUTTERFLY GARDENS



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# OUTDOOR LEARNING – RAIN GARDENS



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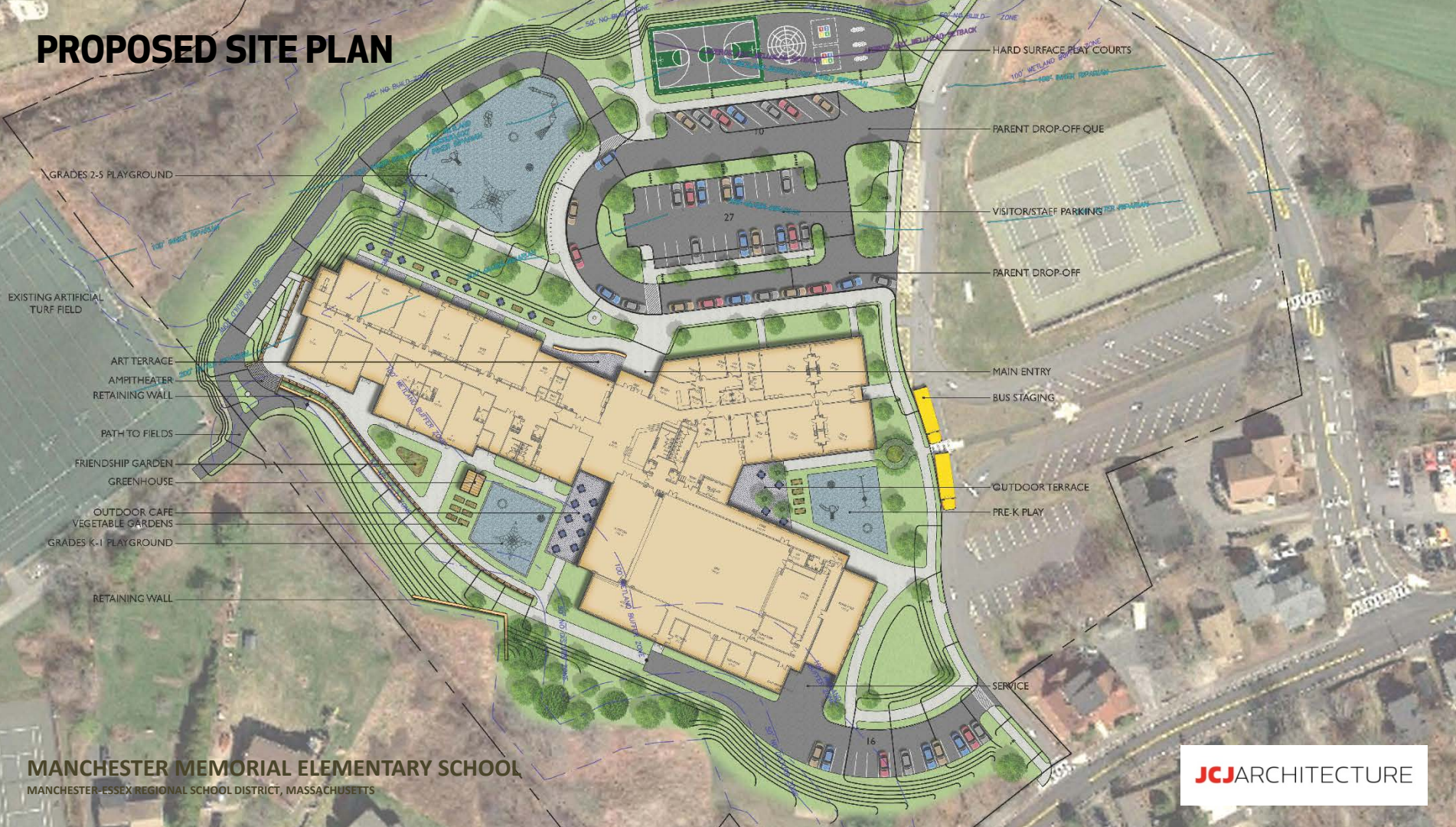
# RETAINING WALLS



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# PROPOSED SITE PLAN



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# **PROJECT UPDATE**

## **MEETINGS AND INTERVIEWS**

- BUDGET COLLABORATION MEETING**
- LANDSCAPE DESIGN**
- SAFETY AND SECURITY**





## NEXT STEPS

- 5/22** SBC Meeting - Design Update/ Approval For Estimating
- 5/30** Community Meeting #4
- 6/12** SBC Meeting - Review Cost Estimates
- 6/26** SBC Meeting - Initial Approval of SD Package
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- 10/15-16** Town Meetings in Essex & Manchester-by-the-Sea
- 11/6** Public Funding Vote





## **PROJECT UPDATE**

### **JUNE 12: SBC MEETING**

- REVIEW COST ESTIMATES
- REVIEW ANY VALUE ENGINEERING (V.E.) CONCEPTS  
*(IF REQUIRED)*
- DETERMINE WHICH V.E. CONCEPTS TO FURTHER STUDY

### **JUNE 26: SBC MEETING**

- *REVIEW V.E. CONCEPTS AND DESIGN UPDATES*
- *INITIAL APPROVAL OF DESIGN SCOPE AND BUDGET*

### **JULY 9: JOINT SC & SBC MEETING**

- APPROVAL TO SUBMIT SD PACKAGE TO MSBA





# **BUILDING SYSTEMS**

## **MECHANICAL**

- **DISPLACEMENT DEHUMIDIFICATION**
- **FIN-TUBE OR RADIANT PANEL HEATING AT PERIMETER**

## **ELECTRICAL**

- **EMERGENCY GENERATOR: APPROX 100-125KW**
- **100% LED LIGHTING SYSTEM WITH AUTOMATED CONTROLS**



# SUSTAINABILITY

## NET ZERO

ESTIMATED TO BE AN ADDITIONAL \$40-\$50/ SF

– *APPROXIMATELY A \$3.3M TO \$4.2M PREMIUM*

NOT A COMMON CHOICE FOR MSBA PROJECTS

- *ONLY A FEW PROJECTS HAVE CONSIDERED IT*
- *NONE COMPLETED TO DATE*

REQUIRES GEOTHERMAL

- *70 CLOSED LOOP WELLS / 18,400 SQ FT*





# **SUSTAINABILITY**

## **NET ZERO**

### **ADDITIONAL 750 SF MECHANICAL ROOM**

- ***HOUSE ADDITIONAL GEOTHERMAL EQUIPMENT***
- ***IDEALLY GEO-MECHANICAL ROOM NEAR WELLS***
- ***HEAT PUMP CHILLER (NOT A HOT WATER SYSTEM)***

### **REQUIRES GEOTHERMAL**

- ***70 CLOSED LOOP WELLS / 18,400 SQ FT***
- ***AVOID OBSTRUCTIONS UTILITIES, TREES, PLAY EQUIP.***
- ***PHYSICALLY CHALLENGING TO FIT ON THE SITE***



SUSTAINABILITY

NET ZERO - LOCATING GEOTEHERMAL WELLS

RETAIN EXISTING  
CAFETERIA/ GYMNASIUM/  
AUDITORIUM THRU PHASE 1

UTILITIES  
COORDINATOR

NEED  
18,000 SF  
AREA FOR  
WELLS

Approx.  
9,000 SF





# **SUSTAINABILITY**

## **NET ZERO**

**WOULD REQUIRE AN ALL ELECTRIC SYSTEM**

- EXPANSIVE PHOTOVOLTAIC SYSTEM REQUIRED**

**EXTERIOR ENVELOPE IMPROVEMENTS NECESARY**

- GLAZING, SOLAR GAIN, INSULATION**



# SUSTAINABILITY

## DECISION POINT

- **LEED CERTIFIED**

*NO 2% REIMBURSEMENT*

- **LEED SILVER** **RECOMMENDTION**

*2% REIMBURSEMENT*

- **LEED GOLD OR PLANTINUM**

*2% REIMBURSEMENT, NO ADDITIONAL REIMBURSEMENT  
ADDITIONAL CAPITAL COSTS / LONG PAYBACK PERIOD*

- **NET ZERO**

*2% REIMBURSEMENT, NO ADDITIONAL REIMBURSEMENT  
\$40-\$50/ SF ADDITIONAL COSTS / LONGER PAYBACK PERIOD  
PHYSICAL SITE LIMITATIONS*



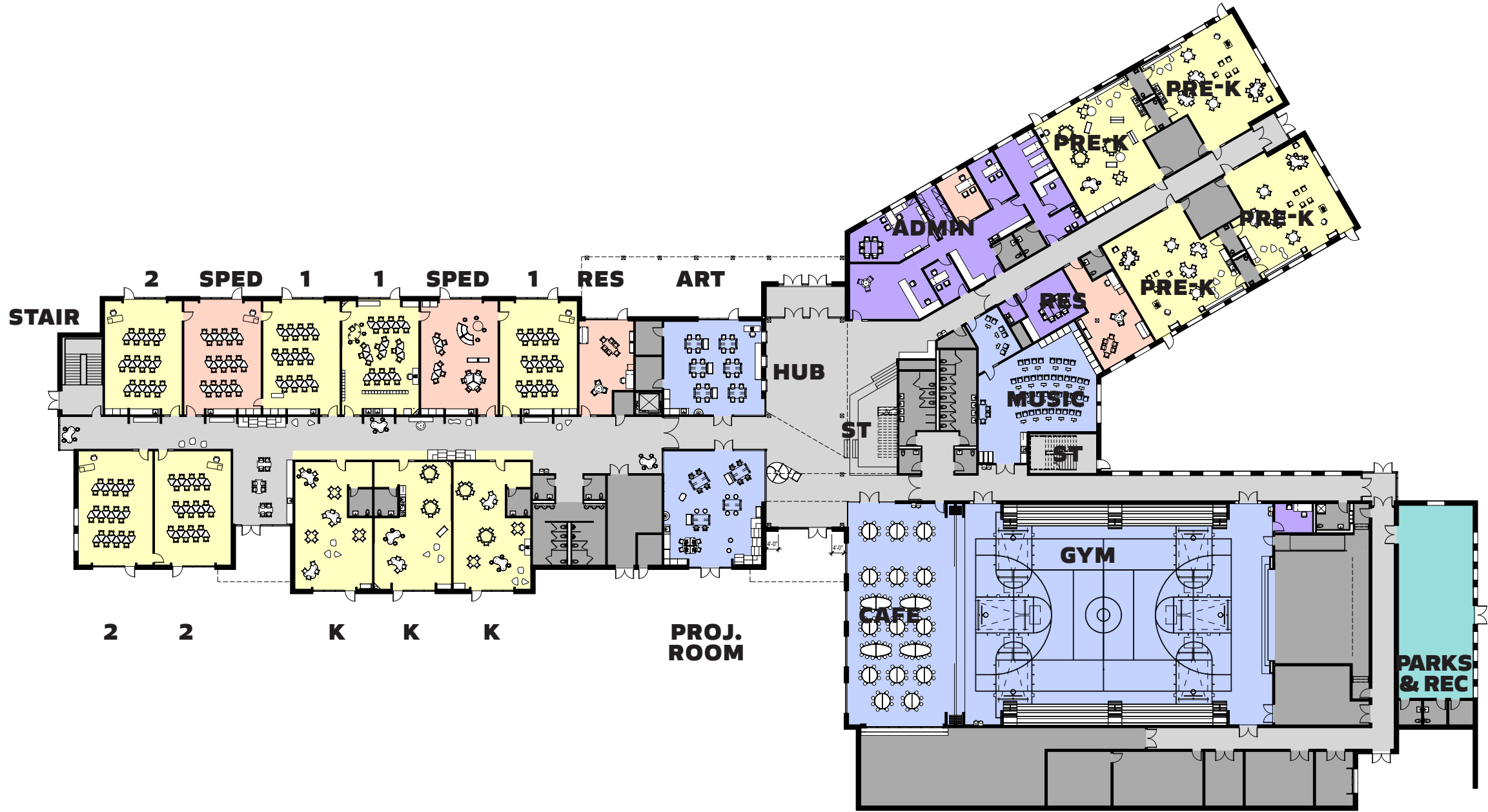


## AREA UPDATE IN SQUARE FEET

PROGRAM AREA	PSR	5/8/2018	5/22/2018
Lower Level		2,315 SF	0 SF
First Floor		56,535 SF	56,742 SF
Parks & Recreation	1,800 NSF	2,610 SF	2,610 SF
Second Floor		24,025 SF	24,710 SF
Total Net Square Feet	56,974 SF	56,974 SF	56,974 SF
Total Gross Square Feet	82,800 SF	85,485 SF	84,062 SF
Gross Up Factor	1.45	1.50	1.48
Change			-1,423 SF
Increase from PSR (GSF)		2,685 SF	1,262 SF

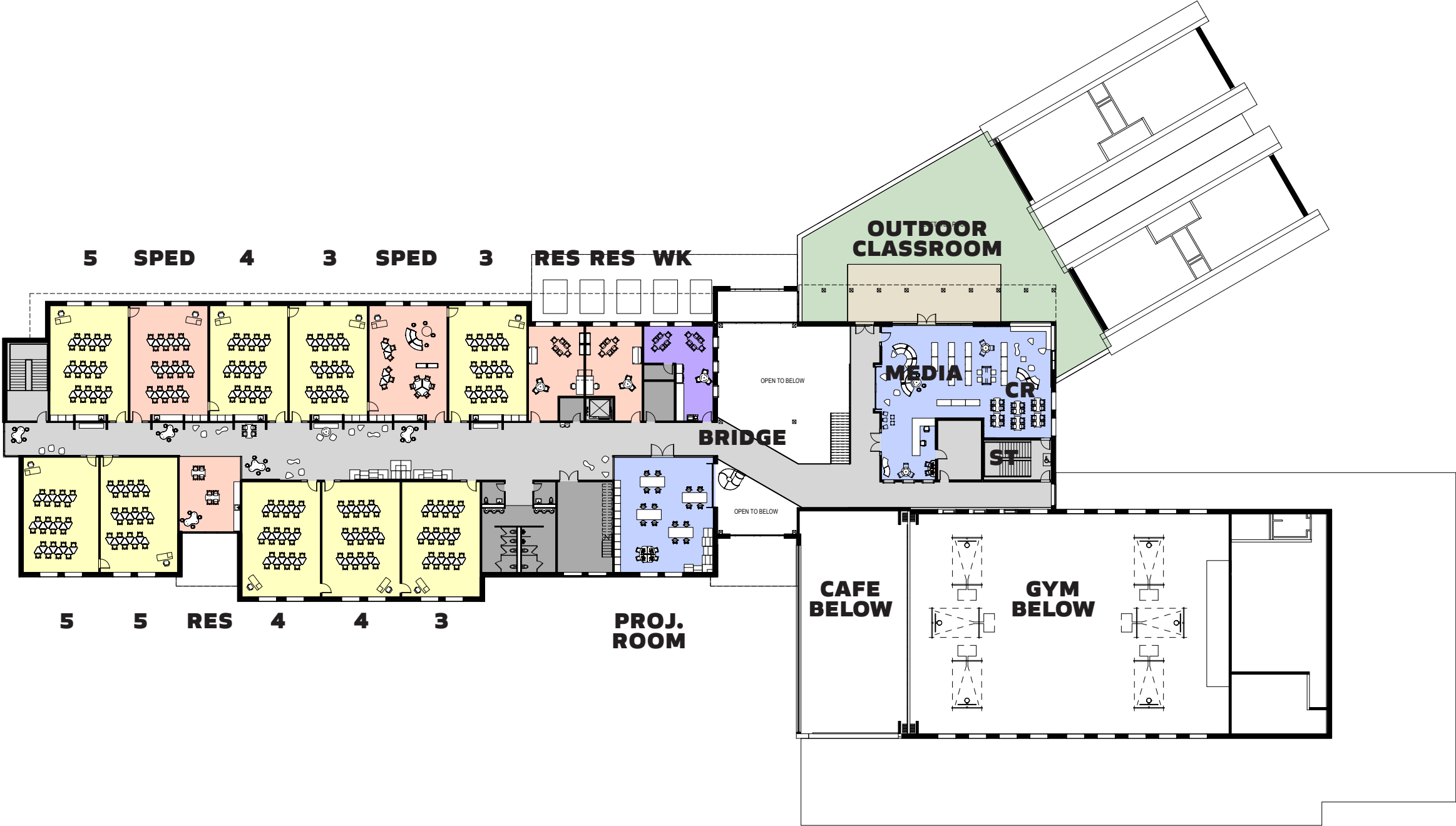


# MAIN LEVEL PLAN UPDATED

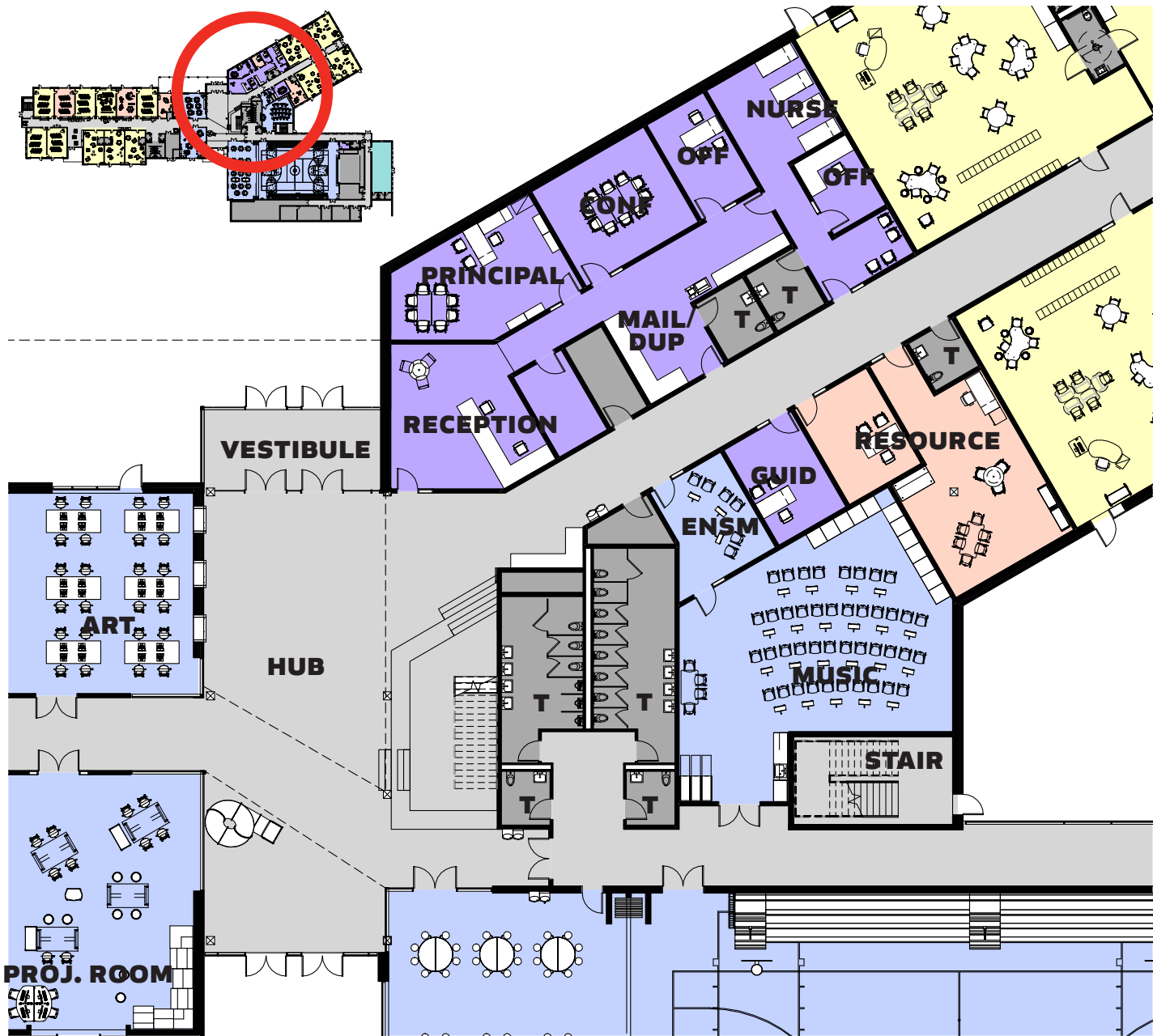




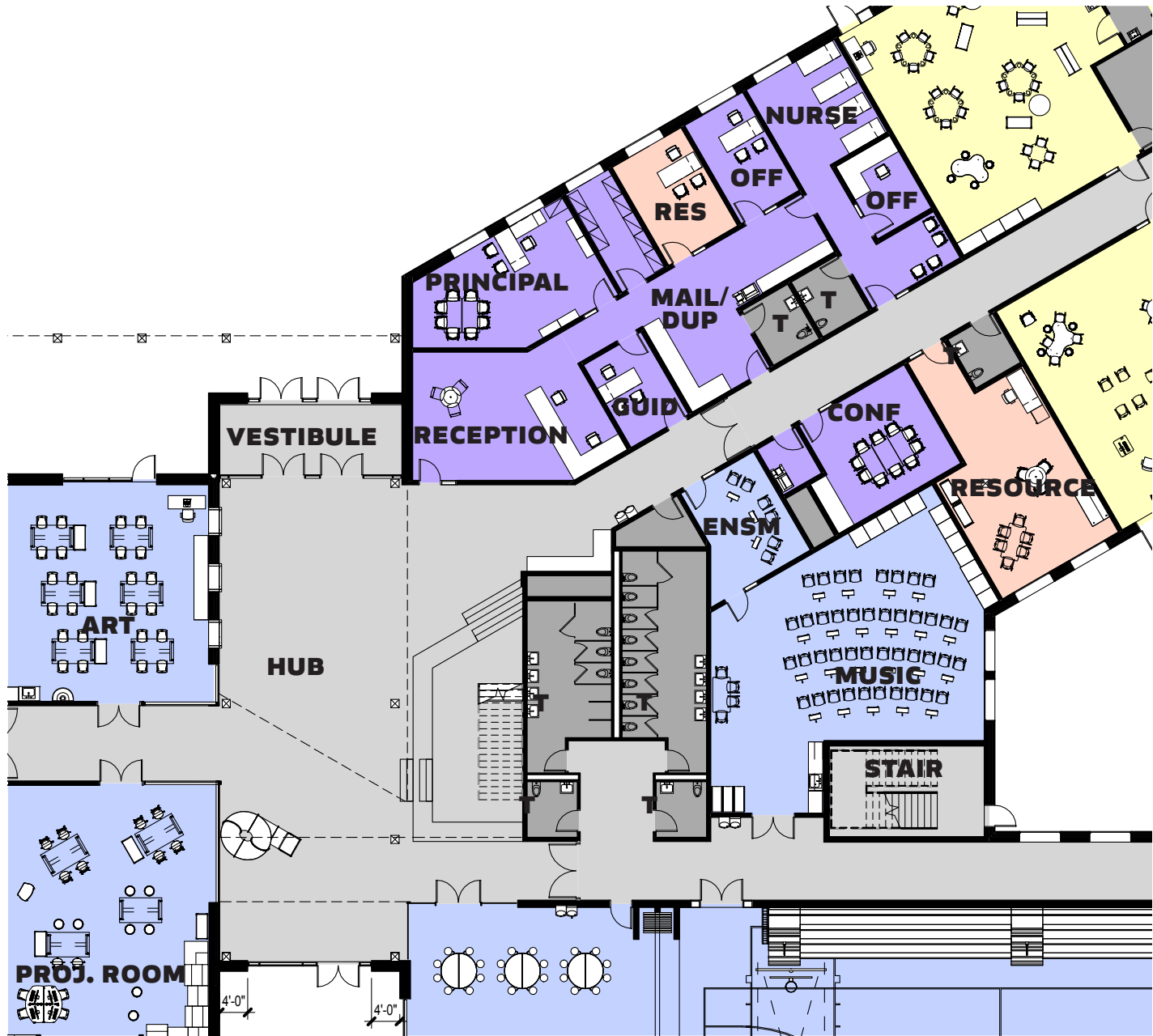
# UPPER LEVEL PLAN UPDATED



HUB 5/8/2018

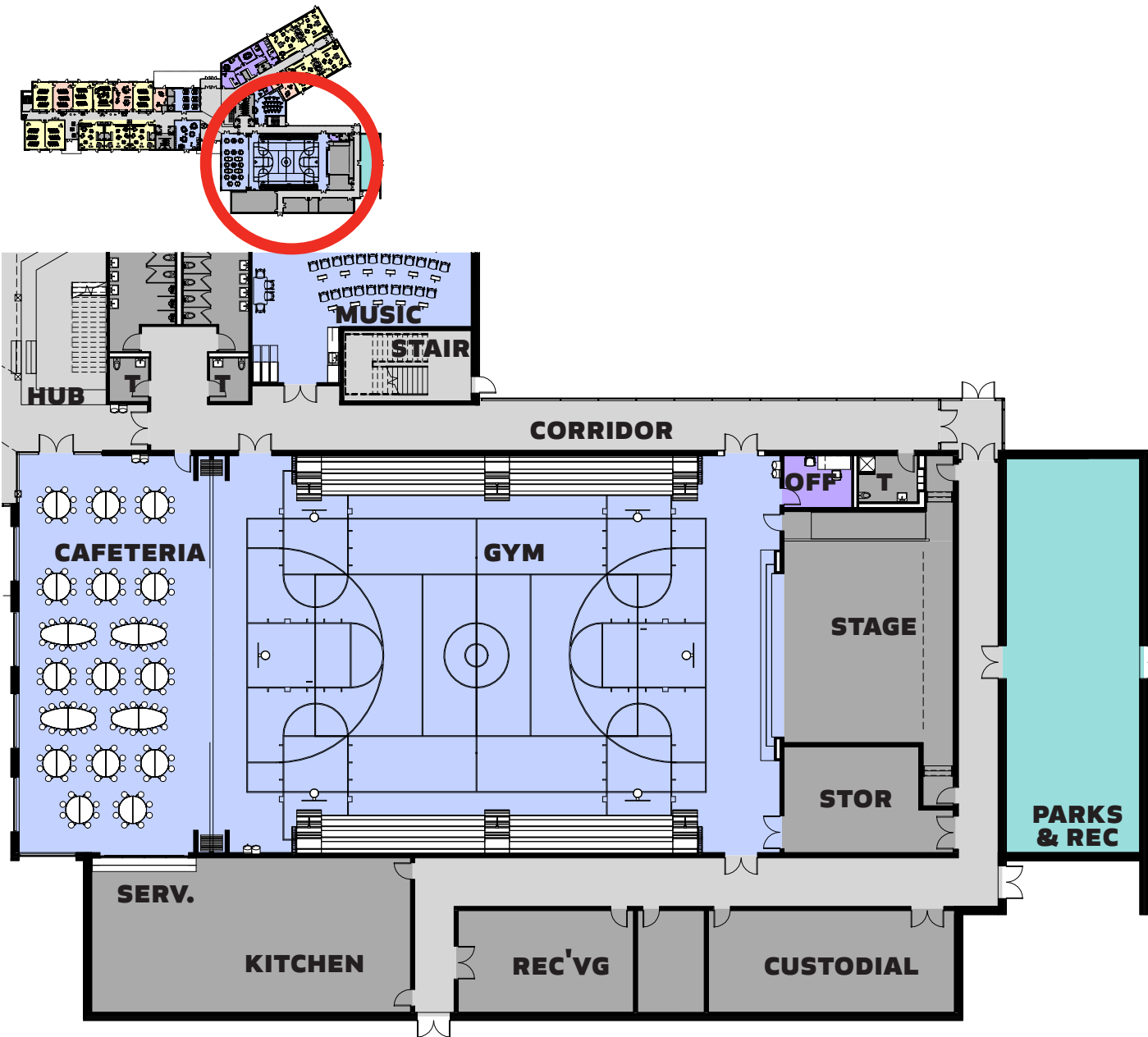


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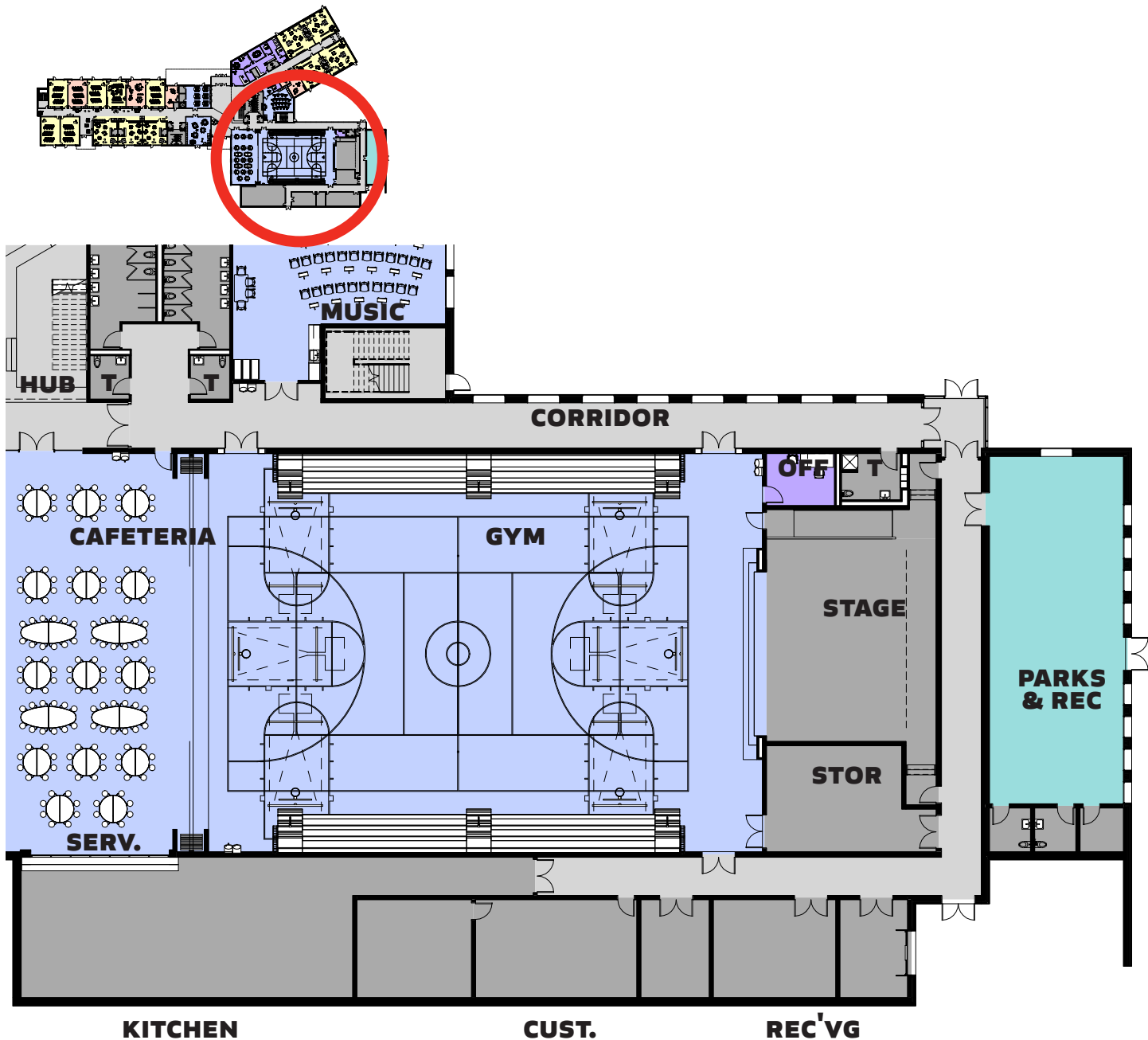




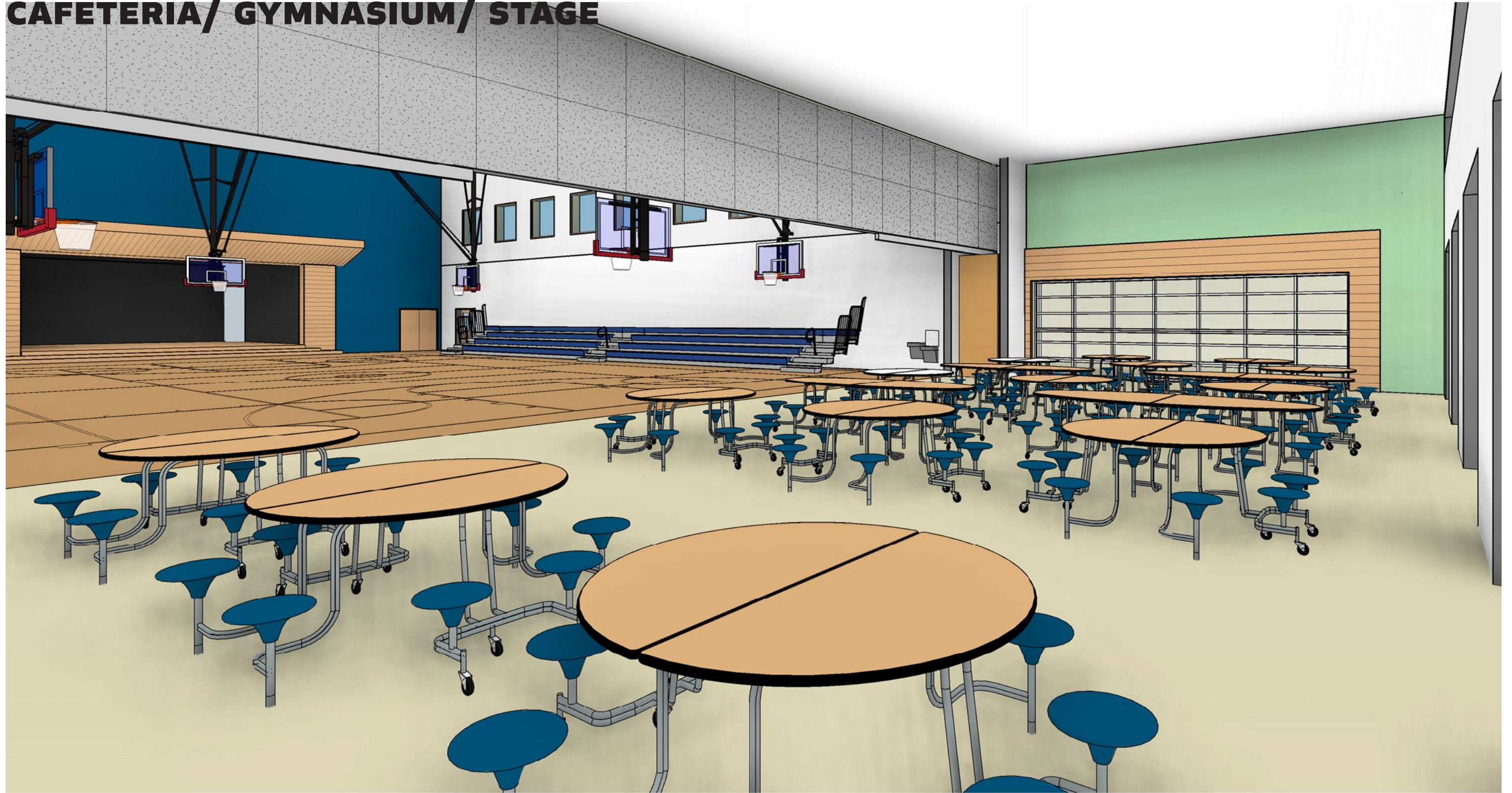
CAFE/GYM/STAGE 5/8/2018



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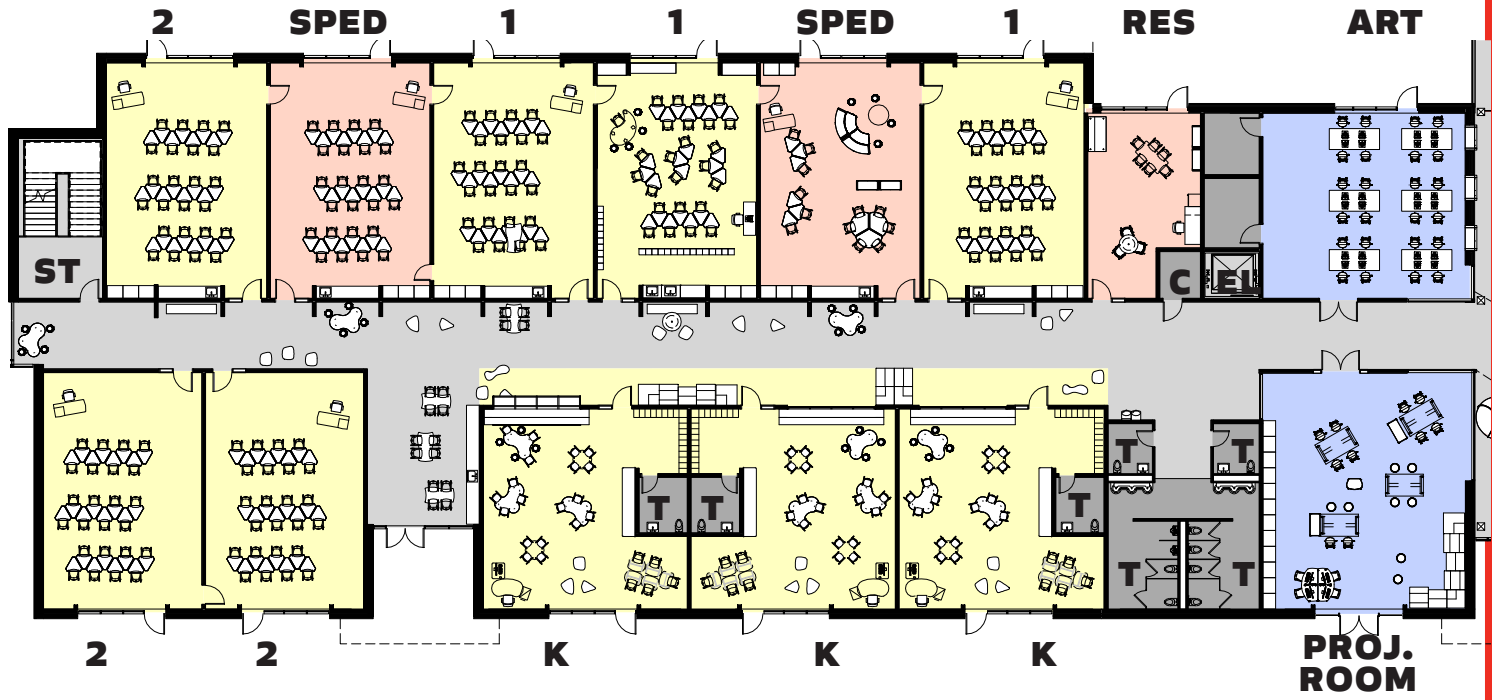


# CAFETERIA/ GYMNASIUM/ STAGE

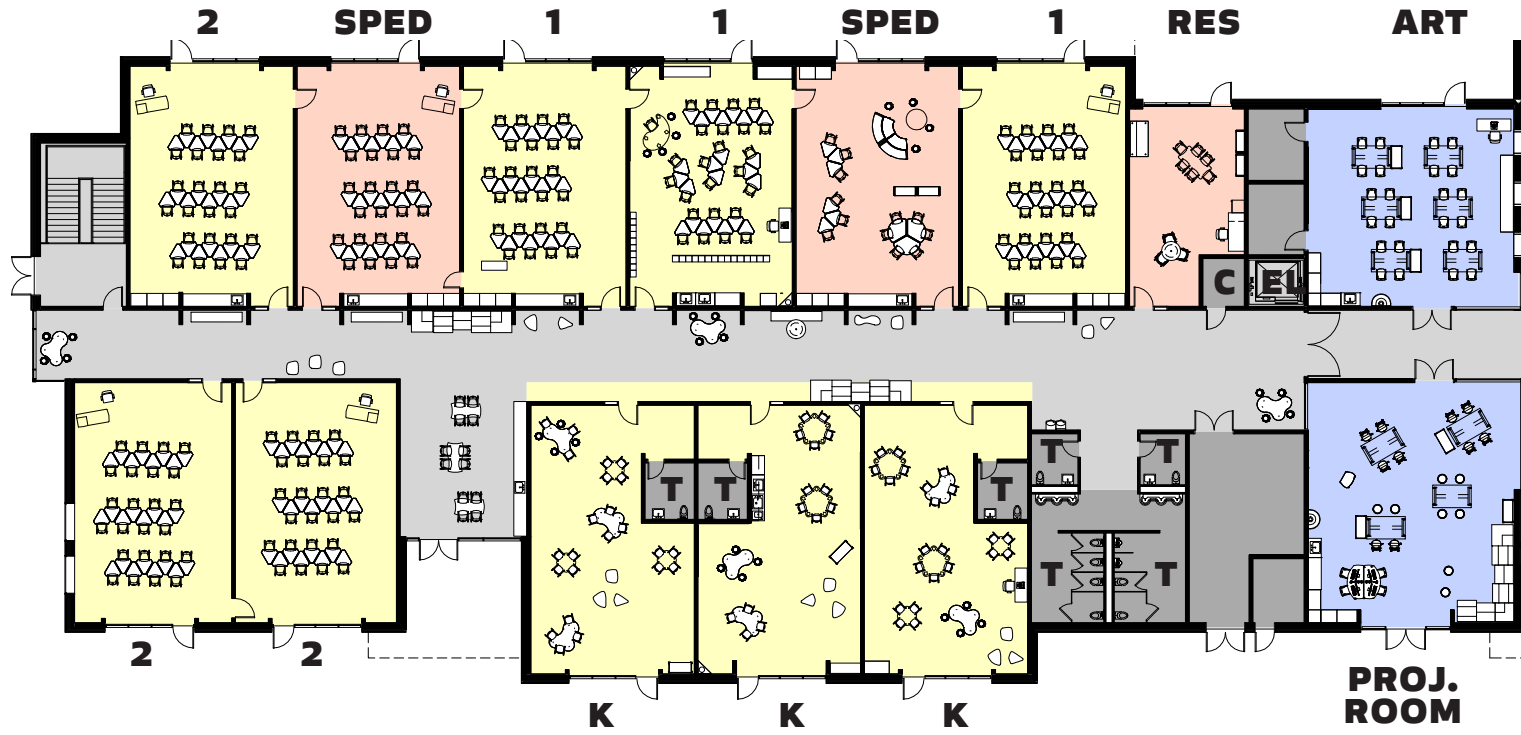




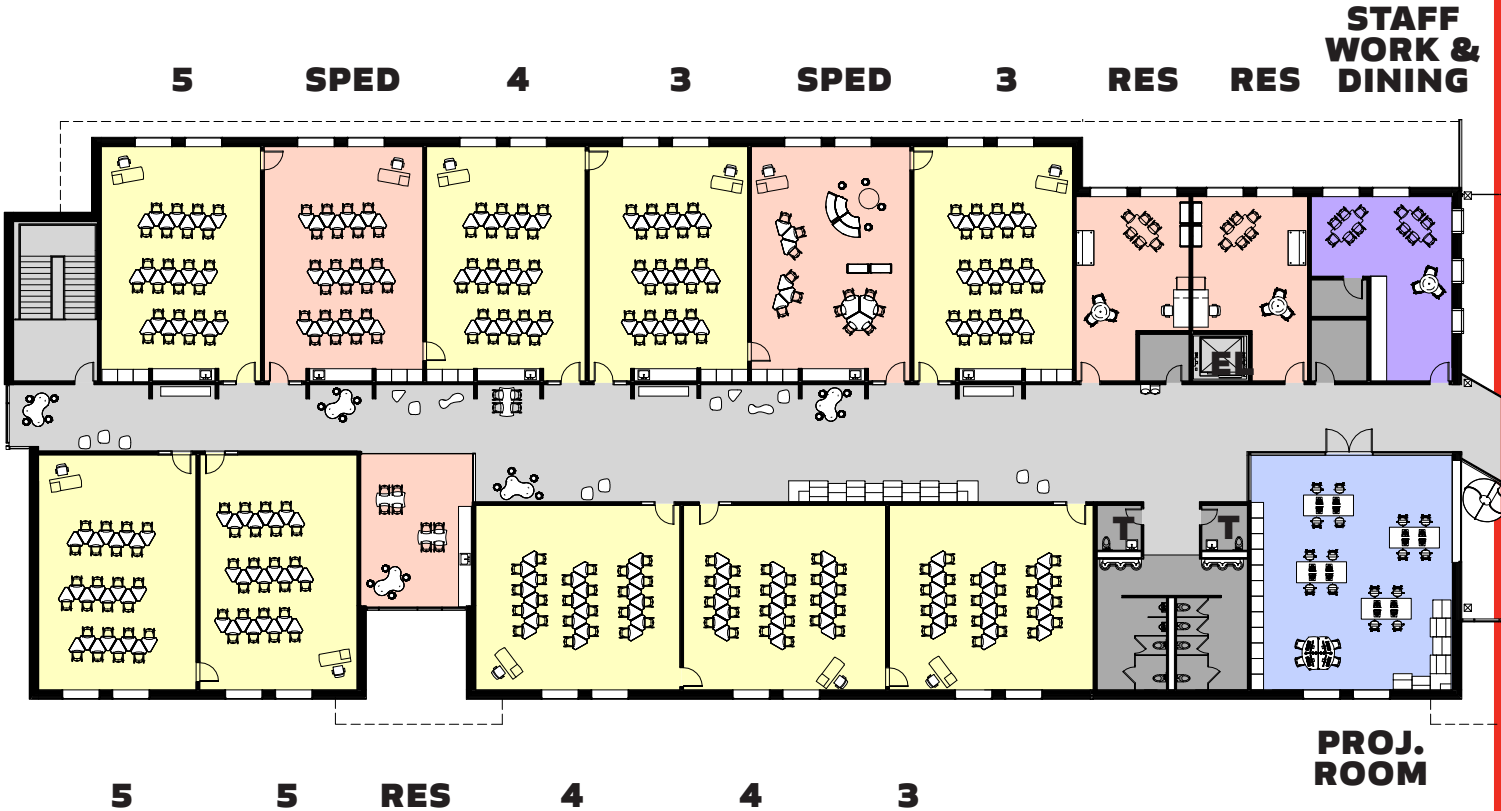
MAIN LEVEL COMMUNITIES 5/8/2018



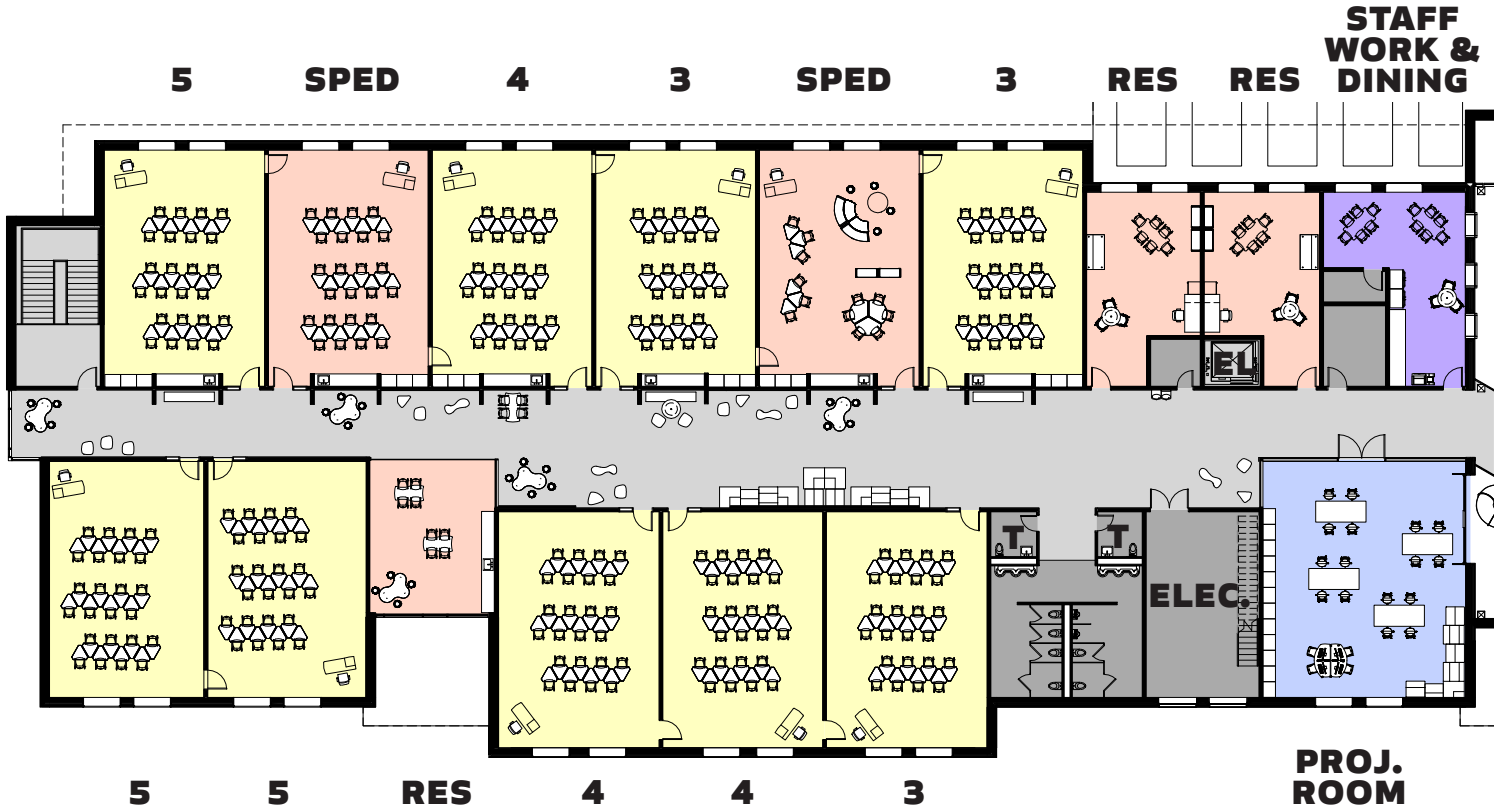
MAIN LEVEL COMMUNITIES 5/22/2018



UPPER LEVEL COMMUNITIES 5/8/2018



UPPER LEVEL COMMUNITIES 5/22/2018





# CLASSROOM COMMUNITY (5/8/18)

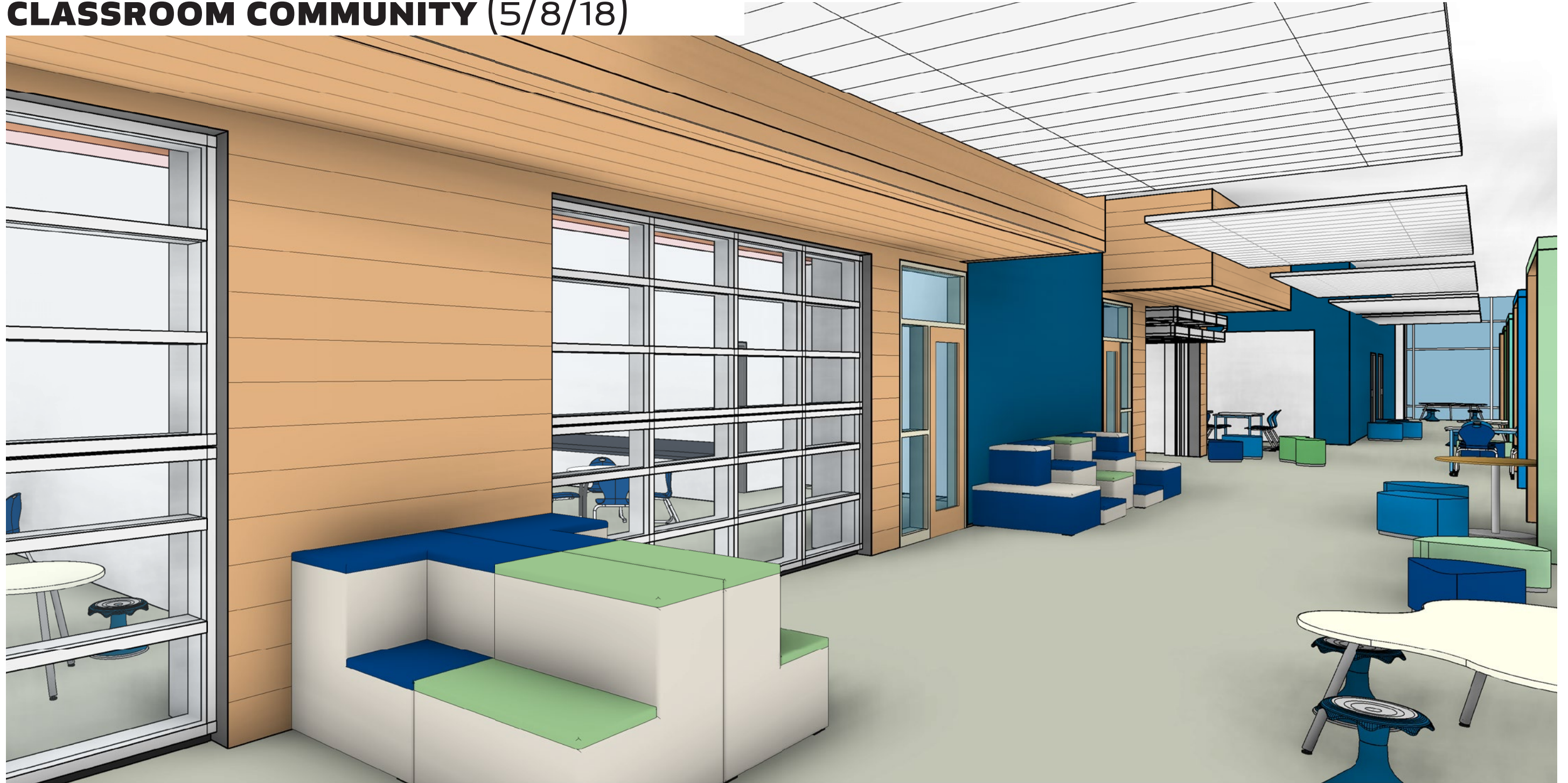


# CLASSROOM COMMUNITY (5/22/18)



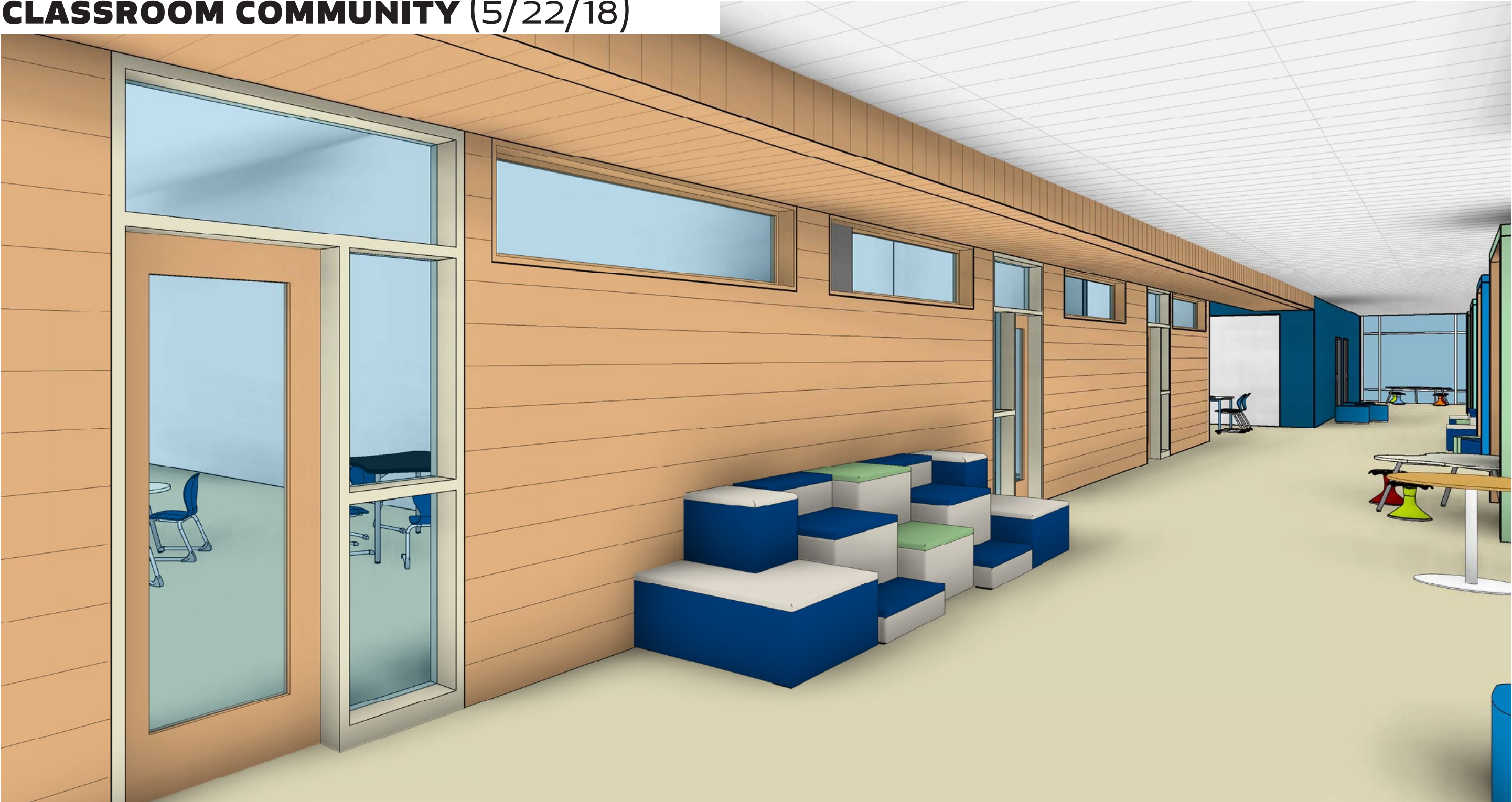


# CLASSROOM COMMUNITY (5/8/18)





**CLASSROOM COMMUNITY (5/22/18)**





**CLASSROOM COMMUNITY (UPPER) 5/22/18**



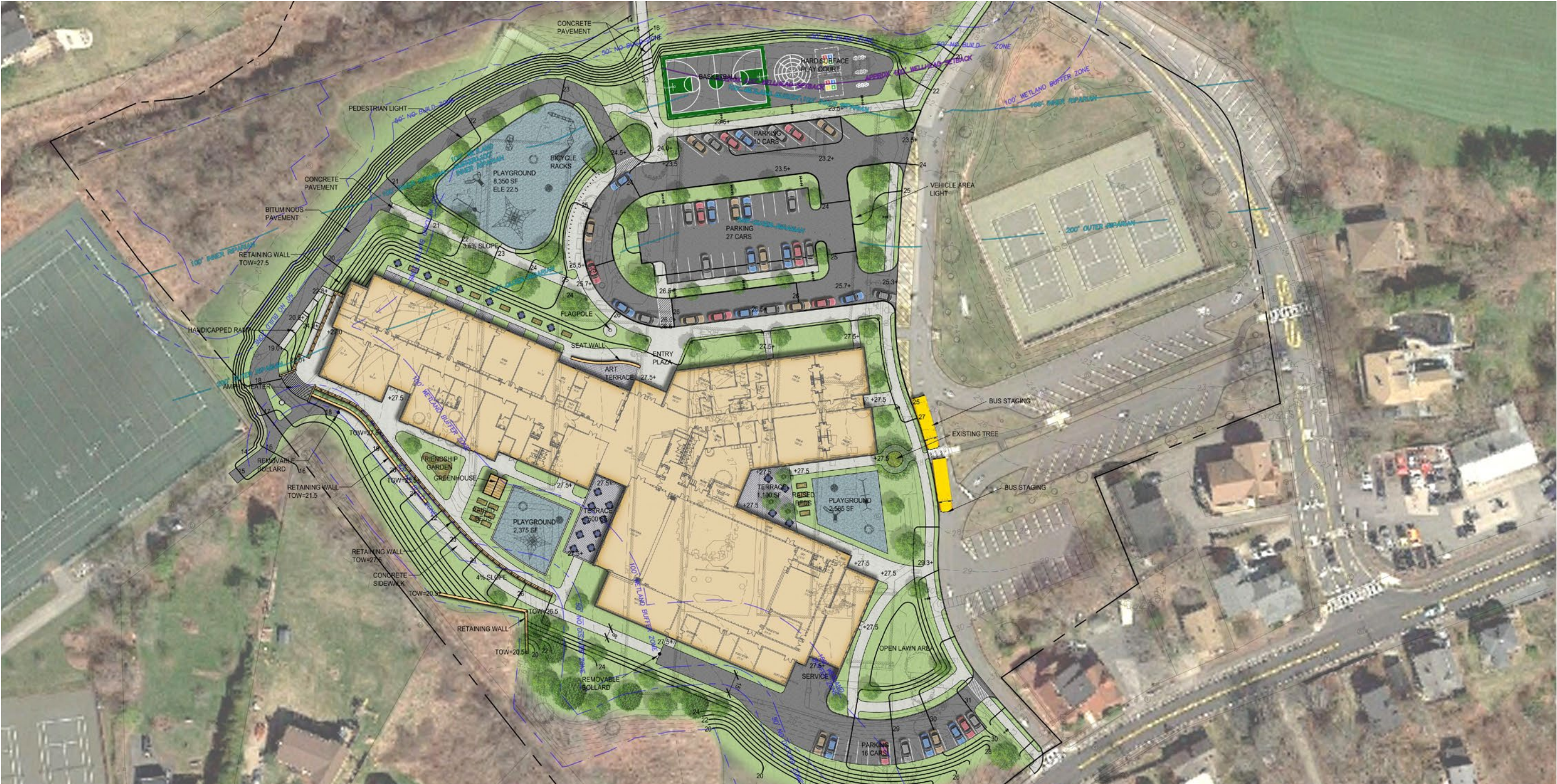
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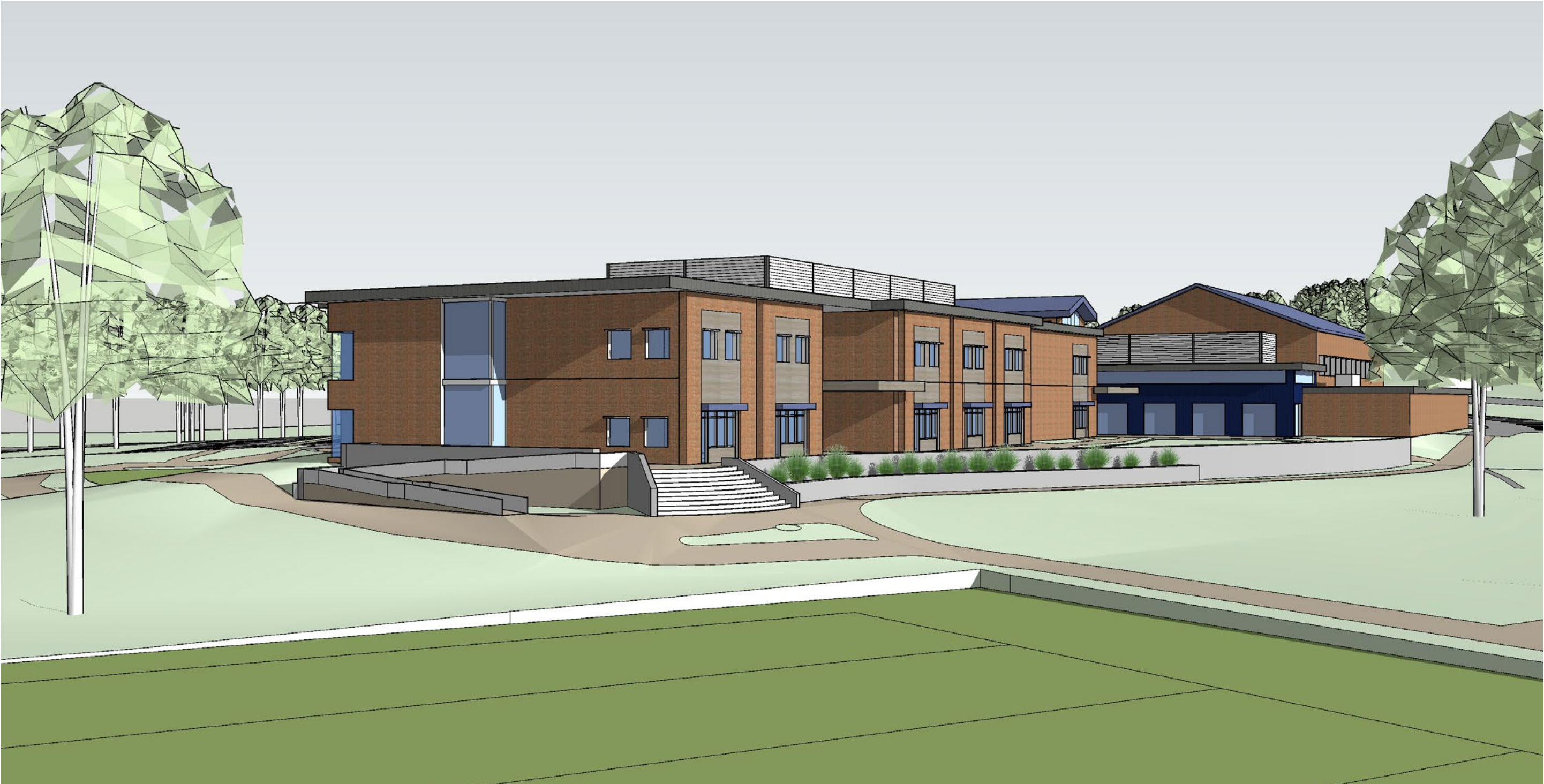


# SITE PLAN





**BUILDING MASSING**

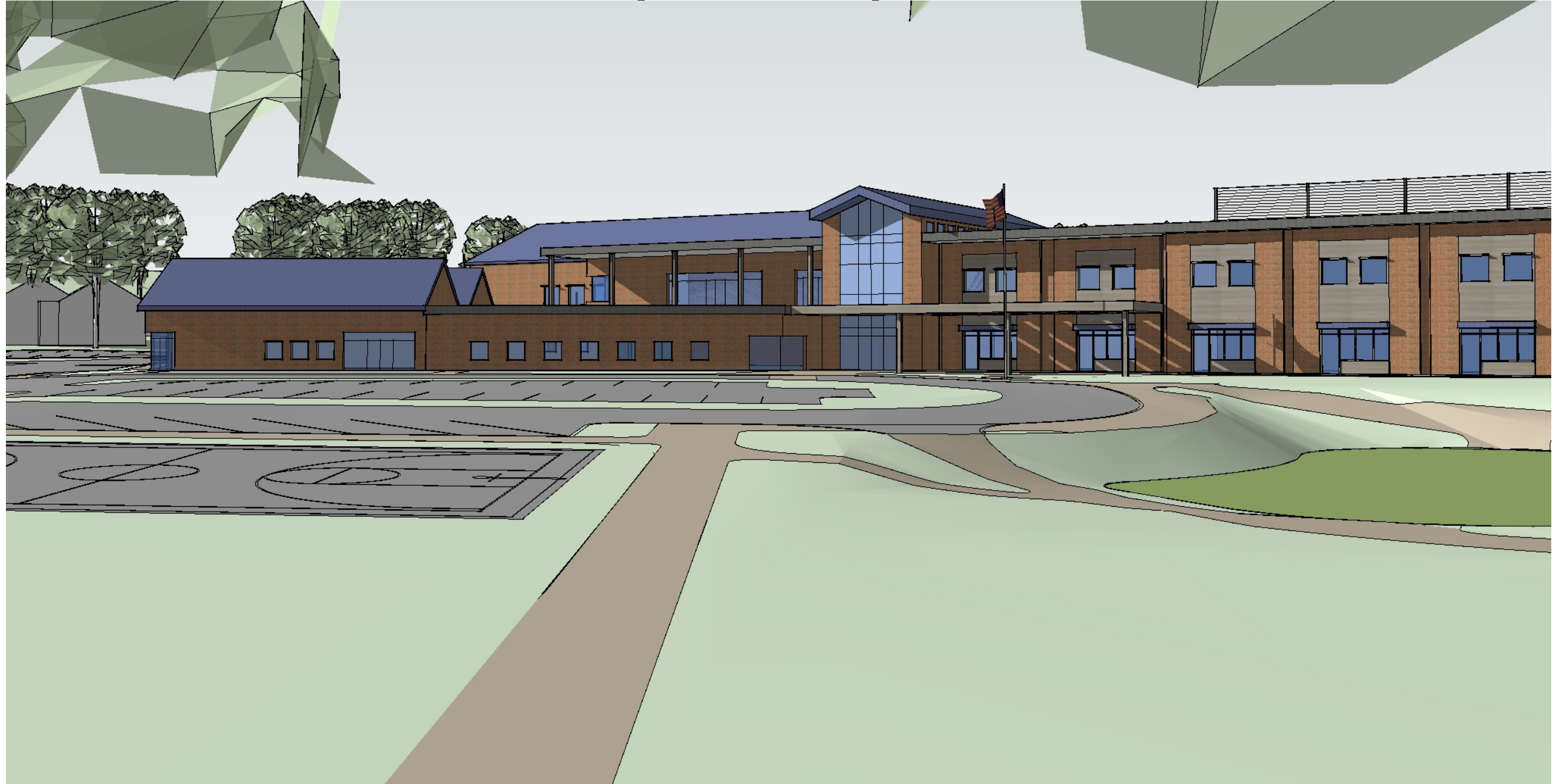




# BUILDING MASSING - MAIN ENTRY (ORIGINAL)



# BUILDING MASSING - MAIN ENTRY (LESS GLASS)

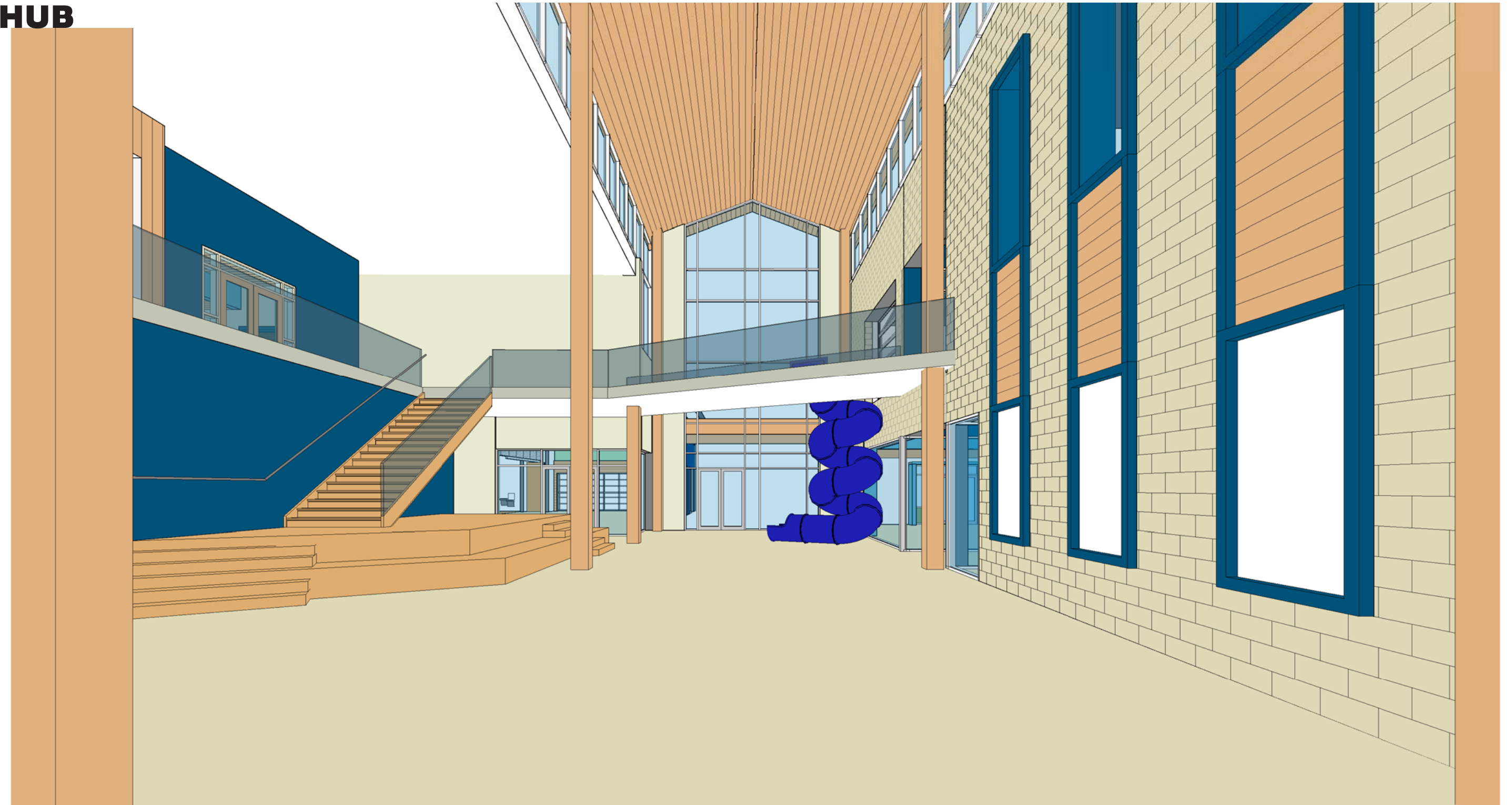




**BUILDING MASSING**



HUB



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# BUILDING MASSING - EXTERIOR (ORIGINAL)





# BUILDING MASSING - EXTERIOR (BARN GYM)





# BUILDING MASSING - EXTERIOR (FLAT GYM)



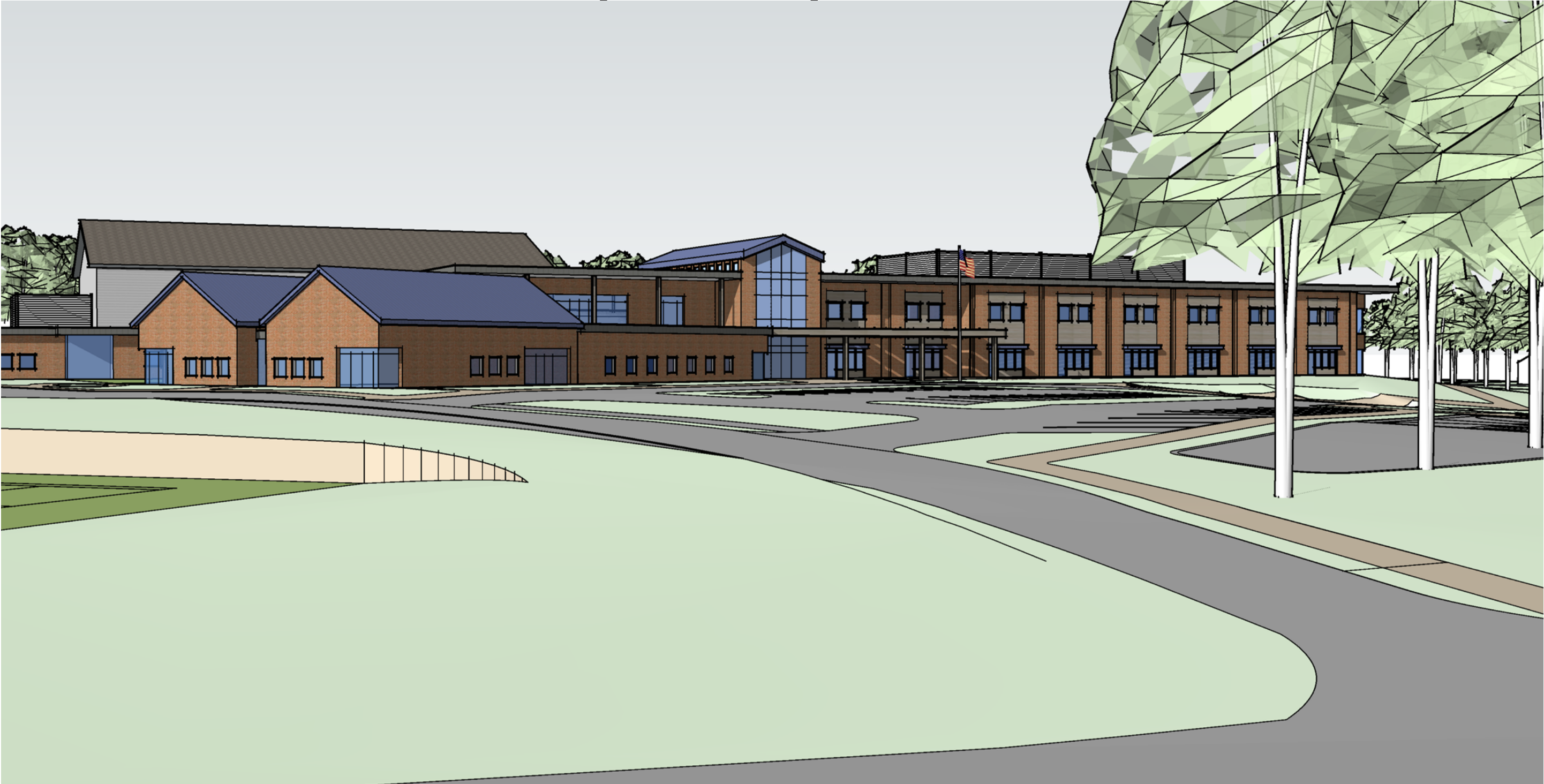


# BUILDING MASSING - APPROACH (ORIGINAL)

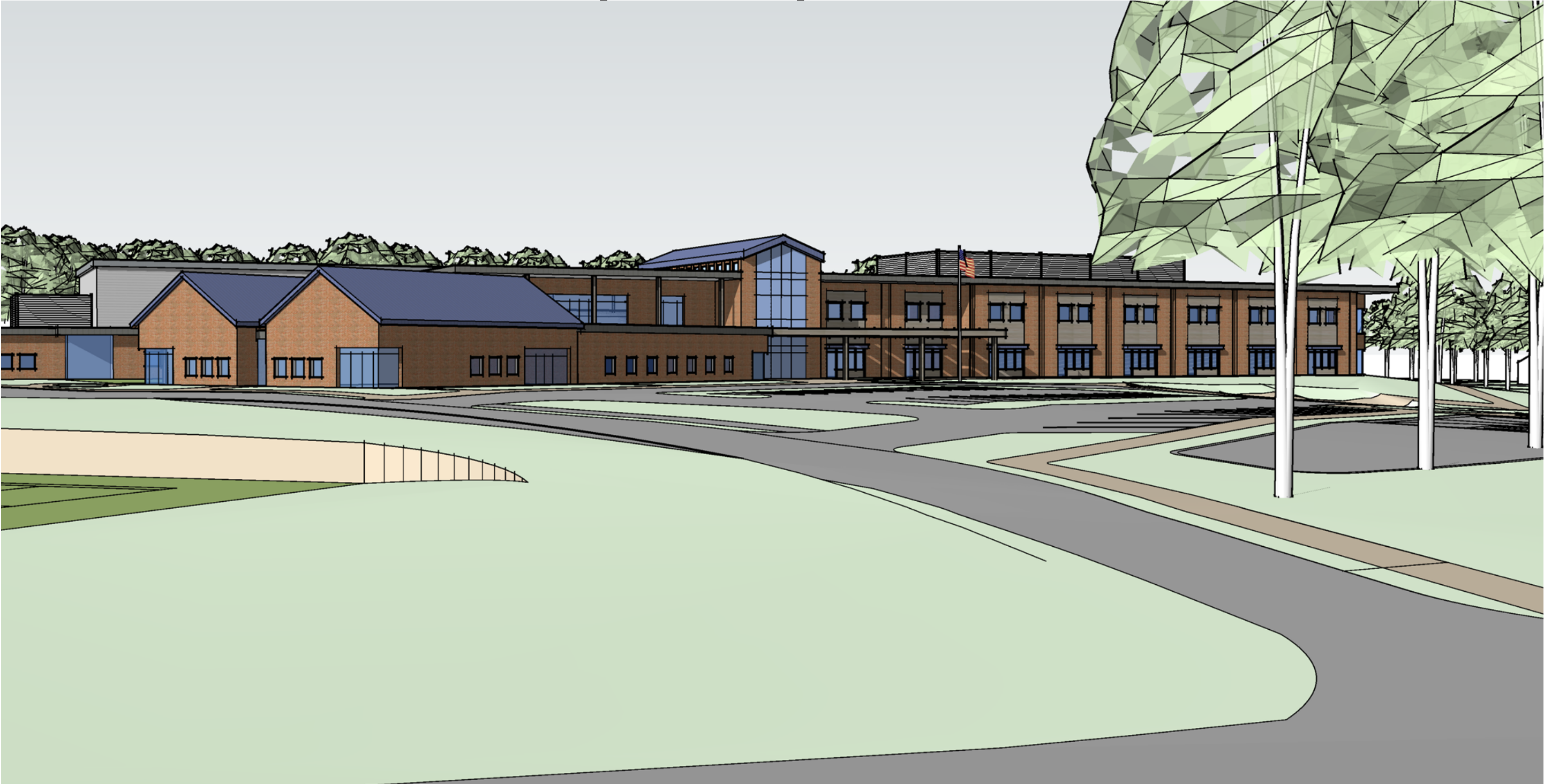




# BUILDING MASSING - APPROACH (BARN GYM)

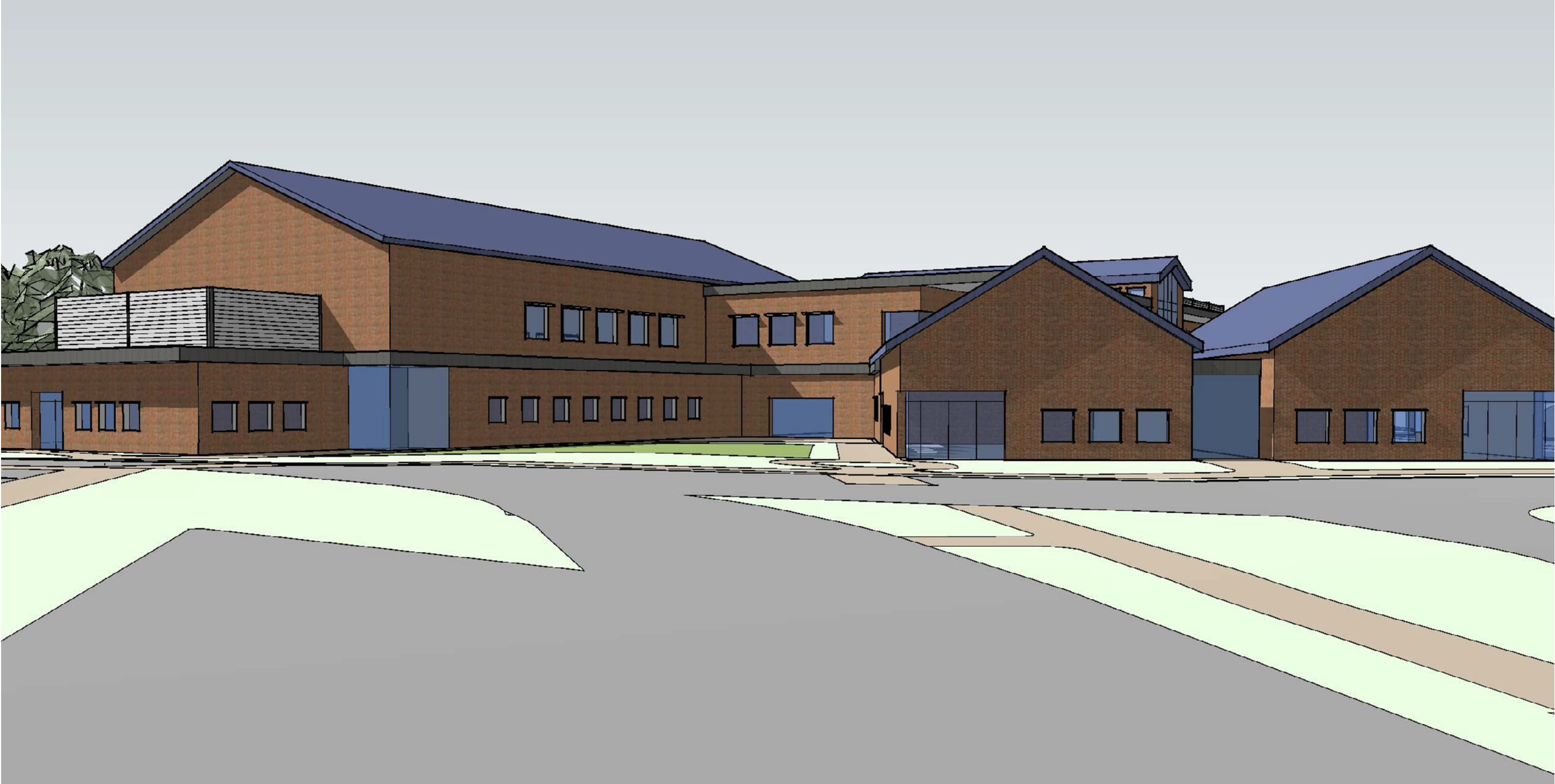


# BUILDING MASSING - APPROACH (FLAT GYM)





# BUILDING MASSING - GYM ENTRY (ORIGINAL)

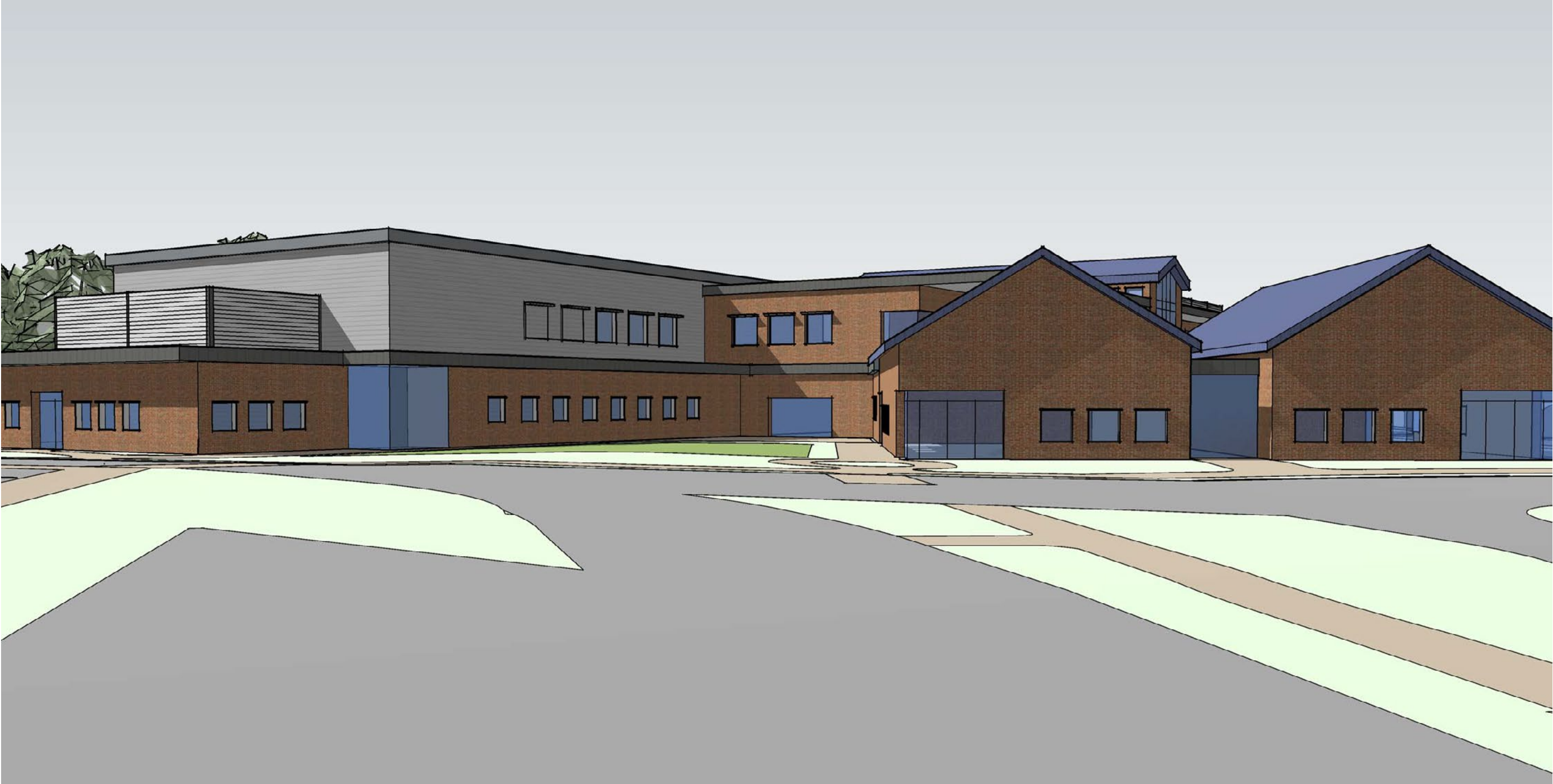


# BUILDING MASSING - GYM ENTRY (BARN GYM)





# BUILDING MASSING - GYM ENTRY (FLAT GYM)

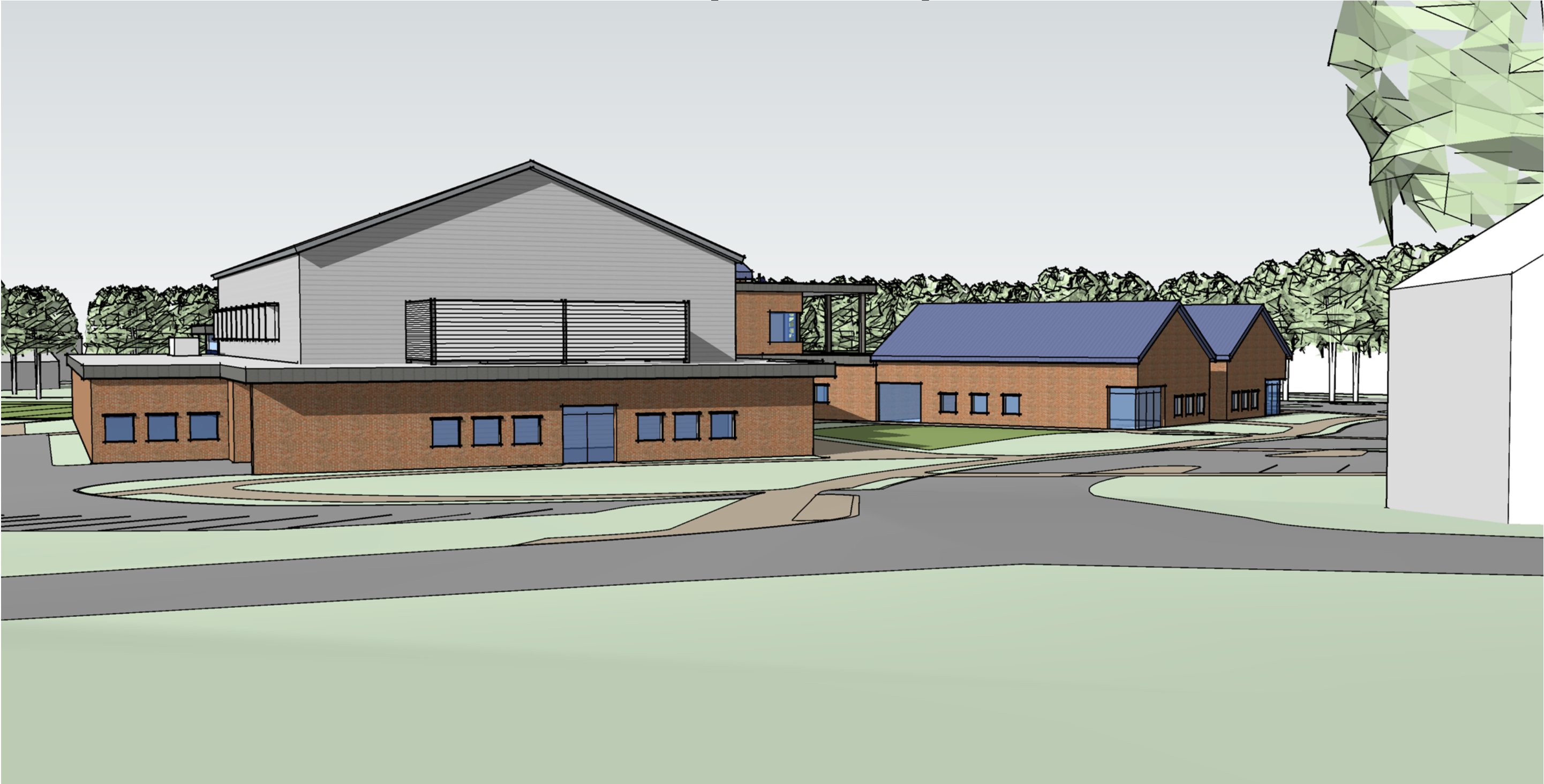


# BUILDING MASSING - SUMMER STREET (ORIGINAL)





# BUILDING MASSING - SUMMER STREET (BARN GYM)

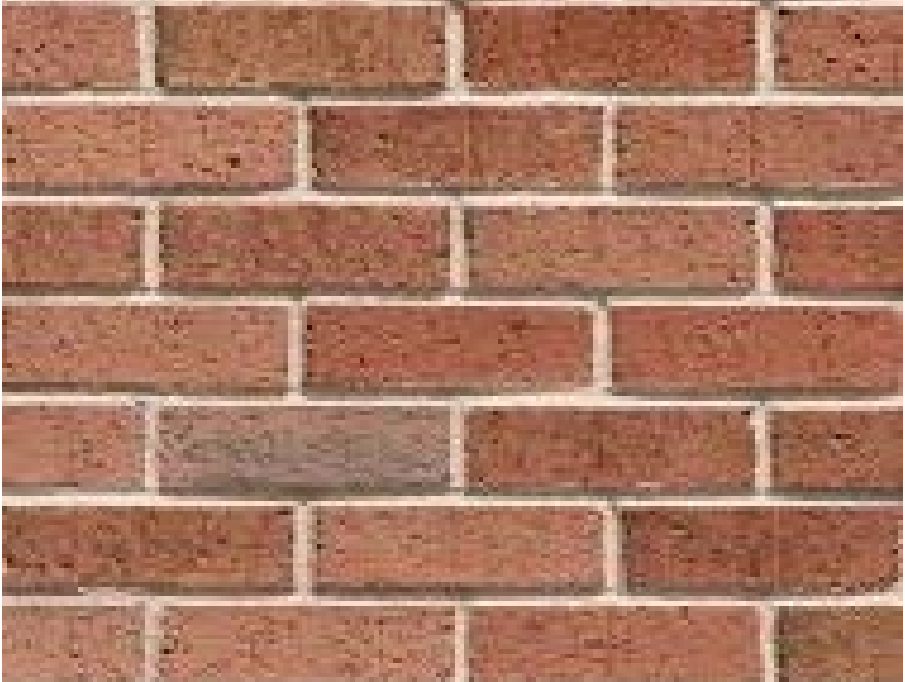


# BUILDING MASSING - SUMMER STREET (FLAT GYM)





# BUILDING ENVELOPE: ENVELOPE



**BRICK**

**CEMENTITIOUS FIBER BOARD**

**METAL PANEL**



# ROOFING OPTIONS



**PVC W/ RIBS**

**ASPHALTIC SHINGLES**

**STANDING SEAM METAL**



## BUILDING ENVELOPE: ROOFING

### PRICING ALTERNATES: GYMNASIUM & PRE-K ROOF

- **FLAT ROOF / TPO MEMBRANE**  
(\$675,000) (25-30 YEARS) (\$1,500,000 OVER 50 YEARS)
- **GABLED / ASPHALTIC SHINGLE**  
(\$725,000) (20-25 YEARS) (\$1,115,000 OVER 50 YEARS)
- **GABLED / SARNAFIL W/ RIBS**  
(\$885,000) (25-30 YEARS) (\$1,370,000 OVER 50 YEARS)
- **GABLED / STANDING SEAM**  
(\$1,360,000) (50 YEARS) (\$1,360,000 OVER 50 YEARS)

**ASSUMES 4.5% ESCALATION YEAR-OVER-YEAR**



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THANK YOU

