

THE CASE FOR HIGH-RISE  
RENO VS. DEMO

# Taking Housing Renovation to New Heights

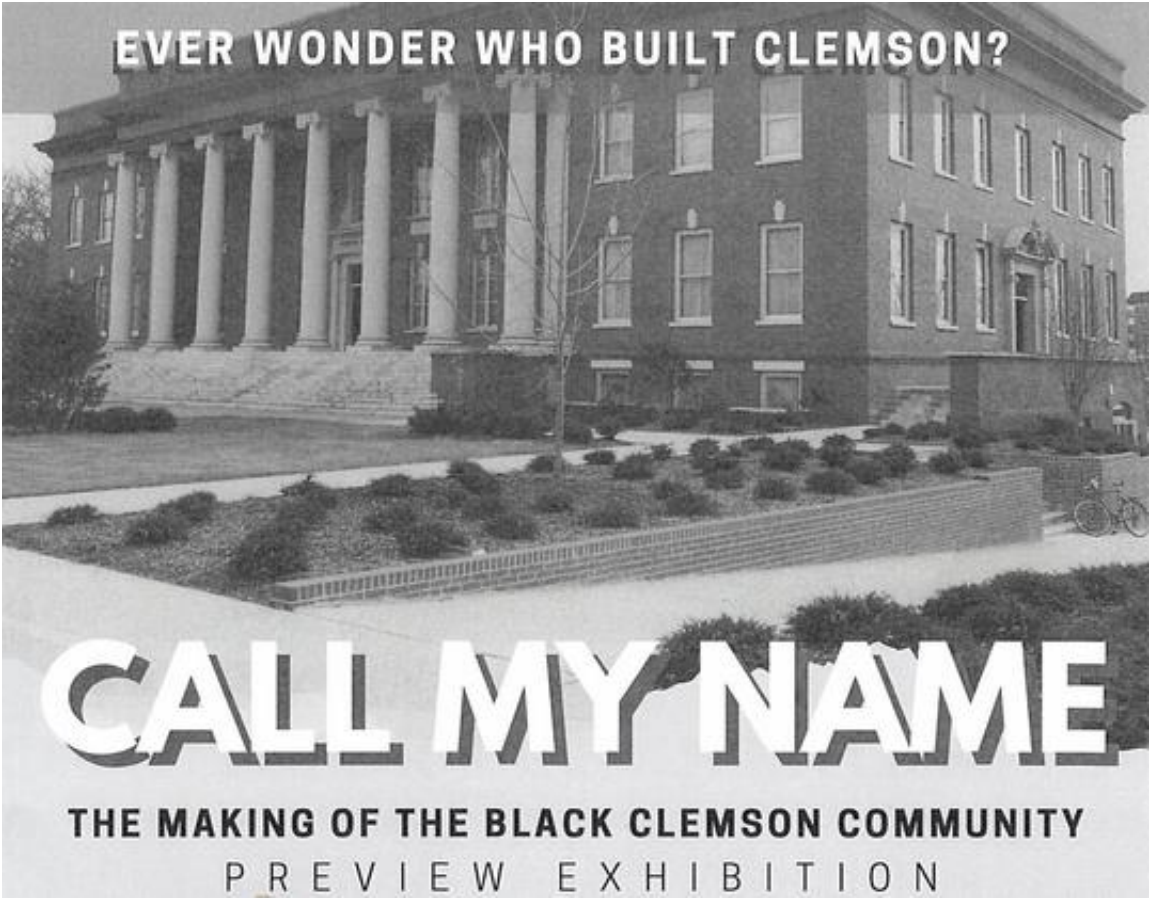
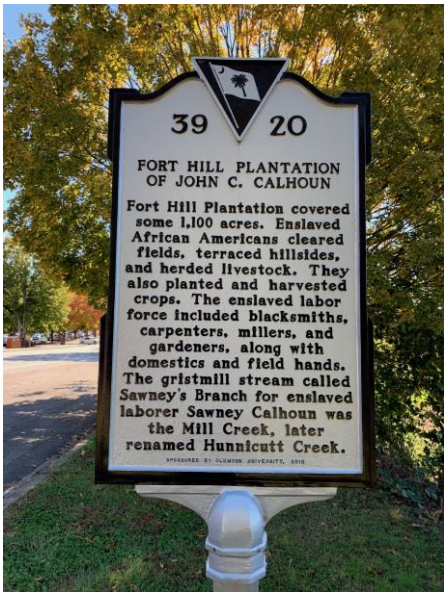
PRESENTED BY:

CLEMSON  *home*

BOUDREAUX + LITTLE  
DIVERSIFIED ARCHITECTURAL CONSULTING



# Labor Acknowledgement



*Call My Name is a research project dedicated to telling the stories of Black men, women, and children throughout Clemson University's history whose lives and experiences have been largely overlooked in the University's public history.*

# Presenters

CLEMSON  
*home*



**Kathy Hobgood**  
Associate VP  
Auxiliary Enterprises

CLEMSON  
*home*



**Donnie Lloyd**  
Director of Operations and  
Planning

LITTLE<sup>®</sup>  
DIVERSIFIED ARCHITECTURAL CONSULTING



**Sydney Kerschen, NCIDQ,**  
RID-NC  
Community Designer

BOUDREAUX



**Heather Mitchell, AIA,**  
LEED AP  
President | Architect

BOUDREAUX



**Justin Abrams, AIA**  
Architect

**Clemson University  
Clemson, SC**



**Founded 1889  
Land Grant Mission**

**22,877  
Undergraduate  
Students**



**5,900  
Graduate  
Students**

**27 Residence Halls  
On Campus**



**4 Apartment  
Communities**

**3 Dining  
Halls**



**24 Retail  
Locations**

**7,883  
Beds**







**POLL:**

**Who here has the oldest  
high-rise?**

Byrnes Hall

1970

Lever Hall

1968

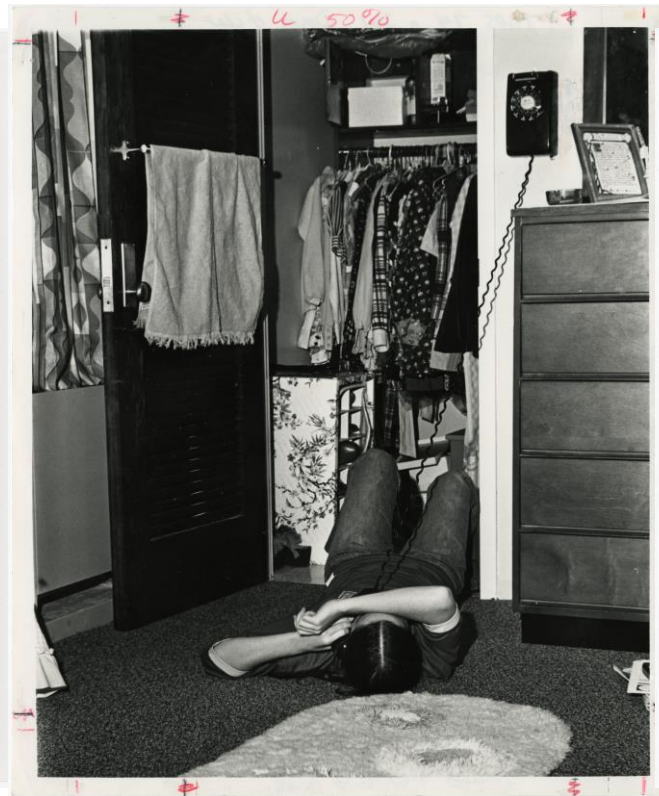
Manning Hall

1967

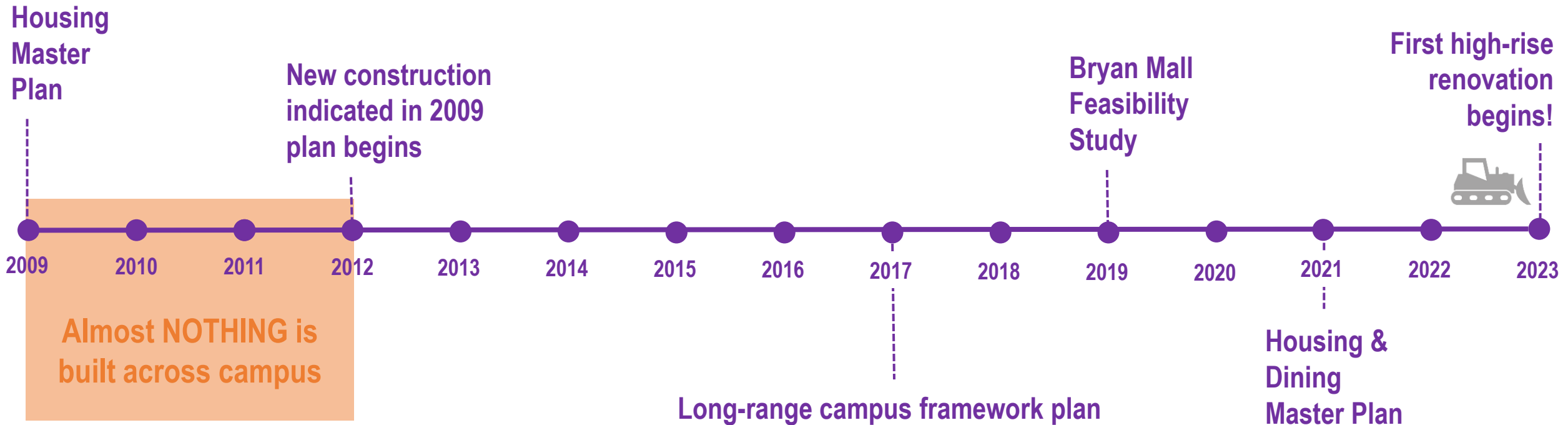








# Housing Master Plan Phases



# Key decisions in the renovate vs remodel debate

## COST

- Demolition
- Cost – New Construction
- Cost – Renovation projects

## BIGGER PICTURE

- Overall inventory balance
- Rent rates and cost of attendance
- Sustainability metrics



# Low-rise decision

## RENOVATION

114,000 SF

\$17,394,092

(2021 Dollars)



## DEMO & NEW CONSTRUCTION

112,693 SF

\$35,949,049

(2021 Dollars)

# High-rise Decision

## RENOVATION

**\$96 million**

(Cost Estimate Pre-Covid)



## DEMO & NEW CONSTRUCTION

**\$7.1 million**

(Demo Only)

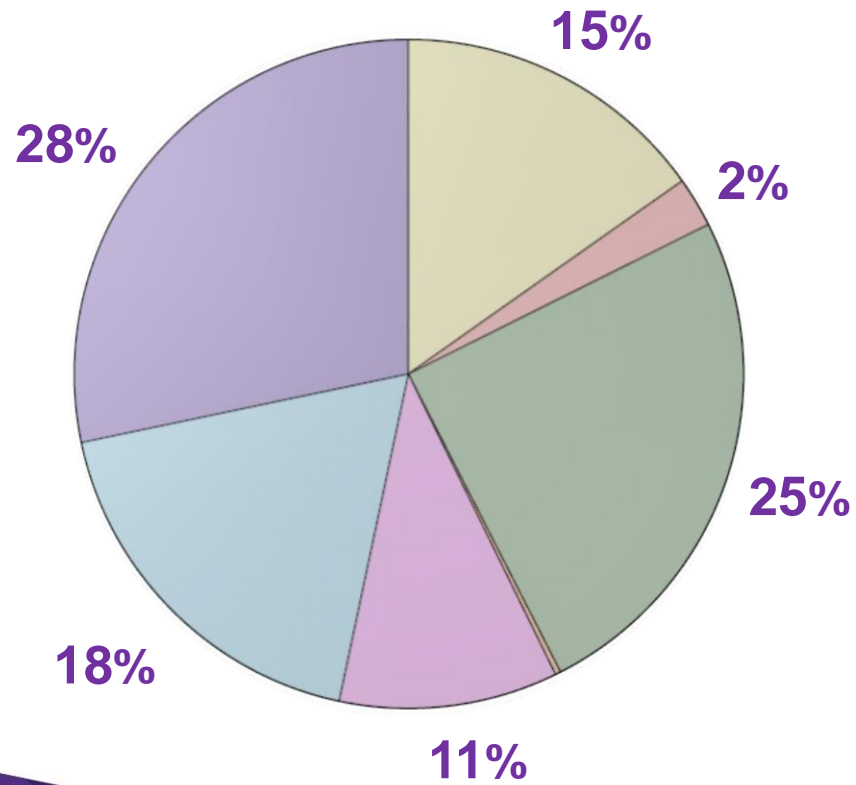
**\$225 million**

(New Construction)

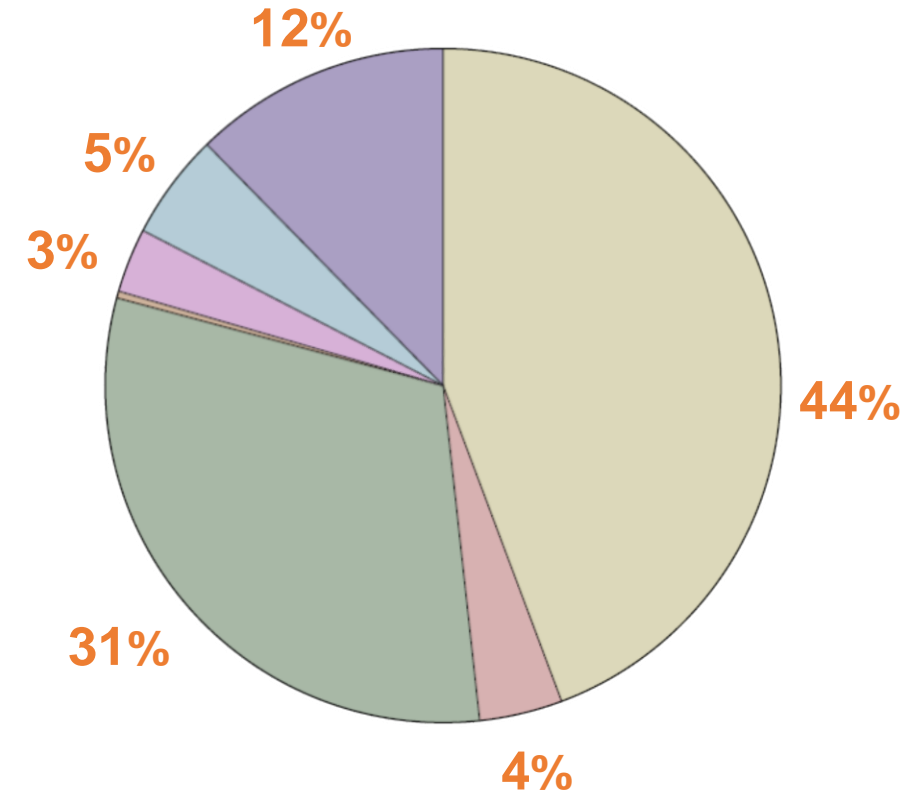
# High-rise Decision

## Embodied Carbon Impact

### RENOVATION



### NEW CONSTRUCTION



#### Divisions

- 03 - Concrete
- 04 - Masonry
- 05 - Metals
- 06 - Wood/Plastics/Composites
- 07 - Thermal and Moisture Protection
- 08 - Openings and Glazing
- 09 - Finishes

# High-rise Decision

Embodied Carbon Impact

72% EMBODIED CARBON REDUCTION

2082

Metric Tons of  
CO2

5,337,309

Miles Driven  
Annually

262

Homes

2483

Acres

372450

Mature Trees



BEFORE



AFTER





BEFORE



AFTER



UNIVERSITY OF  
**GEORGIA**



**Brumby Hall**  
Renovated 2020



**Russell Hall**  
Renovated 2018

**Creswell Hall**  
Feasibility study 2020



**+ Oglethorpe Hall**  
Feasibility study 2021



BEFORE



AFTER



BEFORE



AFTER



BEFORE



AFTER



BEFORE



THE OHIO STATE UNIVERSITY



AFTER



BEFORE



AFTER



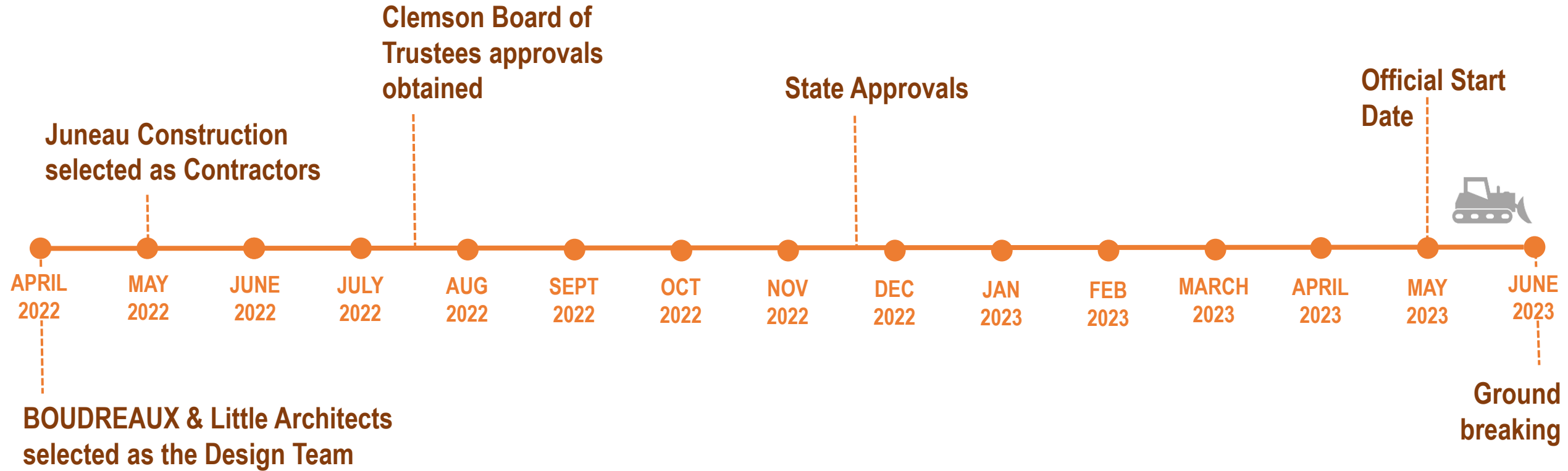


**POLL:**

**Who has the highest  
high-rise?**



# Planning Thus Far



# Early Visioning



# Early Visioning



# Early Visioning



# Visioning Sessions

## MUST HAVES (ALL INF./UTILITIES)

- REFER TO LIST
- ELECT.
- ENHANCE TECH — FOR STREAMING / TELECONFERENCE GAMING
- NEW WAYS BEING ADDED NOW
- NEED TO LOOK AT ALL STAFF APTS (LEVER)
  - DOESN'T HAVE TO BE ON 1ST FLOOR
- ✓ BATHROOMS
- STUDY ROOMS
- MORE PACKAGE LOCKERS UNDER COVER
- IMP. OF LIGHT QUALITY/EFFIC.
- WATER FILLING ST.
- EXT. LIGHTING
- IMPROVE BIKE STORAGE
- ATMS GO AWAY / MOVE ??
- ELEVATORS - TBD THYSEN CORP



## WOULD BE NICE

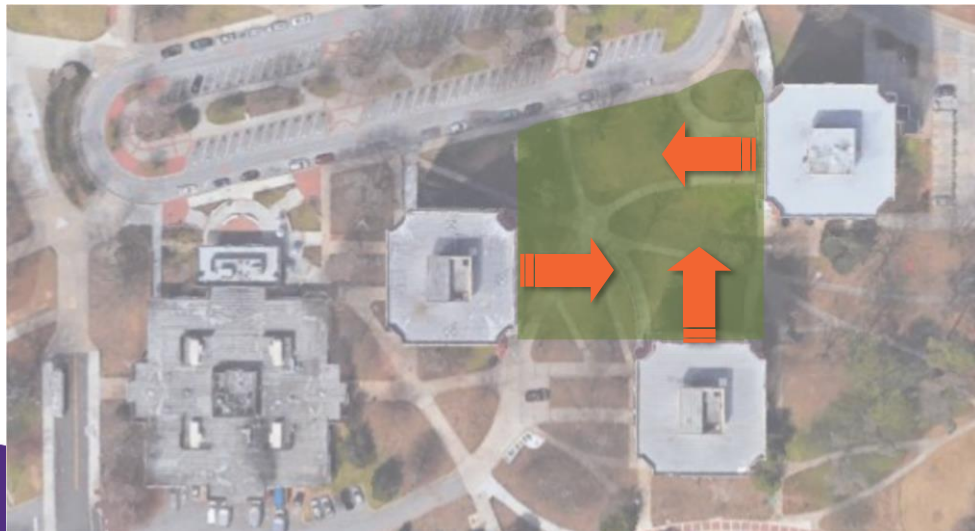
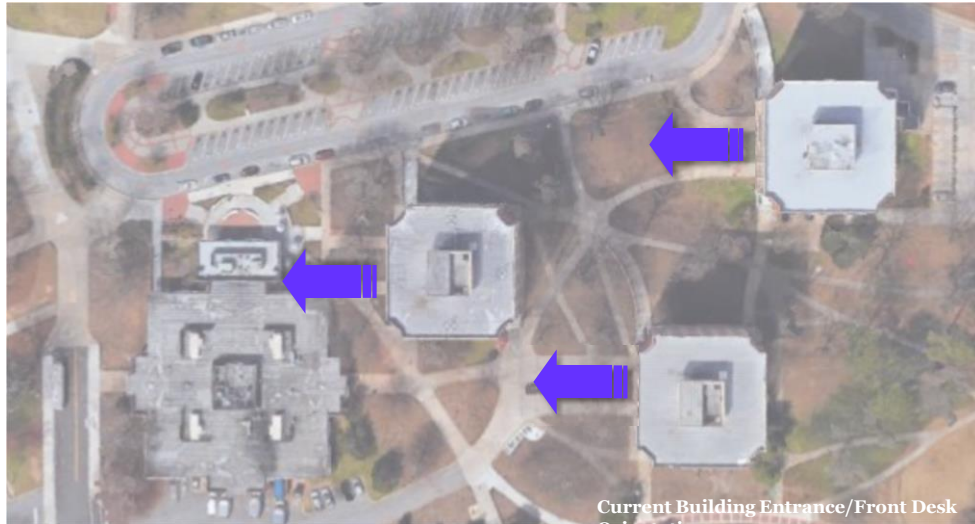
- ALL BEDROOMS ADA COMPLAINT (UNLESS REQUIRED)
- EXIT SIGNS THAT CAN'T BE DAMAGED
- SEE NOTES, CONDUIT BUILT IN FOR FUTURE CARD READER INFRAST
- LOBBIES FACING QUAD
- 1 GEN./BUDS
- SPACE FOR WHOLE FLOOR TO COME TOGETHER
- EXTERIOR FACADE

## WOULD LOVE IT, BUT... DREAMWORLD

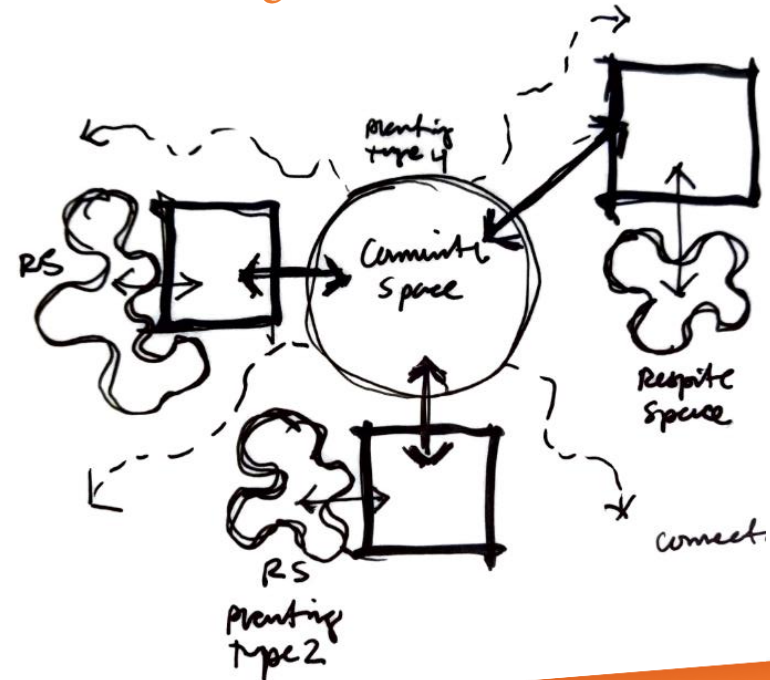
- HAMMOCKS
- SEE NOTES - OUTDOOR FURN
- TRANK GOING TO MAULDIN > maybe go to Manning 200¢  
ELEC. PAY BOX
- EXT. LOUNGE

1. All entrances from central quad
2. Expand building area into patio areas
3. More natural light
4. Variety of adaptable & flexible spaces
5. Stronger indoor/outdoor connection

# Visioning Sessions



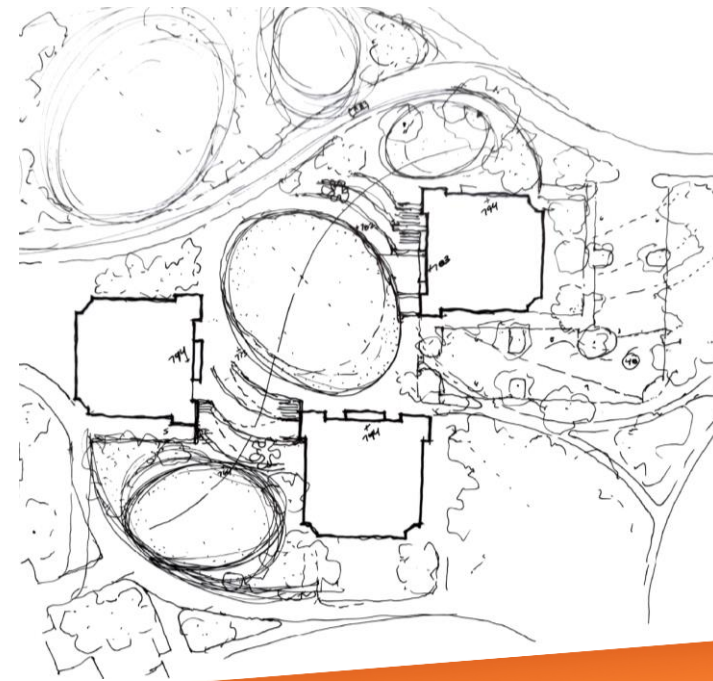
1. All entrances from central quad
2. Expand building area into patio areas
3. More natural light
4. Variety of adaptable & flexible spaces
5. Stronger indoor/outdoor connection



# Visioning Sessions



1. All entrances from central quad
2. Expand building area into patio areas
3. More natural light
4. Variety of adaptable & flexible spaces
5. Stronger indoor/outdoor connection





**POLL:**  
**Who lived in a high-rise?**





# Existing Building Analysis

## Residence Rooms

2-bed units arranged in quads

## Restrooms

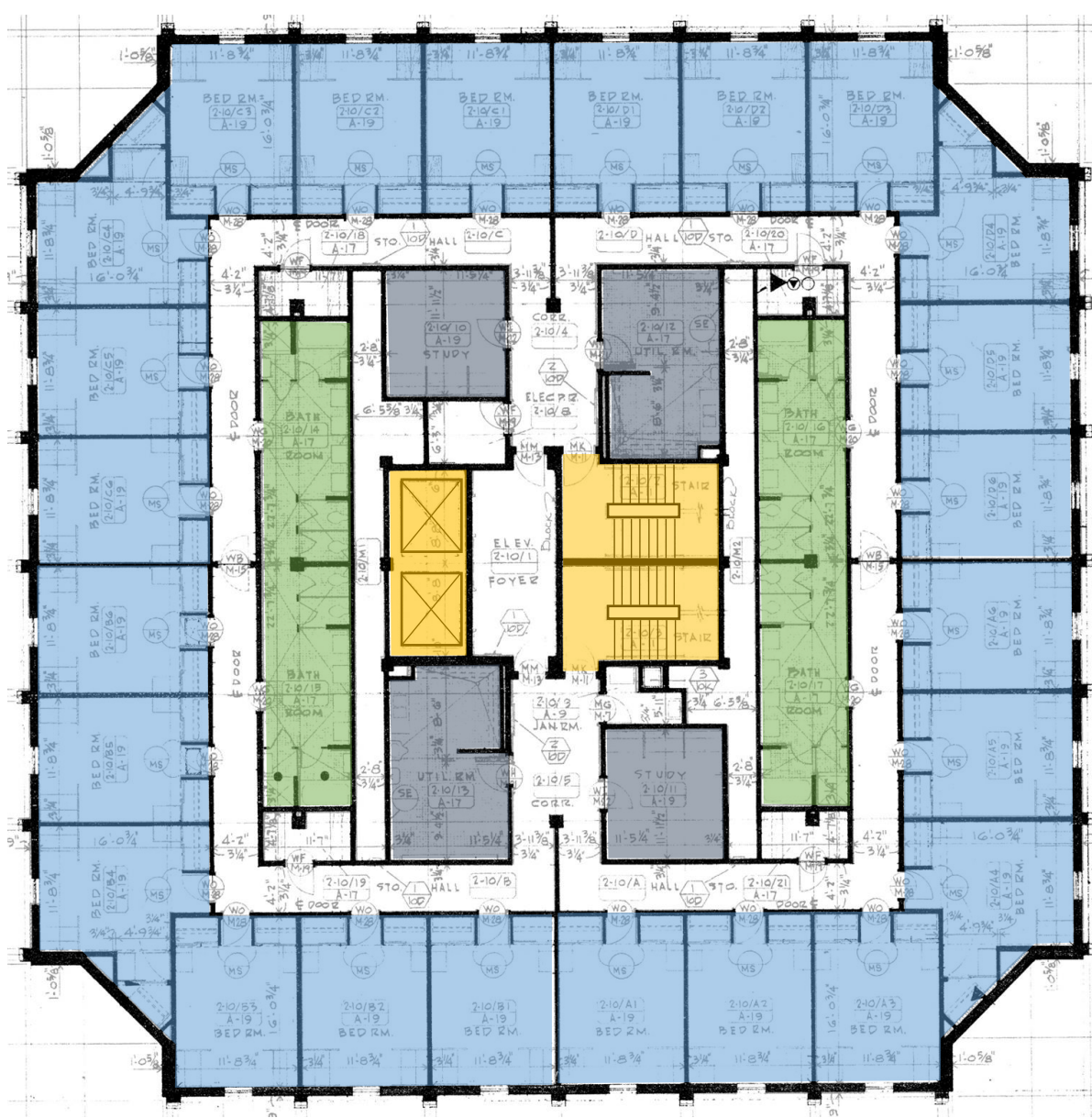
dated hall restrooms with shower and toilet stalls

## Study / Utility Rooms

taken over for overflow or storage

## Core

## Service / Circulation



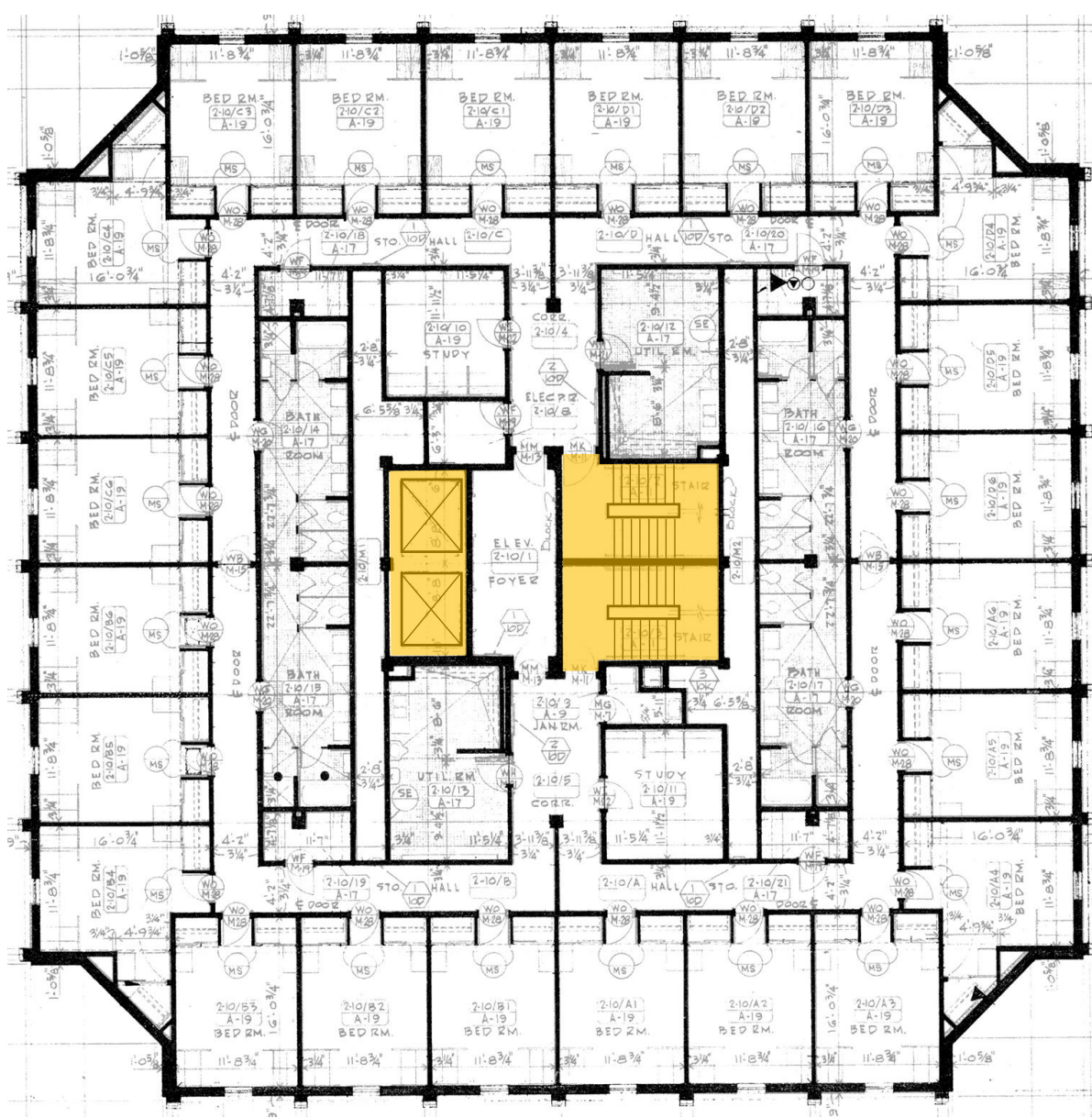
# Life Safety Upgrade Opportunities

## Stairs

- Too close together and too steep without proper guardrails

## Elevators

- Can't accommodate stretcher



# Accessibility Upgrade Opportunities

## Unit Entrances

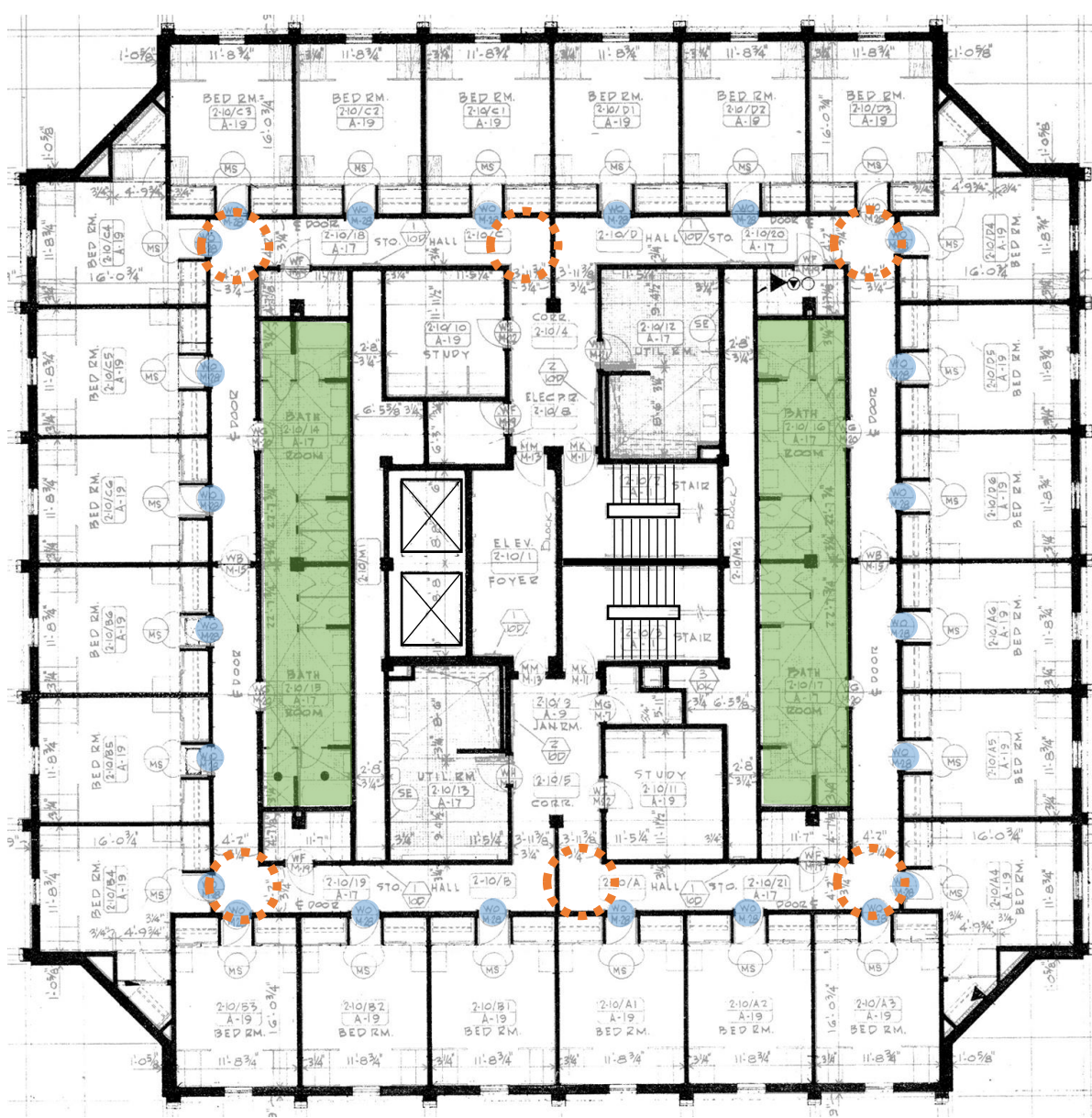
- 2'-8" doors with no clearance

## Corridors

- 4' wide with no turn area

## Restrooms

- No accessible toilet or bath stalls
- Thick set tile too high for wheelchair accessible threshold into room



# Systems and Envelope Upgrade Opportunities

## Exterior Envelope

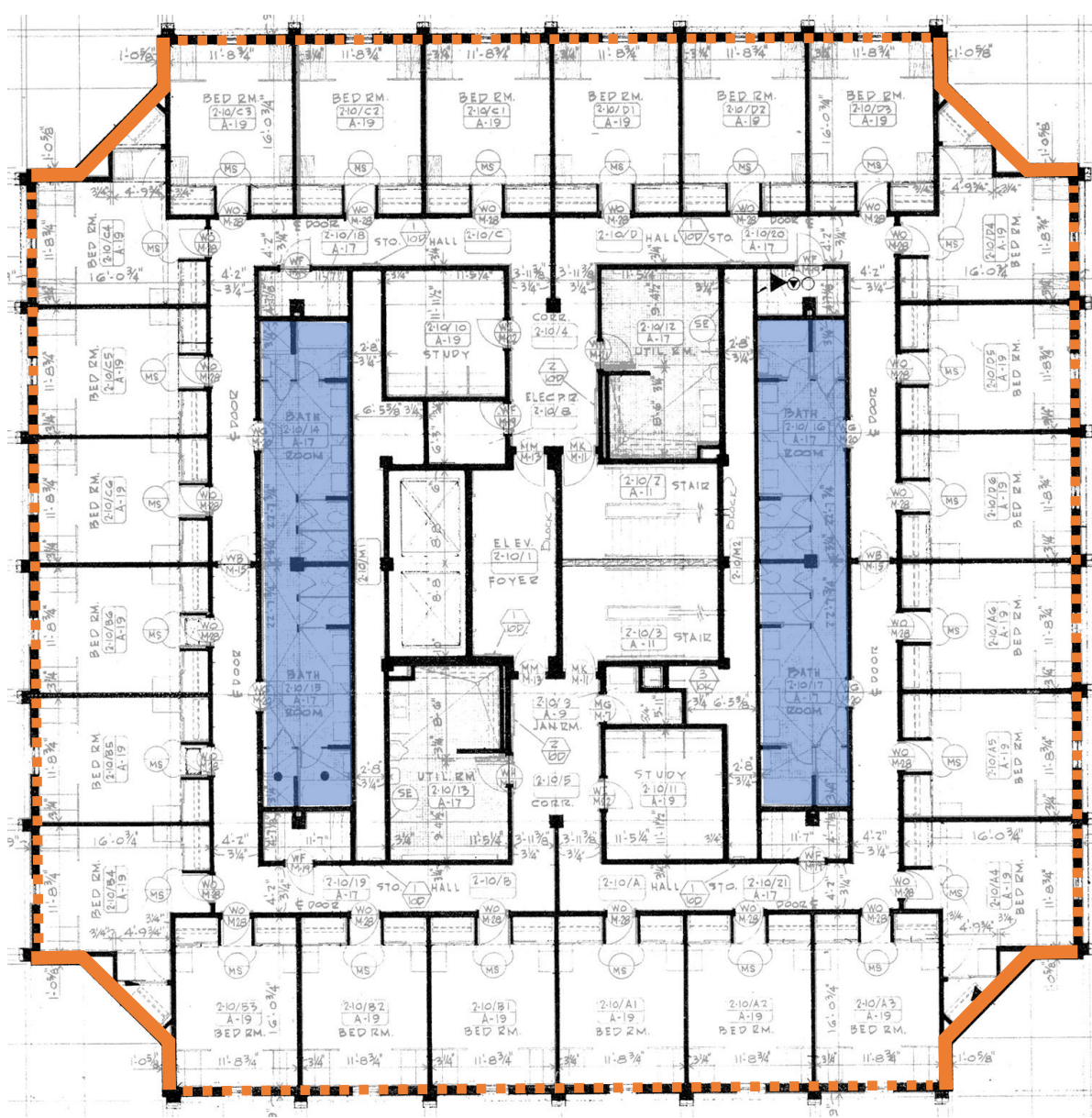
- Water infiltration at chamfered corner masonry walls
- Little or no insulation in exterior walls with un-insulated glass windows

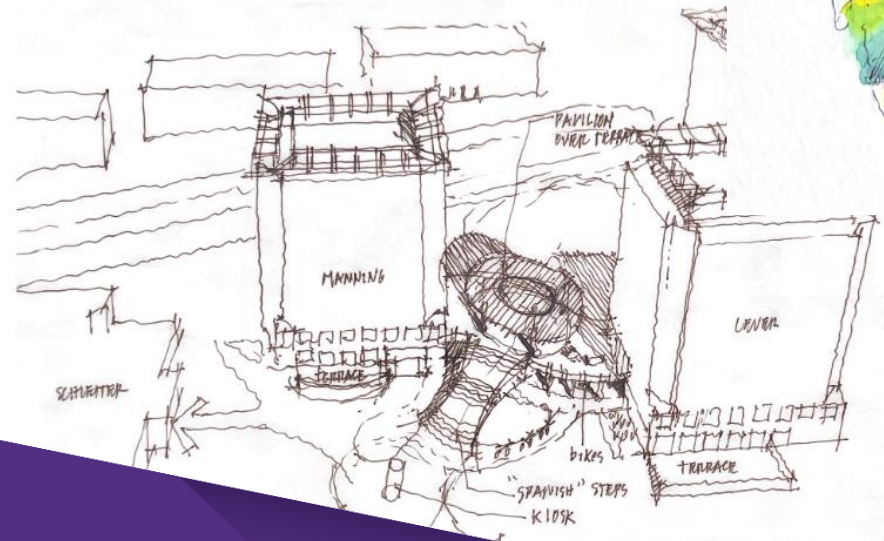
## Plumbing

- Widespread pinhole leaks in 50-year-old piping.
- Excessive maintenance effort to keep building occupiable.

## Mechanical

- Units well past service life





\$ \$ \$



# Design Drivers



Community & Place



Central Quad Entries



Study Spaces



Connection to  
Outdoors



Flexibility



A New Fresh Look



Professional  
Apartments

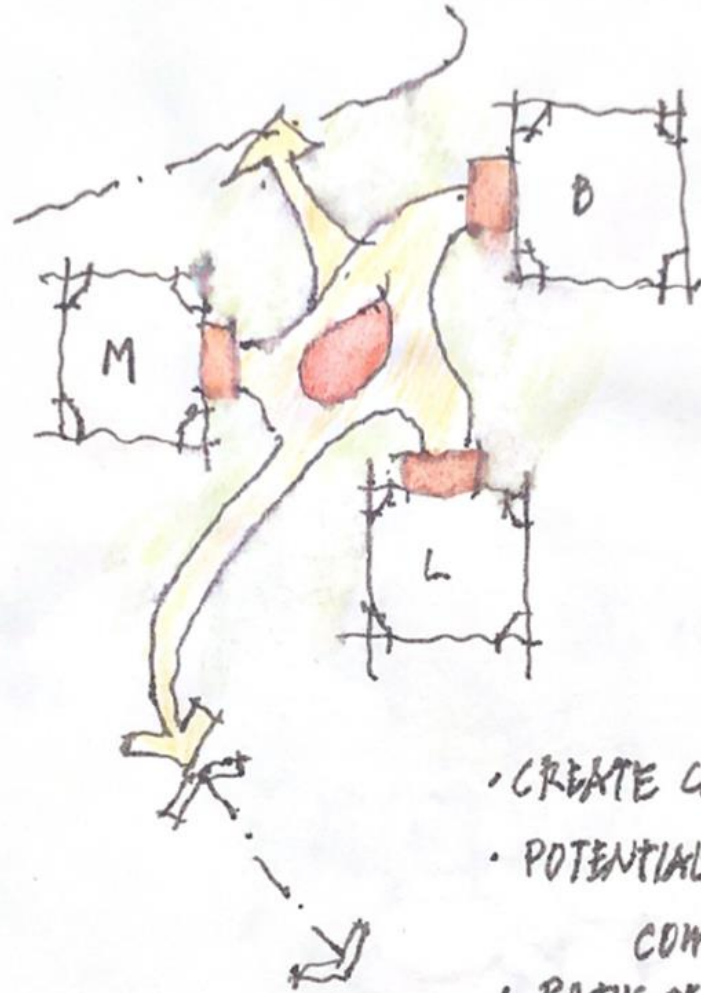


Campus Consistency



Green Globes

# 1st YEAR EXPERIENCE



- CREATE CONNECTIONS
- POTENTIAL CENTRAL COMMONS
- PATHS OF LEAST RESISTANCE






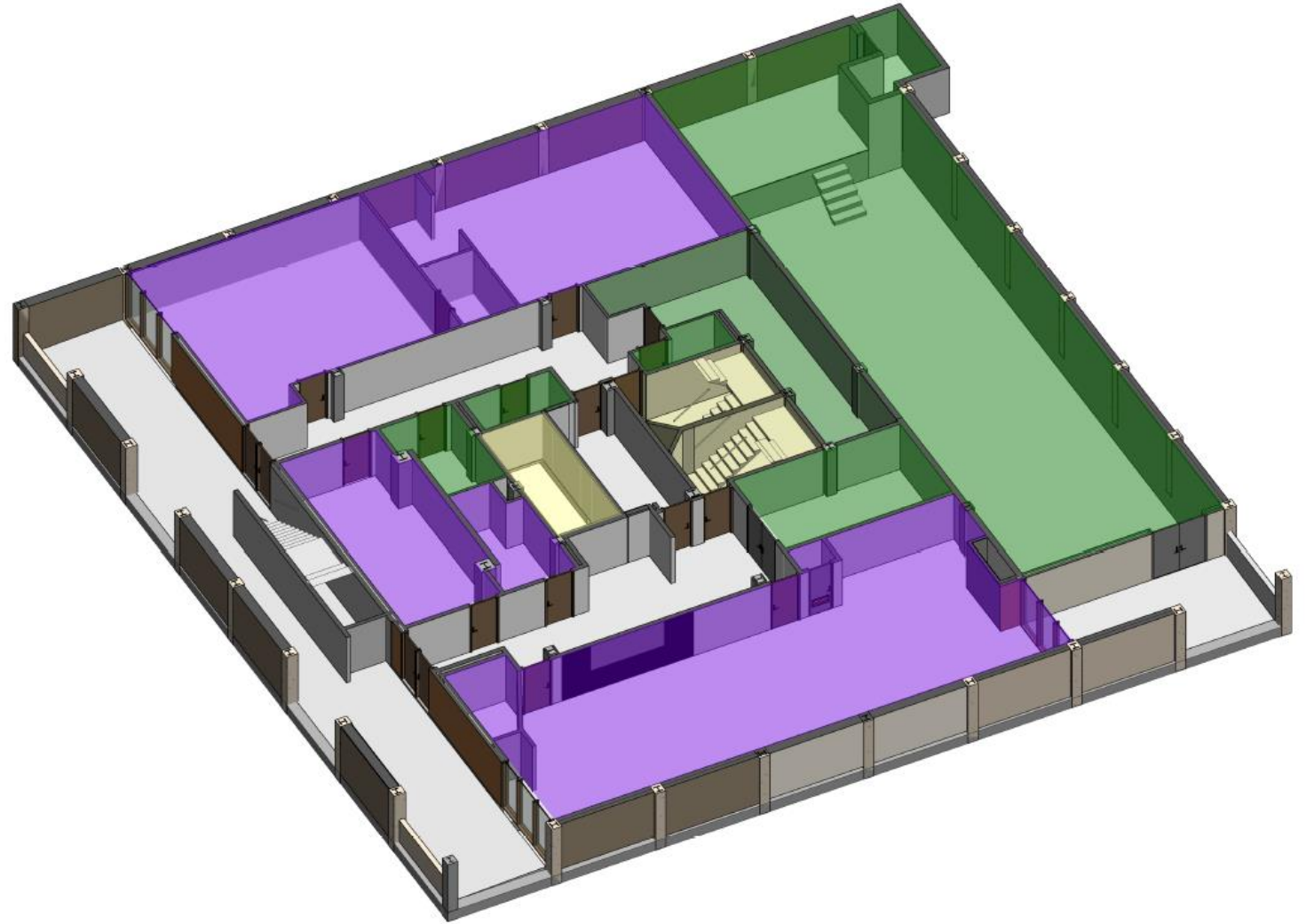
# Byrnes Hall: Existing Conditions



BYRNES HALL




# Existing Ground Level

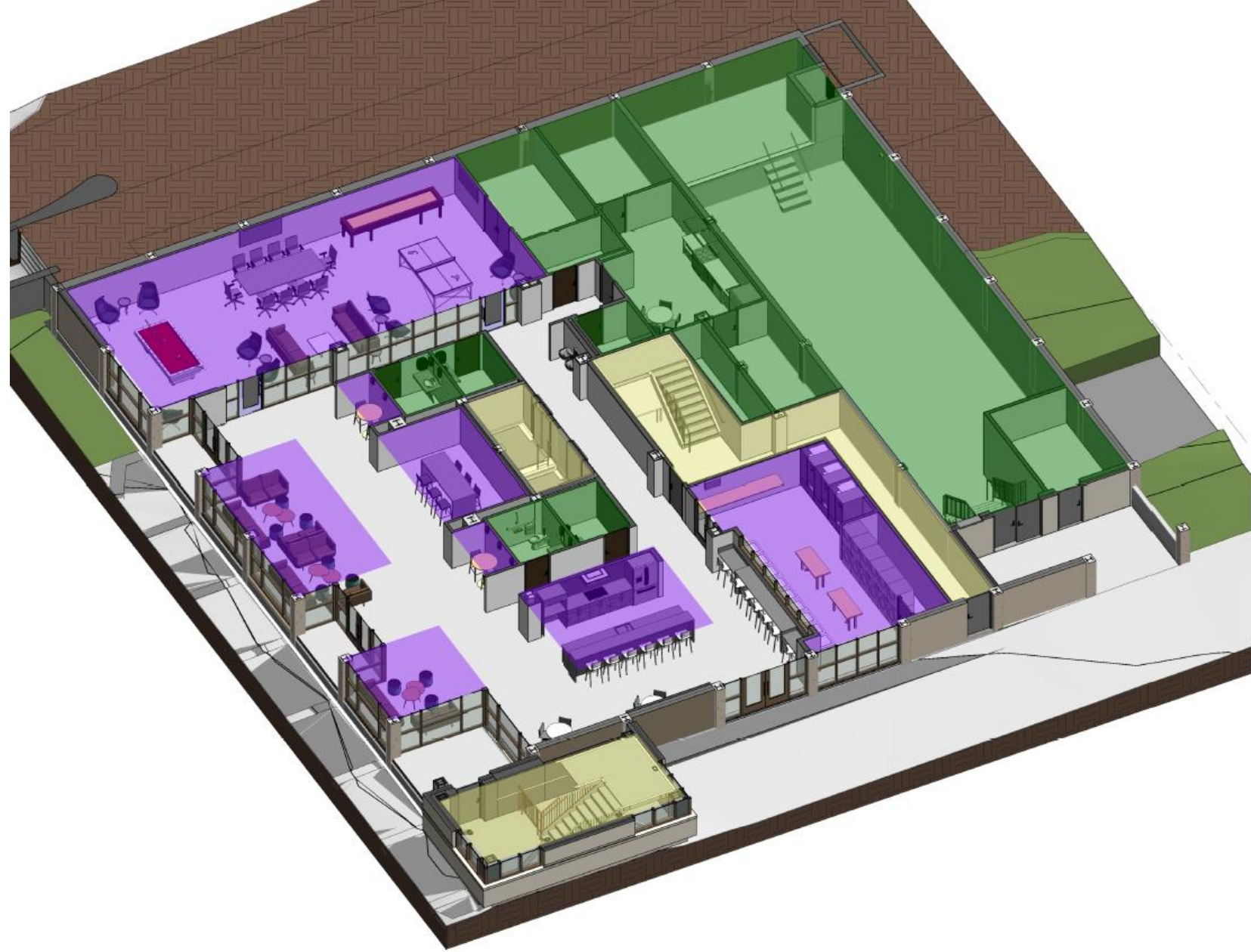
-  - Social Space
-  - Systems & Core
-  - Vertical Circulation



BYRNES HALL

# New Ground Level

-  - Social Space
-  - Systems & Core
-  - Vertical Circulation





BEFORE







CURRENT RENDERING

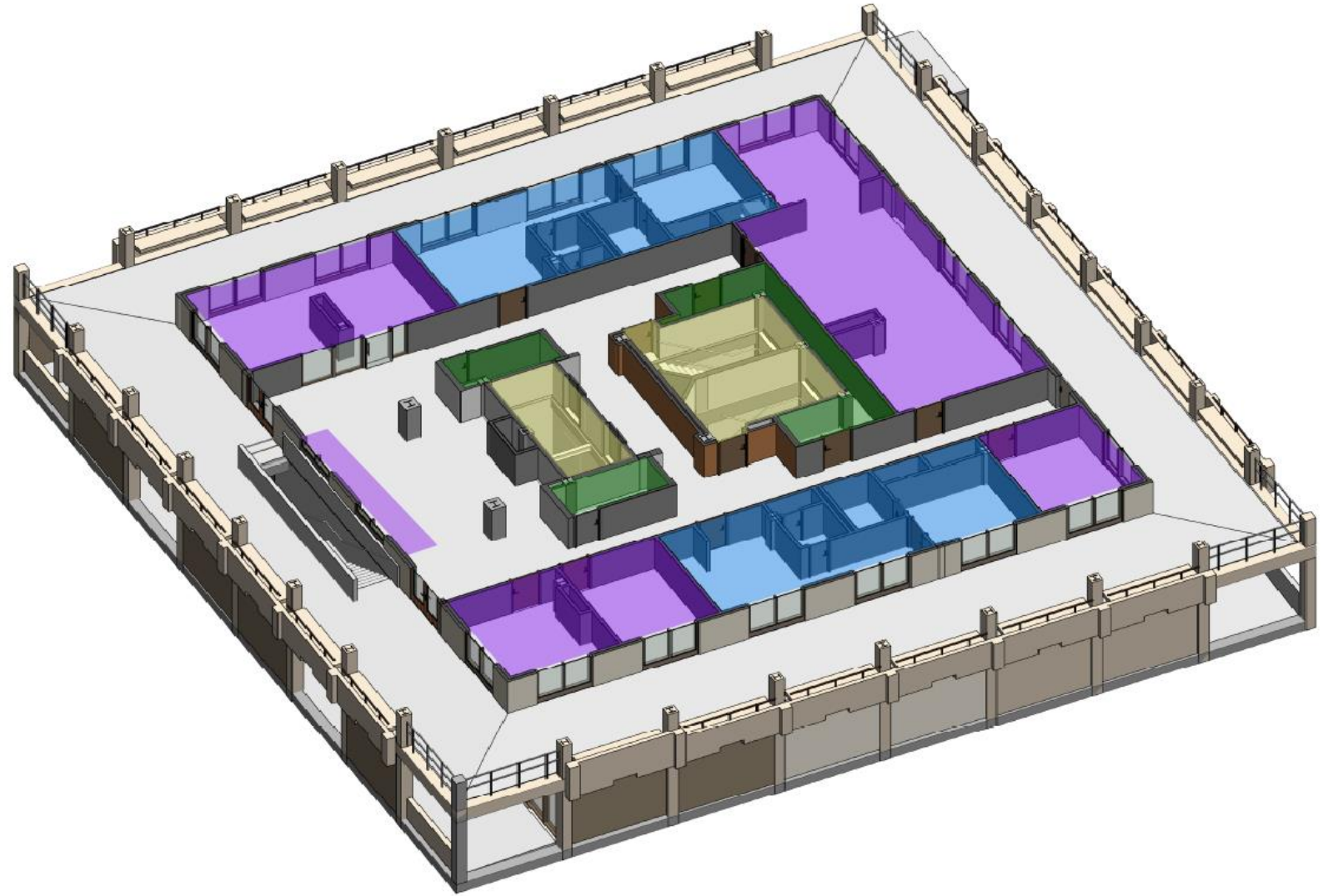
# Finishes and Furniture



BYRNES HALL





# Existing Level 01

-  - Social Space
-  - Systems & Core
-  - Vertical Circulation
-  - Staff Apartments



BYRNES HALL

# New Level 01

-  - Social Space
-  - Systems & Core
-  - Vertical Circulation
-  - Staff Apartments





BEFORE







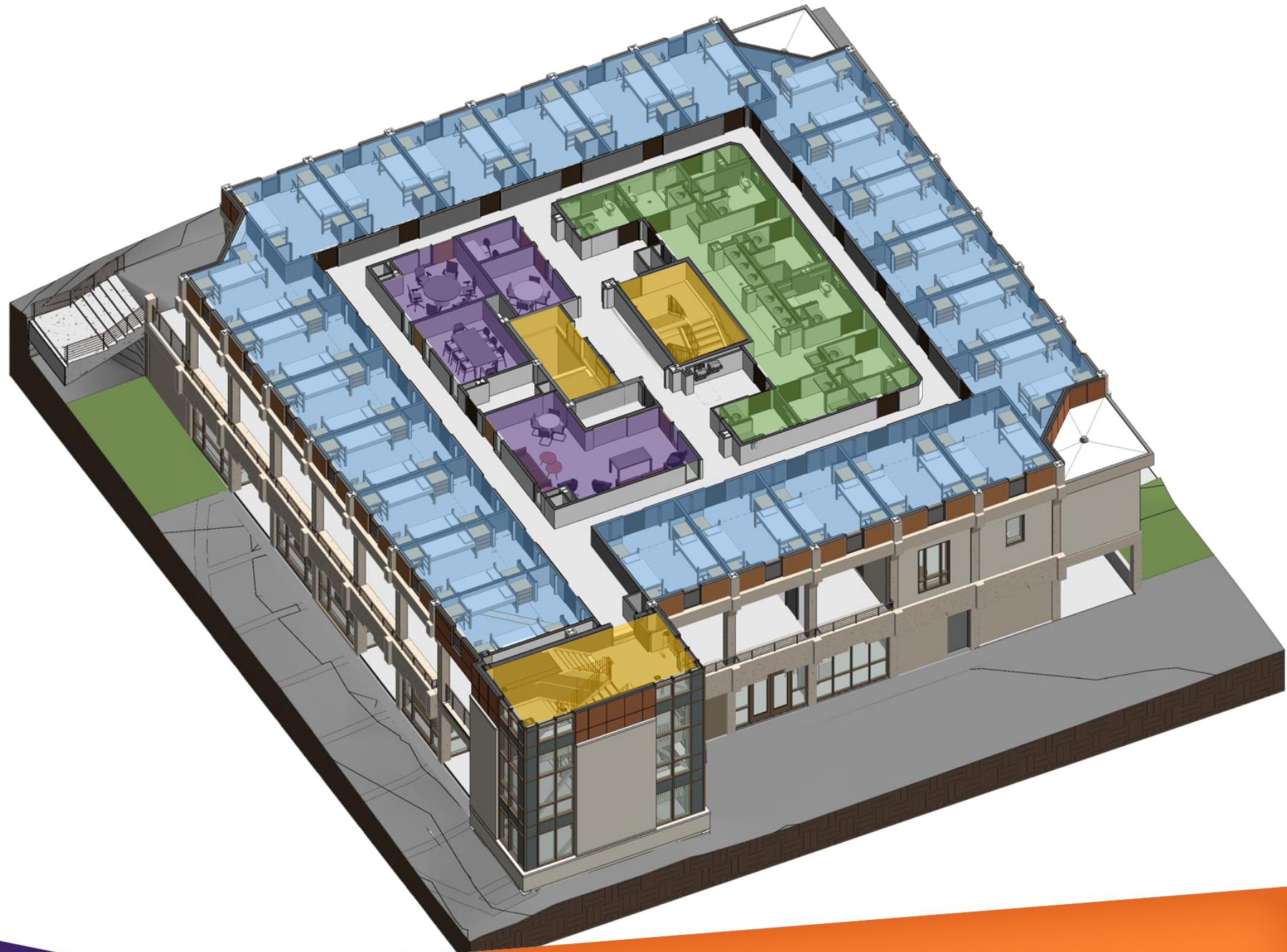
CURRENT RENDERING



BYRNES HALL

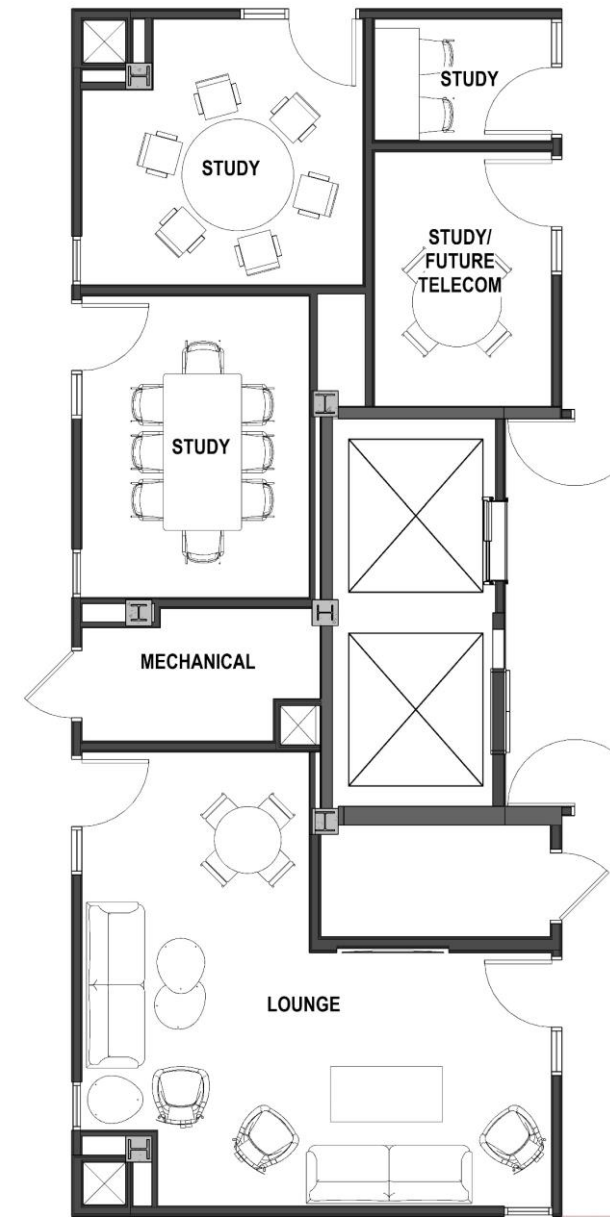
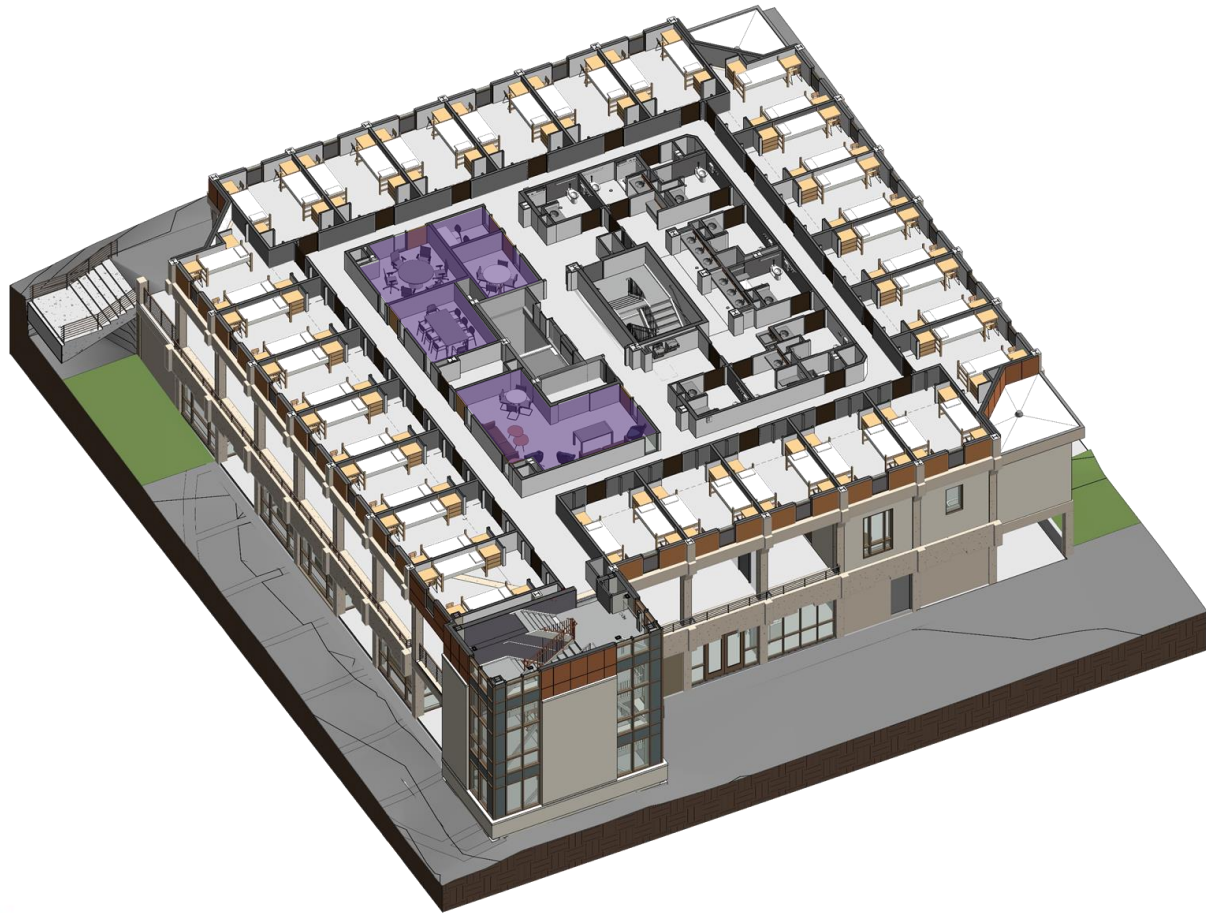
# New Typical Residential Level

-  - Study Space
-  - "Wet Core" Restrooms
-  - Core
-  - Residential Rooms

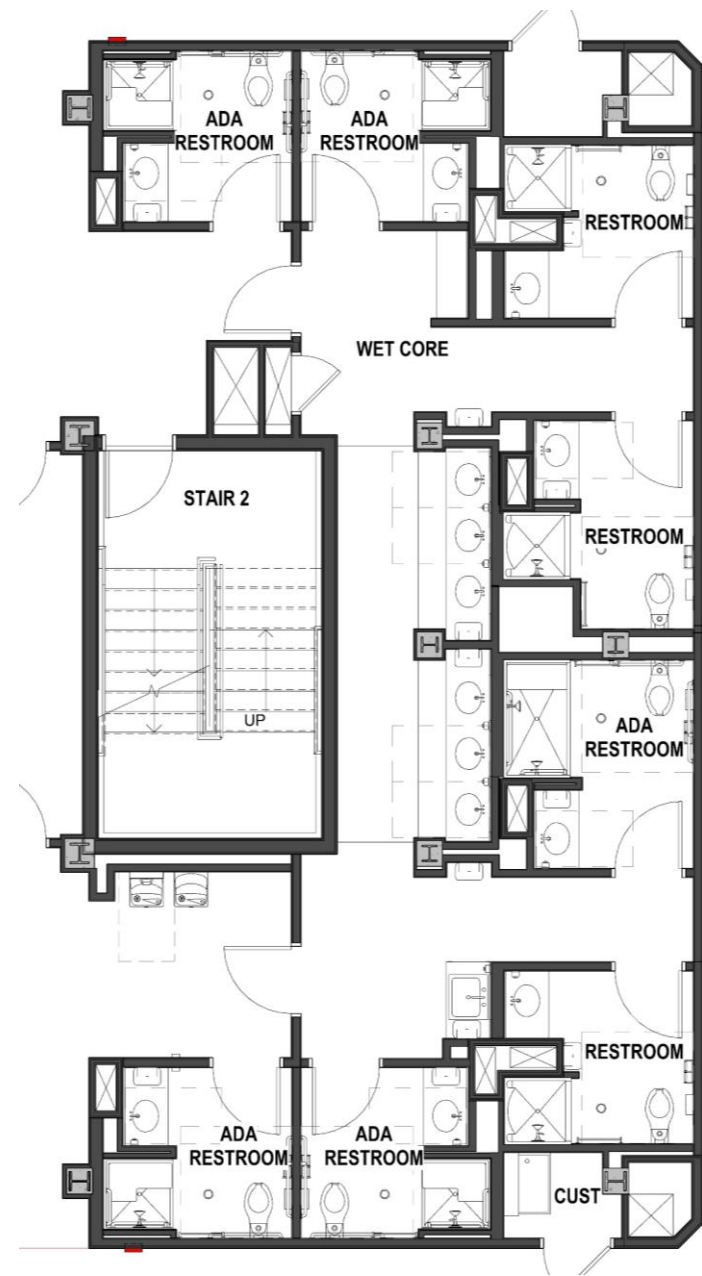
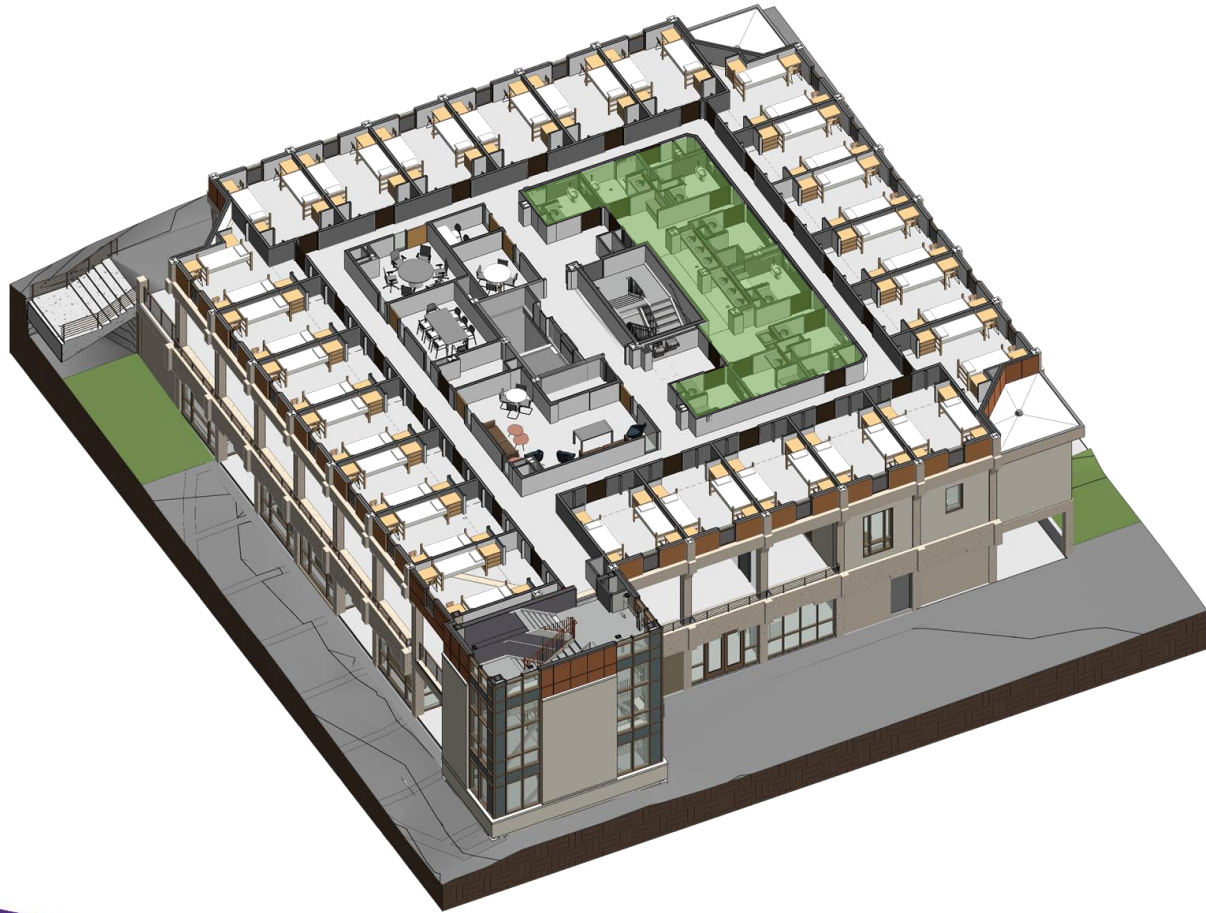




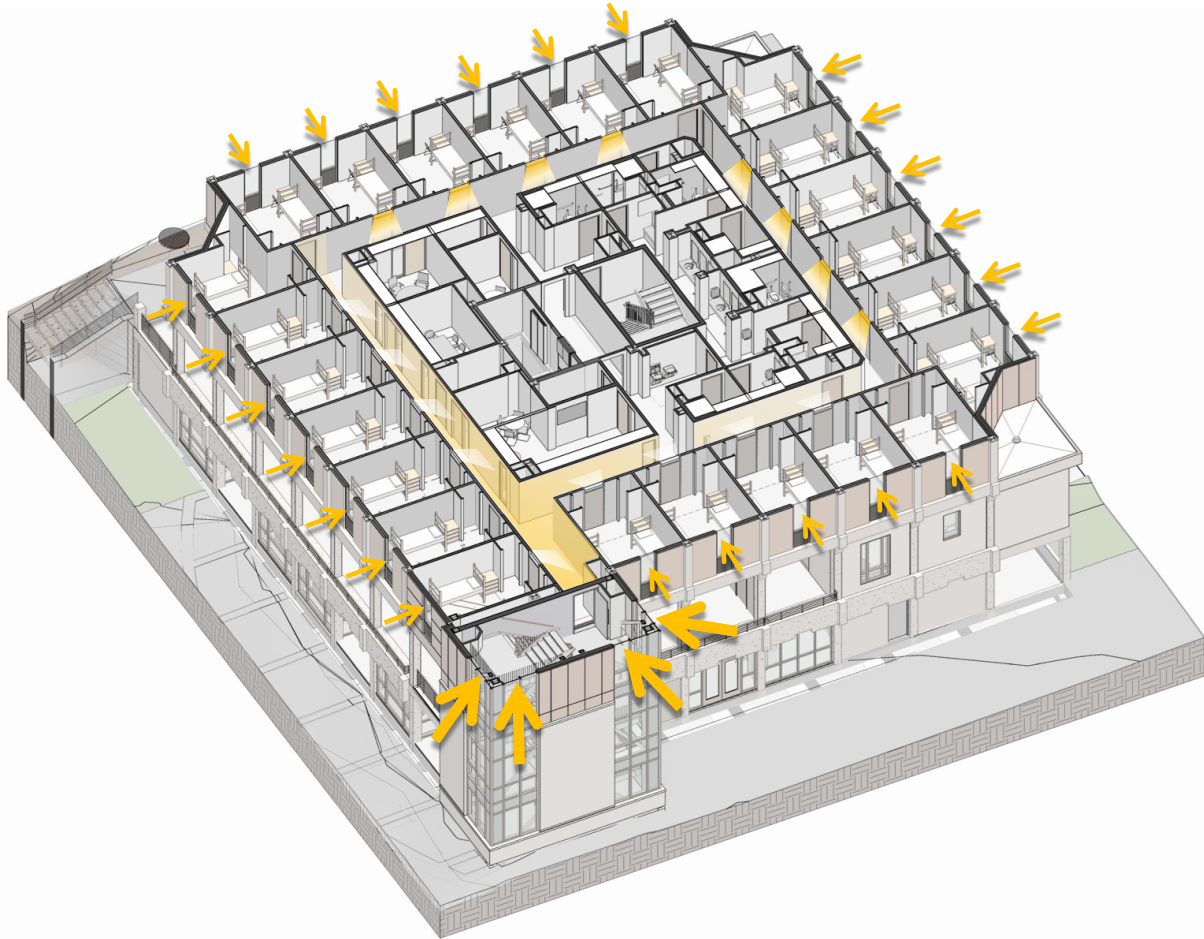
# Study / Social Spaces



# “Wet Core” Restrooms



# Natural Light



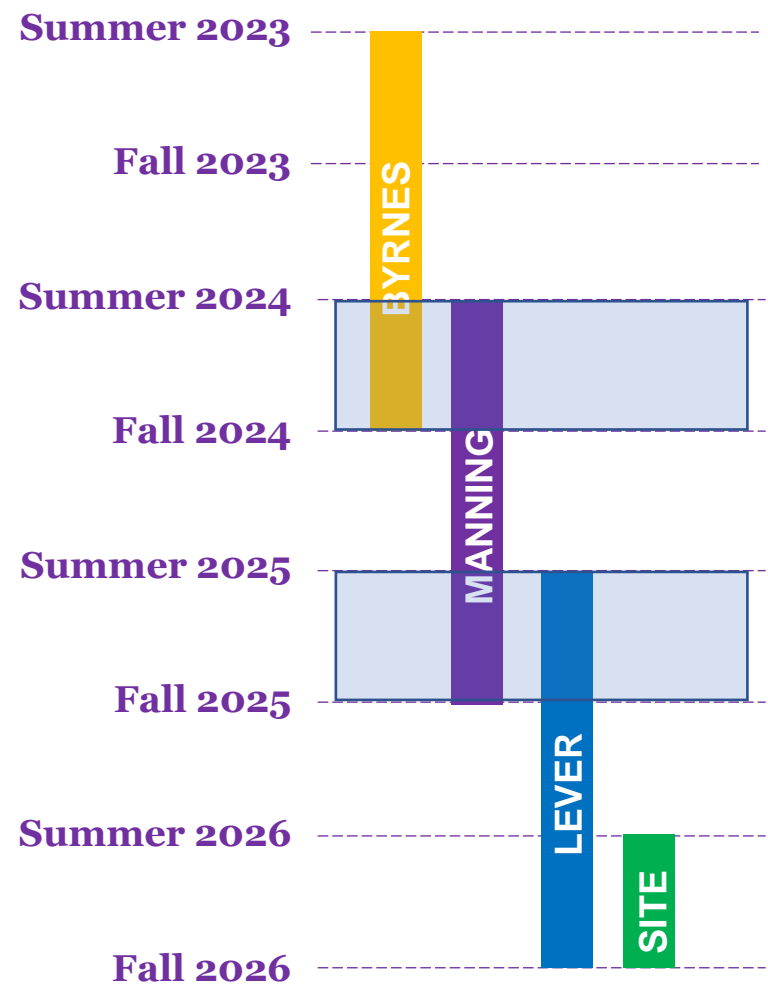


**POLL:**

**Who has a high-rise  
renovation project in  
progress or in your  
upcoming plan?**

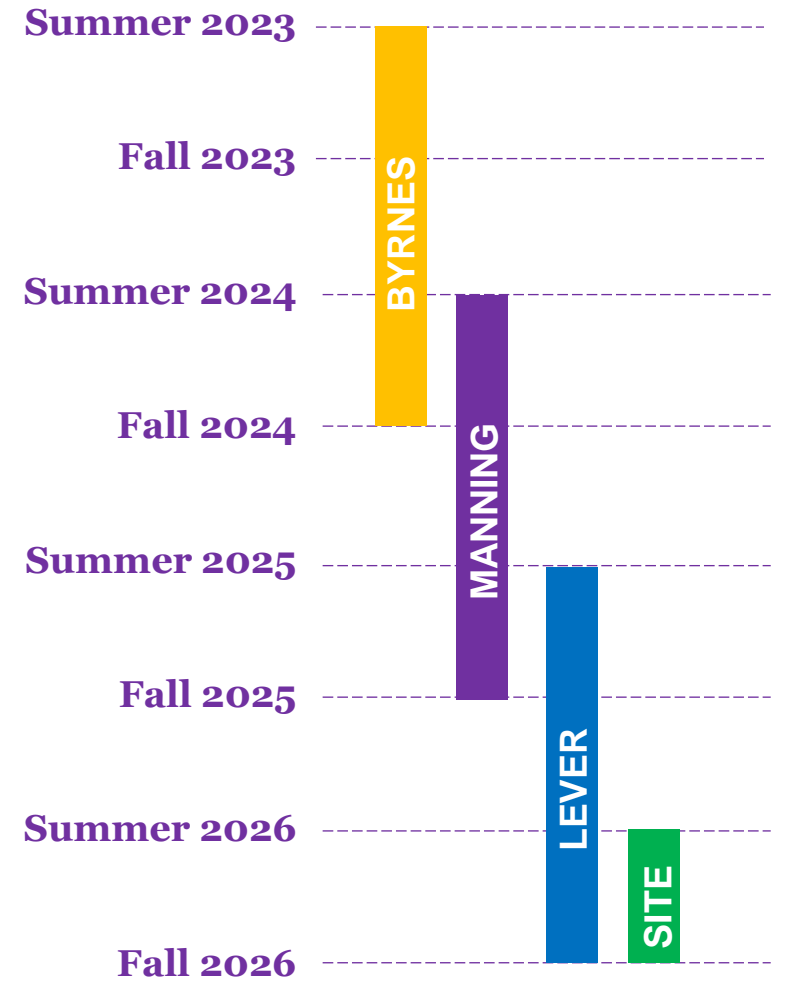
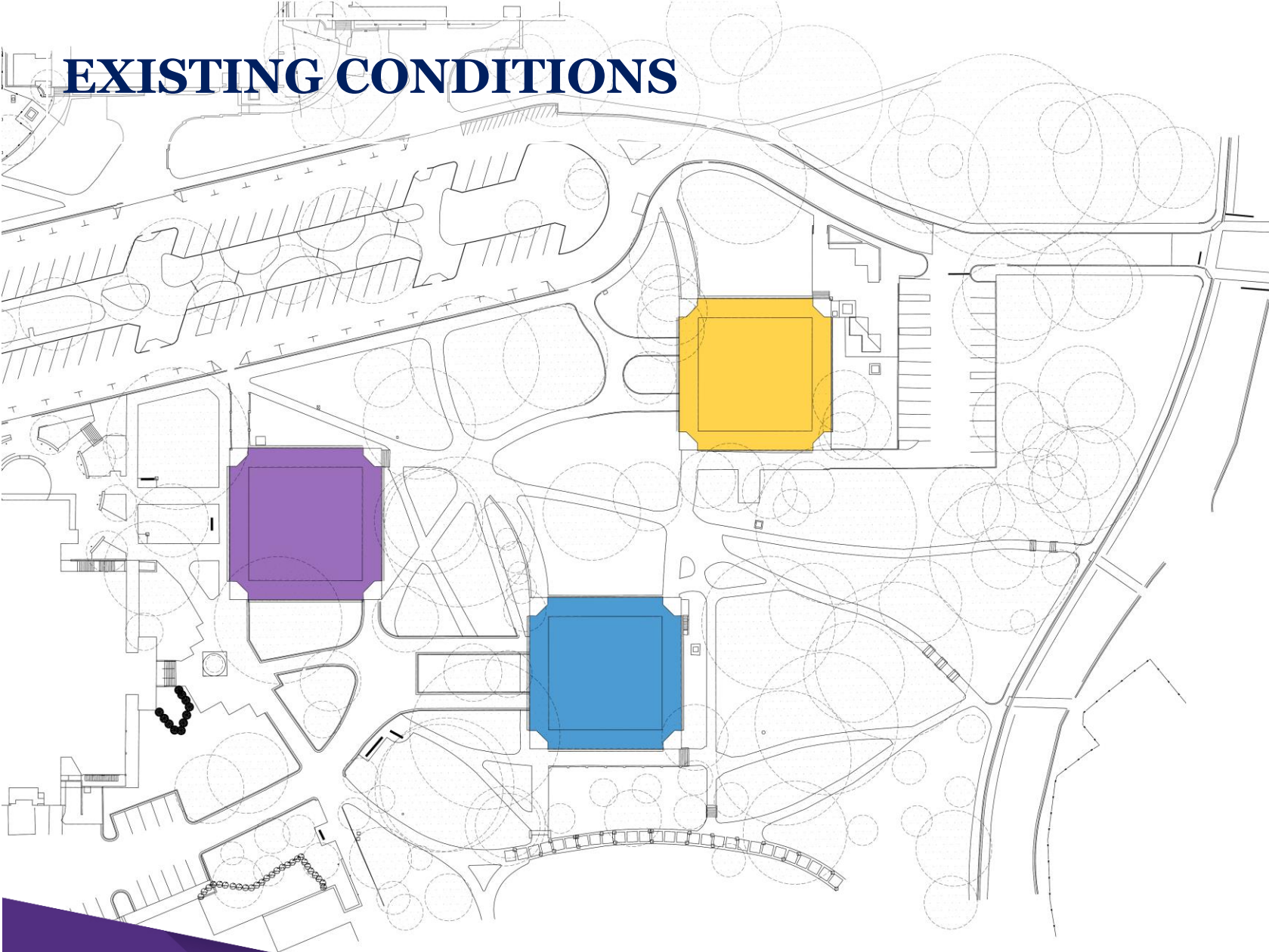
# Project Delivery Method

- Typical for SC – Design, Bid, Build
- High Rise Renovations – CM@Risk
  - Pros:
    - Works Well for Complex Projects
    - Costs/Schedules Develop w/Design Team
    - Team Approach (Owner selects Designer(s) and CM)
  - Cons:
    - Potential for Conflicts w/ Designer(s)
    - Owner Needs Above Average Experience Managing Projects/Contracts



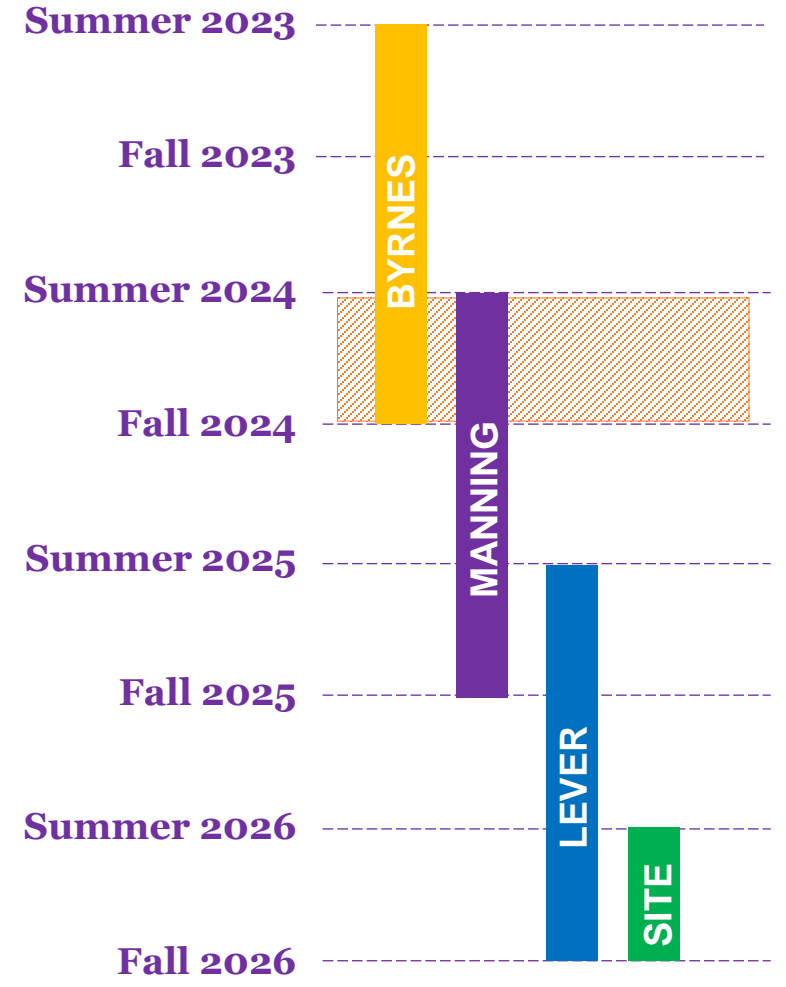
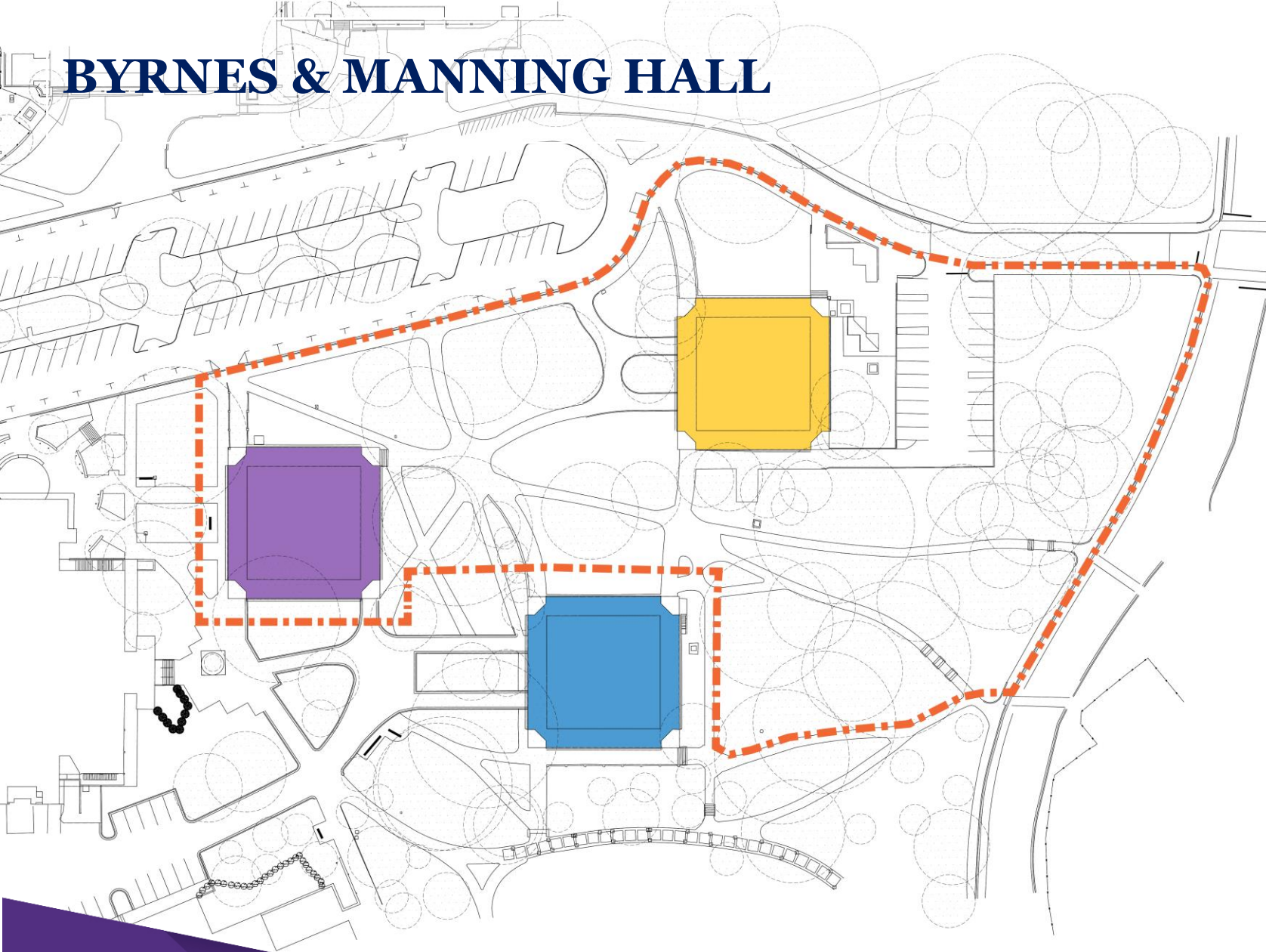


# EXISTING CONDITIONS

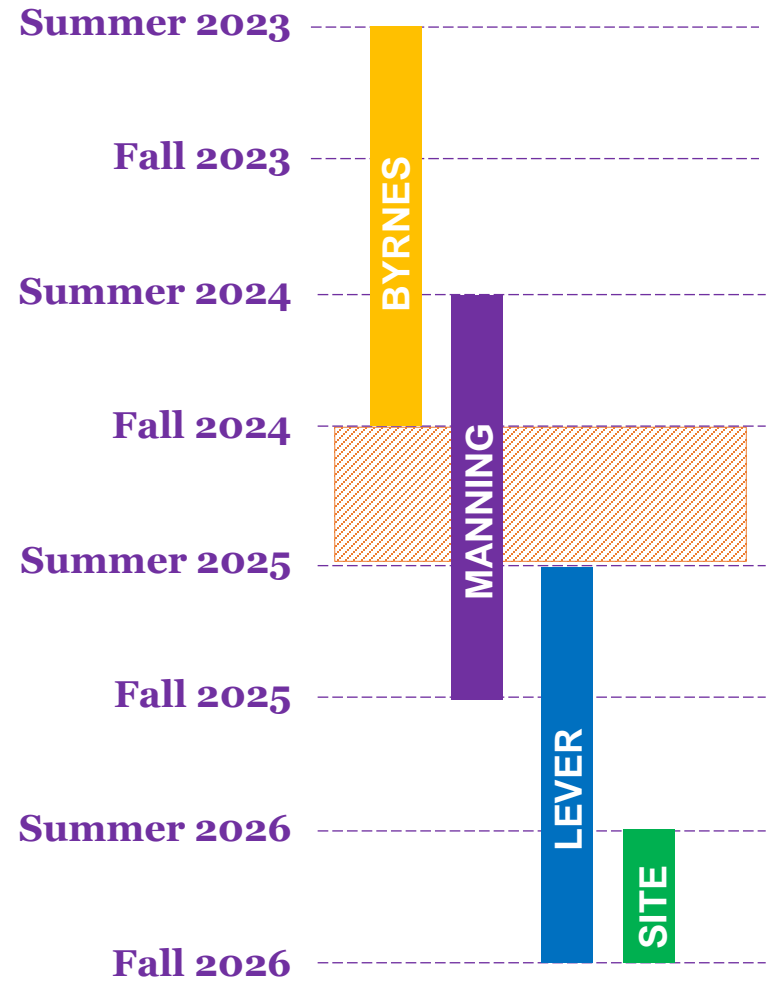
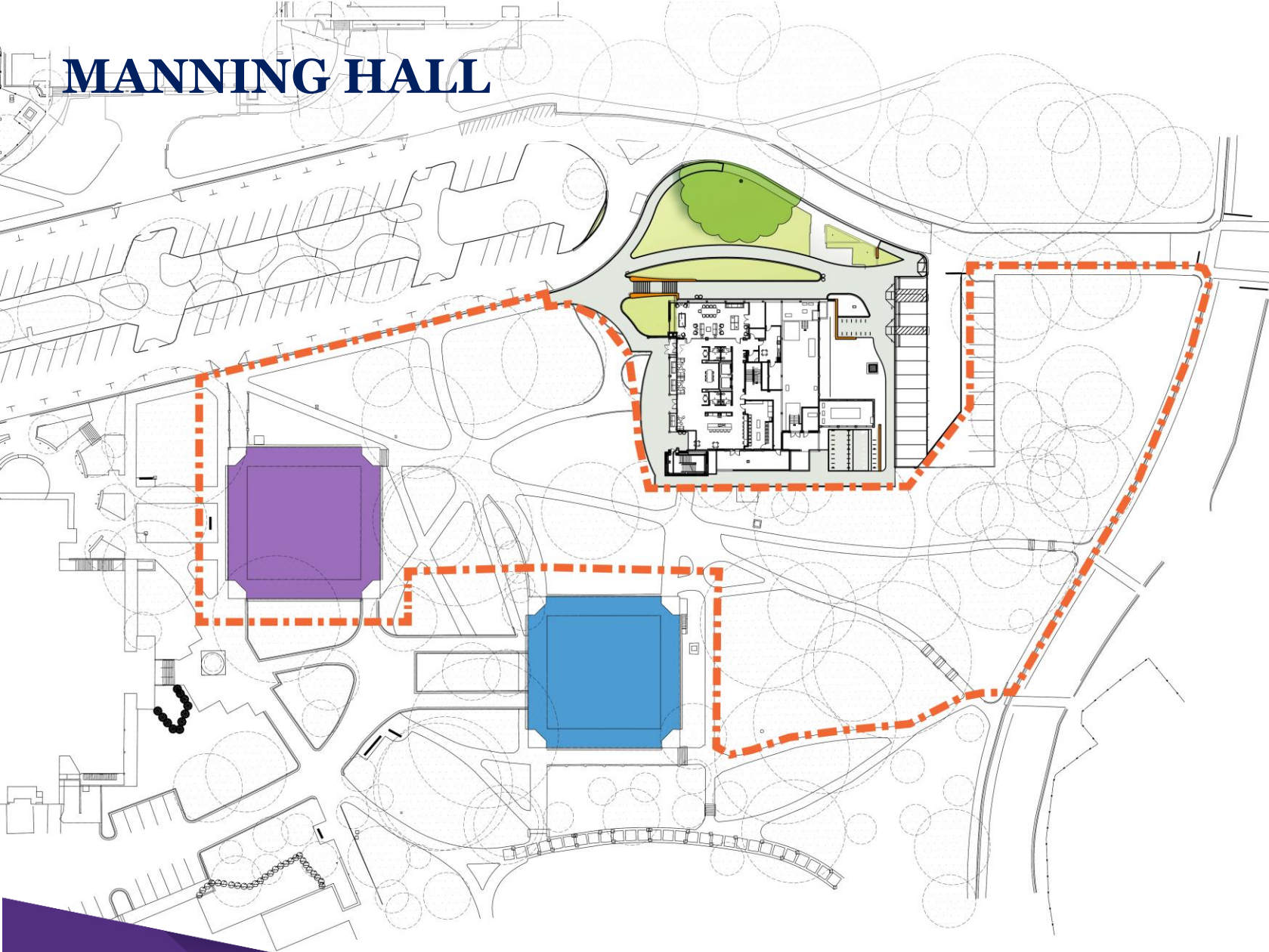




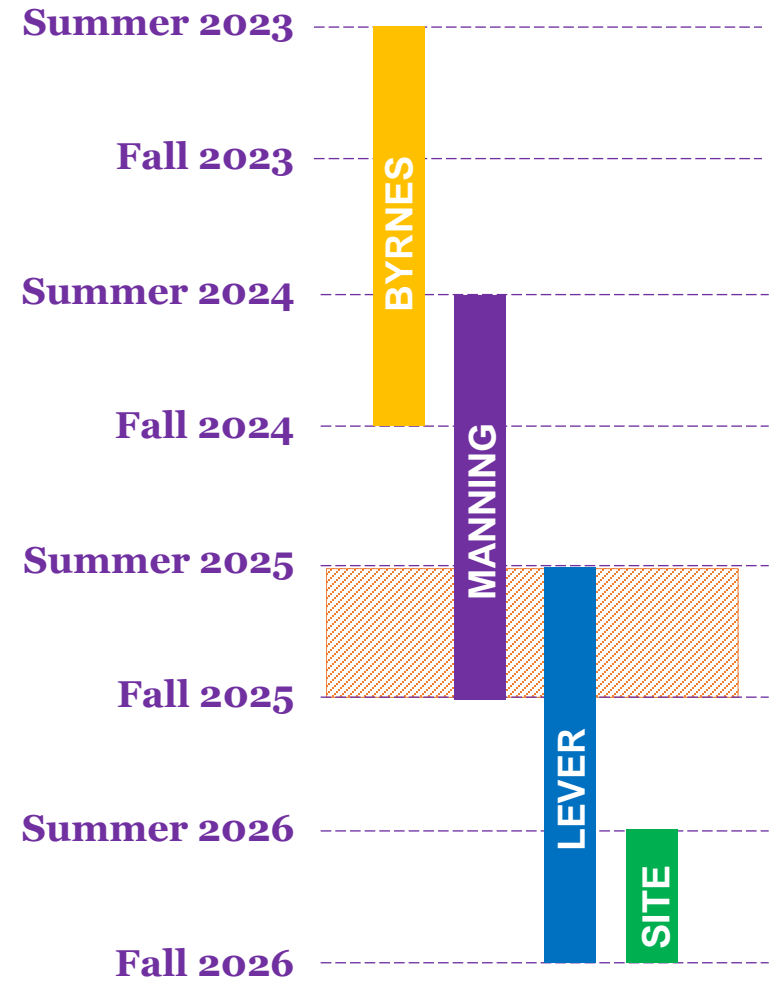
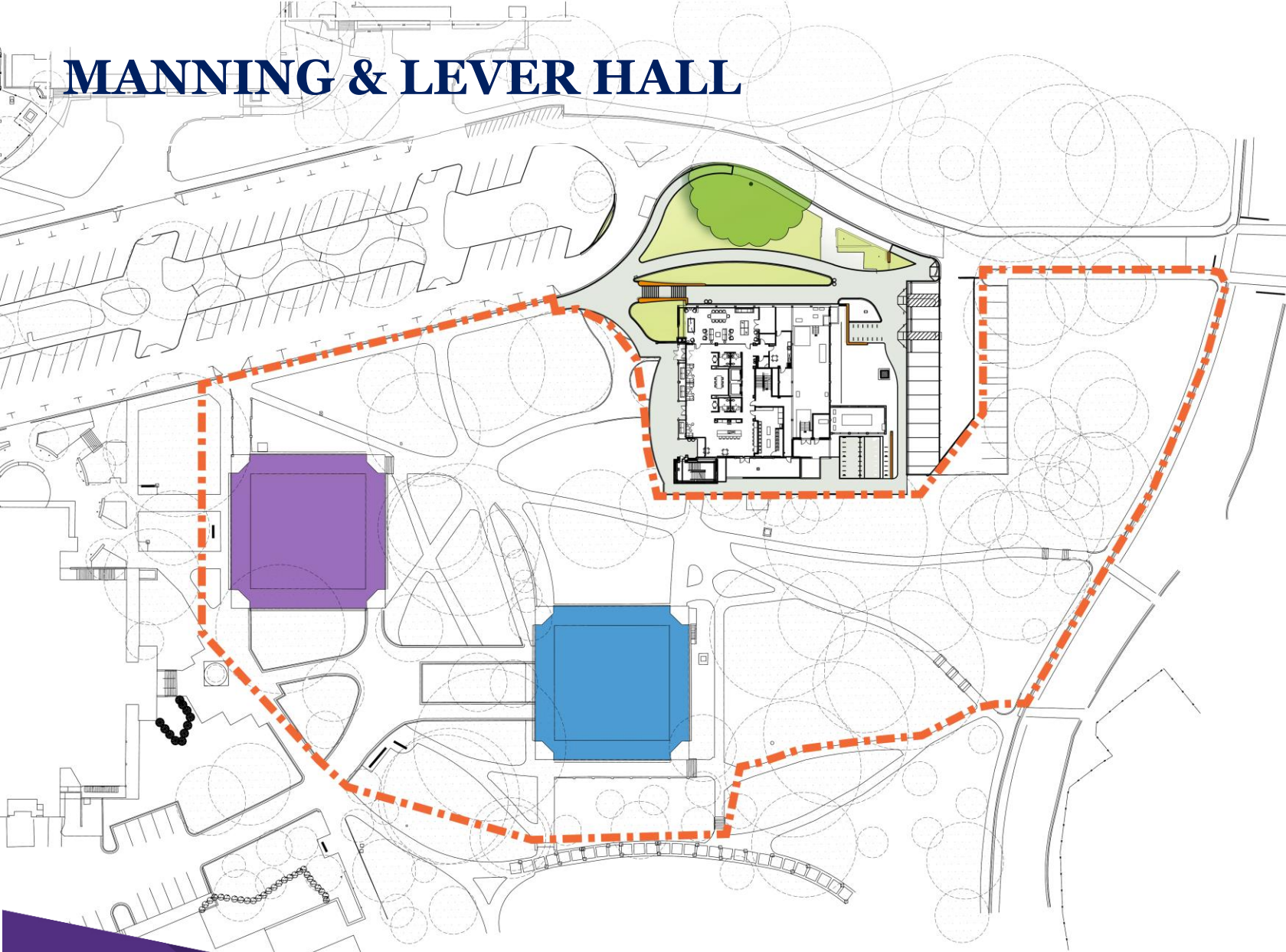
# BYRNES & MANNING HALL



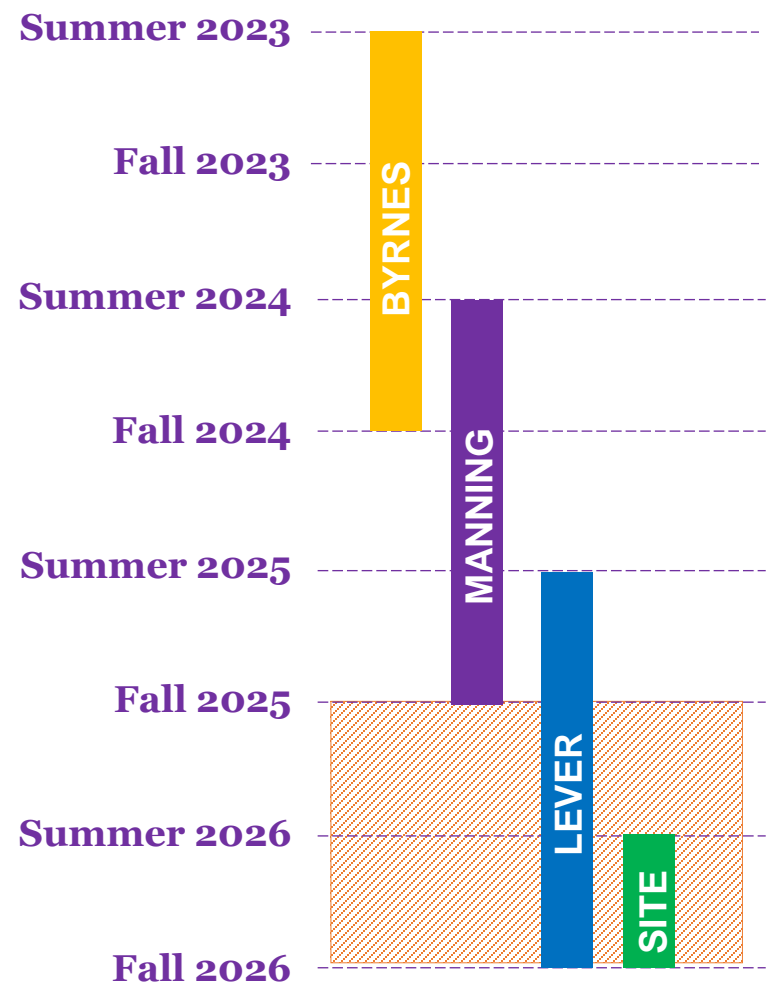
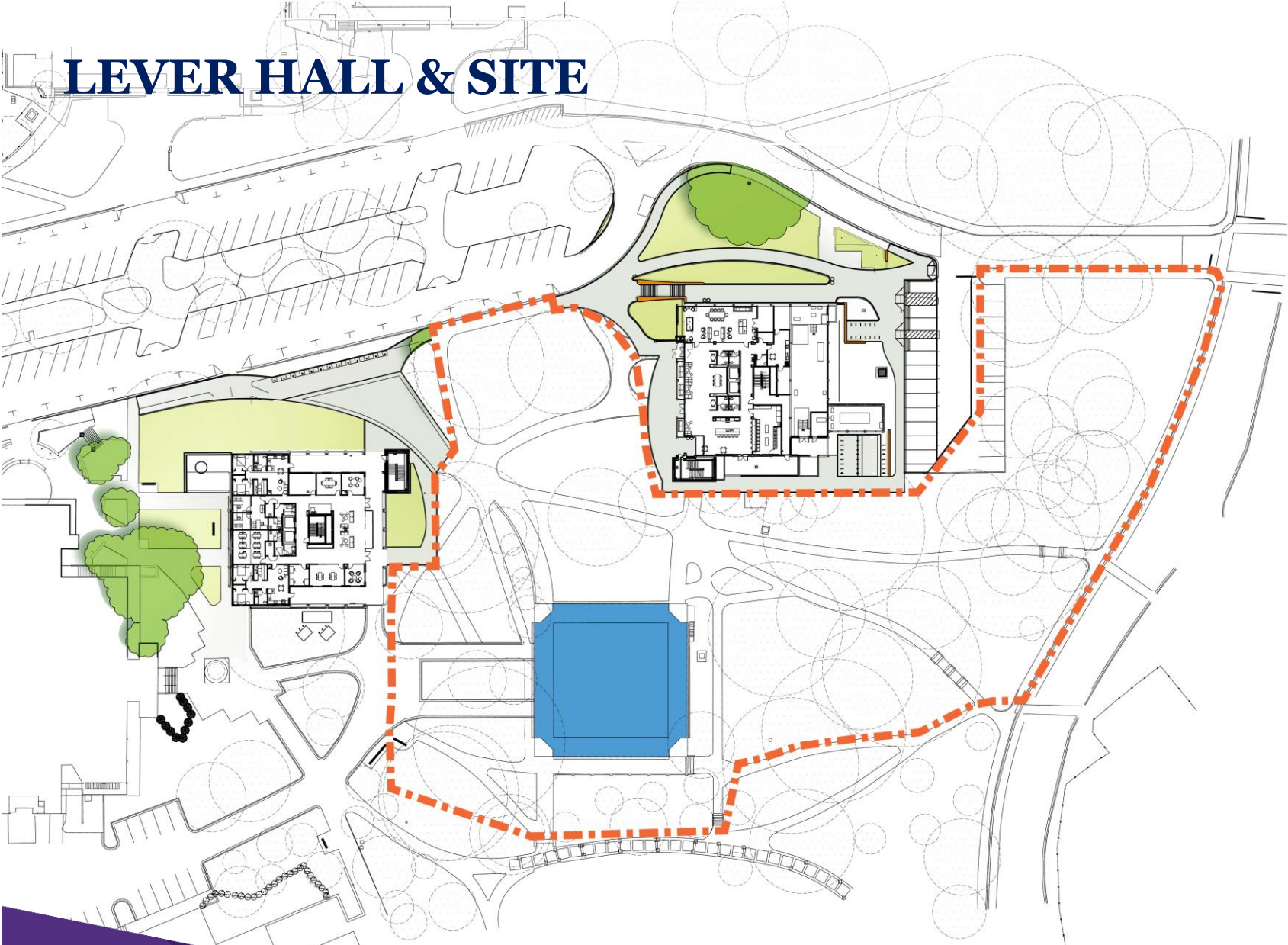
# MANNING HALL



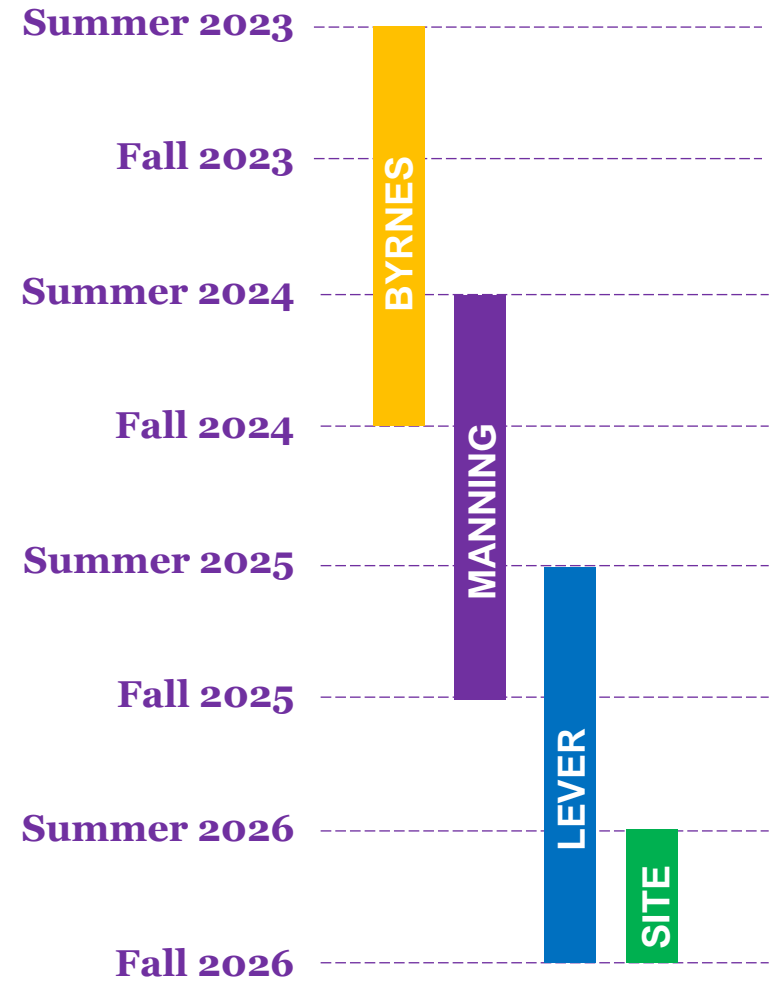
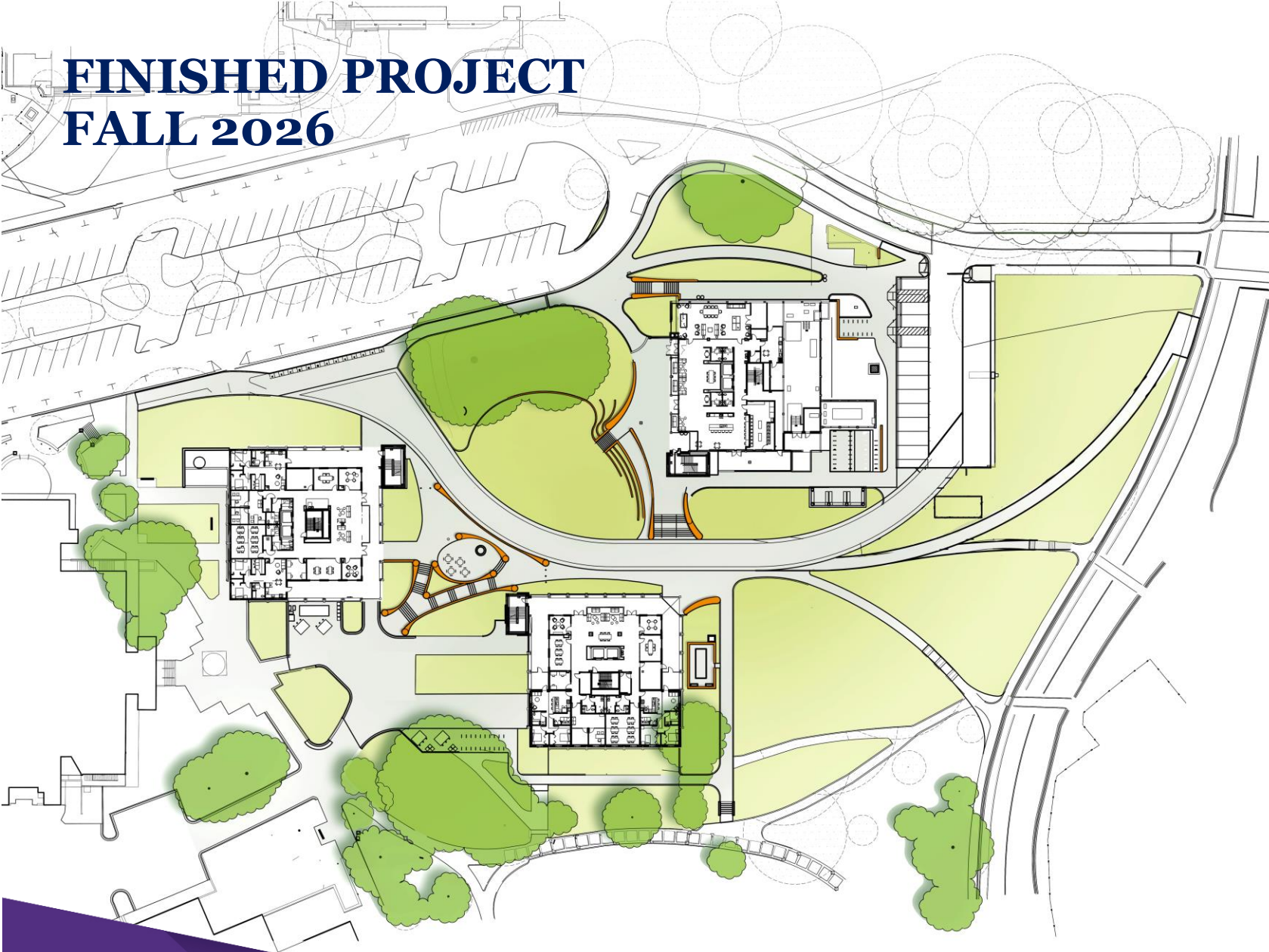
# MANNING & LEVER HALL



# LEVER HALL & SITE

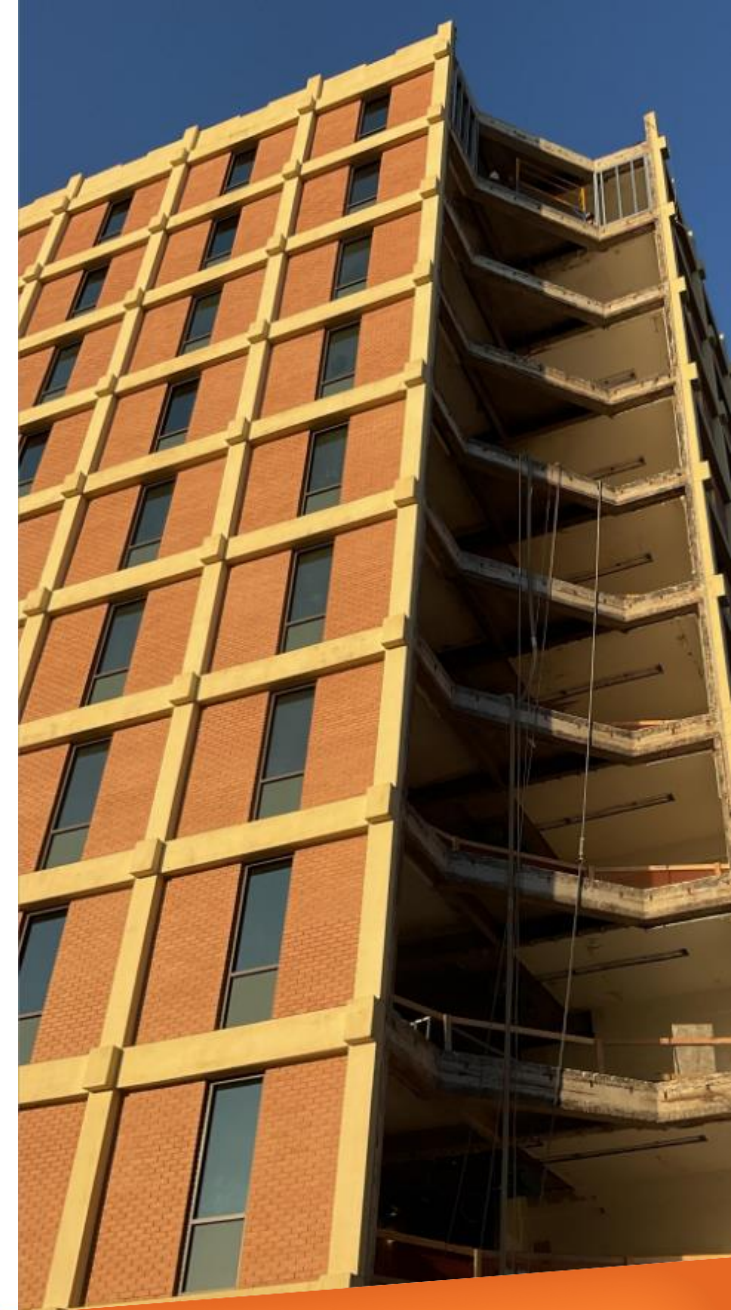


# FINISHED PROJECT FALL 2026



# Lessons Learned

- Weekly meetings with everyone through entire design process.
  - Schedule required immediate decisions and buy-in
  - Design team, Housing, Facilities, User groups
- Effects of cutting power to large building.
  - Loss of area site lighting
  - Lantern Effect
- Unintended consequences to extended partners.
  - Antennas for Fire and Police communication, cell phone service boosters, local media cameras.
- Assume more not less for Hazardous materials.
- Phasing!
  - Able to learn from 1<sup>st</sup> building instead of making 3 sets of mistakes at the same time.

















**Questions?**

# Contact Information

Kathy Hobgood - [kbhob@clermson.edu](mailto:kbhob@clermson.edu)

Donnie Lloyd - [dllloyd@clermson.edu](mailto:dllloyd@clermson.edu)

Sydney Kerschen- [sydney.kerschen@littleonline.com](mailto:sydney.kerschen@littleonline.com)

Heather Mitchell - [hmitchell@boudreauxgroup.com](mailto:hmitchell@boudreauxgroup.com)

Justin Abrams - [jabrams@boudreauxgroup.com](mailto:jabrams@boudreauxgroup.com)



**Scan QR Code**

For link to presentation



Chart (y)our course

**SEAH** 

◀ CHARLESTON 2024 ▶





NO  
OPEN

NO  
OPEN

NEVER DO NOT ENTER