BROOKLINE HIGH SCHOOL

BHS EXPANSION ADVISORY BUILDING COMMITTEE MEETING February 26, 2018

AGENDA

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This presentation will be available on the Public Schools of Brookline - Summaries of BHS Expansion Project Public Meetings Webpage: https://www.brookline.k12.ma.us/Page/1973

1. REASONS FOR THE PROJECT

REASONS FOR THE PROJECT

1. Increased Enrollment

• Enrollment at Brookline High School has increased from 1,700 students seven years ago to 2,050 in the 2017-2018 academic year. It is expected to increase to 2,700 students by the year 2023; the current BHS facilities cannot handle a student body of this size.

2. Outmoded Science Facilities

- A 21st century STEM (Science, Technology, Engineering & Math) education requires flexible, adaptable spaces.
- New designated places are needed to promote collaboration between teachers and students across various disciplines. STEM program will leverage UAB arts programming.

3. BHS Education Plan

- BHS has taken the opportunity to rethink how it can carry its tradition of excellence and innovation forward. Three key questions that propel the development of the Education Plan are:
 - How will BHS engage students more deeply?
 - How will BHS better serve all students?
 - How do we expand BHS and still maintain a cohesive, unified campus?

4. Facilities Maintenance & Upkeep

• BHS has recognized the project as an opportunity to improve and upgrade key elements of campus infrastructure.

2. PROJECT TEAM

PROJECT TEAM

TOWN OF BROOKLINE

BHS EXPANSION ADVISORY BUILDING COMMITTEE

Nancy Heller, Co-Chair, Select Board Susan Wolf Ditkoff, Co-Chair, School Committee George Cole, Co-Chair, Building Commission

Mel Kleckner, Town Administrator
Andrew Bott, Superintendent of Schools
Anthony Meyer, Brookline High School Headmaster
Nancy O'Connor, Park and Recreation Commission Member
Bobbie Knable, Advisory Committee of Town Meetings
Matthew Oudens, Planning Board, Neighbor
Ian Roffman, School Parent Community Representative
Jenee Ramos, Brookline High School Dean
Mary Ellen Dunn, Deputy Superintendent of Schools for Administration and Finance
Nicole Gittens, Deputy Superintendent of Schools for Teaching and Learning
Jordan Watts, Brookline High School Student Representative
Daniel Bennett, Building Commissioner
Ray Masak, Project Manager, Building Department

CONSULTANTS

OWNER'S PROJECT MANAGER Hill International Inc.

ARCHITECT William Rawn Associates, Architects Inc.

STRUCTURAL ENGINEER Lemessurier Consultants

MEP ENGINEER Rist-Frost-Shumway Engineering

LANDSCAPE ARCHITECT Lemon Brooke LLC

CIVIL ENGINEER Nitsch Engineering

GEOTECHNICAL ENGINEER McPhail Associates, LLC

COST ESTIMATORS Miyakoda Consulting

COST ESTIMATORS PM&C

3. BACKGROUND

BACKGROUND

- Feasibility study conducted 2016-2017
- BHS Expansion Committee voted in April 2017 to approve project scope consisting of:
 - New building at 111 Cypress Street serving primarily the 9th grade
 - New Science Classroom Wing replacing the existing Roberts Wing
 - Renovated classroom space on 3rd floor replacing science classrooms that will move to new wing
 - Recommendation to partially renovate Tappan Athletic Complex
 - Recommendation to develop budget for Cypress Field improvements

BROOKLINE HIGH SCHOOL EXPANSION

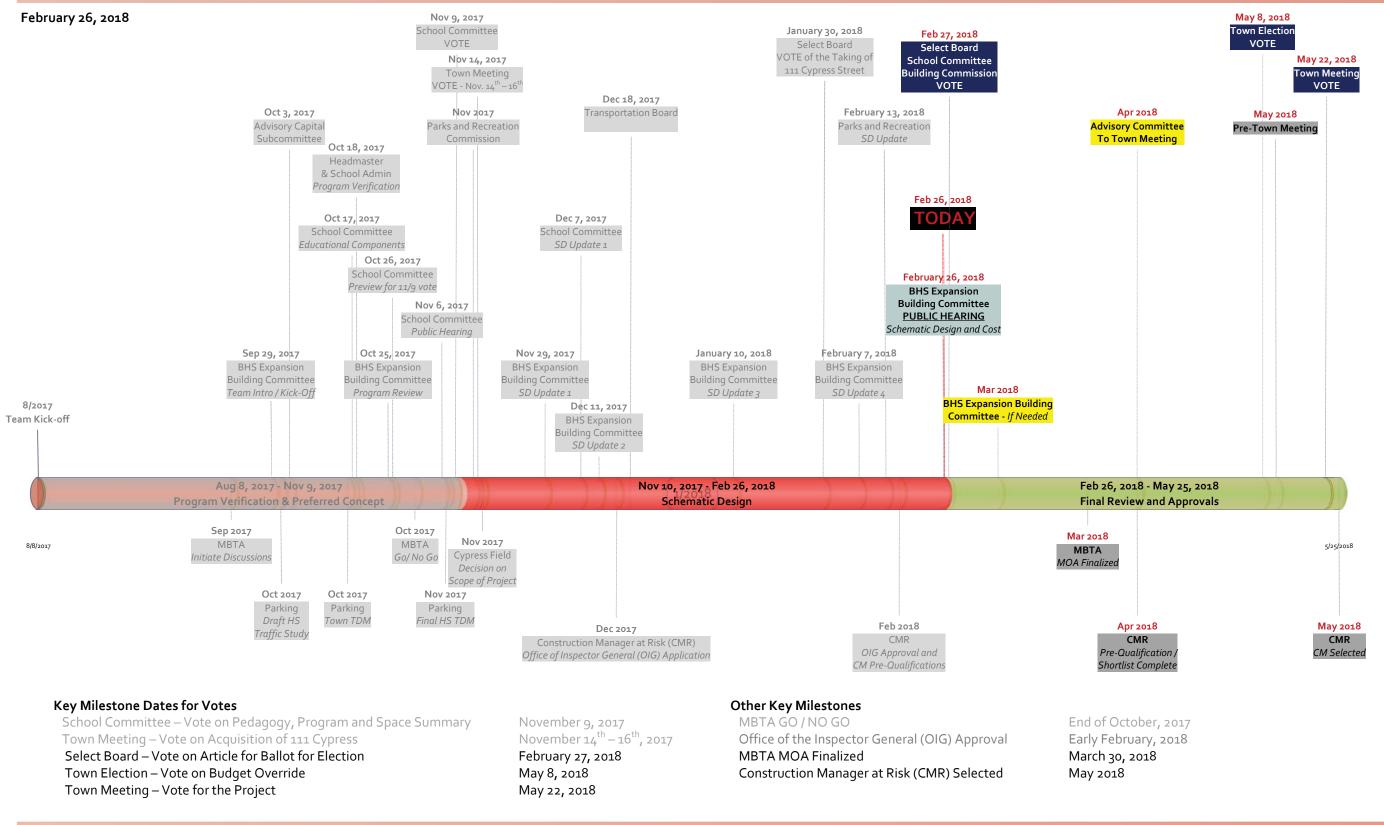
WHAT IS HAPPENING NOW

- Project currently in Schematic Design Phase
- During Schematic Design, the project concept developed during the Feasibility Study is fleshed out:
 - the program (listing) of spaces needed by the High School is developed
 - the internal organization and exterior look and feel of the building are developed
 - cost estimating is developed to a higher degree
- The Schematic Design Phase prepares the Town for the May 8th Vote
- If the Town votes in favor of the project, it will proceed into the next phases where the design will be developed to the point that a contractor can build it

SCHEMATIC DESIGN (SD) PHASE SCHEDULE

Brookline High School Expansion Project







LEGEND

WILLIAM RAWN ASSOCIATES WORK PLAN: SUMMARY

8 PARALLEL TRACKS

SCHEDULE ON TRACK - MILESTONES MET SHOWN IN YELLOW:



MBTA CROSSING GO / NO GO

SCHEMATIC DESIGN

- 111 CYPRESS ST
- NEW SCIENCE WING
- 3RD FLOOR SCIENCE WING
- TAPPAN ST
- UAB

TECHNICAL

- SURVEY
- ZONINGDPW
- FIRE/POLICE
- PARKS & REC ENVIRONMENTAL
- **PARKING**

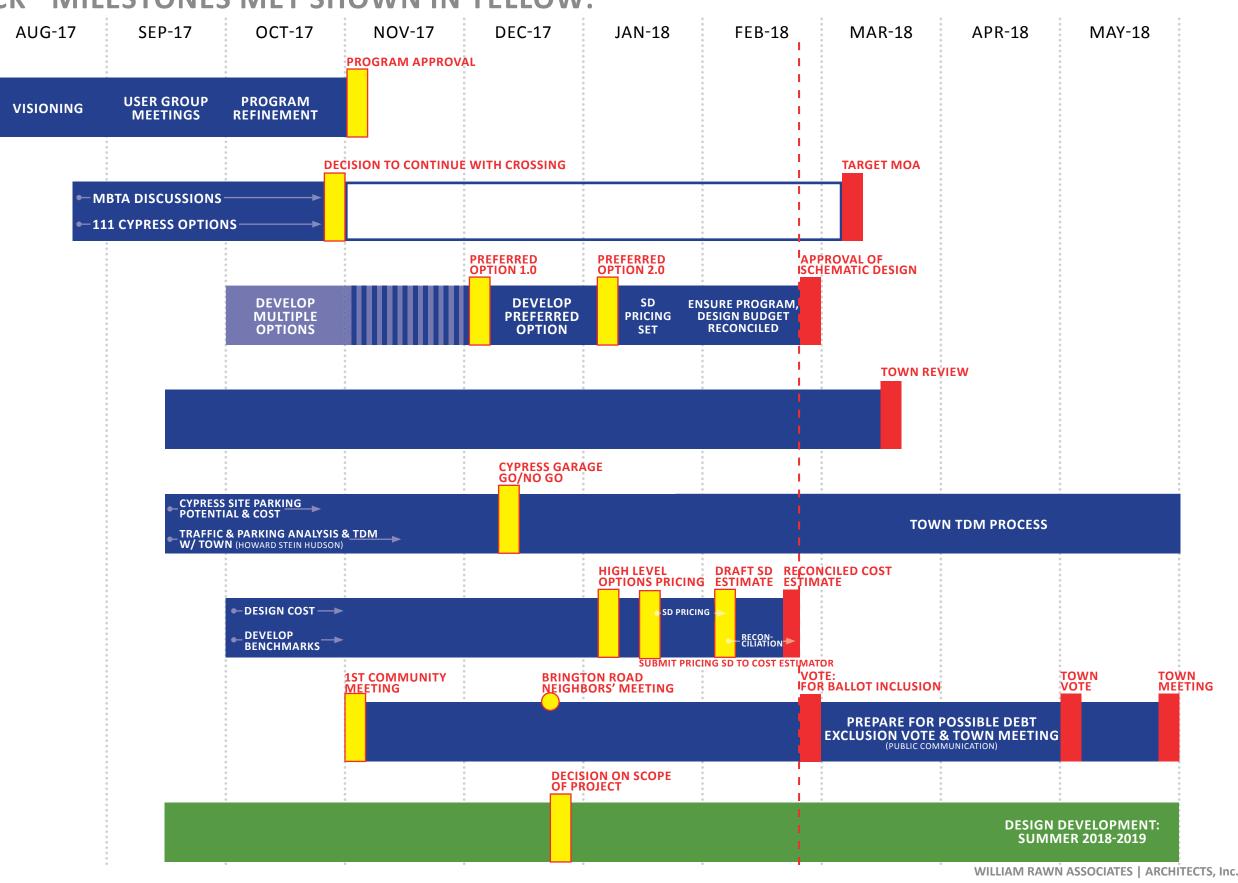
COST

PUBLIC PROCESS

- ABUTTERS
- PTONEIGHBORS

CYPRESS FIELD





LISTENING

- Four Intensive Design Process (IDP) sessions at BHS, including more than 50 hours of discussions with faculty, staff, students, and athletics & recreation:
 - IDP 1: September 13 15, 2017 3 days, 30 meetings, 21 groups
 - **IDP 2:** October 3, 2017

 1 day, 10 meetings, 10 groups
 - **IDP 3:** October 31, 2017

 1 day, 8 meetings, 10 groups
 - IDP 4: December 14 15, 2017 2 days, 17 meetings, 21 groups
- Brington Road Neighbors' Meeting: December 20, 2017
- Faculty & Student Open House at BHS: February 15, 2018
- Six BHS Expansion Advisory Building Committee Meetings since September 2017, open to public



WRA & BHS Faculty during IDP session at BHS campus



WRA & Community Members at BHS Expansion Advisory Building Committee Meeting

IDP 4 (DEC 14 & 15, 2017): 111 CYPRESS

2 DAYS, 17 MEETINGS, 21 GROUPS

- Adult Presence distribution (location of Deans offices & Guidance Councilor Offices)
- Physics neighborhood: Labs on two floors organized around a double height collaboration space
- Collaboration space organization: Wider hallways
 preferred over individual collaboration rooms connected
 to classrooms
- Have classrooms near Nurse's Office



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): STEM WING

2 DAYS, 17 MEETINGS, 21 GROUPS

- STEM Wing interdisciplinary building organization: chemistry & biology share floors
- Importance of prep room between chemistry classrooms, central storage for biology department
- Collaboration space organization: Eddies along hallway preferred over individual collaboration rooms connected to classrooms
- Culinary Arts Cafe as community hub at front of building
- Makerspace more visible at center of plan on ground floor
- Science resource center as academic hub on second floor



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): MAIN BUILDING THIRD FLOOR

2 DAYS, 17 MEETINGS, 21 GROUPS

- Need for adult presence and collaboration spaces at main intersections
- Move ACE program to less isolated location



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

IDP 4 (DEC 14 & 15, 2017): TAPPAN ATHLETIC COMPLEX

2 DAYS, 17 MEETINGS, 21 GROUPS

- Spin room on the first floor
- Change Coaches' Locker rooms to general use Locker Rooms



WRA & BHS Faculty and Staff during IDP sessions at BHS campus

BRINGTON ROAD NEIGHBORS' MEETING (DEC 20, 2017)

Areas of study at 111 Cypress Building:

- Possibility of stepping massing down more along Brington Road
- Location of loading dock
- Pedestrian connection to MBTA station
- Possible Entry along Cypress Street
- Amount of landscape screening possible on west side
- Studying design of the west facade so that it does not feel like a "back"

Feedback already achieved in current design:

- Inclusive design and accessibility across campus
- Consolidated program and created multi-functional rooms to reduce cost and square footage
- Main public entry faces Tappan Street rather than Brington Road
- Removed 5th floor of building by maximizing the opportunity over the MBTA tracks and leaning into Cypress Field; stepped down massing facing Brington Road
- No major drop off point on the Brington side of the building
- No parking garage on site
- Loading dock & garbage is covered and enclosed behind garage doors
- West facade (facing Brington Road neighborhood) has mostly rooms that will not be used after hours to minimize light at night
- Increased setbacks on west Facade and along Brington Road



WRA & Brington Road Neighbors meet in Neighbor's home

FACULTY & STUDENT OPEN HOUSE AT BHS (FEB 15, 2018)





WRA with BHS Faculty & Students during Open House Session at BHS campus



SCHEMATIC DESIGN (SD) PHASE

WHAT'S NEXT

2018

February - Reconcile Cost Estimate

- Approval of Schematic Design

- Vote: for Ballot Inclusion

March - Target MBTA Memorandum of Agreement (MOA)

- Town Review

March - May - Continue Town TDM Process

- Prepare for Possible Debt Exclusion Vote & Town Meeting

- Selection of Construction Manager at Risk

May - Town Vote

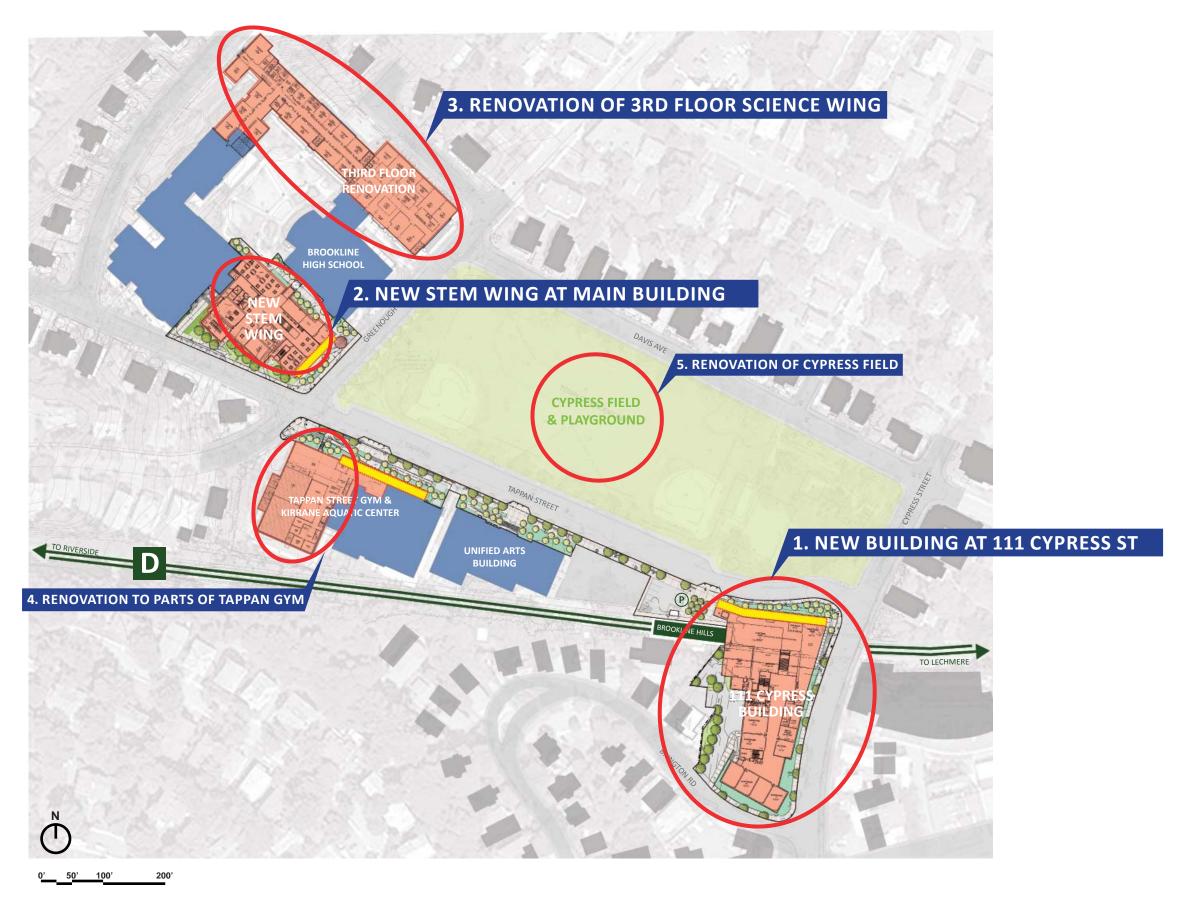
4. PROJECT DESCRIPTION

SCOPE OF BROOKLINE HIGH SCHOOL EXPANSION PROJECT

5 Key Parts of BHS Expansion Project:

- 1. Acquire and build 111 Cypress over the MBTA tracks
- 2. Build a new STEM Wing on the site of the current Roberts Wing
- 3. Renovate the 3rd floor over the Schluntz Gym
- 4. Upgrade the Tappan Athletic Complex
- 5. Renovate Cypress Field

SCOPE OF BROOKLINE HIGH SCHOOL EXPANSION PROJECT



KEY PROJECT GOAL: CONNECT BHS EXPANSION PROJECT TO BHS EDUCATION PLAN

Main Tenets of BHS Education Plan

1. Create a Unified Campus

- Big School; Small Feel
- Engage campus as a whole to serve educational mission

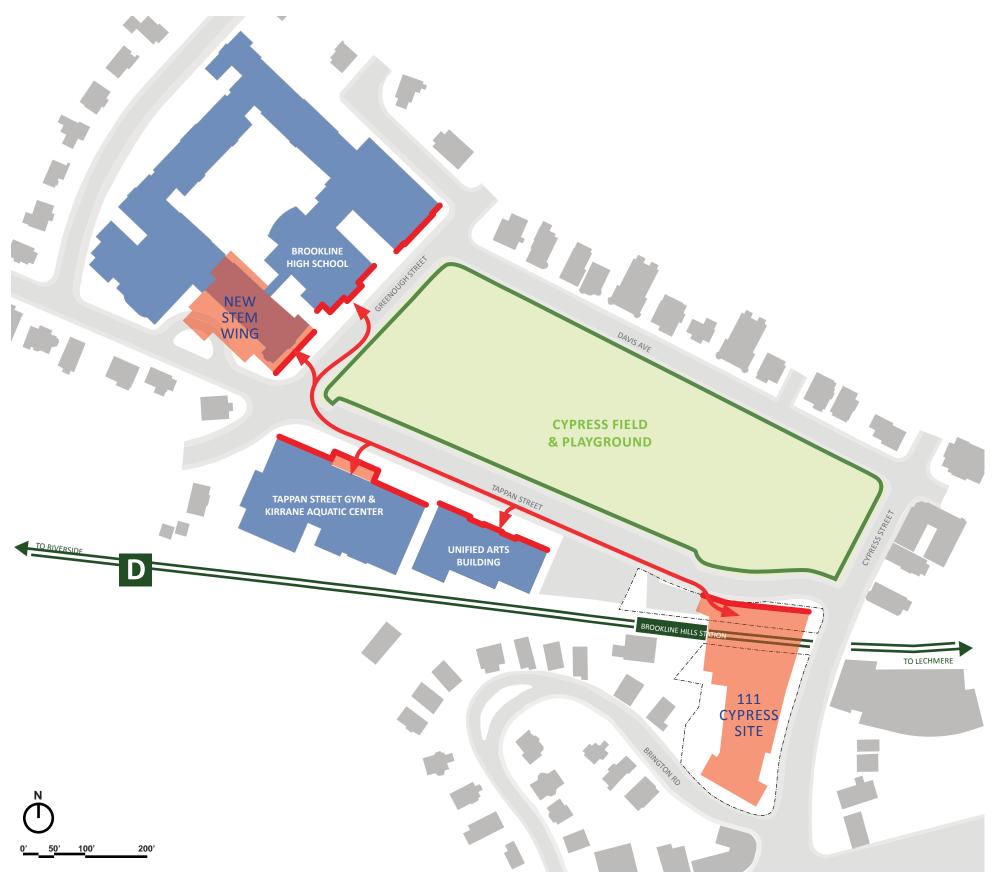
2. Engage Students Deeply

- Explore connections between fields and subjects
- Increase flexibility in scheduling, instruction, course offerings, and curriculum
- Foster faculty collaboration

3. Serve All Students

- Build connection between adults and students, and among classmates
- Intimate feel find your niche

OVERALL DESIGN OBJECTIVES: CREATING A UNIFIED CAMPUS



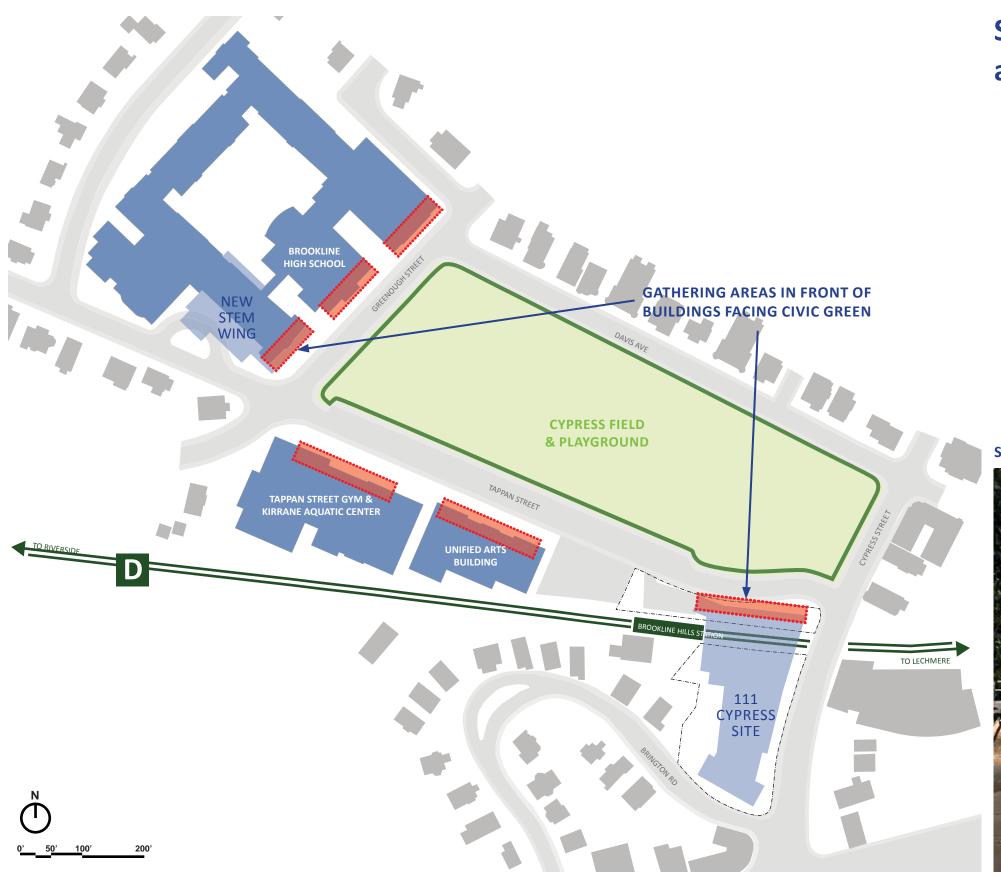
Bring 9th graders to rest of campus

- World Languages (Main Building)
- Electives (Unified Arts Building / Main Building)
- Health & Fitness (Tappan)

Bring 10-12th graders to Cypress Building

- Optional courses:
 - Creative Writing
 - Social & Racial Justice
- Advanced Placement (AP) Physics
- Multi-use White Box Space
 - Drama, Dance, Music
 - Guest Speakers for other Classes
 - Interdisciplinary Work

OVERALL DESIGN OBJECTIVES: FRONTING A CIVIC GREEN



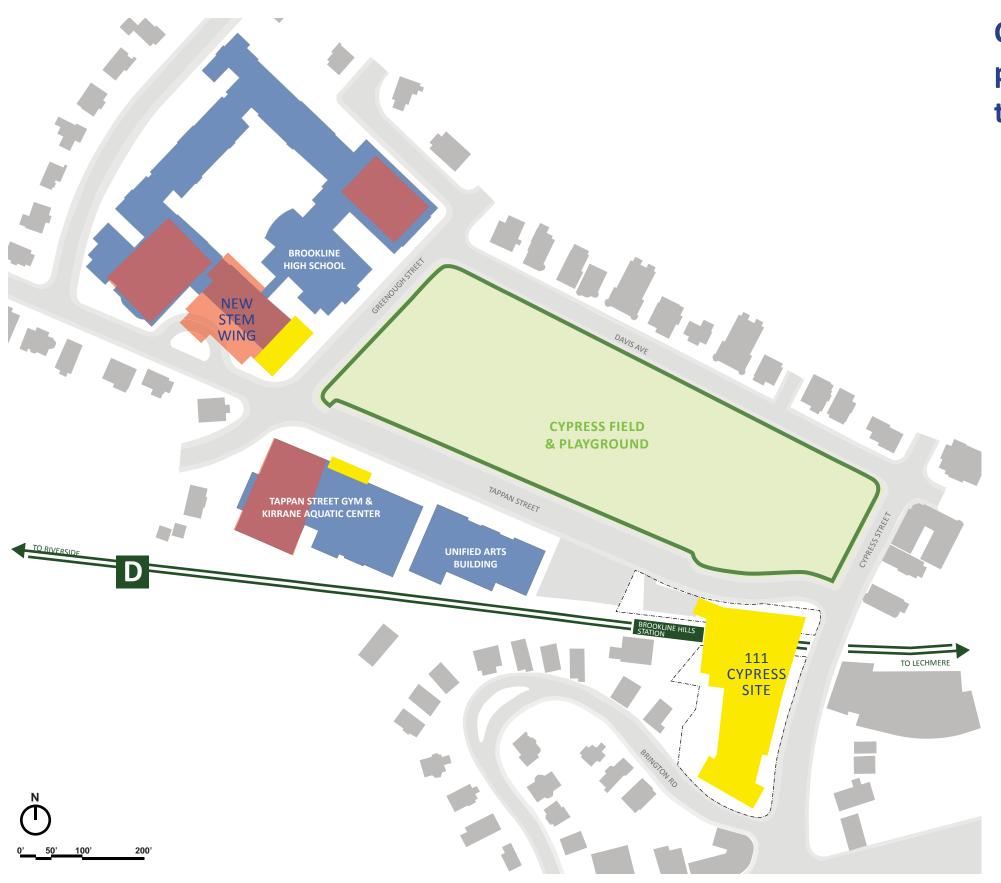
Strengthen sense of civic institution around Cypress Field

- STEM Wing: Create gracious New Entry to Main Building campus
- Tappan Athletic Complex: Unite Gym and Pool with New Lobby
- 111 Cypress: Lean-in toward Cypress Field

STUDENTS HANGING OUT ON GREENOUGH STREET AFTER SCHOOL



OVERALL DESIGN OBJECTIVES: SPACES BENEFITTING BHS & THE COMMUNITY



Connect major building entrances with programs that serve both the school and the community

- 111 Cypress: Cafeteria & White Box
- STEM Wing: Culinary Arts Cafe and generous new entrance connected to the existing Auditorium
- Tappan Athletic Complex: Unite Gym and Pool with New Lobby & possible Fitness Room for the Recreation Department



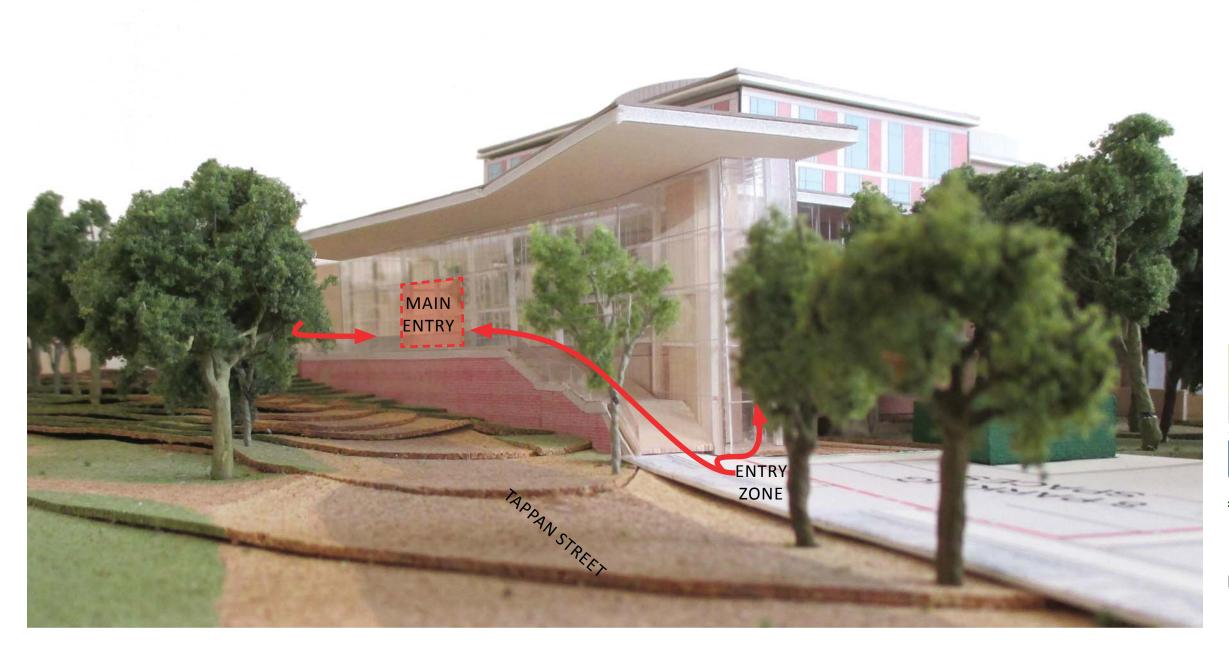
BROOKLINE HIGH SCHOOL CAMPUS: MODEL PHOTO



111 CYPRESS BUILDING



111 CYPRESS: A CIVIC PRESENCE



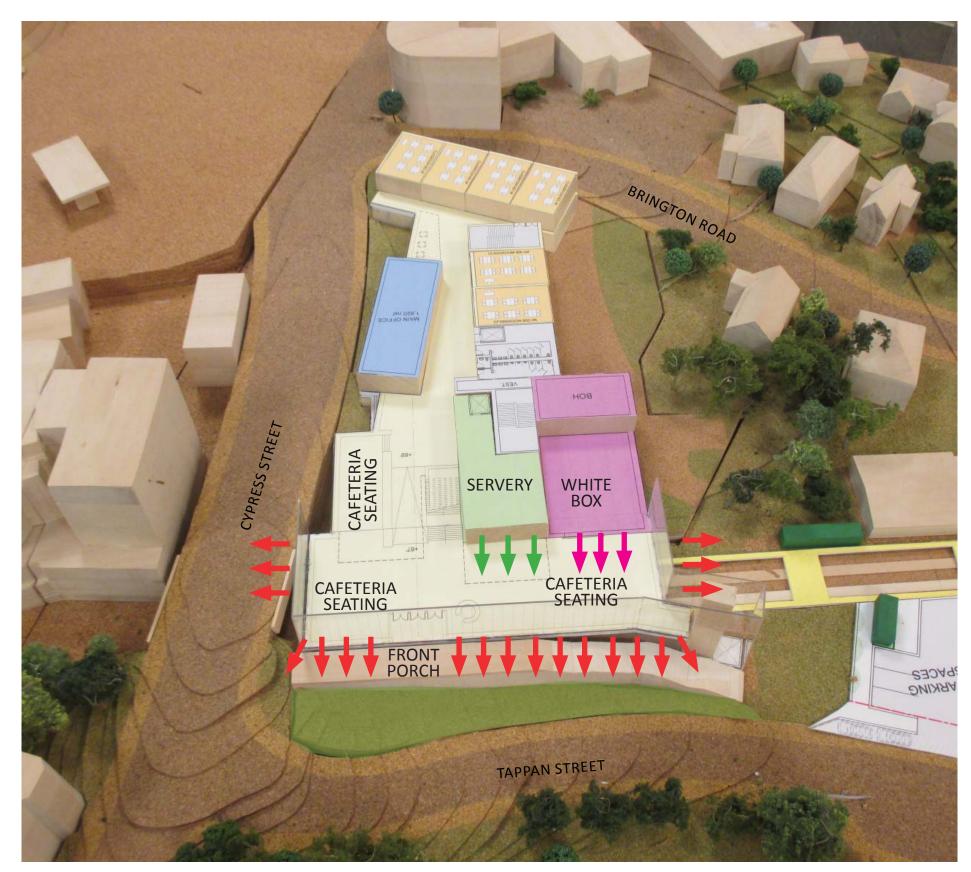


111 CYPRESS: A CIVIC PRESENCE

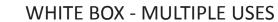




111 CYPRESS: MAJOR PUBLIC SPACES FRONTING CYPRESS FIELD (LEVEL 1)



LEVEL 1





LECTURES / MEETINGS

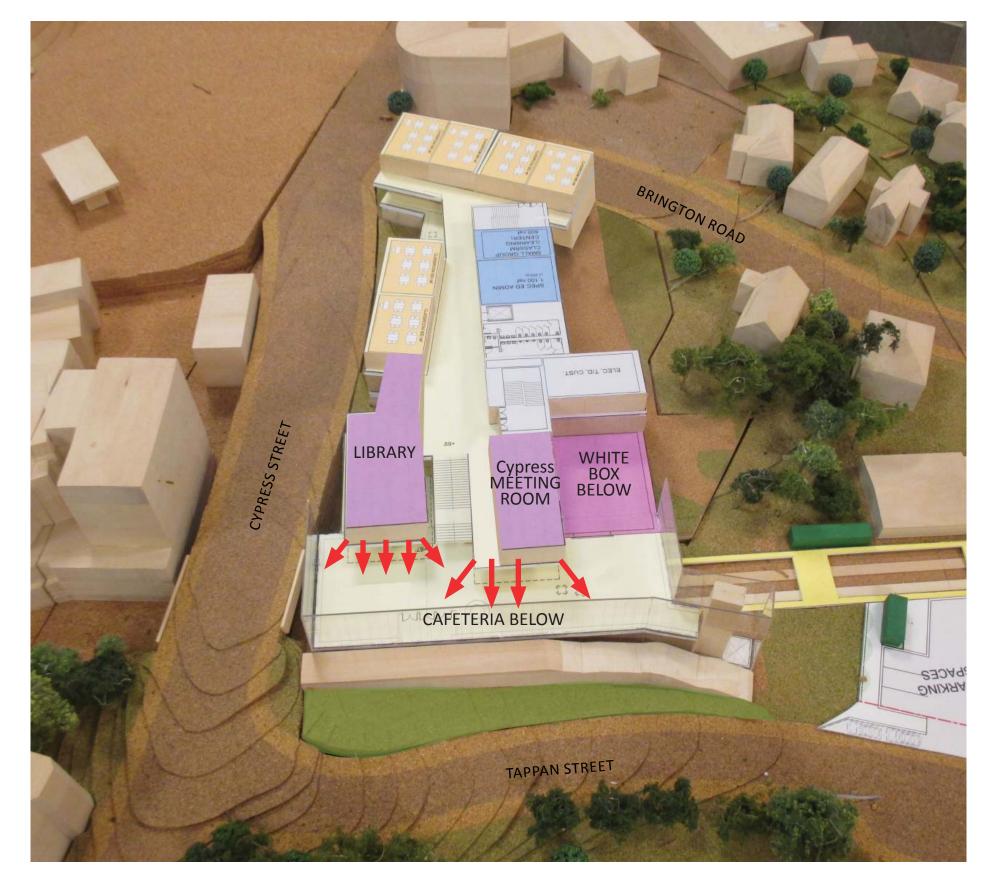


CLASSES



PERFORMANCE

111 CYPRESS: MAJOR PUBLIC SPACES FRONTING CYPRESS FIELD (LEVEL 2)





Library Porch Precedent: Concord Carlisle High School



Library Reading Room Precedent: Noble & Greenough Academic Inquiry Center (Under Construction)

LEVEL 2

111 CYPRESS: INTERDISCIPLINARY CLASSROOM ORGANIZATION

					4
4	SS	MATH	SCIENCE	SCIENCE	
3	ENGLISH	SS	SCIENCE	SCIENCE	
2	MATH	ENGLISH	MATH	SS	BRIDGE LEVE
1	ENGLISH	MATH	SS	ENGLISH	
					1

INTERDISCIPLINARY "QUILT"



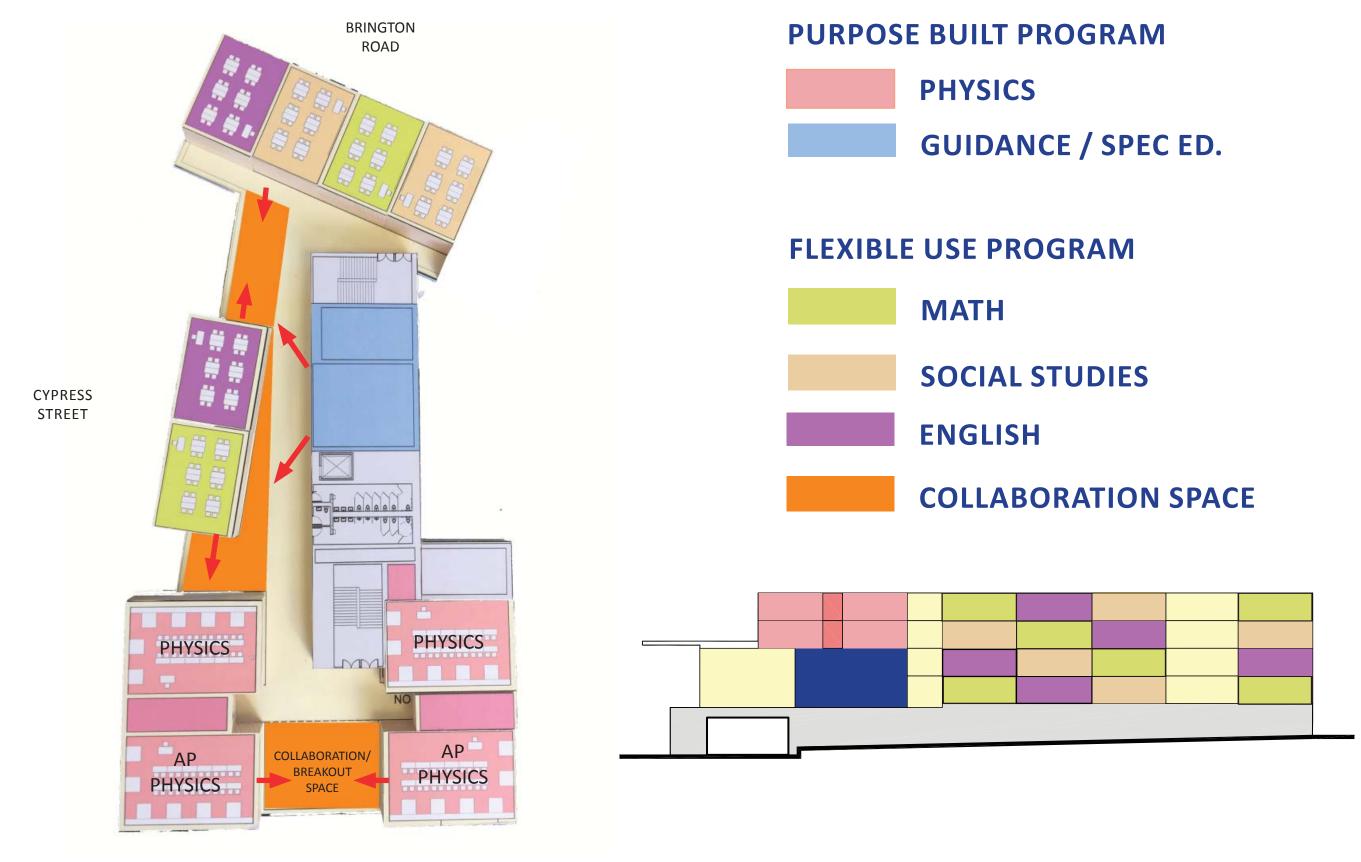
Interdisciplinary "Quilt" organization

Classrooms can programmed as any discipline
 (Math, English, or Social Studies) and not organized
 by department

Building organization supports interdisciplinary collaboration

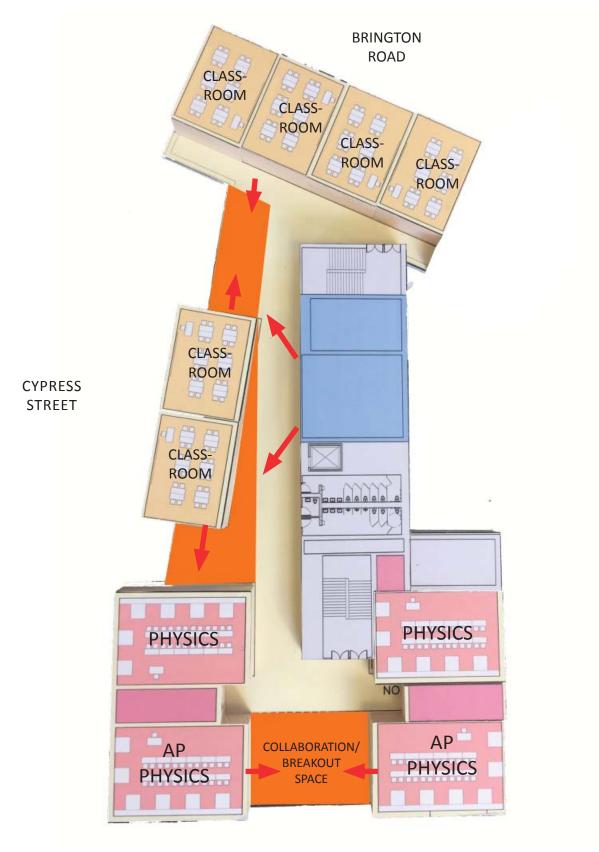
- Collaboration spaces adjacent to classrooms
- Widened corridors with seating
- Classrooms design with flexibility in mind

111 CYPRESS: INTERDISCIPLINARY CLASSROOM ORGANIZATION



LEVEL 3 TAPPAN STREET

111 CYPRESS: 3RD & 4TH FLOOR PLANS COLLABORATION / BREAKOUT SPACES





Collaboration Haven



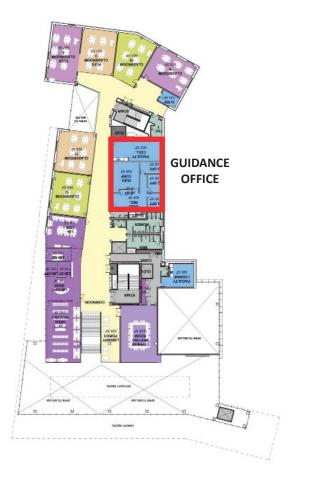
Garage doors can connect Physics class/labs to the collaboration space

LEVEL 3 TAPPAN STREET

111 CYPRESS: ADULT PRESENCE ON EACH FLOOR











LOWER LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

111 CYPRESS: RESPONDING TO EDUCATION PLAN

1. Create a Unified Campus

- Civic Presence on Cypress Field
- Main Door facing West toward rest of Campus
- 111 Cypress Building programmed primarily for 9th grade students, with several classrooms for specifically for upper class courses
- 9th Grade students will take classes in Unified Arts Building (UAB), Tappan Athletic Complex and Main Building

2. Engage Students Deeply

- Interdisciplinary "Quilt" organization: classrooms programmed as any discipline (Math, English, or Social Studies)
- Flexible classroom seating and teaching arrangements
- Integrated breakout spaces
- "Front Porch" on Tappan: a place like Greenough Street for after-school gathering
- See & Be Seen at Cafeteria

3. Serve All Students

- Adult presence on each floor
- Find your Niche: variety of places to gather, study in groups, seek help, get engaged-library, library porch, science collaboration zone, south stair

111 CYPRESS: MODEL PHOTOS



View of Main Entrance on Tappan Street



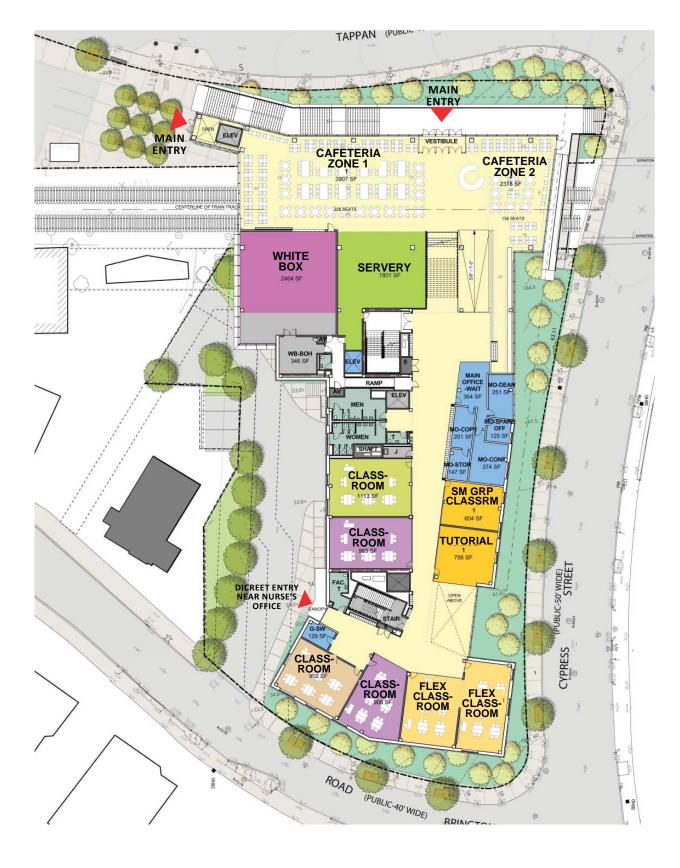


Brington Road View



View from intersection of Cypress Street and Brington Road

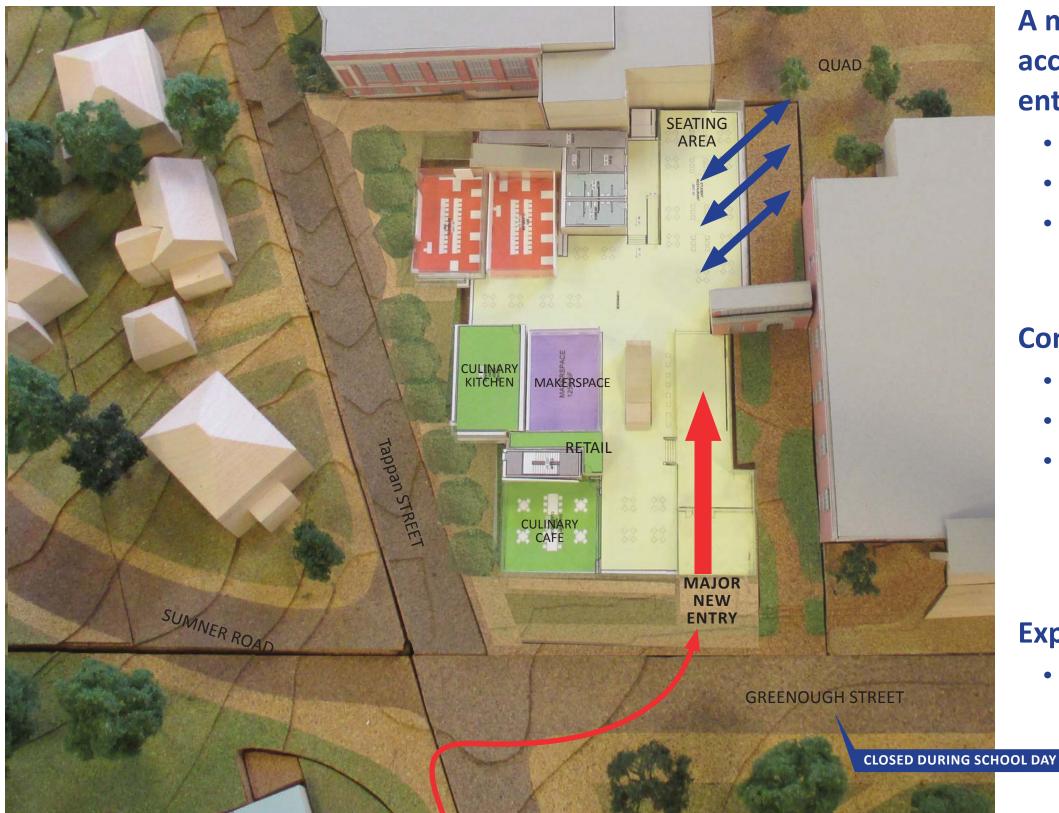
111 CYPRESS: LANDSCAPE PLAN



STEM WING



STEM WING: CREATE A MAJOR HIGH SCHOOL BUILDING ENTRANCE



A major building entrance sized to accommodate student preference for entry here:

- 20' wide entry hallway
- Direct access to staircase connecting floors 2 & 3
- Accessible entrance

Connecting to the Quad

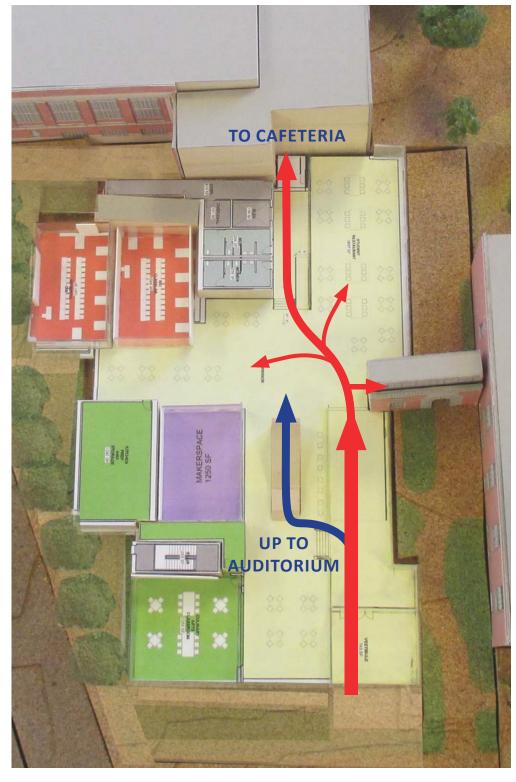
- New doorway to the Quad
- Abundant glazing for views to the Quad
- Gathering / seating area adjacent to the Quad

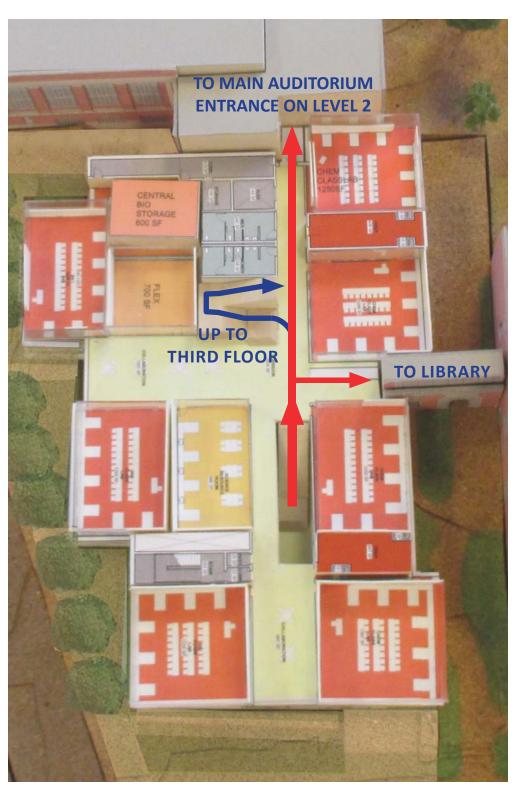
Expanding Cafeteria Seating

 Seating area facing the Quad expands cafeteria capacity at peak lunch hours

LEVEL 1

STEM WING: FACILITATE CIRCULATION THROUGH THE BUILDING

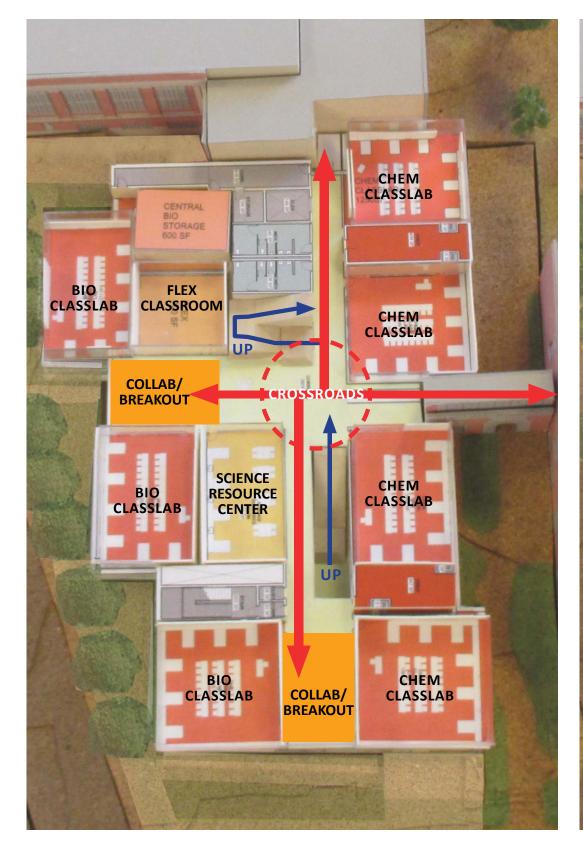


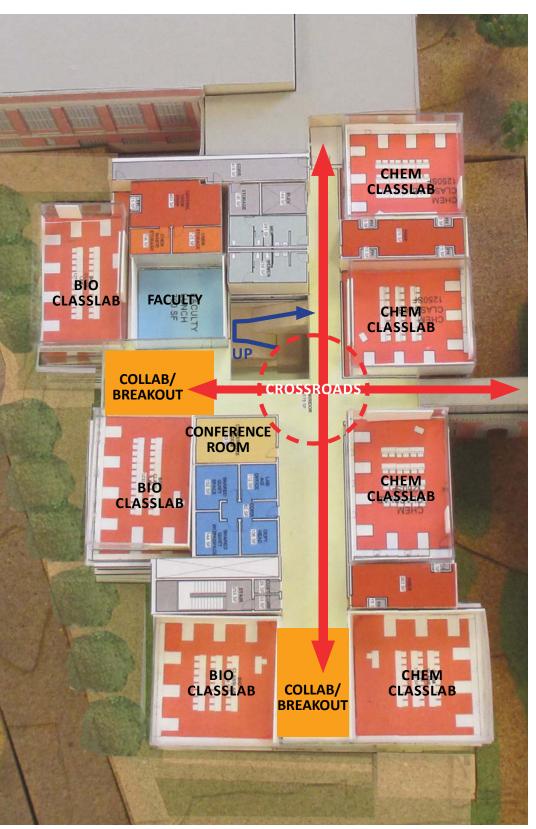




LEVEL 1 LEVEL 2 LEVEL 3

STEM WING: A NEW HUB FOR SCIENCE





Science Crossroads:

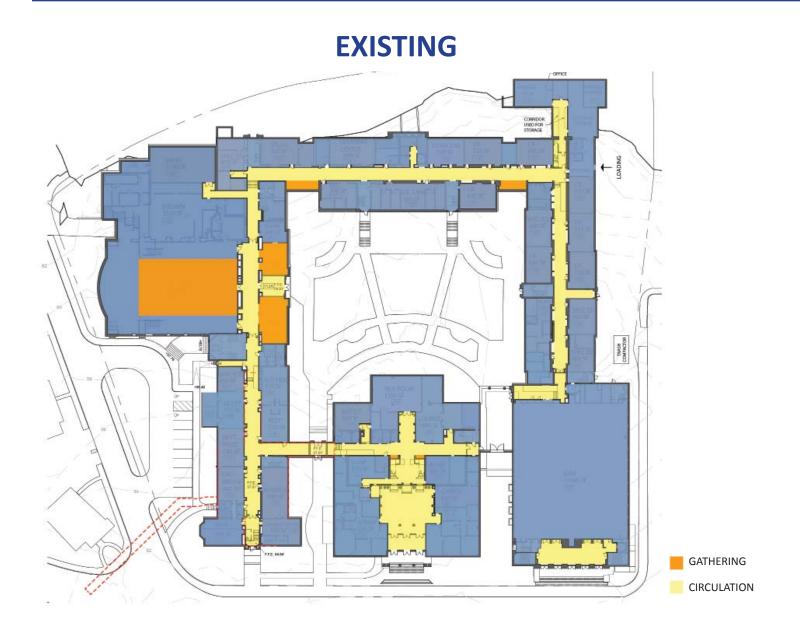
- Adjacent to Science Resource Center
 & Flex Classroom on Level 2
- Adjacent to Faculty Spaces on Level 3

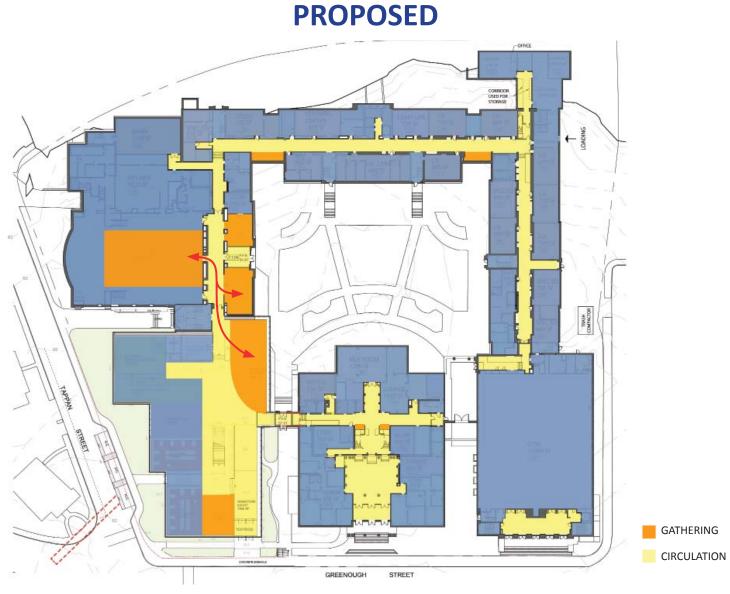
Interdisciplinary:

• Biology & Chemistry on each floor

LEVEL 2 LEVEL 3

STEM WING: EXPANDING A NETWORK OF CO-CURRICULAR GATHERING SPACES





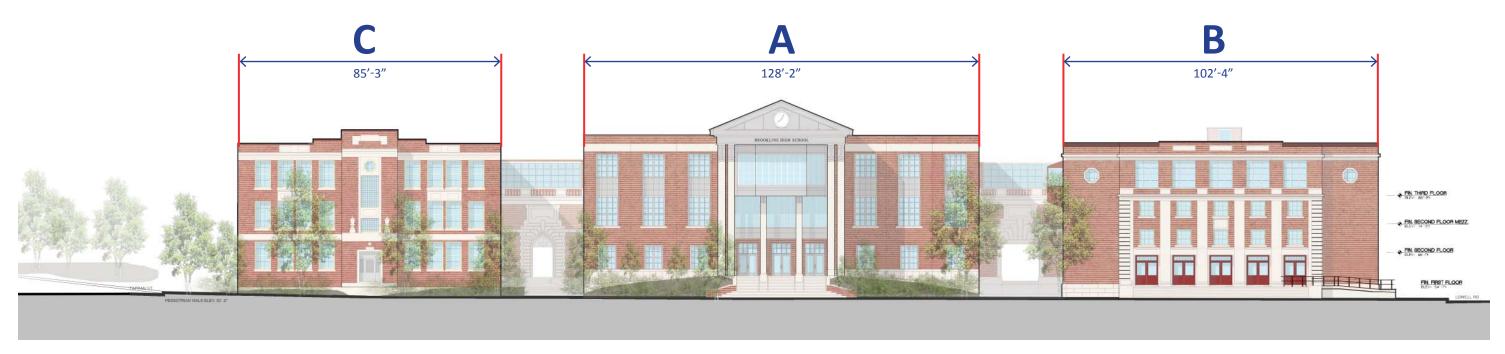


Collaboration & Breakout Space

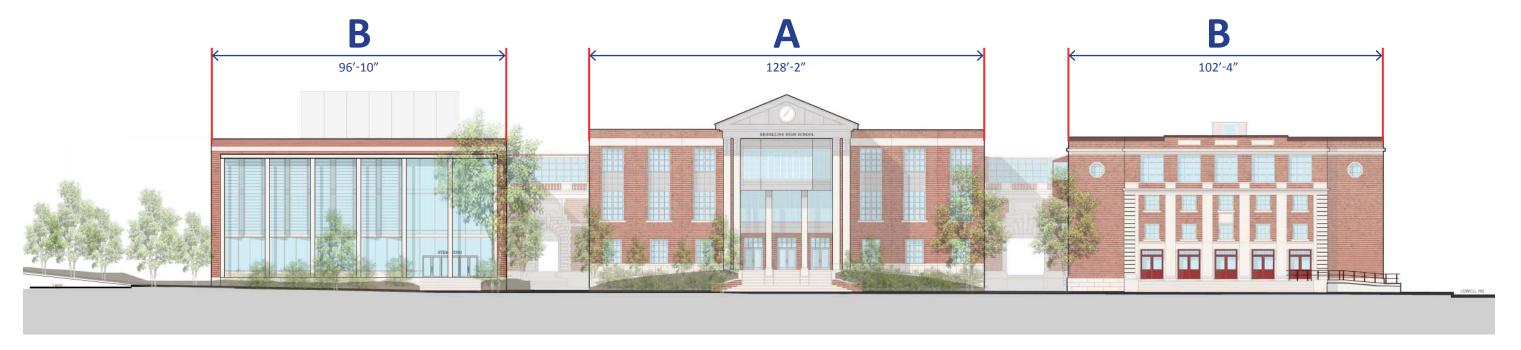
- New seating on ground floor of the STEM wing facing the Quad expands cafeteria capacity at peak lunch hours
- New collaboration spaces expands a network of cocurricular gathering spaces

NEW STEM WING CREATES SYMMETRICAL GREENOUGH STREET FACADE

EXISTING



PROPOSED



CORNICE ALIGNMENT

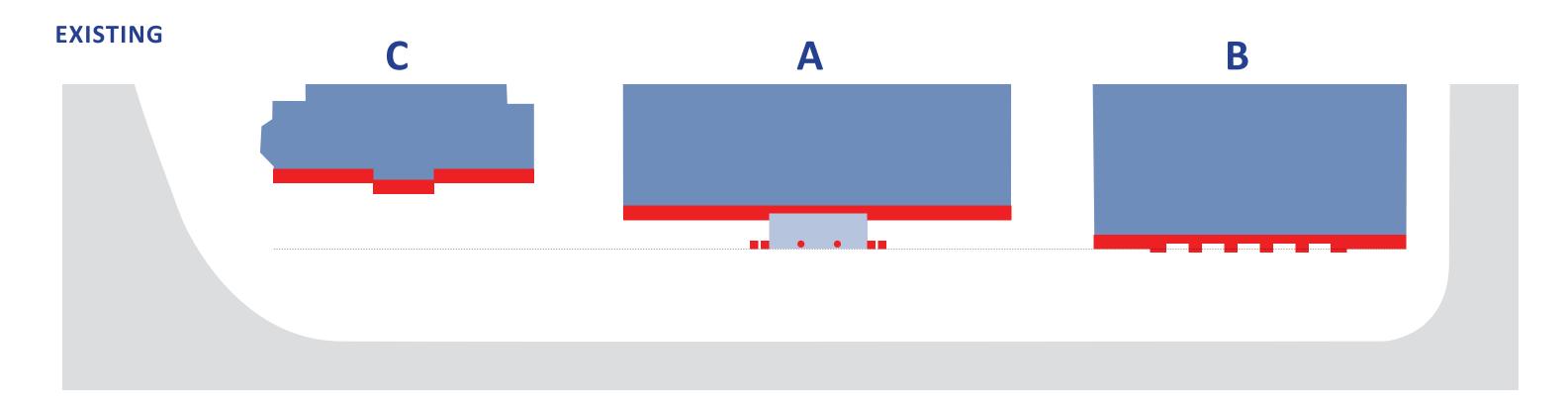
EXISTING

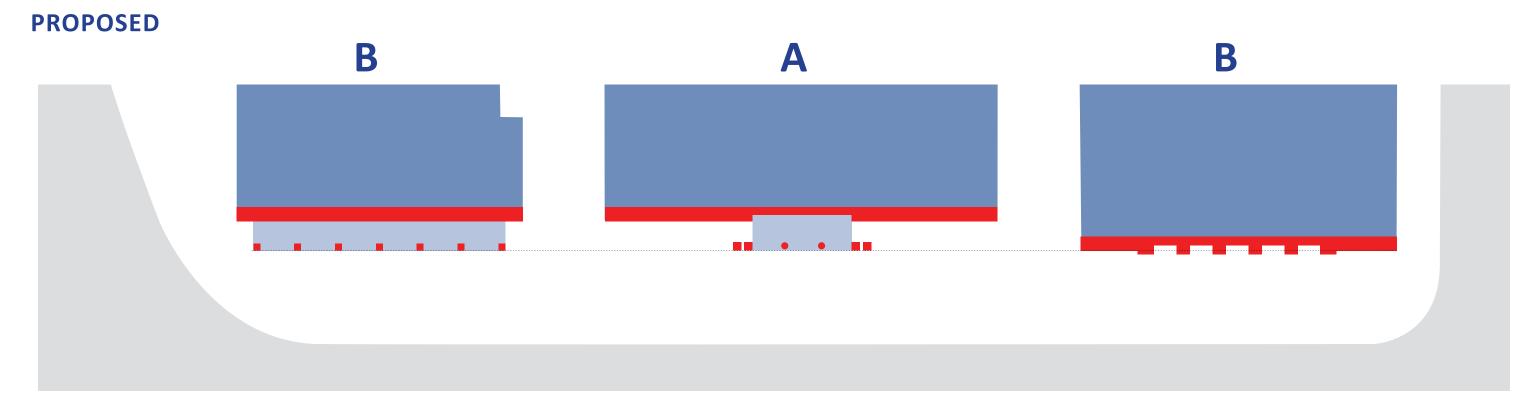


PROPOSED

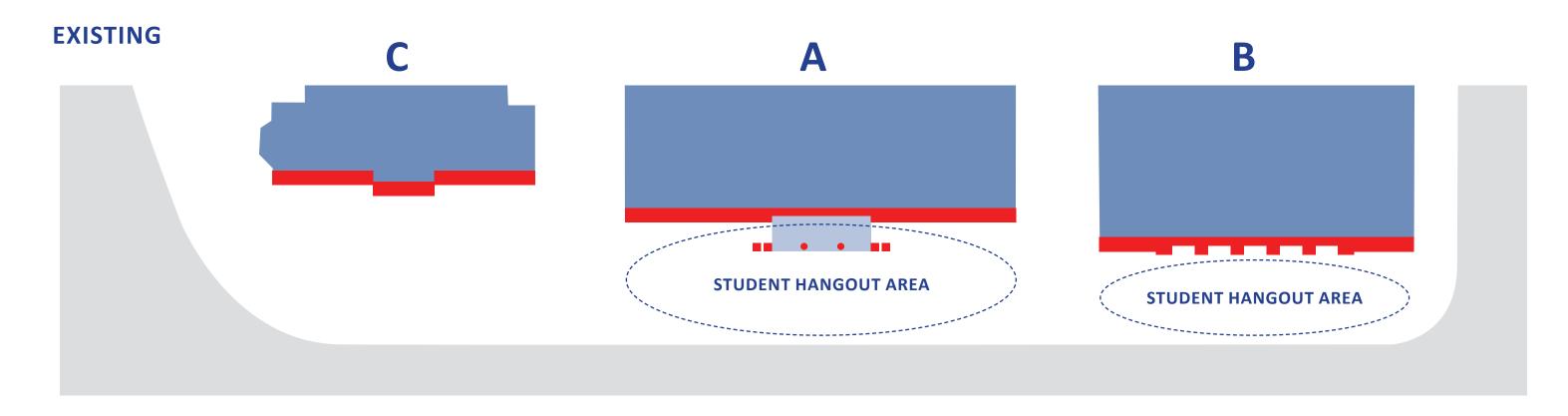


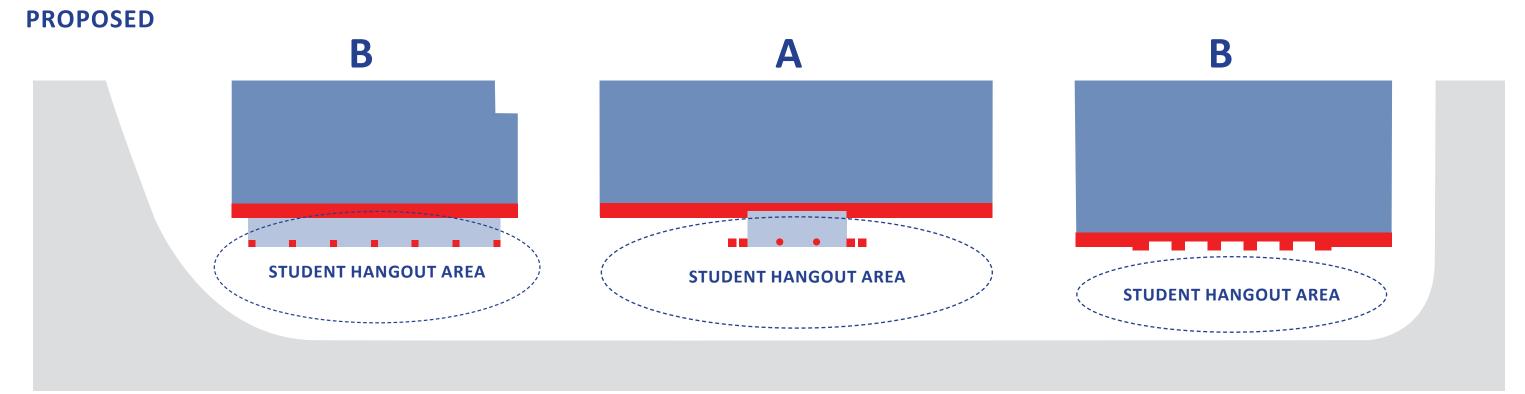
FACADE ALIGNMENT





FRONT PORCH AS STUDENT HANGOUT



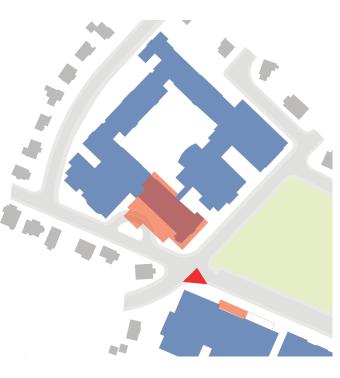






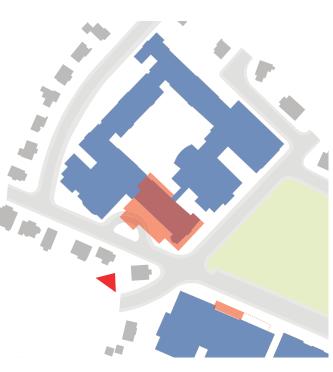
STEM WING: MODEL PHOTO



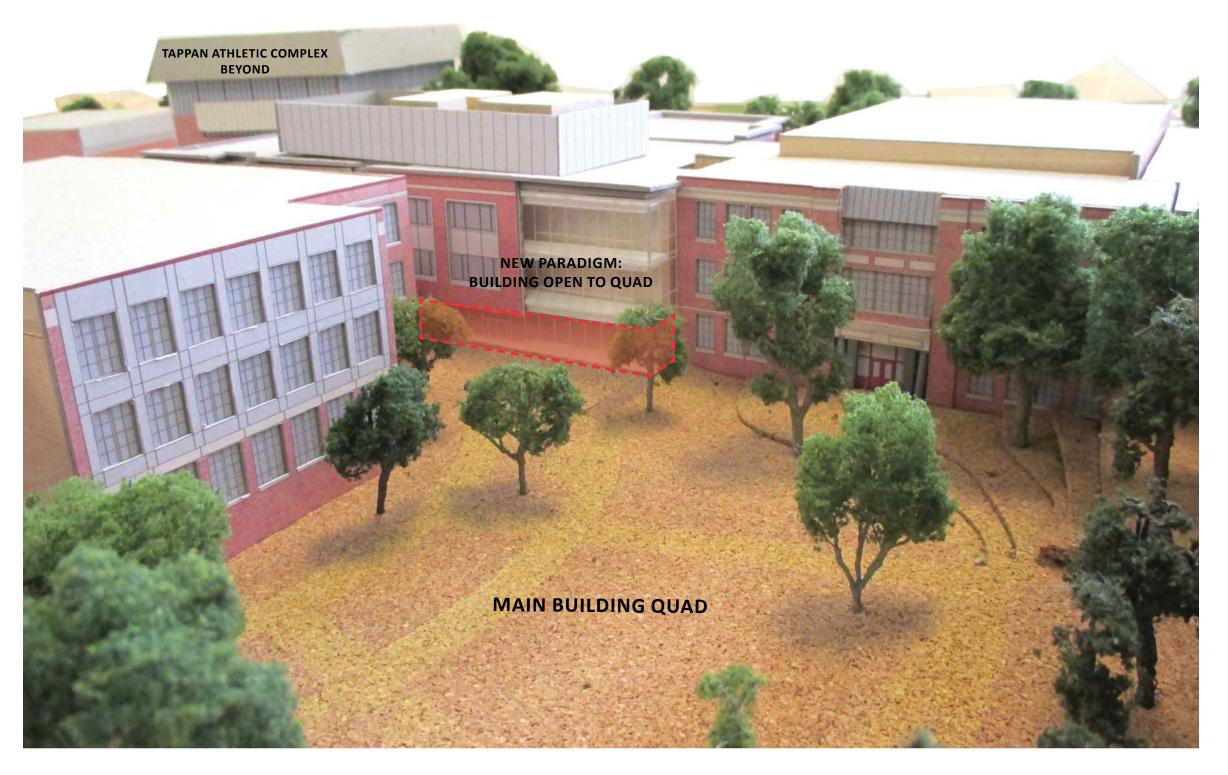


STEM WING: MODEL PHOTO



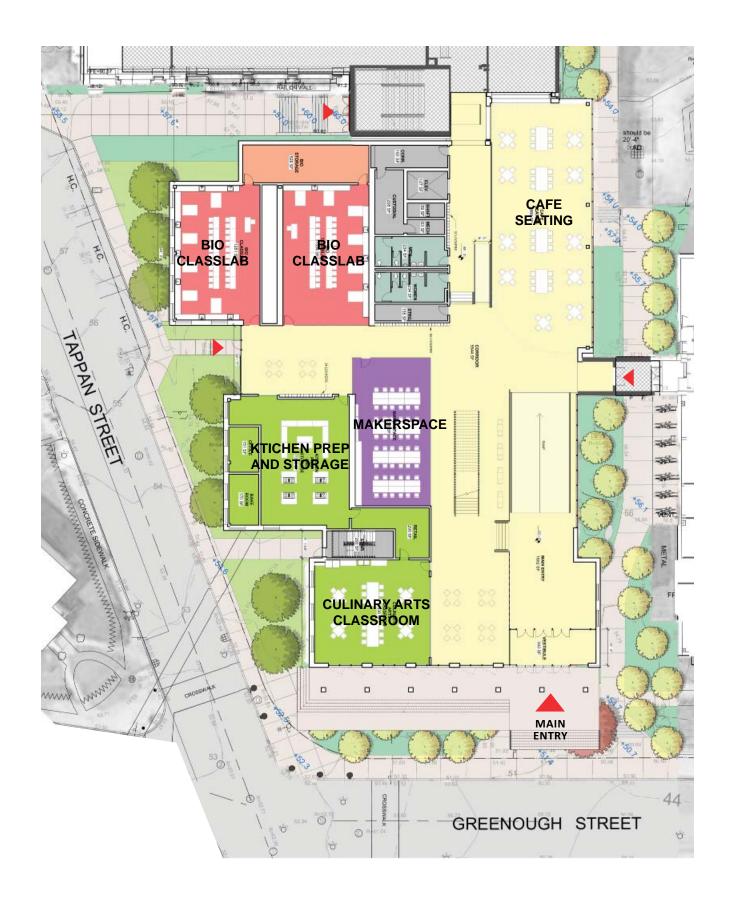


STEM WING: MODEL PHOTO





STEM WING: LANDSCAPE PLAN





STEM WING: RESPONDING TO EDUCATION PLAN

1. Create a Unified Campus

- New Entry to Main Building at corner of Tappan & Greenough
- Strong visual connection and accessibility to Quad
- Direct access to staircase connecting floors 1, 2, and 3, toward auditorium & library

2. Engage Students Deeply

- Science Resource Center serves as academic hub
- Chemistry and Biology classrooms share floors to encourage collaboration; see classes you'll take in subsequent years
- Movable furniture to facilitate diverse learning environments
- Multiple classrooms share breakout spaces with view to the outdoors

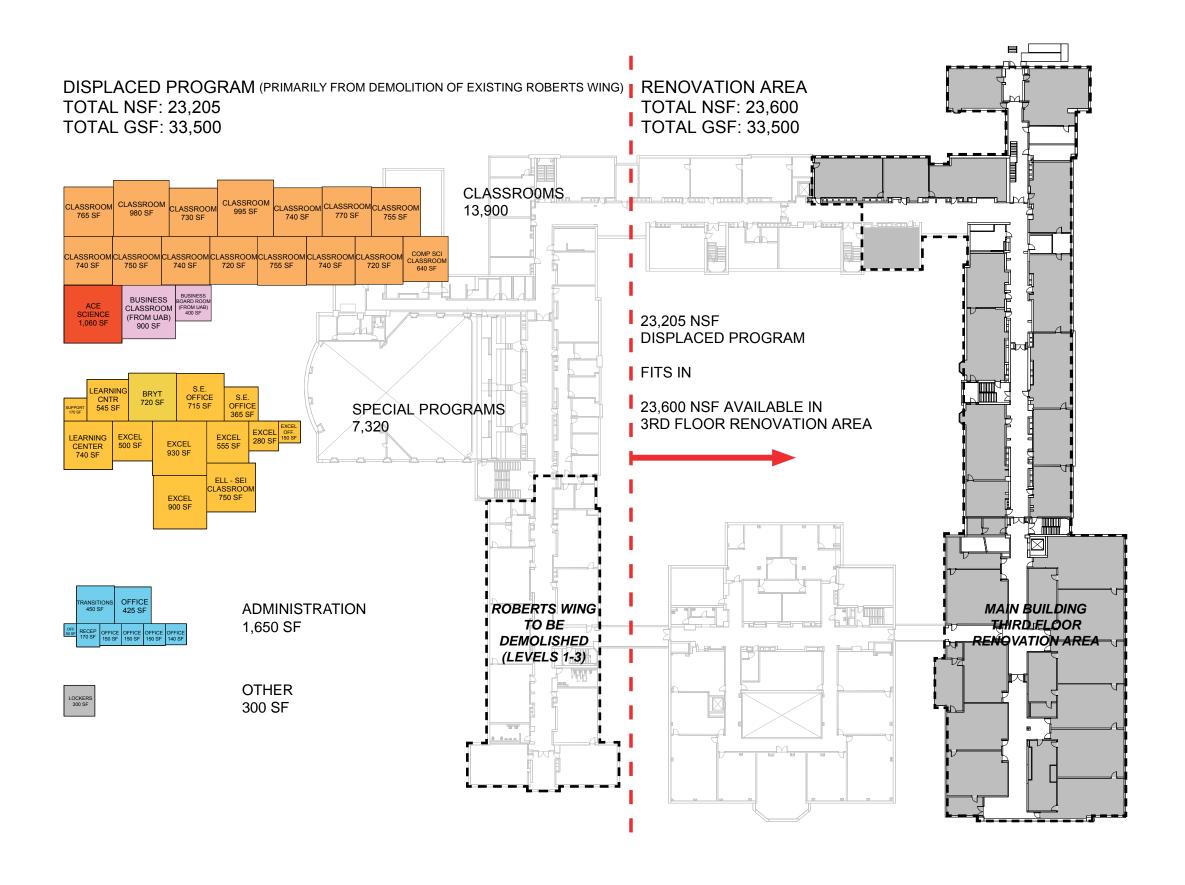
3. Serve All Students

- New 20' wide accessible entry
- Places to gather, study in groups: expanded network of collaboration zones in Main Building STEM wing will have places all students will want to use
- Multi-use cafe space can be used for classes, cafe, community meetings, and adult education programs

MAIN BUILDING 3RD FLOOR



MAIN BUILDING - 3RD FLOOR



MAIN BUILDING 3RD FLOOR

RESPONDING TO EDUCATION PLAN

1. Create a Unified Campus

• Distribute adult presence adjacent to collaboration spaces

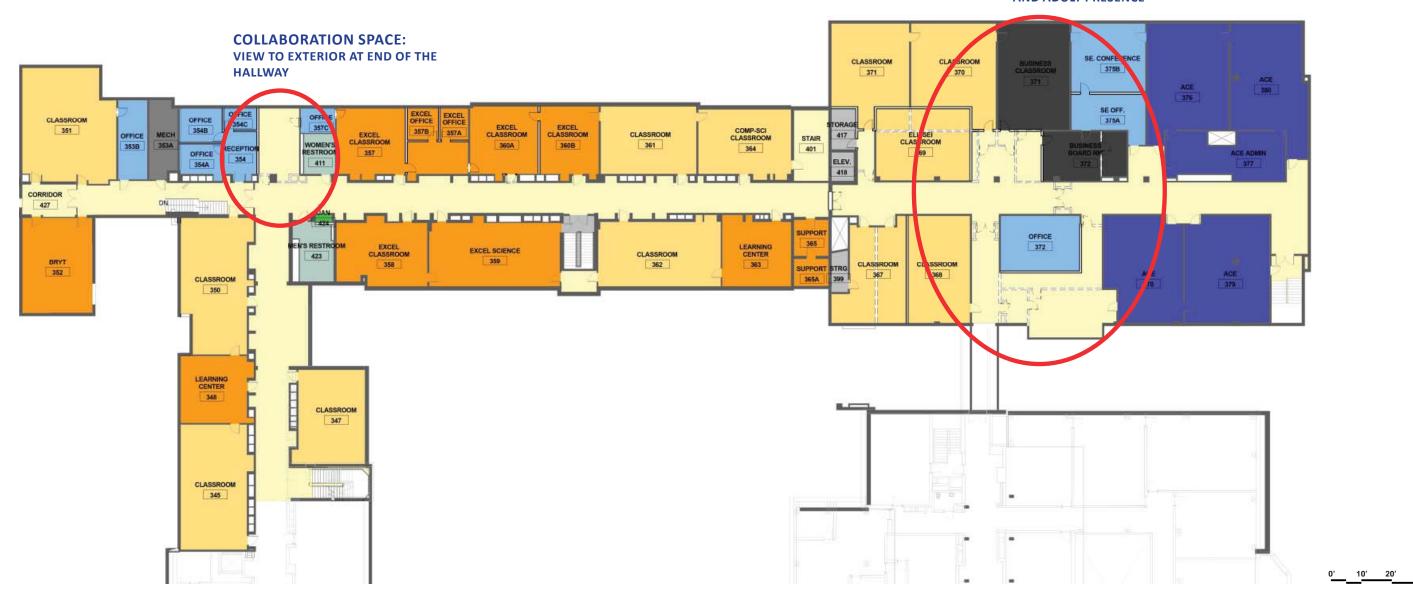
2. Engage Students Deeply

• Establish new collaboration hub featuring current "greenhouse" space and business classrooms

3. Serve All Students

- EXCEL classrooms grouped together close the restrooms
- ACE program makes use of existing science classrooms

COLLABORATION HUB:
BUSINESS CLASSROOMS ADJACENT
TO NEW COLLABORATION SPACE
AND ADULT PRESENCE



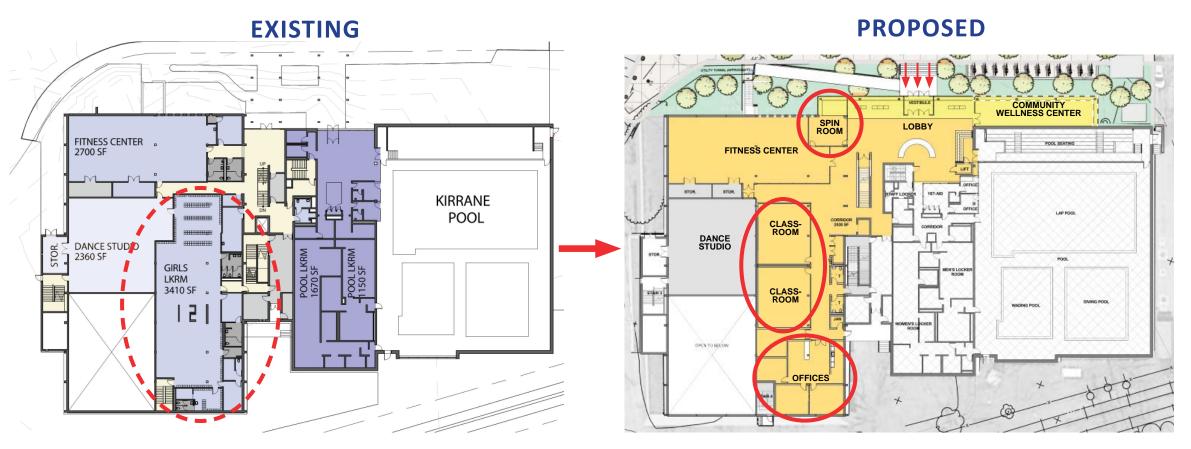
TAPPAN ATHLETIC COMPLEX



TAPPAN ATHLETIC COMPLEX

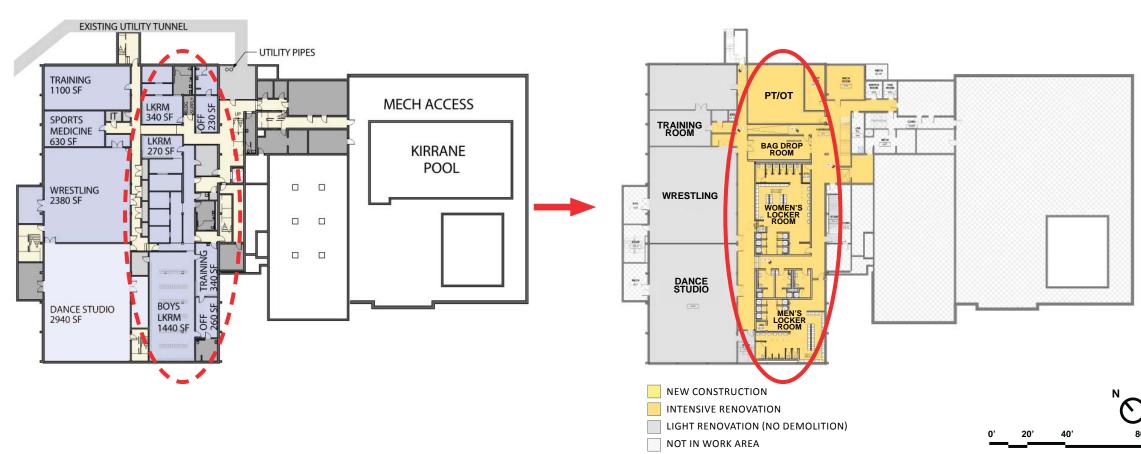
LEVEL 1

- Girls' Locker Rooms moved to Lower Level
- New Spin Room, Health & Fitness Classrooms and Offices created in existing Girls' Locker Room space



LOWER LEVEL

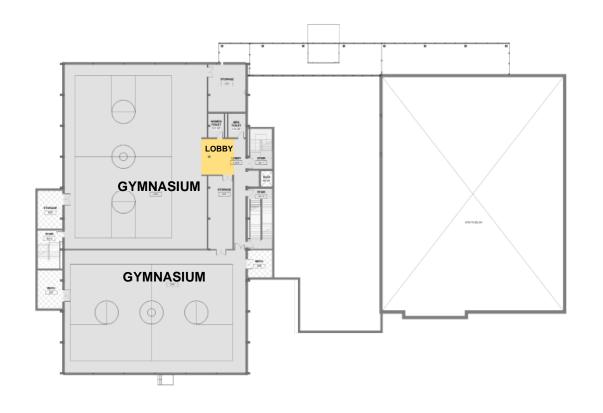
- Locker Rooms redesigned overall to fit both Boys' and Girls' Locker Rooms on Lower Level
- New Bag Drop and PT/OT Rooms created

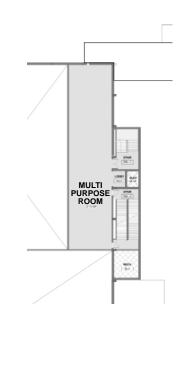


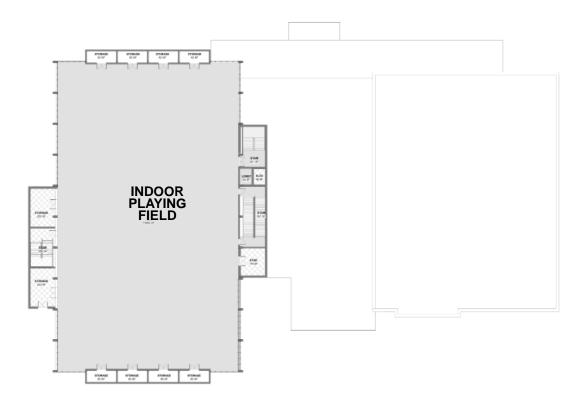
TAPPAN ATHLETIC COMPLEX

PROPOSED

LIGHT RENOVATION TO EXISTING UPPER FLOORS: REPAINTING & ADA UPGRADES AS REQUIRED

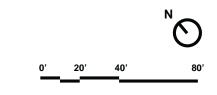






SECOND FLOOR MEZZANINE FOURTH FLOOR





TAPPAN ATHLETIC COMPLEX: ELEVATION

TAPPAN STREET ELEVATION



TAPPAN ATHLETIC COMPLEX: MODEL PHOTO





TAPPAN ATHLETIC COMPLEX: RESPONDING TO EDUCATION PLAN

1. Create a Unified Campus

- Unite Gym and Pool with Possible New Lobby: could be visually similar to Cypress Building and STEM Wing entry to convey that all buildings are part of the bigger campus
- Possible Community Wellness Center for the Recreation Department

2. Engage Students Deeply

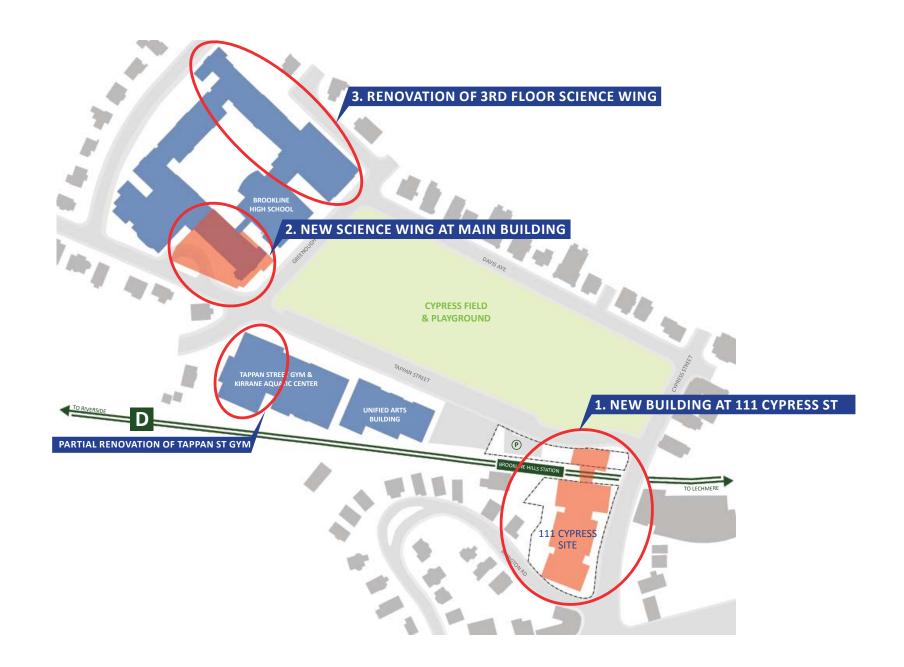
- New Health & Fitness classrooms used by students of all grades
- Gut renovation of lockers rooms to better serve current student needs

3. Serve All Students

- New accessible entry
- Increased adult presence: administrative suite on ground floor

5. PROJECT BUDGET

SCOPE OF PROJECT (AS OF APRIL 2017) - OPTION 4D



MAY 2017 FEASIBILITY STUDY COST ESTIMATE

Project Cost*	149,902,807
Tappan Gym Minimal Renovation	13,290,000
Project Contingency	3,203,601
Misc. Project Costs	6,300,900
Professional Fees & Services	14,982,271
Construction Contingency	5,339,335
Deferred Maintenance	6,857,750
3rd Floor Renovation	7 ,398,000
New STEM Wing	32,264,250
Premium for building over MBTA	2,000,000
New Cypress Building	58,266,700

^{*} The following items are not included in the Project Cost listed above:

- 1. Cypress 111 Site Acquisition
- 2. Cypress Field Renovation
- 3. Cost associated with a parking strategy
- 4. Additional MBTA Real Estate Costs
- 5. Cost Escalation
- 6. Swing Space Cost

ADJUSTMENTS TO SCOPE OF PROJECT SINCE 2017 FEASIBILITY STUDY



PRELIMINARY SCHEMATIC PHASE COST ANALYSIS

\$205.6 Million

Hard Costs \$137.6 Million **New Cypress Street Building New STEM Building 3rd Floor Renovation Deferred Maintenance** Tappan Gym Renovations & Front Addition **Construction Contingency** \$23.6 Million **Soft Costs Professional Fees Commissioning Agent** CM at Risk Preconstruction **Utility Costs Testing Agents Moving Costs Project Contingency** FF&E & Technology \$5.5 Million Furniture **Fixtures and Equipment** A/V equipment IT and Telephone \$23.5 Million **Real Estate Costs Cypress Street Acquisition & Relocation MBTA Air Rights** \$9.6 Million **Other Costs** Campus Landscaping, Sidewalks and Student Safety Swing Space at Old Lincoln School **Real Estate Contingencies Cypress Field** \$5.8 Million

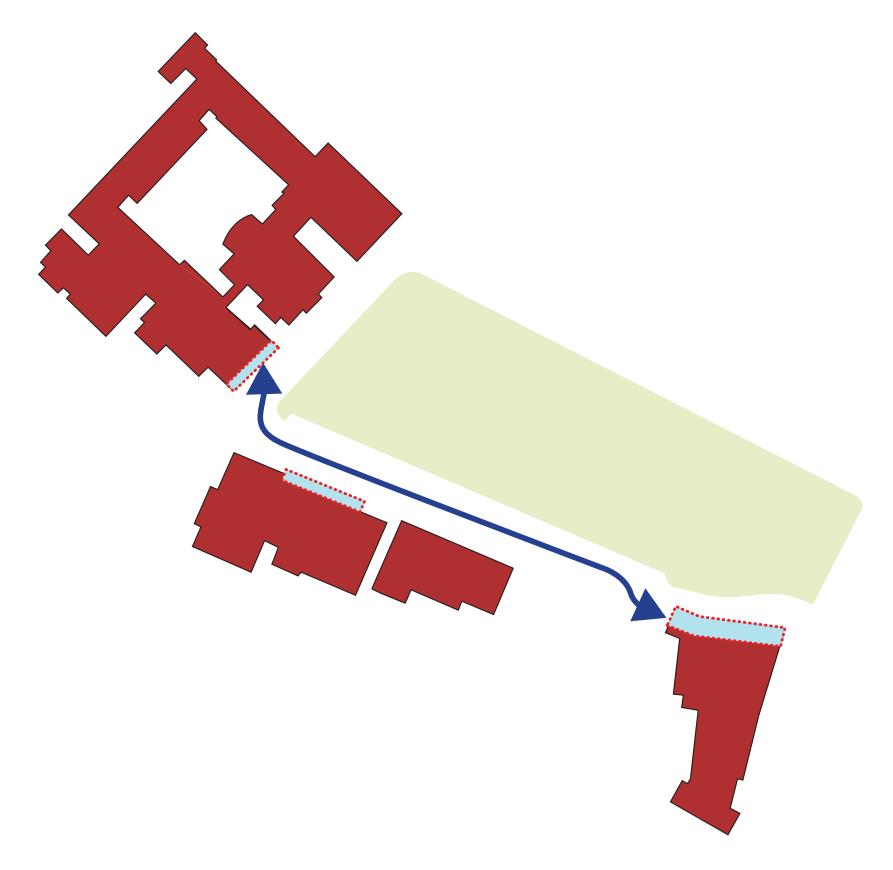


Total Preliminary Project Costs

SUMMARY: CREATING A UNIFIED CAMPUS



NEW, WELCOMING "FRONT PORCHES" UNIFY BHS CAMPUS



TAPPAN & GREENOUGH STREET COMBINED ELEVATION

EXISTING



PROPOSED

New Welcoming Front Porches at 111 Cypress, Tappan Athletic Complex and STEM Wing create a Unified Campus

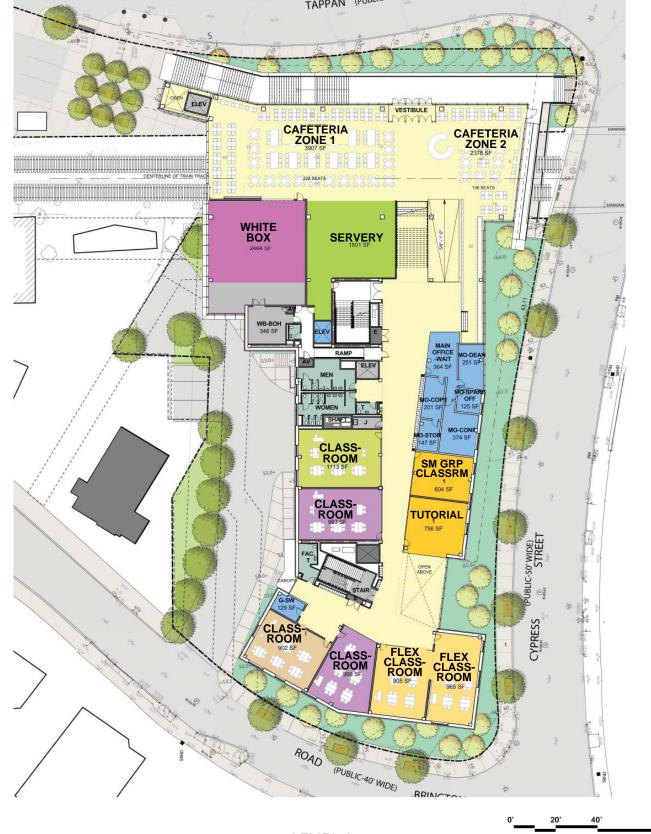


GREENOUGH STREET

6. APPENDIX I: FLOOR PLANS

FLOOR PLANS: CYPRESS BUILDING (LOWER LEVEL & LEVEL 1)





FLOOR PLANS: CYPRESS BUILDING (LEVEL 2 & 3)



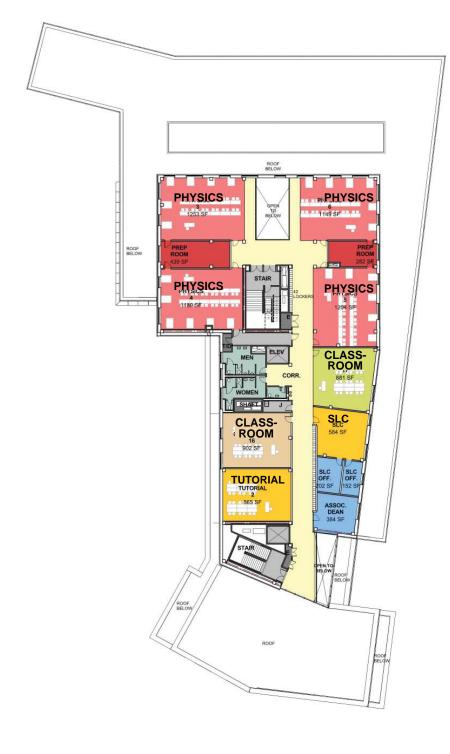




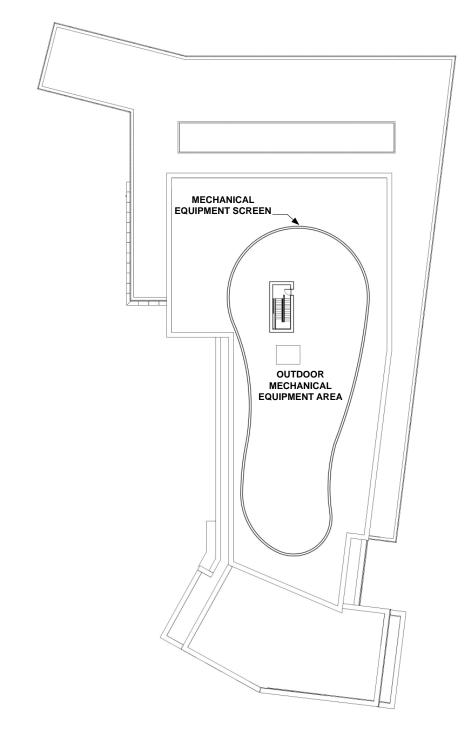
LEVEL 3



FLOOR PLANS: CYPRESS BUILDING (LEVEL 4 & ROOF)







ROOF



FLOOR PLANS: STEM WING (LEVEL 1)



FLOOR PLANS: STEM WING (LEVEL 2)



LEVEL 3



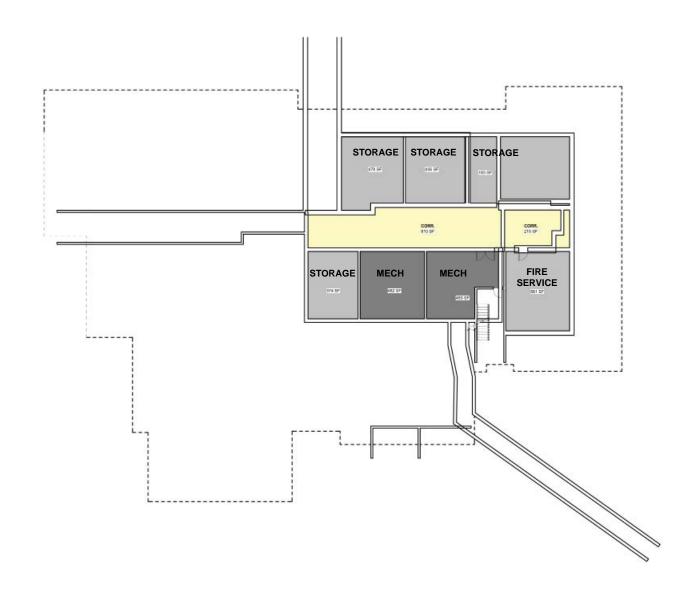
FLOOR PLANS: STEM WING (LEVEL 3)

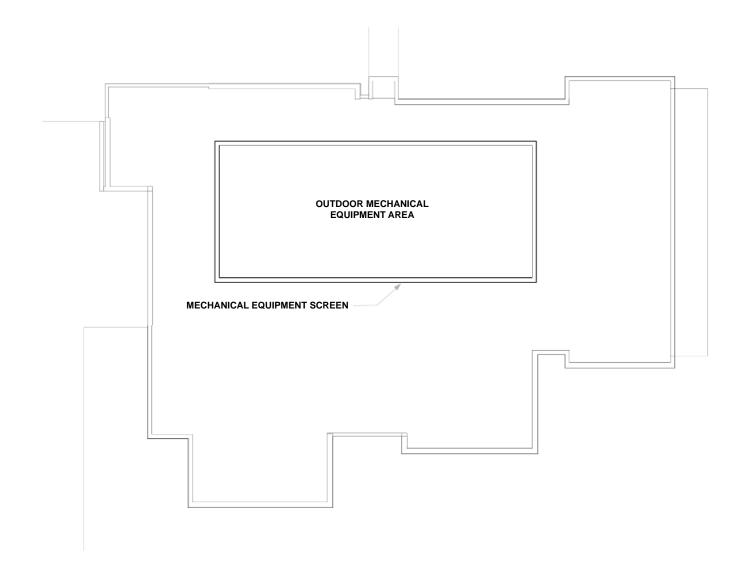


LEVEL 3

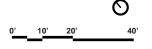


FLOOR PLANS: STEM WING (BASEMENT LEVEL & ROOF)





BASEMENT LEVEL ROOF



FLOOR PLANS: TAPPAN ATHLETIC COMPLEX (LEVEL 1)

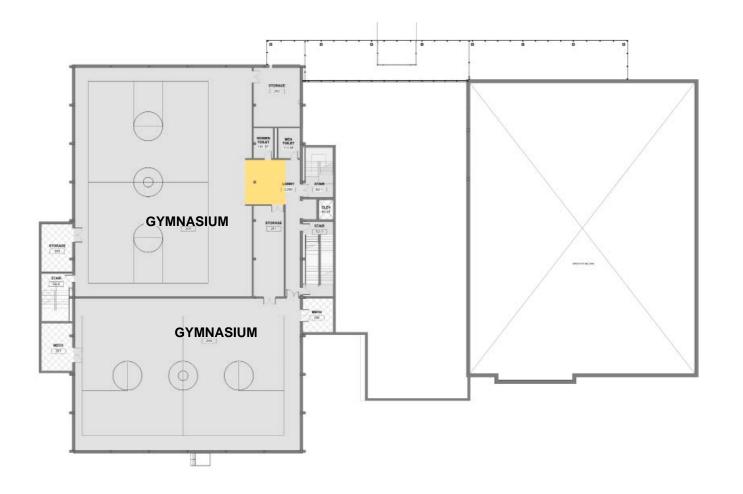






FLOOR PLANS: TAPPAN ATHLETIC COMPLEX (LOWER LEVEL & LEVEL 2)



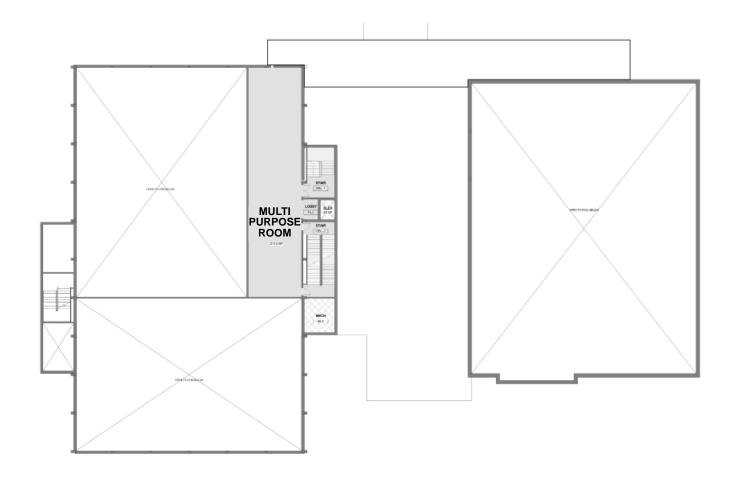


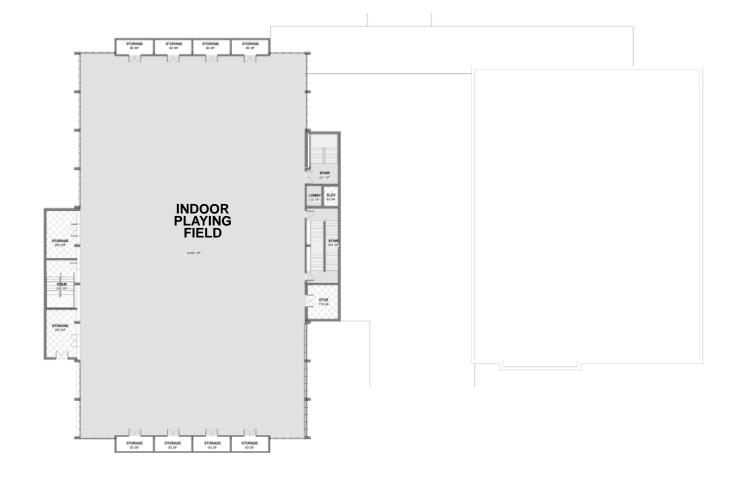
LOWER LEVEL

NEW CONSTRUCTION
INTENSIVE RENOVATION
LIGHT RENOVATION (NO DEMO)
NOT IN WORK AREA



FLOOR PLANS: TAPPAN ATHLETIC COMPLEX (MEZZANINE & LEVEL 3)

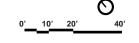




LEVEL 3

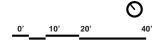
MEZZANINE LEVEL





FLOOR PLANS: MAIN BUILDING THIRD FLOOR

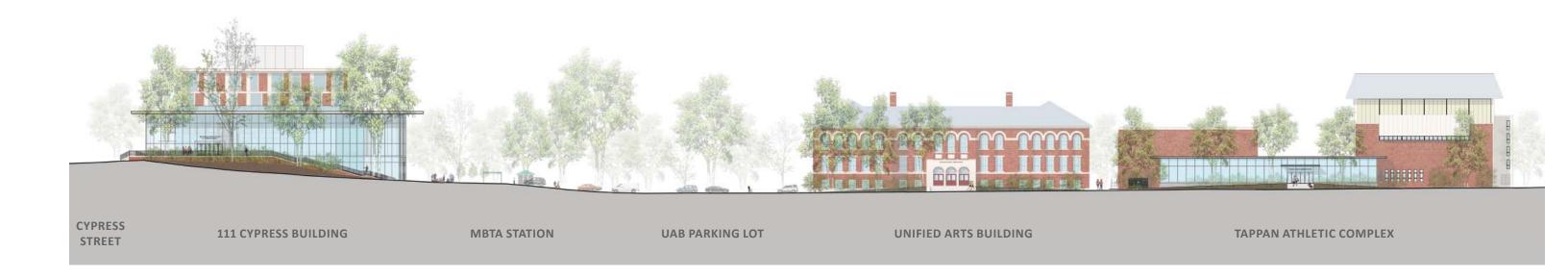




7. APPENDIX II: ELEVATIONS

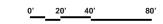
111 CYPRESS: ELEVATIONS

TAPPAN STREET ELEVATION



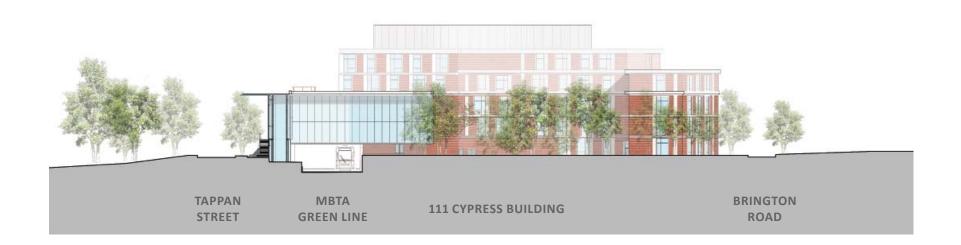
CYPRESS STREET ELEVATION





111 CYPRESS: ELEVATIONS

BRINGTON ROAD WEST ELEVATION



BRINGTON ROAD SOUTH ELEVATION





STEM WING: GREENOUGH STREET ELEVATION



FRONTAL, FORMALITY, FAMILY

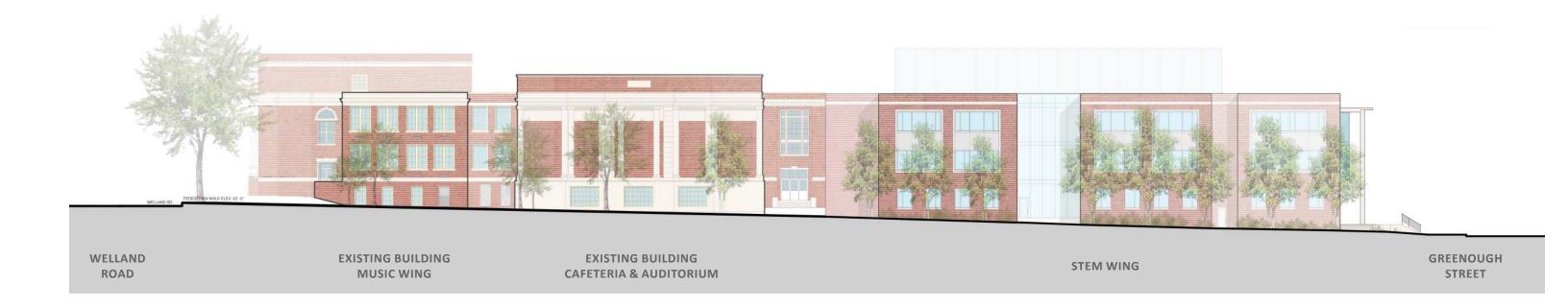
CONCEPT: COLUMNS AT NEW STEM WING CREATE CONNECTION WITH EXISTING GREENOUGH STREET FACADES

Inter-columnar spacing matches existing Greenough Street facades

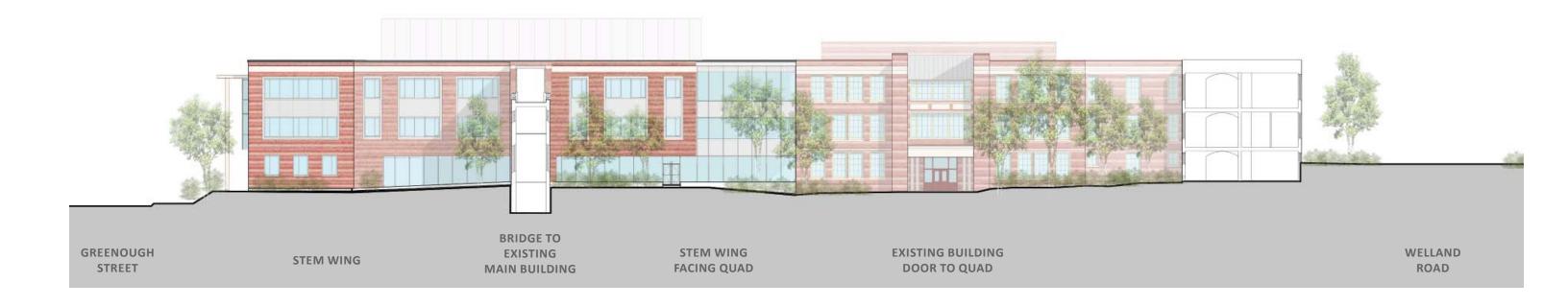


PORCH PORTICO LOGGIA

STEM WING: TAPPAN STREET ELEVATION



STEM WING: QUAD ELEVATION



TAPPAN ATHLETIC COMPLEX: TAPPAN STREET ELEVATION

