NEW RESIDENCE HALL

PROGRAMMING STUDY

SCB #540/000-01-2019

MAY 10, 2024

UT MARTIN

HED

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1

Overview

Vision and Intent of Study

EXECUTIVE SUMMARY

HED was tasked with the programming and planning of two (2) new 200-bed residence halls, for the University of Tennessee Martin (UTM). The original parameters, as defined by the UT System, were as follows:

- Phase 1: Construction of two (2) 200-bed residence halls, totaling 400-beds, located on the site of the existing Browning Hall, as identified in the Master Plan.
- Programming and planning of the entire site to accommodate all potential utilities, hardscape, greenscape and other logistical requirements.
- Consideration of the connection between the project site and the existing, adjacent Ellington Hall and University Village housing.
- A general office component for Housing Offices to be accommodated in the programming and planning of the building.
- The anticipated budget was as follows:
    - Phase 1 - $40.9 M

The project team approached the design with the following key fundamentals in mind.

- Fostering Community
- Security
- Balancing Costs
- Unit Design

Fostering Community

Community is at the center of all successful student life facilities. Previous successful examples on UT Martin's campus, as well as peer institutions, have the ability to act as a catalyst for community centered residence hall design. HED has included project precedents of other relevant community spaces on similar projects. The ability for students to transform their space and 'place-make' is important, and flexibility of space, above all, should be a design goal. Varied spaces for study, socialization, gaming, eating and relaxation are examples of strong 'neighborhood' programming.

This community atmosphere should extend beyond the internal confines of the residence hall. It is crucial that the dynamics which make for a successful neighborhood approach are also realized in courtyard spaces and outdoor zones. The intent is to provide a multitude of options and flexibility that allow for varying levels of socialization, study, and student security.

Neighborhood zones placed at the center and ends of the building floor plans may be implemented with the following programmatic features:

- Study Lounges offering space for independent and group assignments
- Huddle rooms with digital interface
- Social Lounges
- Laundry facilities

Security

Security is a key priority in residence hall design. The main building entry requires all residents to move through one point at the Reception area. The mail area is also adjacent to the reception and office administration areas, allowing additional 'eyes' for added security. In addition to resident sequencing and circulation, spaces on the periphery of the building have been designed with security in mind. Maximizing views and enhancing sight lines are a critical part of this strategy.

Balancing Costs

HED coordinated with a cost consultant, CCS, to develop a budget strategy with itemized categories for UTM's cost exercises. This strategy is represented in this document and may be referenced as needed.

Unit Design

Unit programming is based on pod-style configurations with single occupancy bedroom units. The bathrooms are designed as pods and each consist of four (4) private compartments with one (1) water closet, one (1) shower, and one (1) lavatory each. An open lavatory area could be considered if separate lavatories are desired outside of the private bath compartments. The bathrooms are intended to be shared within each wing and dedicated to a swpecific number of students.

The units are designed to provide for one (1) twin XL bed, one (1) wardrobe, one (1) dresser, one (1) desk, and one (1) combination micro-refrigerator per resident. The planned RA to student ratio is 56 students to one (1) RA. RA's live in a single occupancy semi-suite-style unit configuration, which is different in layout from a standard student room.

2

Programming Context

PROCESS

The design team developed a participatory process to engage University stakeholders and ensure that all voices were heard. The programming process began with a review of the existing Residence Halls on campus in order to familiarize the team with current resources and trends. This review, in conjunction with benchmarking of other relevant residence hall projects, allowed the team to identify needs and opportunities that influenced the direction of this Residence Hall programming.

Through a series of focused programming meetings, the team evaluated different program options. The evaluation considered the organization of the residential floor programming in reference to the University's housing goals, as well as the impact different strategies have on the financial outcome of the project. Throughout the process, the design team worked in a shoulder-to-shoulder manner with project stakeholders while confirming requirements, exploring ideas and reaching consensus to advance the UT Martin Residence Hall Programming Study.

Programming Context

Programming Meeting Summaries

Existing Housing Summary

UT Martin has approximately **2,321 beds** located in 6 residential complexes:

- **1,048 (45%)** beds are **Semi-Suite** Style
- **314 (14%)** beds are **Suite** Style
- **959 (41%)** beds are **Apartment** Style

HED

MP Housing Strategy | Right-Sizing, No Net New

UT Martin has a total targeted number of beds of **1,800** to meet the projected 2031 enrollment of 4,500 FTEs (based on historical 38% capture rate).

Steps to achieve this:

- Demo **Browning** Hall (Short-Term, -528 beds)
- Demo **Ellington** Hall (Mid-Term, -520 beds)
- Demo **University Court** (Short- and Mid-Term, -116 Beds)

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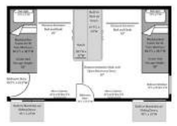
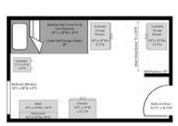
Browning & Ellington Hall | Semi-Suite



Unit Types: Double-Occupancy Semi-Suite; Private room rates available
Bed Capacity: 528 (Browning); 520 (Ellington) - Freshmen/Upper
Features: Courtyard with Volleyball, Hammock Farm, Fire Pit; Laundry (basement); TV/Entertainment Lounges (basement)
MP Strategy: Demolish Ellington (Short-Term); Demolish Browning (Mid-Term)

HED

University Village II | Apartment



Unit Types: Private bedroom/shared bath (with 1 person) in 2-,3-,4-bedroom apartment configurations
Bed Capacity: 402 - Freshmen
Features: Fully Furnished; Kitchenettes; W/D In-Unit; Study Lounges; Hammock Farm; Pergolas; Recreational Lawn Area
MP Strategy: Upgrade (Long-Term, 10+ Years)

HED

PROGRAMMING MEETING | 04.05.2023

Summary

The design team met with the primary project stakeholder groups for the Residence Hall Programming Study. The project stakeholders participated in workshops in the following groups: (1) Facilities & IT; (2) Office of the Campus Architect; (3) Housing & Student Life Leadership. The purpose of the workshops was to establish the project vision and goals for Residence Hall, as well as collect relevant project information. The team reviewed the scope of the programming study and the process through which the design would be developed. The initial programming assumptions were as follows:

- Browning Hall and Ellington Hall are the two residence halls to be demolished and replaced in the programming effort.
- The goal is to replace the two residence halls with 500-600 new beds for first-year students.
- Total project budget is $50,000,000, including demolition costs.
- The new residence halls should be at the lower end of cost and comprise of double occupancy semi-suite rooms.
- The new residence halls will house a Living Learning Community (LLC).

Programming Context

Programming Meeting Summaries

OPTION 01: Private bedrooms in pod configuration

OPTION 02: Private bedrooms in pod configuration

OPTION 03: Private bedrooms in semi-suite configuration

OPTION 04: Private bedrooms in semi-suite configuration

OPTION 05: Double bedrooms in semi-suite configuration (RA Ratio 1:52)

OPTION 06: Double bedrooms in semi-suite configuration (RA Ratio 1:30)

OPTION 07: Double bedrooms in semi-suite configuration (RA Ratio 1:40)

PROGRAMMING MEETING | 05.11.2023

Summary

The purpose of this meeting was to seek alignment on building program massing strategies. Each massing configuration has a defined Central Neighborhood zone, which is envisioned as the "heart" of the community – a place for students to gather outside of the privacy of their semi-suite rooms. Each massing also has a study/lounge space on each end of the building.

Note: Only the north building from phase 1 is shown on this page.

Option 01-02 Massing

Options 01 and 02 massings show private bedrooms organized in a pod configuration of 12 or 13 students. In Option 01, the bedrooms surround a bathroom core composed of single-user bathroom compartments. In Option 02, the bathroom core, composed of pod bathroom compartments, is along the exterior.

Option 03-04 Massing

Options 03 and 04 massings show private bedrooms organized in a semi-suite configuration. Each semi-suite consists of four (4) private bedrooms, a shower, a water closet, and two (2) lavatories. Option 03 has small nooks along the corridor for socialization. Both options have study lounges at the ends of each wing.

Option 05-07 Massing

Options 05, 06, and 07 massings show shared bedrooms organized in a semi-suite configuration. Each semi-suite consists of two (2) double-bed rooms, a shower, a washing closet, two (2) lavatories, and living room space. Options 05, 06, and 07 consist of different number of semi-suites: 13, 15, and 20 semi-suites respectively.

Key Takeaways:

- Pod configuration is preliminarily preferred.

Programming Context

Programming Meeting Summaries

OPTION 01: Private bedrooms in pod configuration

OPTION 02: Private bedrooms in pod configuration

OPTION 03: Private bedrooms in pod configuration

OPTION 04: Private bedrooms in semi-suite configuration

OPTION 05: Double bedrooms in semi-suite configuration (RA Ratio 1:80)

OPTION 06: Double bedrooms in semi-suite configuration (RA Ratio 1:60)

PROGRAMMING MEETING | 05.18.2023

Summary

The purpose of this meeting was to continue to seek alignment on building program massing strategies. Each massing configuration has a defined Central Neighborhood zone and a study/lounge space on each end of the building.

Note: Only the north building from phase 1 is shown on this page.

Option 01-02 Massing

Options 01 and 02 massings show private bedrooms organized in a pod configuration of 14 students. In Option 01, the bedrooms surround a bathroom core composed of pod bathroom compartments. In Option 02, the pods are distinguishable from the interior and exterior. Furthermore, the bathroom core is composed of single-user bathroom compartments.

Option 03 Massing

Option 03 and 04 massings show private bedrooms organized in a pod configuration of 14 students. The bathroom core, composed of pod bathroom compartments, is aligned along the exterior.

Option 04 Massing

Options 04 massing shows shared bedrooms organized in a semi-suite configuration. Each semi-suite consists of four (4) private bedrooms, a shower, a water closet, two (2) lavatories, and a small living room space.

Option 05-06 Massing

Options 05 and 06 massings show shared bedrooms organized in a semi-suite configuration. Each semi-suite consists of two (2) double-bed rooms, a shower, a water closet, two (2) lavatories, and living room space. Options 05 and 06 consist of a different number of semi-suites: 20 and 15 semi-suites respectively.

Key Takeaways:

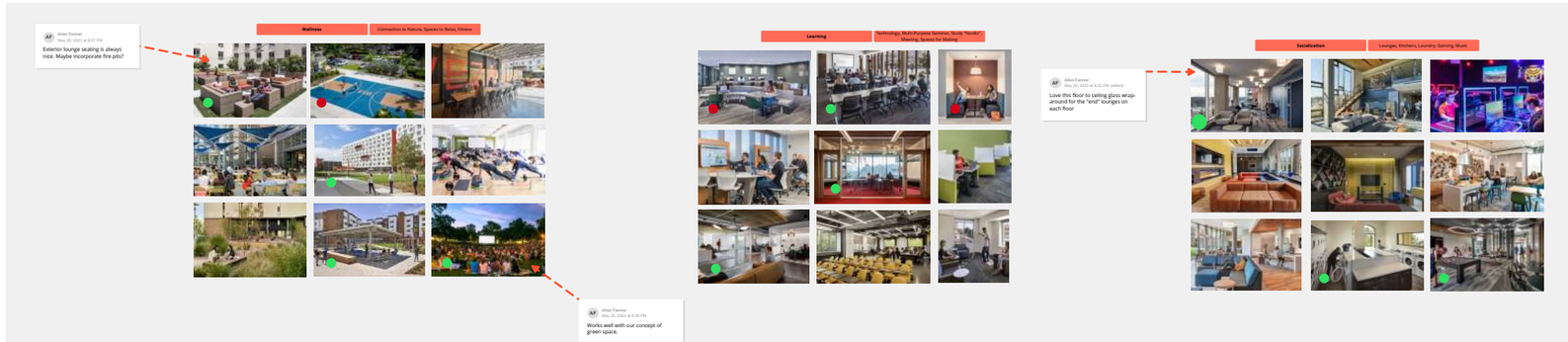
- Option 01 pod configuration is preferred. If budget allows, UTM would like private toilet rooms and private bedrooms.
- MEP spaces should be reviewed to ensure adequate space is planned for building systems.
- The two buildings should offer similar amenities, but it is expected that the Residence Hall Director will reside in one of the buildings.

Programming Context

Programming Meeting Summaries

Typical Floor Plan

Ground Floor Plan



Concept Board Visioning Activity

PROGRAMMING MEETING | 06.01.2023

Summary

The purpose of this meeting was to seek alignment on building program massing strategies within the preferred option. The focus of the programming was on the typical and ground floor layouts. During the second half of the programming meeting, HED conducted a visioning session using Concept Board with UTM to better understand the preferences for the community spaces.

Note: Only the north building from phase 1 is shown on this page.

Typical Residential Floor

Each typical floor of the building has 56 private bedroom units and one RA unit. The program layout on each floor is comprised of two (2) residential wings that are bifurcated by a Central Neighborhood community zone. Each wing consists of two (2) pods of 14 private units that are separated by smaller study spaces. There are larger study/lounge spaces on each end of the building. The RA unit is located in the core such that students can pass by the RA prior to arriving at their individual unit.

Ground Floor

The ground floor is divided into two (2) wings separated by the central core, with only the west wing consisting of bedrooms. The east wing includes the following spaces:

- Community: open lobby, kitchen, study space
- Office: mail room, two (2) offices, storage, staff apartment
- Support: tornado shelter/multi-purpose room, MEP, storage

Visioning Activity

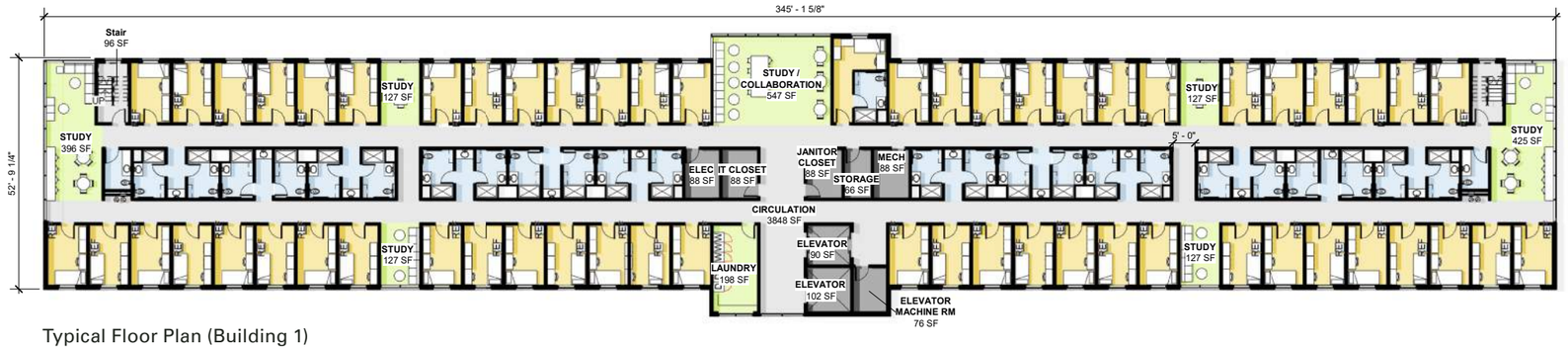
Photos of different examples of student residence hall spaces that exhibit elements of wellness, learning, or socialization were used in a discussion about UTM's preferences for the community spaces. In Concept Board, the green dots represent "likes" and red dots represent "dislikes".

Key Takeaways:

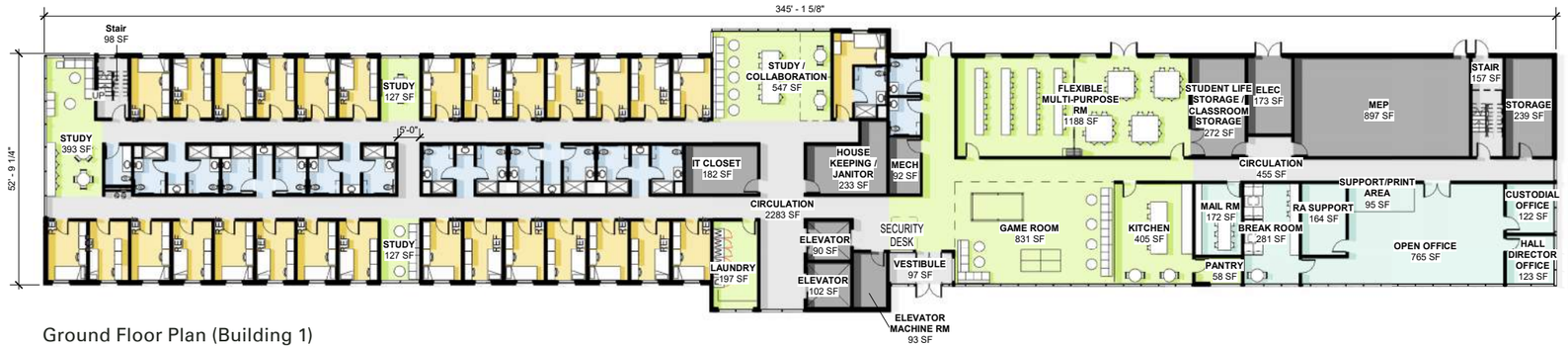
- MEP spaces should be reviewed to ensure adequate space is planned for building systems.
- As UTM has significant storage needs, especially for furniture, any "leftover" space is to be used as storage.
- Preference for community spaces in the core and both ends of the building to be open and bright with large windows.

Programming Context

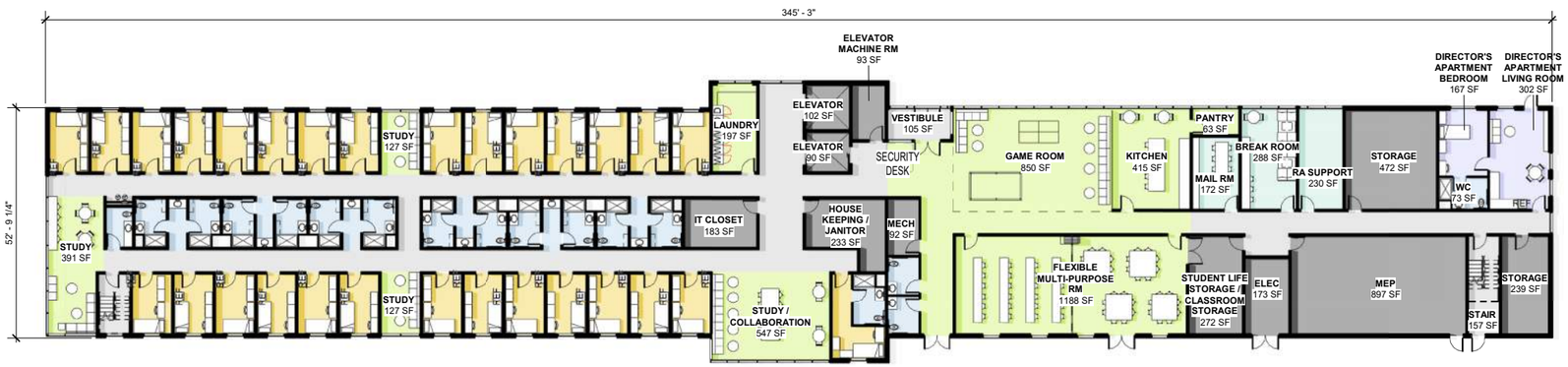
Programming Meeting Summaries



Typical Floor Plan (Building 1)



Ground Floor Plan (Building 1)



Ground Floor Plan (Building 2)

PROGRAMMING MEETING | 06.22.2023

Summary

The purpose of this meeting was to seek alignment on building program massing strategies within the preferred building massing option. The focus of the programming was the support spaces on the typical residential floor and the east wing of the ground floor layouts for both buildings.

Key Takeaways:

- The study lounge in the middle of each building wing should be removed to allow for more NSF/GSF efficiency.
- The newer phase of University Village should be used as an example of the external aesthetic quality that is desired for this new residence hall.
- Highlighting collaborative spaces on the exterior of the building, by way of glazing, is desired. Units will receive punched openings of uniform dimensions.

Total Building NSF:	49,051
Total Building GSF:	74,740
Efficiency:	65.6%

Programming Context

Programming Meeting Summaries

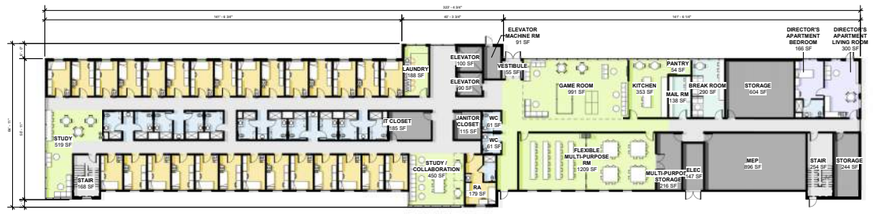
Option 01: Typical Floor Plan (Building 1)

Option 02: Typical Floor Plan (Building 1)

Option 01: Ground Floor Plan (Building 1)

Option 02: Ground Floor Plan (Building 1)

Option 01: Ground Floor Plan (Building 2)



Option 02: Ground Floor Plan (Building 2)

Option 1

Total Building NSF:	46,634
Total Building GSF:	71,700
Efficiency:	65.0%
Lav Ratio:	1:1.5
WC Ratio:	1:2.3
Shower Ratio:	1:2.3

Option 2

Total Building NSF:	45,824
Total Building GSF:	70,820
Efficiency:	64.7%
Lav Ratio:	1:1.75
WC Ratio:	1:2.5
Shower Ratio:	1:2.5

IN-PERSON PROGRAMMING WORKSHOP | 06.29.2023

Summary

The design team met with the primary project stakeholder groups for the Residence Hall Programming Study. The project stakeholders participated in workshops in the following groups: (1) Facilities & IT; (2) Office of the Campus Architect; (3) Housing & Student Life Leadership. The purpose of this on-site programming meeting was to review the latest programming plans, discuss civil and MEP requirements, and do a walkthrough of the existing UTM facilities.

Option 01 versus Option 02

The main difference between Option 01 and 02 is the square footage of the community spaces and the number of bathroom pods. Option 02 has one less bathroom pod and one less lavatory than Option 01. Option 02 has a smaller central study/collaboration space and laundry and the study spaces at the ends of the building are larger.

Key Takeaways:

- Continue with the smaller footprint (Option 02).
- This proposed programmatic development aligns with the goals of the project stakeholders, with minor modifications.
- Orientation of the lounges should be toward the Quad rather than parking lots.
- Central study/collaboration area to include more technology as well as small huddle rooms.
- Lounges on either ends of the building should feel like a "living room" and be a social area.

3

SITE CONSIDERATIONS

Context Map

SITE ASSUMPTIONS

The project site is located in the University "U" District per the Martin, TN 2018 Zoning Map. The project site is bounded by:

- North: Boling University Center & Lot 5
- East: University Phase 2 & Lot 8
- South: Lot 7 & 19
- West: Mt Pelia Road

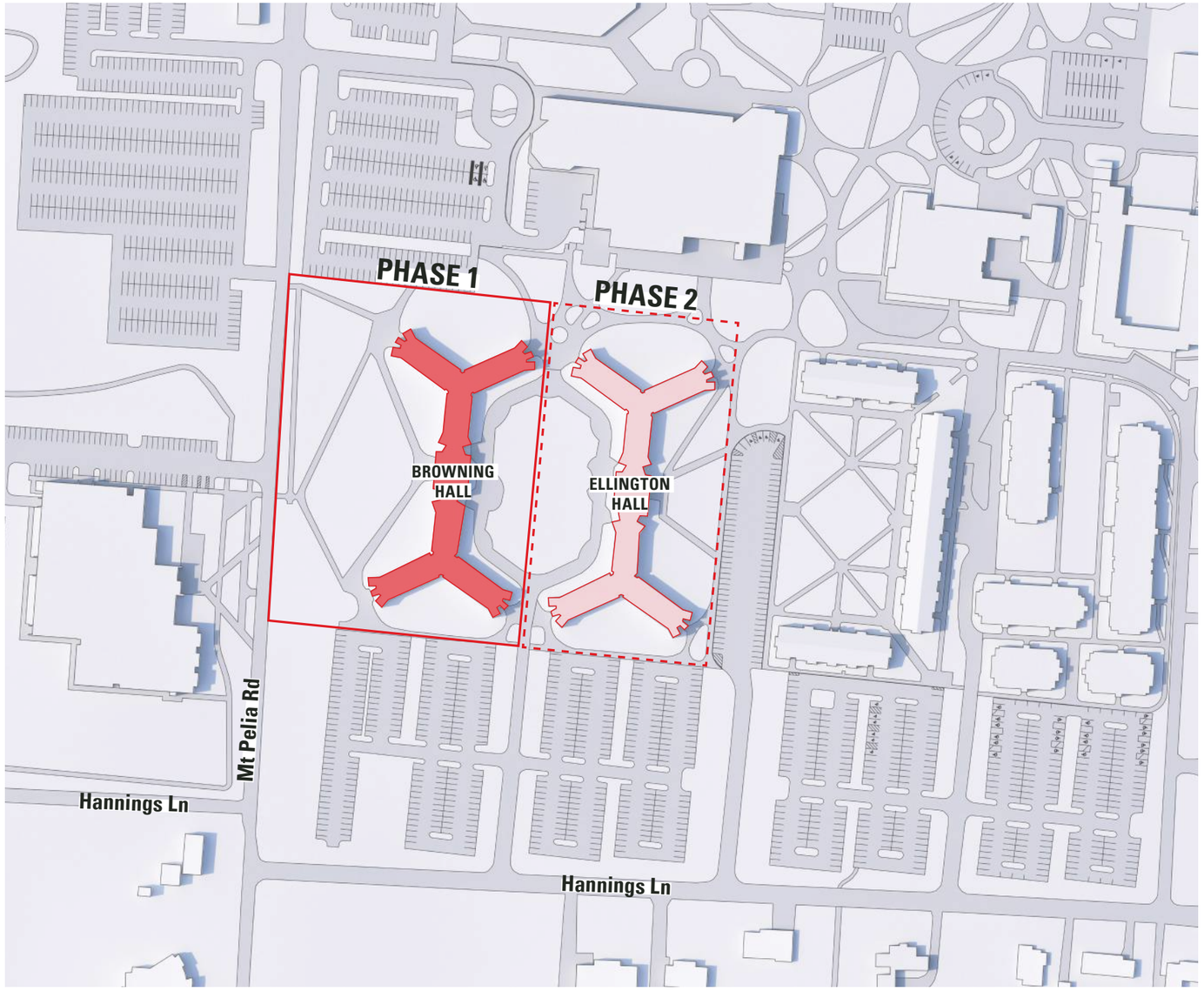
Site Area: 436,476 GSF (approx)

The following zoning restrictions apply, per the Martin, TN Zoning Ordinance:

Setbacks: None, project boundary does not fall at edge of "U" District
Max Height: 70'
Max Site Coverage: None

SITE CONSIDERATIONS

Overall Site Plan



The demolition of Ellington and Browning Halls is defined in the 2021 amended Master Plan. Based on conversations with UTM, Ellington Hall is in better condition than Browning Hall. As such, in Phase 1, Browning Hall will be demolished first while Ellington remains operational during the construction of the new Residence Halls.

Phase 1

Approx. Site Area: 240,000 GSF

Target Beds: 400 Beds

Approx. Building Height: 4 Stories

Phase 2

Approx. Site Area: 170,000 GSF

Target Beds: To be determined

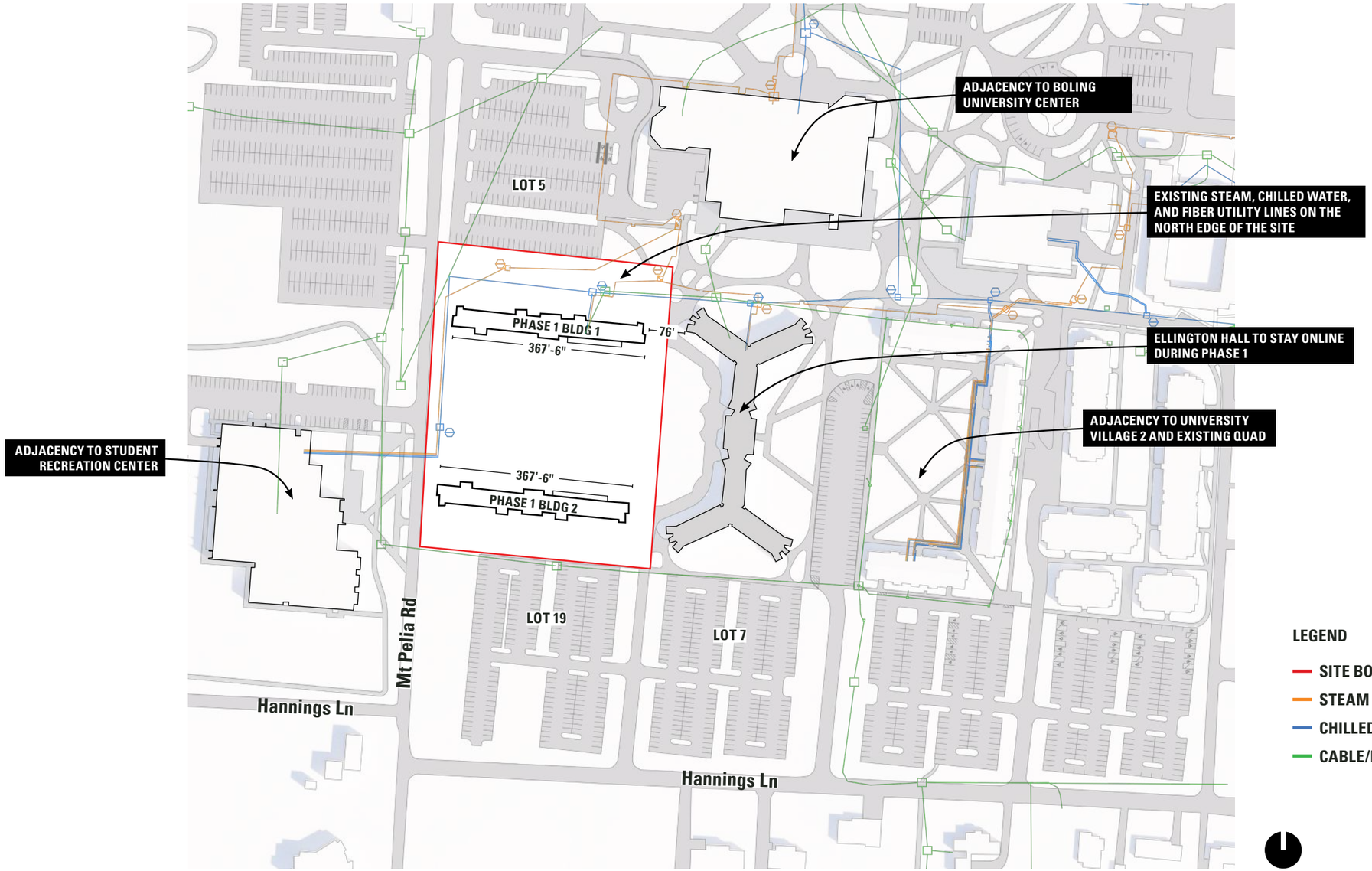
Approx. Building Height: To be determined

SITE CONSIDERATIONS

Adjacencies, Constraints & Opportunities

The new Phase 1 Residence Halls are strategically situated along Mt. Pelia Road. The buildings will be able to take advantage of the existing utilities on site and also create a new gateway to the campus from the west by enhancing and enriching the open space that characterizes the UT Martin campus. To the west, the site is constrained by a light traffic road that serves as one of the main entrances to campus and the main vehicular approach to the Boling University Center. This location allows the new Residence Halls to be an extension of the existing UTM housing neighborhood by creating a large shared green quad that ties all of the residence halls together.

The new Phase 1 Residence Halls should be positioned as far west on the project site as is feasible, in order to preserve land adjacent to Ellington Hall, which is slated for demolition in Phase 2. Maximizing the Phase 2 site area will give UTM flexibility for future development. A survey should be performed for the project site to determine underground utility locations; this is of critical importance at the northwest corner of the site adjacent to Building 1.



SITE CONSIDERATIONS

Site Strategies

This site massing strategy creates a new residential quad adjacent to the proposed new Pedestrian Open Space Corridor.

The alignment of the new Residence Halls on the north and south edges of the project site allow for ample open space in the center, as well as ideal sun exposure to each building.

Phase 1: 400 beds, 4 stories

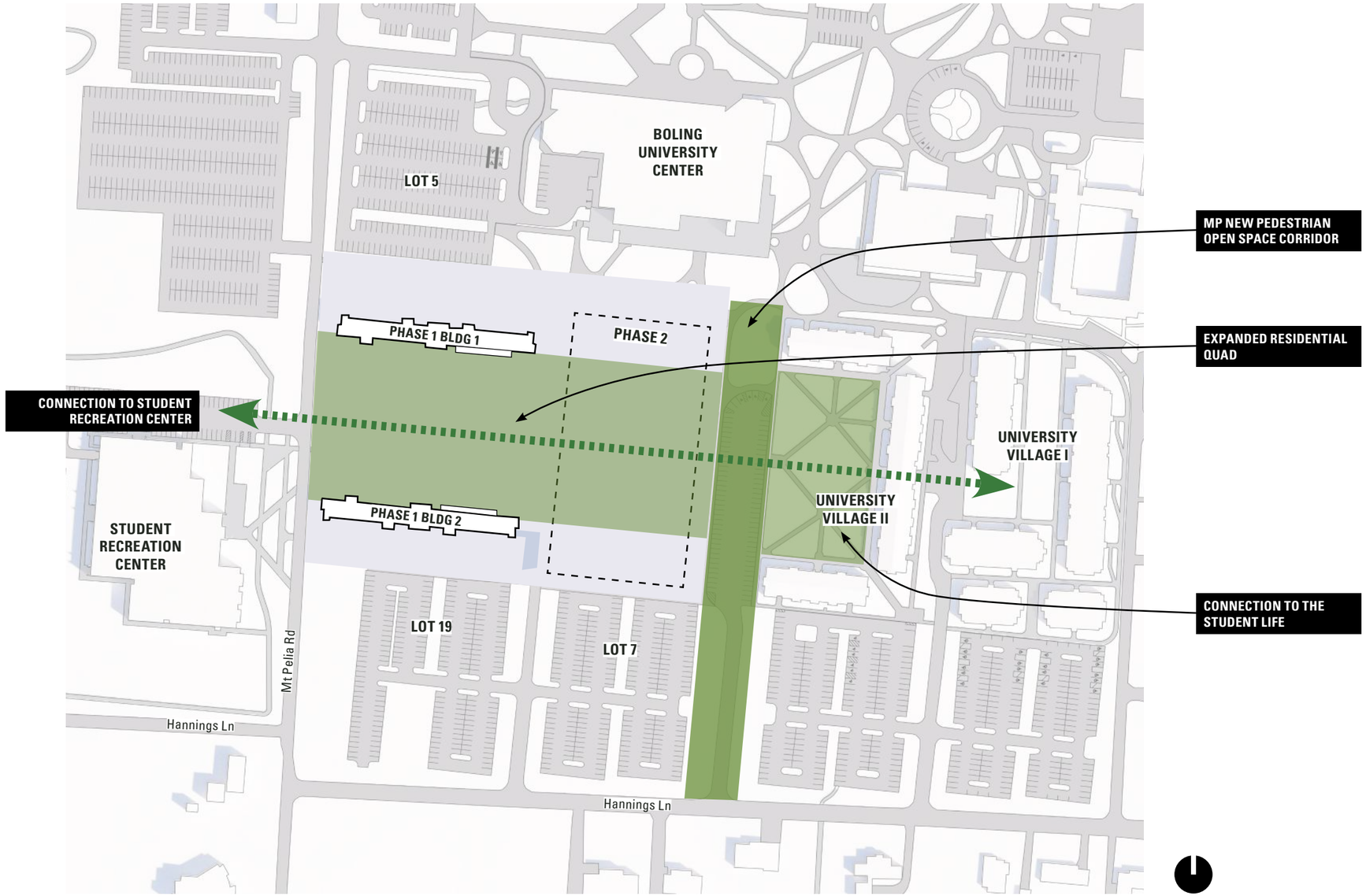
Phase 2: To be determined

Total: To be determined

QUAD EXTENSION AND CREATING COMMUNITY

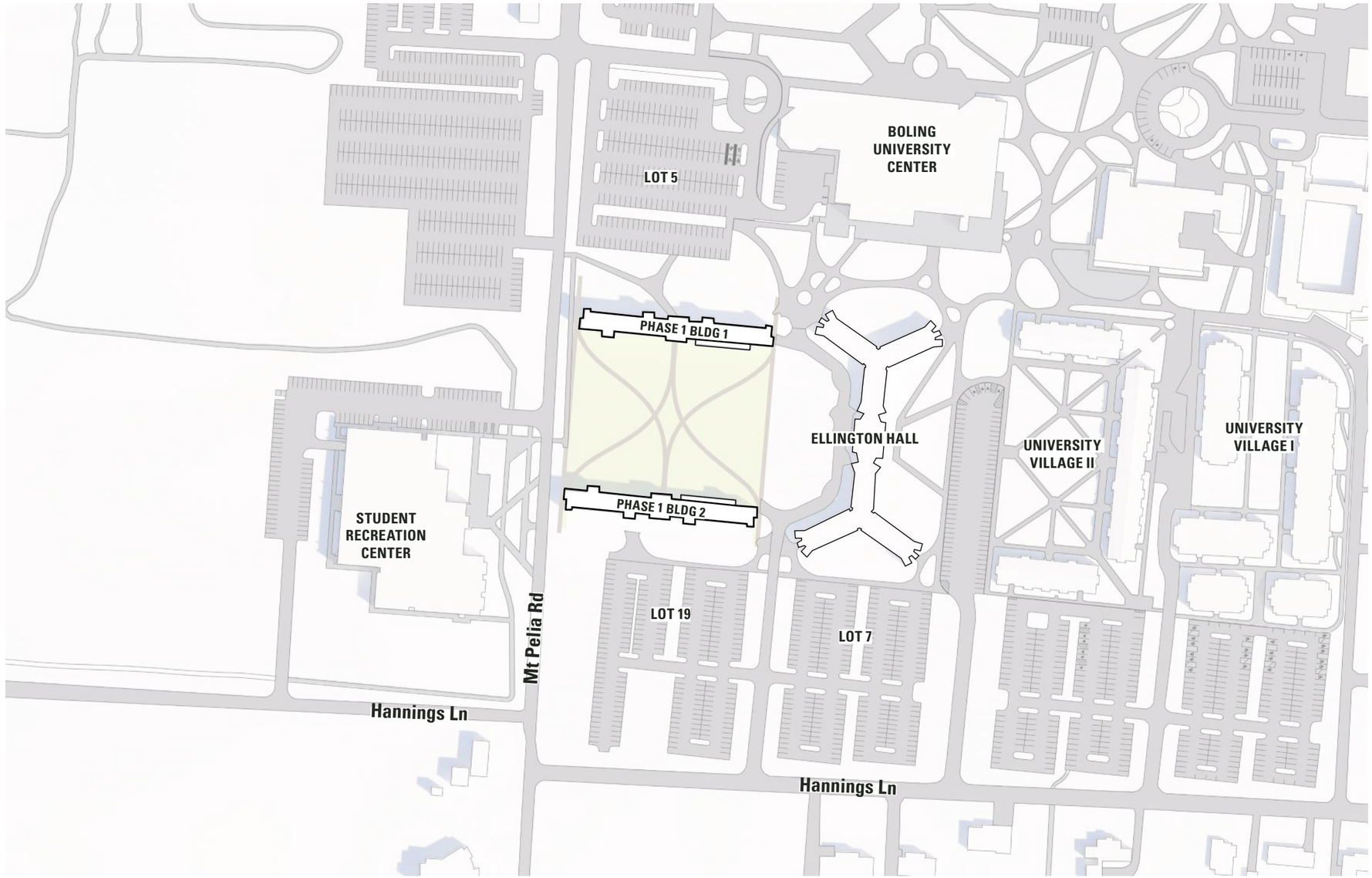
The proposed Phase 1 Residence Halls are located at the edge of the main campus, bordered by Mt. Pelia Road to the west and Ellington Hall to the east. Parking Lots 5 and 19 are located to the north and south respectively, providing parking in close proximity to the new Residence Halls. The project site allows for an ideal East-West orientation of the Phase 1 buildings, which maximizes daylighting of the interior spaces and minimizes solar heat gain.

By replacing Browning and Ellington Halls, an expanded residential quad can be defined by the new Phase 1 Residence Halls, which strengthens the relationships between the separate buildings that make up the residential neighborhood. This quad reaches out to the west and allows for a connection to the University Student Center on the corner of Hannings Lane and Mt. Pelia Road. The two new buildings of Phase 1 are located across the quad from each other, encouraging cross communication on the site. In the future Phase 2, when Ellington Hall is replaced, the quad will connect unimpeded from Mt. Pelia Road to the existing University Village II quad.



SITE CONSIDERATIONS

Illustrative Site Plan | Phase 1



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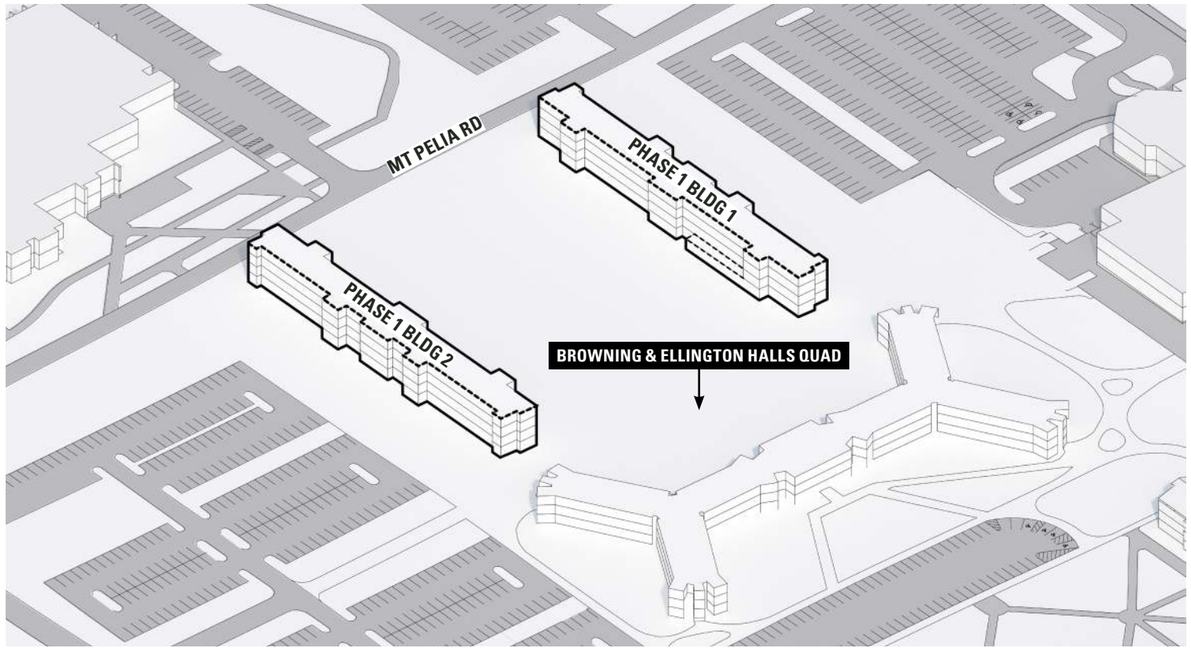
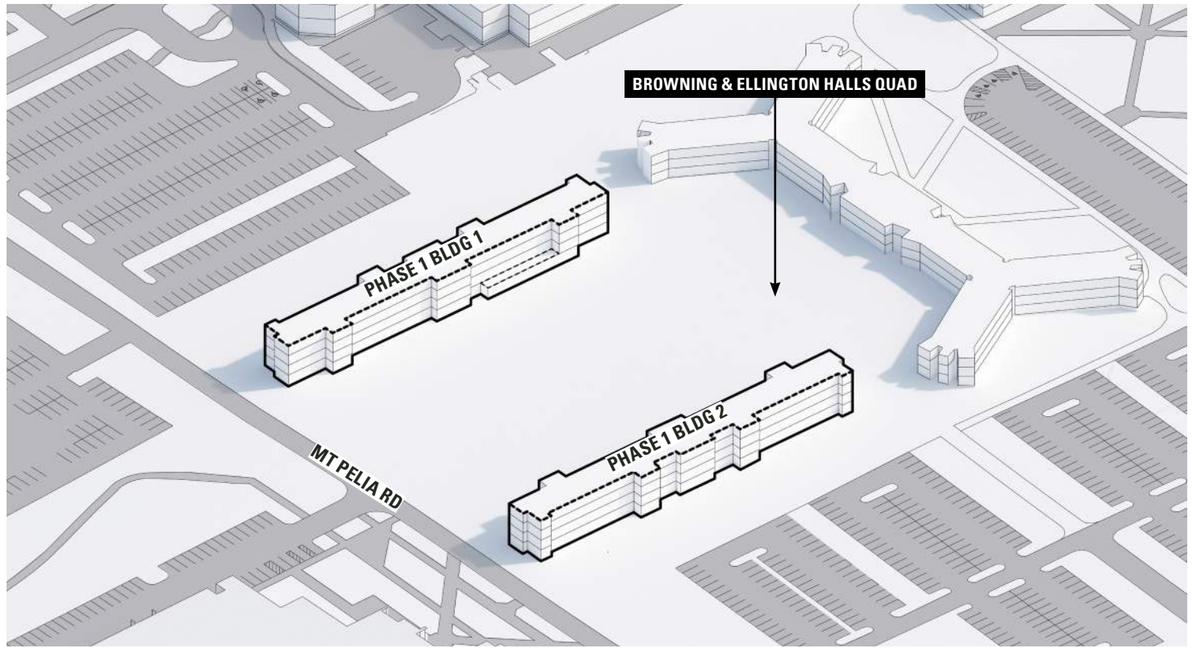
PROGRAMMING

Organizing Concepts | Connection/Quad Extension



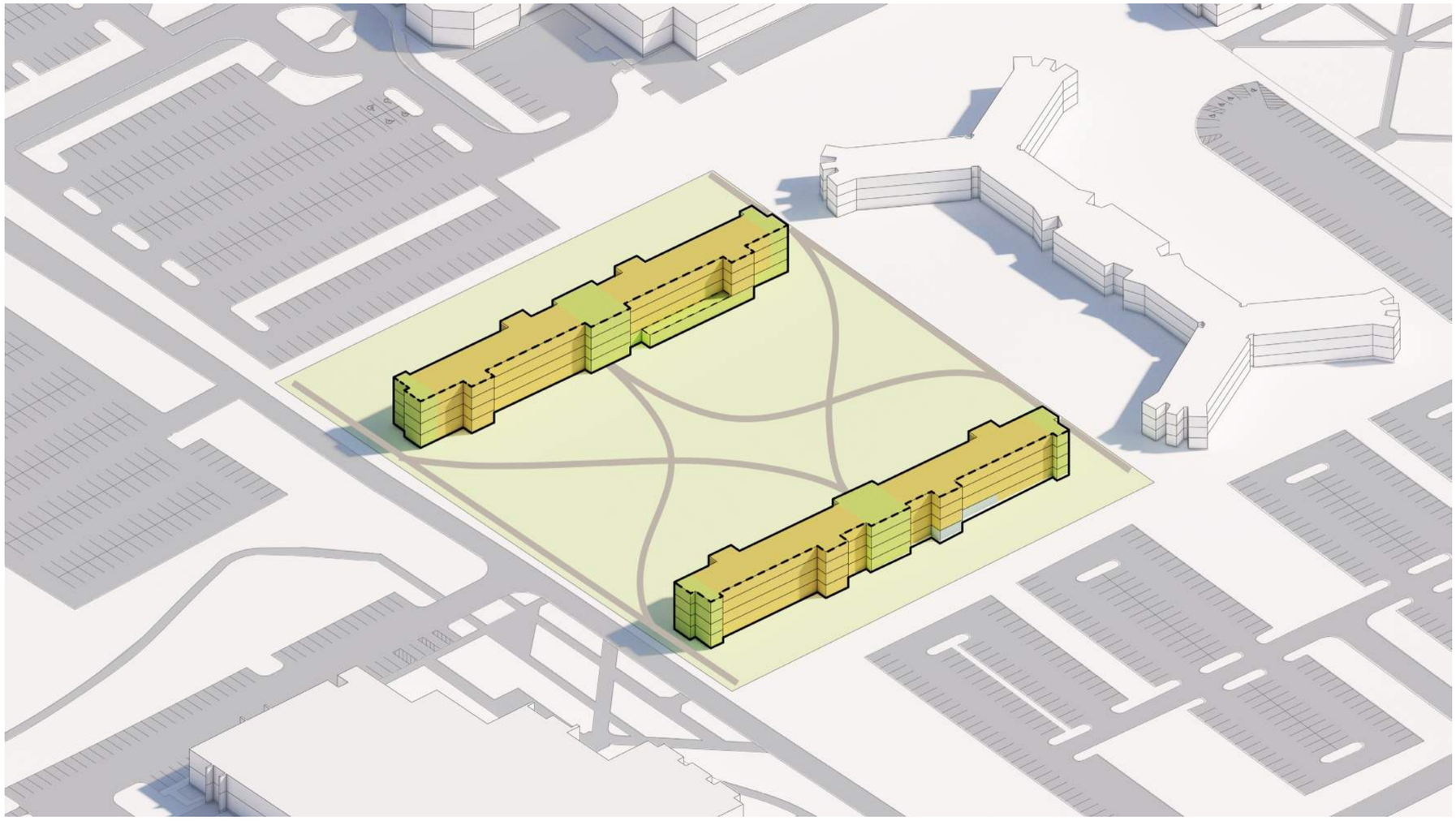
Southeast Axon



Southwest Axon

Programming

Organizing Concepts | Architectural Massing



PROGRAM ORGANIZATION

The Phase 1 Residence Halls are programmed with a private one-bedroom unit as the base building block for the development. The units are grouped in two (2) residential blocks per typical floor that span on each side of a central common space. Each typical residential floor is considered a "Neighborhood" within the building. The Neighborhood is programmed with the necessary spaces to support a successful and thriving residential community. Social Lounges are programmed at the building ends to reach out towards the campus. A larger central shared Study Lounge offers a variety of collaboration areas and is adjacent to the Laundry on each floor; this adjacency will encourage student residents to study or socialize outside their private bedroom spaces whilst waiting for their laundry.

Each new Residence Hall is comprised of three residential Neighborhoods and a partial residential floor on the ground level. The rest of Level 1 provides an abundance of community programs, such as the Multi-Purpose space, Recreation space with game tables, and Community Kitchen, as well as the necessary support and back of house spaces.

SINGLE BED

COMMUNITY

OFFICE

Programming

Organizing Concepts | Program Organization Massing

TOTAL BEDS PER BUILDING: 200

SINGLE BEDS: 196

RA BEDS: 4

TOTAL BEDS PHASE 1: 400

TOTAL AREA PER BUILDING: 55,033 GSF

AREA/BED: 275 GSF/Bed

SINGLE BED

BATHROOM

COMMUNITY

OFFICE

CIRCULATION

SUPPORT

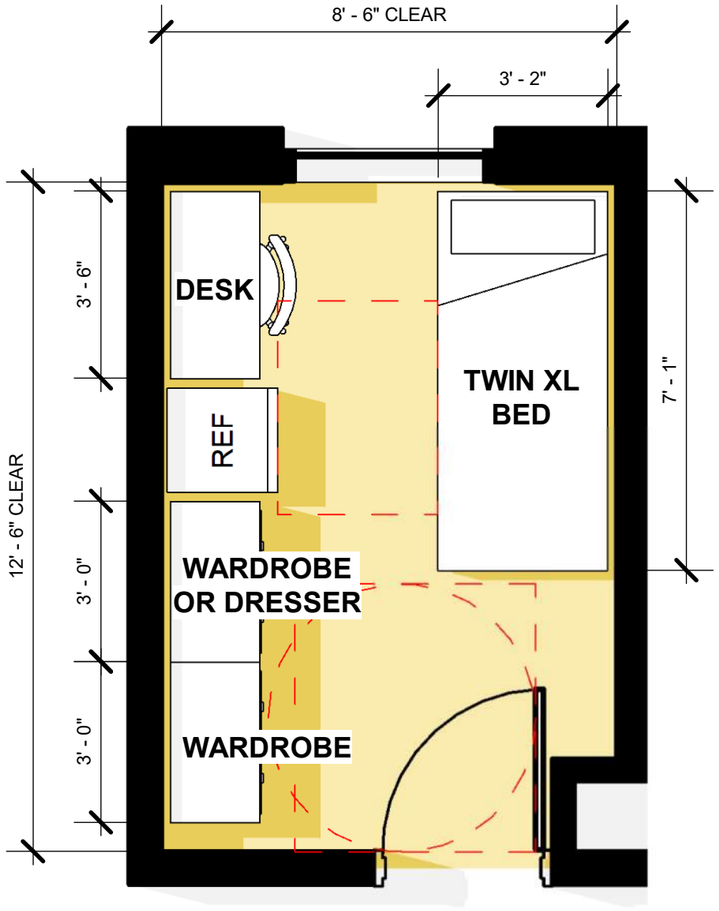
Programming

Building Blocks | Units

PRIVATE - SINGLE BED

Area: 128 GSF (105 NSF)

This private single-bed configuration represents the student bedroom units in the proposed New Residence Hall Programming Study. The unit allows for one (1) twin XL bed, one (1) wardrobe, one (1) dresser, and one (1) desk. There is also space for students to bring their own micro-refrigerators. The furniture allows for flexibility in room arrangement; two example layouts are provided for illustrative purposes.



Furniture Layout 1

Furniture Layout 2

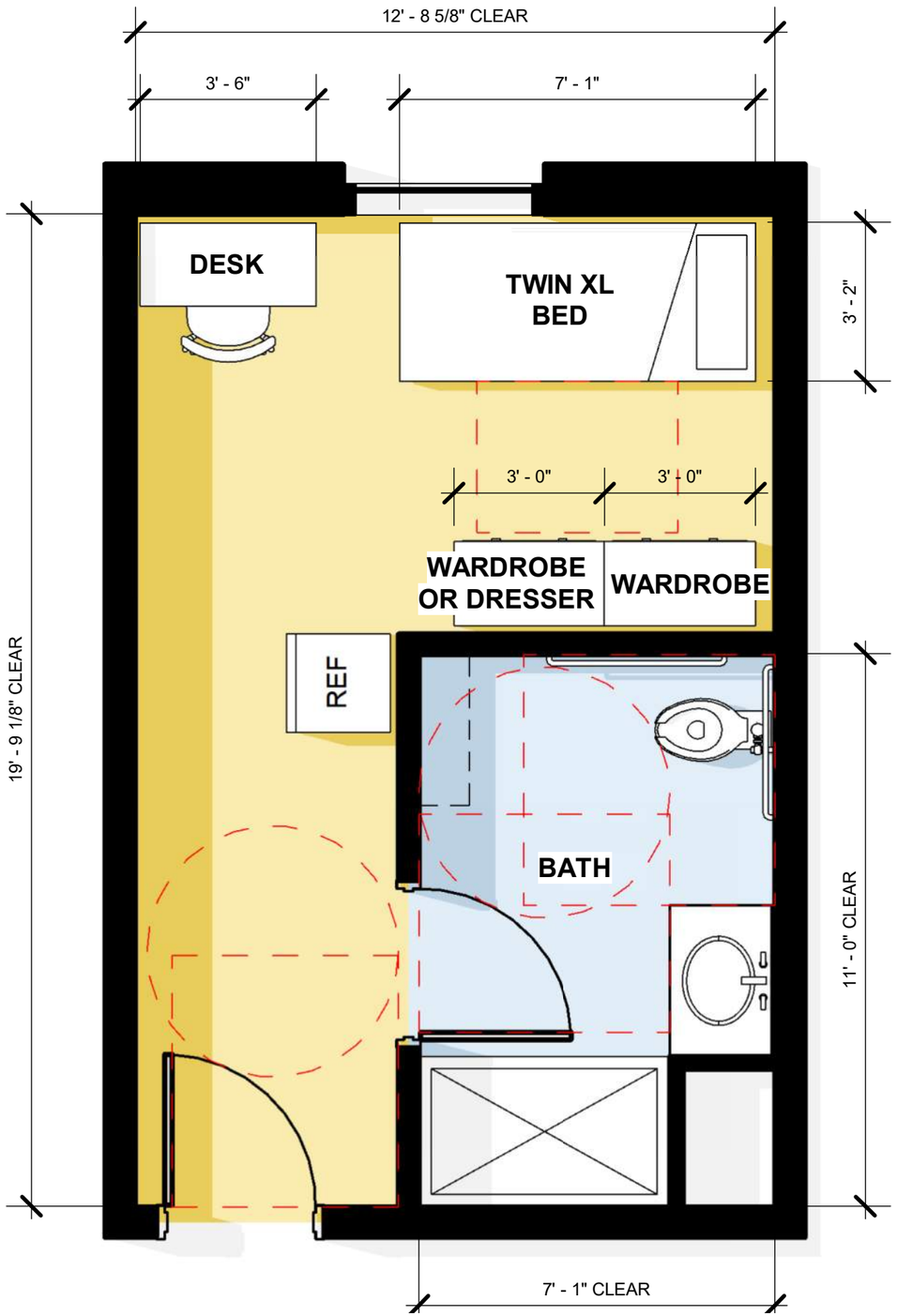
Programming

Building Blocks | RA Unit

RA SEMI SUITE - SINGLE BED (PRIVATE)

Area: 285 GSF (236 NSF)

This private semi-suite configuration represents the RA unit in the proposed New Residence Hall Programming Study. The suite has a bathroom with water closet, shower, and lavatory. The bathroom creates a spatial separation between the public corridor and the bedroom, allowing for more privacy and sound reduction.



Programming

Building Blocks | Bathroom Pod

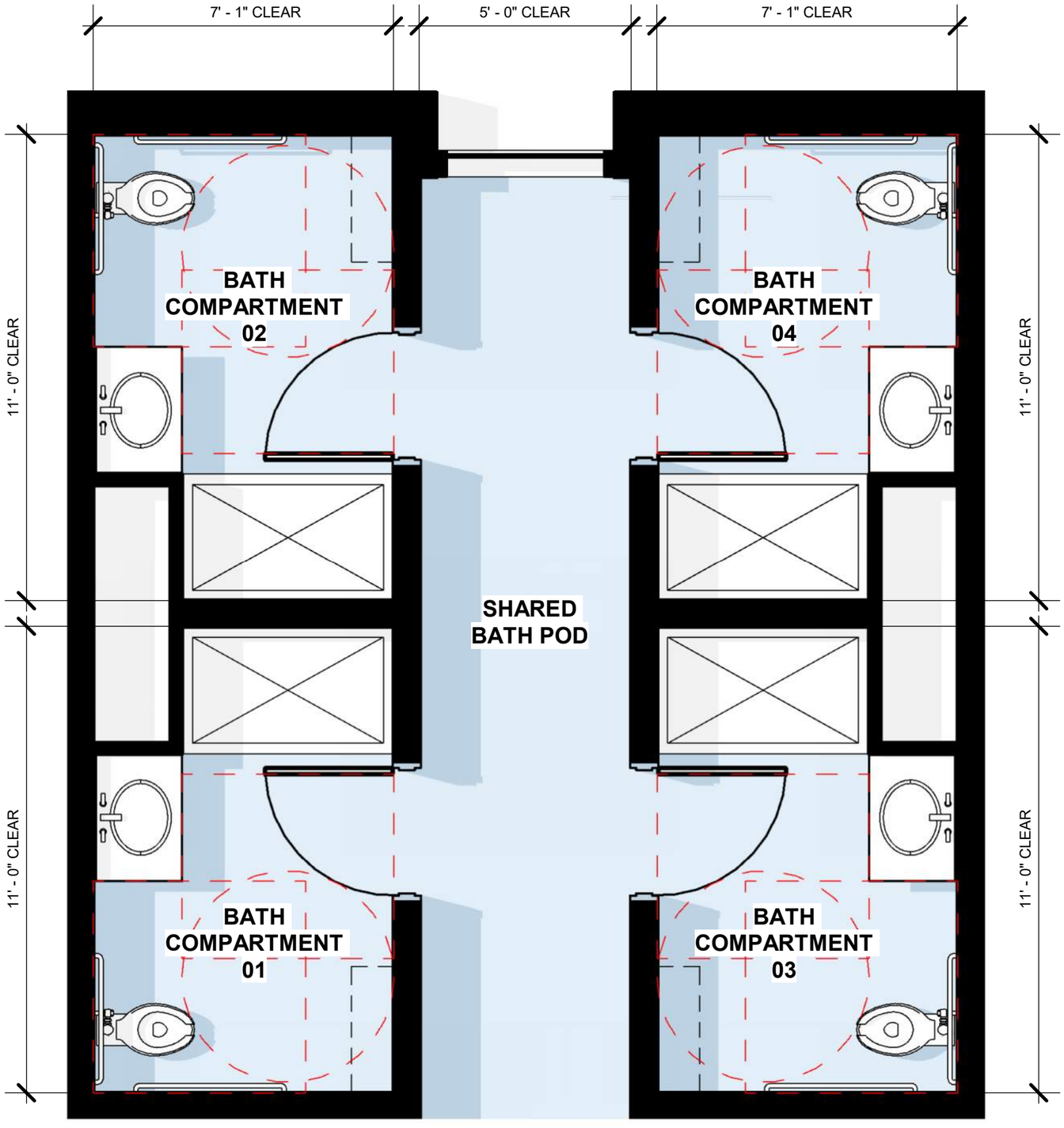
SHARED BATH POD

Total Bathroom Area Per Shared Pod:
502 GSF (401 NSF)

Fixture to Student Ratios:

Lavatory	1:3.5
Water Closet	1:3.5
Shower	1:3.5

The bathrooms are shared pod-style and consist of private compartments with one (1) water closet, one (1) shower, and one (1) lavatory. An open, shared lavatory area could be considered outside of the private bath compartments if more lavatories are desired. The bathrooms are meant to be shared between the student residents of each residential block, however each compartment offers total privacy when being used. Each private bathroom compartment opens to a secondary corridor within the shared bath pod, instead of opening to the main circulation corridor on each floor; this layout is preferred, as it brings natural light and additional privacy into the space.



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Programming

Design Program (Building 1) | Program Summary

UT Martin: New Residence Hall Programming Phase 1 - Building 1

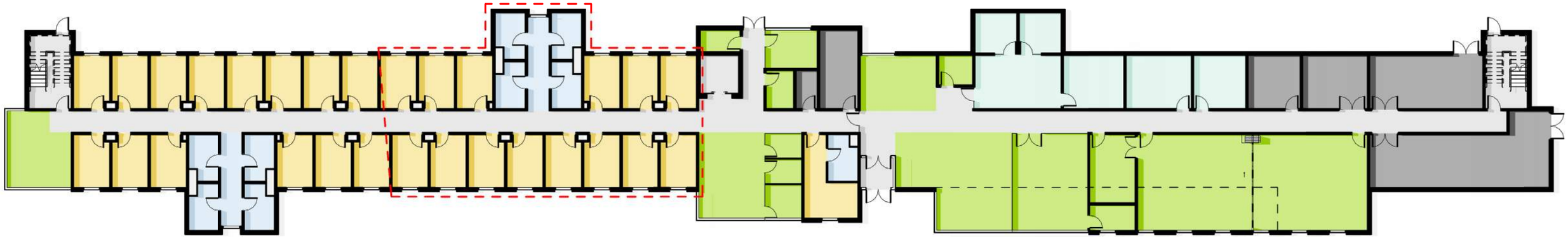
		Type	Beds	NSF	QTY	Subtotal NSF
Residential						
		Bedroom - Single Occupancy	1	105	196	20,580
		Subtotal Beds	196			
		RA - Single Occupancy	1	236	4	944
		Subtotal Beds	4			
		Total Beds	200 beds			21,524
Residential "Block"	28 Students	Common Programs				
		Gender Inclusive Bathroom Pods - 2 per Block		401	14	5,614
		Lounge - 1 per Block		269	7	1,883
					Subtotal	7,497
Residential Neighborhood	56 Students per Neighborhood	Common Programs				
	1 Floor/2 Blocks	Neighborhood Study / Collaboration - (space to accommodate neighborhood gathering)		331	4	1,324
		Huddle Room (Small) - 2 per Floor		51	8	408
		Huddle Room (Medium) - 1 per Floor		73	4	292
		Single User Restroom		58	4	232
		Custodial Closet - 1 per Floor		45	4	180
		Sub-Electrical - 1 per Floor		81	3	243
		IDF - 1 per Floor		81	3	243
		Laundry		160	4	640
		Elevator Machine Room		47	4	188
					Subtotal	3,750
Community	200 Students	Common Programs				
		Reception		237	1	237
		Multi-Purpose Space (Severe Weather Shelter)		1233	1	1,233
		Multi-Purpose Storage		173	1	173
		Community Lounge / Game Room / Entertainment		558	1	558
		Community Kitchen		419	1	419
		Community Pantry		63	1	63
		Single User Restroom		55	1	55
		Office Suite - Admin Open Office		260	1	260
		Private Offices		95	2	190
		Admin Break Room		180	1	180
		RA Resource		192	1	192
		Mail / Package		154	1	154
					Subtotal	3,714
		MEP/Service				
		Custodial Storage		154	1	154
		MDF		167	1	167
		Main Electrical		192	1	192
		Main Mechanical		919	1	919
					Subtotal	1,432

Total Building NSF	37,917
Efficiency	68.9%
Total Building GSF	55,033
GSF / Bed	275

HED

Programming

Design Program (Building 1) | Overall Ground Floor Plan



GROSS BUILDING AREA

LEVEL	GROSS AREA
LEVEL 1	14,392 GSF
LEVEL 2	13,547 GSF
LEVEL 3	13,547 GSF
LEVEL 4	13,547 GSF
TOTAL GROSS AREA	**55,033 GSF**

TOTAL BEDS: 200

TYPICAL FLOOR:

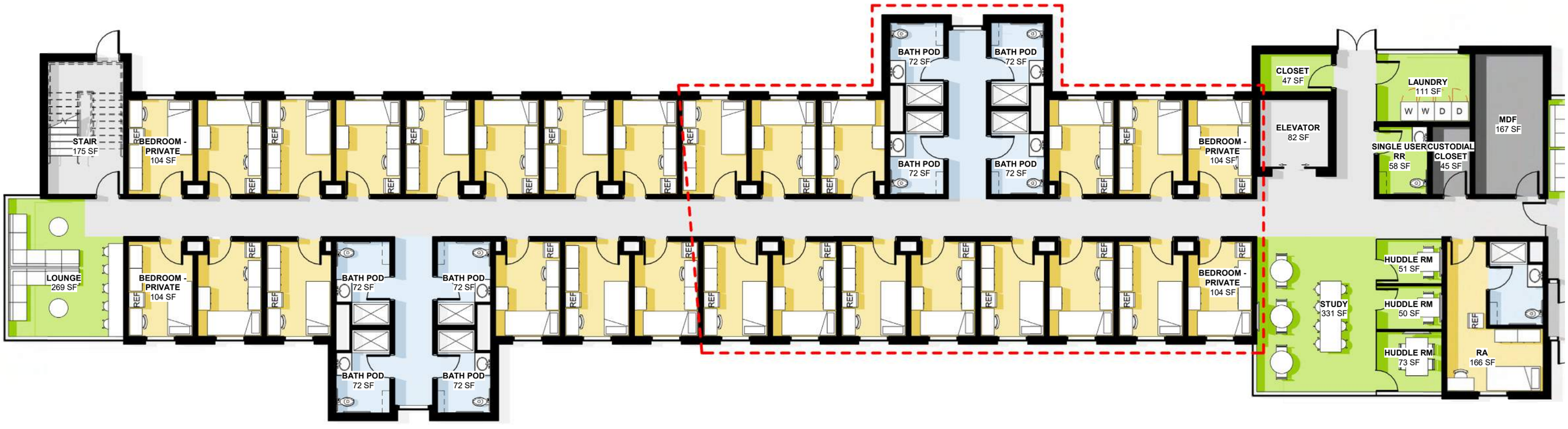
57 BEDS/FLOOR
- **(2) 28-BED PODS**
- **(1) RA**

275 SF/BED

- **SINGLE BED**
- **BATHROOM**
- **COMMUNITY**
- **OFFICE**
- **CIRCULATION**
- **SUPPORT**

Programming

Design Program (Building 1) | Ground Floor West Wing



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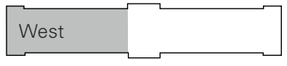

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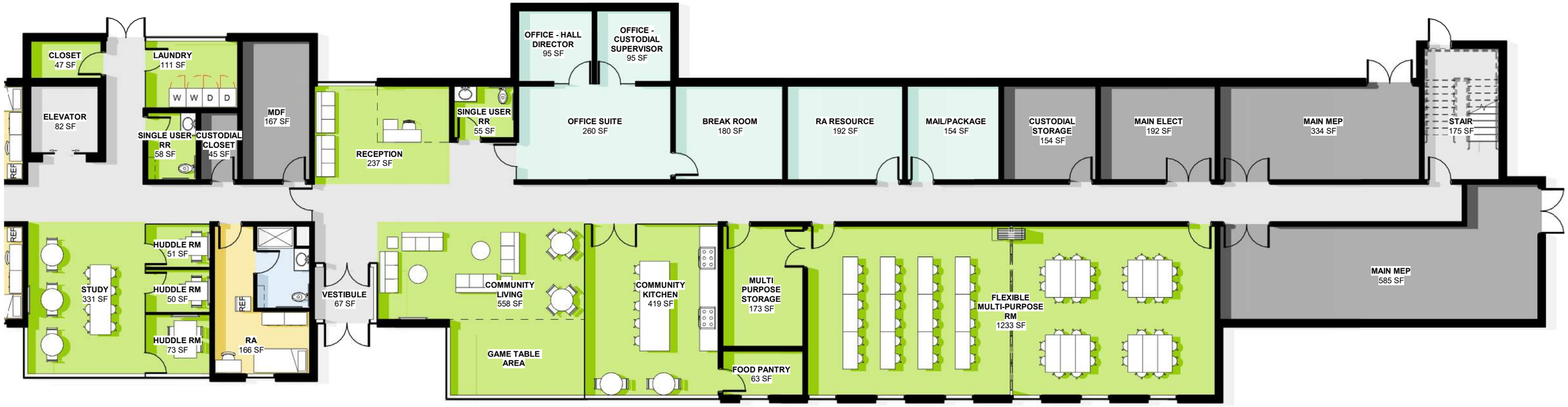
Programming

Design Program (Building 1) | Ground Floor East Wing



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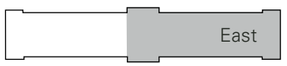
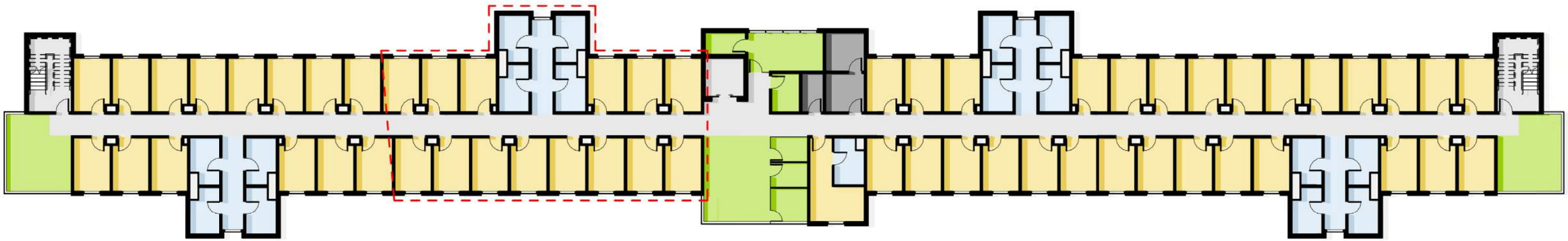


- SINGLE BED
- BATHROOM
- COMMUNITY
- OFFICE
- CIRCULATION
- SUPPORT

Programming

Design Program (Building 1) | Overall Typical Floor Plan



GROSS BUILDING AREA

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LEVEL 4	13,547 GSF
TOTAL GROSS AREA	**55,033 GSF**

TOTAL BEDS: 200

TYPICAL FLOOR:

57 BEDS/FLOOR
- **(2) 28-BED PODS**
- **(1) RA**

275 SF/BED

- **SINGLE BED**
- **BATHROOM**
- **COMMUNITY**
- **OFFICE**
- **CIRCULATION**
- **SUPPORT**

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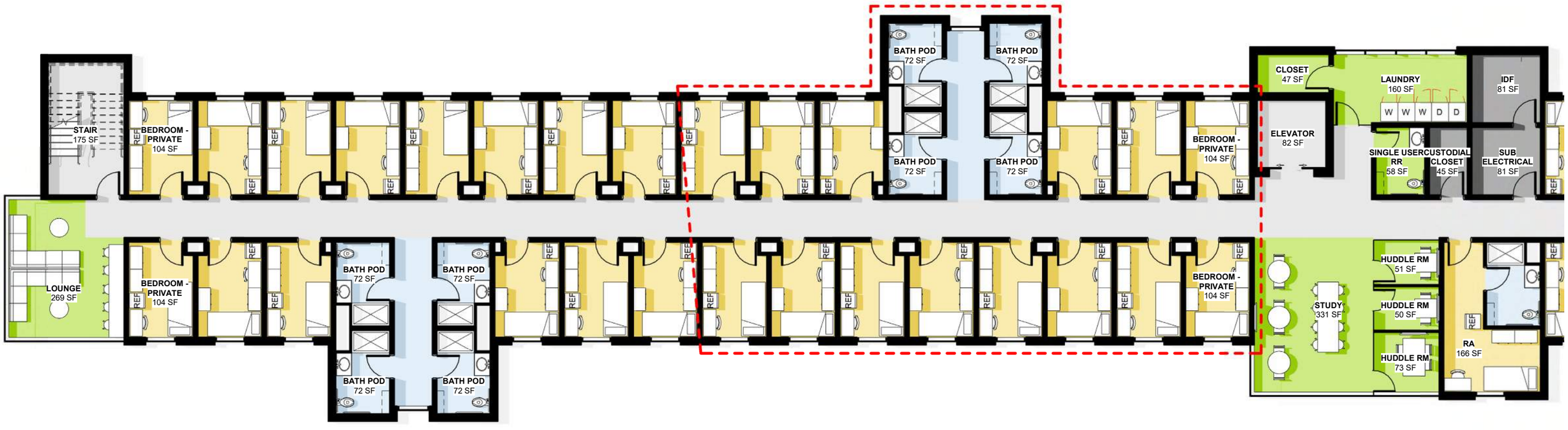
Programming

Design Program (Building 1) | Typical Floor West Wing



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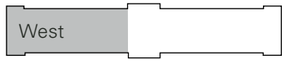
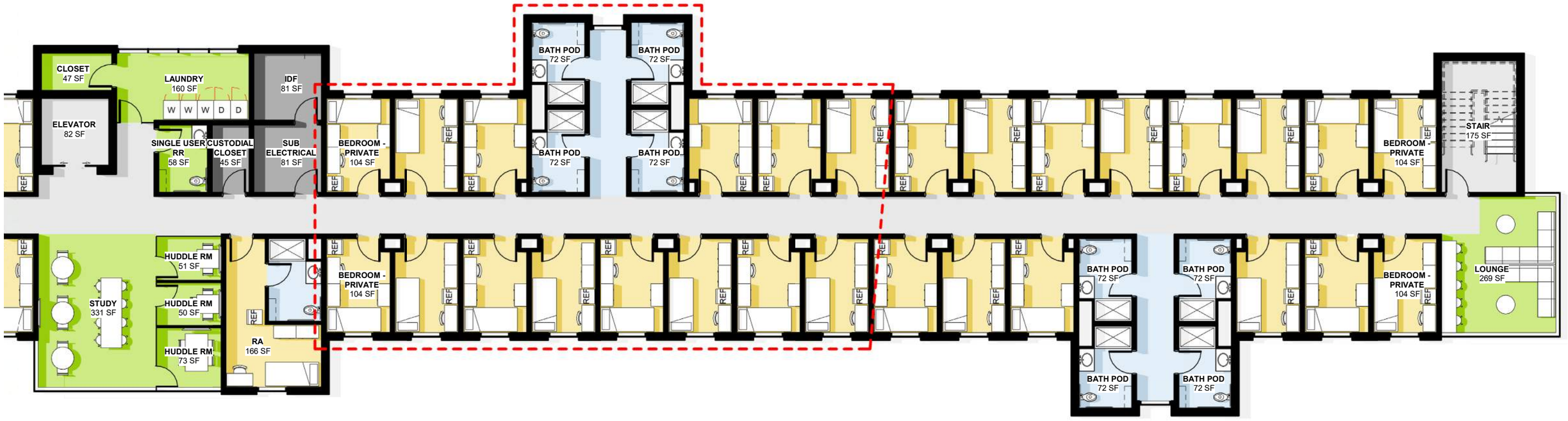


- SINGLE BED
- BATHROOM
- COMMUNITY
- OFFICE
- CIRCULATION
- SUPPORT

HED

Programming

Design Program (Building 1) | Typical Floor East Wing



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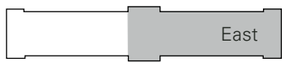


- SINGLE BED
- BATHROOM
- COMMUNITY
- OFFICE
- CIRCULATION
- SUPPORT

Programming

Design Program (Building 2) | Program Summary

UT Martin: New Residence Hall Programming Phase 1 - Building 2

		Type	Beds	NSF	QTY	Subtotal NSF
Residential						
		Bedroom - Single Occupancy	1	105	196	20,580
		Subtotal Beds	196			
		RA - Single Occupancy	1	236	4	944
		Subtotal Beds	4			
		Total Beds	200 beds			21,524
Residential "Block"	28 Students	Common Programs				
		Gender Inclusive Bathroom Pods - 2 per Block		401	14	5,614
		Lounge - 1 per Block		269	7	1,883
					Subtotal	7,497
Residential Neighborhood	56 Students per Neighborhood	Common Programs				
	1 Floor/2 Blocks	Neighborhood Study / Collaboration - (space to accommodate neighborhood gathering)		331	4	1,324
		Huddle Room (Small) - 2 per Floor		51	8	408
		Huddle Room (Medium) - 1 per Floor		73	4	292
		Single User Restroom		58	4	232
		Custodial Closet - 1 per Floor		45	4	180
		Sub-Electrical - 1 per Floor		81	3	243
		IDF - 1 per Floor		81	3	243
		Laundry		160	4	640
		Elevator Machine Room		47	4	188
					Subtotal	3,750
Community	200 Students	Common Programs				
		Reception		237	1	237
		Multi-Purpose Space (Severe Weather Shelter)		1233	1	1,233
		Multi-Purpose Storage		173	1	173
		Community Lounge / Game Room / Entertainment		558	1	558
		Community Kitchen		419	1	419
		Community Pantry		63	1	63
		Single User Restroom		55	1	55
		RA Resource		223	1	223
		Mail / Package		155	1	155
					Subtotal	3,116
		MEP/Service				
		Custodial Storage		223	1	223
		MDF		167	1	167
		Main Electrical		196	1	196
		Main Mechanical		878	1	878
					Subtotal	1,464
		Staff Residential				
		Director's Apartment - 1 Bedroom/1 Bath		585	1	585
					Subtotal	585

Total Building NSF	37,936
Efficiency	68.9%
Total Building GSF	55,033
GSF / Bed	275

HED

Programming

Design Program (Building 2) | Overall Ground Floor Plan

GROSS BUILDING AREA

LEVEL	GROSS AREA
LEVEL 1	14,392 GSF
LEVEL 2	13,547 GSF
LEVEL 3	13,547 GSF
LEVEL 4	13,547 GSF
TOTAL GROSS AREA	**55,033 GSF**

TOTAL BEDS: 200

TYPICAL FLOOR:

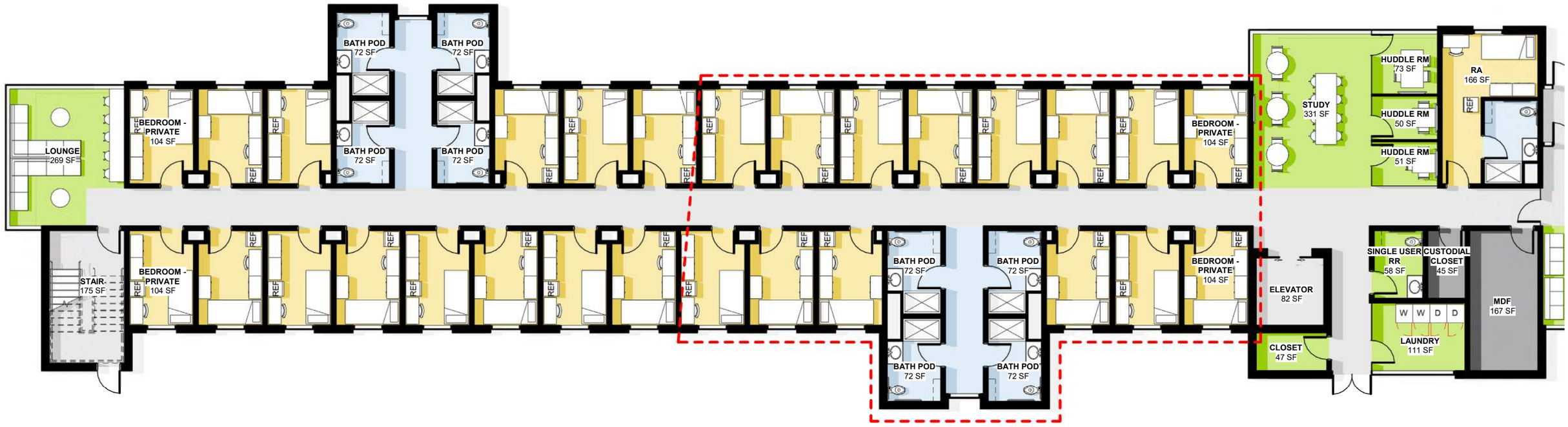
57 BEDS/FLOOR
- **(2) 28-BED PODS**
- **(1) RA**

275 SF/BED

- **SINGLE BED**
- **BATHROOM**
- **COMMUNITY**
- **DIRECTOR'S APT**
- **OFFICE**
- **CIRCULATION**
- **SUPPORT**

Programming

Design Program (Building 2) | Ground Floor West Wing



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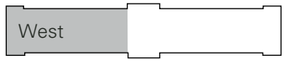


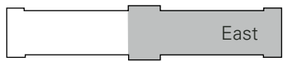
- SINGLE BED
- BATHROOM
- COMMUNITY
- OFFICE
- CIRCULATION
- SUPPORT

HED

Programming

Design Program (Building 2) | Ground Floor East Wing

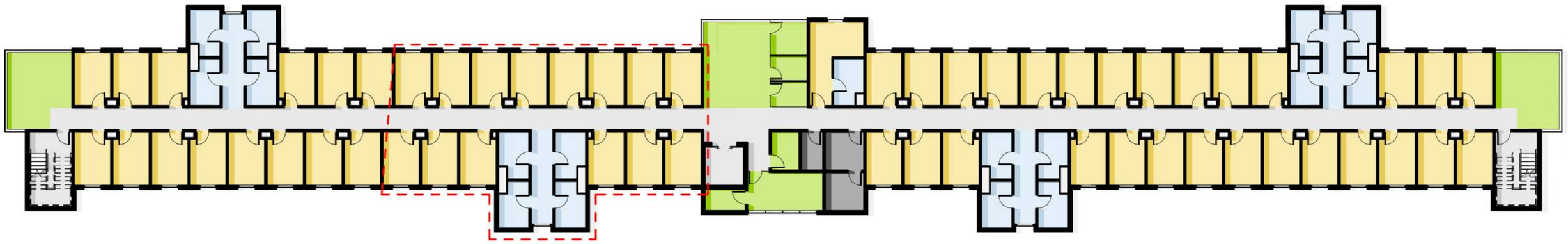
KEY PLAN



- SINGLE BED
- BATHROOM
- COMMUNITY
- DIRECTOR'S APT
- OFFICE
- CIRCULATION
- SUPPORT

Programming

Design Program (Building 2) | Overall Typical Floor Plan



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- **COMMUNITY**
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- **SUPPORT**

HED

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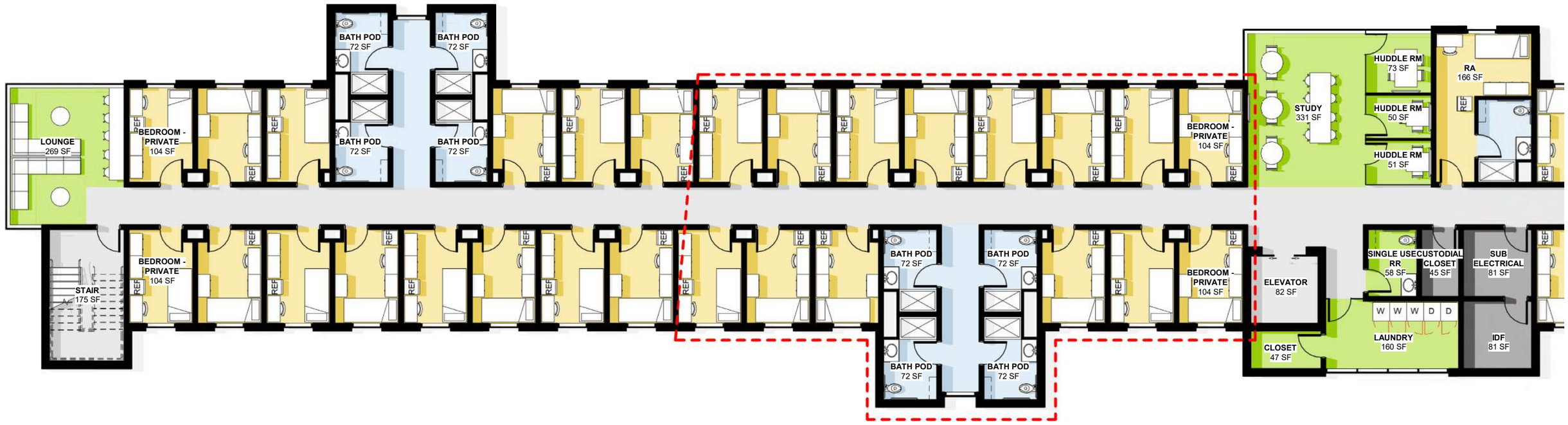
Programming

Design Program (Building 2) | Typical Floor West Wing



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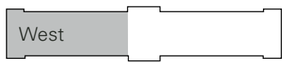

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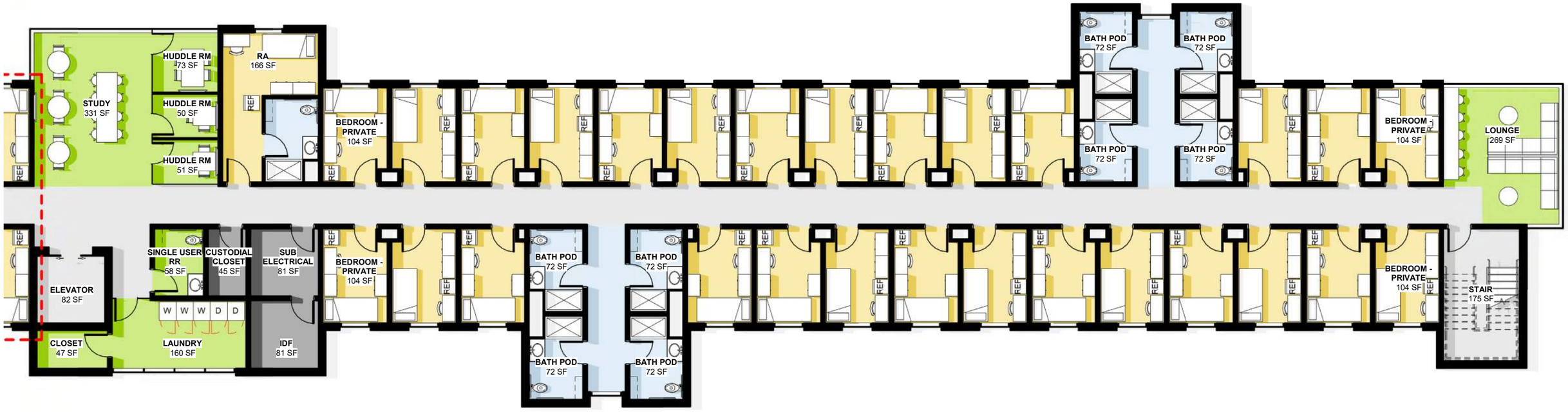
Programming

Design Program (Building 2) | Typical Floor East Wing



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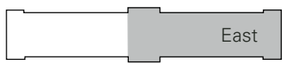

- **SINGLE BED**
- **BATHROOM**
- **COMMUNITY**
- **OFFICE**
- **CIRCULATION**
- **SUPPORT**

Narratives

Civil Narrative

INTRODUCTION

This project will include the construction of the new UT Martin Residence buildings, along with the associated infrastructure improvements. The project is located east of Mt. Pelia Road and west of Ellington Hall on the University of Tennessee campus in Martin, Tennessee. The project will include site demolition, existing building demolition, building construction, courtyard, sidewalks, walls, drainage, utilities, and other infrastructure improvements.

SITE DEMOLITION

Prior to any construction activities, the contractor shall obtain all necessary permits (i.e., TDEC CGP SWPPP/NOC, utility, demolition, building). The contractor shall also contact Tennessee 811 for marking of the public utilities at least three days prior to the start of any construction activities. Demolition for this project will include removal of the existing two buildings (Browning Hall and Ellington Hall) located within the construction area. Ellington Hall will remain operational during the construction of the new residence halls. Demolition for the existing site features will include removal of the concrete sidewalks around the building and in the courtyard, stairs, asphalt paving, light poles, curb, benches, and trees as required for construction of the proposed building and site improvements. Pavement demolition shall remove all layers of the existing gravel/ asphalt parking areas, concrete drives, sidewalks, and curbs to subgrade.

Site utility (water, sewer, gas, storm, steam, etc.) removal will be done on an as-required basis. All utility service connections to the original buildings shall be removed or capped appropriately. All above ground utilities are to be removed. Underground utilities shall either be removed or abandoned in place (filled with flowable fill and capped).

All materials except that belonging to a public or private utility company shall become the property of the contractor and shall be disposed of off–site. Rubbish and debris will be removed from the site daily to avoid accumulation at the project site. The contractor will need to coordinate with the utility owners prior to demolition of utilities.

SITE LAYOUT

The project will consist of the site preparation and construction of two residence halls. The buildings and site improvements will be bound on the west by Mt. Pelia Road, on the south by Parking Lots 19 and 7, Parking Lot 8 to the east, and on the north by Parking Lot 5 and the Boling University Center.

Concrete sidewalks will be installed along the perimeter of the residence halls and through the courtyard between the two new buildings. These will consist of 4-inch concrete with 4-inch base. Any disturbance made to Mt. Pelia Road or to the surrounding parking lots due to utility connections shall be replaced in-kind to maintain its current functionality. Any asphalt pavement will be repaired or replaced where necessary and shall match the existing section depth and shall be a minimum of 8-inch base, 3-inch binder, and 2-inch surface.

GRADING

Grading activities will commence once the site demolition is complete and all of the debris has been removed. The site shall be cleared and grubbed of all remaining surface materials. There shall not be boulders, stumps or other obstructions remaining on the site. This type of unsuitable material shall be removed to a minimum depth of 2-feet below subgrade (or in accordance with the geotechnical engineer's recommendations). Material that is not to be used during final construction is to be disposed of off-site. Any topsoil on the site shall be stripped to full depth and stockpiled at an approved location. All areas to receive fill shall be proof rolled prior to placement. Any proof rolled area that exhibits weak or unsatisfactory material shall be undercut and backfilled using a method approved by the geotechnical engineer (e.g. #57 or #67 stone). Fill material shall be placed in lifts not exceeding 8-inches. Areas beneath the buildings shall be compacted to 100% maximum dry density. Where required, topsoil shall be placed a minimum of 6-inches in depth. During construction the contractor will be required to maintain a free draining site; water will not be allowed to accumulate on the site.

Narratives

Civil Narrative

STORM WATER SYSTEM

Storm drainage on the site shall consist of swales, catch basins, areas drains, piping, and an infiltration containment system. Drainage structures will be placed as required to keep the site free-draining. There will be approximately 30 drainage structures arranged around the site. The pipe system within the site shall be 15-inch, 18-inch, and 24-inch HDPE or RCP pipe. Roof drainage from the buildings shall be connected together with downspout boots and minimum 8-inch PVC pipe and connected to the storm structures. The infiltration system shall be constructed using a pre-cast system such as StormTrap or equivalent. UT's MS-4 permit requirements must satisfied using infiltration, stormwater treatment or other combination that is satisfactory to the campus.

EROSION CONTROL MEASURES

A Storm Water Pollution Prevention Plan (SWPPP) will be developed to provide direction and instruction for maintaining appropriate erosion controls in accordance with the Tennessee Department of Environment and Conservation (TDEC) and the UT MS-4 permit requirements. During construction, measures will be taken to prevent unnecessary erosion of the exposed soil and to prevent sediment from leaving the site. These measures will include properly built construction access drives, storm sewer inlet protection and perimeter silt fence. Erosion and sediment measures and other protective measures will be maintained by the contractor in effective operating condition. Temporary structural practices will be removed once the corresponding disturbed drainage area has been permanently stabilized unless they are designed to remain in place.

UTILITIES

The water supply for the building will come from the existing water main in between Browning and Ellington Hall. There will be a domestic service connection (4-inch) made for each building with a tapping valve and sleeve, as well as corresponding to the City of Martin's Utility Department metering system. There will be one fire service connection (8-inch), with a tapping valve and sleeve to serve the sprinkler system for each building. There will be a post indicator valve (PIV) and a fire department connection (FDC) for the connection for each building. The contractor shall coordinate all taps with the City of Martin Utility Department. The contractor shall be responsible for testing all new lines and connections.

The sanitary sewer main will be an 8-inch (PVC) line installed to pick up service lines for each building. This line may also be required to pick up any existing services necessary. The new line will connect to the existing sewer main in between Browning and Ellington Hall. Contractor shall coordinate the service connection with the City of Martin Utility Department. The contractor is responsible for testing all proposed sanitary sewer lines and connections.

Narratives

Architectural Narrative

MAIN ENTRY – LEVEL 1

For both Phase 1 Residence Halls, the main residential building entry is on the first level and is accessed from the new quad. In Building 1 (north of the new quad), the first floor is composed of four main program categories:

- Residential
- Community Programs
- Main MEP/Service
- General Office Suite Program

In Building 2 (south of the new quad), the first floor is composed of four main program categories:

- Residential
- Community Programs
- Main MEP/Service
- Staff Residential

Community Programs

The main entry accesses the Reception area from the new quad. All exterior doors will have access control with RFID and swipe readers. Within the main lobby, there is a security desk staffed from 8 am to midnight. The central circulation core, which contains one (1) MRL traction elevators, can be accessed via a secure door to the left of the main lobby by student residents. Adjacent to the lobby are community support programs, which are comprised of:

- Community Living Room with Game Tables
    - This space is intended to offer students a large program element to support socialization and learning. The design of this space should be open and inviting and located such that it overlooks the new quad. The design should incorporate input from student focus groups. As a technology-enabled space, it could facilitate group study and presentation preparation, as well gaming or entertainment streaming.
- Community Kitchen and Pantry
- One (1) Single User Restroom
- Flexible Multi-Purpose room
    - Design of space should meet the requirements of being a Severe Weather Shelter (in the event of Tornados)
    - Directly adjacent Multi-Purpose Storage space that accommodates all furniture used in the Multi-Purpose room
- RA Resource room
    - Used for storage and supplies
- Mail and Package Room
    - Mail boxes to be located on public corridor wall with 1 box per student

Main MEP/Service Program

On Level 1, the main MEP and service programs are located in the core of both buildings as well as in the northeast portion of Building 1 and the southeast portion of Building 2. These spaces are accessible to staff through secure doors from the main corridor. The main MEP and service spaces are comprised of:

- Custodial Storage
- MDF Room
- Main Mechanical Room
    - Exterior Access
- Main Electrical Room
    - Exterior Access

Staff Residential Program

One staff residence is located on the northeast portion of Building 2 at Level 1. This residence is intended for the Hall Director. The residential unit consists of one (1) bedroom, one (1) bathroom, kitchen, living room, and washer/dryer. This unit has private access separate from the main building entry. An exterior door leading from the adjacent corridor serves as an access point for the staff to enter the residential unit.

General Office Suite Program

Adjacent to the main entry at Building 1, there is a General Office Suite that supports University Housing and Student Life. These spaces are accessible to staff through secure doors from the main corridor.

The entry to the office suite accesses an open office area for Housing staff. The open office is to have movable tables that can be consolidated into a larger table as needed and a support/print area. Adjacent to the open office area is a Hall Director office, a Custodial Supervisor office, and a Staff Break Room. The Staff Break Room is to include a kitchenette and seating.

Narratives

Architectural Narrative

RESIDENTIAL PROGRAM

Level 2-4 – Typical Floor

The second through fourth floors of Buildings 1 and 2 are the typical residential floor layout. These floors are accented by a Central Neighborhood space at the center of the building that ties the two residential wings together with community-focused programs.

Residential

The residential portion of the typical floors is comprised of one (1) "block" of private bedrooms per wing. Each block consists of 28 private bedrooms. There is one (1) private semi-suite per floor that is dedicated for an RA. The RA is located between the two residential wings such that students can pass by the RA prior to arriving at their individual unit. Each floor is planned to support 56 students and one (1) RA.

Building Ends

A Lounge is positioned at the end of each residential wing, adjacent to the stairs. A water fountain/bottle-filling station is located in the Lounge. The space is intended to feel like a "living room" for the students in each wing. The space will have a large amount of transparency to the exterior, providing a visual connection to the expanded quad and the surrounding student life. The location of the Lounges at the building ends allows them to be showcased on the exterior. The Lounges will provide a sense of activity and community to those passing and approaching the New Residence Halls.

Central Neighborhood

At the heart of each residential floor is the Central Neighborhood, meant to be the community hub that ties two residential wings together. Each Neighborhood has a group of community spaces, meant to foster gathering and socialization amongst the students living on the floor. These community programs are positioned around the building's circulation core, which causes students to pass by the community space as they travel to their individual units.

Adjacent to the elevators is the Laundry room. It was important to integrate the Laundry into the community spaces and give students the opportunity to socialize while waiting for their clothing to wash. The Laundry is intended to have three (3) washers and four (4) dryers per 56 students. The washers are standalone, whereas the dryers are stacked.

Facing the quad is a set of more focused program spaces: one (1) open Study space and three (3) adjacent Huddle Rooms. The Huddle Rooms are intended to offer a space for small group sessions, in which students can connect their devices to the monitor. The Study area is to be composed of small and large seating groups that look out into the new extended quad.

Support

The core of the Central Neighborhood houses a cluster of support programs that include:

- IDF Room
- Sub-Electrical Room
- Custodial Closet

Level 1 – Partial Residential Floor

The west wing of Level 1 of Buildings 1 and 2 consists of one (1) block of private bedrooms that matches the typical floor. Level 1 is not a typical floor due to the east wing containing community and MEP/Service programs. The first floor is planned to support 28 students and one (1) RA.

Narratives

Structural Narrative

The UTM New Residence Hall Programming includes a 4-story building containing bedrooms, study/collaboration, multi-purpose, MEP, storage, laundry, offices, and break room.

The structural system could be comprised of load bearing cold formed metal framing. Load-bearing walls could be used at the perimeter exterior walls and at the corridor walls. A 3-1/8" light-weight concrete slab (110 pcf. max.) on 4-1/2" (20ga.) Deep Dek composite metal deck (7-5/8" total) could be used to span between the load bearing walls (14'-7" maximum clear span) and support the code required live loads. A 3" light-weight concrete slab (110 pcf. max.) on 2" (22ga.) composite metal deck (5" total) could be used at the corridor (7'-10" maximum clear span) to provide additional space above the ceiling for MEP.

As an alternative, load bearing walls could be located at the perimeter exterior walls and the room demising walls. A 3" light-weight concrete slab (110 pcf. max.) on 3" (18 ga.) composite metal deck (6" total) could be used to span between the demising walls (12'-9" maximum clear span) and support the code required live loads.

The UL assembly and the code required floor fire resistance ratings should be reviewed to verify the floor system and requirements for the type of protection.

Each of the floor systems could be supported with aligning load-bearing cold formed metal studs spaced at 12" to 16" on-center. Based on a 4-story height, 6" cold formed metal studs could be used to support the floor system.

In order to maintain open areas at the Ground Floor, steel columns and steel transfer beams could be used to support load bearing walls above these areas.

The masonry façade could be limited to a maximum overall height of 30 feet. This would allow the brick to be supported directly on the foundations without intermediate brick support and horizontal relief joints at the floor levels.

Cold formed metal roof trusses spaced at 4'-0" on-center maximum with 1-1/2" metal roof deck could be used for the roof system.

Horizontal and vertical light gauge bracing could be used at the attic level to provide top of wall support, transfer lateral loads to the shear walls, and provide stability to the cold formed metal roof truss system. Another option would be to provide an attic floor framed using one of the floor systems described above with the trusses attached directly to the attic concrete floor.

Sureboard® walls with 14-gauge shear panels could be used as the lateral resisting system for a 4-story building.

A 4" thick concrete slab-on-grade on compacted gravel and vapor barrier could be used in the lightly loaded areas of the buildings. Areas with storage and MEP may require an 8" thick concrete slab-on-grade over compacted gravel and a vapor barrier to support the heavy surface loading.

A standalone storm shelter designed in accordance with FEMA-361 could be used in the multipurpose rooms. Walls could be constructed with fully grouted reinforced concrete masonry walls or reinforced concrete walls. A reinforced concrete cap slab will be required to support the required loading and provide the required protection from wind borne debris. Foundations will need to be sized to resist wind uplift forces.

A geotechnical engineer will be required to perform a subsurface investigation of the proposed site and provide foundation recommendations along with site preparation requirements. However, shallow spread footings and continuous footings could be used to support the loads from steel columns and load bearing cold formed metal walls.

Narratives

Mechanical Narrative

GENERAL

This narrative encompasses the mechanical scope of work for the new UTM Residence Hall. The mechanical system will utilize campus chilled water and condensing gas boiler that the fan coil units will be connected to.

Narrative is based on a 4-story building with a program area of 71,000 sf and 200 beds.

Reference UT Mechanical Design Criteria v4 2018 and UTK Facilities Services 2020 Design Guidelines and Preferences Feb 2020 for additional information and requirements.

CENTRAL HEATING AND COOLING SYSTEM

Site chilled water will be utilized to provide building cooling. Due to site steam shutdown from April to October and the need for heating water for re-heat capabilities, a condensing gas boiler(s) shall provide heating hot water through the building.

Chilled water will be distributed to the building via an 4-inch main. Chilled water will be distributed through the building by three (3) 125 gpm base mounted end suction secondary pumps. Pumps are sized to have two (2) pumps operational and one (1) on standby during peak load. A single variable frequency drive (VFD) per pump shall be provided to vary pump speed based on reading from a remote differential pressure sensor.

Boilers shall be provided with either integral circulation pumps or separate pumps shall be interlocked with boiler operation. 6-inch hot water will be distributed through the building by three (3) 80 gpm base mounted end suction secondary pumps. Pumps are sized to have two (2) pumps operational and one (1) on standby during peak load. A single variable frequency drive (VFD) per pump shall be provided to vary pump speed based on reading from a remote differential pressure sensor.

Piping shall be welded steel 2.5" and above and copper 2" and below. Insulation shall be fiberglass with all service jacket with insulation to meet UT Design Standards. Heating hot water system shall also have expansion tank and air/dirt separator, and makeup water connection.

SPACE COOLING AND HEATING

Chilled water and hot water shall be routed to fan coil units throughout building. Piping chases shall be provided to route piping vertically to each floor with isolation valves at floor distribution. Zones with similar thermal load profile shall be served by a single fan coil unit. A maximum of four (4) units will be connected to a single fan coil unit. Space mounted thermostats shall be located in each unit. Thermostats shall be connected to a modulating damper to reduce the amount of supply air to their respective rooms. A bypass duct with a modulating damper between supply and return fan coils shall be horizontally mounted above the ceiling, floor or exposed cabinet type, fully concealed, or vertically mounted as applicable. Route low pressure supply air ductwork from ducted unit to supply diffusers in space. Return ductwork shall be low pressure routed from return air grilles with MERV-8 filters. Outside air shall be routed to return side of units and balanced to meet ASHRAE Standard 62. Units shall be piped with shutoff valves, mesh strainers on the inlet, 2-way control valve, and pressure independent automatic flow balancing valve at the chilled water and hot water connections. Units shall be manufactured by Trane, Daikin, JCI, or Carrier. Each unit shall have DDC controls that are BACnet compatible and tied back to building and campus control system.

Student Bedrooms and Staff Residences shall have one (1) fan coil per room. Rooms for other areas may be combined as larger zones.

FAN COIL SIZING

Water source heat pumps shall be sized to serve spaces at approximately the following rates:

- Student Bedrooms: 1 cfm/sf
- Staff Residences: 1 cfm/sf
- Lobby and Circulation: 1.3 cfm/sf
- Academic and Residence Support: 1.5 cfm/sf
- Study Spaces: 2 cfm/sf

Narratives

Mechanical Narrative

DEDICATED OUTSIDE AIR UNITS

Building outside air and ventilation shall be provided through a dedicated outside air system (DOAS) to provide preconditioned / dehumidified outside air to each zone. Provide three (3) 8,000 cfm units located at roof or attic level. Unit shall be modular with chilled water cooling coil, hot water reheat coil, hot water pre-heat coil, and exhaust energy recovery. DOAS units shall be located at attic or roof level and route outside air and exhaust using low pressure sheet metal duct to rated shafts to feed each zone.

Ventilation air shall be sized to makeup for toilet exhaust, laundry exhaust and to meet ASHRAE 62 fresh air ventilation requirements. Shafts shall be provided at each level or shared between each zone to feed ventilation air to each zone and provide exhaust to each toilet and shower. Each exhaust and outside air penetration of the shaft will require a combination fire smoke damper.

MISCELLANEOUS

Provide the following additional systems or components:

- Duct all laundry exhaust to wall cap at nearest exterior wall.
- Provide hot water cabinet heaters in stairs for freeze protection.
- Provide ventilation fans and hot water unit heater for fire pump room and all mechanical spaces.
- Provide exhaust ventilation for all trash and trash chute rooms and Janitor Closets.
- Each IT closet and Electric room shall be provided with independent wall mounted mini-split unit equal to Mitsubishi PKA.

HVAC CONTROLS

Connect all HVAC systems back to campus HVAC control system for monitoring and energy management. Controls shall be campus standard JCI or Schneider. All controls (to include duct temperature sensors) will report to BMS front end with graphical displays. Provide the following additional meters and monitoring points at the central BMS:

- Chilled water and hot water flow and BTU monitoring.
- BTU and Flow monitoring for Domestic hot water heating system.
- Interface to building electric meter.

Narratives

Electrical Narrative

GENERAL

Provide all labor, materials, tools and services for a complete installation of equipment and systems specified herein. Principal features of work included are:

- Primary Electrical Distribution
- Switchboards
- Panelboards
- Power Wiring and Secondary Distribution
- Interior Lighting Fixtures and Control Equipment
- Exterior Lighting Fixtures and Control Equipment
- Convenience Outlets
- Telephone and Data Outlets and Wiring as required.
- Electrical Control and Interlock Wiring as required by Mechanical Drawings, Specifications, or Manufacturer's Schematics
- Heating, Ventilating and Air-Conditioning Equipment Power
- Plumbing Equipment Power
- Standby Generator
- Automatic Transfer Switches
- TV Distribution Rough-in
- Elevators
- Lightning Protection
- Surge Protection Devices
- Ground Bars
- Fire Alarm System
- Access Control

Comply with applicable state, and federal codes. Comply with applicable requirements of recognized industry associations which promulgate standards for the various trades. Employ only qualified journeymen for this work. Employ a competent qualified mechanic to supervise the work. Perform work specified in Division 26 in accordance with standards listed in architectural narrative. All materials and equipment used in carrying out these specifications to be American made unless approved otherwise by the Engineer and to be new and have U.L. listing or listing by other recognized testing laboratory when such listings are available.

Construction materials shall meet Factory Mutual guidelines. Properly identify all starters, contactors, relays, safety switches, and panels with permanently attached black phenolic plates with 1/4 white engraved lettering on the face of each attached, with two sheet metal screws.

Starters and relays connected by the electrical tradesman to be identified by him whether furnished by him or others.

SITE ELECTRICAL

For the new site, there is an existing 13.8KV distribution line, owned by Weakly County Municipal Electrical Service, that runs north to south along Mt. Pelia Road. The existing primary feed and electrical services provided by WCMES that currently feed Browning Hall will be utilized. The existing utility transformers will be removed and the underground electrical duct rerouted to the primary electric feed for Ellington Hall. New electrical duct bank from Ellington Hall to a new utility transformer, T1, for the new building. T1 will be a 13.8KV-480/277V pad mount transformer to serve the HVAC, and other building infrastructure loads, student dwelling spaces, office space, and assembly areas.

From the secondary of the pad mounted transformer T1 the contractor shall provide 5 sets each: (4) #500MCM, 3" Conduit to a new 1600-amp, 480/277 volt, 3 phase, 4 wire main switchboard 'MSB' located in the main electrical room. New 480/277V panelboards to be in electrical rooms on each floor will be utilized to feed the lighting and HVAC loads of each floor. A 480/277-120/208V dry type transformer will be installed in each electrical room of each floor as well as 120/208V panelboards to feed the receptacle and power loads of each floor.

A fire pump section ahead of the main will be provided with all fire pump conductors between the fire pump section and the fire pump transfer switch sized and installed per NEC article 695.

Panelboards shall be specified for sequence phase connection to evenly balance electrical loads on each phase. Bus bars shall be copper. Loads up to 400 amperes shall utilize panelboards. Loads 400 to 1200 amperes shall utilize distribution boards. Loads above 1200 amperes shall utilize switchboards. Circuit breakers to be molded case, bolt-on type.

Panelboards shall have 15 percent spare capacity and 20 percent spare breakers. A detailed short-circuit analysis shall be prepared during the design phase, and all overcurrent devices shall be coordinated so that downstream devices will trip to clear any fault. The anticipated available fault current at the transformer secondary is 65,000 amps. Provide 3PH, 4W surge protection devices at the main service switchboard and panelboards that are connected to the secondaries of 208Y/120V transformers.

GENERATOR

An emergency standby engine generator system shall be provided. The system shall be completely automatic for unattended operation for the duration of any loss of normal utility power. System shall be capable of reaching operating range within 10 seconds of initial start signal. Unit shall be a continuous standby 150 KW/KVA capacity. Unit to meet the requirements of NFPA 110. Units shall be equipped for outdoor installation. Unit to be equipped with a sound attenuated housing. Starting batteries to be heavy-duty lead acid type with an automatic battery charger. A double wall diesel belly tank shall be provided with 24-hour running capacity. The system shall be provided with a generator control panel and a remote annunciator (remote annunciator to be housed in the building command center). Transfer switches shall be provided as indicated on the drawings. Switches to be double throw actuated by a single operator.

Interlocked molded case circuit breakers, contactors or transfer devices with dual solenoid operators are not acceptable. Provide an automatic exerciser to operate the unit for a period of 30 minutes every 168 hours. The emergency system shall supply power to all life safety and equipment loads in the facility including the elevators.

Narratives

Electrical Narrative

LIGHTING

Lighting systems for the facility shall consist of the following:

- Flexible Multipurpose Rooms, Game Rooms, Kitchen, Break Rooms, Mail Rooms: 2 x 4 direct/indirect , LED lay-in luminaires.
- Office: 2 x 4 direct/indirect, LED lay-in luminaire.
- Corridor, Lounge, and Bathroom: 2 x 4 direct/indirect, LED lay-in luminaires, LED can light, and LED sconces.
- Storage, Mechanical, Electrical: 1 x 4 LED strip light.
- Stairs: Wall mounted LED bracket
- Dorm room: Surface mounted 2x4 LED panel.

Light fixtures shall be controlled via switches in combination with occupancy sensors.

Provide additional general use duplex outlets where required. Provide GFI duplex convenience outlets above counters in toilets. Provide quadraplex outlets to serve computers in multipurpose rooms and office desk locations. Receptacle circuits in sleeping and living areas shall be powered via arc fault breakers.

CONDUCTORS

Conductors and cables utilized for interior building installation shall be copper. The temperature rating of conductors shall be 90 degrees C. Insulation shall be THHN, THHW, or XHHW, 600 volts rated, 90 degrees C. Branch circuit wiring for all dimming systems will be required, one neutral per circuit, no common neutrals allowed. Raceways used in building interiors shall be rigid metal. The minimum conduit size shall be 1/2". The entire system of raceways and equipment shall be grounded in accordance with Article 250 of the NEC. The main service switchboards shall be bonded to the street side of first flange or coupling of the incoming water line in accordance with Article 250-80 of the NEC, sized in accordance with Article 250-94 of the NEC. An additional ground wire shall be run to a tripod grounding rod system outside the building foundation. Building steel shall be connected to the building switchboard and the grounding systems shall be bonded to the lightning protection system. Separate green grounding conductors shall be installed in all feeder and branch circuits in accordance with Table 250-95 of the NEC.

LIGHTNING PROTECTION

Contractor to provide a functional unobtrusive system of air terminals, conductors, grounds, and other necessary components necessary for the protection of the building against damage by lightning. The lightning protection system shall be completely concealed where possible with only air terminals visible. The system shall comply with Underwriter's Laboratories, Inc., #UL96A and NFPA-780. Upon completion of the installation, the contractor shall complete the application for the U.L. "Master Label" and forward it to the manufacturer for processing. A copy of the application shall be made a part of the project closing files.

FIRE ALARM SYSTEM

Furnish and install a complete campus standard Simplex® fire alarm system as described herein and as shown in the drawings, to be wired, connected and left in first class operating condition. Include sufficient control panels, annunciators, manual stations, automatic fire detectors, smoke detectors, alarm indicating appliances, wiring, terminations, electrical boxes, conduit and all other necessary material for a complete operating system. All occupied spaces shall have a visible alarm indicating appliance. Provide duct smoke detectors in supply and return ducts of all air-handling units. The system shall be capable of on-site programming to accommodate system expansion and facilities changes in operation. The system shall be capable of recalling alarms and trouble conditions in chronological order for the purpose of recreating an event's history. All devices shall be addressable, shall be supervised, and the capability of being disabled or enabled individually. The system shall have one-way voice communication and tone generating capabilities with three prerecorded digitized voice messages, one or alarm, one for testing, and a standard evacuation message. The system alarm operation after the alarm activation of any manual station, automatic detection device or sprinkler flow shall be as follows:

- All audible alarm indicating appliances shall notify occupants with the prerecorded evacuation message.
- All visual alarm indicating appliances shall flash continuously until the system is reset.
- Release all doors held open by door control devices.
- Recall all elevators.
- Activate mechanical control schemes in accordance with NFPA 90.
- Notify monitoring station.

IT

IT cabling shall be contractor furnished/contractor installed. All data outlets will be new and shall be located at computer stations in the classrooms and the office desk as well as in each dorm room. Wireless access points shall be provided throughout the facility in each dorm room and as required. Service for the new facility shall originate from a telecommunication manhole located on campus routed to the new building via 3-4" conduits. All work shall be done per the latest UTM IT standards.

Provide starters as shown on mechanical drawings and scheduled on electrical drawings. Division 23 to furnish and install line- and low-voltage control wiring including conduit, conductors, and terminations for same. Starters used on 480V systems shall have individual 480/120V control transformers with two cartridge fuses in the primary and one in the secondary. Starters are used inside to have NEMA-1 enclosures, starters used in damp locations or exposed to weather to have NEMA-3R enclosures.

Provide electrical connection to projection screens and all A/ V equipment per manufacturer's recommendations.

Provide electrical and low voltage connection to RFID card readers for each dorm room and building access points as required.

Provide security and access control devices and connections as required. Provide electrical connection motorized door openers.

The design should be based on the currently adopted IECC code. Provision should be made for the adoption of a more current IECC code.

Narratives

Plumbing Narrative

GENERAL

This narrative encompasses the plumbing scope of work for the new Residence Hall for UTM.

Narrative is based on a 4-story building with a program area of 71,000 sf and 200 beds.

Reference UT Mechanical Design Criteria v4 2018 and UTK Facilities Services 2020 Design Guidelines and Preferences Feb 2020 for additional information and requirements.

PLUMBING SYSTEMS

Sanitary Waste and Vent Systems

The building will be provided with a complete sanitary waste and vent system utilizing Schedule 40 PVC pipe and fittings. Sanitary waste and vent piping shall be routed to all plumbing fixtures. Floor or wall-mounted cleanouts will be provided every 50' within the buildings. Heavy-duty couplings shall be installed at the lower three floors of construction and at the base of all waste stacks. Sanitary waste mains shall be routed to the site sanitary waste system. Exposed piping and p-traps subject to freezing shall be heat traced. Waste stacks, vent stacks, and stack vents shall be routed vertically from the top floor to the bottom floor to drain and vent bathroom groups common to each floor.

Elevator pits shall be provided with duplex 50 GPM pumps with oil smart systems. The elevator sump pump discharge shall drain to containment tanks located at the exterior of the building.

Domestic Cold Water Systems

A 4-inch water service will enter at the main level in the MEP Service Room. It is currently anticipated that building backflow preventers will be located in the MEP Service Room. Provide redundant backflow preventers per UT requirements (two total RPBPs). An end suction triplex type pump will be used to boost the water pressure for the building if site pressure is found to be inadequate. Booster pump shall be equal to a Grundfos Model CRE32-MLE. The domestic water booster pump shall be located in the MEP Service Room. The booster pump shall be equipped with a variable frequency drive. Domestic cold water will be distributed through risers in the buildings to service the plumbing fixtures and equipment as required. Isolation valves shall be provided at distribution to each level.

Piping shall consist of insulated Type "L" copper. Shutoff valves will be provided to isolate all fixtures and equipment. Shock absorbers will be provided at all flush valve fixtures and all other quick closing valves. All cold water lines shall be insulated per UT Mechanical Design Criteria. Non freeze wall hydrants spaced 150 feet apart shall be provided around the perimeter of the buildings. Exposed piping subject to freezing shall be heat traced.

Domestic Hot Water Systems

The domestic hot water for the facility will be provided from a condensing gas hot water heater with storage tank. A hot water recirculation pump shall be located in the building MEP room. Domestic hot water and hot water recirculation will be distributed through risers in the buildings to service the plumbing fixtures and equipment as required. Isolation valves shall be provided at distribution to each level. Flow balancing valves shall be installed in hot water recirculation lines at each piping branch.

Piping shall consist of insulated Type "L" copper. Shutoff valves will be provided to isolate all fixtures and equipment. Shock absorbers will be provided at all flush valve fixtures and all other quick closing valves. All hot water lines shall be insulated per UT Mechanical Design Criteria.

Plumbing Fixtures

All plumbing fixtures shall be low flow type. Water closets shall be flush valve type. Refer to architectural and campus standards for specific plumbing fixture types and manufacturers.

Natural Gas System

The building will be provided with a natural gas service. The gas meter shall be located outside. Gas shutoff valves, dirtleg, and unions will be provided at all equipment.

Natural gas shall be routed to condensing gas hot water boiler and condensing gas domestic hot water heater.

Narratives

Fire Protection Narrative

FIRE PROTECTION SYSTEMS

The building will be 4 floors. Based on building height and use, there will be automatic sprinkler & standpipe systems. Automatic type standpipes are used as the basis of design for this narrative. City water will be used to supply the building fire protection system.

The building will be fully covered by an automatic sprinkler system. All systems to be hydraulically designed per NFPA 13 and insurance underwriter requirements. System to be complete with Siamese connection, alarms, and all related appurtenances. Pipe shall be Schedule 40. Entire system to meet all requirements of NFPA 13 and 14.

A fire pump and jockey pump will be provided. The size of the fire pump selected will meet the full fire demand of the building sprinkler and standpipe systems per NFPA 13 and 14. Fire pump shall be equipped with service entrance rated soft start/ATS with minimum 100 KAIC rating. Fire pump will be located in a 2-hour fire rated reinforced masonry construction fire pump room and accessible from the exterior from a doorway on grade. The sprinkler heads will be white, semi-recessed, quick response type for all finished areas. Sprinklers in monolithic ceilings shall be concealed with factory-painted white cover plate or white recessed sidewalls depending on architecture. Utilize brass upright heads for all areas without finished ceilings.

Class I standpipes shall be provided. Each egress stair shall have a NFPA 14 compliant fire protection standpipe. All standpipes shall be interconnected. Each standpipe shall have a 2 ½'' fire hose connection and capable of providing 100 PSI at each stair landing. Additional fire department valves shall be located to provide access within 200' travel distance. Pressure reducing fire department valves and automatic sprinkler zone control valves shall be provided as required by system pressures. Each floor shall be equipped with sprinkler zone control assembly with flow switch, tamper switch, inspector test station. A 3" sprinkler drain will be provided at each stairwell equipped with pressure reducing valves. All flow and tamper switches shall be connected to the building fire alarm system. If 4th floor system piping is routed in the attic outside of the building insulated envelope, a dry type zone valve shall be used for this floor.

Fire extinguishers of ABC type with UL rating 4A:80B; C in aluminum cabinets shall be located throughout the facility. Locate so that a maximum of 75 feet of travel to any space will be provided. Wall-hung fire extinguishers equal to ABC type with UL rating of 4A:80B: C shall be located in all mechanical spaces.

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Cost Analysis

PROCESS

The following cost analysis is based on the program data and conceptual floor plans for the Design Program.

Assumptions

- Normal market conditions
- Five or more qualified Subcontractors competitively bidding on bid packages for this project
- Design Bid Build approach
- January 2027 as start of construction
- August 2028 as substantial completion of construction

Exclusions

- Professional fees, testing, moving expenses for Owner's account
- FF&E
- Premium costs for work done in phases, out of sequence or out of standard working hours
- Owner provided items
- Hazardous material removal and abatement
- Construction contingencies
- Any soil issues with compaction or hazardous soils
- Any existing road work around site

Cost Analysis

Design Program

PARAMETER COSTING MODEL								
COST SUMMARY	**April 2024 Estimate - Metal Stud Framing** Construction Duration 1-1/2 years - January '27 to August '28 Cast In-Place Concrete Slab with 4-Floor Metal Stud Framing				**April 2024 Estimate - Wood Framing** Construction Duration 1-1/2 years - January '27 to August '28 Cast In-Place Concrete Slab with 4-Floor Wood Stud Framing			
	110,066 SF Gross Area				110,066 SF Gross Area			
		TOTAL COST	RATE/SF	% of Total		TOTAL COST	RATE/SF	% of Total
01 - FOUNDATIONS		**$398,439**	**$3.62**	1%		**$398,439**	**$3.62**	1%
011 - Standard Foundations		$398,439	$3.62			$398,439	$3.62	
012 - Special Foundations		$0	$0.00			$0	$0.00	
02 - SUBSTRUCTURE		**$224,535**	**$2.04**	1%		**$467,781**	**$4.25**	1%
021 - Slab on Grade		$224,535	$2.04			$224,535	$2.04	
022 - Basement Excavation (Incl. Site Preparation)		$0	$0.00			$0	$0.00	
023 - Basement Walls		$0	$0.00			$243,246	$2.21	
03 - SUPERSTRUCTURE		**$3,677,681**	**$33.41**	9%		**$2,596,833**	**$23.59**	7%
031 - Floor Construction		$2,237,642	$20.33			$1,359,315	$12.35	
032 - Roof Construction		$935,561	$8.50			$552,531	$5.02	
033 - Stair Construction		$464,479	$4.22			$644,987	$5.86	
034 - Tornado Shelter		$40,000	$0.36			$40,000	$0.36	
04 - EXTERIOR CLOSURE		**$5,009,104**	**$45.51**	12%		**$4,765,858**	**$43.30**	12%
041 - Exterior Walls		$2,538,122	$23.06			$2,294,876	$20.85	
042 - Exterior Doors & Windows		$2,470,982	$22.45			$2,470,982	$22.45	
05 - ROOFING		**$401,741**	**$3.65**	1%		**$401,741**	**$3.65**	1%
06 - INTERIOR CONSTRUCTION		**$3,528,716**	**$32.06**	9%		**$3,252,450**	**$29.55**	8%
061 - Partitions		$1,600,360	$14.54			$1,324,094	$12.03	
062 - Interior Finishes		$1,172,203	$10.65			$1,172,203	$10.65	
063 - Specialties		$756,153	$6.87			$756,153	$6.87	
07 - CONVEYING SYSTEMS		**$1,275,960**	**$11.59**	3%		**$1,275,960**	**$11.59**	3%
08 - MECHANICAL		**$5,317,288**	**$48.31**	13%		**$5,317,288**	**$48.31**	14%
081 - Plumbing		$1,429,757	$12.99			$1,429,757	$12.99	
082 - HVAC		$3,557,333	$32.32			$3,557,333	$32.32	
083 - Fire Protection		$330,198	$3.00			$330,198	$3.00	
084 - Special Systems		$0	$0.00			$0	$0.00	
09 - ELECTRICAL		**$4,708,623**	**$42.78**	12%		**$4,708,623**	**$42.78**	12%
091 - Service & Distribution		$825,495	$7.50			$825,495	$7.50	
092 - Lighting & Power		$1,986,691	$18.05			$1,986,691	$18.05	
093 - Special Systems		$1,896,437	$17.23			$1,896,437	$17.23	
10 - GENERAL CONDITIONS & PROFIT - 10%		**$2,454,209**	**$22.30**	6%		**$2,318,497**	**$21.06**	6%
NET BUILDING CONSTRUCTION COST		**$26,996,296**	**$245.27**			**$25,503,471**	**$231.71**	
11 - EQUIPMENT		**$0**	**$0.00**	0%		**$0**	**$0.00**	0%
111 - Fixed & Movable Equipment		$0	$0.00			$0	$0.00	
112 - Furnishings		$0	$0.00			$0	$0.00	
113 - Special Construction		$0	$0.00			$0	$0.00	
12 - SITEWORK		**$1,573,619**	**$14.47**	4%		**$1,573,619**	**$14.47**	4%
121 - Site Preparation		$170,602	$1.55			$170,602	$1.55	
122 - Site Improvements		$155,193	$1.41			$155,193	$1.41	
123 - Site Utilities		$771,563	$7.01			$771,563	$7.01	
124 - Existing Facility Demolition		$476,261	$4.50			$476,261	$4.50	
10 - GENERAL CONDITIONS & PROFIT - 10%		**$2,856,992**	**$25.96**	7%		**$2,707,709**	**$24.60**	7%
13 - CONTINGENCIES		**$9,516,067**	**$86.46**	23%		**$9,018,837**	**$81.94**	
131 - Design - 10%	10%	$3,142,691	$28.55		10%	$2,978,480	$27.06	
132 - Escalation (to midpoint of construction)*	**20.28%**	$6,373,377	$57.91		**20.28%**	$6,040,357	$54.88	
NET PROJECT CONSTRUCTION COST		**$40,942,974**	**$371.99**			**$38,803,636**	**$352.55**	

PARAMETER COSTING MODEL								
COST SUMMARY	**April 2024 Estimate - Metal Stud Framing** Construction Duration 1-1/2 years - January '27 to August '28 Cast In-Place Concrete Slab with 4-Floor Metal Stud Framing				**April 2024 Estimate - Wood Framing** Construction Duration 1-1/2 years - January '27 to August '28 Cast In-Place Concrete Slab with 4-Floor Wood Stud Framing			
	110,066 SF Gross Area				110,066 SF Gross Area			
		TOTAL COST	RATE/SF	% of Total		TOTAL COST	RATE/SF	% of Total
OWNER CONTINGENCY		**$2,047,149**		5%		**$1,940,182**		5%
MAX ALLOWANCE CONSTRUCTION COST (MACC)		**$42,990,123**	**$390.58**			**$40,743,818**	**$370.18**	
BELOW THE LINE ITEMS		**$8,444,120**				**$8,002,901**		
A/E Design Fees	5.42%	$2,330,065			5.42%	$2,208,315		
Movable Equipment (FF&E)	6.05%	$2,600,902			6.05%	$2,465,001		
Networking Equipment (OFCI)	2.48%	$1,064,006			2.48%	$1,008,409		
Administration and Miscellaneous	5.70%	$2,449,147			5.70%	$2,321,175		
TOTAL ESTIMATED PROJECT COST		**$51,434,242**	**$467.30**			**$48,746,719**	**$442.89**	

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Design Guidelines

Architectural Expression

UNIVERSITY DESIGN GUIDELINES & PREFERENCES

The "2020 Design Standards and Guidelines" can serve as a reference for new capital construction within the University of Tennessee system, however care should be taken to tailor the design to the UTM campus.

ARCHITECTURE

All elements of the project should be designed to promote student life, culture and community. From landscape to interiors, the project will strive to be an asset to the university functionally and aesthetically.

The buildings shall be contextual with the primary goal of complementing the campus. In accordance with the Campus Master Plan, UTM buildings are designed in a variety of styles over time consisting primarily of brick and stone exterior facades of which to represent a feeling of stability and permanence. Other prominent characteristics include the use of punched openings, accentuated entrances and sloped roofs.

Phase 1 Residence Halls are directly adjacent to two (2) existing residence halls: University Village I and University Village II. The architecture of the Phase 1 development should be cohesive with the existing residence halls, however it does not need to mimic. The New Residence Halls will be the gateway to a wide, ample courtyard/quad that will unify the existing housing with the new development.

Exterior Materiality

Given its use on campus, its durability and its affordability, brick shall be designated as a primary material. Brick size and detailing should be considered carefully as both can enrich the facade and impact scale. Limestone is to be considered around key entrances and community areas.

High density fiber cement panels are acceptable as an accent material to complement the brick and potentially be used on the top level of the 4-story structure. Refer to University Village 2 for tone and use of fiber cement areas.

Natural light and visibility to and from interior spaces are both valued, so areas of glass are also encouraged where appropriate. Residence hall rooms will have inoperable windows per university standards. The location of punched openings should be considered thoughtfully to produce a rhythm and balance on the facade.

The new roof should complement those of University Village I and II, both in slope, geometry, articulation and materiality. Building proportions are important and the facade should strive toward a harmony of elements. Scale and massing of elements can be skillfully employed to help breakdown the scale of building. A contemporary expression of details and construction with respect to historical context is a goal of design and materiality. To that end, the use of quality materials is paramount. Pay special attention to color selection and the architectural profile of key elements. Refer to University Village II and Latimer Engineering and Science building for an example of detailing and campus adaptability and use of materials. When possible, the design should minimize roof elements, penetrations, etc. Where roof elements do occur, they should be grouped or organized as to not appear random.

LANDSCAPE

The Phase 1 Residence Hall development defines the start of the continuous central courtyard space, which unifies a variety of individual courtyards at adjacent residence halls into one large quad for the campus.

The new courtyard will be strategically landscaped to create a campus green space. The central courtyard is a excellent amenity for students. It will be an active hub for campus events and activities. The plantings will be primarily trees, grasses, and flowering plants, avoiding plantings that obscure views. Landscape selections should change with the seasons, with an emphasis on plantings that are native to the region and require low maintenance. The central spaces should mostly be an occupiable area with any decorative plants at the edges.

The mature height of trees should be proportional to the courtyard space and be in dialogue with the existing trees throughout the rest of the campus, specifically with the trees in the University Village II courtyard. Consideration should be given to species that do not produce nuisance seeds, leaves, sap, etc. The design should select trees that are native and habitat reinforcing. They should be drought tolerant if possible with high limbs or limbs that can be pruned high to allow visibility at the understory.

INTERIOR DESIGN

The interior of the building should encourage a warm, welcoming, healthy and contemporary environment. Materials should be high quality, durable, recyclable and low maintenance. Where cost is a constraint, it is particularly important that durable materials are used in public and community areas that see the highest levels of use.

Lobby and Public Spaces

The spaces at the main entry to the building will see the highest level of activity and use. Accent materials should be considered to create an impactful first impression of the residential community; these materials should also perform well in terms of durability and acoustics. Examples of accent materials include: areas of carpet tile over polished concrete or terrazzo flooring, acoustic panels at the ceiling with integrated lighting. Interior glass partition systems should also be a consideration to allow for daylighting and increase openness, connections, and community. Examples of appropriate locations for interior glass partitions are the office spaces and Community Kitchen. In areas such as corridors where high traffic is expected, highly durable floor materials are needed, such as high grade LVT that can easily be cleaned and replaced.

The main MEP and service spaces should be composed of extremely durable, low maintenance materials.

Residential Floors

Bedrooms

The interior of the suites should be simple, functional, durable and low maintenance. Material suggestions include:

- Walls: High-impact gypsum board, epoxy paint, rubber coil base
- Floor: Carpet tile in bedrooms; resilient sheet flooring and coved base in bathrooms
- Ceiling: Paint
- Solid surface vanity counter

Community Spaces

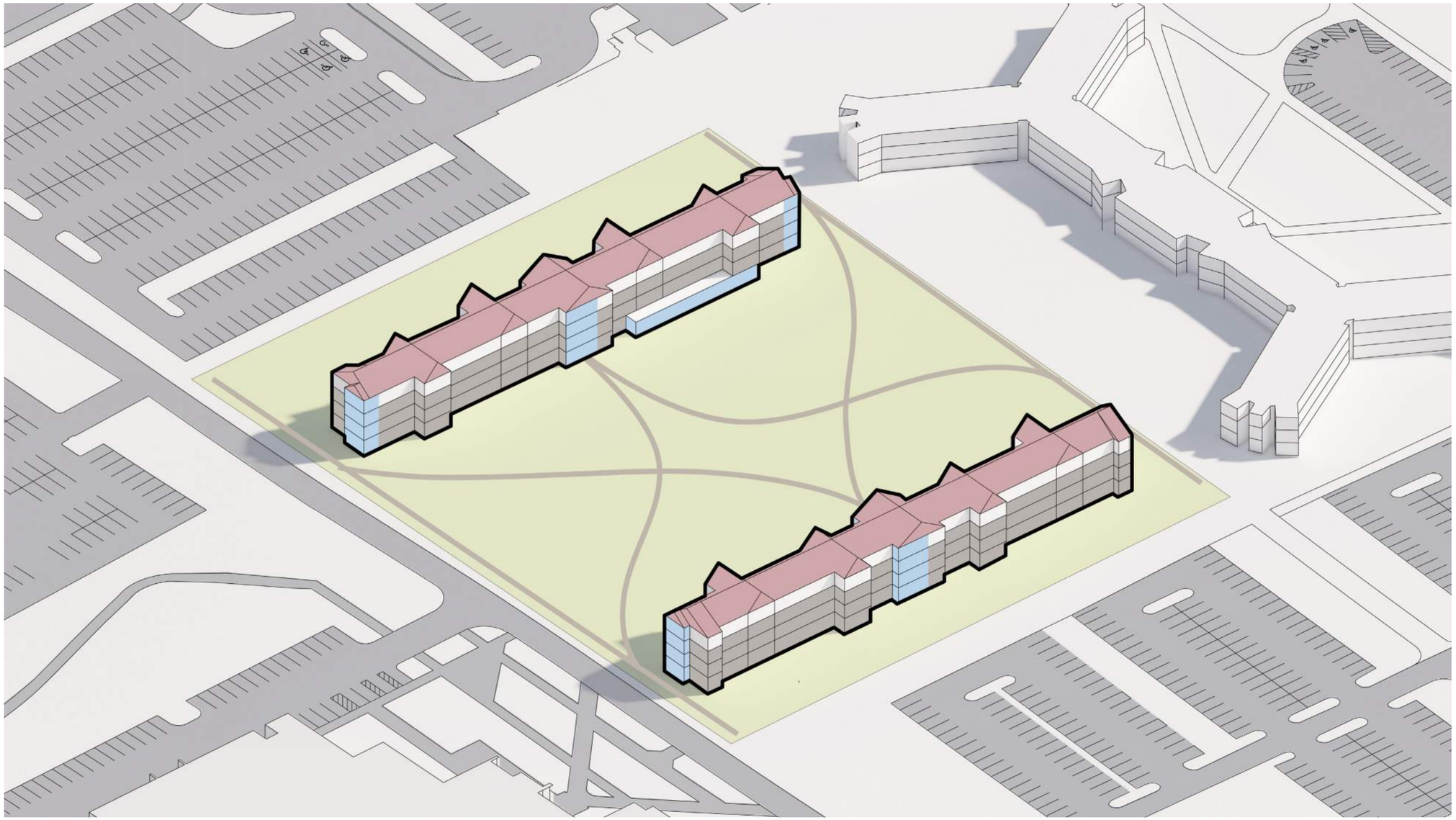
The finishes in the Central Neighborhood spaces and the community areas on the residential floors should be similar to those described above for the Lobby and Public spaces.

Acoustics

Special attention should be given to architectural acoustics to help control noise transference throughout the building, primarily between student units. Controlling noise helps to create a calm, peaceful environment for students. Interior sound must be managed and controlled; this applies to mechanical and plumbing equipment noise and vibration. Isolation pads and hangers should separate the mechanical equipment from the building structure. To prevent sound transmission between student rooms, proper separation of ductwork, fully ducted return air and appropriate wall and door construction must be considered. Proper compliance with code requirements for the minimum 50 STC rating will improve the overall acoustic environment; increasing the separation to STC 55 or 60 between community spaces and bedrooms will increase the isolation and improve the acoustic performance of the building.

Design Guidelines

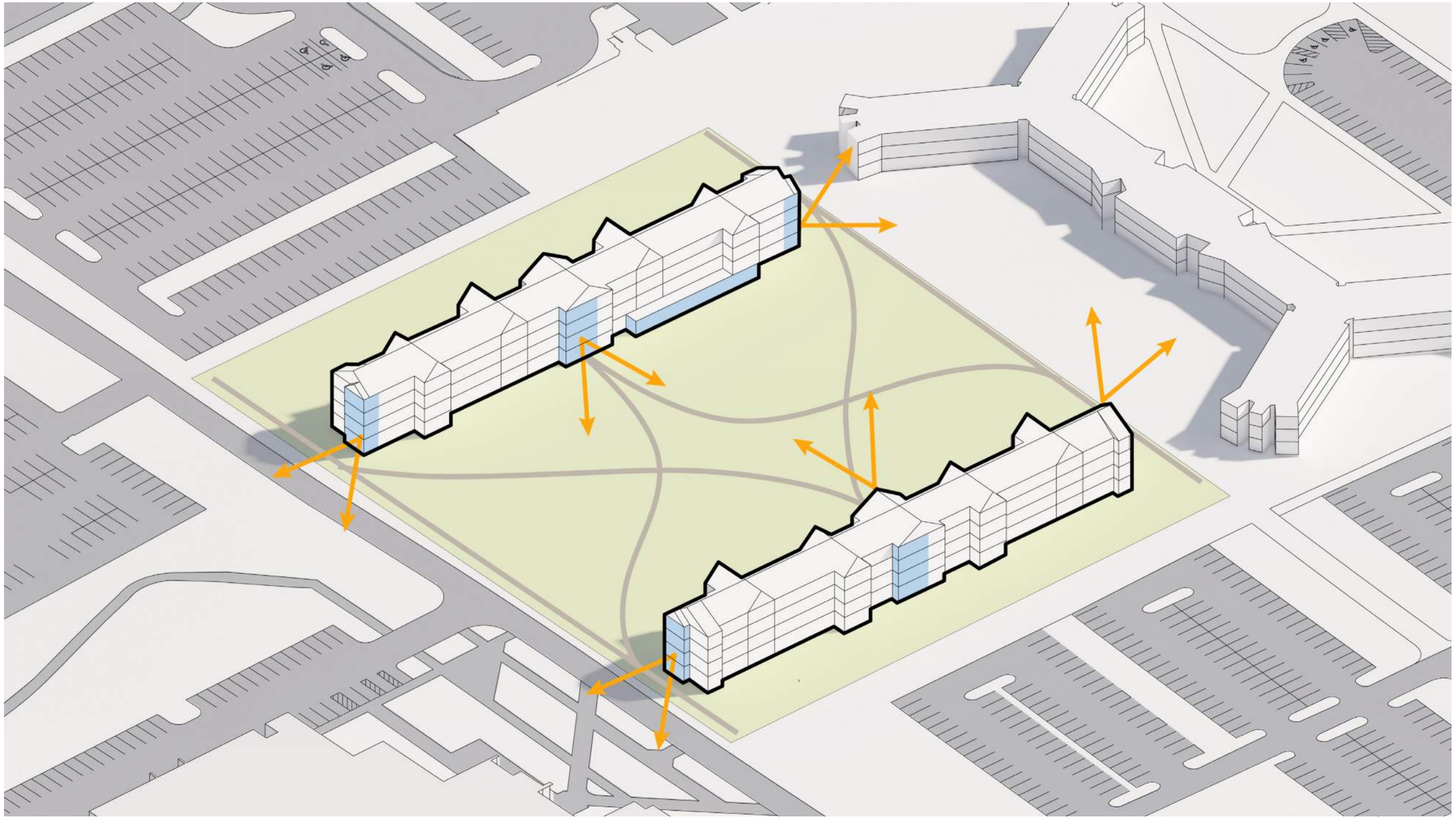
Architectural Expression



SLOPED ROOF
FIBER CEMENT
BRICK
GLASS

Design Guidelines

Architectural Expression



VIEWS

GLASS

Design Guidelines

Architectural Expression | Existing Buildings on Campus

University Village I

University Village II

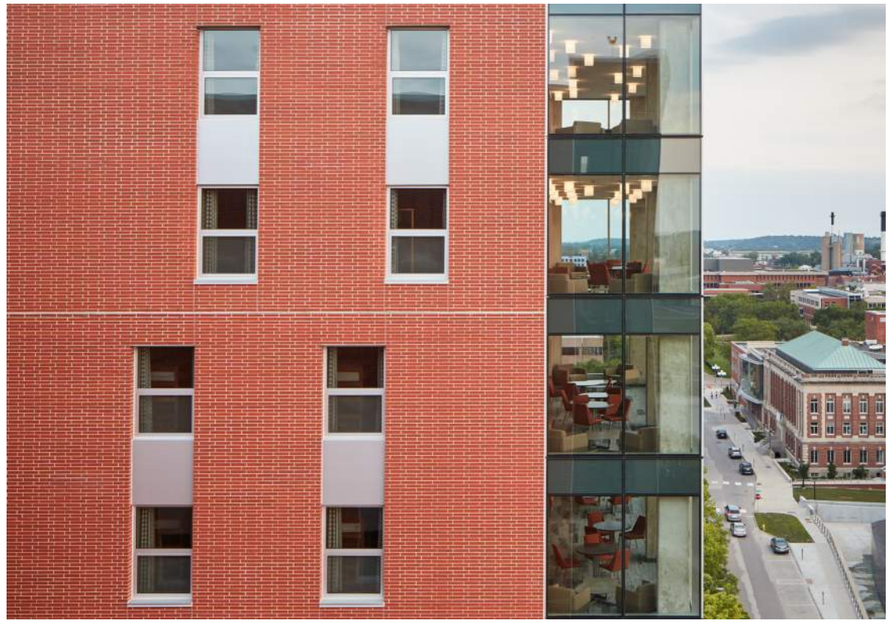
Cooper Hall

Latimer Engineering and Science Building

Design Guidelines

Architectural Expression | Exterior Expression of Community Spaces

California State University Los Angeles



University of Iowa

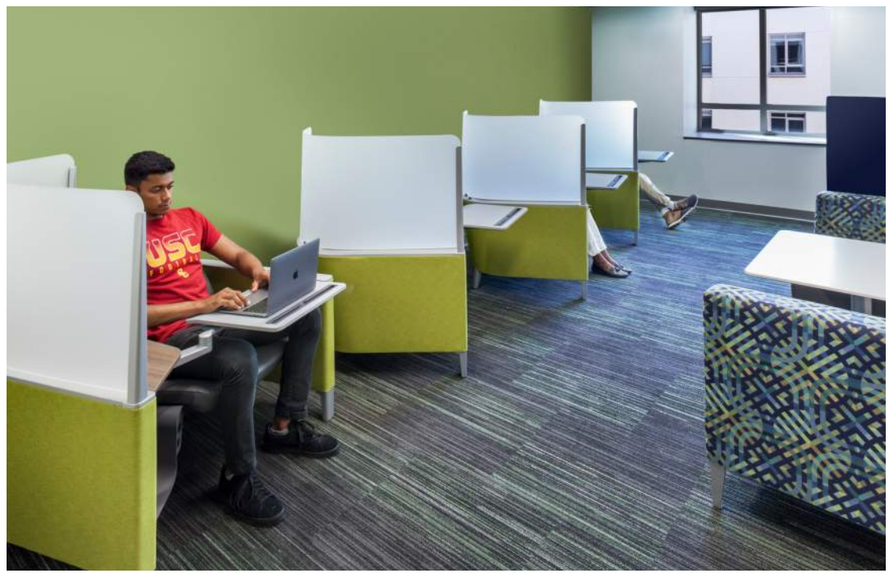
Design Guidelines

Architectural Expression | Interior Precedents

Community living or lounge space that incorporates seating for different postures (bar-height, lounge, table-height) and group sizes. Students can come to socialize or study using the variety of seating options provided. This space also incorporates abundant daylighting, natural materials (wood) and inviting lighting and textures (carpet, furniture textiles in warm colors and prints.)

An informal lounge or living area that offers seating arrangements for small groups. The access to views and daylighting encourages students to leave the private space of their room to study or gather with friends.

Informal lounge or living area that encourages students to socialize in small groups or to study within a community environment.



Small "nooks" provide a great space for students to focus and study within a community environment.

Design Guidelines

Architectural Expression | Interior Precedents

Within the ground floor Central Neighborhood space of the building, recreational gaming tables can be a way to enhance community within the Community Living area.

The Community Kitchen space provides students a communal place to eat and socialize.

Laundry rooms that are adjacent to the Central Neighborhood living and lounge areas give students a place to spend time while waiting for their laundry. Ideally these rooms have visibility to the adjacent spaces.

Group seating within the Community Kitchen space encourages students to have meals with their neighbors as well as an additional space to study.

Design Guidelines

Architectural Expression | Interior Precedents

An example of an Active Learning Classroom (ALC) located within a Residence Hall.

An Active Learning Classroom (ALC) within a residence hall that has access to daylighting and views. With movable furniture, this space is multi-functional.

A smaller learning space that incorporates technology and has access to daylighting and views.

A flexible studio space that can be used for various types of active learning and making.

Design Guidelines

Architectural Expression | Exterior Concept Rendering

View looking across Mt Pelia Road towards the Phase I North Residence Hall.

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Acknowledgements

PROGRAMMING ADVISORY COMMITTEE

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Appendix

Exhibit A | Ellington Hall Facility Condition Assessment

This exhibit is attached separately due to the size of the document.

Please refer to document "2022-09-19 - 22196 - Ellington Hall Facility Condition Assessment (Draft)" included in the packaged folder.

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