Westwood Public Schools

Hanlon Elementary School Building Project

School Building Committee

11.06.2020

Agenda

- Building Project Key Dates
- Sustainability Subcommittee Update
- Schematic Design Update
- Eversource Incentive Program
- Next Steps

Building Project Key Dates

November:

16th: Submit Schematic Design (SD) Package for Cost Estimates

December:

11th: SBC Meeting – Presentation of Cost Estimates and Budget

14th: Select Board, Fin Comm, School Committee Joint Meeting

15th: Community Presentation

18th: SBC vote on SD Submission to MSBA with Budget

29th: Design Team submits SD Package to MSBA

February 2021

MSBA Board Meetings

Spring 2021:

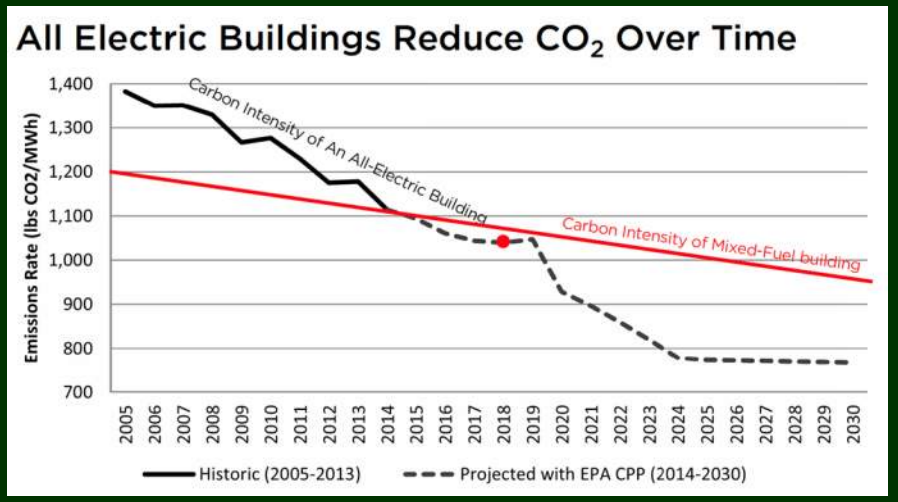
Town Meeting – Ballot Vote

Sustainability Subcommittee Update

HVAC Recommendations

- Use MERV-14 filters (as designed) with UV-C as an alternate (add $100k)
- Use Design Degree day of 3 deg F as identified by ASHRAE climate data for Westwood (as designed)
- Add valve to heating plant for future expansion (negligible cost)
- Use Natural Gas Emergency Generator in lieu of Bio-Diesel (add $150k)

Sustainability Subcommittee Update



Net Zero Energy Ready

- Low Energy Building: Tracking 21 EUI
- Fossil Fuel Free - Geothermal
- PV infrastructure and REC's
- High Performance Ventilation
- Improved Envelope Design

LEED Checklist

- Targeting LEED-Sv4 Silver Certification

LEED v4 for BD+C: Schools
Project Checklist

Project Name: **Westwood Hanlon ES**
Date: **10.7.20**

Y	?	N			
1	0	0	**Integrative Process**		1
1			Credit	Integrative Process	1
3	6	6	**Location and Transportation**		15
		N	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
1	1		Credit	High Priority Site	2
1	1	3	Credit	Surrounding Density and Diverse Uses (RP@4)	5
	2	2	Credit	Access to Quality Transit (RP@1)	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
	1		Credit	Green Vehicles	1
4	7	1	**Sustainable Sites**		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat (RP@2)	2
1			Credit	Open Space	1
	3		Credit	Rainwater Management	3
	2		Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
		1	Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1
3	9	0	**Water Efficiency**		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1	1		Credit	Outdoor Water Use Reduction	2
2	5		Credit	Indoor Water Use Reduction	7
	2		Credit	Cooling Tower Water Use	2
	1		Credit	Water Metering	1
22	9	0	**Energy and Atmosphere**		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning	6
14	2		Credit	Optimize Energy Performance (RP@8)	16
	1		Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
3			Credit	Renewable Energy Production (RP@2)	3
	1		Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

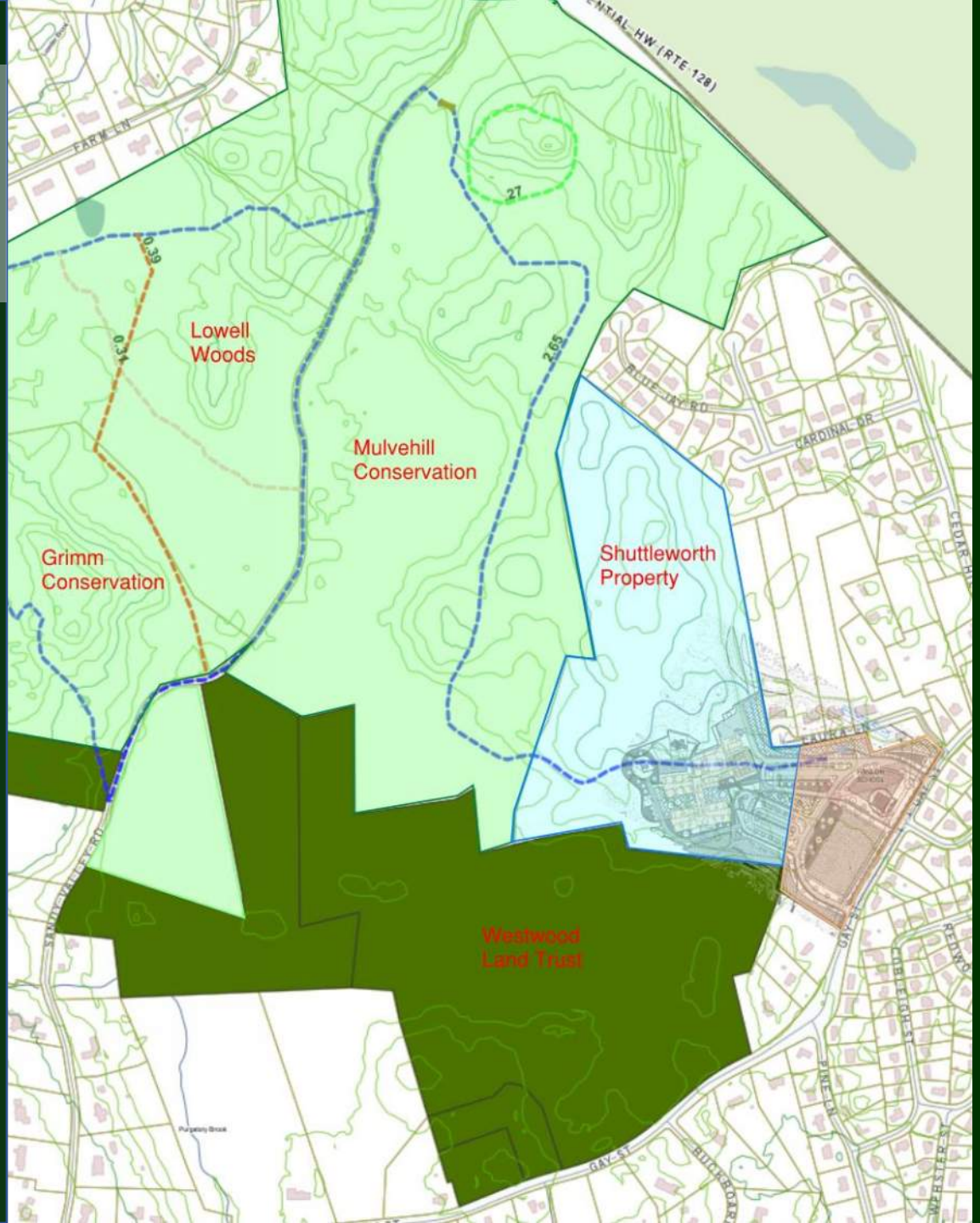
Y	?	N			
3	8	2	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	5		Credit	Building Life-Cycle Impact Reduction (RP@2)	5
1	1		Credit	BPDO - Environmental Product Declarations	2
	1	1	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1		1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
1	1		Credit	Construction and Demolition Waste Management	2
6	10	0	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
	1		Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
	3		Credit	Daylight	3
	1		Credit	Quality Views	1
	1		Credit	Acoustic Performance	1
4	2	0	**Innovation**		6
1			Credit	Innovation: Resonsible Purchasing - Lamps	1
1			Credit	Innovation: Economic and GHG Analysis of Mechanical Systems	1
1			Credit	Innovation: Pilot - Integrative Analysis of Building Materials	1
	1		Credit	Innovation: TBD	1
	1		Credit	Innovation: TBD	1
1			Credit	LEED Accredited Professional	1
2	2	0	**Regional Priority (max of 4 points) Credit Names have been underlined**		4
		x	Credit	Surrounding Density and Diverse Uses (RP@4)	
	1		Credit	Access to Quality Transit (RP@1)	1
	1		Credit	Site Development - Protect or Restore Habitat (RP@2)	1
1			Credit	Optimize Energy Performance (RP@8)	1
1			Credit	Renewable Energy Production (RP@2)	1
	x		Credit	Building Life-Cycle Impact Reduction (RP@2)	

48	53	9	**TOTAL**	**Possible Points:**	**110**

Certified: 40 to 49 points, **Silver**: 50 to 59 points, **Gold**: 60 to 79 points, **Platinum**: 80 to 110

The Green Engineer
Sustainable Design Consulting

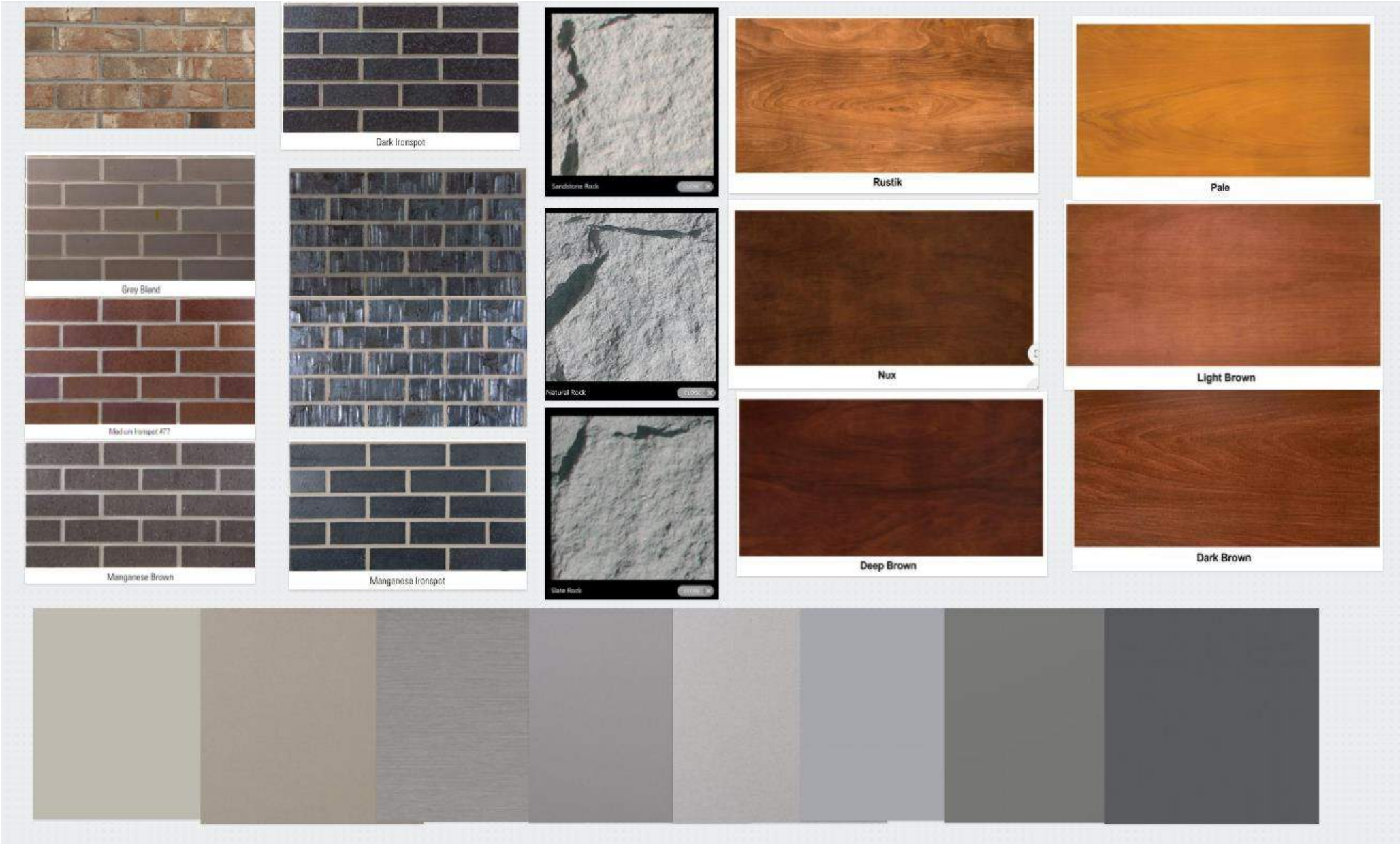
Community Context



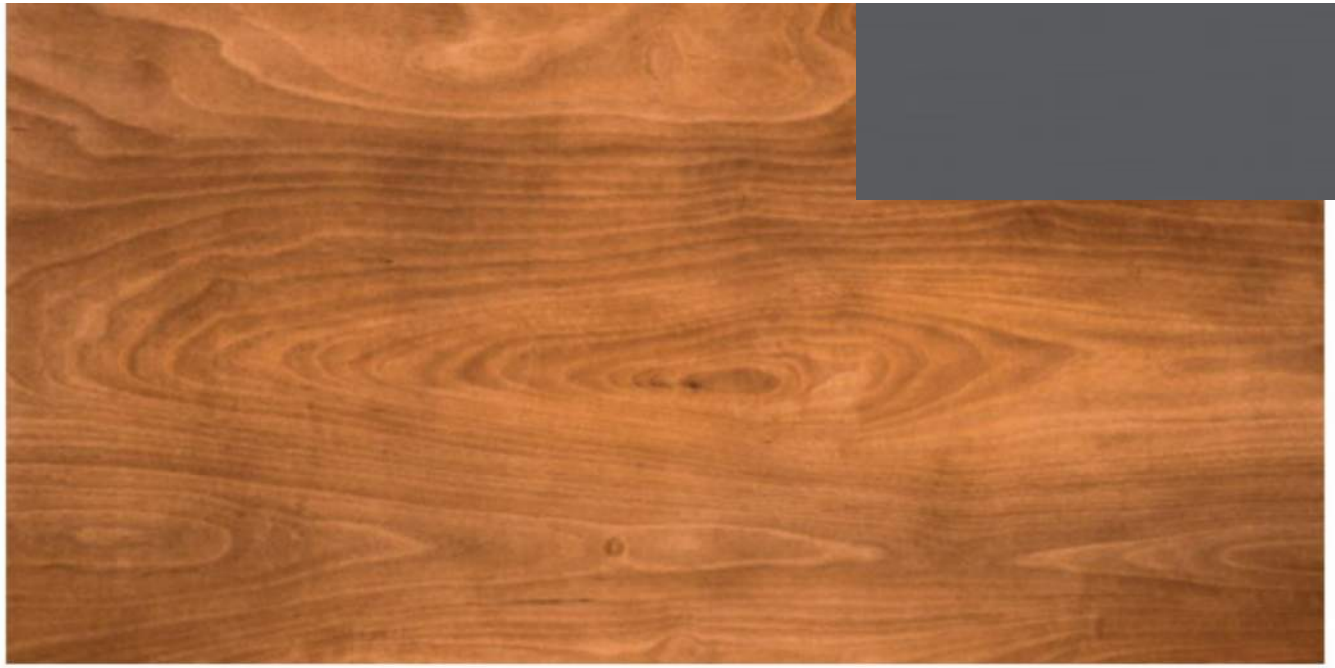
Existing Site Color Palette

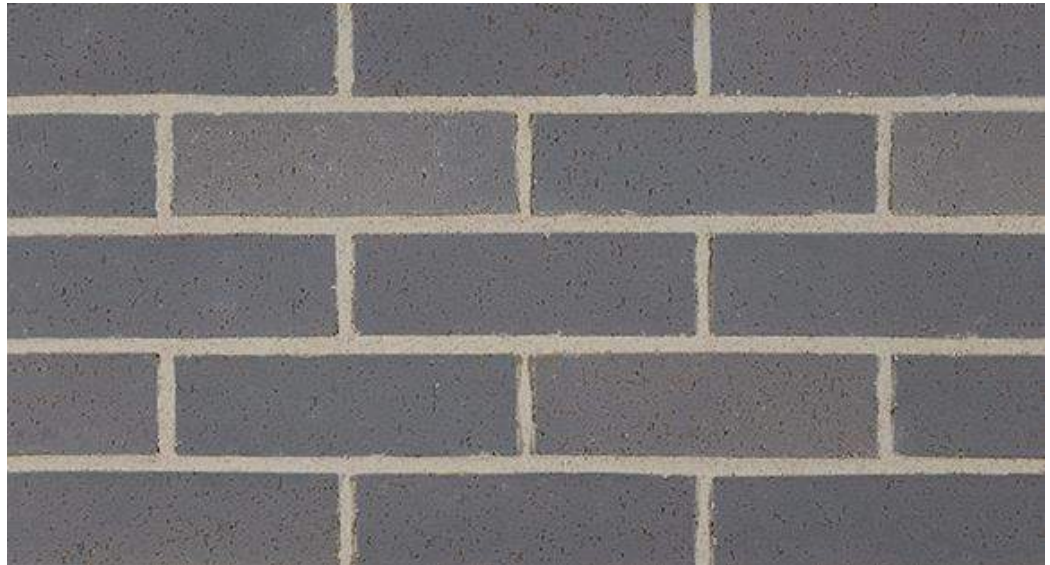
“a school in the woods”

Exterior Materials Palette

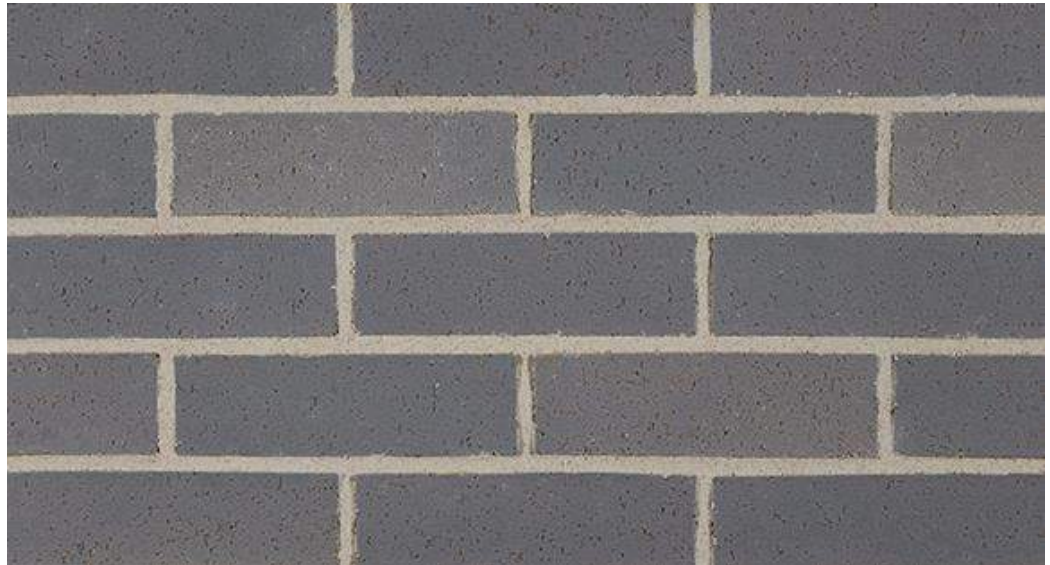


Materials Board – Concept -1





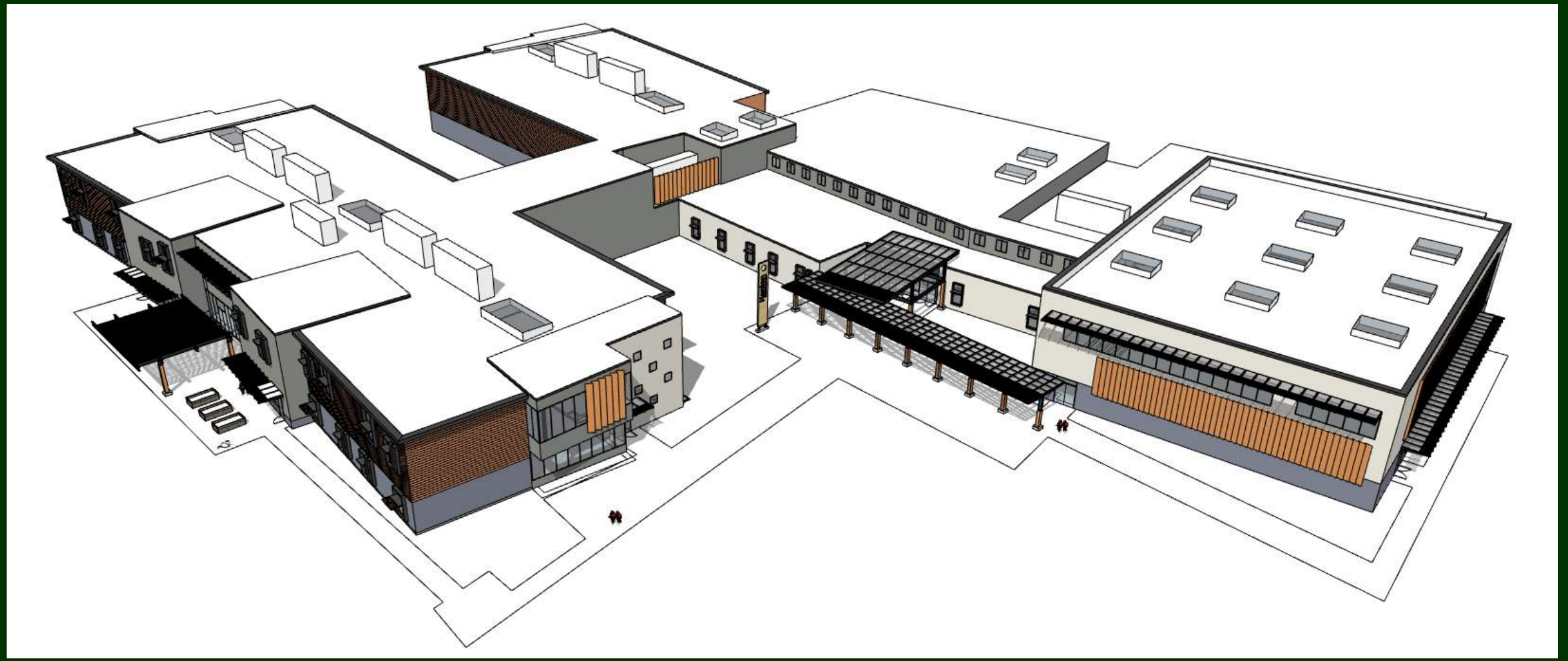
Materials Board – Concept -2



Exterior Inspiration Board


LOWELL TRAIL
K-1 PLAY
2-5 PLAY
HARDSCAPE PLAY
LAWN
SCHOOL TRAIL
FIRE LANE
OC1
OC2
OC3
FIRE LANE
GARDEN
BUS QUEUE: 13
56 SPACES
PARENT QUEUE: 16
66 SPACES
LAURA LANE
LOWELL TRAILHEAD AND PARKING
SCOUT HOUSE
LITTLE LEAGUE
11 V 11 SOCCER FIELD
GAY STREET
N
W
E

Site Plan



First Model

DORE + WHITTIER

10-7-20 Iteration

DORE + WHITTIER

10/21/20 Iteration

DORE + WHITTIER

Current Proposed Iteration

DORE + WHITTIER

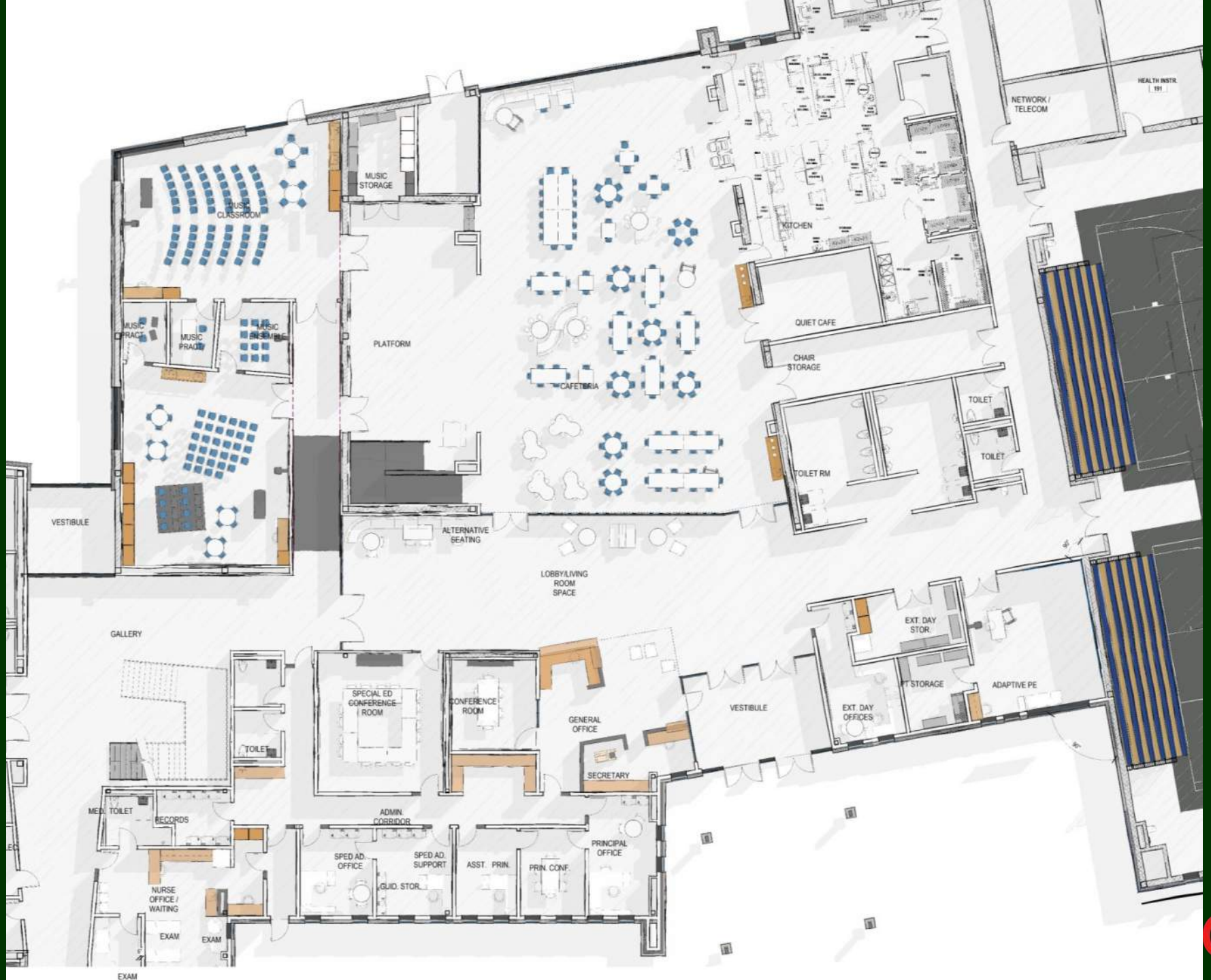

Hanlon


Hanlon
Elementary School

First Floor Plan

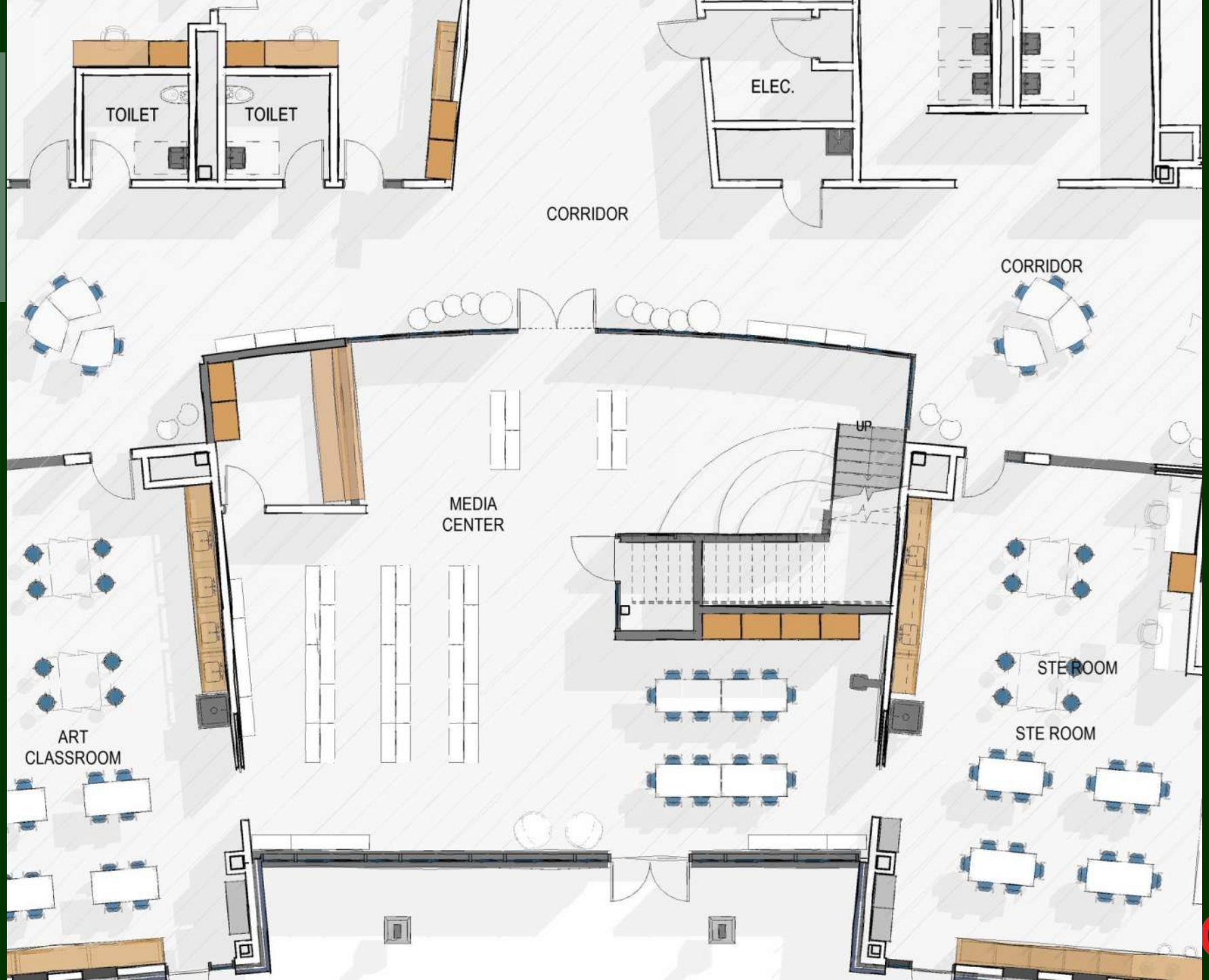
Second Floor Plan

Cafeteria and Admin

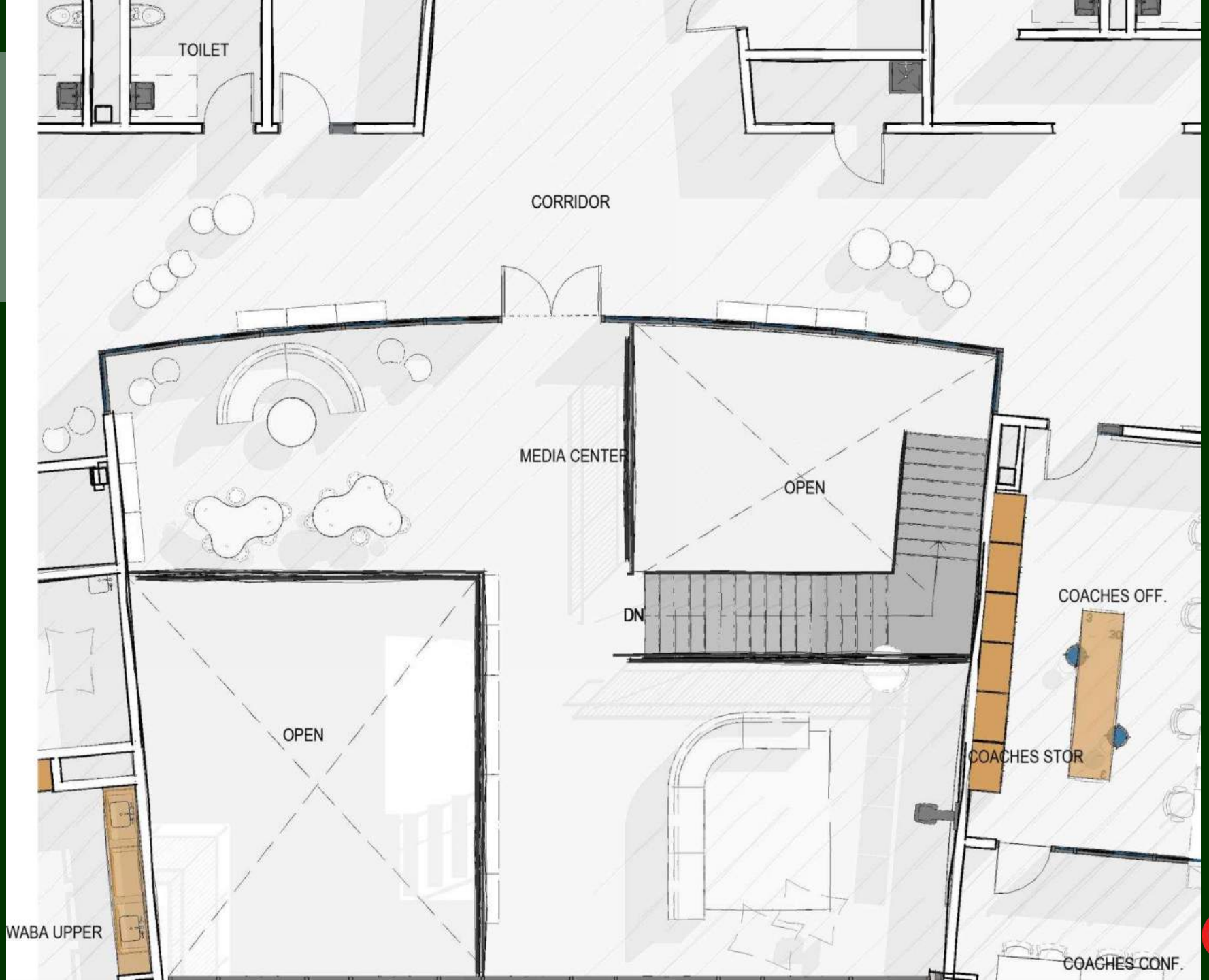


Classroom Wing

Library
1st Floor

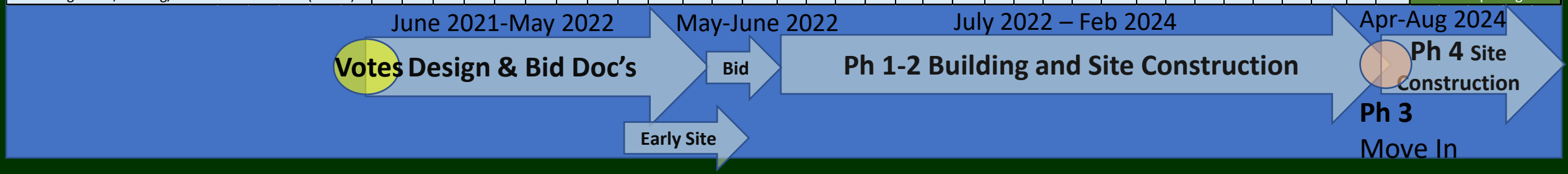


Library 2nd floor



Projected Project Schedule

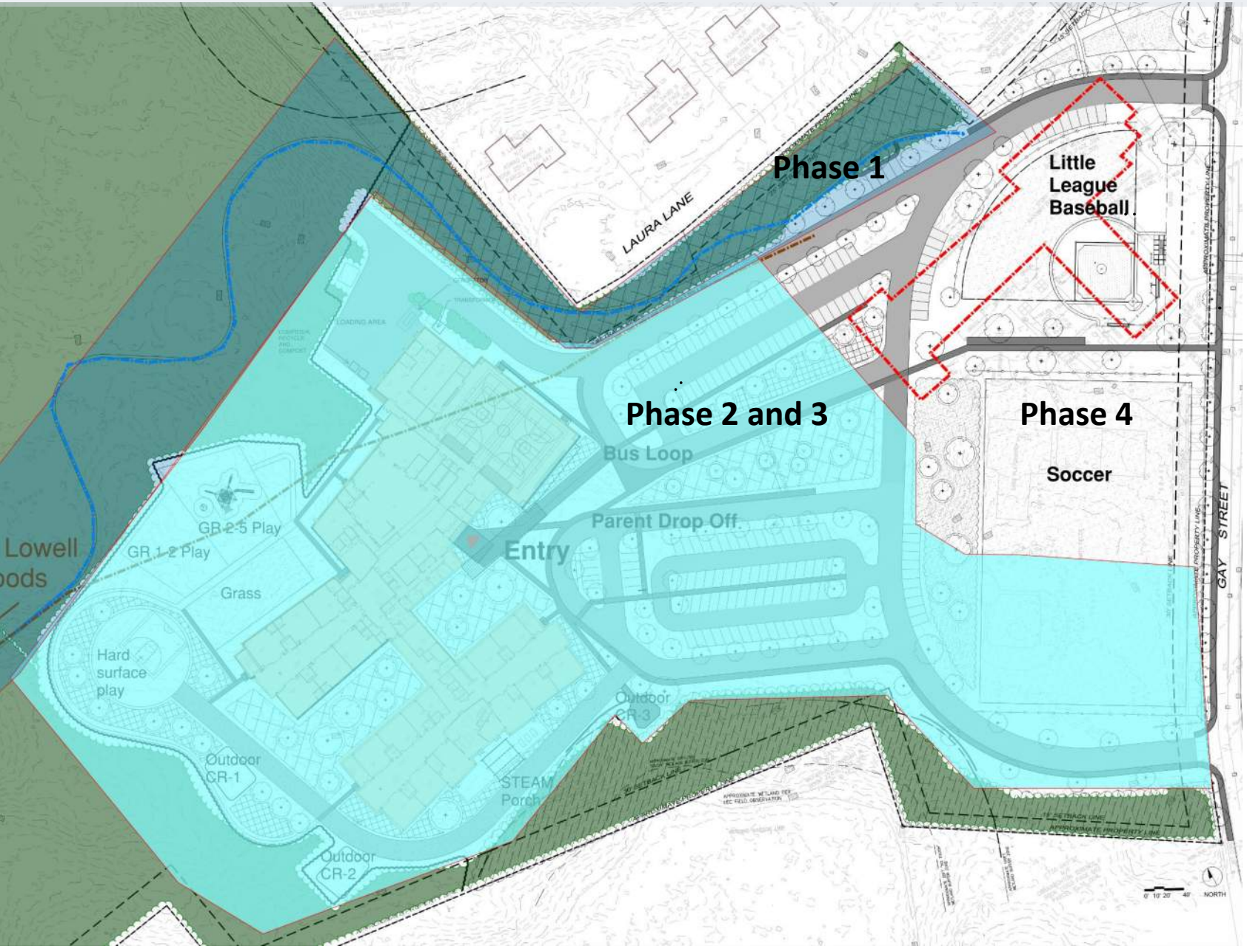
	2021												2022												2023												2024							
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug
Submit SD to MSBA Jan 6	*																																										
MSBA SD Vote		*																																									
Town Votes (bond and debt excl)					*	*																																				
DD (4 mos)						DD's: June-Oct 2021																																						
Submit DD to MSBA										*																																
CD (7 mos)										CD's: Oct 2021 - May 2022																																				
Submit 60% CD to MSBA													*																														
Submit 90% CD to MSBA															*																												
Bid clear, grub and prep														Biddng																													
Complete clear, grub, prep																Site Prep																											
Bid (2 mos)																	Biddng																										
CA (19 mos)7/22 - 02/24																			Site and Building Construction: July 2022 - Feb 2024																								
Occupancy																																					Pnch/Occ						
Abate (2 mos)																																								Abate			
Demolition (2 mos)																																									Demo		
Remaining Fields, Parking/Sidewalks and Drives (5 mos)																																									Final site Apr-Aug 2024		



Changes from PSR Schedule

- COVID and extent of earthwork = schedule extended 6 months

Construction Phasing Plan and Schedule



Phase 1: 2 months

Construct fencing- separation from existing school

Clear, grub, prep site

Construct new trail

Phase 2: 19 months

Construct new school

Phase 3: 1 month

Move students into new building

Phase 4: 5 months

Abate and demolish existing school

Complete remaining fields, landscaping and roads

Existing school remains in continuous operation throughout construction

August 25, 2020 SBC Meeting Decisions

1. **Priority: 20% above new energy code to achieve 2% points from MSBA…. $83.3 M**
2. **Heating/Cooling System: Geothermal Add $3.5 M**
3. **100% A/C vs. partial A/C and dehumidification ventilation Add $1.3 M**

Revised Project Cost Estimate $88.1 M Total

Items not taken: Timber Framing, Rainwater Cistern

SD Project Budget – Potential Cost Impact

$88.1 M Project Cost

Item removed: 7 v 7 Soccer Field

Items that may result in budget increases:

- UV-C for HVAC system
- Natural Gas Emergency Generator vs. Bio-Diesel
- Radon Mitigation
- Project Schedule extended
- Possible Access Road connection
- Ledge Removal

Eversource Incentive Program

Provide incentive funding to support low energy use building

- $1.25/SF at End of Design: Satisfy target of less than 25 EUI (Energy Use Intensity
- $1.00/SF 1 year after Construction: Satisfy target of less than 25 EUI

$254,250 = Total potential incentive based on 113,000 sf

Requires:

- Design team: additional energy modeling throughout design
- Enhanced Commissioning of building envelope
- Meet Mass Save Minimum Requirements
- Coordinate with Eversource in design and after construction
- Follow up services by design team after construction
- Facility or Energy Manager (school district) during design and after construction is complete

Questions, Comments, Reactions?