



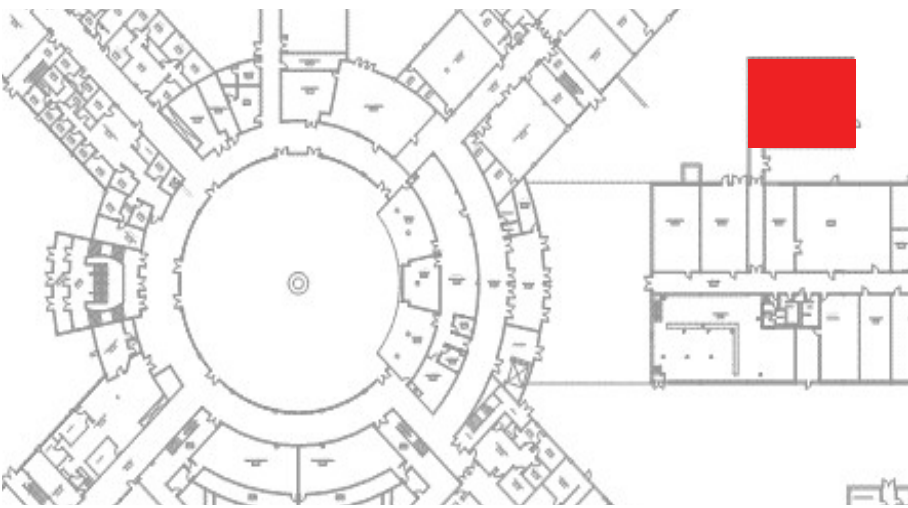
This report section will overview the existing plumbing systems at Maine West High School. The sections will include: domestic cold water distribution, domestic hot water distribution, domestic hot water recirculation, domestic hot water generation, and recommendations.

The system replacement recommendation(s) follow each equipment's existing conditions description. To determine the recommendations, our experience with similar systems and the ASHRAE median service life tables were utilized. Estimated equipment service life, according to the 2015 American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Handbook, is defined as the economic life of a system or component, or the amount of time it remains in its original service application. The remaining service life values reported in this document are based off the ASHRAE Equipment Life Expectancy Chart, as well as the ASHRAE Preventative Maintenance Guidebook, which use median years to provide an indication of expected equipment service life. Many factors effect equipment service life and with any average, some systems may have lifetimes far from average. However, these median lifetimes provide a reasonable basis for establishing the remaining useful life of existing systems.

Equipment recommended for replacement is categorized into the following four groups:

1. Health Life Safety (2019) – Equipment or systems in this category present health, life, or safety risks to building occupants and may not be up to current code standards. Systems in this category are recommended to be replaced as soon as possible.
2. 1 to 2 Years (2019 to 2020) – Equipment in this category should be considered for replacement within the next couple of years.

Domestic Hot Water Plant Location



First Floor Plan

Domestic Hot Water Plant



Plant #1

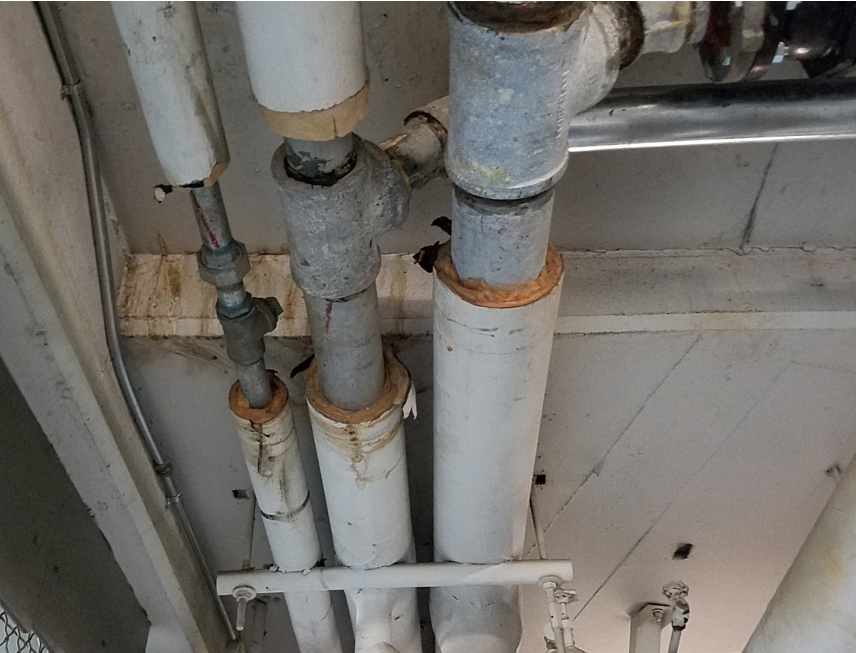
Domestic hot water for Maine West is provided by one (1) domestic hot water plant. The plant is located in the mechanical chiller room (replaced in 2017).

DOMESTIC HOT WATER PLANT

The domestic hot water plant in the mechanical chiller room is comprised of three (3) 800-MBH high-efficiency gas-fired domestic water heaters and two (2) 500-gallon hot water storage tank. The water heaters and storage tank and localized piping were replaced in 2017. This plant serves entire building’s domestic hot water load, including the cafeteria conveyor dishwasher. The pictures on the right show the equipment and location of the domestic hot water plant.

No alterations are recommended for this equipment within the scope of this report.

Sample of Existing Galvanized Piping



The existing original domestic water is galvanized piping. The existing original isolation valves are stem-operated valves. Hot water return piping is without adequate balancing.

DOMESTIC COLD WATER AND HOT WATER DISTRIBUTION AND RECIRCULATION

The existing original domestic cold and hot water piping is galvanized piping in various levels of failure. Galvanized piping in domestic water systems corrodes overtime and generates corrosion and rust debris. Corroded pipe walls and pipe debris settle in piping creating restrictions and impacting function of isolation valves, balancing valves, check valves, faucet aerators, shower-head flow restrictors, etc. The debris materials settle at horizontal sections of pipe and piping at/near fixtures because the pipe diameter is smaller and the debris carried with water flow.

Pipe fails via mechanisms such as pitting, pin-hole leaks, and loss of pipe thickness at threaded fittings. Also, failure of threaded fittings can result in significant leak and release a high flow rate via open pipe fitting. The threading process itself cuts away pipe wall and significantly reduces pipe wall thickness and then further corrosion over time occurs.

The existing original isolation valves may or may not properly operate when isolation is necessary for repair or remodel work.

The existing hot water recirculation path is impacted by corrosion, failed isolation valves, failed check valves, and failed balancing valves. Additionally, Maine West High School, it was observed that the original hot water return branch piping is without any check valves and without any balancing valves. Therefore, the ability to balancing the hot water delivery and return pipe paths is not possible. Balancing the pipe paths permits adjustment of the shorter pipe runs to be equivalent to longer pipe runs. Without the ability to balance, the shorter pipe runs (i.e. path of least resistance) flows easy – while the longer pipe runs do not flow any recirculation flow to maintain hot water through the longer circuits (i.e. paths).

1 TO 2 YEAR RECOMMENDATION

Due to the fact that the piping is a) galvanized, b) corroding and generating rust/debris, especially on a water shut-downs, c) isolation valves failed/failing, d) check valves fowled/failed/failing or not present, e) balancing valves fowled/failed/failing or not present, and f) the resultant impact on the ability to balance the hot water recirculation the domestic cold water and hot water piping is recommended to be replaced. If replacement is necessary to be phased, the immediate focus should be on replacement of common horizontal piping, isolation valves, check valves, and balancing valves.

THERMOSTATIC MIXING VALVES

MAINE WEST HIGH SCHOOL

Existing Lavatories without TMV's



Thermostatic mixing valves are intended to limit hot temperature downstream of the valve. Per Code for this project, lavatories and showers require a thermostatic mixing valve either upstream of a group of fixtures or at each fixture.

THERMOSTATIC MIXING VALVES

Thermostatic mixing valves are generally present at showers either with an upstream master mixing thermostatic mixing valve or at the shower valve body. Some components such as temperature gauges are non-functional due to age.

Thermostatic mixing valves are generally present at lavatories; in nearly all cases these were retrofitting on original installation or incorporated with remodel scope.

Thermostatic mixing valves present at all lavatories is being addressed already by the school's building engineering staff currently.

HEALTH LIFE SAFETY – HOWEVER ALREADY BEING ADDRESSED

For basic scald protection, thermostatic mixing valves are required and shall be immediately implemented. However, as stated above, the school's building engineering staff is already addressing.

PLUMBING COST ESTIMATES

MAINE WEST HIGH SCHOOL

Recommended Replacement Timeframe	Existing Type	Location	Service	Recommended System Type	2019 Cost
2019 - 2020	Domestic Cold/Hot Water Distribution and Circulation	Throughout	Tunnel	New Copper Pipe	\$125,000
			Basement	New Copper Pipe	\$560,000
			1st Floor	New Copper Pipe	\$1,200,000
			2nd Floor	New Copper Pipe	\$720,000
			3rd Floor	New Copper Pipe	\$20,000
TOTALS					\$2,500,000

MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION CONDITIONS

MEP COST ESTIMATES

MAINE WEST HIGH SCHOOL

The table below shows the total estimated replacement costs for each discipline as if they were implemented on the first recommended replacement year. For example, equipment that was recommended for replacement from 2019 to 2021 would have only the 2019 inflated cost shown.

Category	Recommended Replacement Timeframe	Existing System Type	2019 Cost	2021 Cost	2024 Cost
Mechanical	2019 - 2020	RTUs	\$127,000		
	2019 - 2020	AHUs	\$2,755,000		
	2024 - 2028	UVs			\$4,000,000
	2024 - 2028	Exhaust Fans			\$300,000
	2019 - 2020	Pumps	\$16,000		
	2024 - 2028	Pumps			\$276,000
Electrical	2021 - 2023	Unit Substation Replacement		\$710,273	
	2021 - 2023	Distribution Panelboard Replacement		\$358,414	
	2019	Thermal Inspections	\$20,000		
	2021 - 2023	Arc Flash Study		\$25,000	
	2019	Exercising Switches & Preventative Maintenance	\$10,000		
	2019 thru 2024	LED Lighting & Controls	\$2,166,667	\$2,298,617	\$2,511,760
	2019 - 2020	Fire Alarm	\$1,000,000		
Plumbing	2019 - 2021	Domestic Cold/Hot Water Distribution and Circulation	\$2,500,000		
TOTALS:			\$8,594,667	\$3,392,304	\$7,087,760
TOTAL:			\$ 19,074,731		

Note: See Budget Estimates in Part 3 for total building cost.

MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION CONDITIONS

ASHRAE MEDIAN SERVICE LIFE TABLE

MAINE WEST HIGH SCHOOL

Equipment Type	Equipment Tag	Service	Approximate Unit Age as of 2018 (Years)	ASHRAE Median Service Life (Years)
Space Heating Hot Water Boilers	B-1 to B-5	Whole Building	1	15
Domestic Hot Water Boilers		Whole Building	1	10
Chillers	CH-W1.1 & CH-W1.2	Whole Building	0	20
Pumps	P-WB.2	AH-3 HW Coil	1	15
	HWP-A.1	A-Wing Loop	21	25
	HWP-A.2	A-Wing Loop	21	25
	P-WB.1	AH-2 HW Coil	1	15
	P-WB.3	L-Wing Loop	1	15
	P-WB.4	L-Wing Loop	1	15
	HWP-B.1	B-Wing Loop	1	25
	HWP-B.2	B-Wing Loop	1	25
	P-WB.5	AHU-WB.1	1	15
	P-WB.6	Runaround Coil	1	20
	HWP-C.1	C-Wing Loop	1	25
	HWP-C.2	C-Wing Loop	1	25
	CHWP-1	CH-W1.1, CH-W1.2	21	25
	CHWP-2	CH-W1.1, CH-W1.2	21	25
	CHWP-3	CH-W1.1, CH-W1.2	21	25
	CHWP-4	Bldg. CHW Loop	21	25
	CHWP-5	Bldg. CHW Loop	21	25
	CWP-W2	Chiller Condenser	1	25
	CWP-1	Chiller Condenser	21	25
	CWP-3	Chiller Condenser	21	25
	CHWP-4	Bldg. CHW Loop	21	25
	CHWP-5	Bldg. CHW Loop	21	25

MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION CONDITIONS

ASHRAE MEDIAN SERVICE LIFE TABLE

MAINE WEST HIGH SCHOOL

Equipment Type	Equipment Tag	Service	Approximate Unit Age as of 2018 (Years)	ASHRAE Median Service Life (Years)
Pumps	CWP-W2	Chiller Condenser	1	25
	CWP-1	Chiller Condenser	21	25
	CWP-3	Chiller Condenser	21	25
	P-W1.1	Primary HW Loop	1	25
	P-W1.2	Primary HW Loop	1	25
	P-W1.3	Primary HW Loop	1	25
	HWP-7	D-Wing Loop	21	25
	HWP-8	D-Wing Loop	21	25
Air Handling Units	AHU S-12	A-Wing Gymnasium	60	30
	AHU S-11	B-Wing Gymnasium	60	30
	AHU S-13	C-Wing Gymnasium	60	30
	AH-2	North Cafeteria	60	30
	AH-3	South Cafeteria	60	30
	AHU-WB.1	Basement Track	1	30
	AHU-A	E-Wing 1st Floor	51	30
	AHU-B	E-Wing 2nd Floor	51	30
	AHU-H.1	H-Wing	16	30
	AHU-H.2	H-Wing	16	30
	Supply System-C	L-Wing	51	25
	PDU-1	Pool	1	15
	PDU-2	Pool	1	15
	AHU-3.1	Auditorium	1	30
	AHU-3.2	Auditorium	1	30

MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION CONDITIONS

ASHRAE MEDIAN SERVICE LIFE TABLE

MAINE WEST HIGH SCHOOL

Equipment Type	Equipment Tag	Service	Approximate Unit Age as of 2018 (Years)	ASHRAE Median Service Life (Years)
Roof Top Units	R209	Classroom R209 and Offices	34	15
	R207	Choral Room R207 and Office	34	15
	RTU-A222	Room A-222 & Office(s)	26	15
	RTU-A218	Room A-218 & Office(s)	26	15
	RTU-B1	Dean's Office B101	26	15
	RTU-B2	B-Wing Conference Room	26	15
	RTU-R201	Rm R201 - SPS Conf. Rm.	19	15
	RTU-R202	Rm R202 - Warriors Rm.	19	15
	RT-M1	West half of M-Building	16	15
	RT-1W	A-Wing Admin Offices	5	15
	RTU-W1	Back of House Auditorium	1	15
	RTU-W2	Auto shop lab	1	15
	RT-1	E-Wing	4	15
	RT-2	E-Wing	4	15
	RT-3	E-Wing	4	15
	RT-4	E-Wing	4	15
	RT-5	E-Wing	4	15
	RT-6	E-Wing	4	15
	RT-7	E-Wing	4	15
Unit Ventilators	Classroom UVs	Classrooms	21	20

PART 3
RECOMMENDATIONS

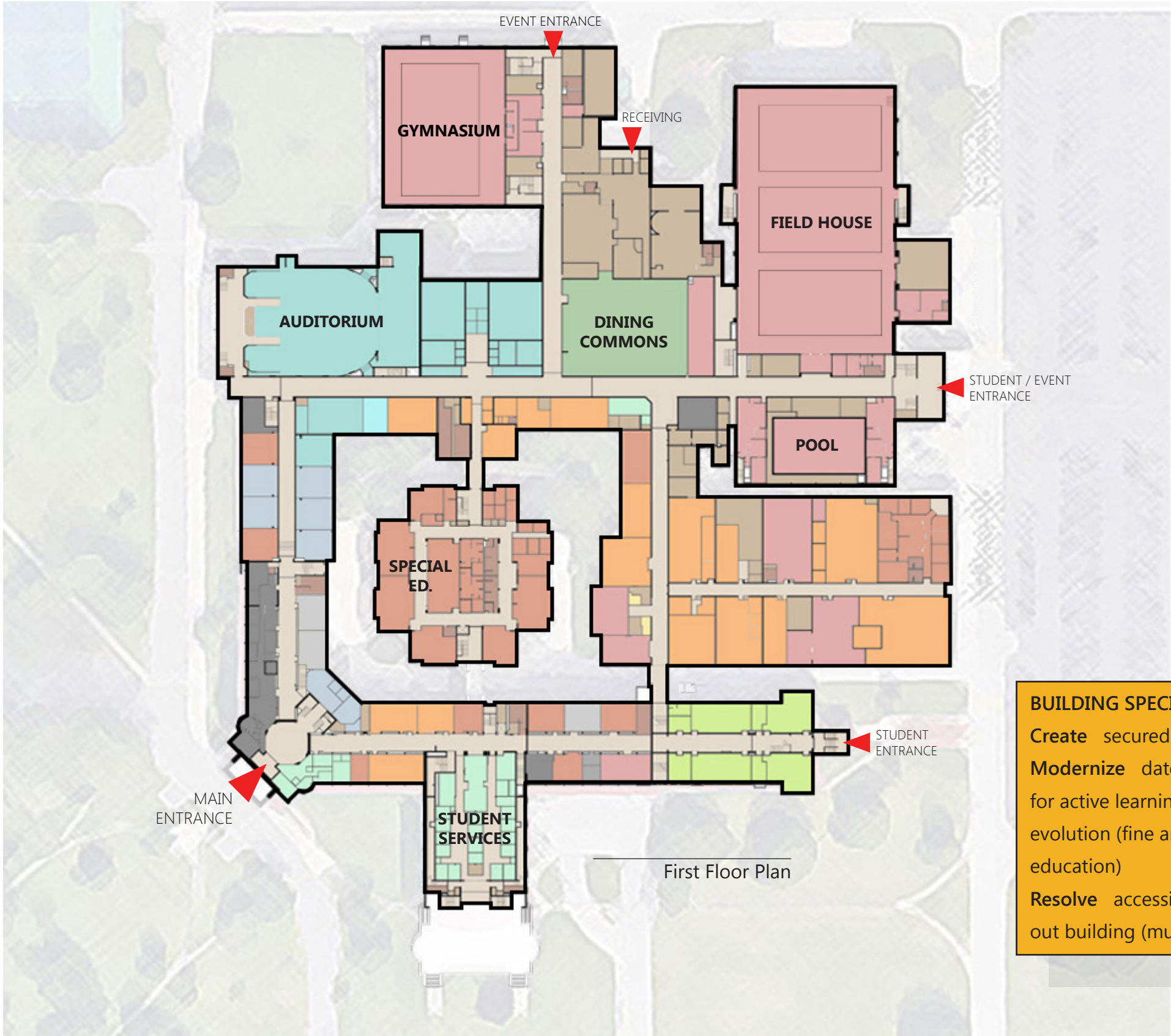
- CONSENSUS APPROACHES
- BUDGET ESTIMATES

CONSENSUS APPROACHES

- APPROACH A (COMPREHENSIVE)
- APPROACH B (SCALED-BACK)

DEPARTMENT LEGEND

- Administration
- Bathrooms
- Cafeteria
- Circulation
- C.T.E.
- English
- Fine Arts
- Foreign Language / ELL
- Itinerant
- Mathematics
- P.E. / Athletics
- Science
- Shared Common
- Social Science
- Special Ed. / Transition
- Student Activities
- Student Services
- Tech. / Library
- Building Support
- Vacant
- Areas of New Construction
- Areas of Light Renovation
- Areas of Medium/Heavy Renovation



BUILDING SPECIFIC CHALLENGES

- Create** secured front entrance
- Modernize** dated footprint / spaces for active learning styles & program evolution (fine arts/athletics/special education)
- Resolve** accessibility issues throughout building (multiple additions)



RECOMMENDATIONS
APPROACH A (COMPREHENSIVE)
MAINE EAST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

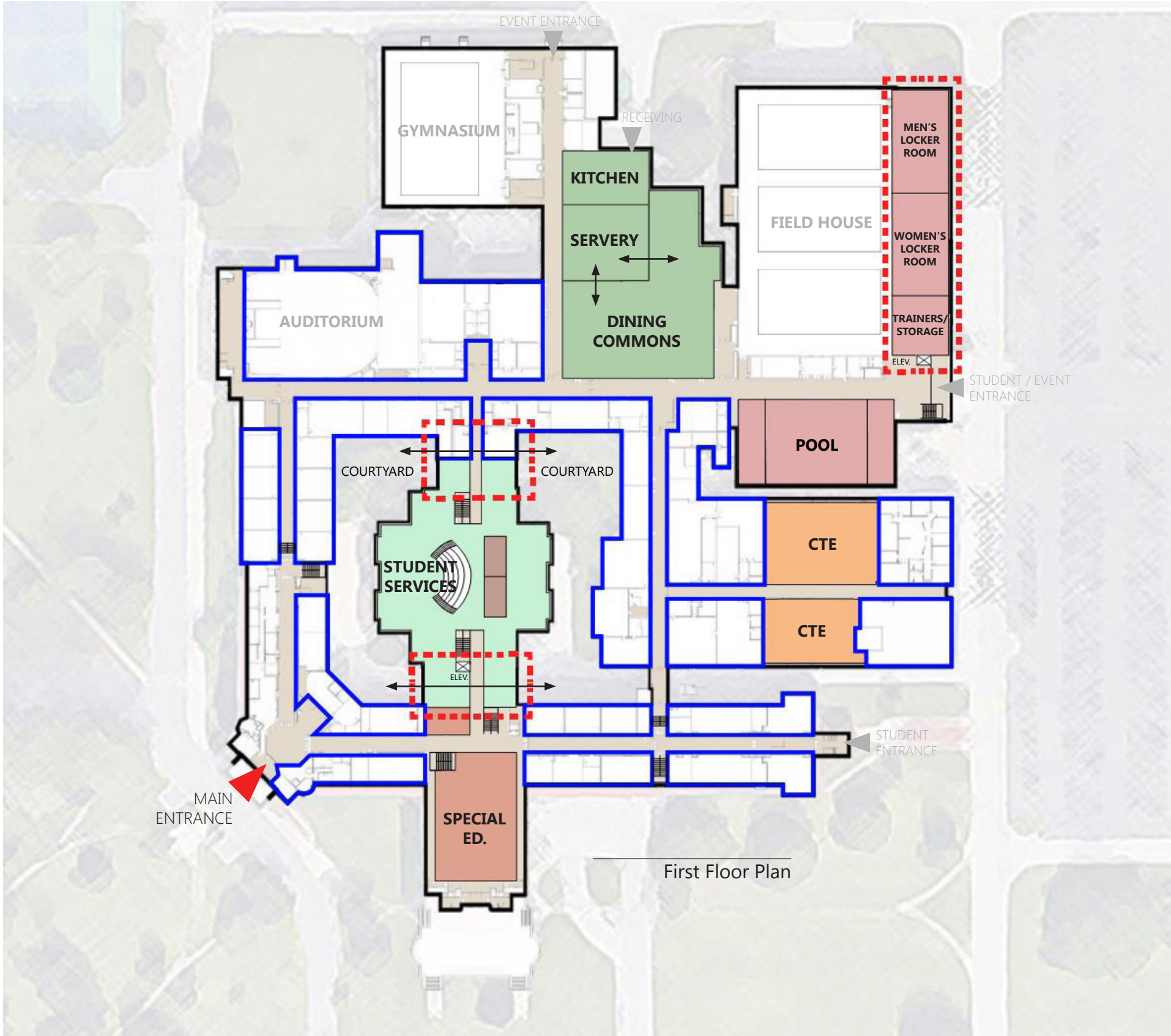
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH A (COMPREHENSIVE)
MAINE EAST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

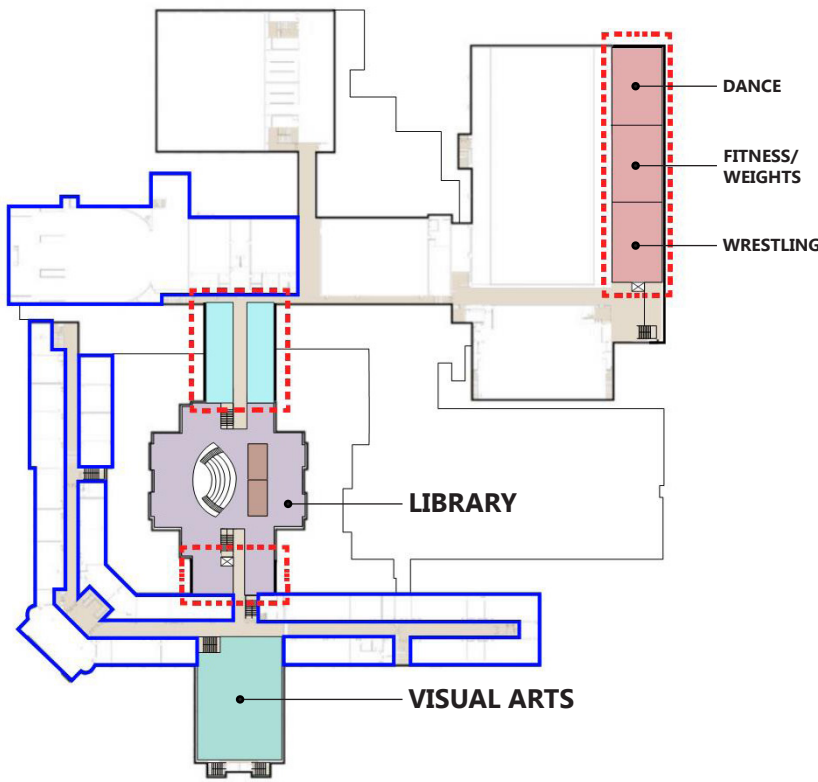
Building Support

Vacant

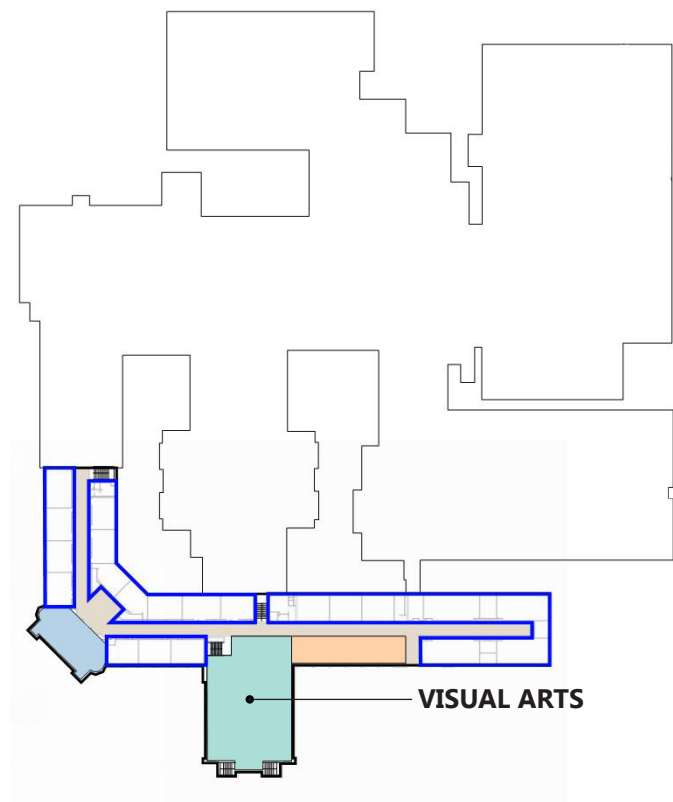
Areas of New Construction

Areas of Light Renovation

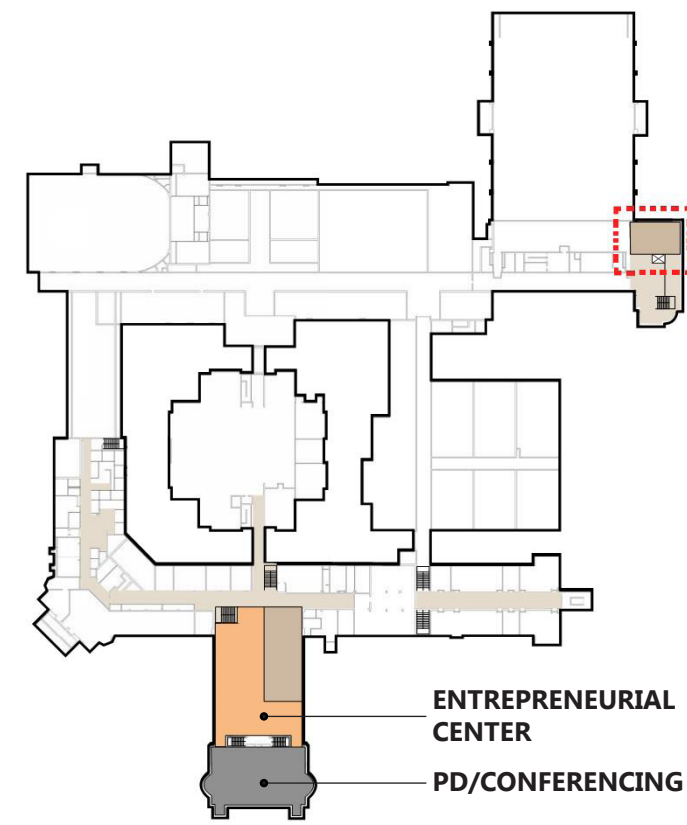
Areas of Medium/Heavy Renovation



Second Floor Plan



Third Floor Plan



Lower Floor Plan

RECOMMENDATIONS
APPROACH B (SCALED-BACK)
MAINE EAST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

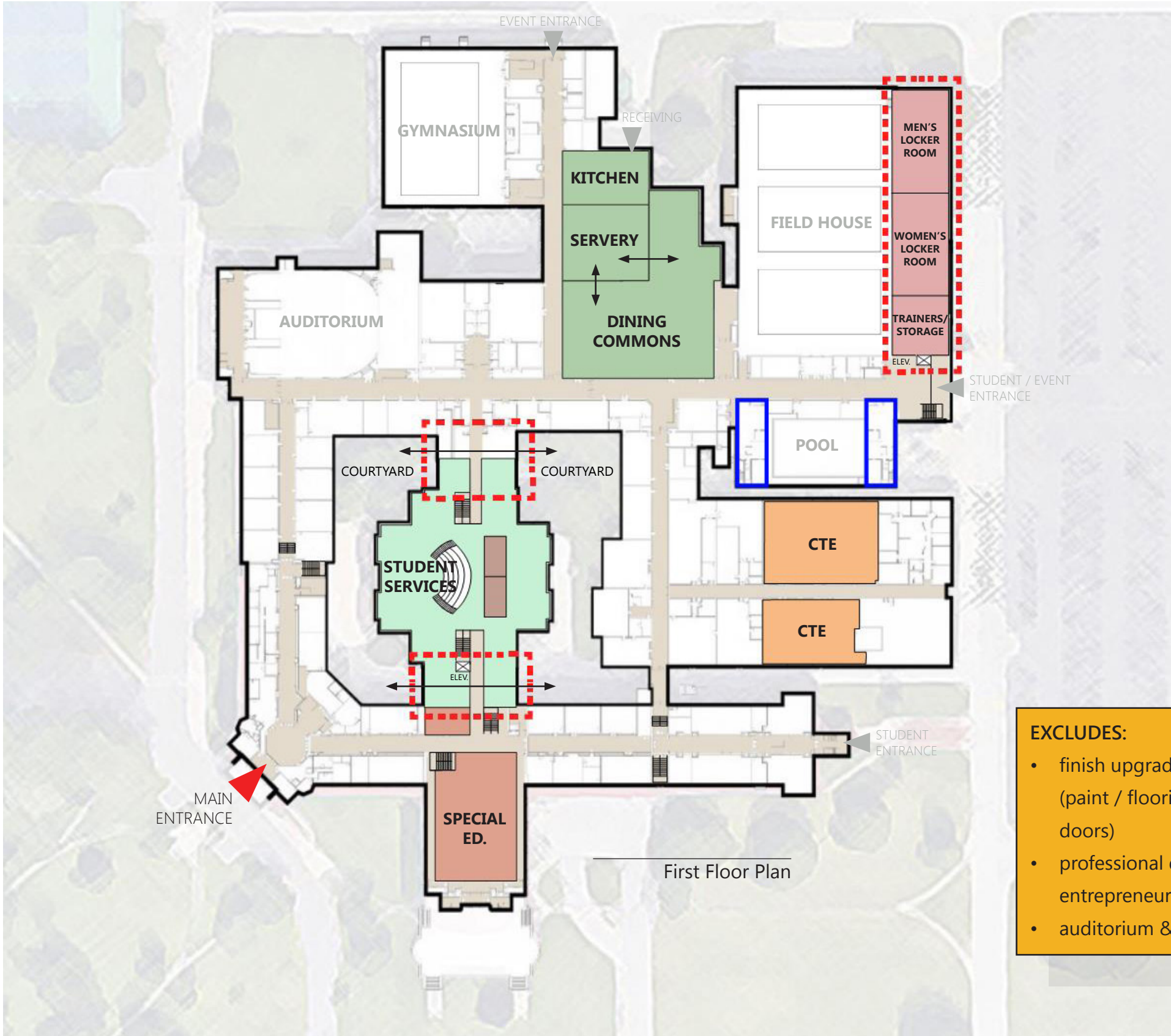
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



- EXCLUDES:
- finish upgrades in classrooms (paint / flooring/ casework / doors)
 - professional development area / entrepreneurial center
 - auditorium & pool upgrades

RECOMMENDATIONS
APPROACH B (SCALED-BACK)
MAINE EAST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

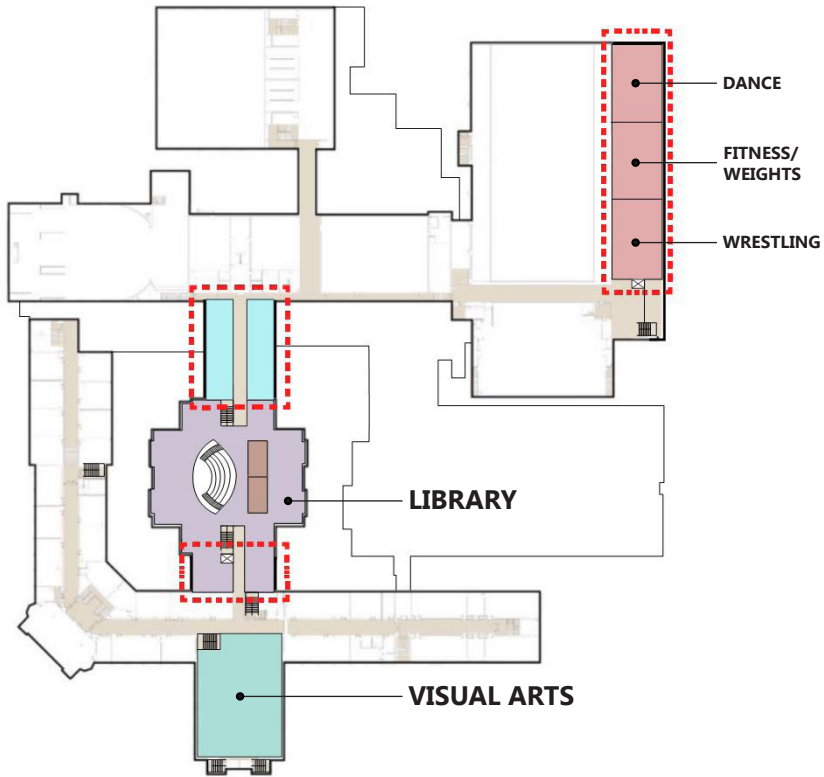
Building Support

Vacant

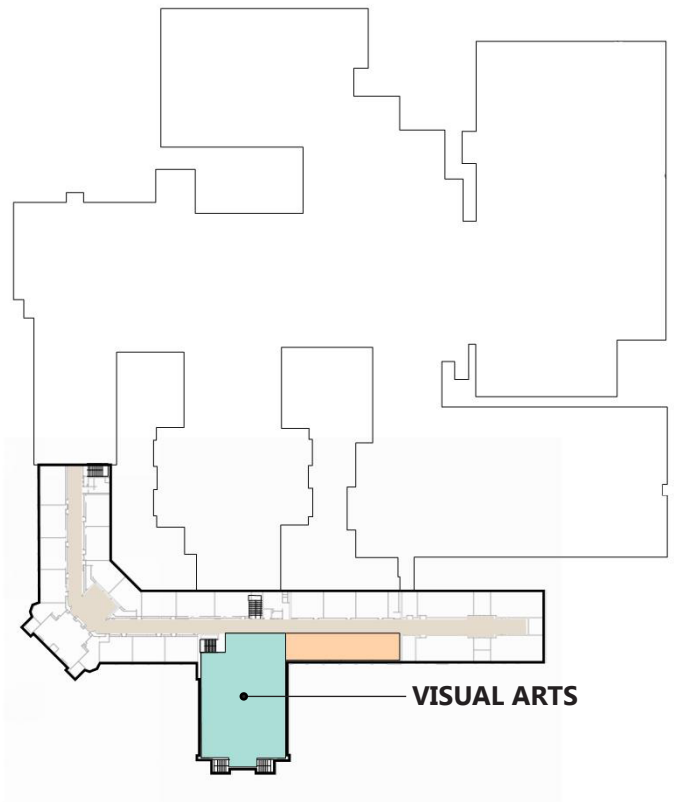
Areas of New Construction

Areas of Light Renovation

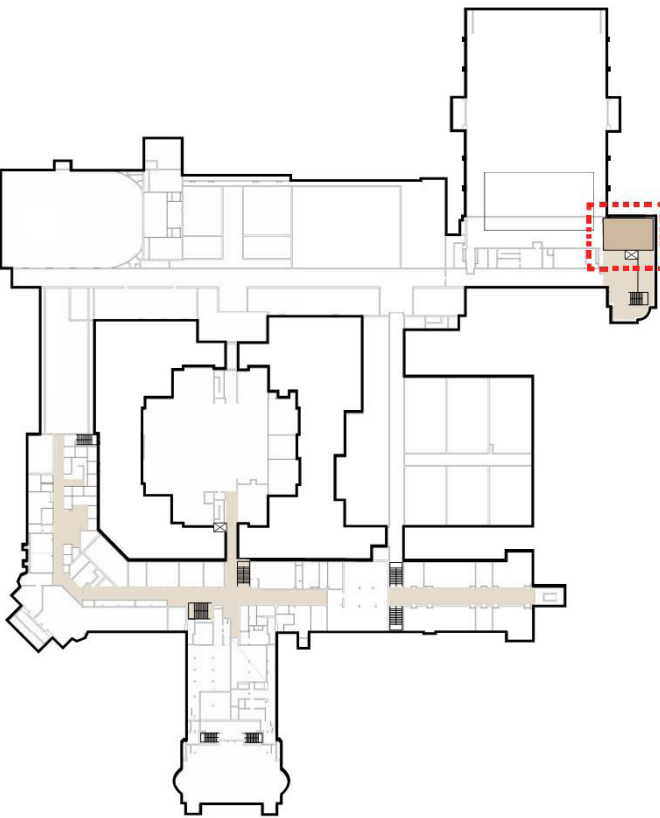
Areas of Medium/Heavy Renovation



Second Floor Plan



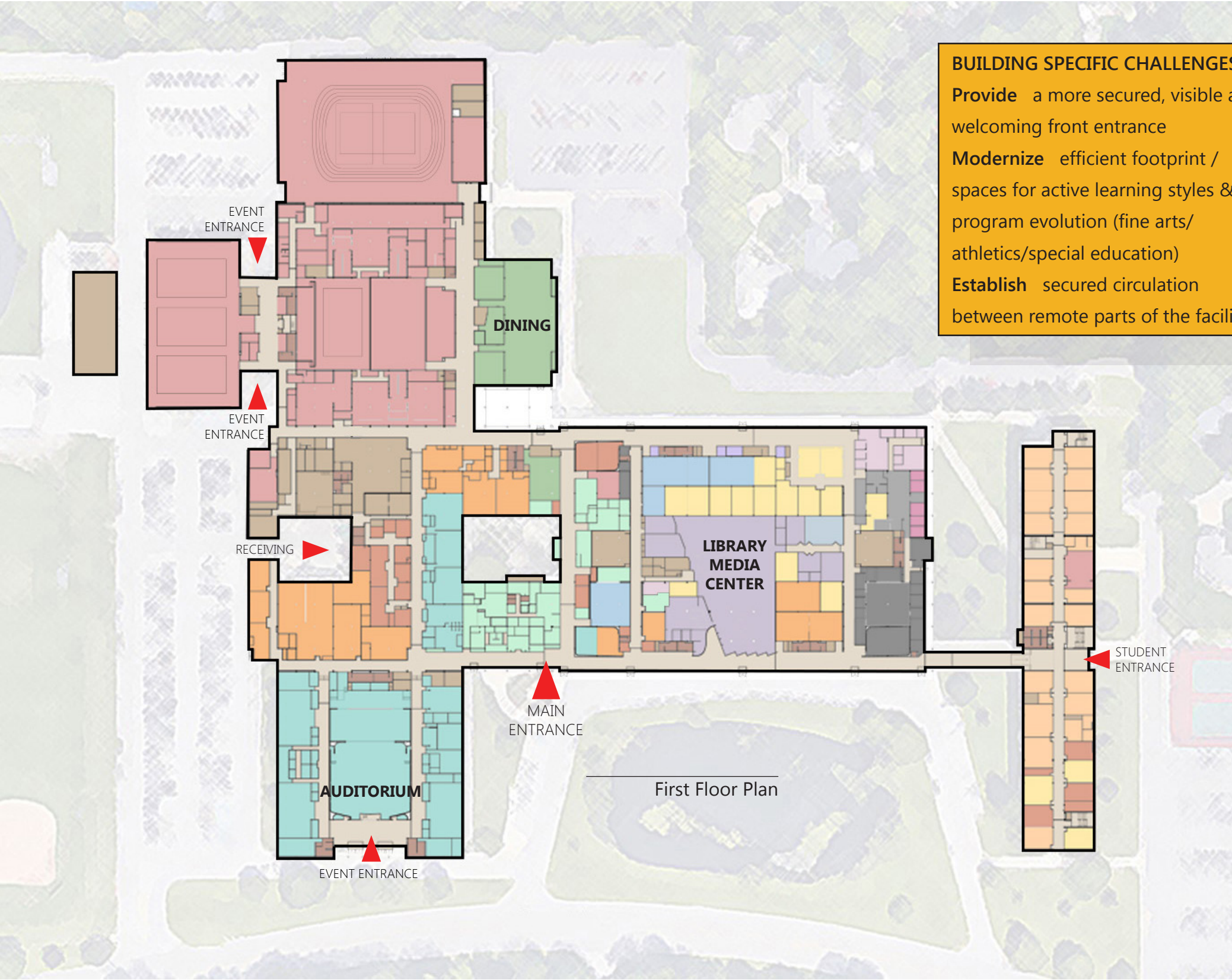
Third Floor Plan



Lower Floor Plan

DEPARTMENT LEGEND

- Administration
- Bathrooms
- Cafeteria
- Circulation
- C.T.E.
- English
- Fine Arts
- Foreign Language / ELL
- Itinerant
- Mathematics
- P.E. / Athletics
- Science
- Shared Common
- Social Science
- Special Ed. / Transition
- Student Activities
- Student Services
- Tech. / Library
- Building Support
- Vacant
- Areas of New Construction
- Areas of Light Renovation
- Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH A (COMPREHENSIVE)
MAINE SOUTH HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

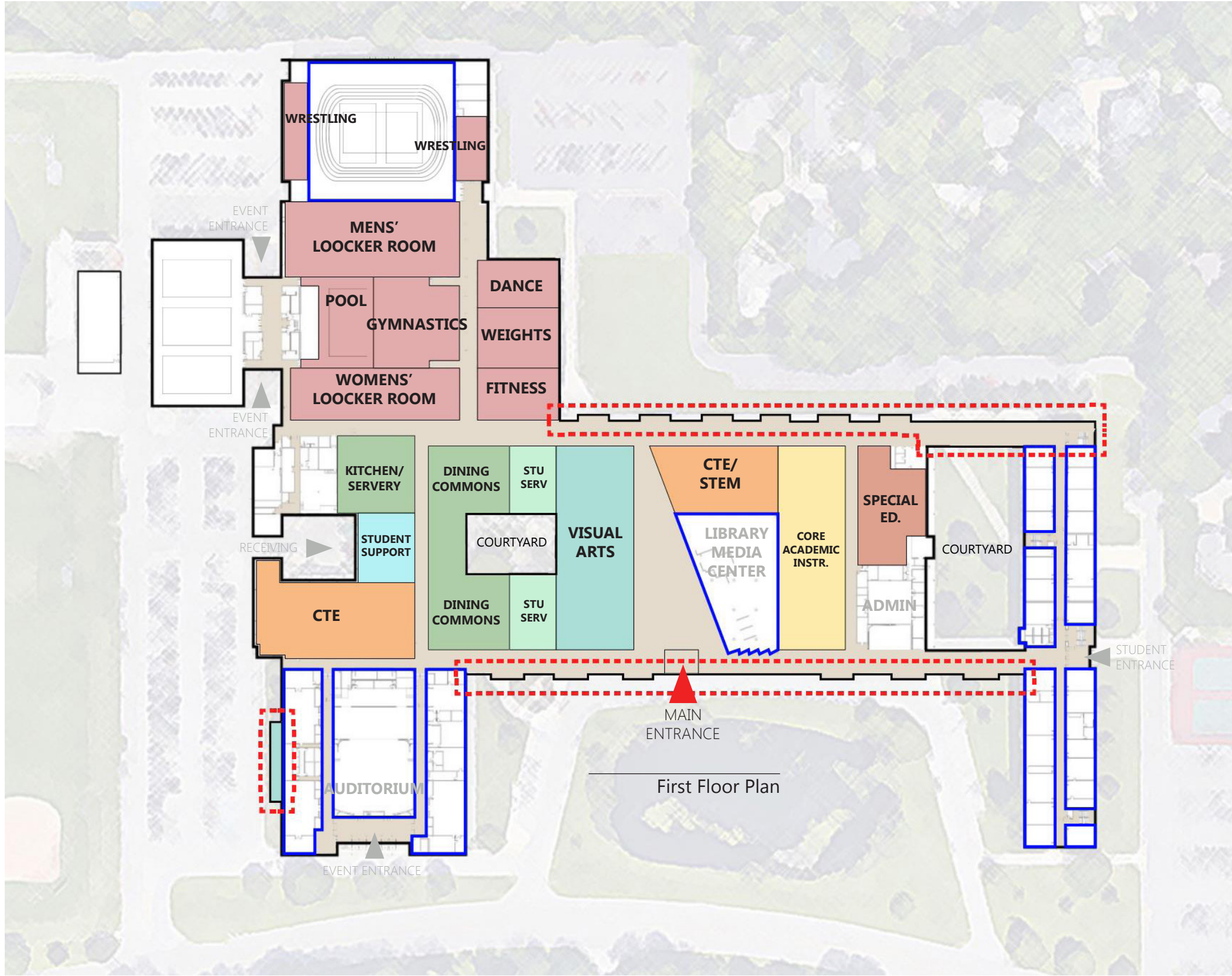
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH B (SCALED-BACK)
MAINE SOUTH HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

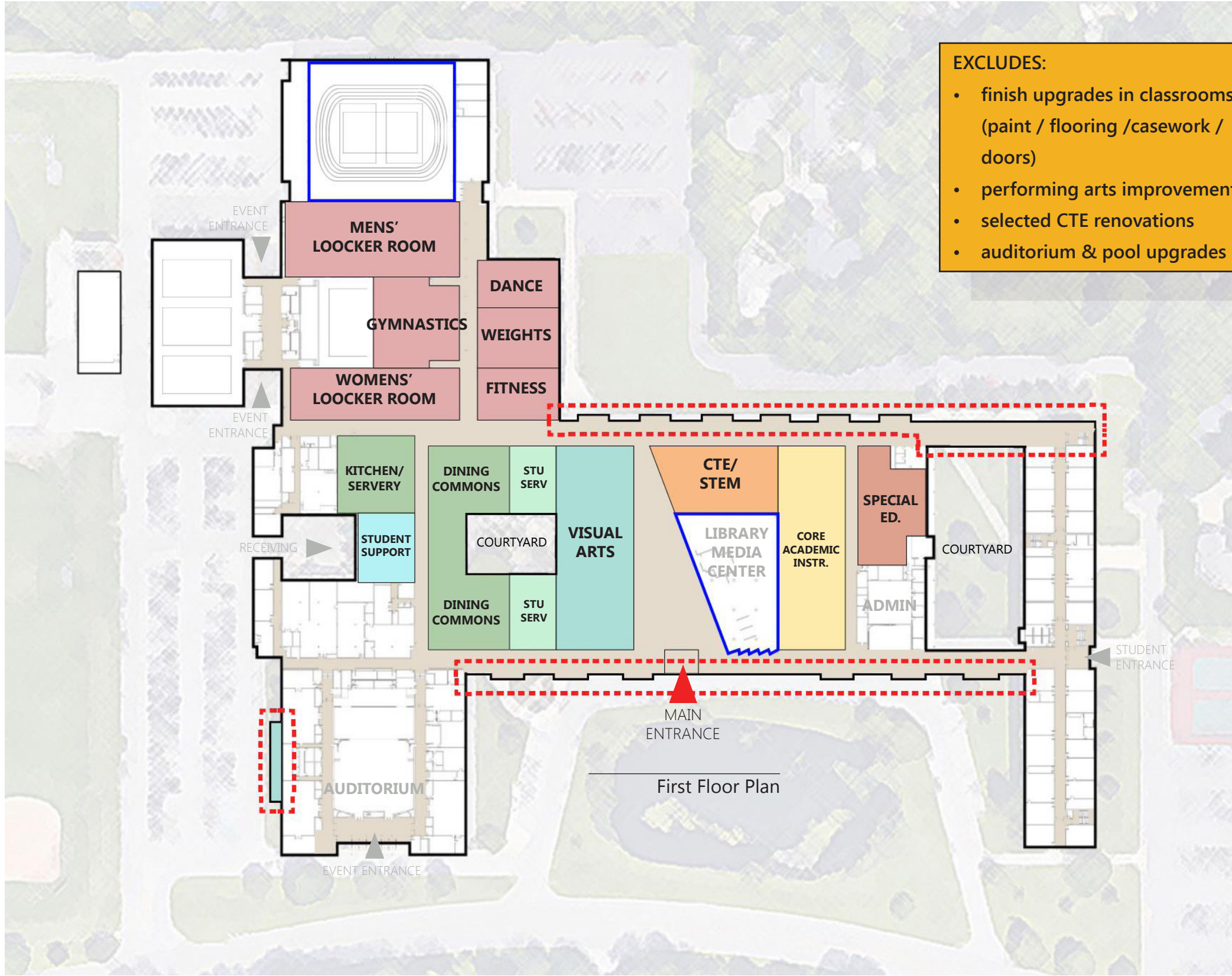
Building Support

Vacant

Areas of New Construction

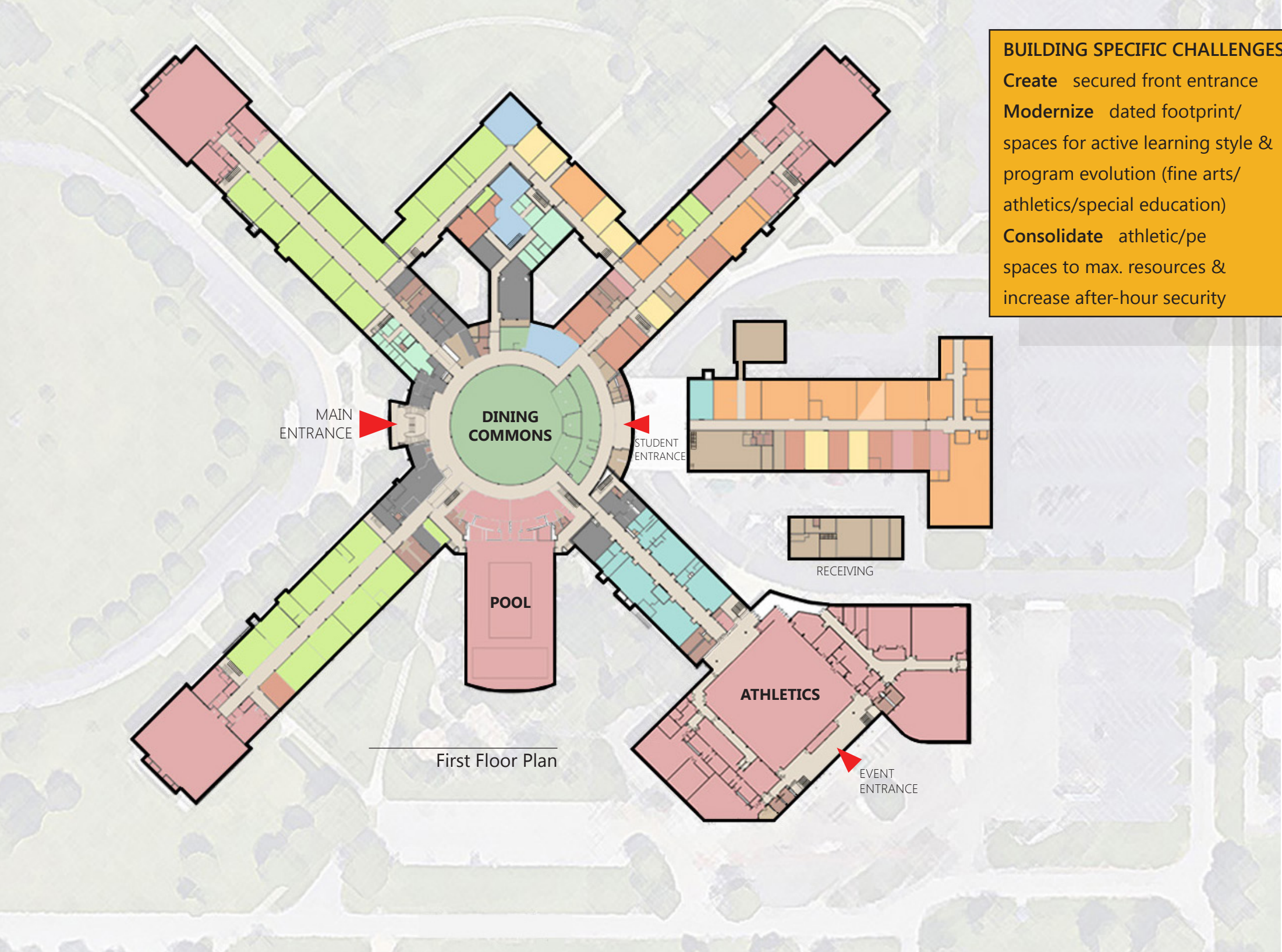
Areas of Light Renovation

Areas of Medium/Heavy Renovation



DEPARTMENT LEGEND

- Administration
- Bathrooms
- Cafeteria
- Circulation
- C.T.E.
- English
- Fine Arts
- Foreign Language / ELL
- Itinerant
- Mathematics
- P.E. / Athletics
- Science
- Shared Common
- Social Science
- Special Ed. / Transition
- Student Activities
- Student Services
- Tech. / Library
- Building Support
- Vacant
- Areas of New Construction
- Areas of Light Renovation
- Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH A (COMPREHENSIVE)
MAINE WEST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

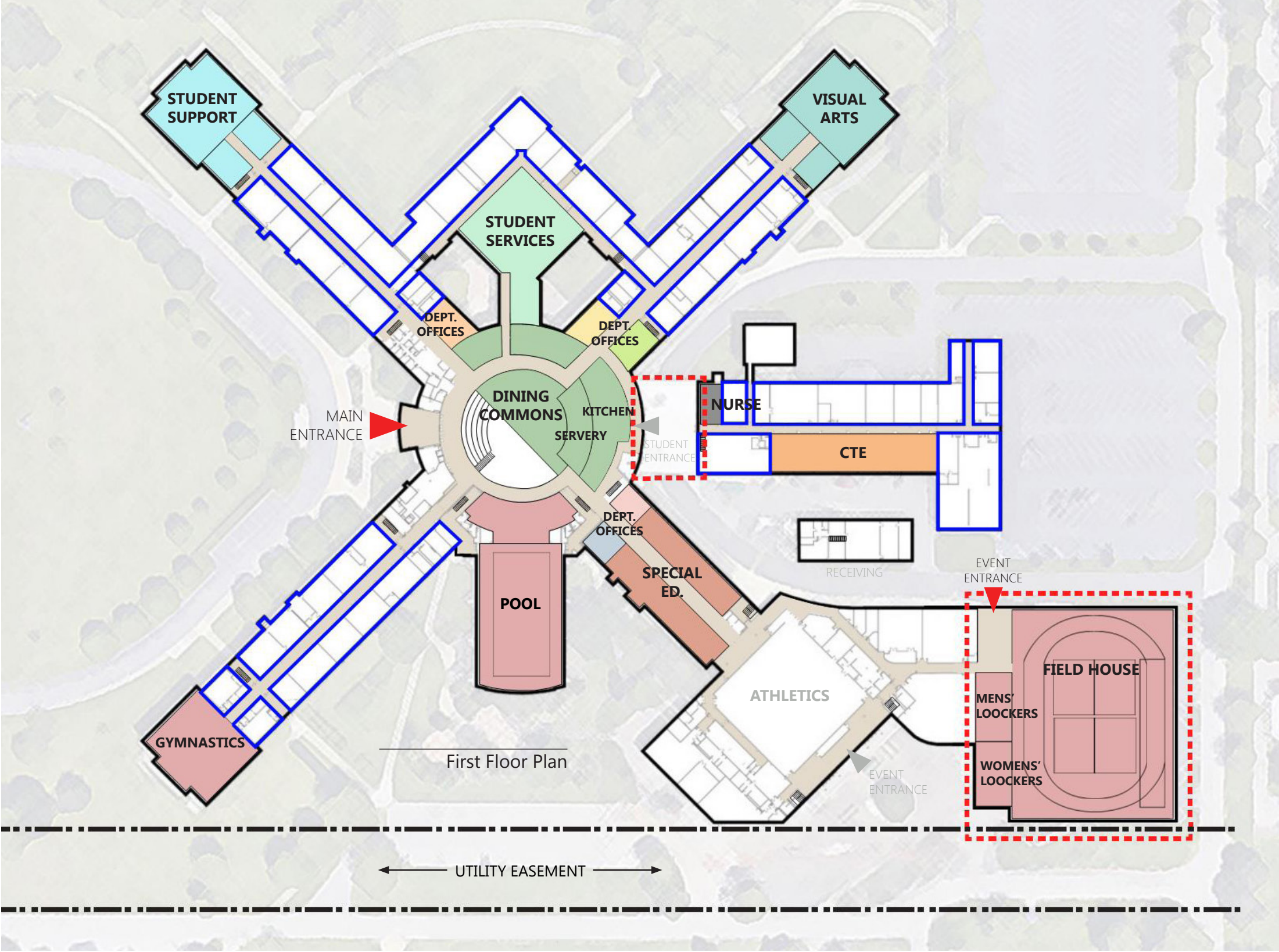
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

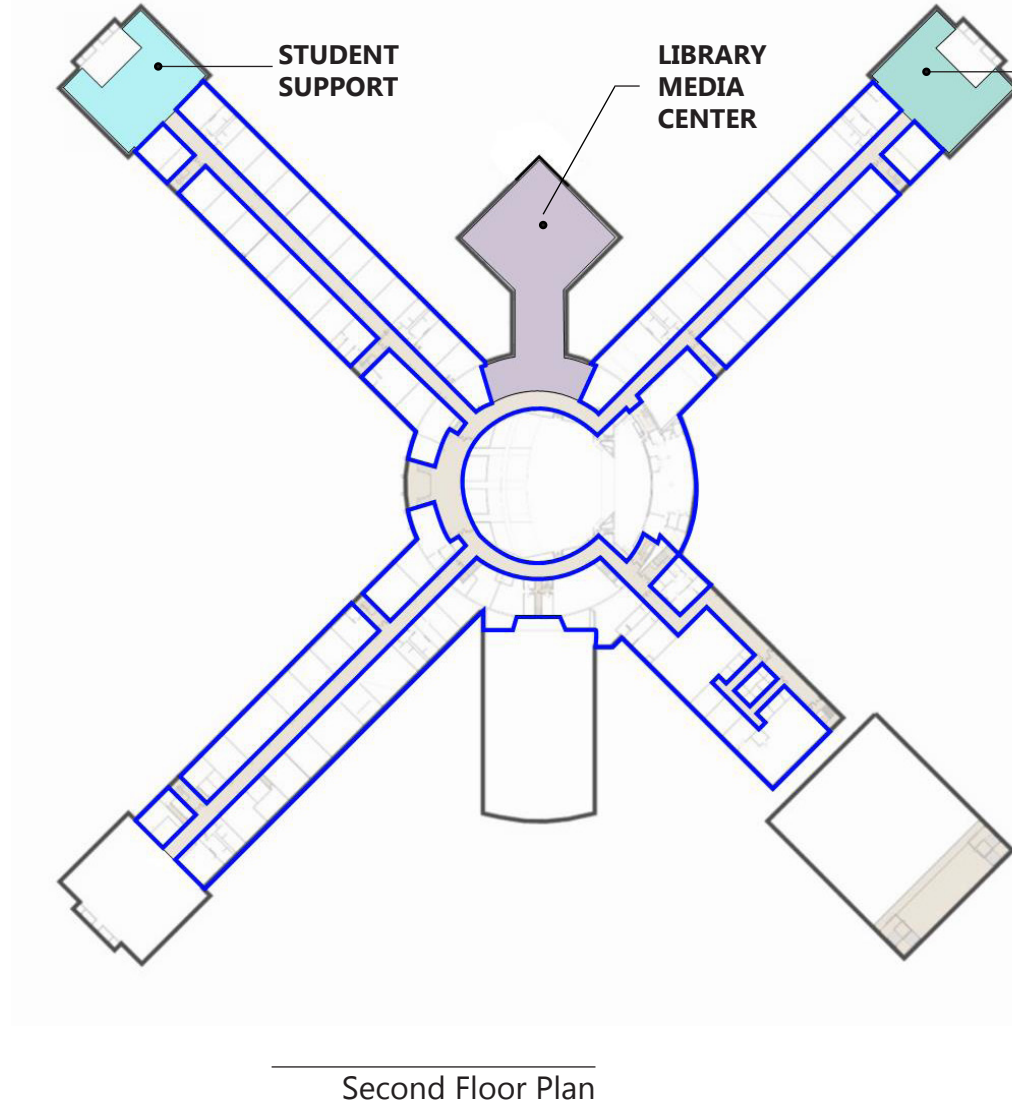
Building Support

Vacant

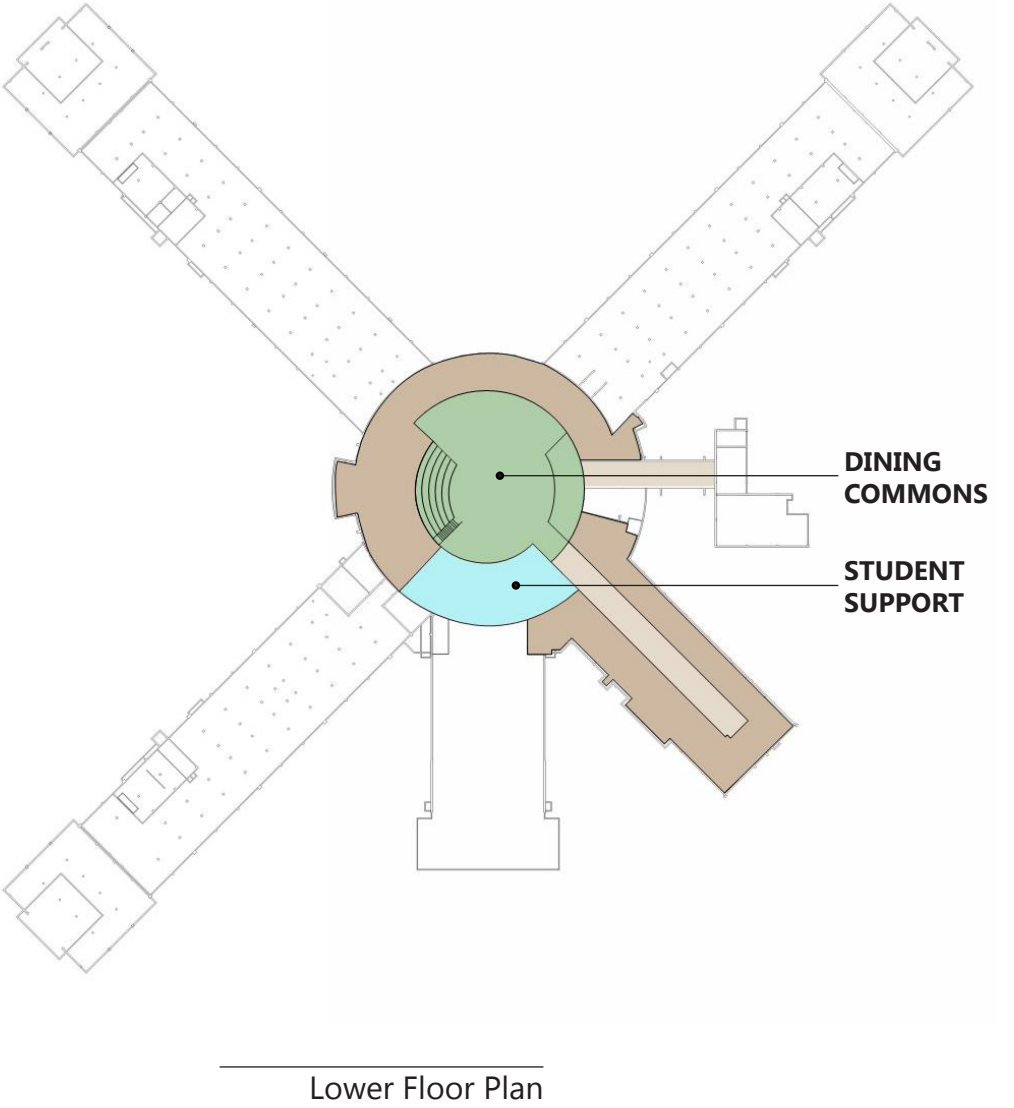
Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH A (COMPREHENSIVE)
MAINE WEST HIGH SCHOOL



RECOMMENDATIONS
APPROACH B (SCALED-BACK)
MAINE WEST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

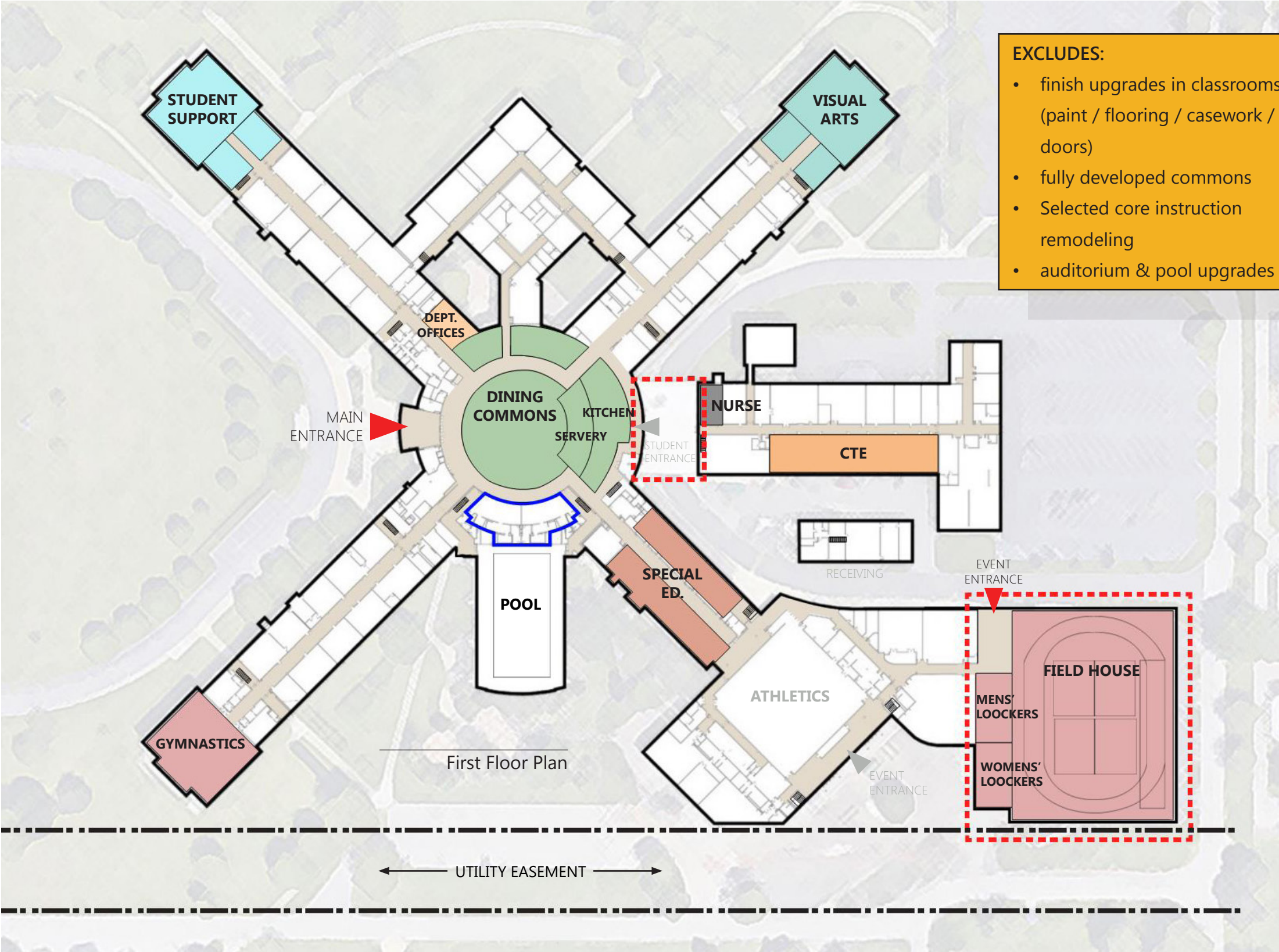
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation



RECOMMENDATIONS
APPROACH B (SCALED-BACK)
MAINE WEST HIGH SCHOOL

DEPARTMENT LEGEND

Administration

Bathrooms

Cafeteria

Circulation

C.T.E.

English

Fine Arts

Foreign Language / ELL

Itinerant

Mathematics

P.E. / Athletics

Science

Shared Common

Social Science

Special Ed. / Transition

Student Activities

Student Services

Tech. / Library

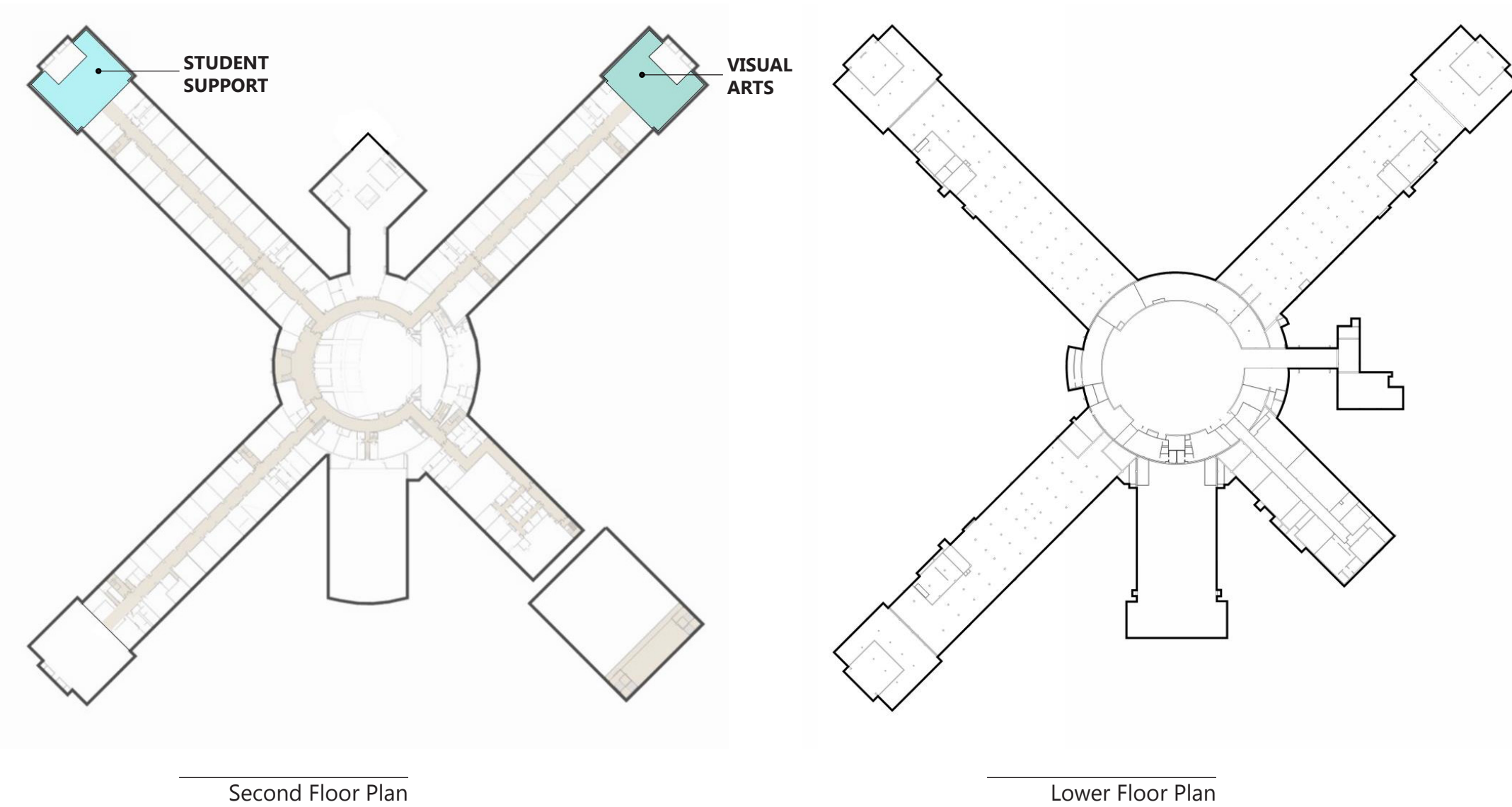
Building Support

Vacant

Areas of New Construction

Areas of Light Renovation

Areas of Medium/Heavy Renovation

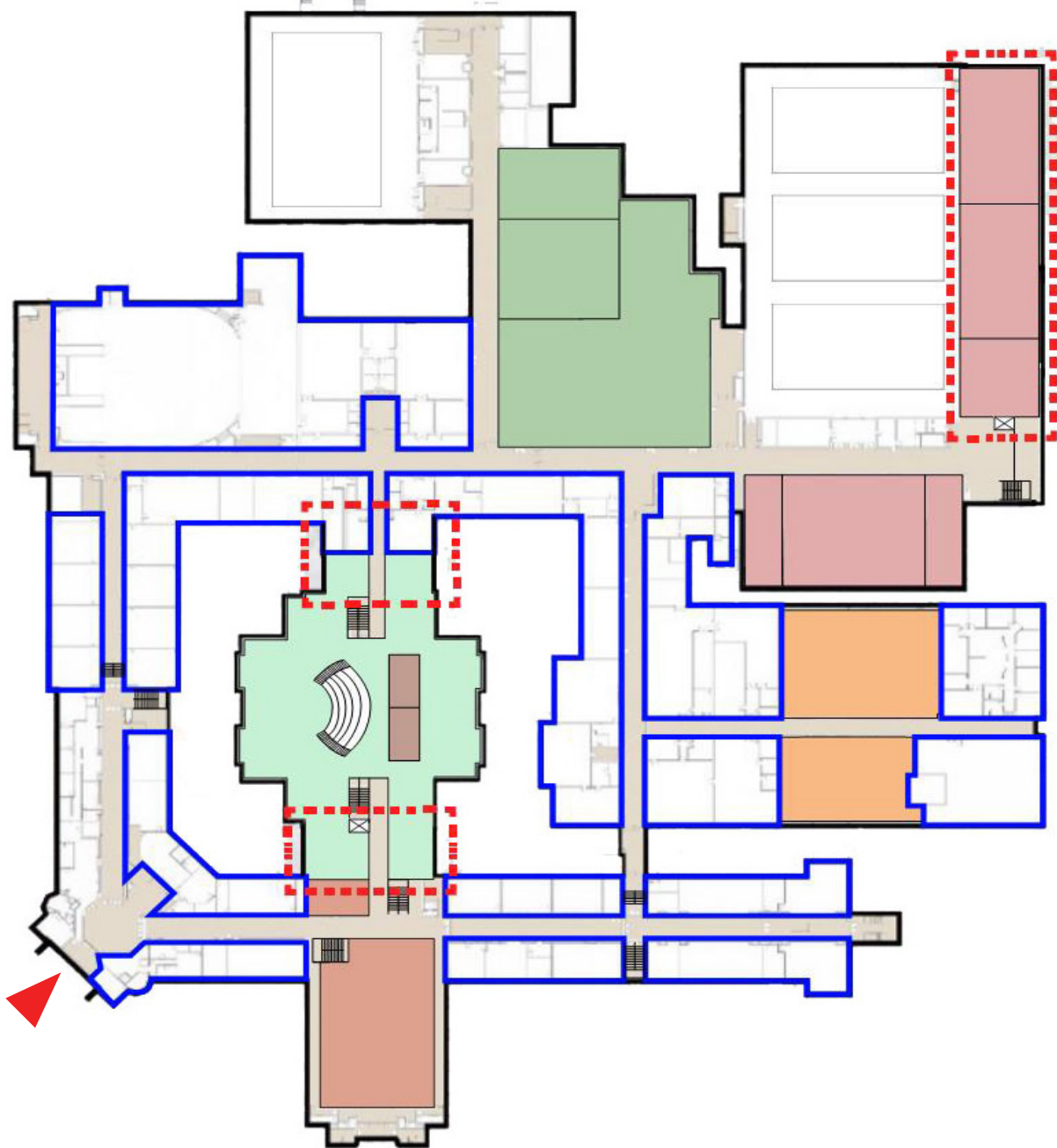


BUDGET ESTIMATE

Summary Approach A (Comprehensive)

Scope Description	Item Total
New Construction (Center Court Accommodations and Athletic Locker room Additions)	
New Construction Hard Cost Total	\$13,440,000
Owner Soft Cost Total	\$1,720,000
Escalation (2020 Construction Start)	\$910,000
New Construction Total	\$16,070,000
Heavy Renovation (Student Services, Library, Admin, Kitchen, Servery, Visual Arts,)	
Heavy Renovation Hard Cost Total	\$9,150,000
Owner Soft Cost Total	\$1,370,000
Escalation (2020 Construction Start)	\$630,000
Heavy Renovation Total	\$11,150,000
Medium Renovation (CTE, Special ED, Math, Dining, Pool, Shared Commons)	
Medium Renovation Hard Cost Total	\$6,000,000
Owner Soft Cost Total	\$750,000
Escalation (2020 Construction Start)	\$410,000
Medium Renovation Total	\$7,160,000
Light Renovation (Classrooms, Auditorium, Pool)	
Light Renovation Hard Cost Total	\$8,870,000
Owner Soft Cost Total	\$2,390,000
Escalation (2020 Construction Start)	\$680,000
Light Renovation Total	\$11,940,000
Building Area Total	\$46,300,000
OTHER SCOPE ITEMS	
Corridor	\$4,680,000
Fire Protection	\$1,479,000
Pool Renovation	\$1,400,000
Site Work	\$850,000
FF&E	\$4,000,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,222,020
Asbestos Abatement (Based on previous documents from the district)	\$2,584,100
Audio/Visual Equipment Allowance	\$1,500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance (Elara) - 2021	\$16,842,057
Other Scope Items Total	\$35,560,000

East High School - Grand Total Approach A **\$81,900,000**



RECOMMENDATIONS

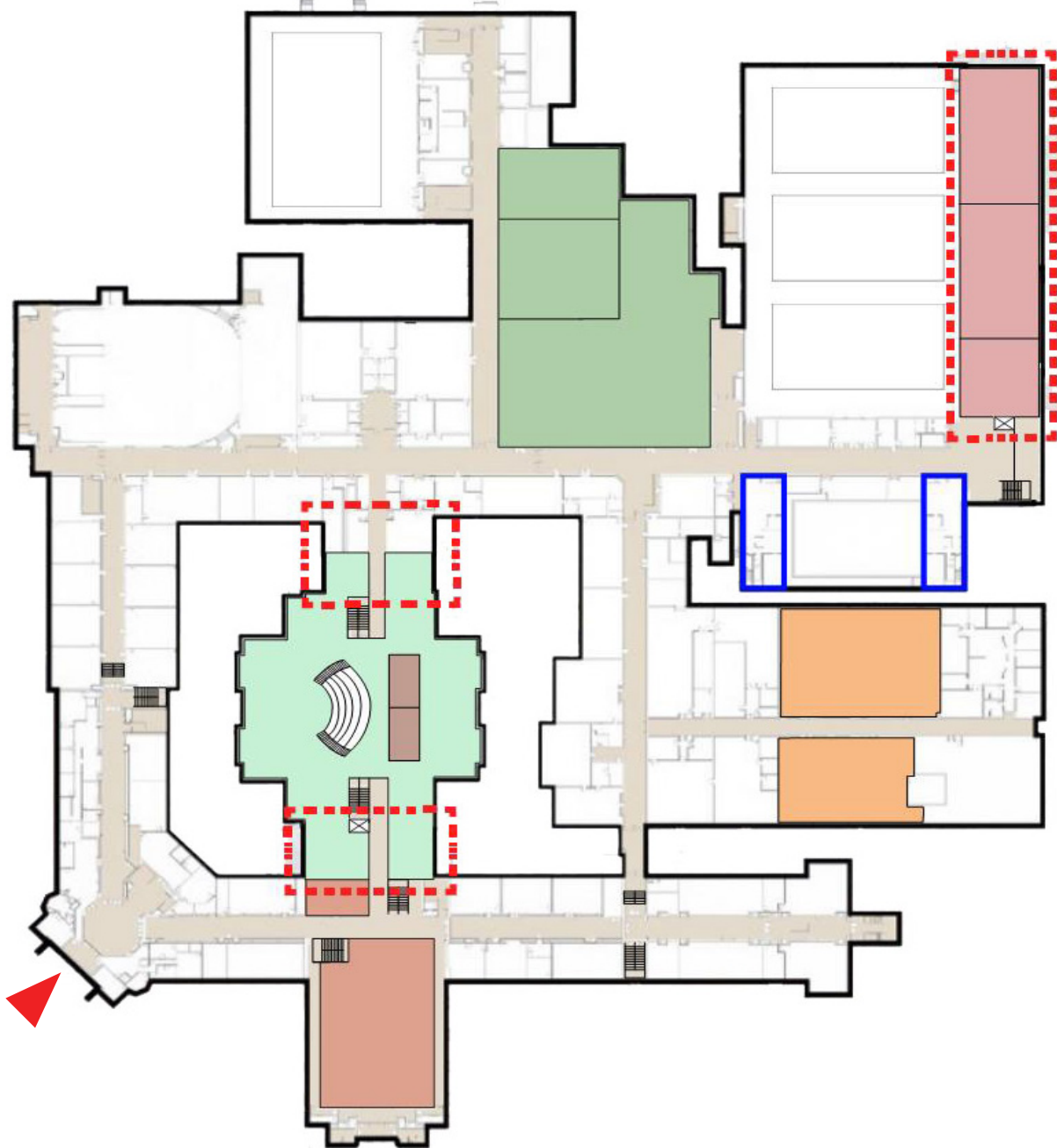
BUDGET ESTIMATE

MAINE EAST HIGH SCHOOL

Summary Approach B (Scaled-Back)

Scope Description	Item Total
New Construction (Center Court Accommodations and Athletic Locker room Additions)	
New Construction Hard Cost Total	\$13,440,000
Owner Soft Cost Total	\$1,720,000
Escalation (2020 Construction Start)	\$910,000
New Construction Total	\$16,070,000
Heavy Renovation (Student Services, Library, Admin, Kitchen, Servery, Visual Arts,)	
Heavy Renovation Hard Cost Total	\$9,150,000
Owner Soft Cost Total	\$1,370,000
Escalation (2020 Construction Start)	\$630,000
Heavy Renovation Total	\$11,150,000
Medium Renovation (Special ED, Math, Dining)	
Medium Renovation Hard Cost Total	\$5,600,000
Owner Soft Cost Total	\$750,000
Escalation (2020 Construction Start)	\$380,000
Medium Renovation Total	\$6,730,000
Light Renovation	
Light Renovation Hard Cost Total	\$0
Owner Soft Cost Total	\$0
Escalation (2020 Construction Start)	\$0
Light Renovation Total	\$0
Building Area Total	\$34,000,000
OTHER SCOPE ITEMS	
Corridor	\$1,400,000
Fire Protection	\$0
Pool Renovation	\$0
Site Work	\$850,000
FF&E (Existing Class Room's)	\$2,500,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,222,020
Asbestos Abatement (Based on previous documents from the district)	\$911,000
Audio/Visual Equipment Allowance	\$500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance (Elara) - 2021	\$16,842,057
Other Scope Items Total	\$25,230,000

East High School - Grand Total Approach B **\$59,200,000**



RECOMMENDATIONS

BUDGET ESTIMATE

MAINE EAST HIGH SCHOOL

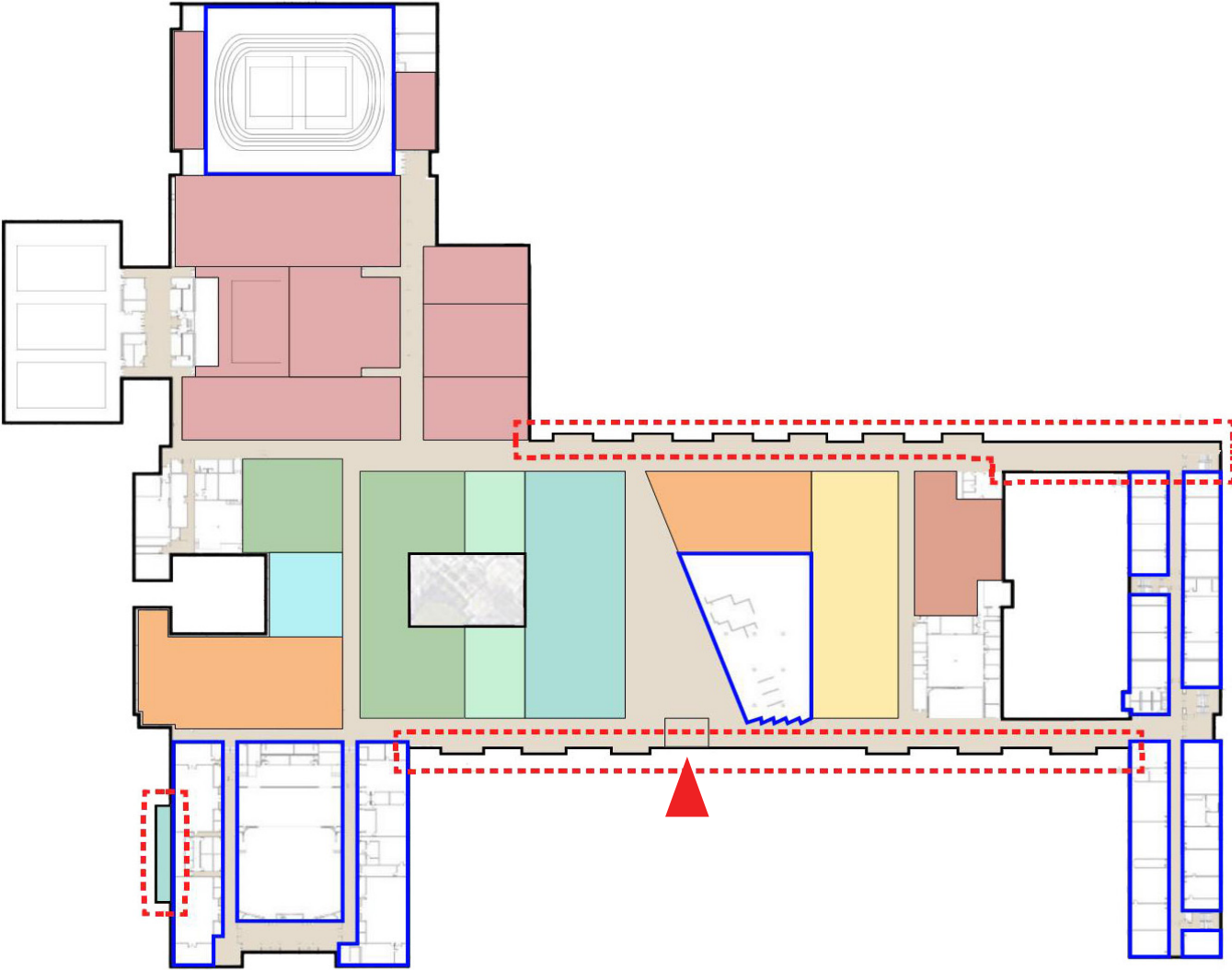
RECOMMENDATIONS

BUDGET ESTIMATE

MAINE SOUTH HIGH SCHOOL

Summary Approach A (Comprehensive)

Scope Description	Item Total
New Construction (Dining / Corridor reconfiguration)	
New Construction Hard Cost Total	\$7,079,000
Owner Soft Cost Total	\$1,192,000
Escalation (2020 Construction Start)	\$500,000
New Construction Total	\$8,771,000
Heavy Renovation (Admin, Kitchen, Dinining Commons, Student Services, Special ED., CTE, Visual Arts and Core Academics)	
Heavy Renovation Hard Cost Total	\$15,420,400
Owner Soft Cost Total	\$2,128,300
Escalation (2020 Construction Start)	\$1,050,000
Heavy Renovation Total	\$18,598,700
Medium Renovation (Dance, Pool, Gymnastics, Fitness, Weights, Mens & Womens Locker Room's)	
Medium Renovation Hard Cost Total	\$8,482,800
Owner Soft Cost Total	\$1,272,500
Escalation (2020 Construction Start)	\$590,000
Medium Renovation Total	\$10,345,300
Light Renovation (Existing Classrooms, Field House)	
Light Renovation Hard Cost Total	\$6,933,600
Owner Soft Cost Total	\$2,059,000
Escalation (2020 Construction Start)	\$300,000
Light Renovation Total	\$9,292,600
Building Area Total	\$47,000,000
OTHER SCOPE ITEMS	
Corridor	\$3,126,400
Fire Protection	\$1,413,000
Pool Renovation	\$1,400,000
Site Work	\$1,330,000
FF&E	\$4,000,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,920,671
Asbestos Abatement (Based on previous documents from the district)	\$3,454,400
Audio/Visual Equipment Allowance	\$1,500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance (Elara) - 2021	\$17,116,336
Other Scope Items Total	\$36,260,000
South High School - Grand Total Approach A	\$83,300,000



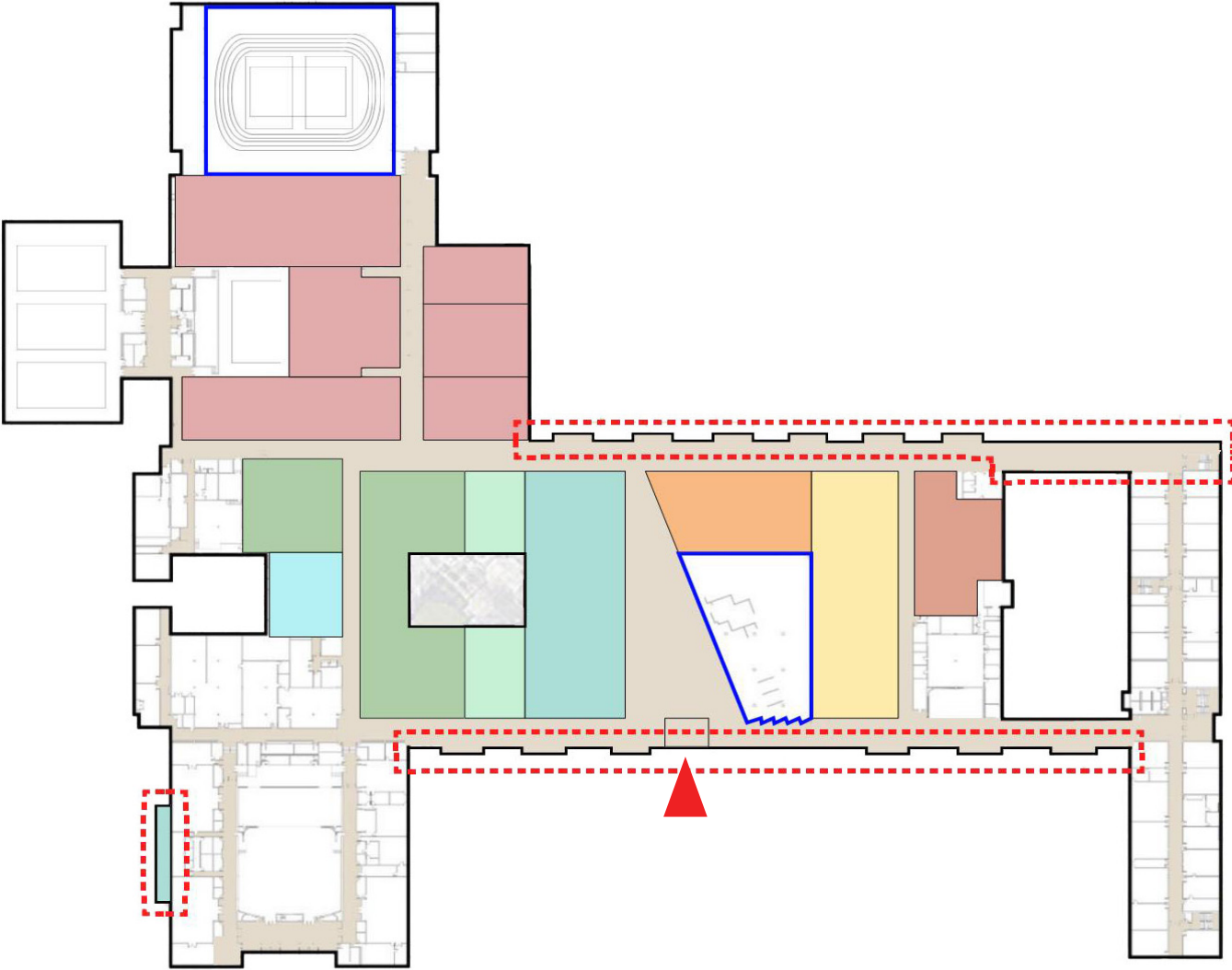
RECOMMENDATIONS

BUDGET ESTIMATE

MAINE SOUTH HIGH SCHOOL

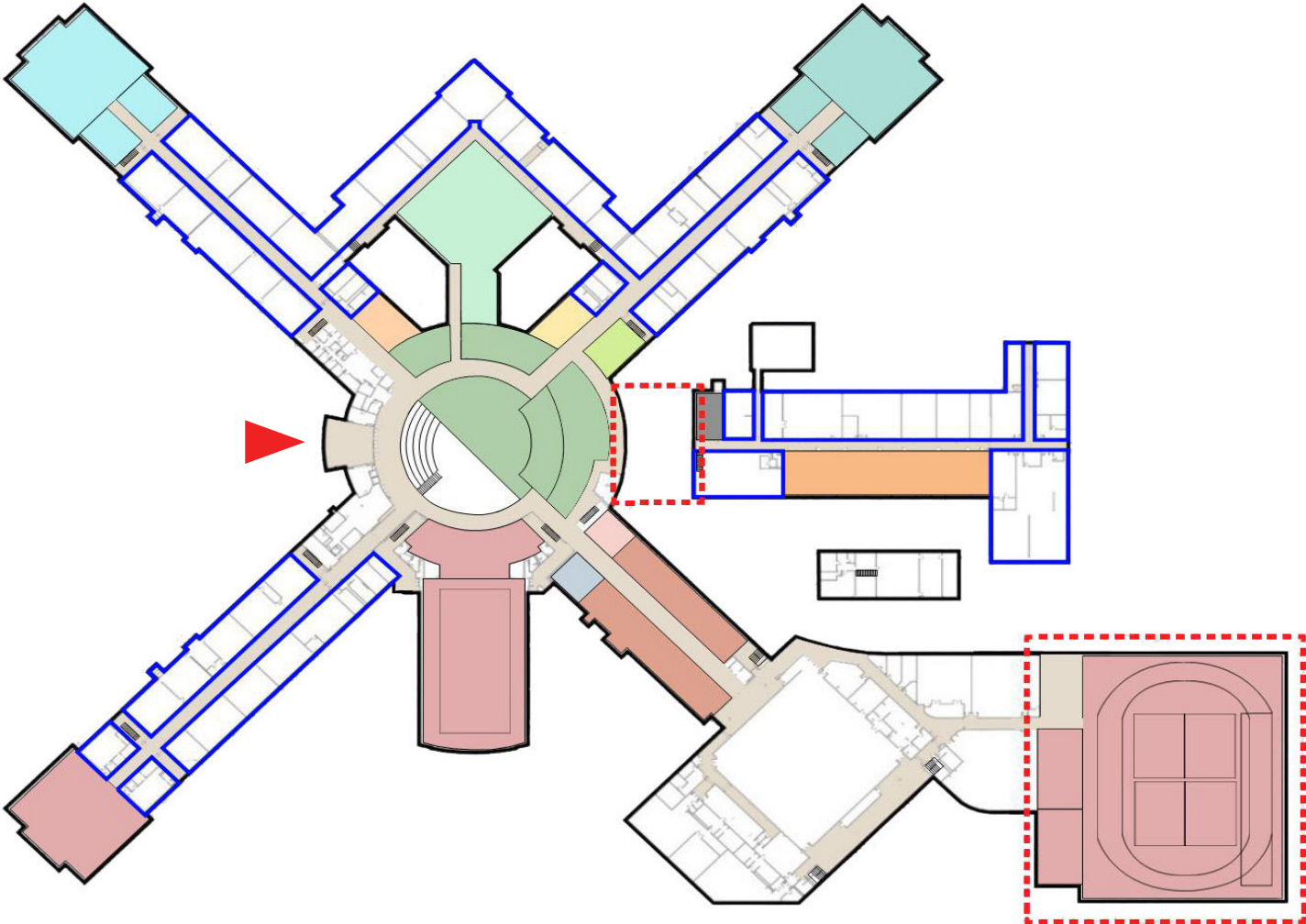
Summary Approach B (Scaled-Back)

Scope Description	Item Total
New Construction (Corridor reconfiguration)	
New Construction Hard Cost Total	\$4,097,000
Owner Soft Cost Total	\$464,600
Escalation (2020 Construction Start)	\$210,000
New Construction Total	\$4,771,600
Heavy Renovation (Kitchen/Servery, Dinining Commons, Student Services, Special ED., CTE, Visual Arts and Core Academics)	
Heavy Renovation Hard Cost Total	\$16,220,400
Owner Soft Cost Total	\$2,128,300
Escalation (2020 Construction Start)	\$1,050,000
Heavy Renovation Total	\$19,398,700
Medium Renovation (Dance, Weights, Gymnastics, Fitness)	
Medium Renovation Hard Cost Total	\$5,578,500
Owner Soft Cost Total	\$836,800
Escalation (2020 Construction Start)	\$380,000
Medium Renovation Total	\$6,795,300
Light Renovation (Library Media Center, Admin)	
Light Renovation Hard Cost Total	\$1,900,000
Owner Soft Cost Total	\$285,000
Escalation (2020 Construction Start)	\$120,000
Light Renovation Total	\$2,305,000
Building Area Total	\$33,300,000
OTHER SCOPE ITEMS	
Corridor	\$1,400,000
Fire Protection	\$0
Pool Renovation	\$0
Site Work	\$1,330,000
FF&E	\$2,500,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,920,671
Asbestos Abatement (Based on previous documents from the district)	\$1,972,900
Audio/Visual Equipment Allowance	\$500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance (Elara) - 2021	\$17,116,336
Other Scope Items Total	\$27,740,000
South High School - Grand Total Approach B	\$61,000,000



Summary Approach A (Comprehensive)

Scope Description	Item Total
New Construction (Field House Addition)	
New Construction Hard Cost Total	\$14,500,000
Owner Soft Cost Total	\$2,020,000
Escalation (2020 Construction Start)	\$930,000
New Construction Total	\$17,450,000
Heavy Renovation (Visual Arts, Student Services, Dining Commons, and Admin)	
Heavy Renovation Hard Cost Total	\$5,590,000
Owner Soft Cost Total	\$840,000
Escalation (2020 Construction Start)	\$390,000
Heavy Renovation Total	\$6,820,000
Medium Renovation (Special Ed., Gymnastics, Admin, Offices, Building Support, Library, Student Support)	
Medium Renovation Hard Cost Total	\$7,240,000
Owner Soft Cost Total	\$1,440,000
Escalation (2020 Construction Start)	\$660,000
Medium Renovation Total	\$9,340,000
Light Renovation (Existing Classroom's, Pool)	
Light Renovation Hard Cost Total	\$7,150,000
Owner Soft Cost Total	\$2,060,000
Escalation (2020 Construction Start)	\$580,000
Light Renovation Total	\$9,790,000
Building Area Total	\$43,400,000
OTHER SCOPE ITEMS	
Corridor	\$3,350,000
Fire Protection	\$1,380,000
Pool Renovation	\$1,400,000
Site Work	\$1,910,000
FF&E	\$4,000,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,847,060
Asbestos Abatement (Based on previous documents from the district)	\$1,234,800
Audio/Visual Equipment Allowance	\$1,500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance Items (Elara) - 2021	\$14,498,000
Other Scope Items Total	\$32,120,000
West High School - Grand Total Option 1	\$75,500,000



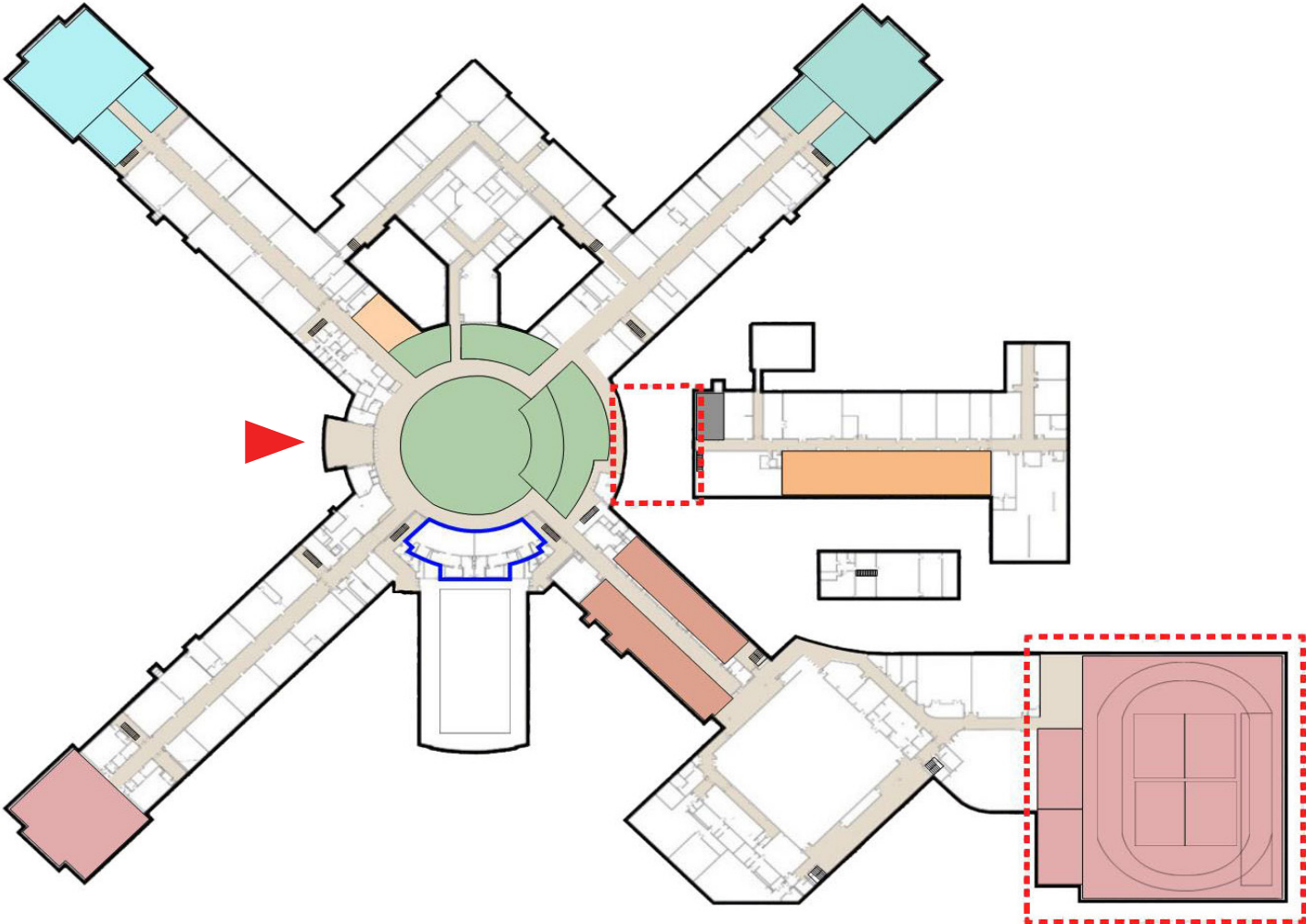
RECOMMENDATIONS

BUDGET ESTIMATE

MAINE WEST HIGH SCHOOL

Summary Approach B (Scaled-Back)

Scope Description	Item Total
New Construction (Field House Addition)	
New Construction Hard Cost Total	\$13,800,000
Owner Soft Cost Total	\$2,020,000
Escalation (2020 Construction Start)	\$930,000
New Construction Total	\$16,750,000
Heavy Renovation (Dining, Kitchen, Servery, and Student Support)	
Heavy Renovation Hard Cost Total	\$4,280,000
Owner Soft Cost Total	\$790,000
Escalation (2020 Construction Start)	\$300,000
Heavy Renovation Total	\$5,370,000
Medium Renovation (Special Ed., CTE, Student Services, Dining Commons, Building Support, Library, Student Support, Admin, Gymnastics, Visual Arts)	
Medium Renovation Hard Cost Total	\$5,800,000
Owner Soft Cost Total	\$870,000
Escalation (2020 Construction Start)	\$260,000
Medium Renovation Total	\$6,930,000
Light Renovation	
Light Renovation Hard Cost Total	\$0
Owner Soft Cost Total	\$0
Escalation (2020 Construction Start)	\$0
Light Renovation Total	\$0
Building Area Total	\$29,100,000
OTHER SCOPE ITEMS	
Corridor	\$0
Fire Protection	\$0
Pool Renovation	\$0
Site Work	\$1,910,000
FF&E (Existing Class Room's)	\$2,500,000
Maintance Items (Roofing, Tuck Pointing, Etc. based on previous Study)	\$2,847,060
Asbestos Abatement (Based on previous documents from the district)	\$239,500
Audio/Visual Equipment Allowance	\$500,000
Miscellaneous Mechanical, Electrical, Plumbing Allowance Items (Elara) - 2021	\$14,498,000
Other Scope Items Total	\$22,490,000
West High School - Grand Total Option 2	\$51,600,000



RECOMMENDATIONS

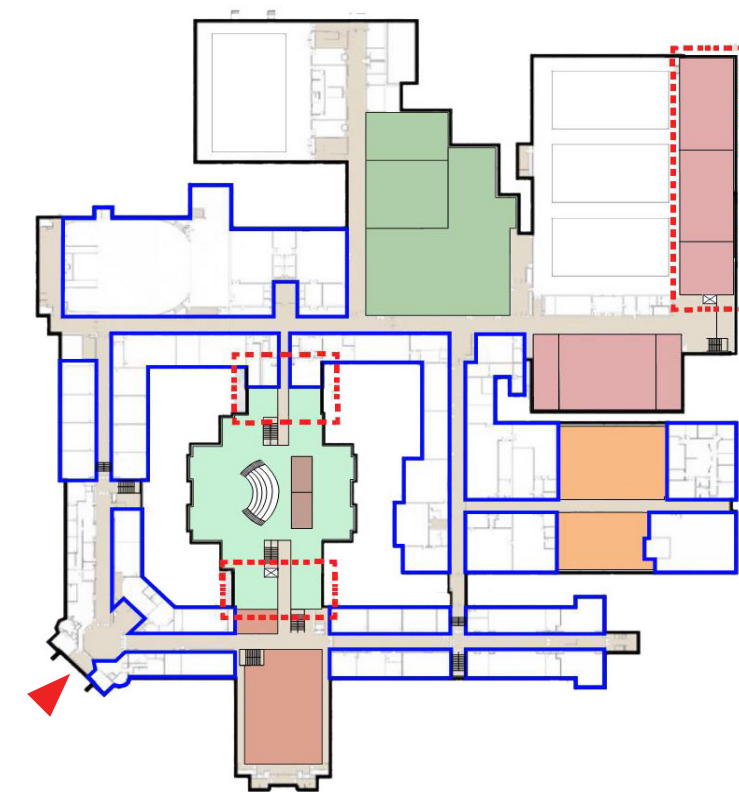
BUDGET ESTIMATE

MAINE WEST HIGH SCHOOL

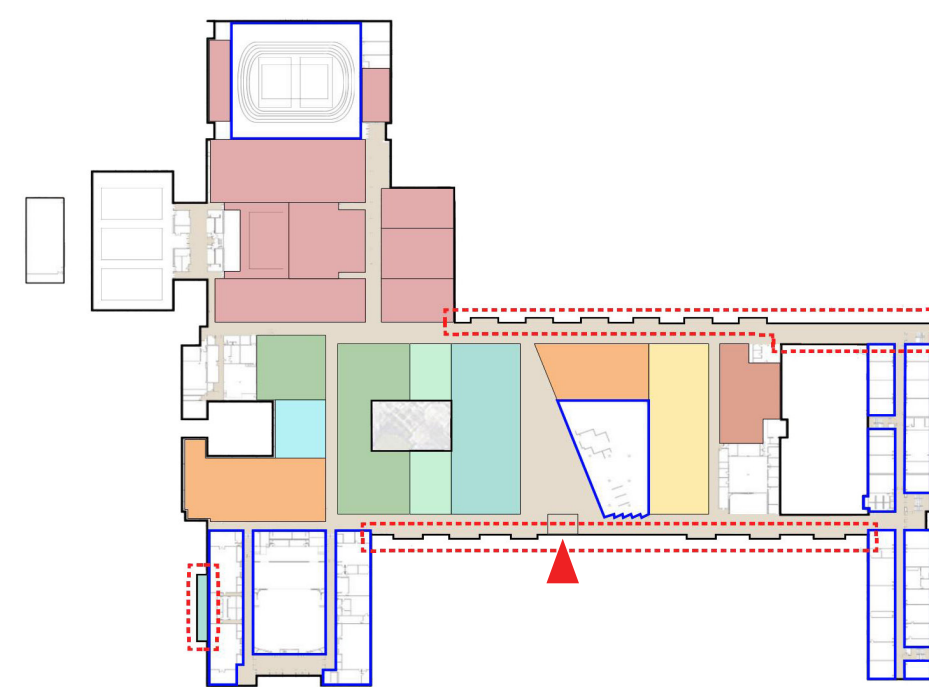
RECOMMENDATIONS
BUDGET ESTIMATE

A **COMPREHENSIVE**

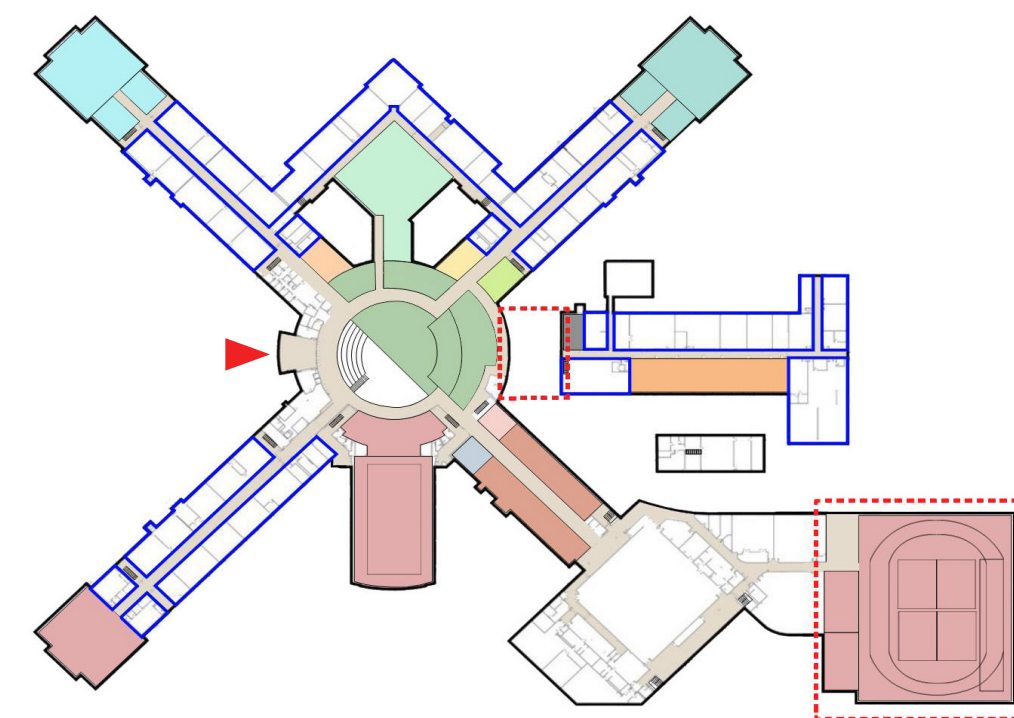
East:	\$81,900,000
South:	\$75,500,000
West:	\$83,300,000
TOTAL:	\$240,700,000



Maine East High School



Maine South High School

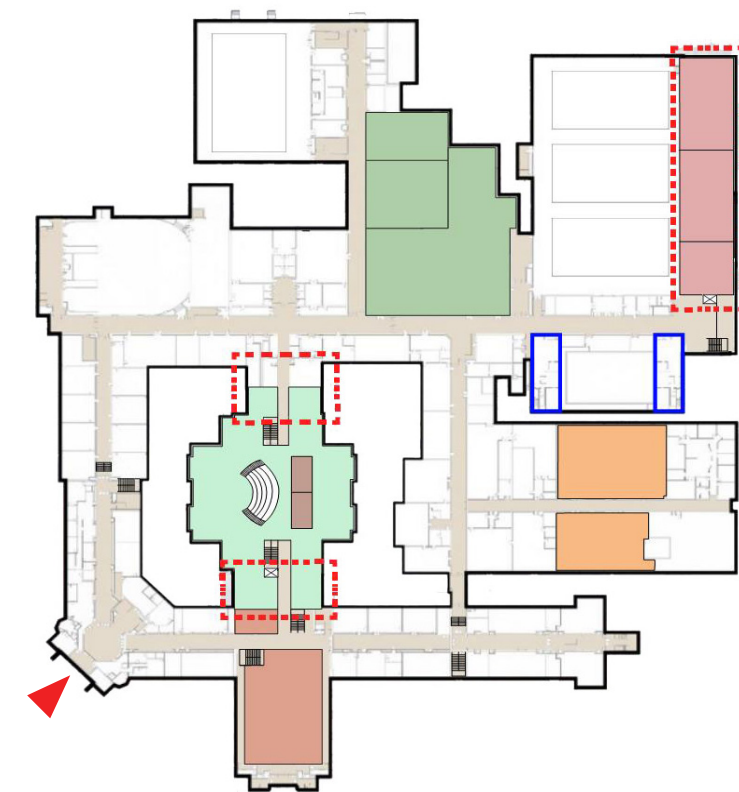


Maine West High School

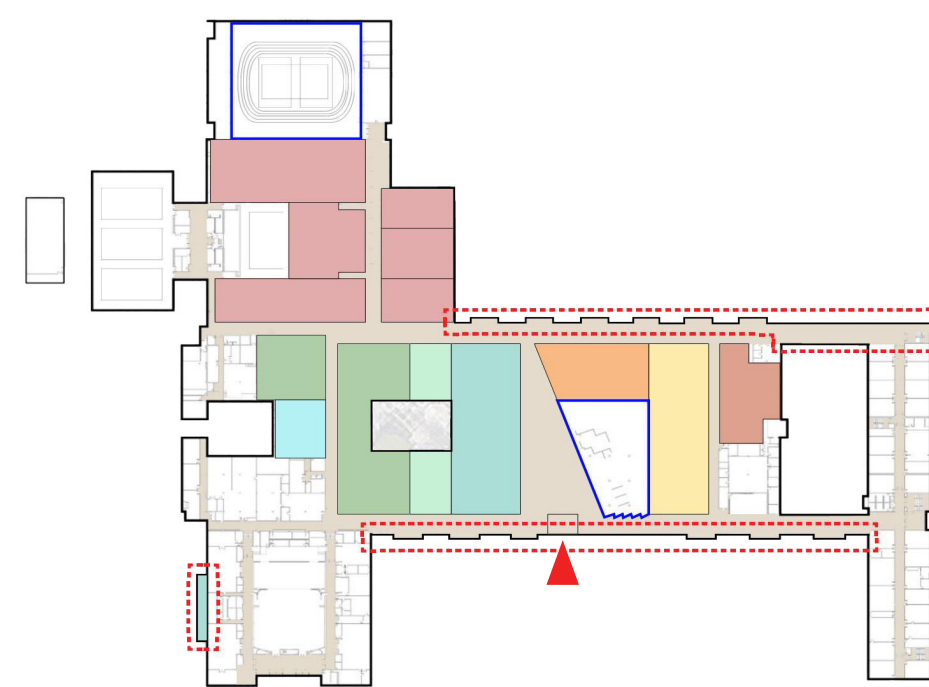
RECOMMENDATIONS
BUDGET ESTIMATE

B **SCALED-BACK**

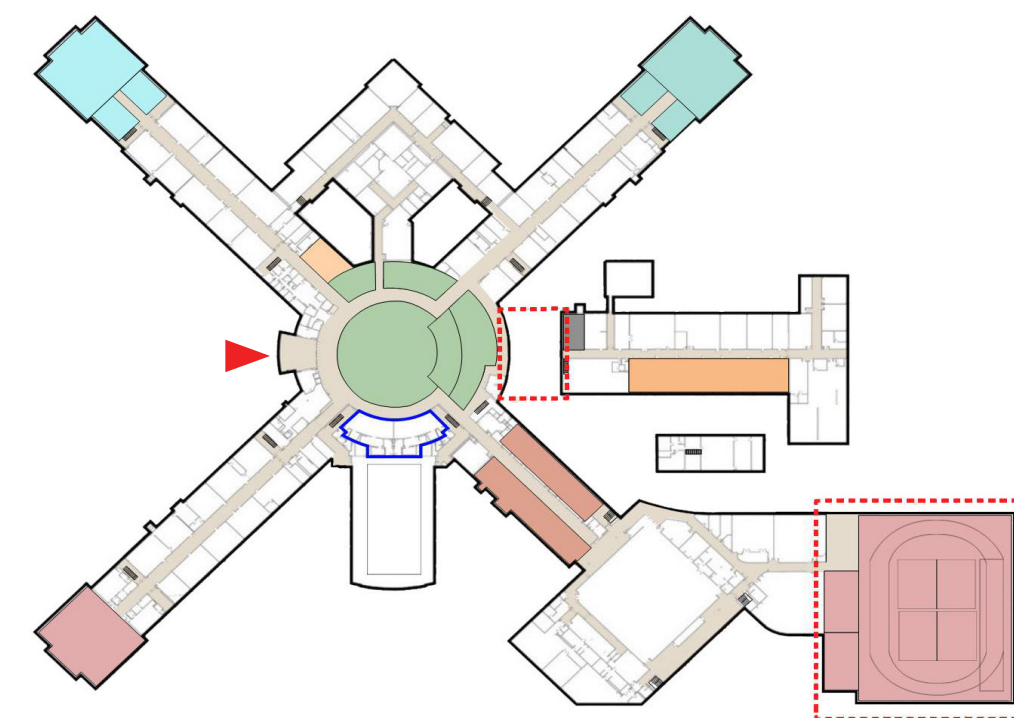
East:	\$59,200,000
South:	\$51,600,000
West:	\$61,000,000
TOTAL:	\$171,800,000



Maine East High School



Maine South High School



Maine West High School