

PERKINS —
EASTMAN

SCHOOL BUILDING COMMITTEE / COMMUNITY MEETING

LOWELL HS PROJECT



EXISTING IMAGERY COURTESY OF GOOGLE EARTH

30 APRIL 2018



LOWELL HIGH SCHOOL

AGENDA

- Updates Since Last SBC Meeting 3/29:
 - Meetings:
 - City Departments, Sustainability, Security, Community Meeting
 - Energy Update
- Overview of Design Options
- Cost Estimate Update
- Community Forum
- SBC Vote Recommendation Preferred Option
- Next Steps



LOWELL HIGH SCHOOL

ENERGY UPDATE

O2 ENERGY END USE PROFILES BY SECTOR

Figure O2. shows the annual aggregate energy end-use breakdown for each of the design options. Each color in the pie charts denotes various end-uses. The largest end-use for each options is heating, followed by internal loads and cooling energy use. Although the New Option A has heating as the predominant load, it is smaller than the renovation options.

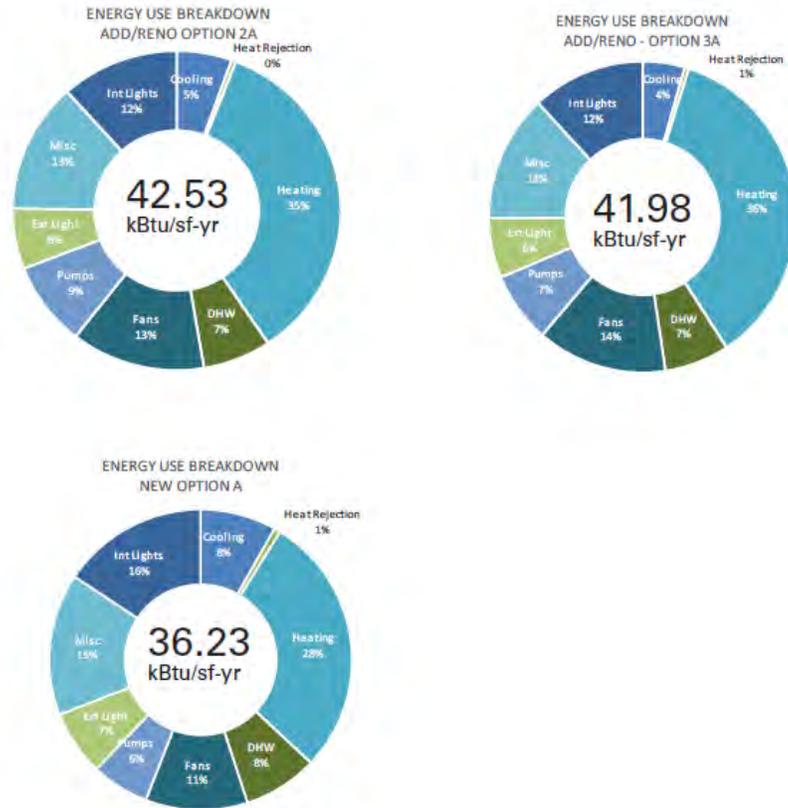


Figure O2. EUI Comparison by Design Options

O3 ENERGY END USE PROFILE

Figure O3. shows the annual aggregate energy end-use breakdown for each design case. Each color in the bar chart denotes various end-uses.

The results illustrate that all the design options have a lower EUI than the existing building. The Add/Reno 2A and 3A have similar savings, and the New Option A has the most compared to the existing building. The greatest savings in the New Option A is from heating.

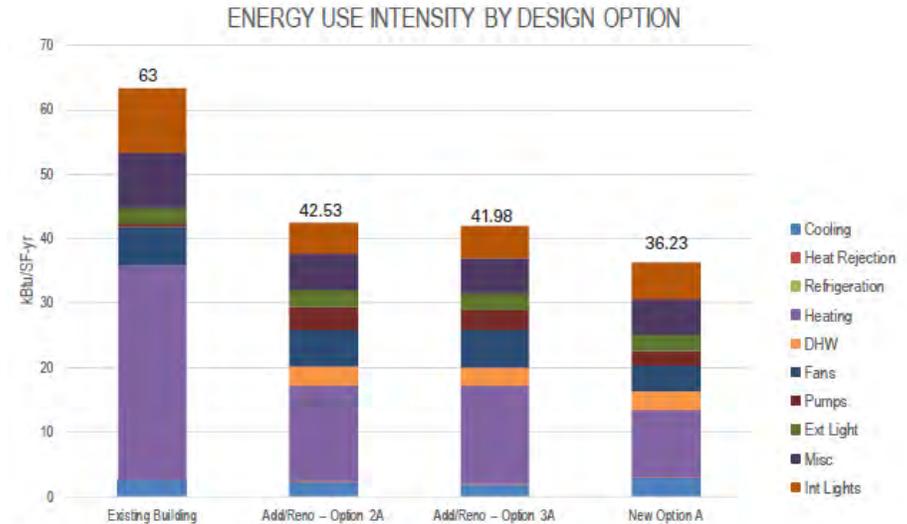
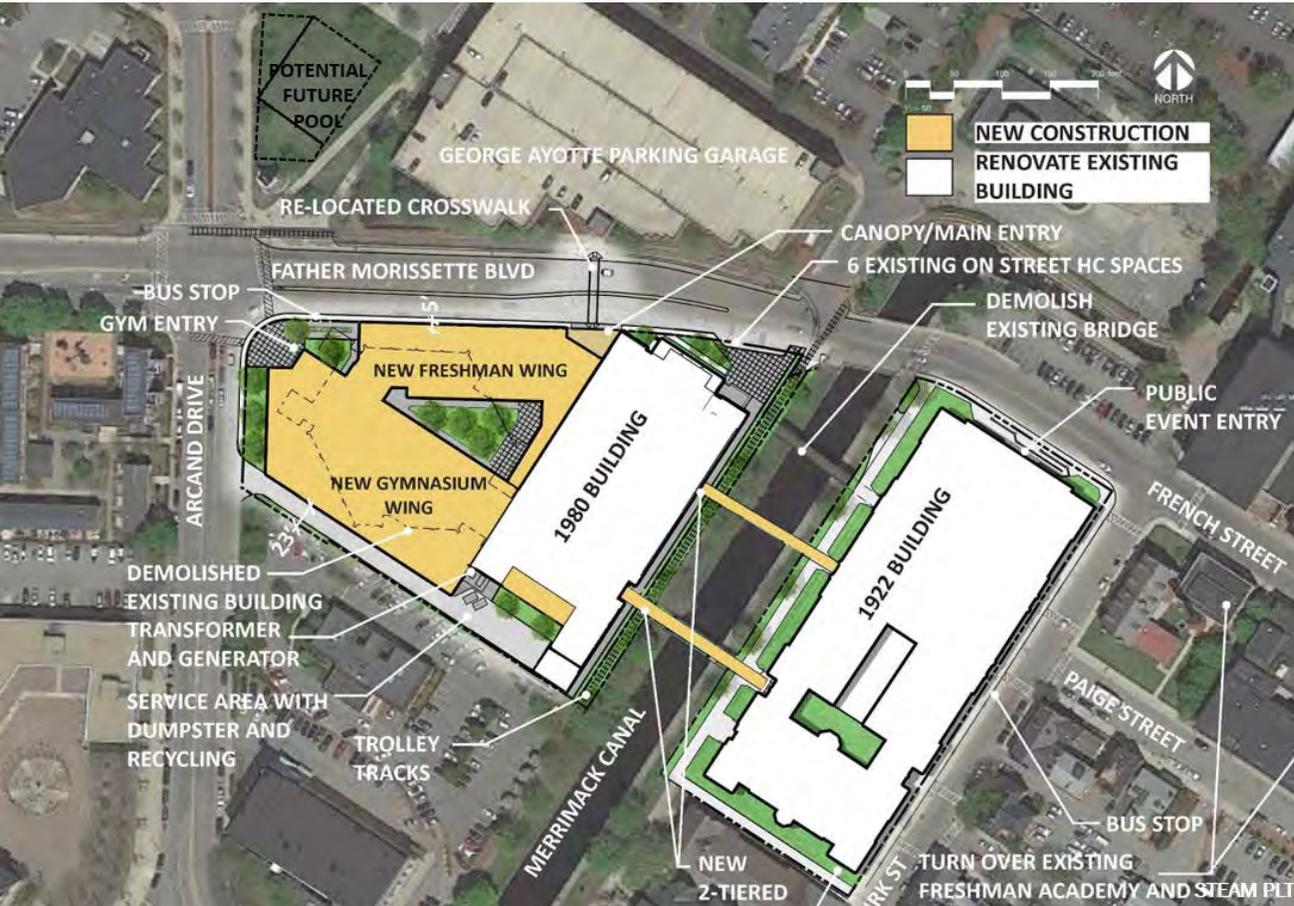


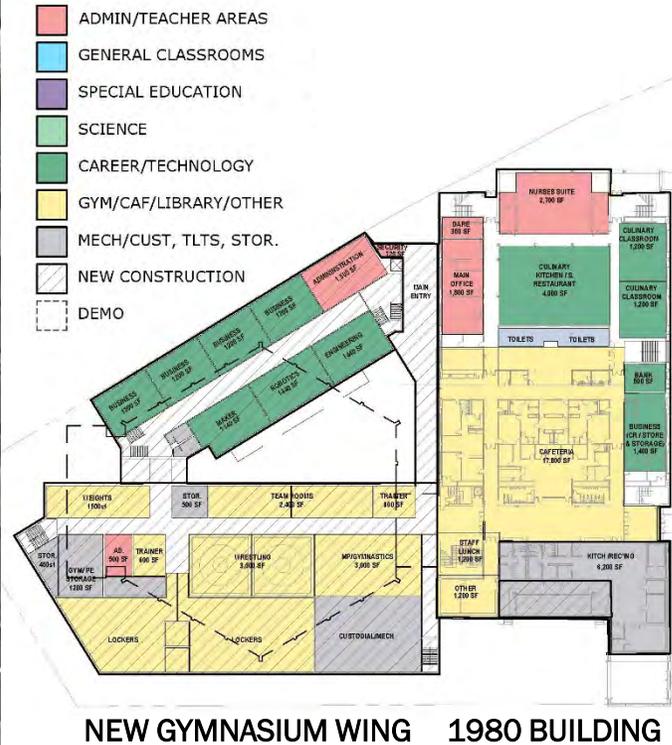
Figure O3. Annual Energy Use Profile by Design Options

	 <p style="text-align: center;">ADD/RENO OPTION 2A</p>	 <p style="text-align: center;">ADD/RENO OPTION 3A</p>	 <p style="text-align: center;">NEW OPTION A</p>
Building/Site •Acreage •Gross Size •Stories/Ht	6.0 acres 618.7k gsf (445.5k reno+173.2k add) Exist'g (63'), 5 Story (68'-8"FA) and 2 Story (58' Gym)	7.4 = 6.0 acres +1.4 exp. lot 622.2k gsf (432.6k reno +189.6k add) Exist'g (63'), 5 Story (68'-8"FA) and 2 Story (58' Gym)	7.4 = 6.0 +1.4 exp. lot 579.4k gsf 5 Story+ Basement (68'-8")
Prelim. PROS/CONS	<ul style="list-style-type: none"> + Consolidated Campus (new freshman academy) - Temporary Gym Required - Windowless Labs Remain - Limited Green + Loading 	<ul style="list-style-type: none"> + Consolidated Campus (new freshman academy) + No Windowless Labs + Added Green + Loading - Gym Areas More Remote - Eminent Domain 	<ul style="list-style-type: none"> + Consolidated Campus (via 5 story + basement) + Good Classroom Orientation - 24 Temporary Classrooms & Temporary Gym Required - Limited Green Space - Eminent Domain
Educ-Program	Meets Educational Objectives : +Freshman Academy Connected ±Public/Activity Areas Spread & Split +F.A. Teams + STEM/Hum. Clusters +Meets New Standards (Count/Size) +More Efficient/Effective Field House	Meets Educational Objectives : +Freshman Academy Connected ±Public/Activity Areas Spread & Split +F.A. Teams + STEM/Hum. Clusters +Meets New Standards (Count/Size) +More Efficient/Effective Field House	Meets Educational Objectives : +Freshman Academy Connected ±Public/Activity Areas Spread & Split +F.A. Teams + STEM/Hum. Clusters +Meets New Standards (Count/Size) +More Efficient/Effective Field House
Construction	4 Year (+ summer) Phased Project +Kitchen/Boiler Built in First Phase - Temporary Gym Facilities Required	5 Year Phased Project +Kitchen/Boiler Built in First Phase +No Modulars or Temporary Gym ± Only 4 Years of 5 On School Site - Land Acquisition/Eminent Domain	4 Year (+summer) Phased Project +Kitchen/Boiler/Temp Caf. Built in First Phase ± Only 2 Years of 4 On School Site - Land Acquisition/Eminent Domain - Temp. Gym and 24 Temp. Classrooms Req'd

LOWELL HIGH SCHOOL: OPTION 2A

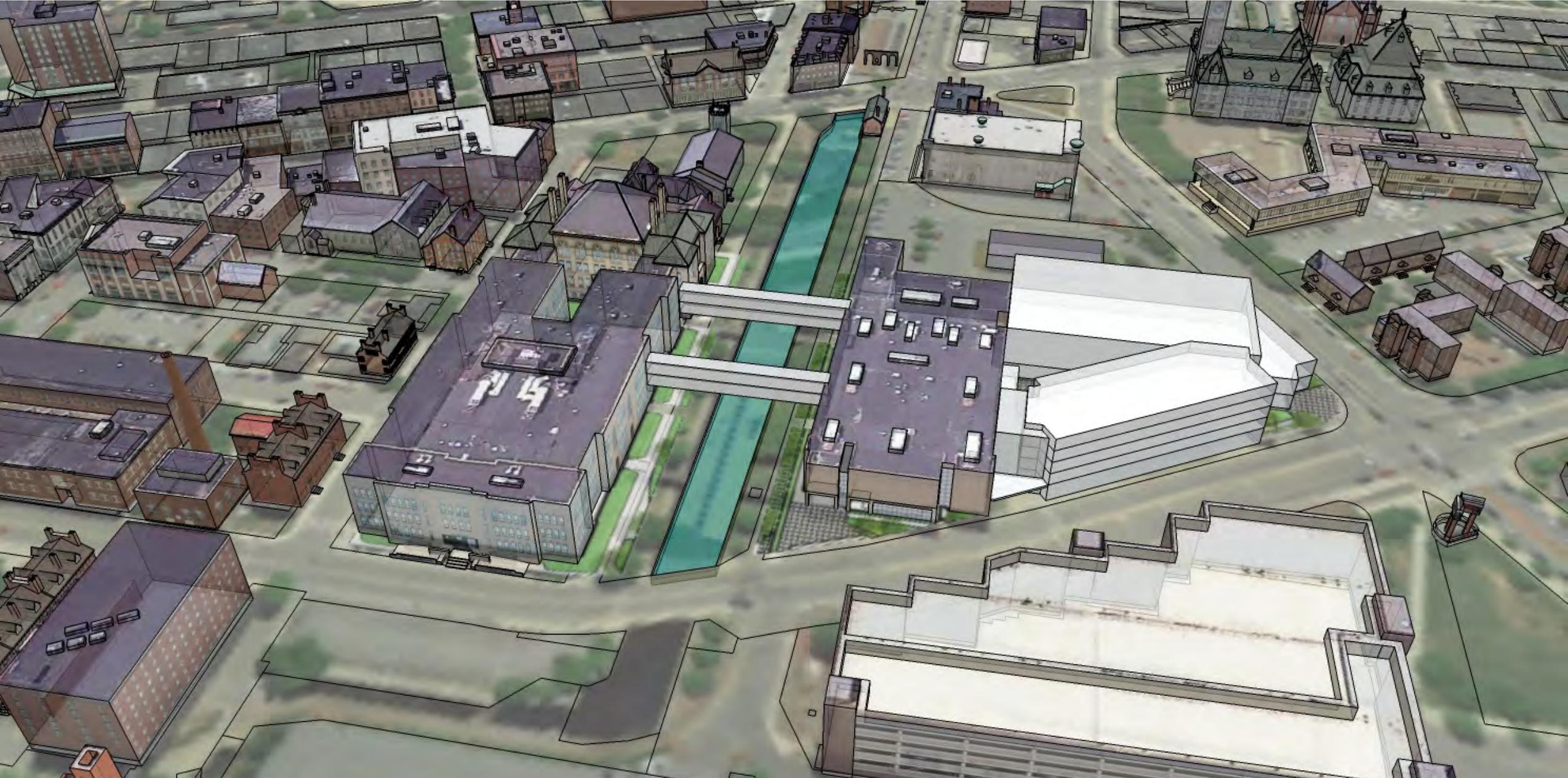


SITE PLAN

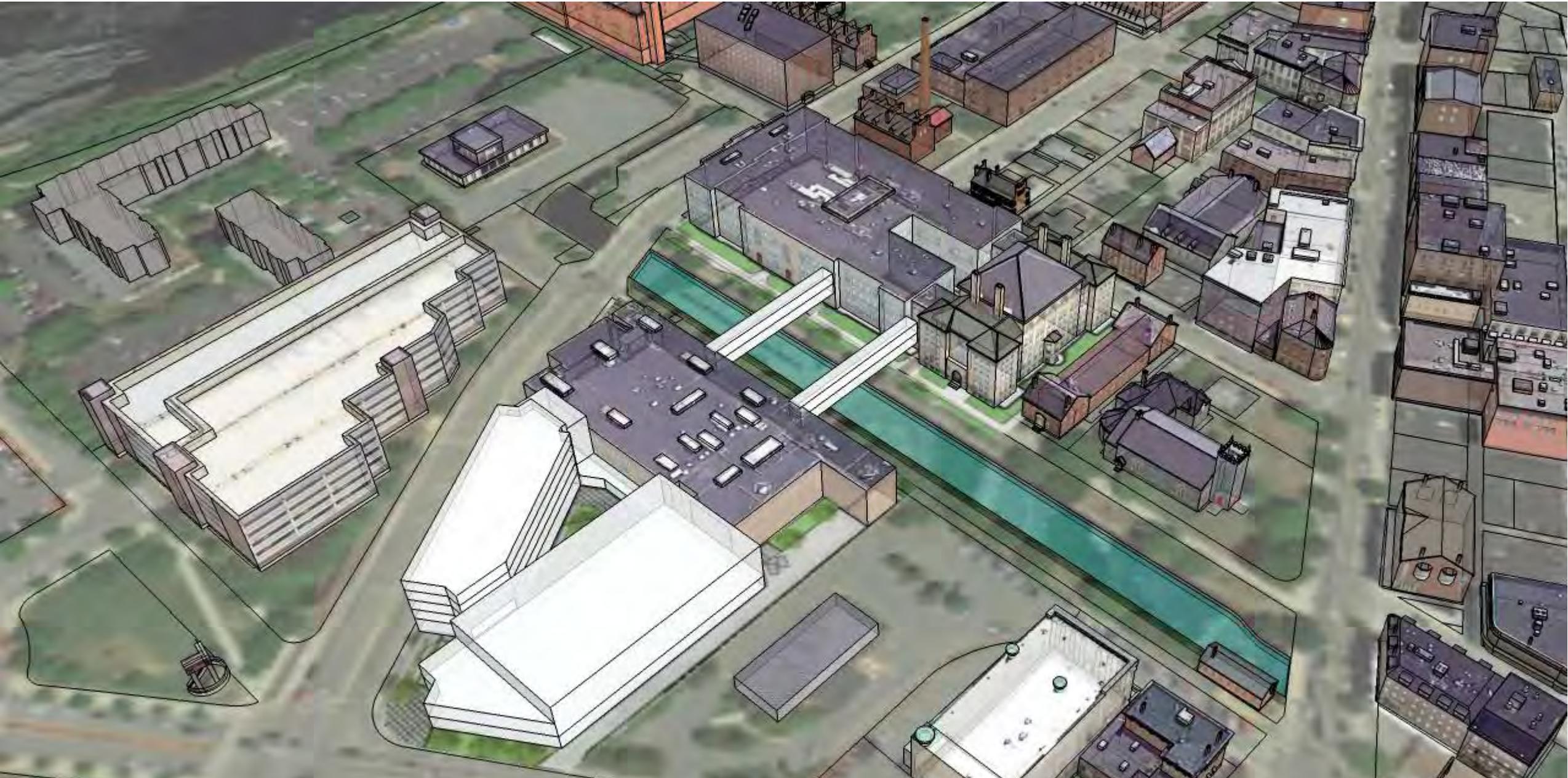


MAIN FLOOR PLAN

LOWELL HIGH SCHOOL: OPTION 2A MASSING



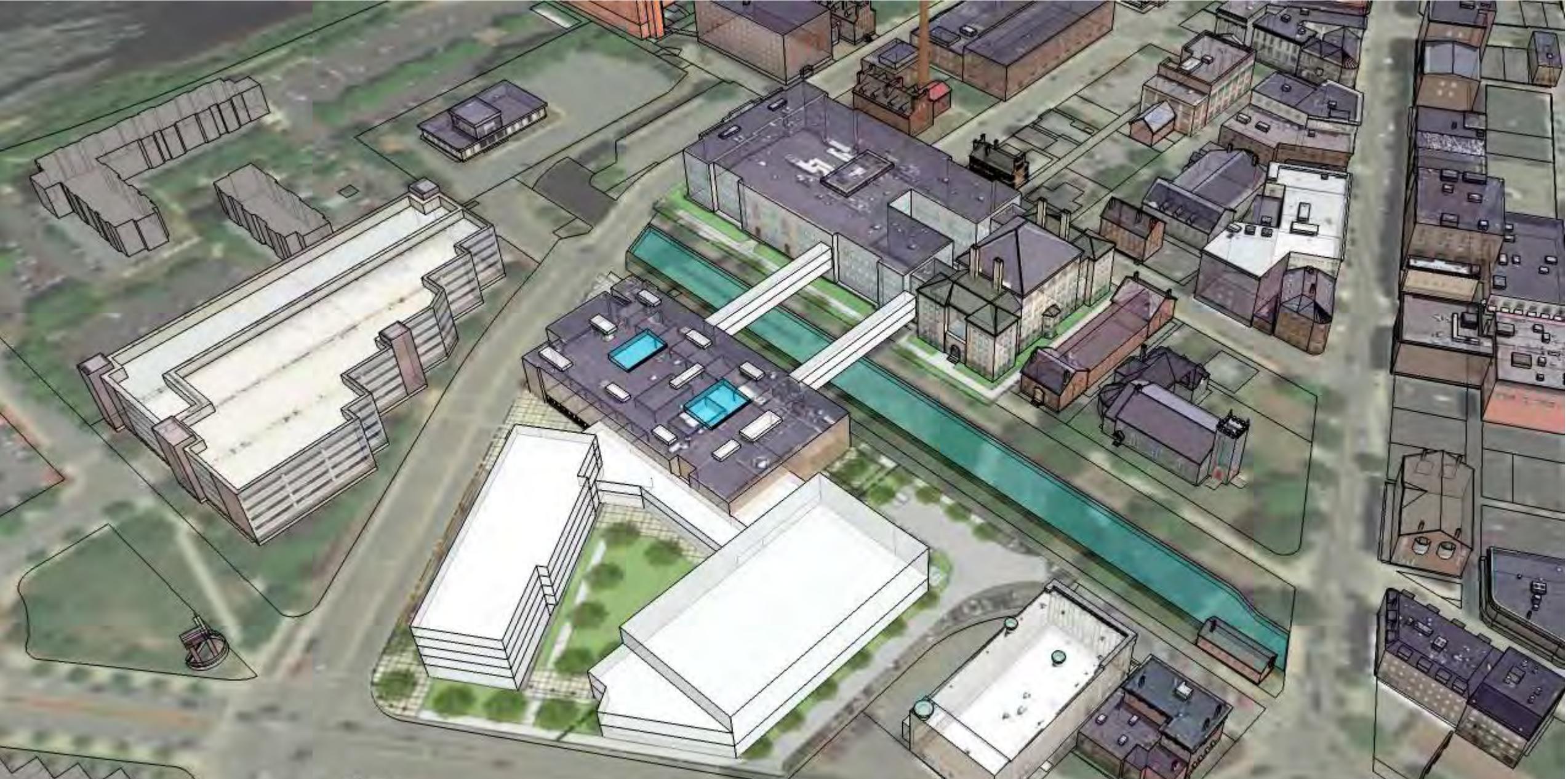
LOWELL HIGH SCHOOL: OPTION 2A MASSING



LOWELL HIGH SCHOOL: OPTION 3A – EXPANDED SITE MASSING



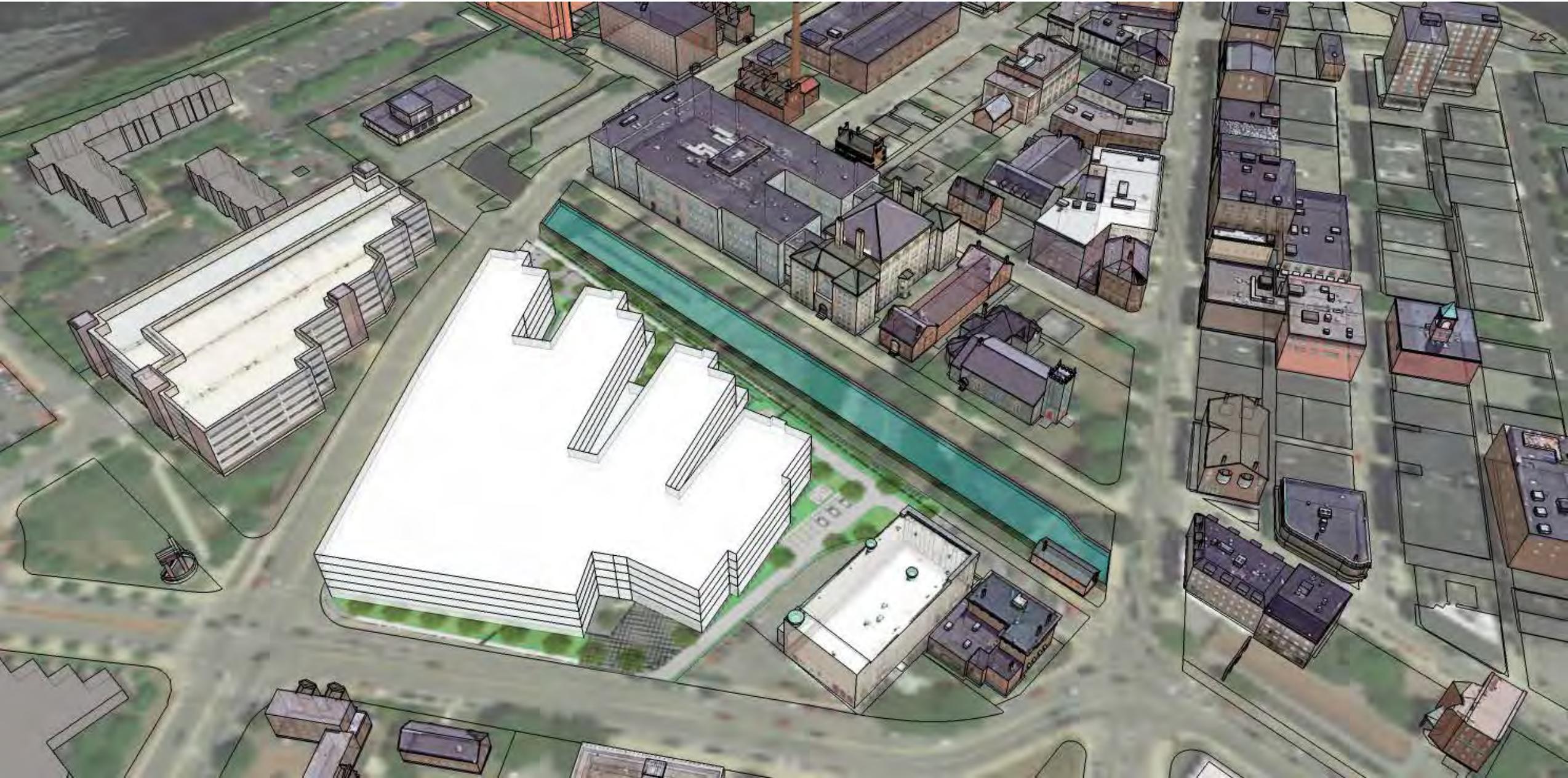
LOWELL HIGH SCHOOL: OPTION 3A – EXPANDED SITE MASSING



LOWELL HIGH SCHOOL: NEW OPTION A – EXPANDED SITE MASSING



LOWELL HIGH SCHOOL: NEW OPTION A – EXPANDED SITE MASSING



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COST ESTIMATE UPDATE

✓ NEW COST ESTIMATORS

- Perkins Eastman (PM+C) and Skanska (In-house)
- New Estimators = Fresh set of eyes

✓ PROGRAM CHANGES

- Removal of Swimming Pool = Reduced Building Area

✓ REFINED PLAN OPTIONS

- Plan refinements = Condensing and tightening of spaces

✓ ESTIMATES RECONCILED WITHIN 1%

- Estimated Construction Cost \$/SqFt is well within range of other current estimated MSBA projects



LOWELL HIGH SCHOOL

Reconciled Revised PSR Cost Estimate

Option		Perkins Eastman		Skanska		Delta
2A	Construction Cost	\$262,135,000	424 \$/sf	\$259,340,000	419 \$/sf	1.07%
	Project Budget	\$333,040,000	538 \$/sf	\$329,630,000	533 \$/sf	1.02%
3A	Construction Cost	\$270,456,000	435 \$/sf	\$268,850,000	432 \$/sf	0.59%
	Project Budget	\$345,400,000	555 \$/sf	\$341,438,000	549 \$/sf	1.15%
New	Construction Cost	\$289,153,000	499 \$/sf	\$287,632,000	496 \$/sf	0.53%
	Project Budget	\$361,624,000	624 \$/sf	\$359,798,000	621 S/sf	0.50%

Note: all numbers are rounded.

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Project Budget	\$333,040,000	\$345,400,000	\$361,624,000
City Share	\$124,282,000	\$135,960,000	\$160,955,000

LOWELL HIGH SCHOOL

NEXT STEPS

- **5/1: City Council Vote SBC**
Recommendation Preferred Option
- **5/9: Submit PSR (Preferred Schematic Report) to MSBA**
- **5/9: MSBA FAS (Facilities Assessment Sub-Com.)**
- **6/27: MSBA Board Meeting PSR Approval**
- **7/1: Schematic Design (SD) Start**
 - Possible Existing Conditions Laser Scan Existing Buildings
 - Possible Geotechnical Borings 75 Arcand Drive

