

California State Polytechnic University, Pomona

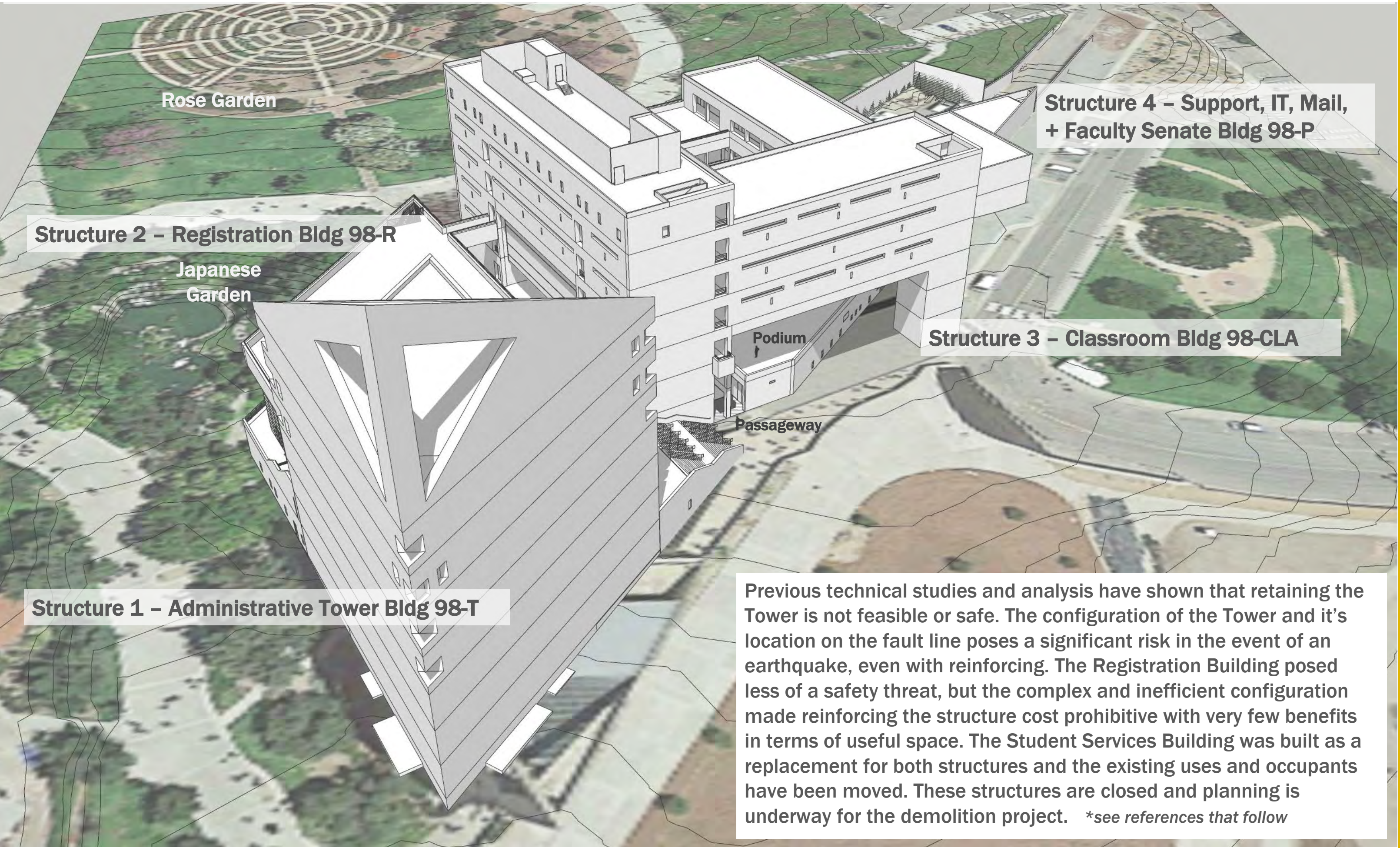
Master Plan Study: Bldg 98 (*incl T, R, CLA, P*)

18 April 2019

4 June 2020 updated



BLDG 98 STUDIES: EXISTING



Rose Garden

**Structure 4 - Support, IT, Mail,
+ Faculty Senate Bldg 98-P**

Structure 2 - Registration Bldg 98-R

Japanese
Garden

Structure 3 - Classroom Bldg 98-CLA

Podium

Passageway

Structure 1 - Administrative Tower Bldg 98-T

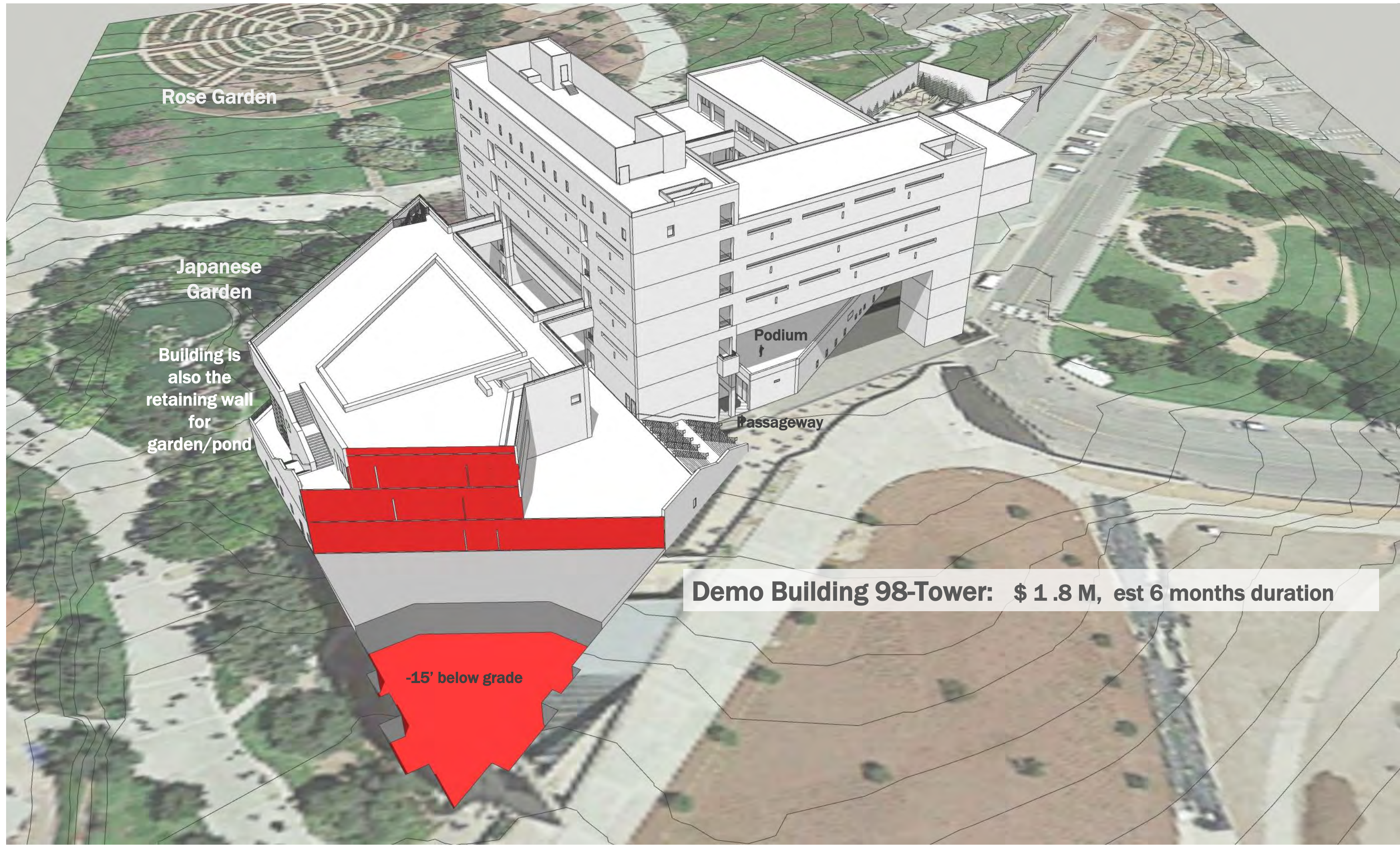
Previous technical studies and analysis have shown that retaining the Tower is not feasible or safe. The configuration of the Tower and its location on the fault line poses a significant risk in the event of an earthquake, even with reinforcing. The Registration Building posed less of a safety threat, but the complex and inefficient configuration made reinforcing the structure cost prohibitive with very few benefits in terms of useful space. The Student Services Building was built as a replacement for both structures and the existing uses and occupants have been moved. These structures are closed and planning is underway for the demolition project. **see references that follow*

BLDG 98 STUDIES – Sources, Reference Reports

- **CPP Master Plan, Building 98 Design Study Cost Model, Capital Projects Group w/Ayers Saint Gross, April 2019**
- **Facility Conditions Assessment, Cal Poly Pomona, ISES Corporation, June 2018**
- **COMET4 Facility Report, California State Polytechnic University, Pomona, April 23, 2010**
- **Geologic Fault Investigation CLA Replacement And Master Plan Infill, GEOCON, September 12, 2011**
- **Seismic Reevaluation, Cal Poly Pomona CLA Building, Englekirk & Sabol, Inc. May 1, 2008**
- **Feasibility Study for CLA Building (98) Seismic Upgrade & Renovation at CPP, PCM, September 25, 2008**
- **Geotechnical Investigation Parking Structure, GEOCON, May 21, 2003**
- **Geologic Fault Map, California State Polytechnic University, GEOCON, May 31, 2001**
- **Campus Fault Study, California State Polytechnic University, GEOCON, May 31, 2001**
- **Geologic And Seismic Hazards Study Proposed Classroom Laboratory Administration Building, Ryland Associates, May 15 1989**
- **Amended Geotechnical Investigation Proposed Engineering Laboratories Replacement Building 17, PETRA, July 20, 1998**
- **Interim Design Center Expansion Study, CPP ARC, January 2017**

(list may be incomplete)

BLDG 98: DEMO TOWER



Rose Garden

Japanese Garden

Building is also the retaining wall for garden/pond

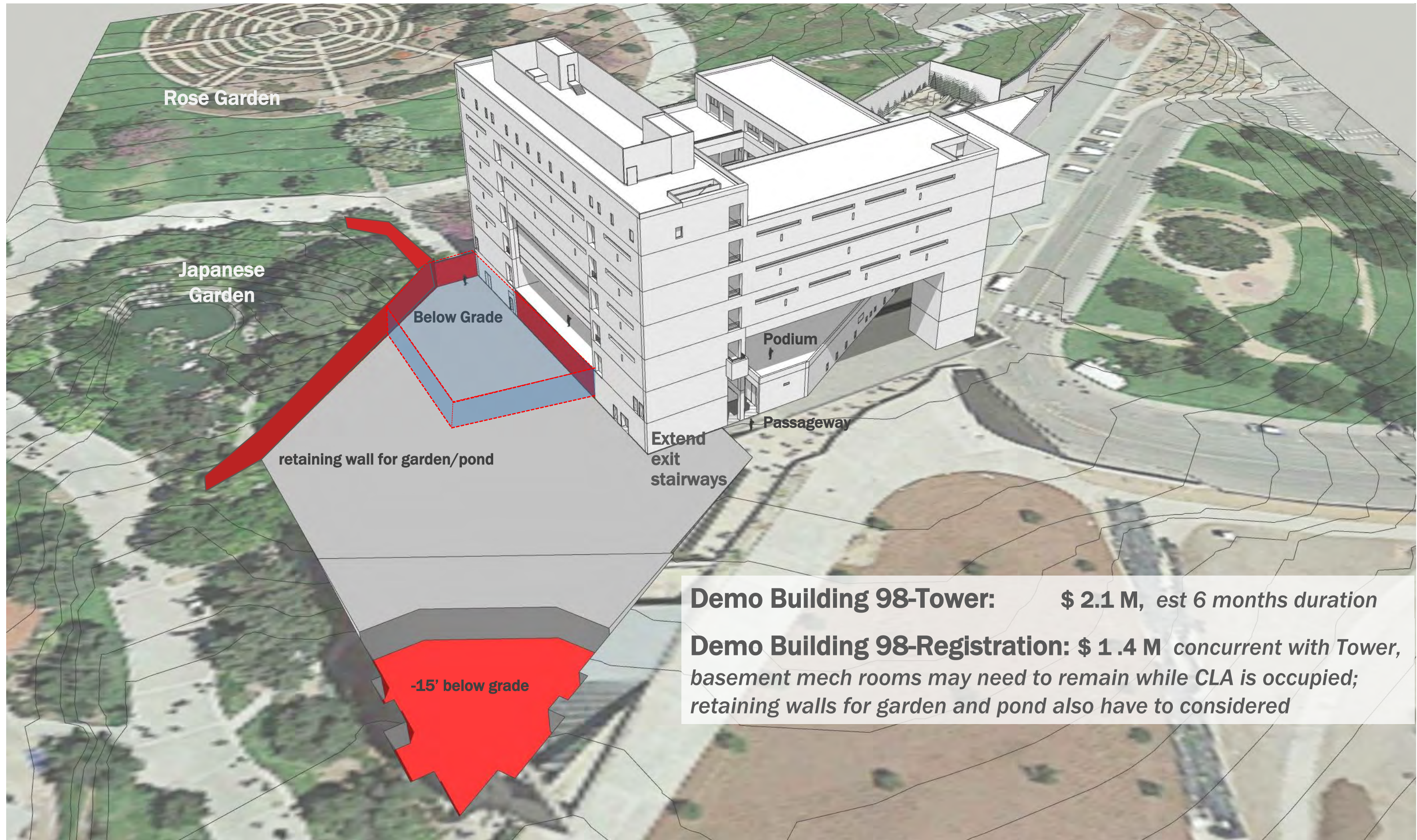
Podium

Passageway

-15' below grade

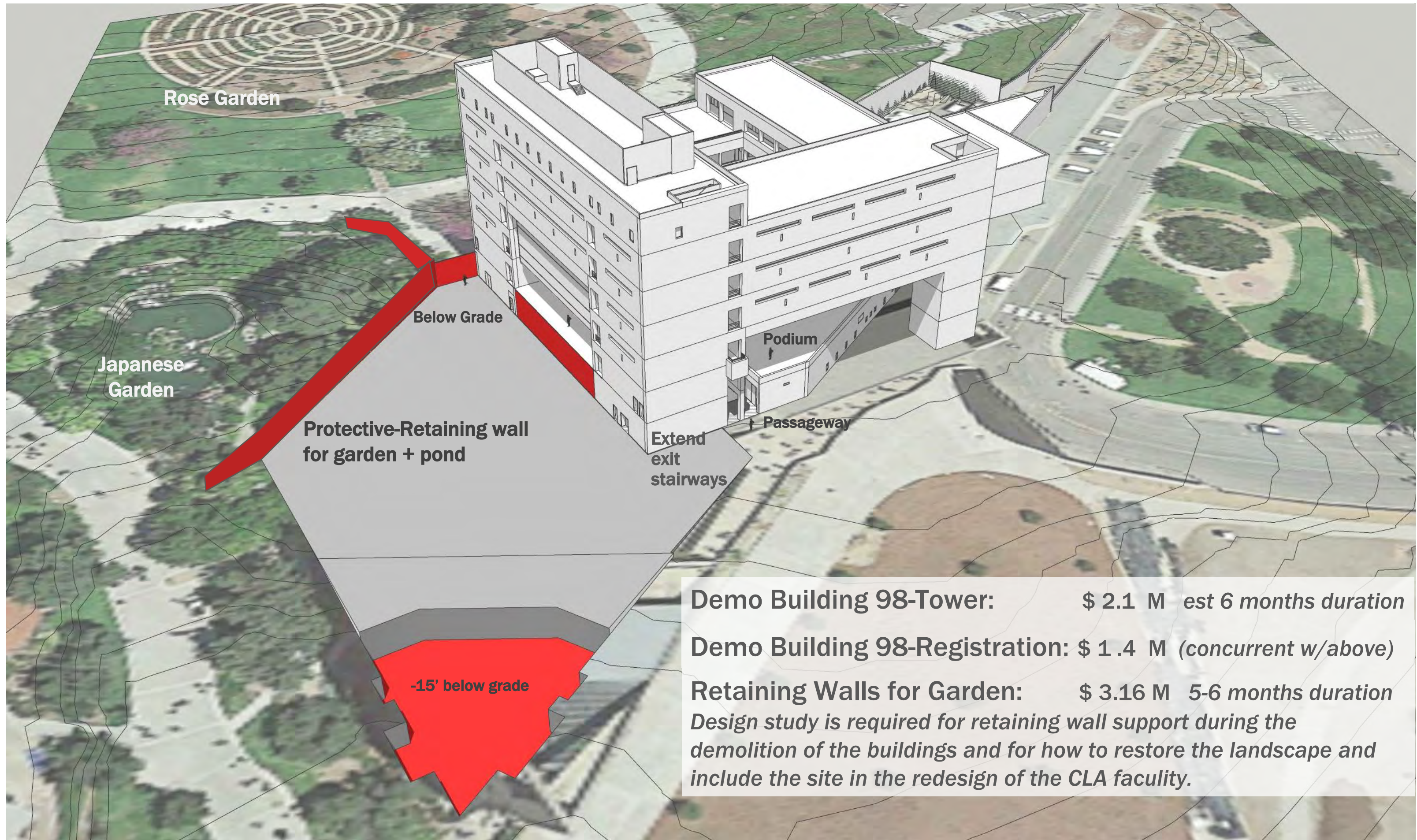
Demo Building 98-Tower: \$ 1.8 M, est 6 months duration

BLDG 98: DEMO REG BLDG



Demo Building 98-Tower: \$ 2.1 M, est 6 months duration
Demo Building 98-Registration: \$ 1.4 M concurrent with Tower, basement mech rooms may need to remain while CLA is occupied; retaining walls for garden and pond also have to considered

BLDG 98: DEMO REG BLDG



Demo Building 98-Tower: \$ 2.1 M est 6 months duration
Demo Building 98-Registration: \$ 1.4 M (concurrent w/above)
Retaining Walls for Garden: \$ 3.16 M 5-6 months duration
Design study is required for retaining wall support during the demolition of the buildings and for how to restore the landscape and include the site in the redesign of the CLA facility.

BLDG 98 STUDIES: SITE CONSIDERATIONS



How will the garden and pond be supported and protected during demolition?

How will removing the buildings, and the resulting change in shading, impact the garden or the pond?

JAPANESE GARDEN

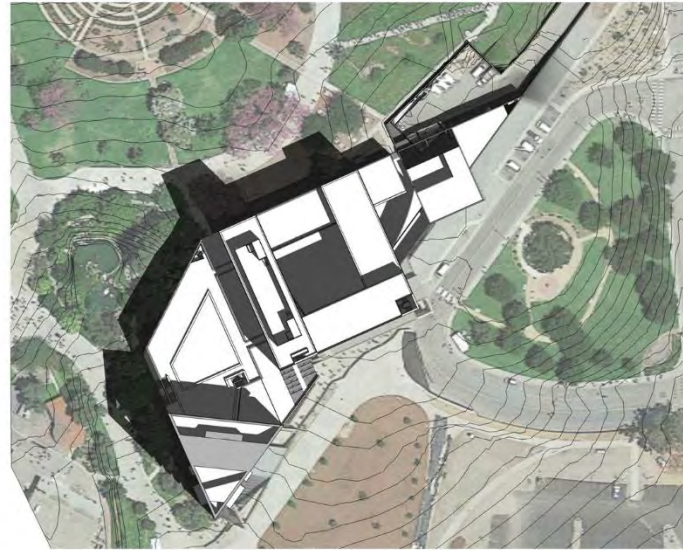
BLDG 98 SHADING: EXISTING

10:00 AM

1:00 PM

4:00 PM

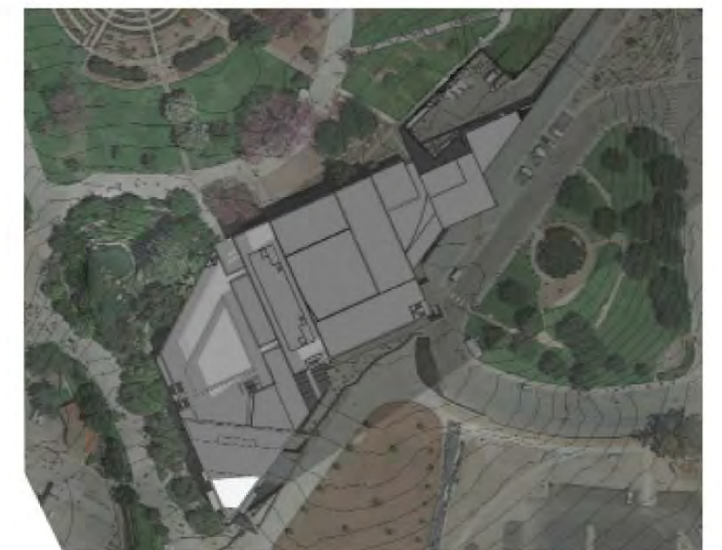
MARCH 21



JUNE 21



DECEMBER 20



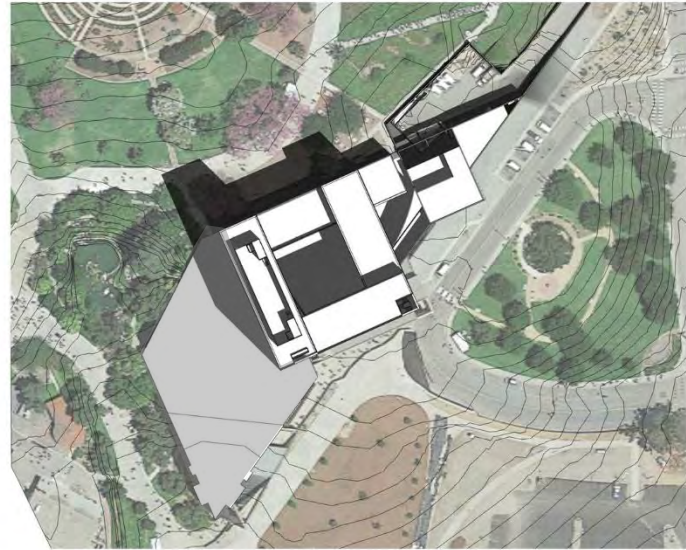
BLDG 98 SHADING: AFTER TOWER/REG DEMO

10:00 AM

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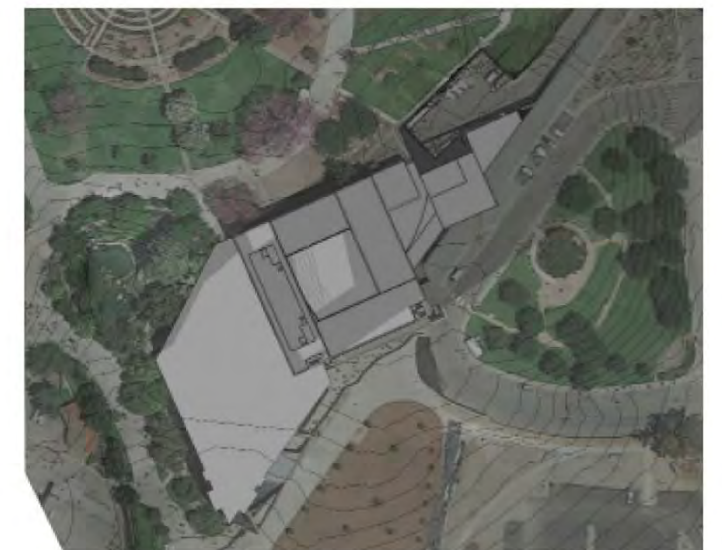
MARCH 21



JUNE 21



DECEMBER 20



BLDG 98 SHADING: REDUCED AREA IN SHADE

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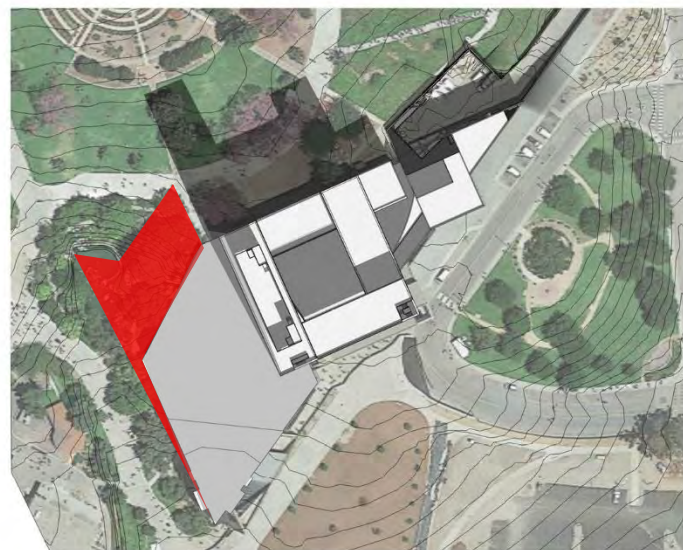
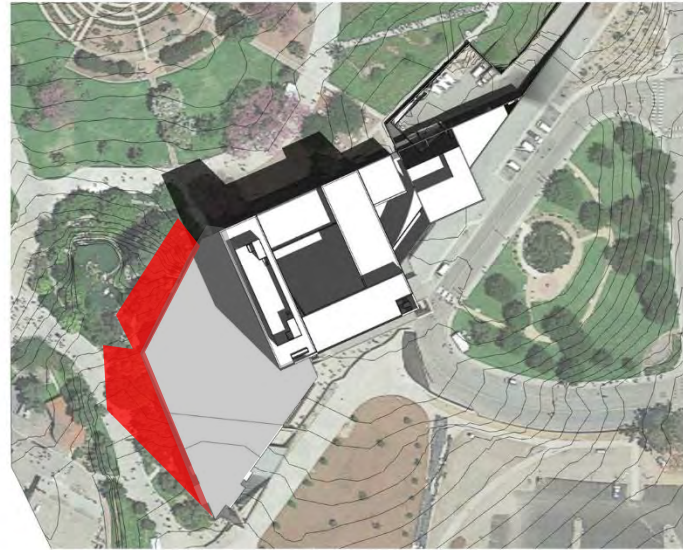
4:00 PM

MARCH 21

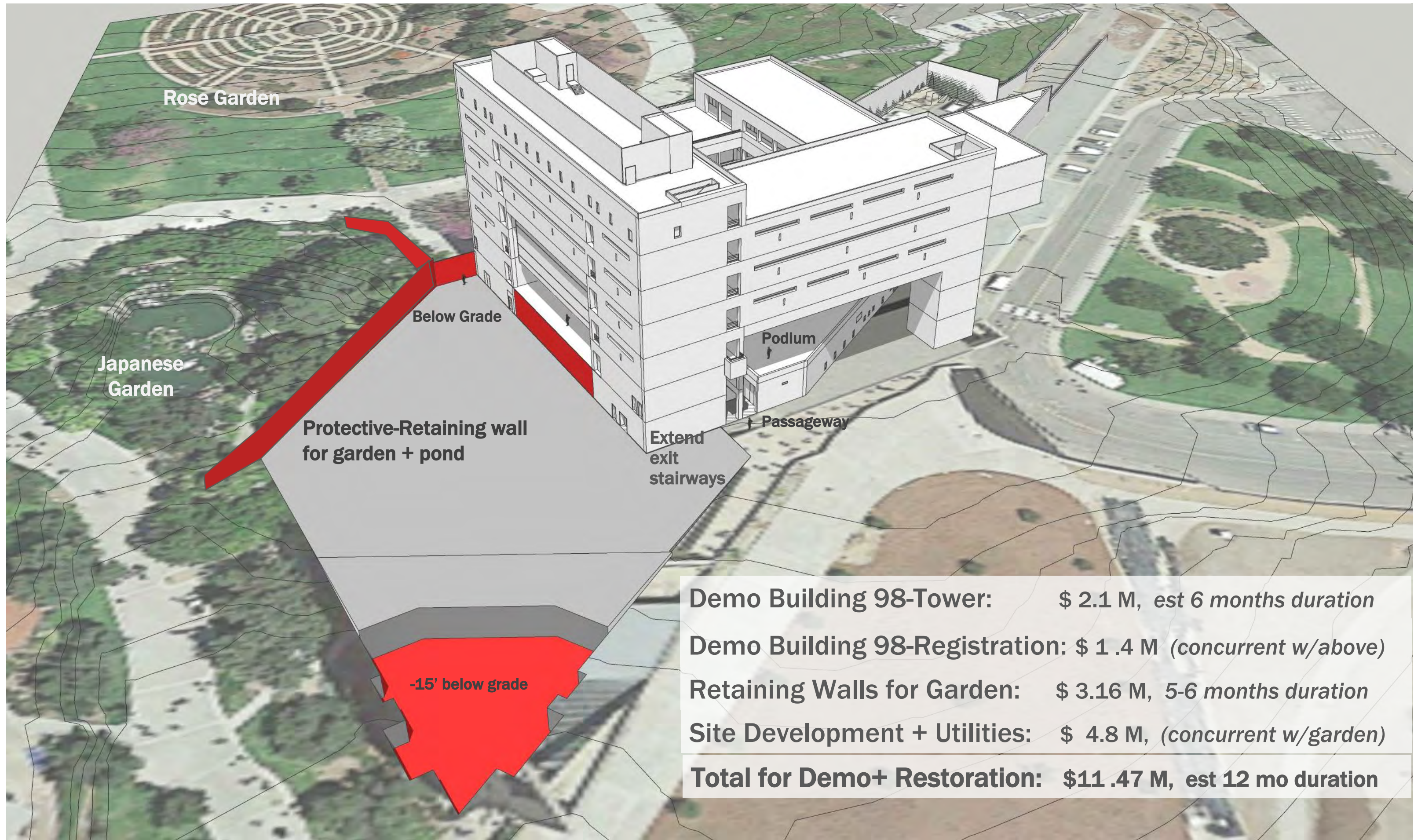
Shading reduction is primarily in the morning during late fall, winter and spring. Impact is less significant for the turtle pond. Existing tall mature trees may provide adequate shade for the garden.

JUNE 21

DECEMBER 20



BLDG 98 STUDIES: DEMO COST SUMMARY



Demo Building 98-Tower:	\$ 2.1 M, est 6 months duration
Demo Building 98-Registration:	\$ 1.4 M (concurrent w/above)
Retaining Walls for Garden:	\$ 3.16 M, 5-6 months duration
Site Development + Utilities:	\$ 4.8 M, (concurrent w/garden)
Total for Demo+ Restoration:	\$11.47 M, est 12 mo duration

BLDG 98: SITE RESTORATION ISSUES



Pedestrians stream around & through this site today



How will they move through, across, around this site if part of all of the structure is demolished?

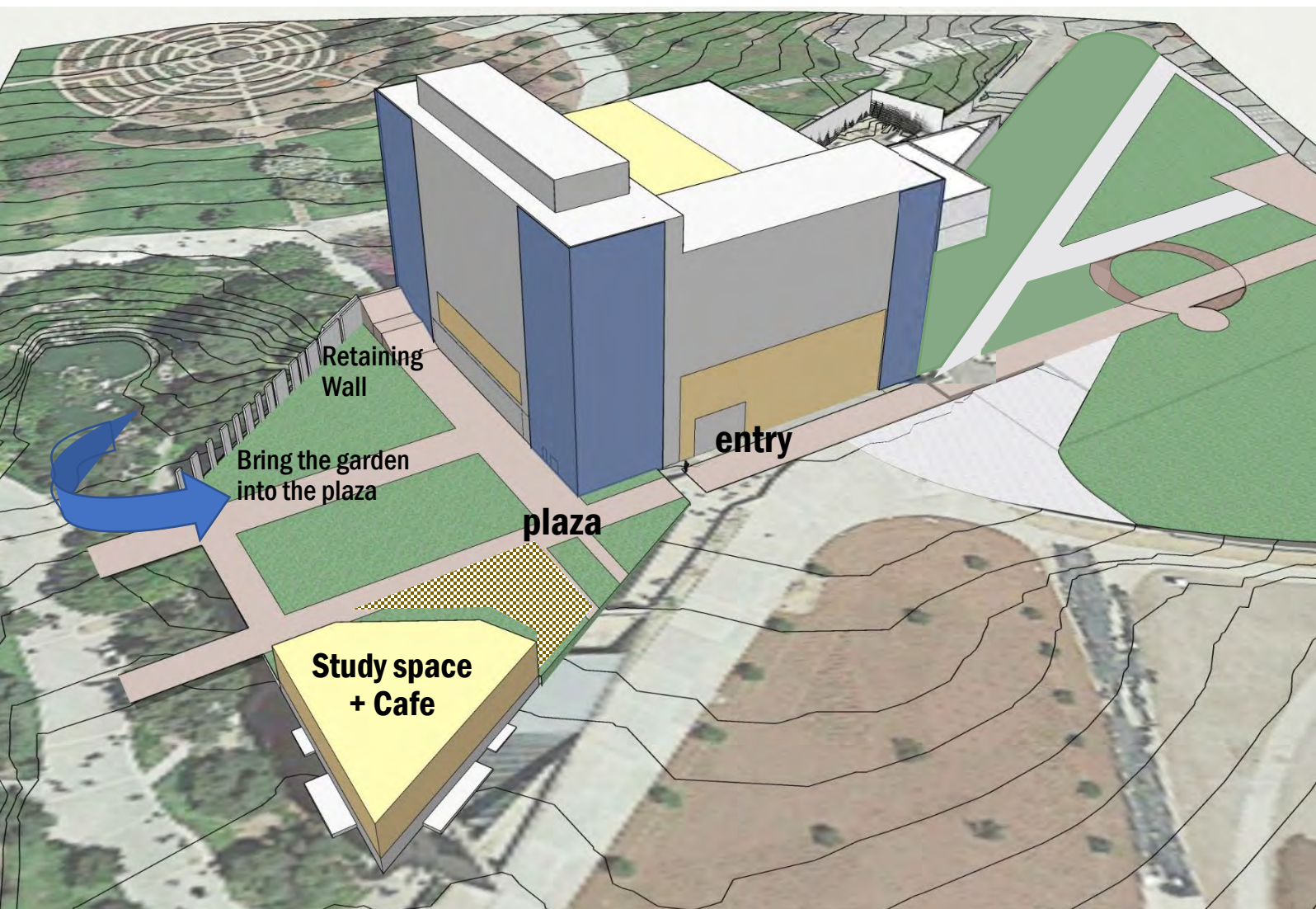
BLDG 98 STUDIES: SITE REDEVELOPMENT

Site Requirements:

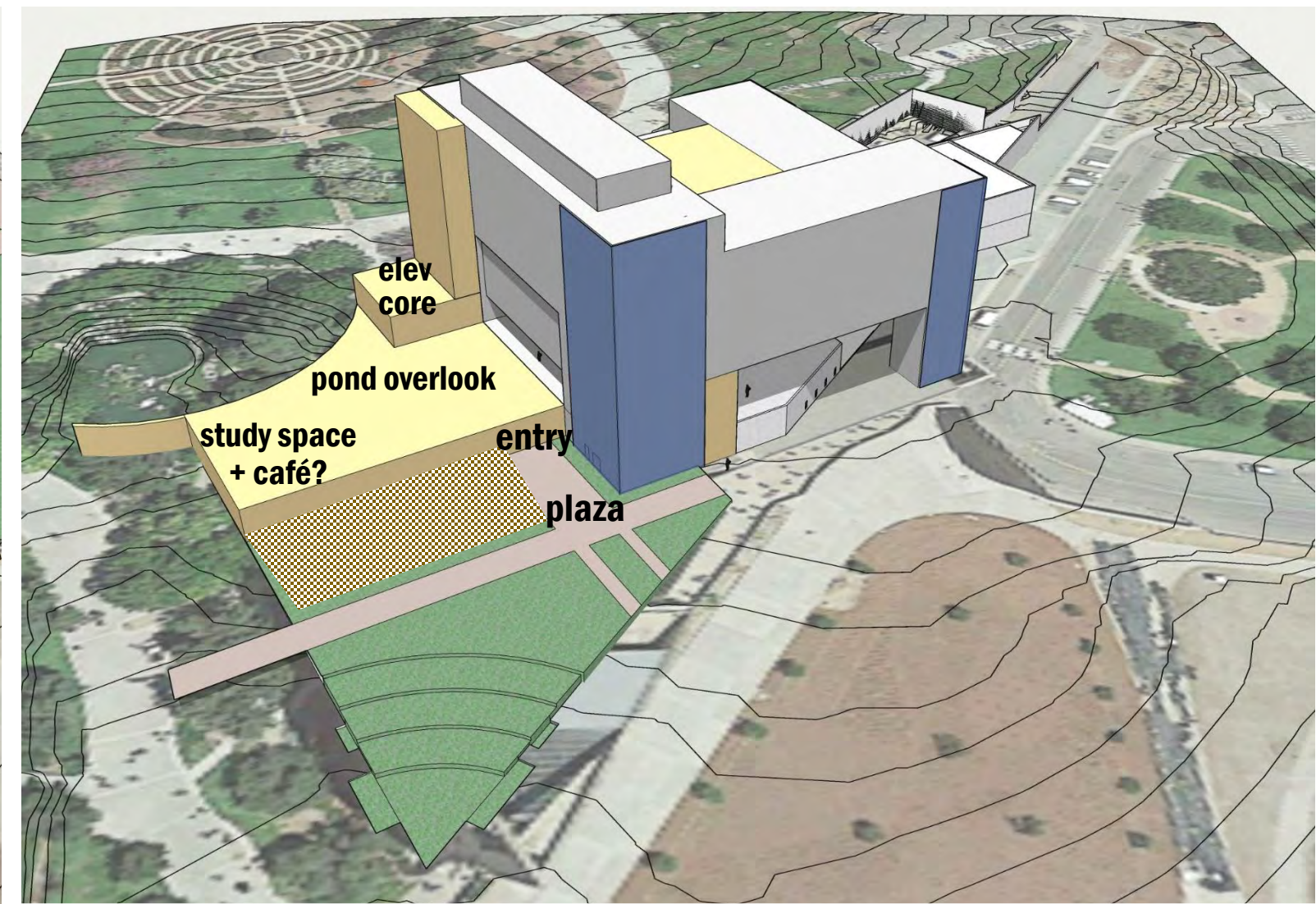
- Support and shelter the Japanese Garden and pond
- Provide a transition with accessibility given that the Rose Garden is almost 20 ft above the grade at SBS
- Enhance connectivity from parking to into academic core

Potential uses:

- Provide engagement opportunities with the Japanese Garden (terraced landscape, seating, shade, extending garden into plaza)
- Student study space (interior and/or exterior)
- Pop-up Café (supported by new dining facility)
- New Entry for 98-CLA with more efficient elevator/RR core + lobby, could include café and study space



Study 1: Retaining for Pond + Plaza + New Pop-up Building
(located on a portion of the Tower footprint outside the fault line)



Study 2: New CLA Lobby Entry & Elevators and Plaza
(seismic engineering may limit size to smaller than shown)

BLDG 98 CLA Studies + Cost Analysis

2) What are the options for 98-CLA (P)? What's the cost? Time?

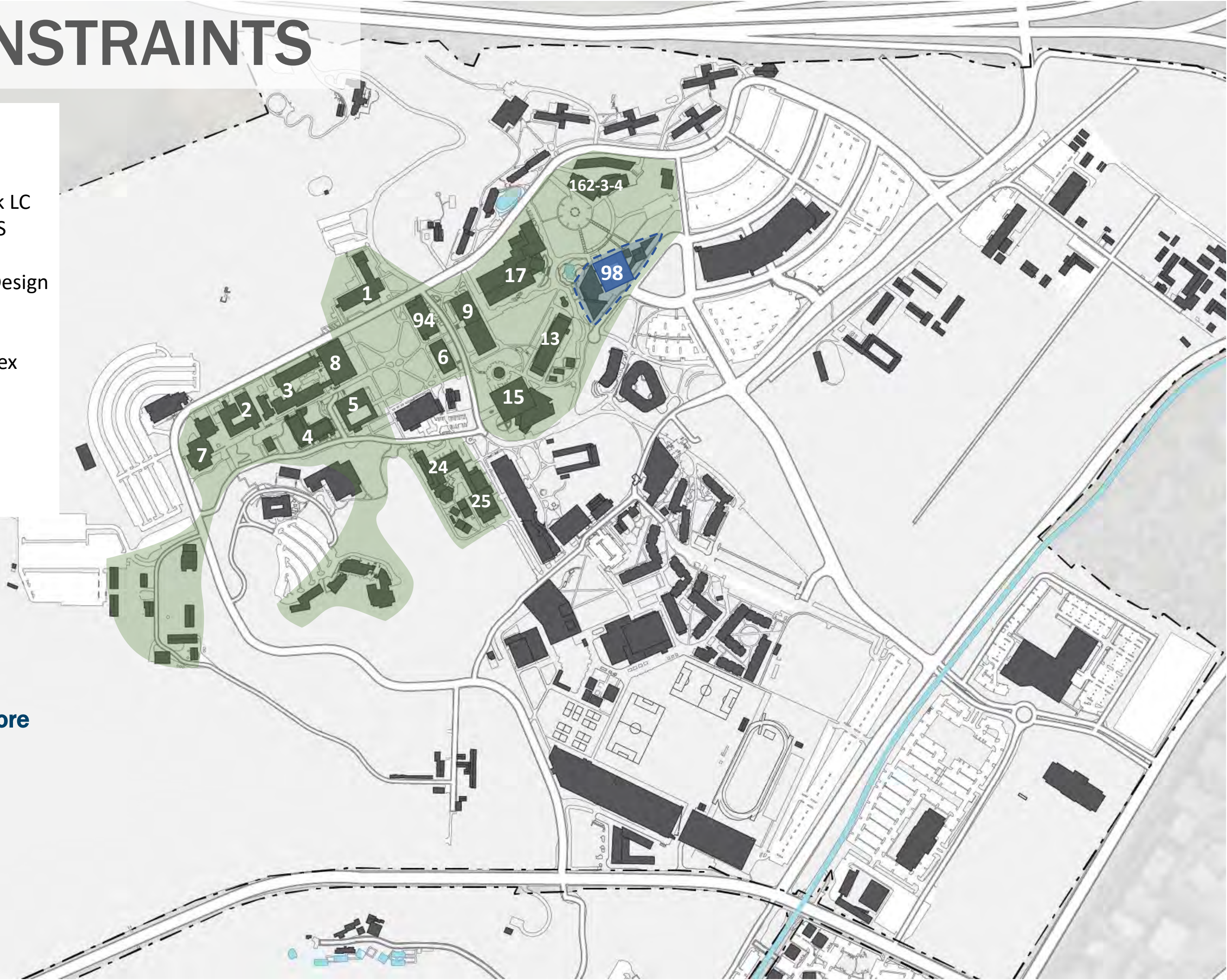
- **Replace with a new building – 125,000 GSF**
 - Option 1: low building (*seismic zone, hard to site, is the cost lower?*)
 - Option 2: taller building (*easier to fit on small sites, is cost higher?*)
- Reinforce-reconstruct existing building

SITE CONSTRAINTS




- 1-Administration
- 2-Coll of Agriculture
- 3-Science Labs
- 4-Biotechnology + Biotrek LC
- 5-Coll of Letters, Arts & SS
- 6-Coll of Education & IA
- 7-Coll of Environmental Design
- 8-Coll of Science
- 9-Coll of Engineering
- 13-Art & Engineering Annex
- 15-Library
- 24-Music
- 25-Theater
- 94 University Office Bldg
- 162-164 Coll of Business

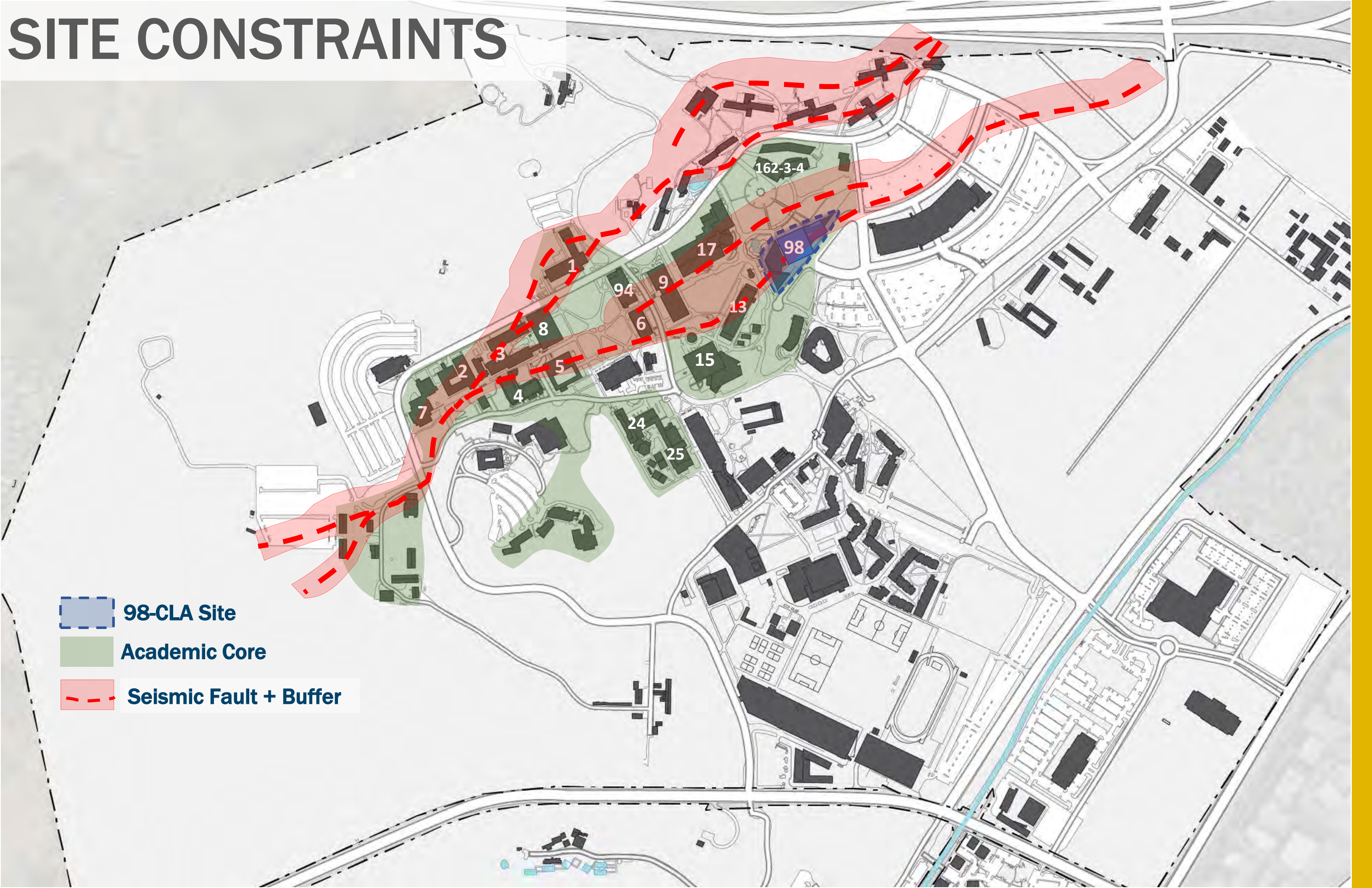
 **98-CLA Site**

 **Academic Core**







SITE CONSTRAINTS

-  98-CLA Site
-  Academic Core
-  Seismic Fault + Buffer



SITE CONSTRAINTS

-  98-CLA Site
-  Academic Core
-  Seismic Fault + Buffer
-  Possible sites for New Academic Buildings?

Rose Garden + too small

University Quad + too small

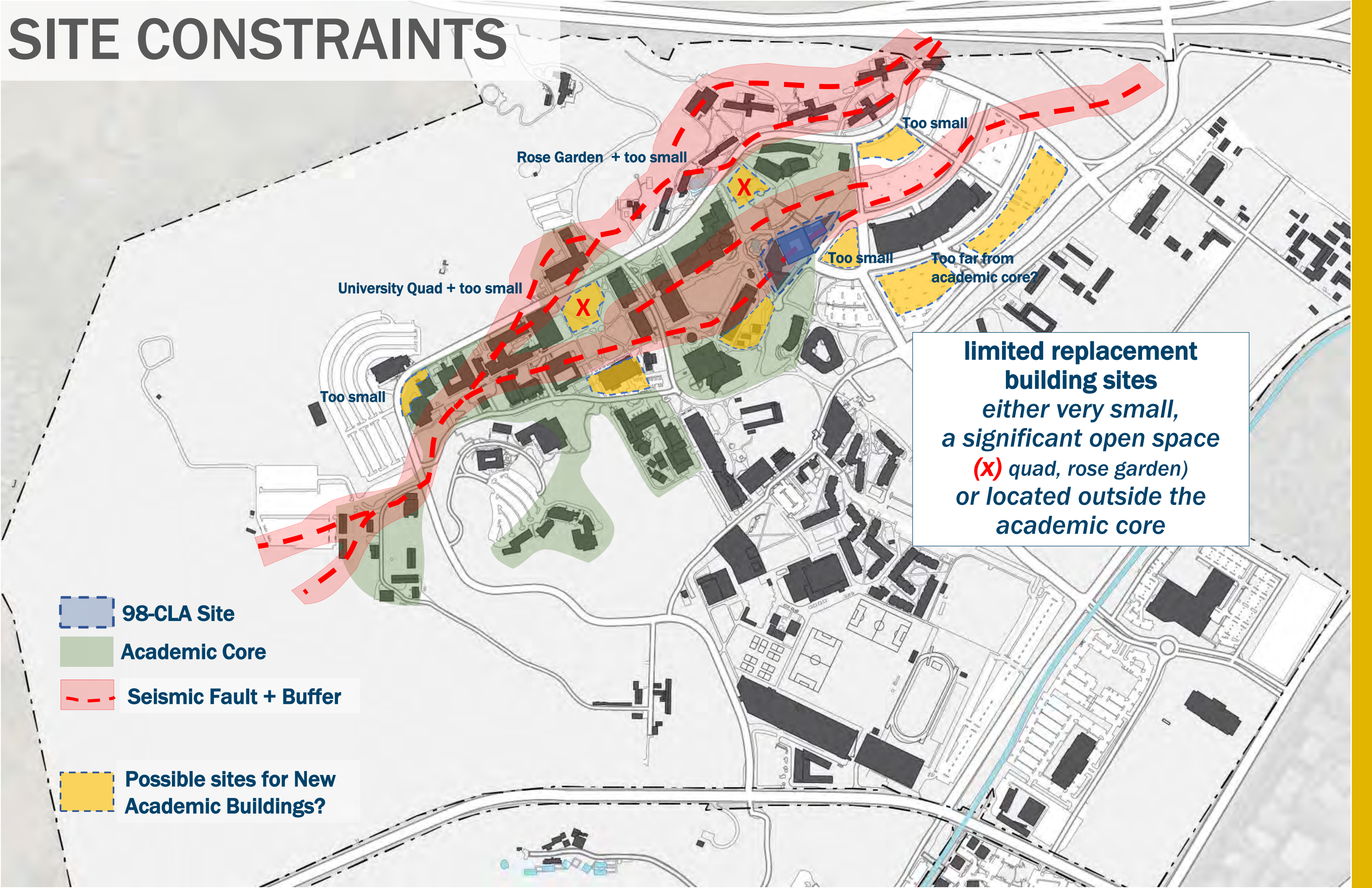
Too small

Too small





Too small

Too far from academic core?

limited replacement building sites
either very small, a significant open space (x) quad, rose garden) or located outside the academic core



SITE CONSTRAINTS

-  98-CLA Site
-  Academic Core
-  Seismic Fault + Buffer
-  Possible sites for New Academic Buildings?

Replacement SITE for 98-CLA
(existing Campus Center site, replacement with space for current uses)

- 1st fl – food/retail w/seating, student social + study space
- 2nd fl – student success space (Career Center, academic resources)
- 3rd-4th-5th fl - Academic HUB w/ active learning classrooms, computer labs, faculty resources, academic dept space

Rose Garden + too small

University Quad + too small

Too small

Too small

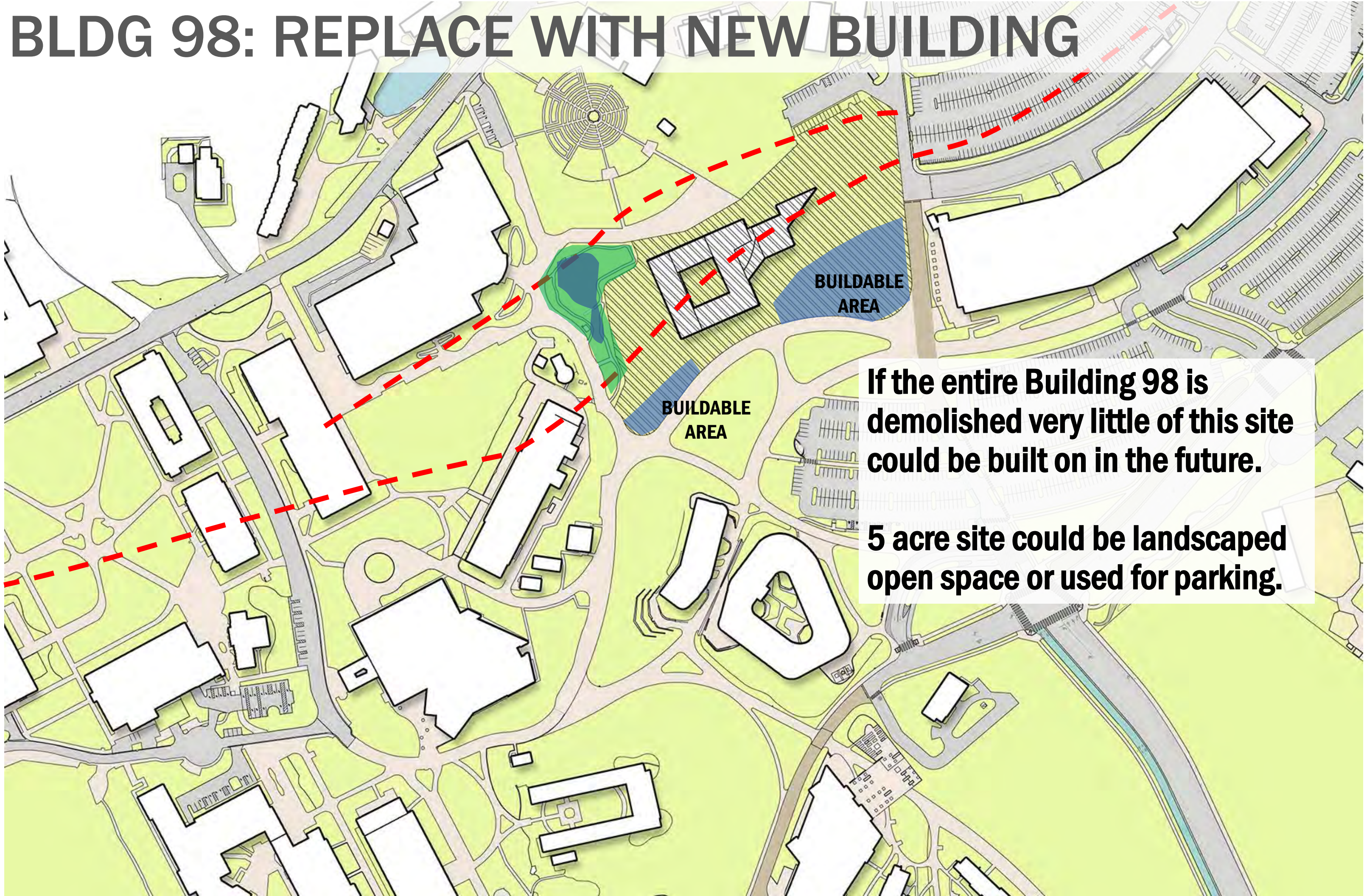
Too far from academic core?

BLDG 98 CLA Strategies + Cost Analysis

Replace with a new building - **125,000 GSF**

- **Option 1:** **2 story building, 50-65,000 GSF footprint** *(no site identified)*
\$105 M Building Project Cost
\$ 16 M Bldg 98 CLA-P Demo/Site Restoration
\$ 121 M Total Project Cost * *larger footprint increases foundation cost*
- **Option 2:** **5 story building, 25-30,000 GSF footprint** *(no site identified)*
\$104.4 M Building Project Cost
\$ 16 M Bldg 98 CLA-P Demo/Site Restoration
\$120.4 M Total Project Cost
- **Option 2a:** **Mixed-Use Academic + Student Center** *(on Campus Center site)*
5 story building – 125,000 GSF Academic, 45,000 GSF Campus Center
\$ 104.4 M Academic Building Project Cost
\$ 16 M Bldg 98 CLA-P Demo/Site Restoration
\$ 120.4 M Total Academic Building Replacement Cost *(State Funded)*

** requires additional \$ 45.84 M for the Campus Center replacement (Non-State Funded) but the need for major renovation or replacement has already been identified by Dining Services*



BLDG 98: REPLACE WITH NEW BUILDING

If the entire Building 98 is demolished very little of this site could be built on in the future.

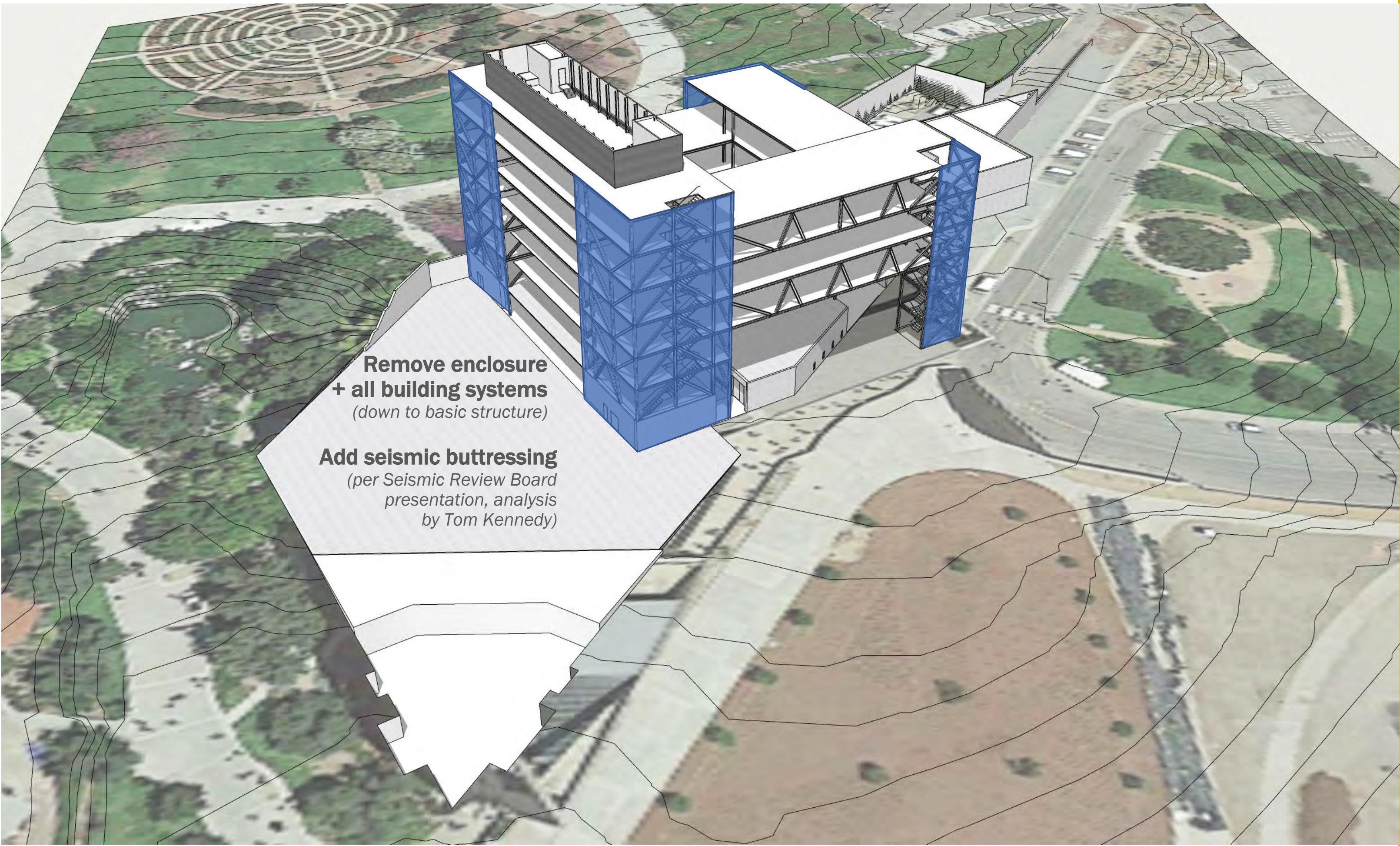
5 acre site could be landscaped open space or used for parking.

BLDG 98 CLA Studies + Cost Analysis

2) What are the options for 98-CLA (P)? What's the cost? Time?

- Replace with a new building – 125,000 GSF
 - Option 1: low building (*seismic zone, lower cost, hard to site*)
 - Option 2: taller building (*easier to fit on small sites, higher cost*)
- **Reinforce-reconstruct existing building**

BLDG 98 CLA: SEISMIC REINFORCING



**Remove enclosure
+ all building systems**
(down to basic structure)

Add seismic buttressing
*(per Seismic Review Board
presentation, analysis
by Tom Kennedy)*

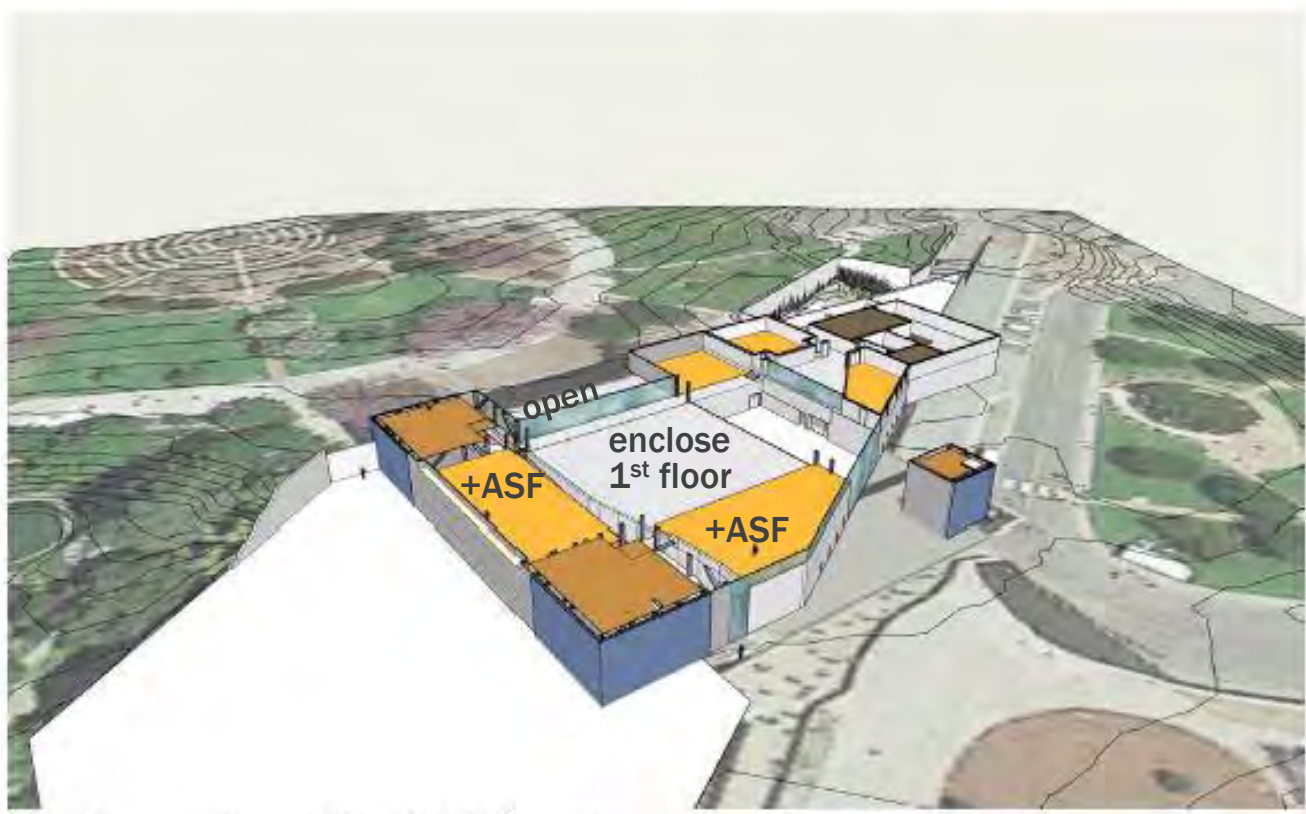
BLDG 98 CLA - REINFORCE-RECONSTRUCT OPTION



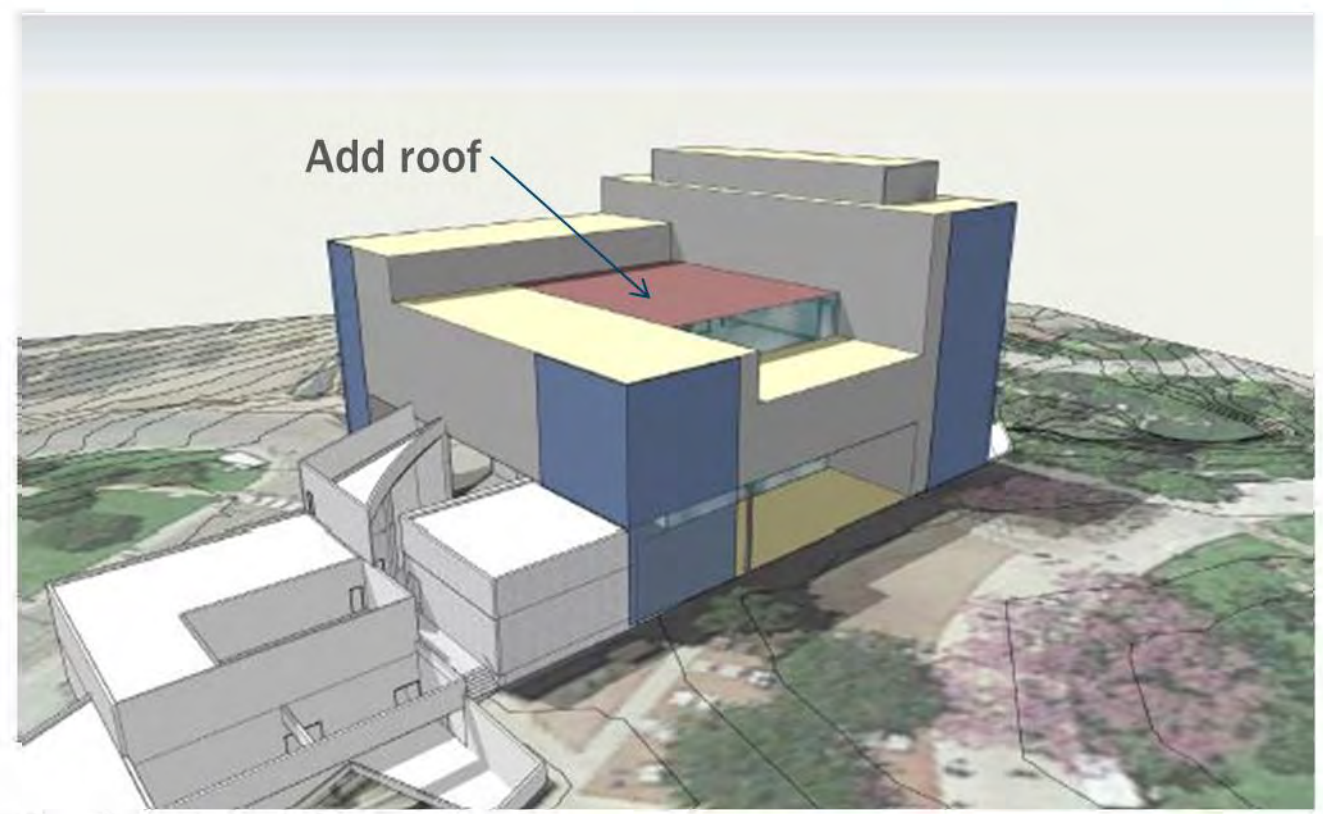
View from Southwest

OPTION 2

- 125,000 GSF Gross Area (110,480 SF existing)
- 61,700 SF ■ New exterior walls/fenestration
- 8,430 SF ■ New exterior walls/fenestration w/ add. Structure
- 23,500 SF ■ Structural shear wall reinforcement
- 19,400 SF ■ Re-roofing
- 9,550 SF ■ New roof with structure
- 5,000 SF ■ Exterior soffit
- 2,800 SF ■ Exterior plaza/courtyard
- 72,000 SF ■ Assignable Area (58,390 SF existing)
- 10-15,000 ASF Level 1 added ASF



View from Southwest - level 2 3D floor plan

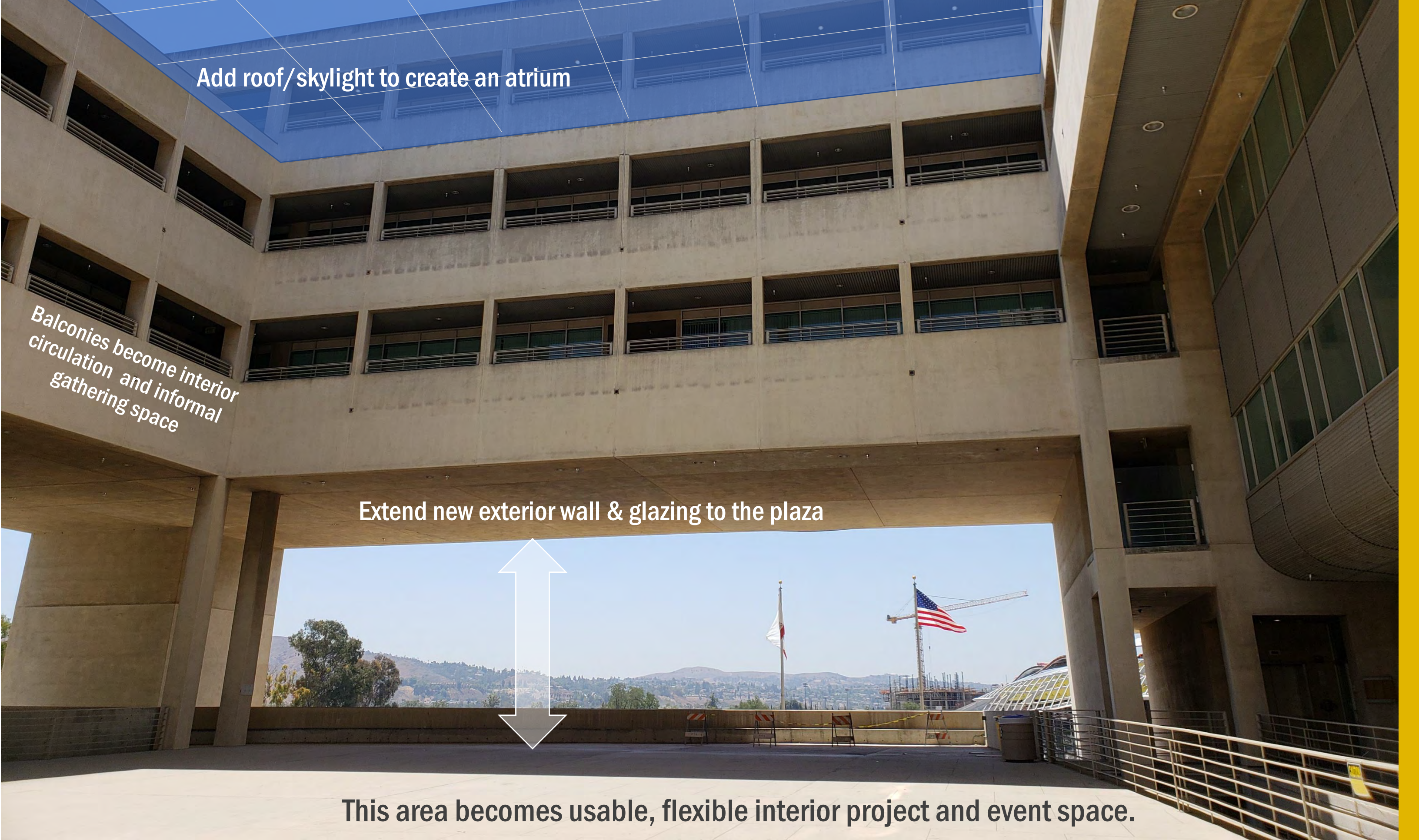


View from Northeast

BLDG 98-CLA: EXISTING PODIUM + COURTYARD



BLDG 98 CLA - REINFORCE-RECONSTRUCT OPTION



Add roof/skylight to create an atrium

Balconies become interior circulation and informal gathering space

Extend new exterior wall & glazing to the plaza

This area becomes usable, flexible interior project and event space.

BLDG 98 CLA - REINFORCE-RECONSTRUCT OPTION

➤ Reinforce + Reconstruct the exist building

➤ Option: roof + enclose the central atrium - *reduce area of exterior envelope*

125,000 GSF 98CLA + 16,300 GSF 98P

\$ 104.5 M Total Project Cost*

** plus cost of any temporary facilities or relocations*

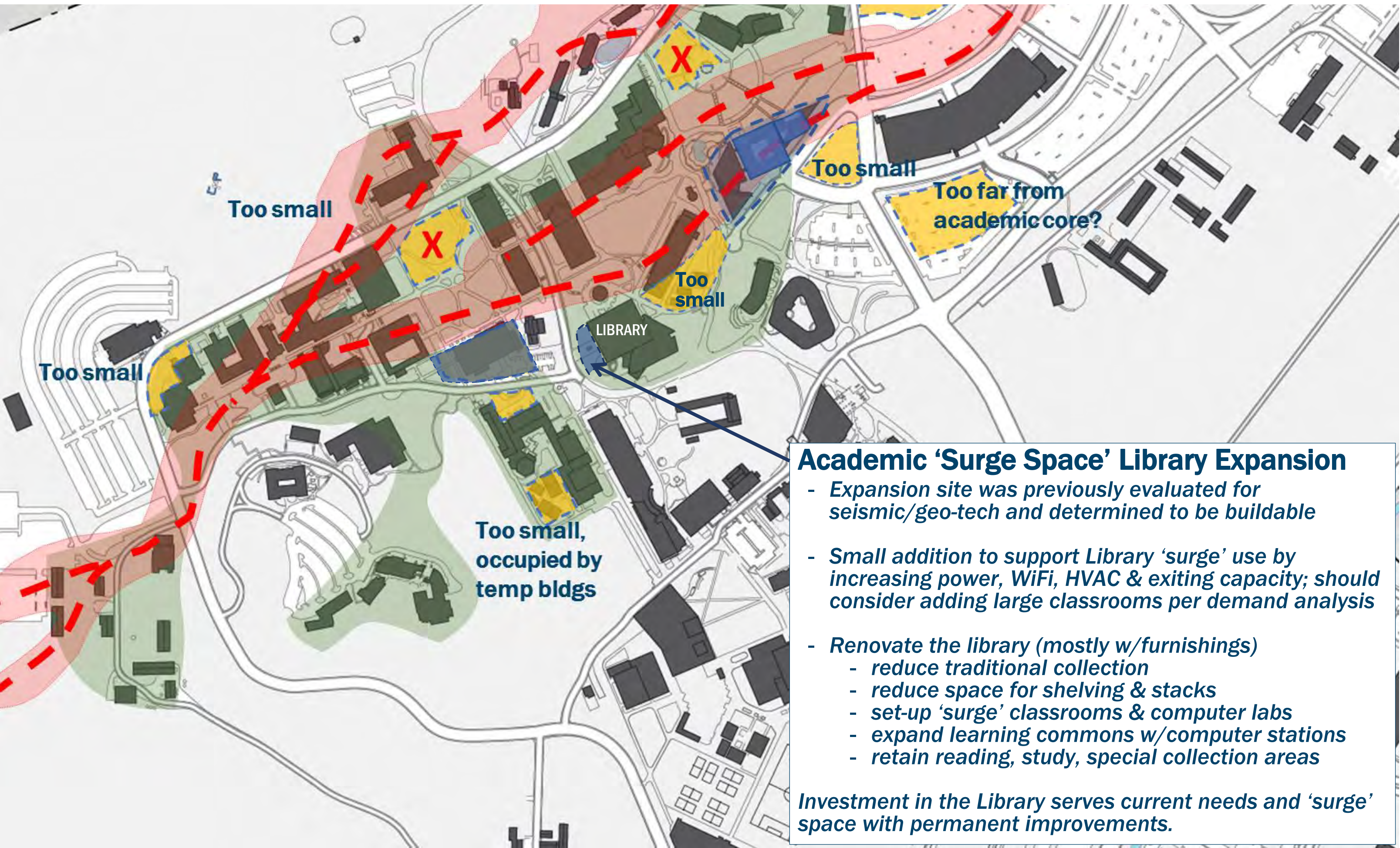
➤ Relocation Requirements:

- 1,300 asf + dock area – mail & receiving
- 40,000 asf - IT mostly offices
- 3,300 asf - 3 video/AV studios
- Instructional Space:
 - 5,330 asf – 7 lecture classrooms (327 seats)
 - 10,400 asf - 8 computer labs (total 309)
 - 3,200 asf – 4 computer Self-Inst labs incl Math Emporium, I-lab (103 seats)
- 4,000 asf – CBA, 2 CSEU faculty offices - mostly vacant, provide shared/temp assignments if needed

Potential Strategy:

- consolidate central receiving in FM area
- lease/purchase office surge space near campus
- relocate with IT or include in Library expansion
- 18,930 ASF in Library Reno/Expansion

BLDG 98 CLA: SURGE SPACE STRATEGY



Too small

Too small

Too small

Too far from academic core?

Too small

LIBRARY

Too small, occupied by temp bldgs

Academic 'Surge Space' Library Expansion

- Expansion site was previously evaluated for seismic/geo-tech and determined to be buildable
- Small addition to support Library 'surge' use by increasing power, WiFi, HVAC & exiting capacity; should consider adding large classrooms per demand analysis
- Renovate the library (mostly w/furnishings)
 - reduce traditional collection
 - reduce space for shelving & stacks
 - set-up 'surge' classrooms & computer labs
 - expand learning commons w/computer stations
 - retain reading, study, special collection areas

Investment in the Library serves current needs and 'surge' space with permanent improvements.

BLDG 98 CLA OPTIONS COST COMPARED

➤ New building

5 yrs until 98-CLA/P is vacated, 6 yrs to completion

➤ Option: 2 story, 125,000 GSF
\$121 M Total Project Cost

➤ Option: 5 story, 125,000 GSF
\$120.4 M Total Project Cost

➤ Option 2a: Mixed-Use Academic-Student Center
125,000 GSF Academic
\$120.4 M Total Cost *

**(not including 45,000 gsf Campus Ctr (Non-State Funded))*

➤ Reinforce-reconstruct exist bldg.

+4 yrs until 98-CLA/P is completed + reoccupied

➤ Option: 126,000 GSF
\$104.5 M Total Project Cost*

Conclusion: Reuse option:

- retains use of a central academic facility
- is more sustainable
 - *retains embodied carbon*
 - *can achieve LEED equal to a new facility*
- is lower cost than replacement
- does not req new 'temporary' facilities
- relocation strategies create long term benefit:
 - *Library expansion - est \$13.3 m*
 - *Library renovation - est \$3-12 m phased*

BLDG 98 Studies + Cost Analysis

3) Can a Case be made for 98-CLA transformation?

- *Case Studies of similar Transformations (ASG projects)*
- *Precedents and Architectural Concepts for 98-CLA*
- *Vision -- programmatic options for new uses*

Yes!

BLDG 98 CLA

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Renovation Transformations - ASG Case Studies



**Bryan Hall – Engineering (BEFORE)
Washington University St. Louis**



Bryan Hall – Engineering (AFTER)
Washington University St. Louis



Zachry Engineering Education Complex (BEFORE)
Texas A&M University



Zachry Engineering Education Complex (AFTER)
Texas A&M University



Zachry Engineering Education Complex (BEFORE)
Texas A&M University



Zachry Engineering Education Complex (AFTER)
Texas A&M University



Engineering-quad (BEFORE)
Texas A&M University



Engineering-quad (AFTER)
Texas A&M University

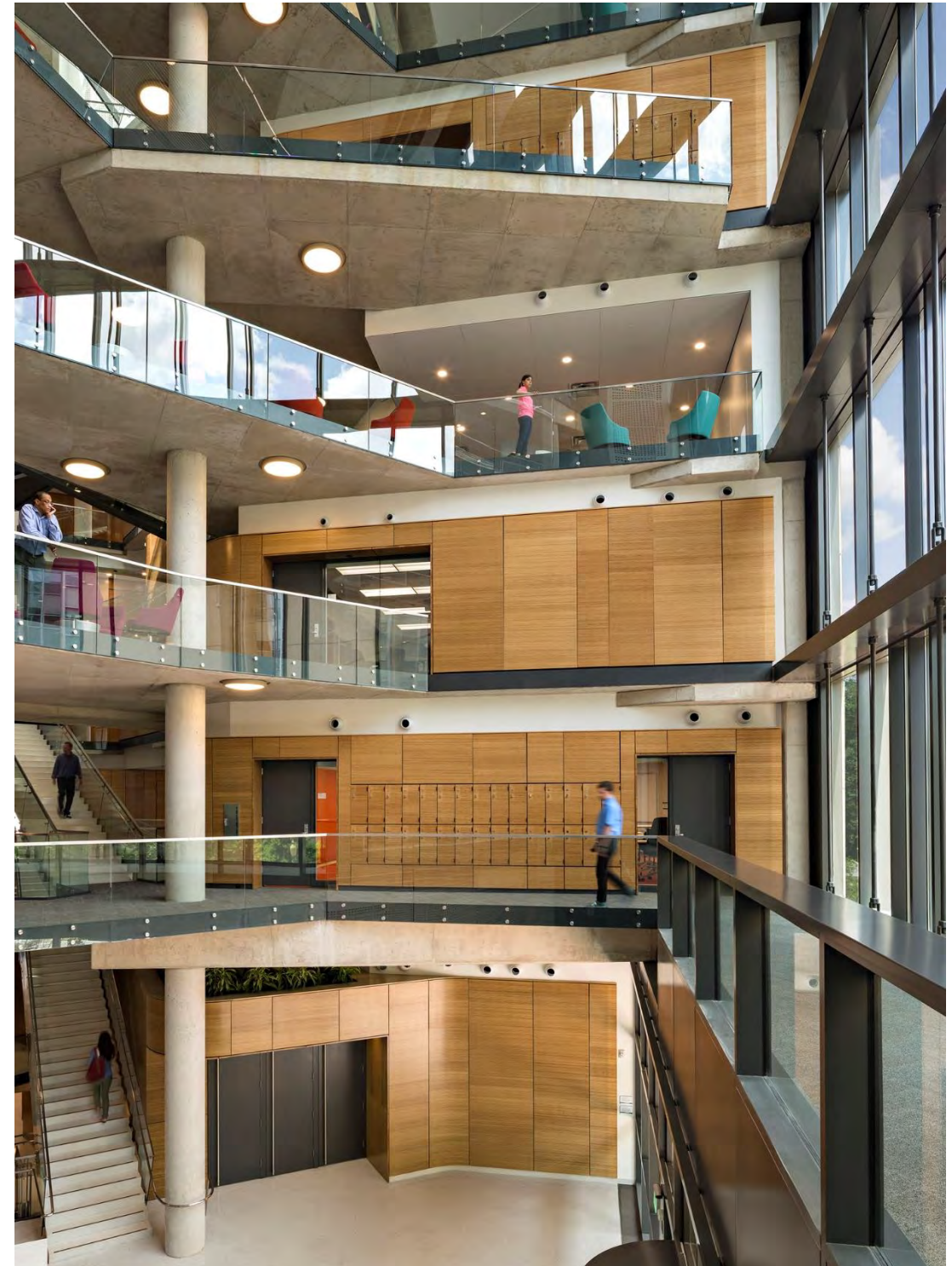
BLDG 98 CLA

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Transformation Concepts

TRANSFORM EXISTING PODIUM TO NEW ATRIUM



PRECEDENTS – ATRIUM SPACES



TRANSFORM EXTERIOR ENCLOSURE



PRECEDENT – EXTERIOR ENCLOSURE



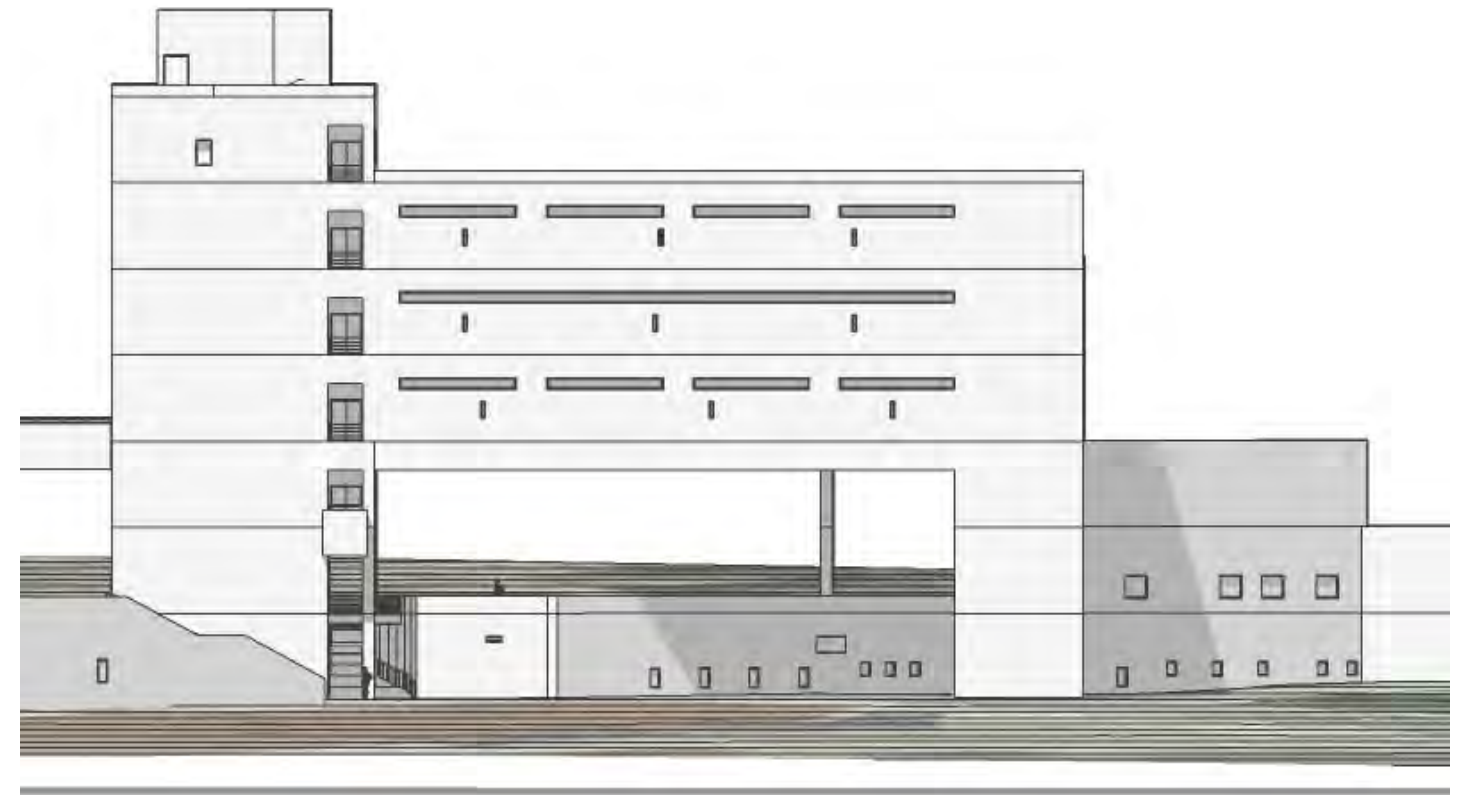
PRECEDENT – EXTERIOR ENCLOSURE



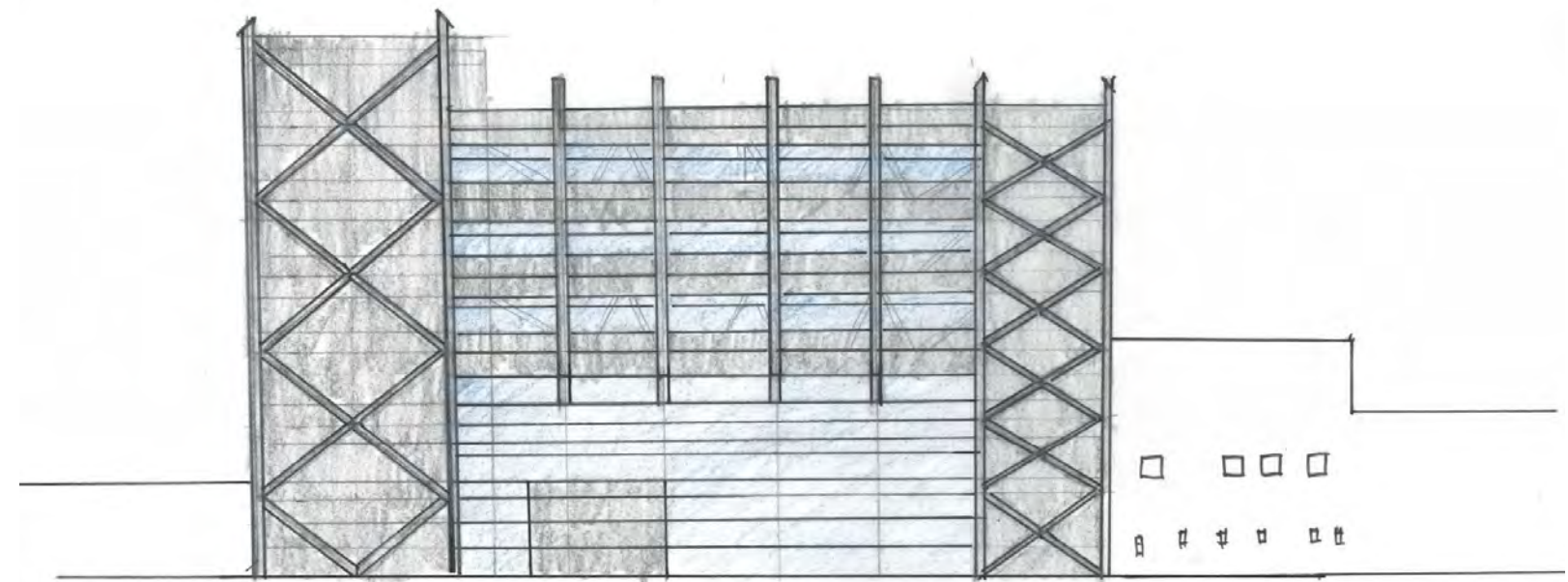
PRECEDENT – EXTERIOR ENCLOSURE



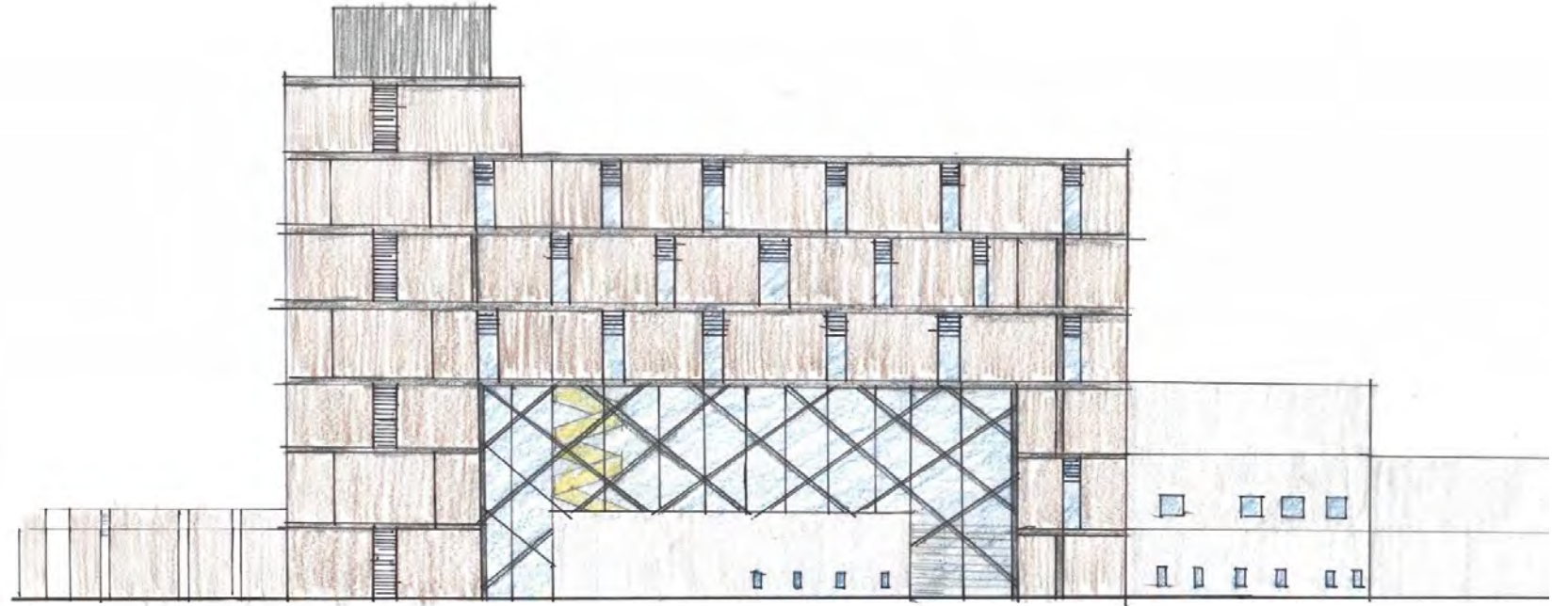
TRANSFORM STUDIES: EXISTING FACADE



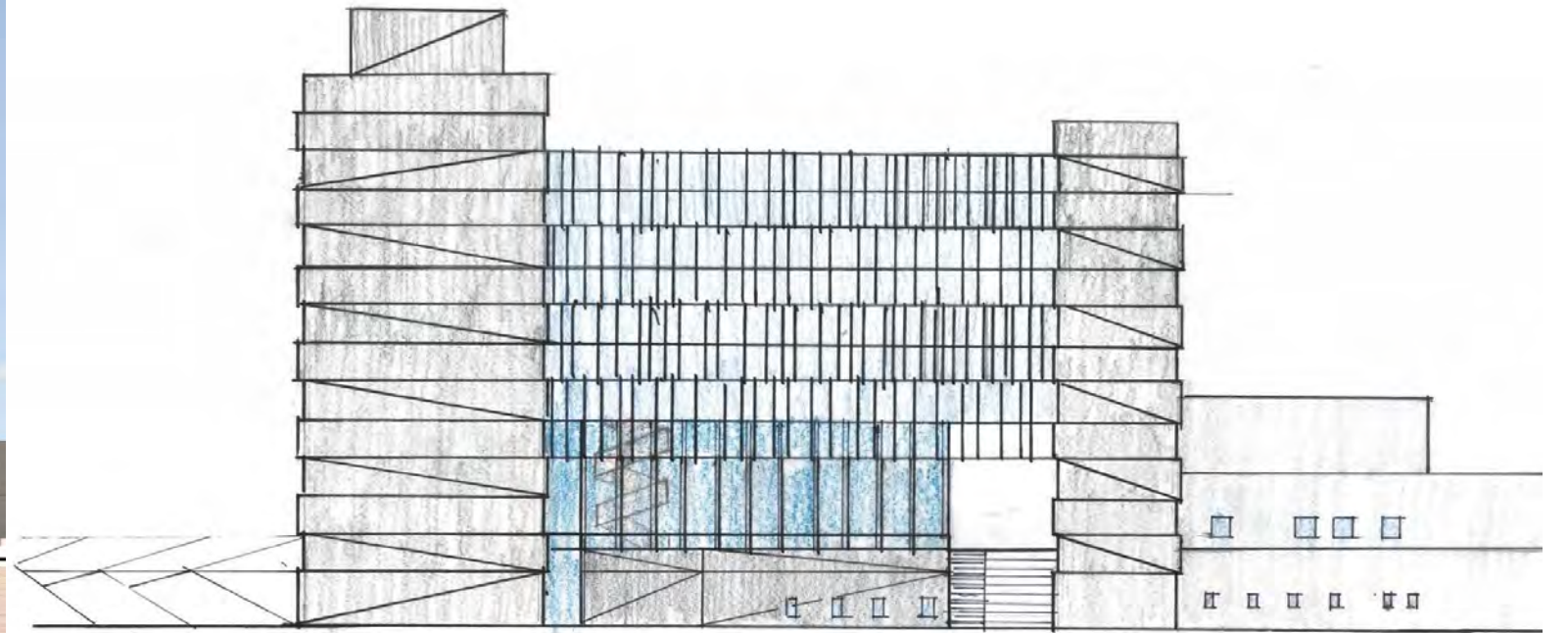
TRANSFORM STUDIES: FACADE CONCEPTS



TRANSFORM STUDIES: FACADE CONCEPTS



TRANSFORM STUDIES: FACADE CONCEPTS



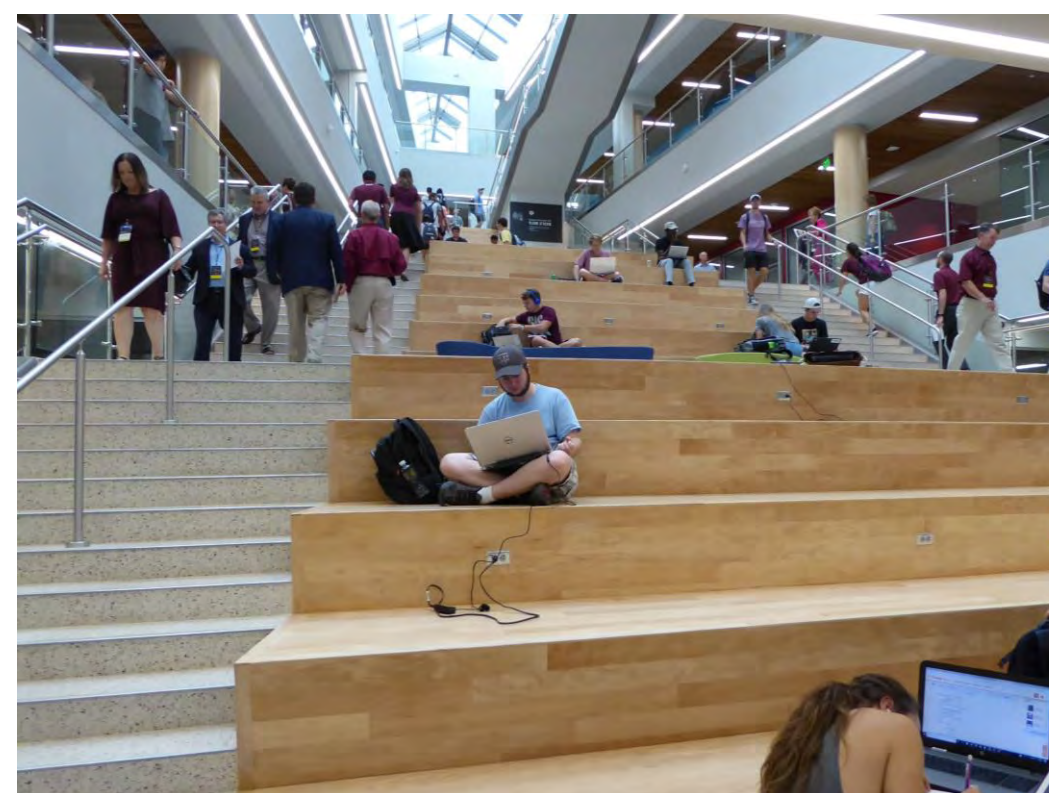
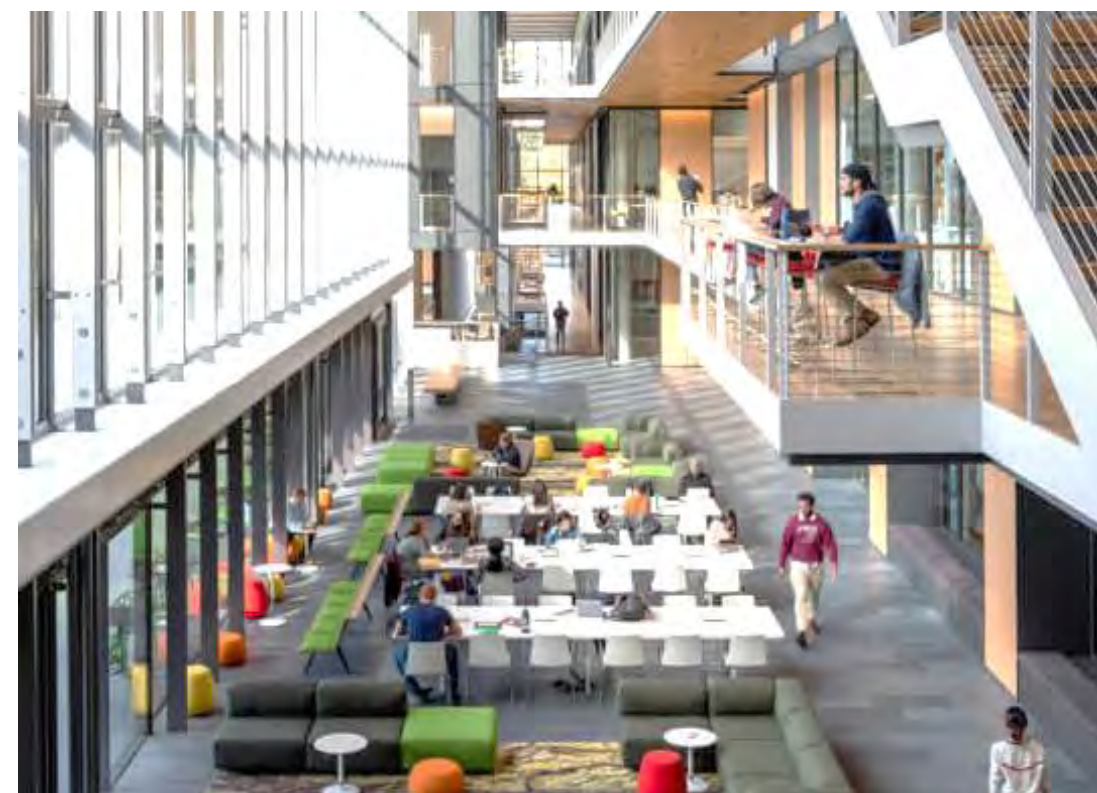
BLDG 98 CLA Studies + Analysis

Academic Transformation – programmatic use options

- *Academic interdisciplinary space to support ‘learning-by-doing’ mission*
- *Strategic program relocations to facilitate phased renovations (Coll Env Des, Coll Eng)*
- *Surge space for total building renovations *(Coll LASS, Coll EDIA, Coll Science)*

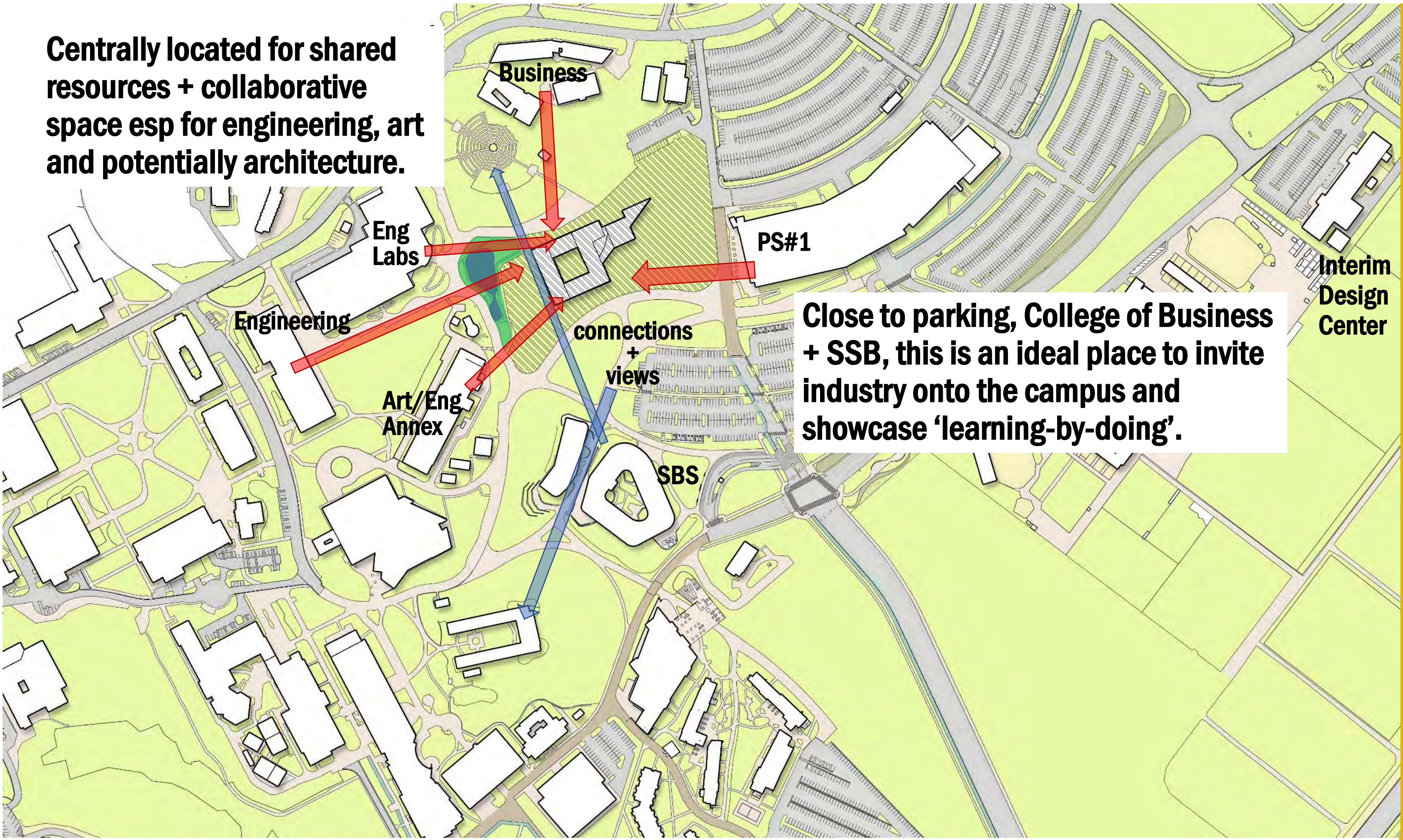
TRANSFORMATION - USES + PROGRAMS

- Model new space types (maker-spaces) + standards for ‘learning-by-doing’
- Classrooms, studios, labs should be set-up + scheduled for project-based instruction
- Programs could include architecture, art, industrial design, engineering (*undergraduate, graduate*)
- Include group project-study space w/various sizes of rooms, studios as well as informal work areas
- Include instructional ‘sandbox’ for faculty development of ‘best practices’ (*new apps, tech/AV, studios*)
- Consider options for flex space for project-based research space
- Model new approach to faculty work space that’s flexible, integrated, collaborative (+ *sim to industry*)
- Main floor could include flex space for:
 - *reviews/juries, for student group presentation*
 - *showcasing student and faculty work*
 - *hosting ‘industry + university’ partnering events*
 - *hosting ‘industry + university’ partnering events*



BLDG 98-CLA STUDIES


Centrally located for shared resources + collaborative space esp for engineering, art and potentially architecture.



Close to parking, College of Business + SSB, this is an ideal place to invite industry onto the campus and showcase 'learning-by-doing'.

CIP-BLDG 98 Study Summary

- Replacement + total Bldg. 98 demolition results in a large site with limited usability in the heart of the campus
- Timeline to complete and to occupy the building is the roughly the same for both options, but New Replacement adds 1yr for CLA demolition + site restoration
- Cost of the **Reinforce-Repurpose-Renovate** option is **LESS** than **New Replacement** option
- Bldg 98 CLA uses can be relocated without new 'temporary facilities'
 - 40,000 asf for offices, mostly IT (*bldg for lease/purchase identified adjacent to campus*)
 - 18,330 asf classrooms + labs (*in proposed Library expansion/renovation*)
- Transformation could bring industry partners onto campus with shared project + maker spaces
- **Reinforce-Repurpose-Renovate** option retains the structure (*with significant embodied carbon*) in a much more sustainable approach



**Transforming 98CLA
has the power to
transform the character
of the campus.**