
| | | | |
|-----------|-----------------------------------------|-----------------|------------------|
| Location: | Brighton Area Schools BAS Board Room | Project Number: | 18-785 |
| Project: | BAS 2019 Bond | Date: | 3-16-20, 4:30 pm |

1. Review meeting minutes dated 3/2/20 Committee meeting and 3/3/20 STEAM meeting.
2. Contract status.
 - a. Soils investigation
 - i. 3/9/20 Board action
3. Document imaging contractor status.
4. Project scope / estimate review
 - a. BECC, Concessions/Toilet Building
 - i. IDI present revisions from 3/2/20 meeting.
 - ii. Clark Construction present estimate
 - iii. Committee review, comments and action.
 - b. Maintenance Building
 - i. Clark Construction present estimate
 - ii. Committee review, comments and action.
 - c. STEAM, High School
 - i. Meeting review
 - ii. Lindhout progress review.
 - d. Drinking Fountain package
 - i. Issue for estimating, Thursday March 19, 2019
 - ii. Bidding process
 - e. Indoor Practice Facility
 - i. Conceptual placement diagrams
5. General open discussion.

Action Items:

1. Schematic Design Bid Pack Two, 2021 STEAM / Scranton / High School, issued for review 5/1/20.

Distribution: BAS Project Team

1021 West Baraga Avenue,
Marquette, Michigan 49855
Phone (906) 228-4480 Fax (906) 228-7524

8571 W. Grand River Ave., Suite 600
Brighton, Michigan 48816
Phone: (810) 229-2701 Fax: (810) 229-6767

| | | | |
|-----------|-----------------------|-----------------|-----------------|
| Location: | Brighton Area Schools | Project Number: | 18-785 |
| Project: | BAS Board Room | Date: | 3-2-20, 4:30 pm |
| | BAS 2019 Bond | | |

Present: Refer to attached.

Discussion: Purpose of meeting to discuss 2019 Bond scope.

1. Reviewed meeting minutes dated 2/17/20.
 - a. Approved to be issued.
2. Contract status.
 - a. Soils investigation. Gary Steller presented an overview of the proposals reviewed. Gary recommended the firm of DLZ based on an evaluation of both initial borings and services performed during construction. Gary shall issue formal recommendation by Wednesday. Committee voted to recommend DLZ for Board action.
 - b. Bill Trombley requested IDI develop a schedule for boring based on locations. *Upon further examination the boring locations along, schedule and due dates are contained in the previously issued Request for Proposal. Refer to attached.*
3. Project scope / estimate review
 - a. BECC, Concessions/Toilet Building
 - i. IDI presented and overview of Schematic Design and initial questions raised. Changes to include:
 1. Toilet count to remain as indicated.
 2. Shingle roofing in lieu of metal.
 3. Eliminate overhead door and Storage area for equipment. Remainder of space shall be reduced and combined with Concession Storage. Water heater and electrical panels can occur within the Concession Storage.
 4. 480V electrical service questioned. At request IDI confirmed the extension of 480 service as most economical. *Refer to attached email.*
 5. Building signage shall occur on north façade. Letters and background to be similar to football stadium design.
 6. At a minimum six feet (144 s.f.) to be removed from the building footprint.

- ii. Clark Construction presented the estimate of probable costs. Currently the estimate is under the bond application.
 - b. Maintenance Building
 - i. IDI presented and overview of Schematic Design and initial questions raised. Changes to include:
 - 1. Layout is approved.
 - ii. Clark Construction presented the estimate of probable costs. Currently the estimate is OVER the bond application. Clark Construction along with IDI to review potential areas for cost savings.
 - 1. Parking lot scope and budget to be examined. IF scope can be reduced additional monies may be applied to the maintenance building.
 - 2. No reductions in building area to be made.
 - c. STEAM, High School
 - i. Chris Turner presented an overview of the past program meetings.
 - ii. Lindhout Associates presented the STEAM program. Program as presented has been approved.
 - iii. Lindhout Associates to meet with Greg Gray for determination of existing space use.
- 4. General open discussion.
 - a. Contractors along with project team members who are on site are to be cleared through Sharon's office. ICHAT (Internet Criminal History Access Tool) is utilized by the District for verification purposes for those consistently on site or for any length of time.
 - b. Committee voted the Indoor Practice Facility footprint to be 200 ft x 400 ft in area. IDI shall explore placement on specific sites. *Refer to attached site documents.*

Comments in italic indicate follow-up information after the meeting.

Distribution: BAS Project Team

MEETING MINUTES AND NOTES

Lindhout Associates architects aia pc
10465 citation drive, brighton, michigan 48116

www.lindhout.com

810-227-5668 (fax) 810-227-5855



PROJECT NAME BAS 2019 Bond

COMM. NO. 20012

DATE: March 3, 2020

MEETING LOCATION: BHS – Engineering Lab.

PARTICIPANTS:

| | | |
|------------------|-----------------------------------|-------------------------|
| Dr. Greg Gray | BAS Superintendent | grayg@brightonk12.com |
| Elizabeth Mosher | BAS Superintendent of Instruction | moshere@brightonk12.com |
| Sean Carney | BHS Graphic Design Teacher | carneys@brightonk12.com |
| Matt Jourden | BHS Engineering/CAD Teacher | jourdem@brightonk12.com |
| Gavin Johnson | BHS Principal | johnsog@brightonk12.com |
| Jeff Beane | BHS Principal | beanej@brightonk12.com |
| Jason McIntyre | Architect, Lindhout Associates | djm@lindhout.com |
| Josh Hendershot | Architect, Lindhout Associates | jlh@lindhout.com |
| Chad | MEP/Engineer, IDI, Inc. | Chad@intdesigns.com |

The following items are notes and general program findings discussed during the March 3, 2020 field visit to BHS's exiting Engineering & Graphics Departments:

Engineering Lab

1. Classroom (desks & lecture space) – Currently 27'x42' (1,100 SF)

- a. 18" tables w/ 2 seats at each.
 - i. Combined as needed, but rarely.
 - ii. Larger tables would be nice. Restricted by space currently.
 - iii. A few large tables to hold D and E-size plots
- b. Instructor's space
 - i. Large desk
 - ii. Secure storage
 - iii. Assembly space (mini-maker space) is required.
 1. Ideal space would allow for collaborating w/ 2-3 students
 2. Overhead projector displays work surface & projects to monitor or projector.
 - iv. Desktop -> short-throw projector -> wall/screen is current method of screen sharing instructor's monitor.
 - v. Project turn-in bins & storage area is required. Must accommodate 11x17 sheet size min.
- c. 6-7 classes w/ 35 students in each class. 35 seats needs to be accommodated.
 - i. 14 different classes
 - ii. Each class typically has 1 day of lecture and 4 days of work per week.

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810-227-5668 (fax) 810-227-5855



PROJECT NAME BAS 2019 Bond

COMM. NO. 20012

- iii. Up to 5 separate groups w/in each class. Mostly working on individual projects. Collaboration occurs as-needed.
 - d. Printers
 - i. (1) Large Plotter min
 - ii. (2) large multipurpose printers (one B/W, one color)
 - e. Combination of large millwork and cabinet storage
 - i. Reference shelves – open (primarily books)
 - ii. Demonstration storage – open (misc parts & components)
 - iii. Student supply storage – closed (misc drafting supplies, tools, paper etc.).
 - f. Deficiencies
 - i. Space for larger desks
 - ii. Pin-up & display surfaces
 - iii. Higher ceilings
 - iv. Flexibility with tables...though not absolutely required.
- 2. Computer Lab (computer stations & seating) – Currently 27'x42' (1,100 SF)**
- a. 35 computer stations are required.
 - i. Stations should accommodate dual monitors or (1) large monitor.
 - ii. If there's an ability to project student's monitors it might be useful
 - iii. Each computer station should have min. 5 outlets (2 monitors, computer, & 2 spares for hardware & peripherals).
 - iv. Would be nice to have surface area for paper, prints, hardware, etc. at each station.
 - b. Collaborative space is required.
 - i. Robotics storage – closed & secured cabinets for robotics kits (Lego Mindstorm kits. 1 per team of 2 students)
 - ii. (2) testing tables (30x60 min.). Existing product has been selected. Power required.
 - c. Storage for spare computer peripherals – closed & secured (keyboards, mice, cords, wires, etc.
 - d. Charging station. Power strips work nice but disorganized and taking up surface area.
 - e. 1-2 large format plotters.
 - f. Deficiencies
 - i. Pin-up & display surfaces
 - ii. Space
 - iii. Easier way to see multiple computer screens. Better computer station layout plan could help.
 - iv. More power/outlets
 - v. Charging station needs more thought

MEETING MINUTES AND NOTES

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PROJECT NAME BAS 2019 Bond

COMM. NO. 20012

- vi. Secure storage is ad-hoc.
- vii. Lighting – Specifically, students prefer darker conditions. Dimming is required.
- viii. (7) parts/components (sensors, wiring, connectors, etc.) racks cannot fit in current space. Currently in 3D printer lab
- ix. (2) pneumatics boards cannot fit w/in lab. Currently in 3D printer lab.

3. 3D Printing & Maker Lab – Currently 27'x42' (1,100 SF) + adjacent mechanical room

- a. Would be ideal to have 3D printers and other fixed “maker” tools centered in the space with their respective tools & peripherals at the perimeter.
- b. Hard & resilient floors required.
- c. 23 3D printers
 - i. 1-2 hoods ideal. 1 could be flexible to accommodate additional exhaust needs (painting?). 1 would be dedicated to a specific printer due to materials.
 - ii. ABS, PLU & PLA plastics are the primary plastics used.
 - iii. Each printer requires power.
 - iv. Transfer of files to printers is physical (usb or memory card). This is required. No want or need for wifi.
 - v. Smaller 3D printers operate at 110V.
 - vi. 3D printing projects may take 3-6 hours and run overnight. 24 hour cooling required.
- d. This space should be semi secure. As students should go through training and/or classes to use the equipment.
- e. Acoustically separated from other spaces is required.
- f. “wet area” with tubs and/or sinks with agitators is required
- g. Flexibility for new 3D printers is a must. Add/replace printers as needed.
- h. Separate mechanical zone is required.
- i. Parts room (secure storage) is required to house extra pieces of equipment
- j. Desire power drops from ceiling.
- k. Deficiencies
 - i. Not enough space
 - ii. Furniture/table/stands should be more appropriate for 3D printing (stable and dampened from vibrations).
 - iii. Power outlets
 - iv. Space for 2-3 3D robot arms with 18” radius is missing.
 - v. Compressed air is a need.
 - vi. Wet area not in an adjacent room
 - vii. Instructor would like to add tools in the future; vertical mill, additional CNC routers, etc.

MEETING MINUTES AND NOTES

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10465 citation drive, brighton, michigan 48116

www.lindhout.com

810-227-5668 (fax) 810-227-5855



PROJECT NAME BAS 2019 Bond

COMM. NO. 20012

Graphics Lab

4. Graphics Lab

- a. Computer space
 - i. Accommodate 37 computer stations
 - ii. Each station includes computer & monitor. 2-3 outlets at each station.
 - iii. Wifi is not wanted or needed.
 - iv. Computer file -> dedicated printer queue (computer stand) -> printer.
- b. Print space
 - i. Should be acoustically & mechanically separate. Should be secured.
 - ii. Large format printers
 - iii. Screen printing will remain in existing space.
 - iv. Adjacent to large paper storage.
 - v. Dedicated exhaust.
- c. Paper storage
 - i. +/- 1000 s.f. w/ industrial shelving. Secured.
- d. Assembly area
 - i. "Landing space" for students when they first get to class.
 - ii. Adjacent to computer lab area.
 - iii. 35-40 seats.
 - iv. Existing space for compact display car.
 - v. Projector or screen required.
- e. Deficiencies
 - i. Lighting.
 - ii. Noise/acoustics.
 - iii. Computer station layout not ideal

Scott Hoeft

From: Adam J. Manty
Sent: Friday, March 13, 2020 9:41 AM
To: Scott Hoeft
Subject: BAS Concession 480V

The existing feed to the concession stand being removed was undersized to serve the new concession stand and required space heating, water heating and receptacle loads. The existing 120/208V panel in the BECC physically does not have space to add a 3 pole breaker nor does it have the spare electrical capacity to feed the approximately 35 KW required for the new concession stand. A new 200A, 120/208V feed would have to be run from the Main Distribution Panel of the BECC. This would entail challenges to run the new feeder conduit and wiring through the existing building and existing ceilings.

The 480V source from the existing electrical building that serves the soccer field lighting was chosen due to proximity to the new concession stand and available capacity. Additional space capacity will be gained on this service due to upgrading the existing field lighting to LED source. Ease of installation (trenching vs. installation through an existing building) and smaller wire size (approximately 50 percent less) can be used with a higher voltage were two of the main considerations when choosing this source location.

Date: February 4th, 2020

Request for Proposal – Geotechnical Investigation, Testing and Inspection Services

Project: Brighton Area Schools – 2019 Bond Projects

Owner: Brighton Area School District

| | | | | | |
|-------------------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------|--------------------------|---------------------------|
| Locations: | Brighton Education and Community Center – Sloan Fields | Brighton Schools Transportation Center | Brighton High School | Hilton Elementary | Hawkins Elementary |
| | 125 S Church Street | 5800 Borderline Drive | 7878 Brighton Road | 9600 Hilton Road | 8900 Lee Road |
| | Brighton, MI 48116 | Brighton, MI 48116 | Brighton, MI 48116 | Brighton, MI 48114 | Brighton, MI 48116 |

| | | | | | |
|---------------------------|---------------------------|-----------------------------------|-------------------------------|----------------------------------|----------------------------------------|
| Locations (cont.): | Spencer Elementary | Maltby Intermediate School | Scranton Middle School | Hornung Elementary School | Miller Intergenerational Center |
| | 10639 Spencer Road | 4740 Bauer Road | 8415 Maltby Road | 4680 Bauer Road | 850 Spencer Road |
| | Brighton, MI 48114 | Brighton, MI 48116 | Brighton, MI 48116 | Brighton, MI 48116 | Brighton, MI 48116 |

Brighton Area Schools, in conjunction with Integrated Designs, Inc. (IDI), is seeking proposals from Civil/Geotechnical firms for a geotechnical investigation and soil borings for the above referenced project. Please submit one copy of your proposal, along with the attached Certification of Compliance, as a sealed bid marked **“SEALED BID: BRIGHTON AREA SCHOOLS – GEOTECHNICAL INVESTIGATION AND TESTING SERVICES”** which will be accepted **NO LATER THAN 2:00 p.m., EST, Friday, February 14th, 2020 TO: BRIGHTON AREA SCHOOLS ADMINISTRATION OFFICE, Attn: Michael A. Engelter, Assistant Superintendent for Finance, 125 S. Church St., Brighton, MI 48116.** Oral, telephone, fax, or electronic mail bids are invalid and will not receive consideration. The school district will not accept or consider any late bids.

All bids will be publicly opened and read aloud at 2:30 p.m., Friday, February 14th, 2020 at the Brighton Area Schools Finance Office, 125 S. Church St., Brighton, MI 48116.

The Board of Education reserves the right to accept or reject any or all bids, either in whole or in part; to award contract to other than the low bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interests of the owner.

SCOPE OF GEOTECHNICAL INVESTIGATION:

For the following schedule, assume that a NTP will be provided on or before **February 25th, 2020.** Geotechnical Investigation shall be completed and submitted to Andrew Mansfield at IDI, Marquette, for the Phase 1 sites by **April 3rd, 2020.** Phase 2 Geotechnical Investigation shall be completed and submitted to IDI by **May 1st, 2020.** The scope of work and soil boring locations for Phase 3 Geotechnical Investigation sites has not yet been determined and will follow at a later date.

PHASE 1 Sites:

- Brighton Education and Community Center – Sloan Fields
- Brighton Schools Transportation Center
- Brighton High School
- Maltby Secondary School

PHASE 2 Sites:

- Hilton Elementary School
- Spencer Elementary School
- Miller Intergenerational Center

PHASE 3 Sites:

- Scranton Middle School

The intent of this RFP is to provide geotechnical information and associated recommendations for the following proposed work:

- **Brighton Education and Community Center – Sloan fields:** Construction of a new concessions building, site lighting, athletic field improvements, etc.
- **Brighton Schools Transportation Center:** Construction of a new maintenance building, parking lot modifications including utility work and site lighting.
- **Brighton High School:** Removal of the existing maintenance building, construction of a new STEAM center, parking lot modifications including utility work and site lighting, conversion of an existing gravel access drive to a paved drive, loading dock repairs, etc.
- **Maltby Intermediate School:** Construction of a new Indoor Practice Facility and a concessions building, site lighting, athletic field irrigation, etc.
- **Hilton Elementary School:** Parking lot modifications including utility work and site lighting, sidewalk repair/replacement.
- **Spencer Elementary School:** Parking lot modifications including utility work and site lighting, sidewalk repair/replacement.
- **Scranton Middle School:** Parking lot modifications including utility work and site lighting, construction of a new access road to Lee Rd, modifications to the existing well system.
- **Miller Intergenerational Center:** Parking lot modifications including utility work and site lighting, sidewalk repair/replacement.

Aerial photographs of the proposed project areas are included for more information.

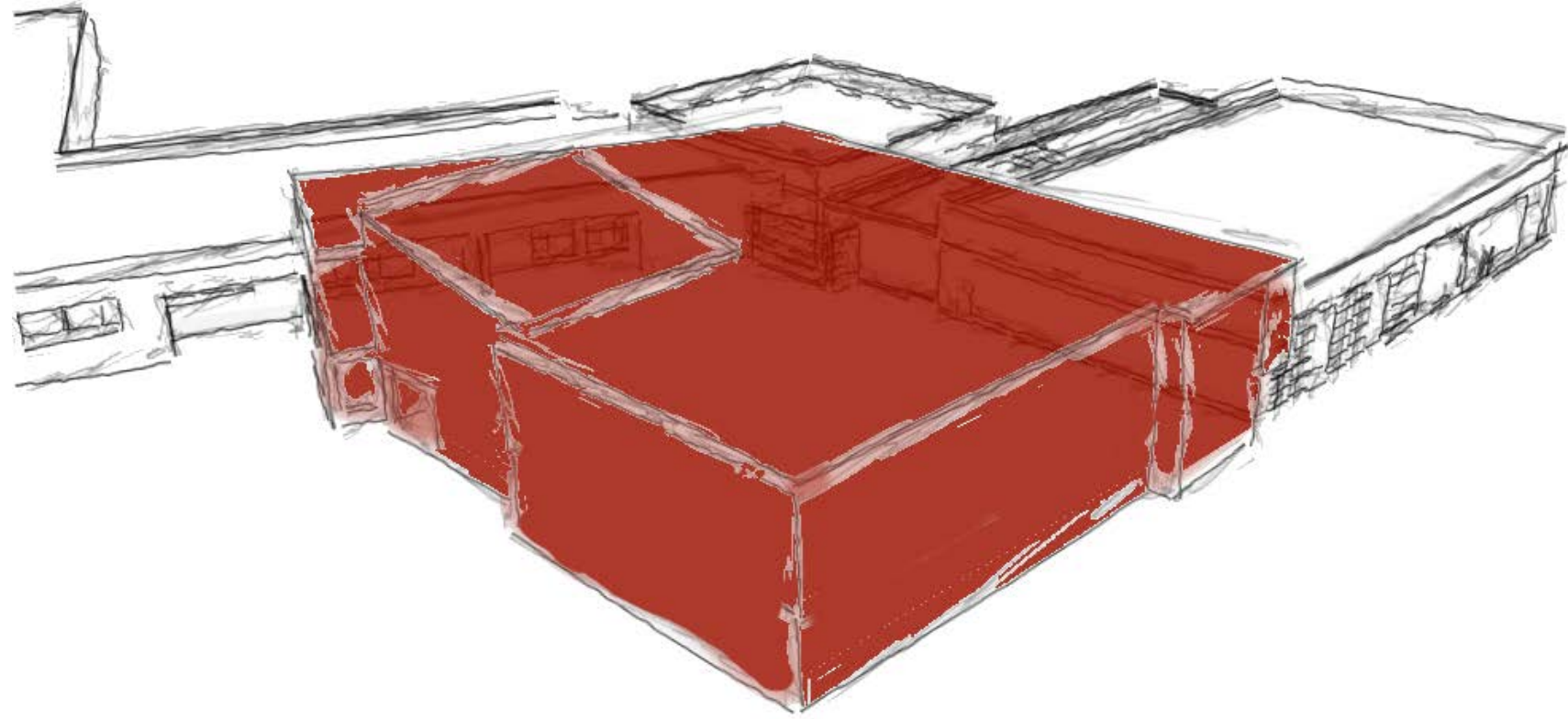
1. Provide lump sum price for soil borings with report and recommendations for proposed pavement rehabilitation and/or replacement work including crush and shape, full depth replacement and new pavement areas for both medium and light duty pavement, as well as recommendations for foundation, footing and slabs for the proposed building additions and new buildings.
2. Base lump sum on number of borings shown on attached site plans. All proposed borings shall extend to 5' below grade unless otherwise noted (borings for building foundations shall extend 20' below grade).
3. Provide unit costs for additional footage, deleted footage, additional borings, etc.
4. The approximate boring locations are shown on attached aerial maps. Locating borings shall be included in costs supplied by geotechnical consultant.

Marquette Office

1021 W. Baraga Ave. Marquette, MI 49855
Phone: (906) 228-4480 Fax: (906) 228-7524
www.intdesigns.com

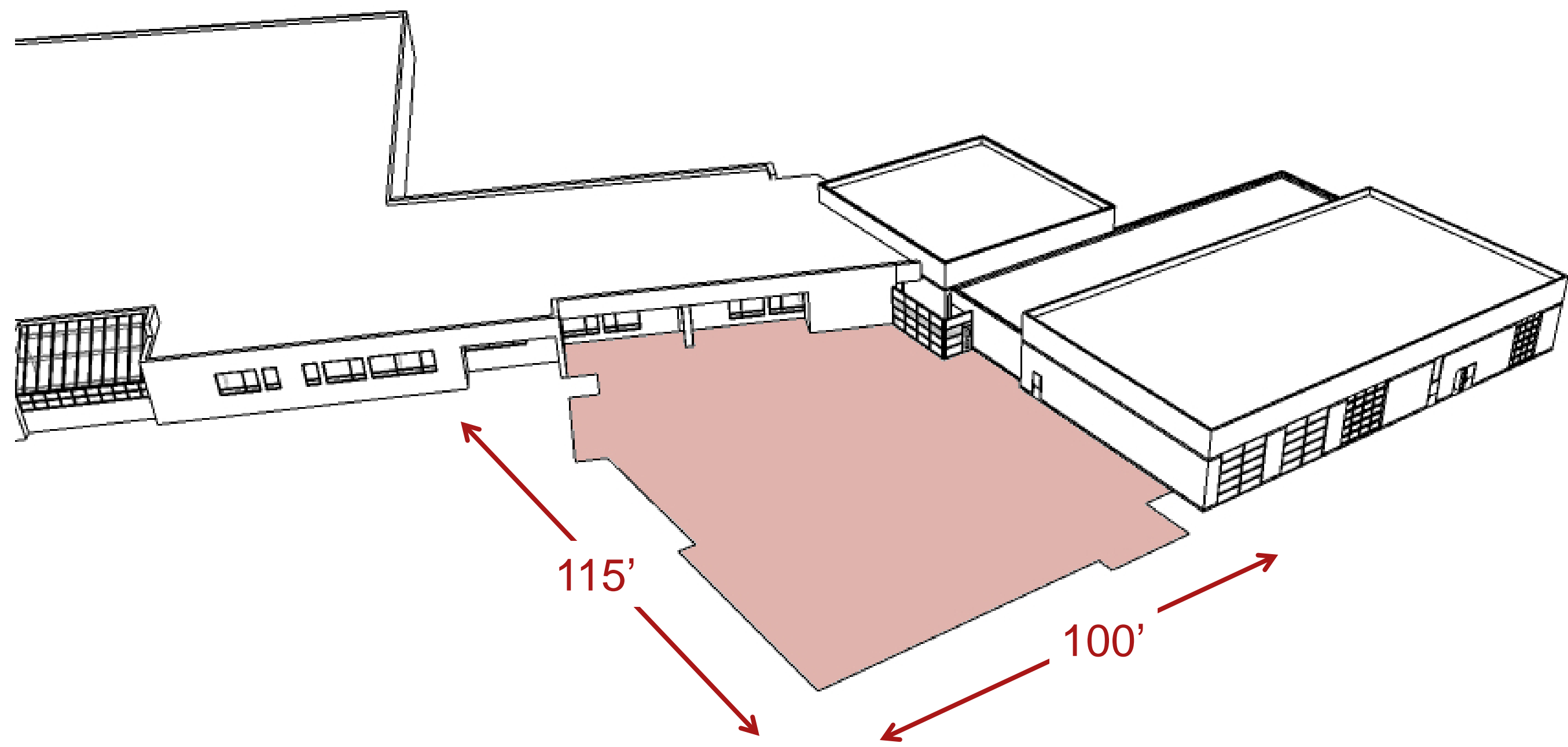
Brighton Office

8571 Grand River, Suite 600 Brighton, MI 48116
Phone: (810) 229-2701 Fax: (810) 229-6767
www.intdesigns.com



BRIGHTON HIGH SCHOOL STEAM CENTER

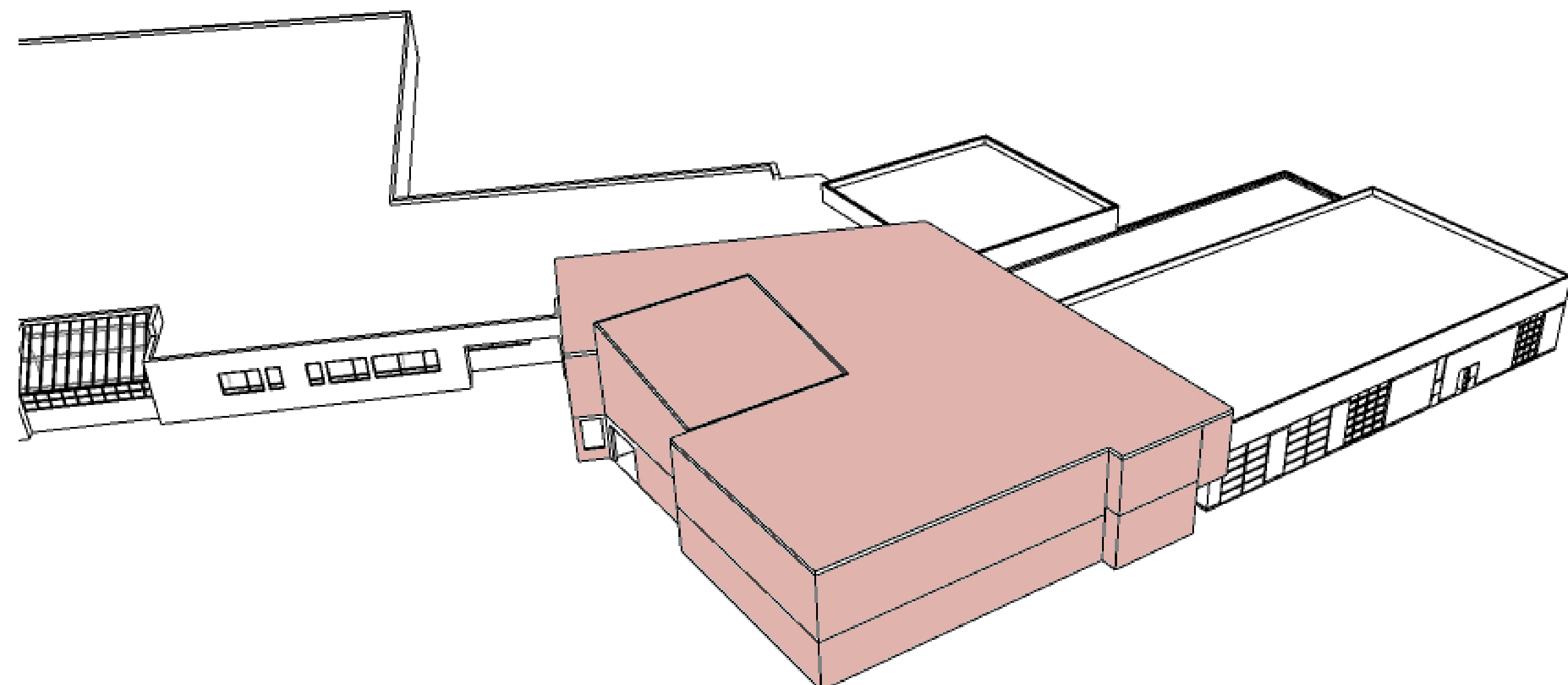
PRELIMINARY MASSING PROPOSAL
BAS BOND COMMITTEE
MARCH 16, 2020



PRELIMINARY MASSING STUDY – March 16, 2020

OVERVIEW





2-STORY ADDITION
~23,500 SF

CAFE
100 SF

STAIR & EXIT HALL

MAIN ENTRANCE

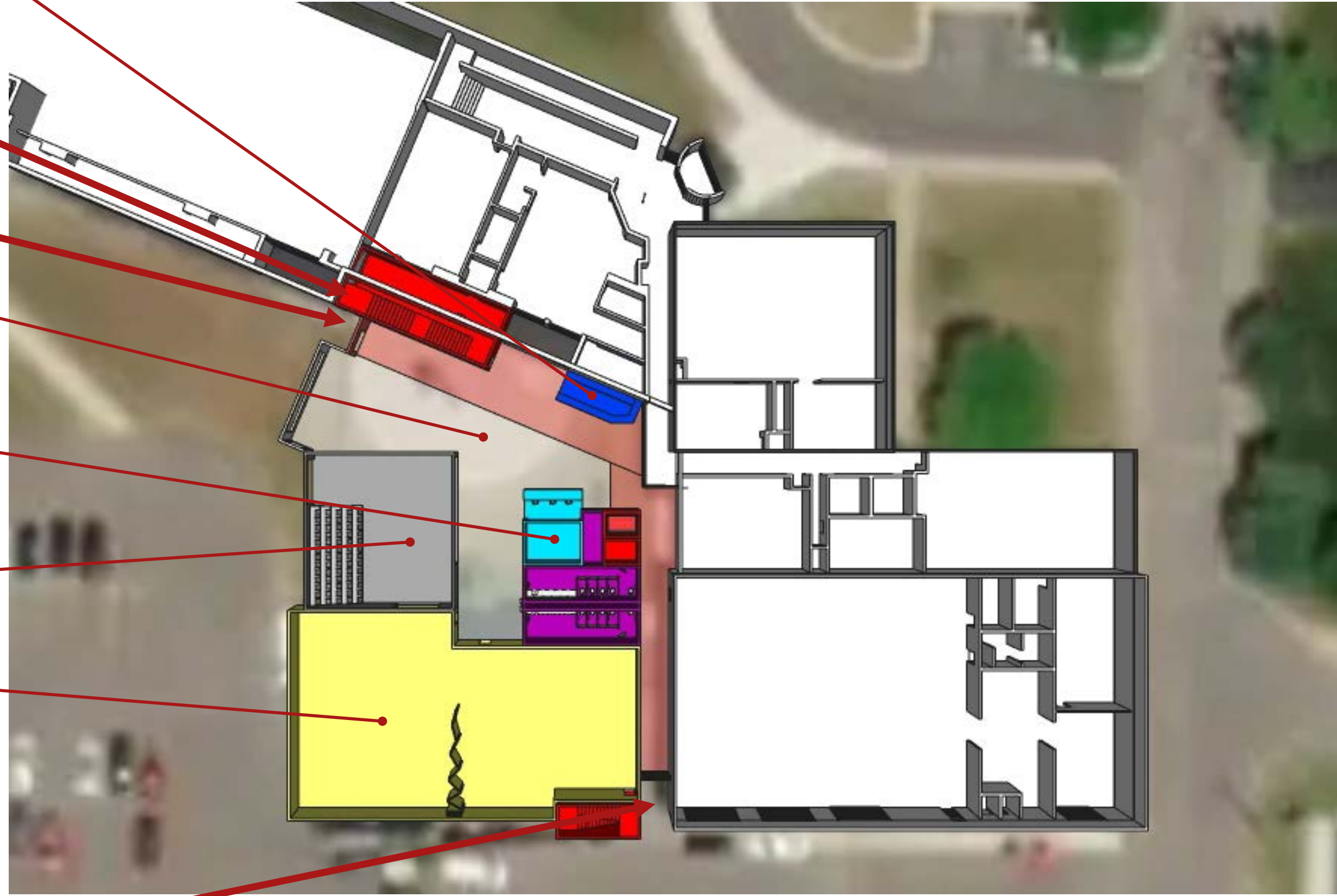
COLLABORATION
2,400 SF

TEACHER STATION
320 SF

LEARNING
1,600 SF

CREATIVE LAB
4,500 SF

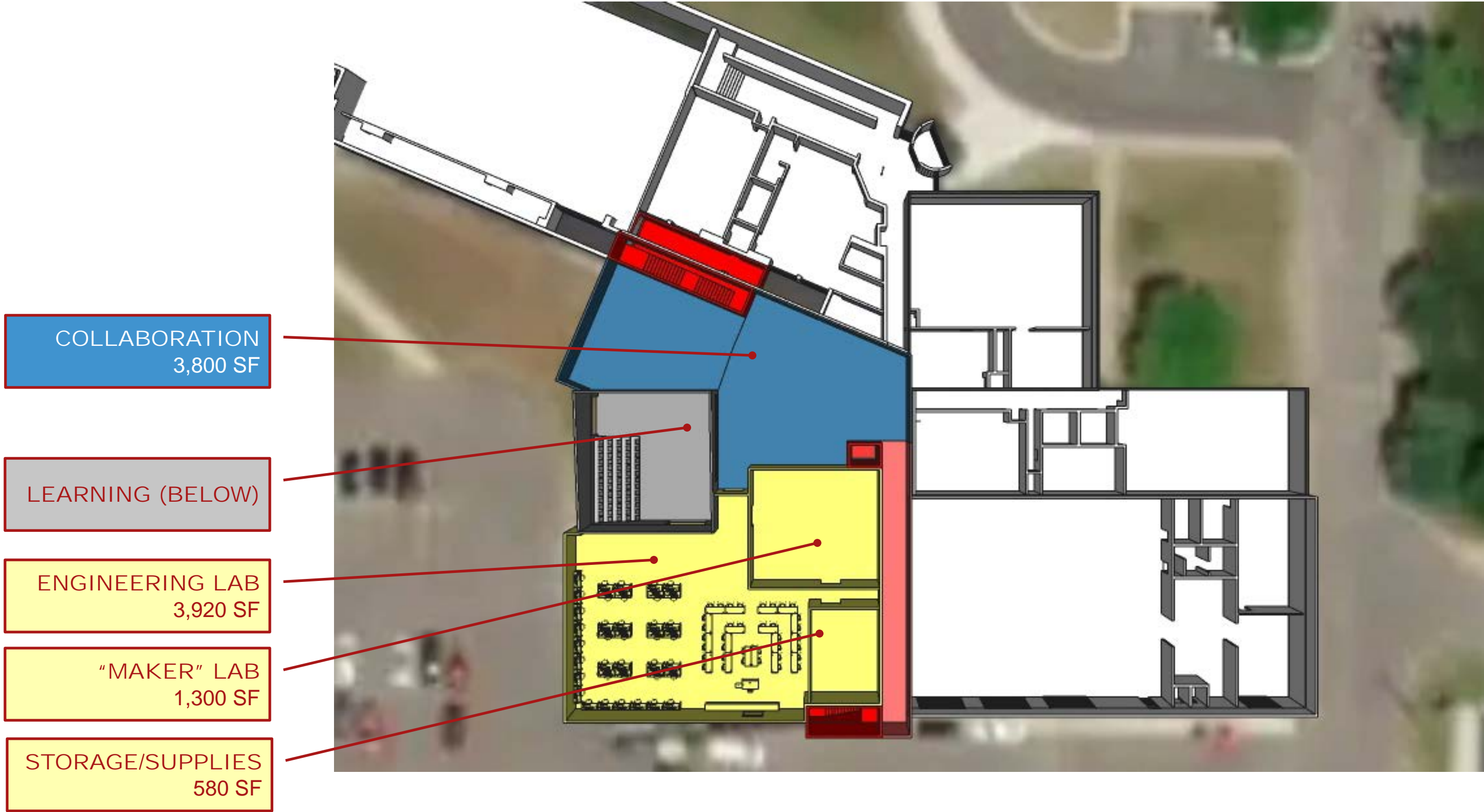
SOUTH EXIT



PRELIMINARY MASSING STUDY – March 16, 2020

FIRST FLOOR - 13,100 SF





PRELIMINARY MASSING STUDY – March 16, 2020

SECOND FLOOR – 10,400 SF

MAIN ENTRANCE

- New rear entry for BHS
- Clear path to main school highlights best parts of STEAM wing

TEACHER STATION

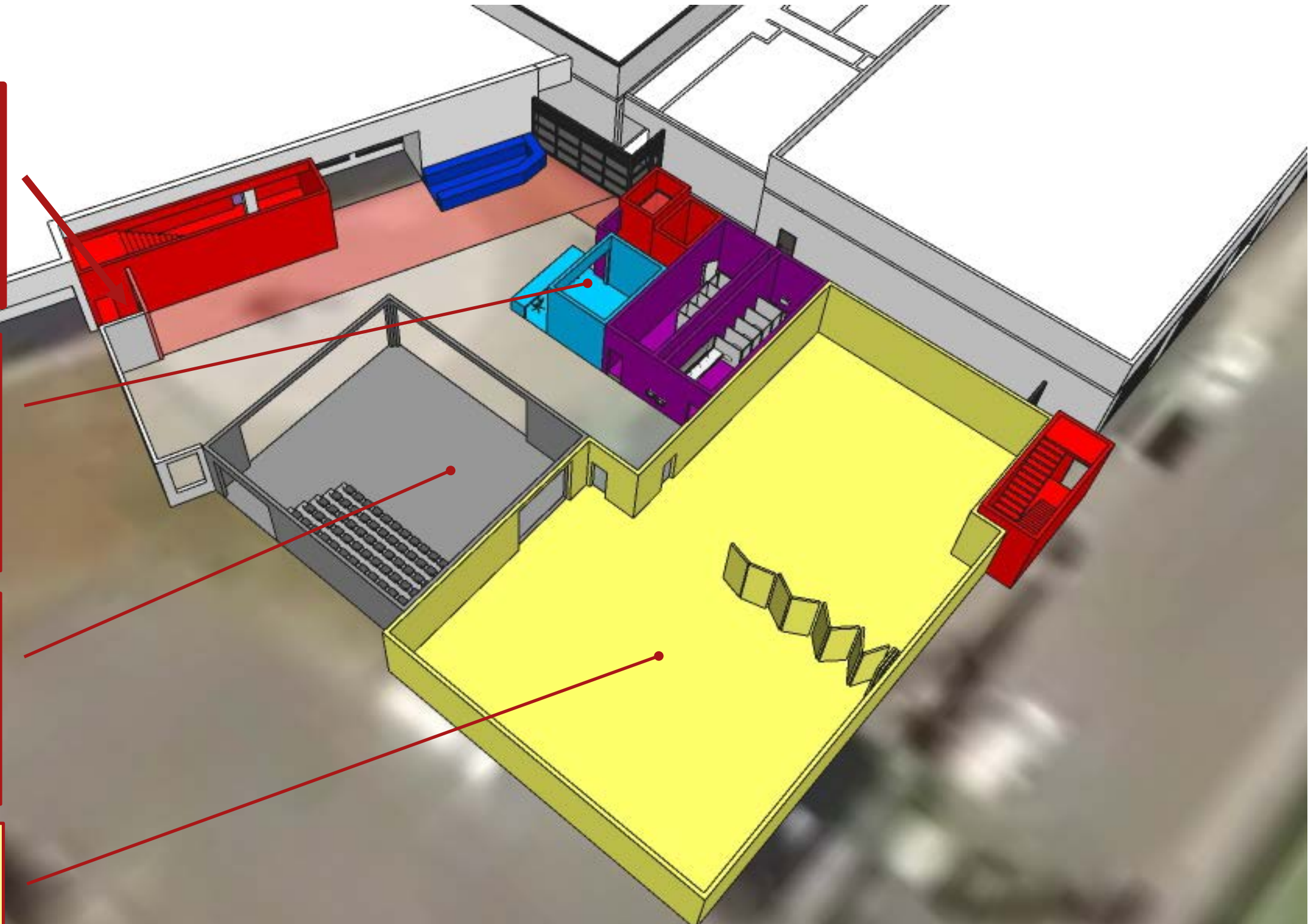
- Centrally placed staff office
- Secure storage for materials
- Large collaborative student-staff area

LEARNING SPACE

- Retractable stadium seating
- "Garage Door" interior walls
- Exterior overhead door access

CREATIVE LAB

- Sub-divided w/ operable wall
- Overhead door access to Learning Space



PRELIMINARY MASSING STUDY – March 16, 2020

FIRST FLOOR ISOMETRIC VIEW

COLLABORATION & CONF.

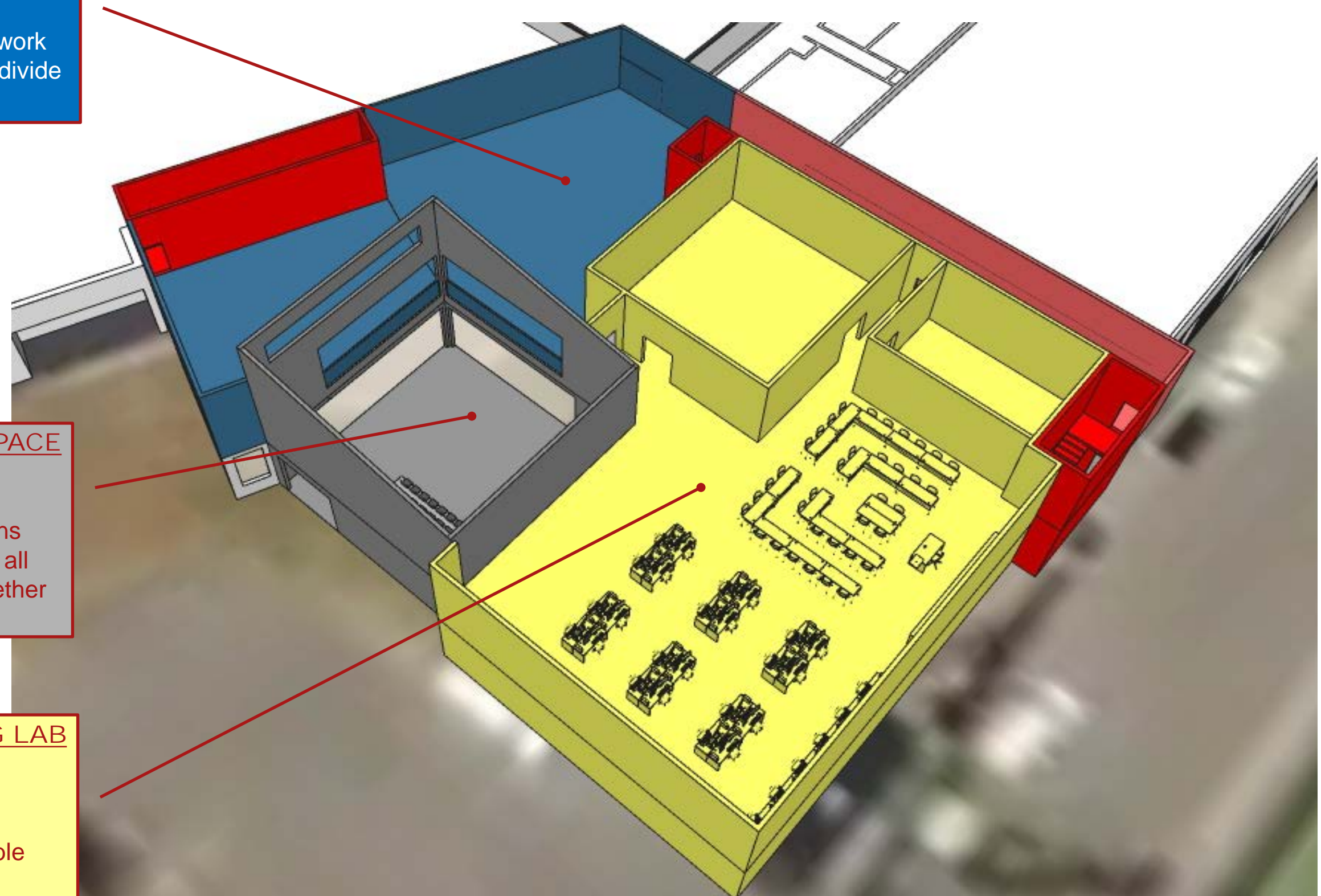
- Large flex space for student work
- Primarily use furniture to subdivide

LEARNING SPACE

- Double-height space ideal for larger events and presentations
- Viewing areas above connect all areas of STEAM addition together

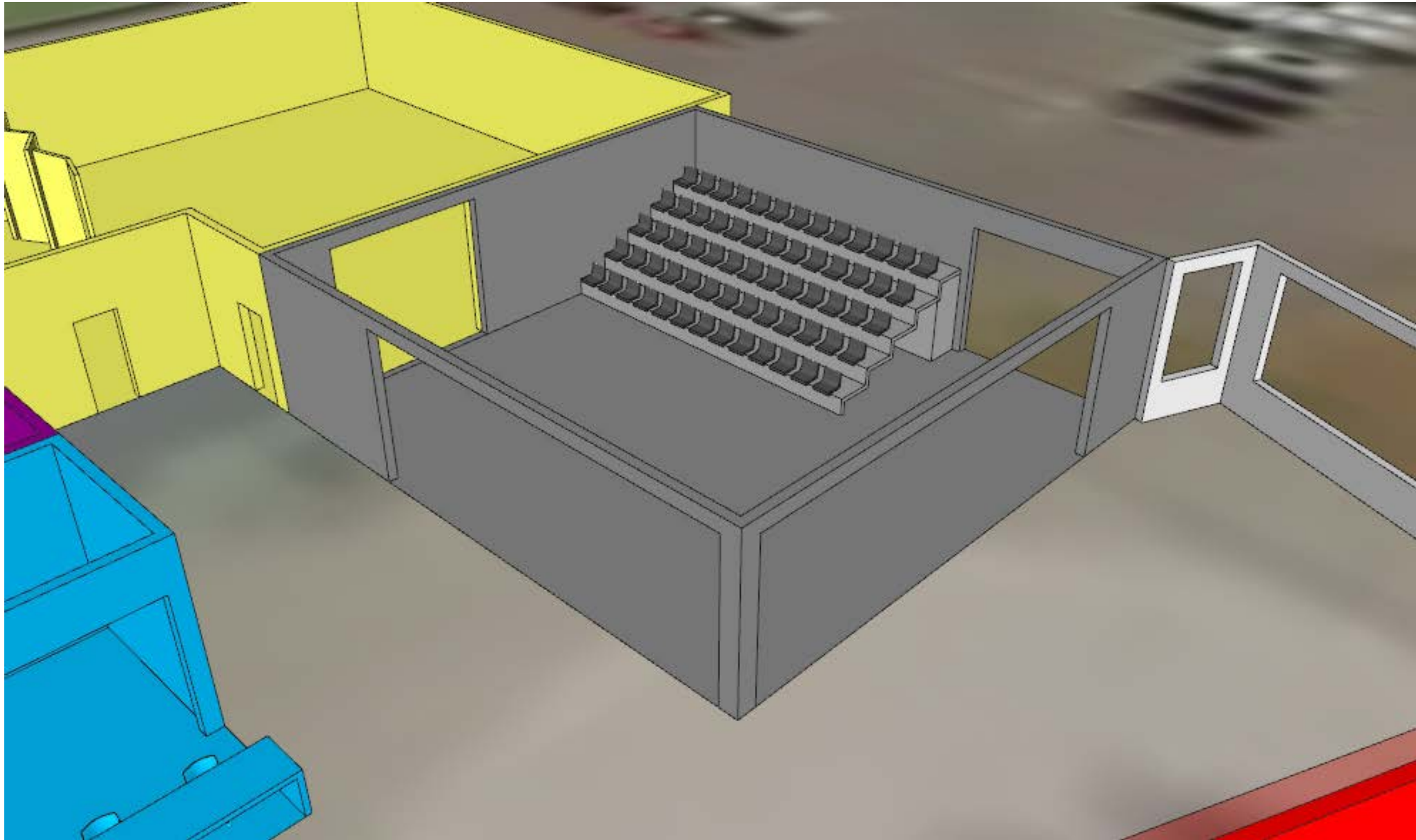
ENGINEERING LAB

- 35+ Dual-monitor computer stations
- Lecture/collab area with flexible furniture
- Sound isolated maker space
- Dedicated tool/supply storage



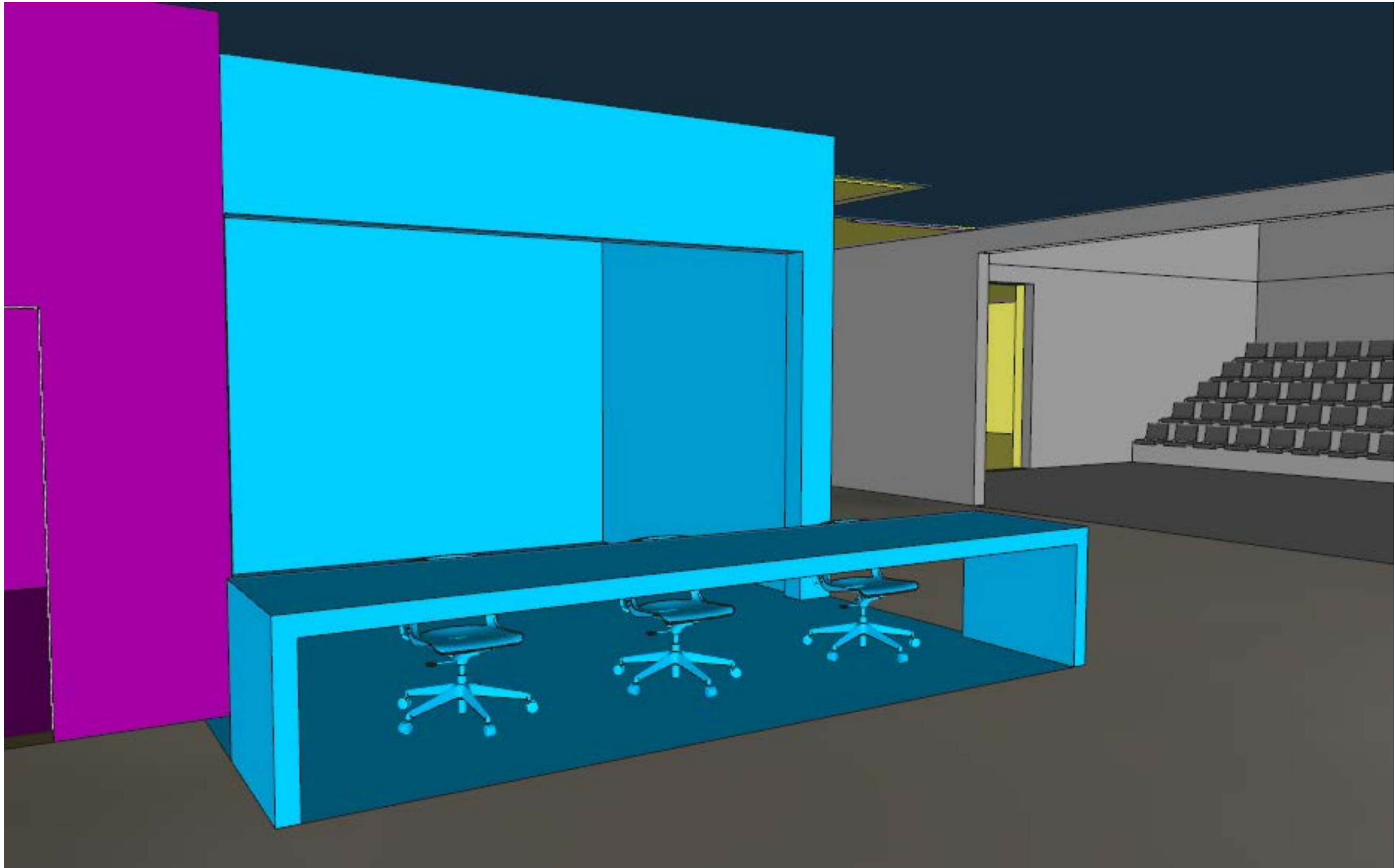
PRELIMINARY MASSING STUDY – March 16, 2020

SECOND FLOOR ISOMETRIC VIEW



PRELIMINARY MASSING STUDY – March 16, 2020

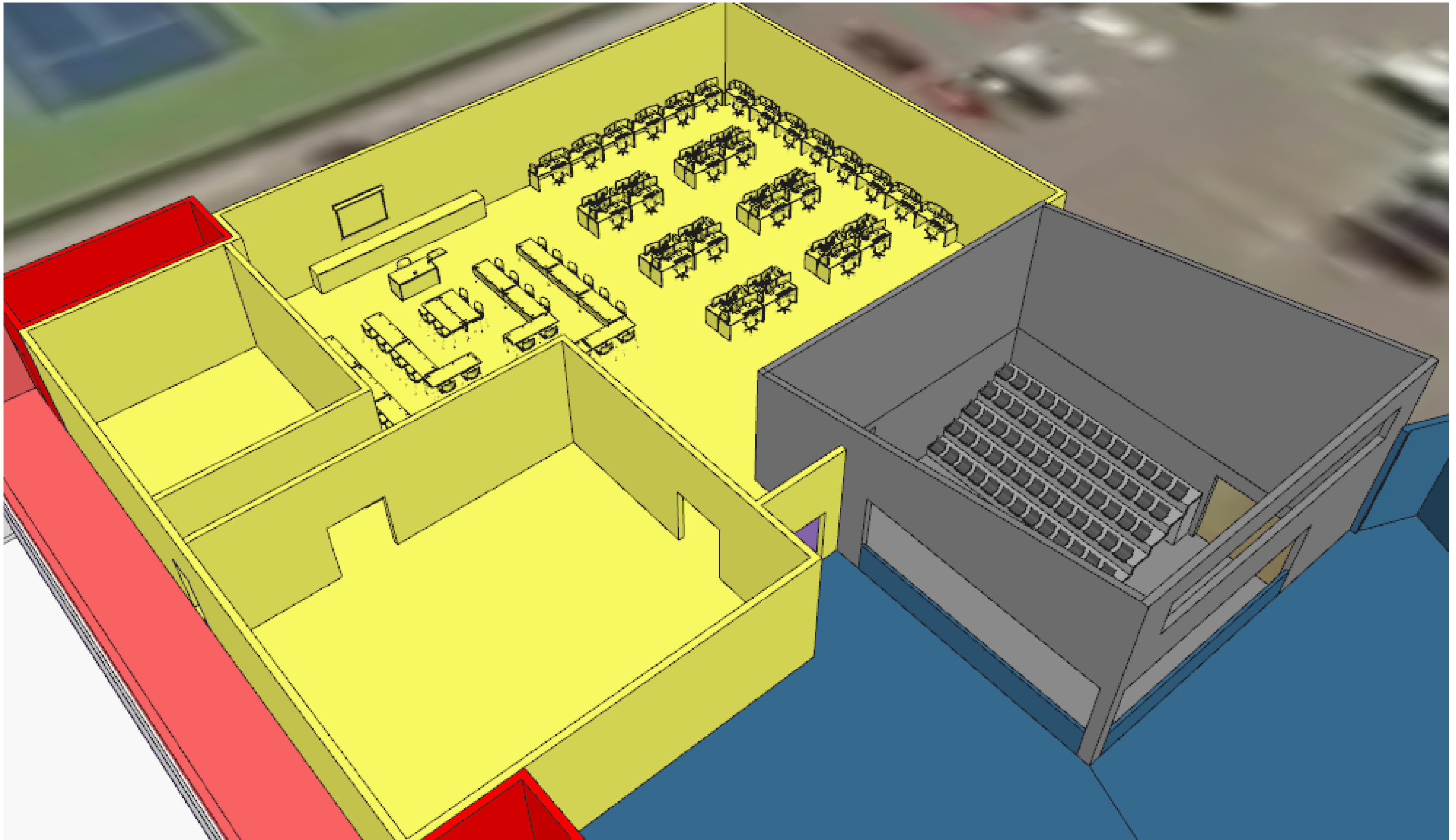
HIGH-BAY LEARNING SPACE



PRELIMINARY MASSING STUDY – March 16, 2020

TEACHER STATION





PRELIMINARY MASSING STUDY – March 16, 2020

ENGINEERING LAB

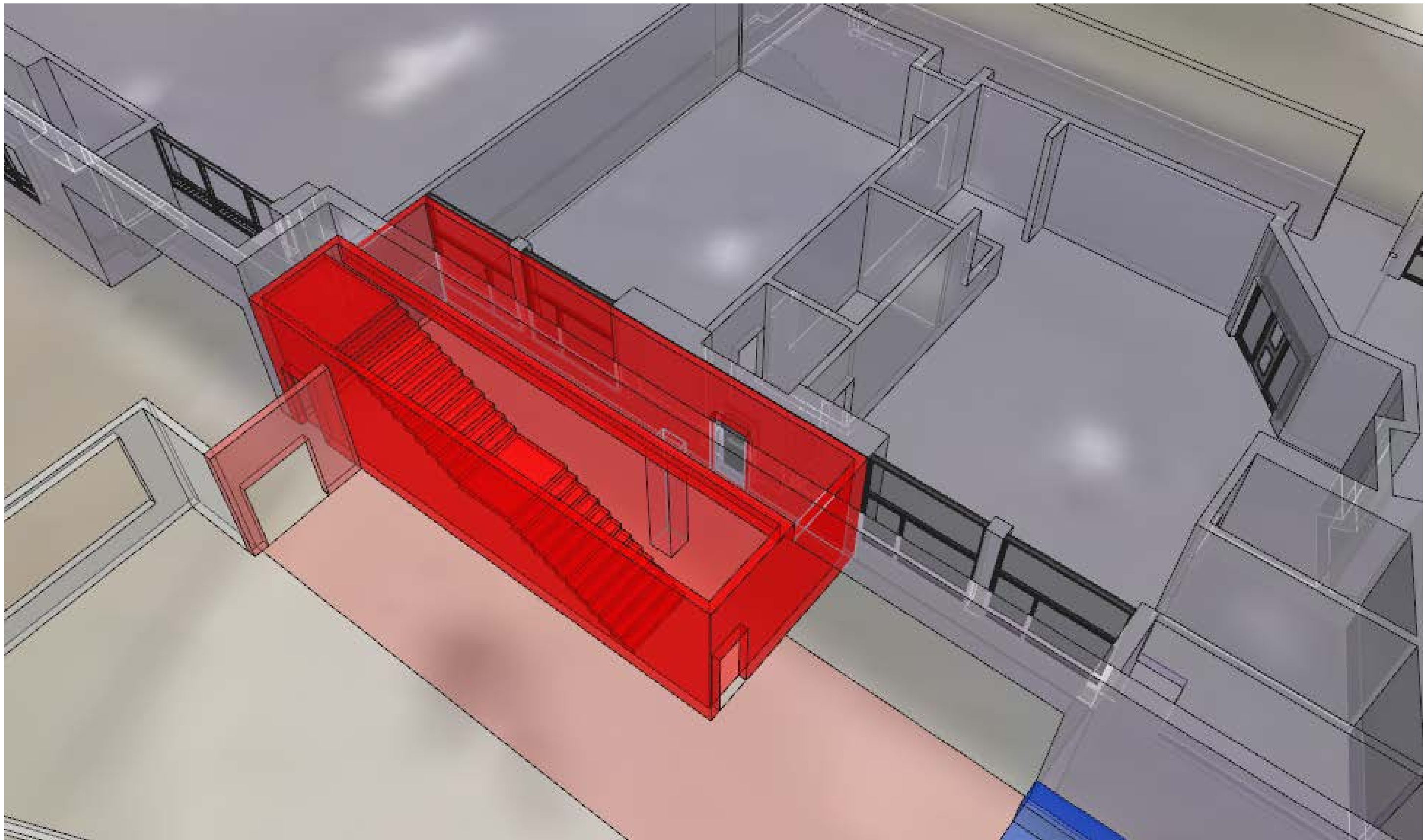




PRELIMINARY MASSING STUDY – March 16, 2020

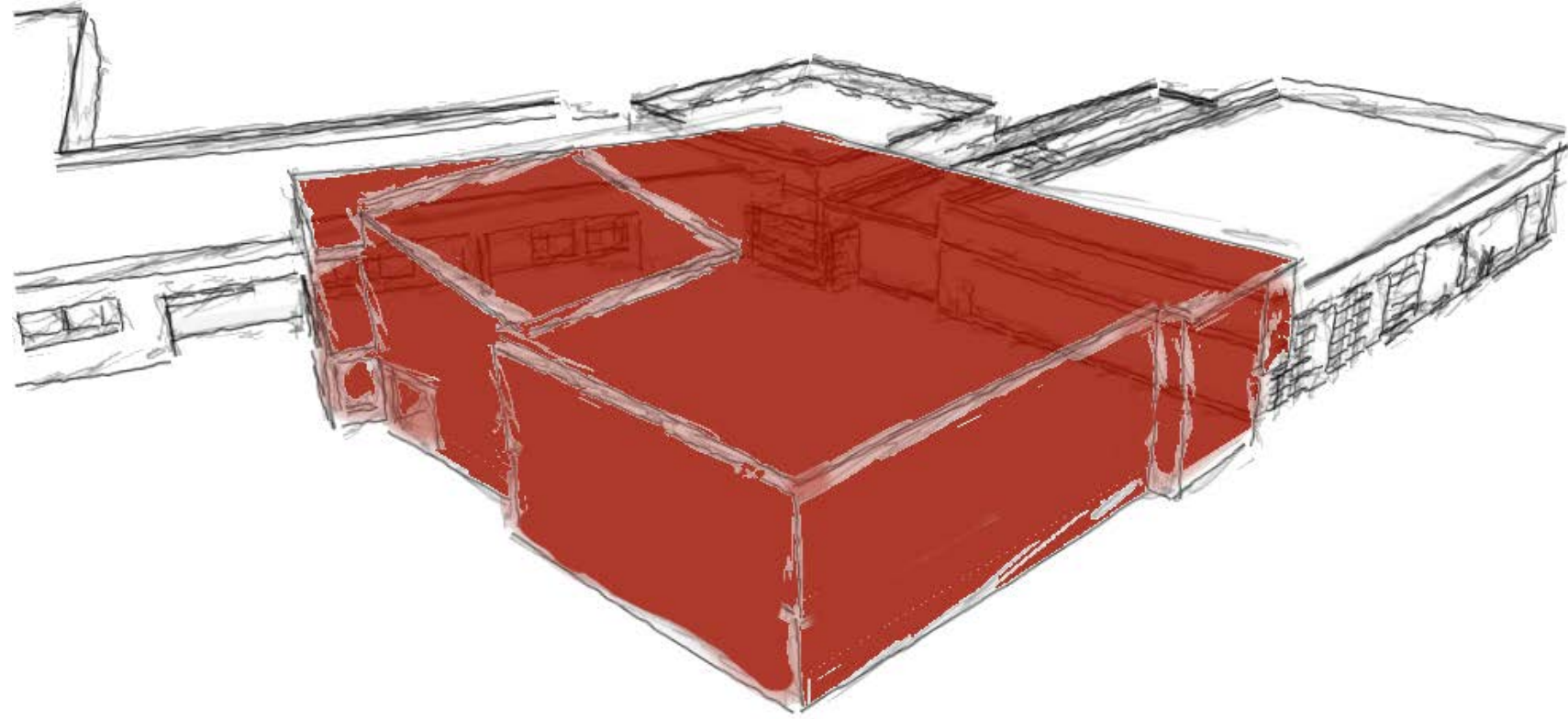
WEST ENTRY ELEVATION





PRELIMINARY MASSING STUDY – March 16, 2020

EGRESS & STAIR DETAIL



BRIGHTON HIGH SCHOOL STEAM CENTER

PRELIMINARY MASSING PROPOSAL
BAS BOND COMMITTEE
MARCH 16, 2020

Maltby Intermediate School

OPTION A

OPTION B

OPTION E

OPTION C

OPTION D



Scranton Middle School

OPTION B

OPTION A

OPTION C



BAS Transportation Center

AREA EXCLUDED?



POTENTIAL BUILDING SITE
9,600 SF

UTILITY EXTENSION
APPROX, 600 FT



APPROXIMATELY
22,800 SF
REPLACEMENT

APPROXIMATELY
8,400 SF
REPLACEMENT



POTENTIAL BUILDING SITE
15,000 SF +

