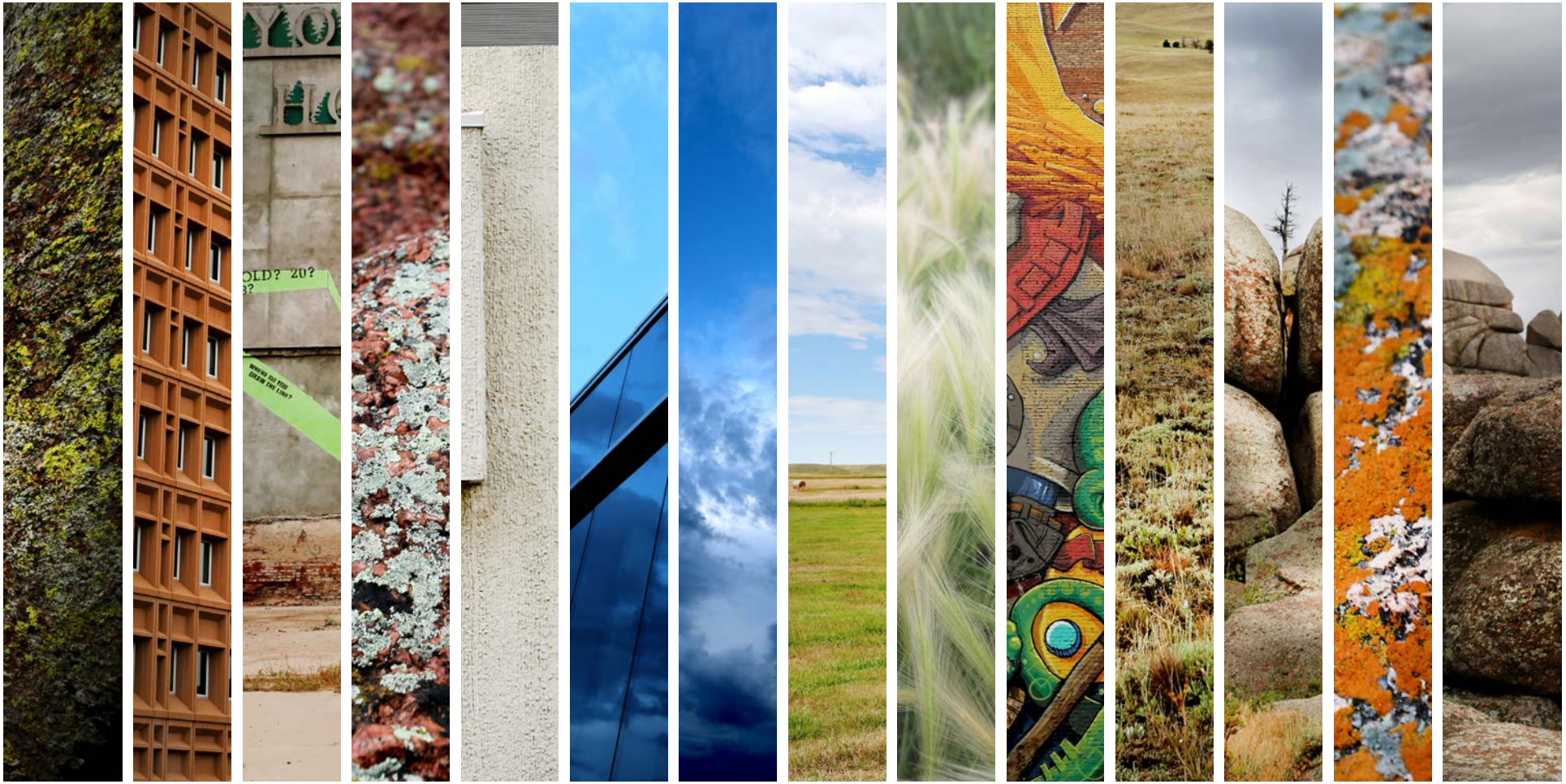

LARAMIE COUNTY COMMUNITY COLLEGE

RESIDENCE HALL

LEVEL 1 RECONNAISSANCE & LEVEL 2 FEASIBILITY REPORT

CHEYENNE, WYOMING

LARAMIE COUNTY COMMUNITY COLLEGE REVIEW SIGNATURES

We have reviewed the Program for the Laramie County Community College, Residence Hall and confirm that it adequately represents our request for a program and performance specification document and that it fulfills our mission and goals. The appropriate parties listed below have reviewed it for approval.

Joe Schaffer | President of LCCC — Date

Carol Merrell | Trustee Board Chair — Date

Rick Johnson | V.P. Administration + Finance — Date

00 | ACKNOWLEDGEMENT + DESIGN TEAM

LARAMIE COUNTY COMMUNITY COLLEGE
Joe Schaffer | President of LCCC
Carol Merrell | Trustee Board Chair
Rick Johnson | V.P. Administration + Finance
Judy Hay | V.P. Student Services
Jill Koslosky | Dean of Students
James Miller | Interim Dean, Student Life
Bill Zink | Director, Physical Plant
James Crosby | Director of Campus Safety
Sarah Hannes | Admissions
Brynn Elliott | Residence Hall Disability Services
Chad Marley | CTO/IT
Scott Noble | Athletics/Rec.
Ted Whickham | IT Network
Ken Bunya | IT

LCCC STUDENTS
Jake Thomas | Residence Hall
Faith Balkenbush | Residence Hall
Alex Loeffelholz | Residence Hall
Abby Morillon | Residence Hall
Sebastian Houston | Student Government

ARCHITECTURE - METHOD STUDIO
Joe Smith | Principal In Charge
Becky Hawkins | Interior Design Lead
Jake Gines | Senior Designer + Programmer
Shawn Benjamin | Project Manager
Jared Barnett | Junior Designer + Programmer
Nathan Blair | Programmer
Angela Flicker | Program Support

STRUCTURAL
Mark Harris | Reaveley Engineers + Associates

MECHANICAL
Kim Harris | Van Boerum & Frank Associates

ELECTRICAL
Chris Kobayashi | Spectrum Engineers

CIVIL
Scott Larson | Benchmark Engineers
Erin Gates | Benchmark Engineers

LANDSCAPE
Brandon Reed | Loft Six Four

COST ESTIMATING
Kris Larson | Construction Control Corporation

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05 DATA SHEETS + ROOM DIAGRAMS

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EXECUTIVE SUMMARY

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01

PROJECT JUSTIFICATION

NEED FOR THE PROJECT

The addition of a new residence hall at LCCC is driven by two distinct needs. One is more localized and the other is a longer-term need facing the state of Wyoming.

First, as Wyoming's largest community college, and residing in the state capital with close proximity to the growing Front Range of Colorado, LCCC is woefully under-equipped to provide student housing on campus. Among one-campus institutions, the College has the fewest residence hall beds of all of the community colleges expect for one – Eastern Wyoming College, which is the state's smallest of the seven community colleges. In the Fall of 2017, LCCC had nearly 600 applicants that expressed interest in living on campus. Unfortunately, the College only had capacity to house less than half of those students. This challenge is compounded by the extremely low vacancy rates for rental properties in Laramie County (2-5% vacancy as compared to a state average of more than 12%). This lack of approximate and affordable rental properties addressing the living requirements for students attending LCCC becomes a significant barrier.

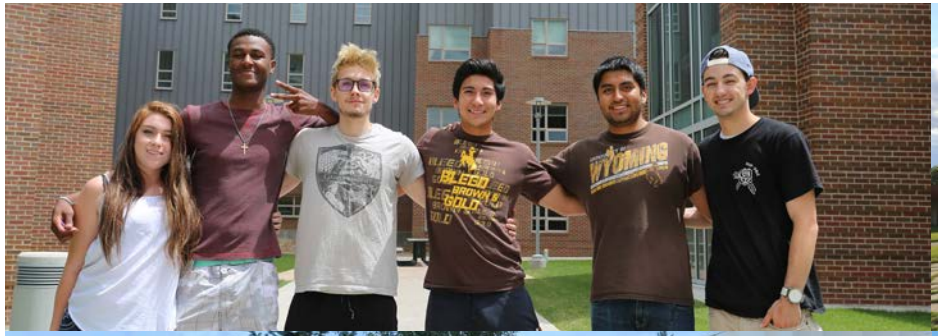
The second need is more future-oriented. Recently the state has launched various efforts to diversify its economy. Guided by Governor Matthew Mead's ENDOW Initiative (Economically Needed Diversification Options for Wyoming), it is quickly becoming evident that for the state to diversify its economy it must seek to increase the state's population. Specifically educated individuals are sought to become the next generation of employees and business leaders. The community colleges provide an exceptional value for the education they offer, especially for students from outside of the state of Wyoming. Community college graduates in Wyoming tend to stay in state (it is estimated that nearly 88% of all grads do so). Thus, institutions like LCCC provide a conduit to recruit young individuals from other states, educate them, and help keep them in Wyoming.

STATUS OF PROPOSED SITE OWNERSHIP

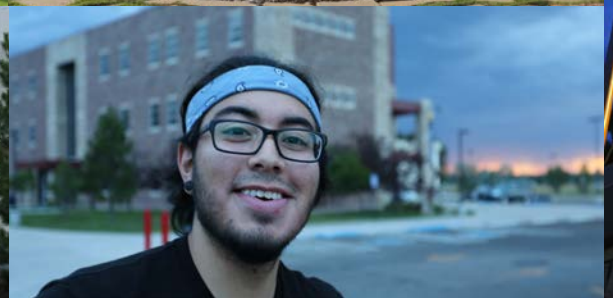
The proposed site for this project is on land owned by Laramie County Community College. There are no existing conflicts or other potential obstacles that would hinder the use of this land for the proposed intended purpose, public or private.

LEGISLATION CONSIDERATION

The proposed project was presented for consideration at a public hearing of the Wyoming State Building Commission on July 12, 2017. No adverse input was received by the Commission at that time.





THE CHALLENGE

LCCC is Wyoming's largest community college, but has less student housing than all but one community college in the state.

On-campus student housing is an important consideration for many students. The college's lack of student housing has been a significant obstacle in its recruiting efforts.

Vacancy rates for off-campus rental units in Cheyenne range from two to five percent. Significantly lower than the state average of 12.2 percent.* Available off-campus apartments are often not affordable for LCCC students.

This year, LCCC had 598 fall applicants who expressed an interest in living on campus. However, there are only 276 beds available. The demand currently outweighs the supply.

THE SOLUTION

Construct a 350-bed on-campus residence hall.

The new facility will have more than just residential space – it will include kitchens, classrooms and communal spaces for students to study together.

The new residence hall will greatly aid recruitment. Students want to live and work close to other students.

Students who live on campus their freshmen year are far more likely to graduate.** Research shows that 88 percent of Wyoming community college graduates stay in Wyoming.***

* Source: http://eadiv.state.wy.us/housing/Rentvac_rate86_16.htm see page 27 at http://www.wyomingeconomicdata.com/_pdfs/2016/Dec/ThirdQuarterIndicatorsDec2016.pdf

** Source: LCCC Office of Institutional Research

*** Source: The Economic Value of Wyoming Community Colleges, Main Report, March 2016

01

PROJECT DESCRIPTION

BUILDING PROGRAM SUMMARY

The LCCC Student Housing will provide Laramie County Community College with a new student housing complex that meets the following requirements:

- $23,000,000 construction budget
- Approximately 26,500 SF footprint
- Predominantly two bed units, select single bed units for resident assistants
- Approximately 350 beds
- Multi-level structure
- Stacked rest room core
- Sink vanities included in units
- Live In Director's apartment
- Admin areas, mail room, multi-purpose room
- Full kitchens in common areas
- Common lounge areas

To meet the programmatic needs, it has been sized to approximately 99,000 gross square feet. A 1.4 grossing factor (28% efficiency factor) was applied to the net square footage to get to the final gross square footage amount. The gross factor accounts for circulation, wall thickness, shafts and ancillary spaces.

SPACE REQUIREMENT SUMMARY

METHODSTUDIO INC.

LARAMIE COUNTY COMMUNITY COLLEGE

LCCC STUDENT HOUSING

SPACE AREA SUMMARY

10.16.2017 — **2 BED UNITS**

SPACE TYPE	DESCRIPTION	QTY	NET SF	TOTAL NET SF
UNITS				
1 Bed Unit		4	140	560
2 Bed Unit		168	196	32928
RA Unit		12	140	1680
Number of Beds		352		
	Subtotal			**35168**
RD APARTMENT				
Apartment s.f.				826
Number of Apartments		1		
Number of Beds		2		
	Subtotal			**826**
AMENITIES				
Lobby		1	548	548
Common Laundry	varies	varies	varies	2496
Restroom Cores	6:1 ratio 87 beds per floor = 29 fixtures or (6) 5 fixture cores per floor	varies	varies	9084
Fitness Room		1	596	596
Classroom/Theater Room		1	461	461
Student Lounge/Game Room	On Level 01	1	4818	4818
Vending	1 per floor	4	20	80
Print Station	1 per floor, 2 computer stations & 1 printer	1	45	45
Prep Kitchen		1	163	163
Common Kitchen	amount varies per floor	varies	varies	1792
Common Lounge/living rooms	amount varies per floor	varies	varies	3768
Multi-Purpose Room		1	811	811
Music Room	all on first floor	0	0	0
Craft Space		1	244	244
Classroom		1	353	353
Study Room	varies	1	1728	1728
Storage		1	384	384
Restroom		2	58	116
	Subtotal			**27487**
ADMINISTRATIVE				
Reception		1	114	114
Staff Office		1	122	122
Campus Safety Office		1	145	145
Storage		1	100	100
Mailroom		1	100	100
	Subtotal			**581**
STORAGE & MAINTENANCE				
Support-Electrical/Comm		4 vary		1174
Support-Mechanical		5 vary		974
Custodial Storage		1	141	141
Custodial Office		1	115	115
Main - Electrical		1	2458	2458
Main - Mechanical		1	2458	2458
Elevator Equipment Room		1	137	137
Elevator		2	87	174
	Subtotal			**7631**

Total Number of beds — **354** (348 student + Live in Director)

	Net SF	Gross SF	Cost
Student Housing Building	**71693**	**99,294**	**$ 22,986,561.00**
		28% grossing factor	$231.50/sf
		20% soft costs	$ 4,942,110.62
Total			**$ 27,928,671.62**

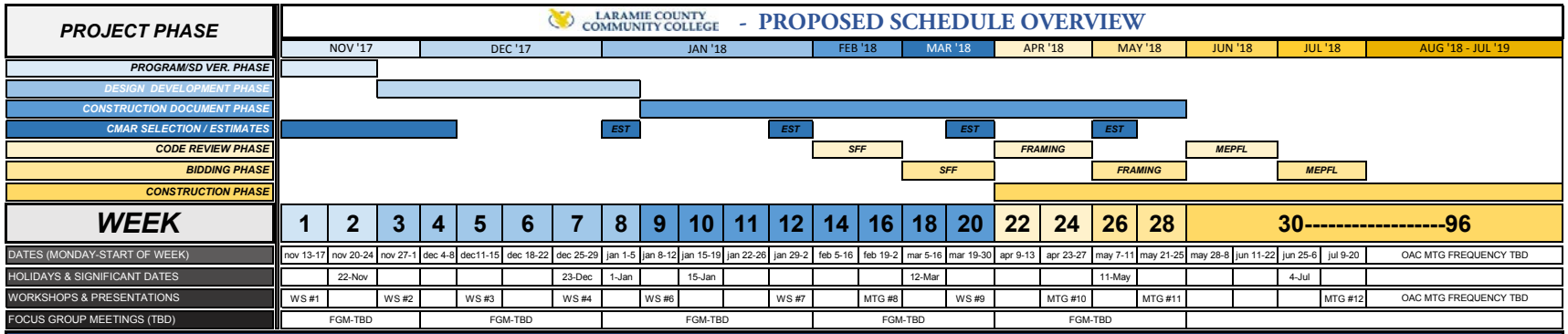
01

SCHEDULE NARRATIVE

In any project, schedule is always of primary concern. However, in this case, the College has proposed an aggressive schedule, but sufficient time for the contractor to complete their required scope before the Fall 2019 semester begins.

There are several factors that begin to define the duration of this schedule, starting with the upcoming bond election ballot item for a minority share of the project budget. Assuming the initiative passes, the College is prepared to engage the Design team to continue into the Level III scope to continue into design development and construction documents. That phase of the project will push into the early months of 2018 and continue as construction has initiated. The permit application will be submitted to the County for review in March and will remain an open permit as different phases become available for review. In meeting with the County during the pre-application meeting, it was discussed that an early site submittal may make sense about one month prior to the construction application is submitted to allow for a smoother review process. This may be helpful for the College in replacing the existing parking lot prior to its demolition. Since the current working loads and staffing resources at the County are somewhat strained, the anticipated review time will be longer than usual, but could be helped with phases packages.

LCCC has expressed a desire to review the documents and make application to the County prior to bidding the project, but this will push the ultimate start of construction into late May or early June. While an April/early start may be slightly more ideal, the phasing will have to be reviewed with the contractor that is ultimately selected. It is important to time the project to fit the needs of the College and their financing plan.



LCCC Student Housing Proposed Sequence of Events - DETAILED WORK PLAN

week	dates	phase	objectives	deliverables	attendees
1-2	nov 13-24	sd	**WORKSHOPS #1-2/SD PROGRESS/PRESENTATION:** Meet with Design Team • review schematic design with LCCC including site, massing, floor plan and basic volume concepts for interior spaces • review cost estimates, & Project manual, drawings as required • discuss delivery methods and work with state consultants to ensure conformance with local standards	minutes, incorporate feedback, SD feedback incorporation, revised schedule and approval from LCCC/WYFMD	OC, SR, DT (MEETINGS TBD)
3-8	nov 27 to jan 5	dd	**WORKSHOPS #2-6/DD INTRO/PROGRESS/PRESENTATION:** Meet with Design Team • develop design with LCCC including site, building elevations, solidify floor plans and basic interior concepts • review code requirements with WYFMD, County & fire marshal • DD deliverables: updated Cost model, & Project manual, drawings as required • continue to work with state consultants to ensure conformance with local standards	minutes, incorporate feedback, WYFMD DD deliverables for review and approval from LCCC/WYFMD	OC, SR, DT, ET (MEETINGS TBD)
9-28	jan 8 to may 25	cd	**WORKSHOPS #7, 9, & 11/CD INTRO/33-60-95% REVIEWS:** Meet with Design Team • develop construction drawings and specifications for bid packages• meet to review progress and define unknown items per LCCC preferences and standards • get periodic feedback from LCCC engineers • incorporate feedback as appropriate	minutes, incorporate feedback, progress sets for LCCC/WYFMD review, construction document for WYFMD review	OC, SR, DT, ET (MEETINGS TBD)
14-32	feb 5 to jun 22	code review	**CODE REVIEW MTG #8, 10, & 12:** Design Team to respond to comments from County, et al. • Review submitted construction documents from County and associated/interested parties • respond to comments from various agencies as needed • conduct final internal quality control prior to bidding • prepare bid documents for contractors	respond (as needed) to WYFMD or other comments noted in reviews, provide revised documents for bidding	OC, DT, ET (MEETINGS TBD)
18-36	mar 5 to jul 20	bidding	**PRE-BID MTG #8, 10, & 12:** Design Team to respond to comments from Contractors, et al. • review questions from contractors & issue addenda as needed • assist owner in negotiating subcontract bidders • issue conformed documents for construction	addenda as needed, conformed documents for construction, bid review	OC, DT, ET (MEETINGS TBD)
22-96	apr 9 to jul '19	constr.	**CONSTRUCTION:** Design Team to respond to comments from Project Team, Contractor, et al. • Attend construction coordination & progress meetings • address any issues that arise as appropriate for RFIs, ASIs, PRs, COs, etc. • Review submittals & submit deferred submittals for review • observe construction progress and conditions • review and certify pay applications • prepare as-built drawings in a timely manner after receipt from contractor • finalize project close out	RFIs, ASIs, Submittals, COs, PRs, etc., field observations	OC, DT, ET (MEETINGS TBD)

*FINAL SCHEDULE TO BE COORDINATED WITH STEERING COMMITTEE AT FIRST MTG.

OC- OVERSIGHT COMMITTEE - WYFMD / LCCC
SR- STUDENT REPRESENTATIVES
DT- DESIGN TEAM: METHOD STUDIO
CC- COST CONSULTANTS: - CCC
GC- GENERAL CONTRACTOR: TBD
ET- CONSULTING ENGINEERS: MECHANICAL & PLUMBING-VBFA, ELECTRICAL/TECHNOLOGY - SPECTRUM ENGINEERS, STRUCTURAL - REAVELEY ENGINEERS, CIVIL - BENCHMARK ENGINEERS & LANDSCAPE ARCHITECT - LOFT 64

SITE ANALYSIS

02

OVERVIEW

ANALYSIS

The Site Analysis portion of the program document identifies the impact of the site on the program, project budget and schedule. It identifies the physical characteristics of the direct building site and the surrounding geographical region. The analysis includes diagrams, maps and photographs to illustrate key features including: site topography, site climate, pedestrian and vehicular circulation, view corridors, key physical and visual adjacencies. The site analysis for the programming phase is intended to be a useful tool for the design phase of the project.

LOCATION

The proposed project is located along the southwest edge of the existing campus core, on the north side of South College Drive, a primary access route along the edge of campus. The existing site is open with a minor slope from south to north. The sole existing building on site is a modular unit intended for high school programs. It would be removed to make way for the proposed student housing. The site is bounded on two sides; to the west, existing residence halls and to the east, an existing auxiliary parking lot. To the north is the main campus mall, an east-west axis circulation core connecting to majority of buildings on campus. The site is open to the south.

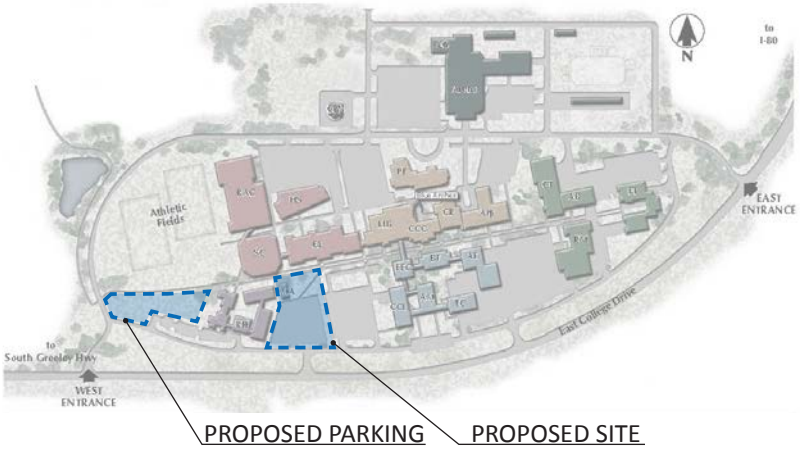
SITE SUMMARY

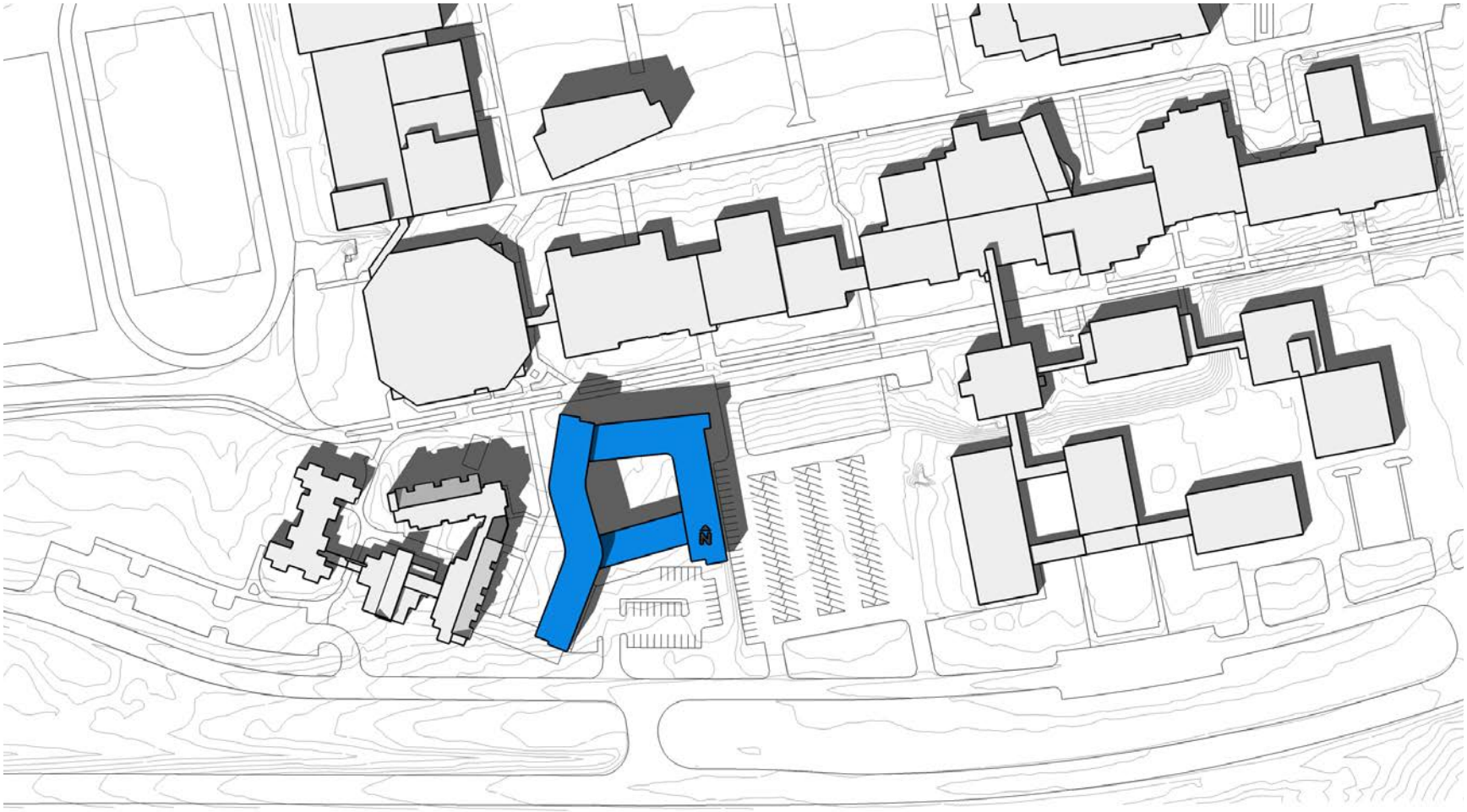
Laramie County Community College (LCCC) is planning to construct a new housing facility along the southwest edge of the existing campus core. The project is planned to include approximately 350 beds distributed among 180 units to meet the demand for new housing on the LCCC campus, with an anticipated footprint of approximately 26,500 sf.

The project will fit within the context of the existing residence hall parking lot. To make up for this reduction in parking, along with fulfilling the new need for parking, a new lot is also being proposed to the west of the existing residence hall.

Special consideration has been given to mitigating the challenge of frequent wind on site by positioning massing to help protect from winds.

It is planned that this facility should be well connected to the existing pedestrian network and should provide to clear access to the Academic core of campus.





SITE TOPOGRAPHY *1' - 0" BEETWEEN TOPOGRAPHY LINES*

SITE LOCATION + PLANNING PRINCIPLES

OUTDOOR SPACES

Outdoor spaces for gathering are limited on the existing site. The space itself has a primary purpose for outdoor recreation and has restricted access points to facilitate the on field play during events. There is some informal gathering that occurs to the south of the site, closer to the housing facilities, where people can find shade and large expanses of grass for relaxation, study and other passive recreation activities.

LANDSCAPE

Landscape on the site is very open and green. Open space surrounding the site features accessible grass and occasional clusters of mature deciduous and coniferous trees. The primary site does not have any mature, woody vegetation however, the site does have some prominent vegetation around the perimeter edges and between adjacent buildings.

The south edge on the opposite side of South College Dr. has a open landscape buffer between the highway and campus , running east west. The buffer provides space between the occasionally trafficked highway and the calm of campus.

The south edge of the site does have some mature and juvenile evergreen and leafy vegetation and foundation planting along the existing housing structures and parking lots Depending upon health and condition of the vegetation on this edge, it should be preserved.

As the site is located on the edge of campus, great views open up to the south, offering sweeping views of the Great Plains of Wyoming.

PARKING

The existing site contains surface parking that will be removed for construction. The total quantity of spaces lost is 143. In addition to stalls being added in the proposal, an additional lot is being proposed west of the residence hall site. There is parking immediately adjacent to the site on the east. The following parking counts for each area is listed below:

PARKING WEST OF SITE	PARKING EAST OF SITE
Existing – 55 stalls	Existing – 131 stalls
Proposed – 157 stalls	Proposed – 32 stalls

VIEW CORRIDORS

PROPOSED SITE PLAN *COURTESY OF LOFTSIXFOUR*

SITE CIRCULATION AND RELATIONSHIPS

VEHICLE TRAFFIC FLOW

Existing traffic flow for the site is primarily along the south edge of campus. East College Drive is the main artery accessing campus from the west and from the north. Occasional vehicular gateways allow access to a secondary drive aisle that loops around campus. Such a gateway is located directly south of the site. Parking lots and ingress to the interior of campus are accessed from this loop. The massing treatment and proposed parking lot adjacency fortify this loop road as a campus street. Access to the site is from a direct connection to the campus loop road. This lot also supports a drop off zone to support student's needs.

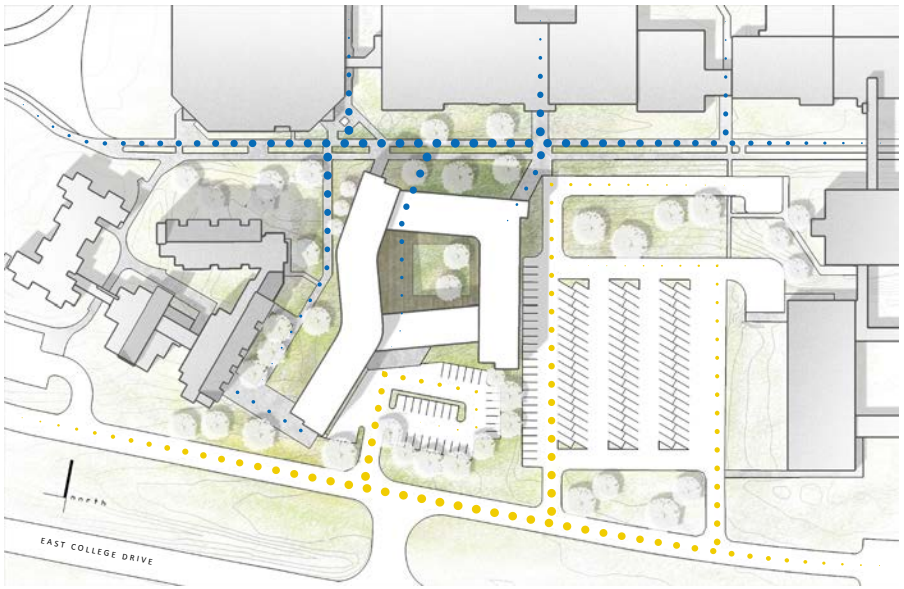
PEDESTRIAN TRAFFIC FLOW

Pedestrian traffic flow through and around the site is very open, offering many paths and points of connection. The site can operate as a destination or passthrough to access other points on campus.

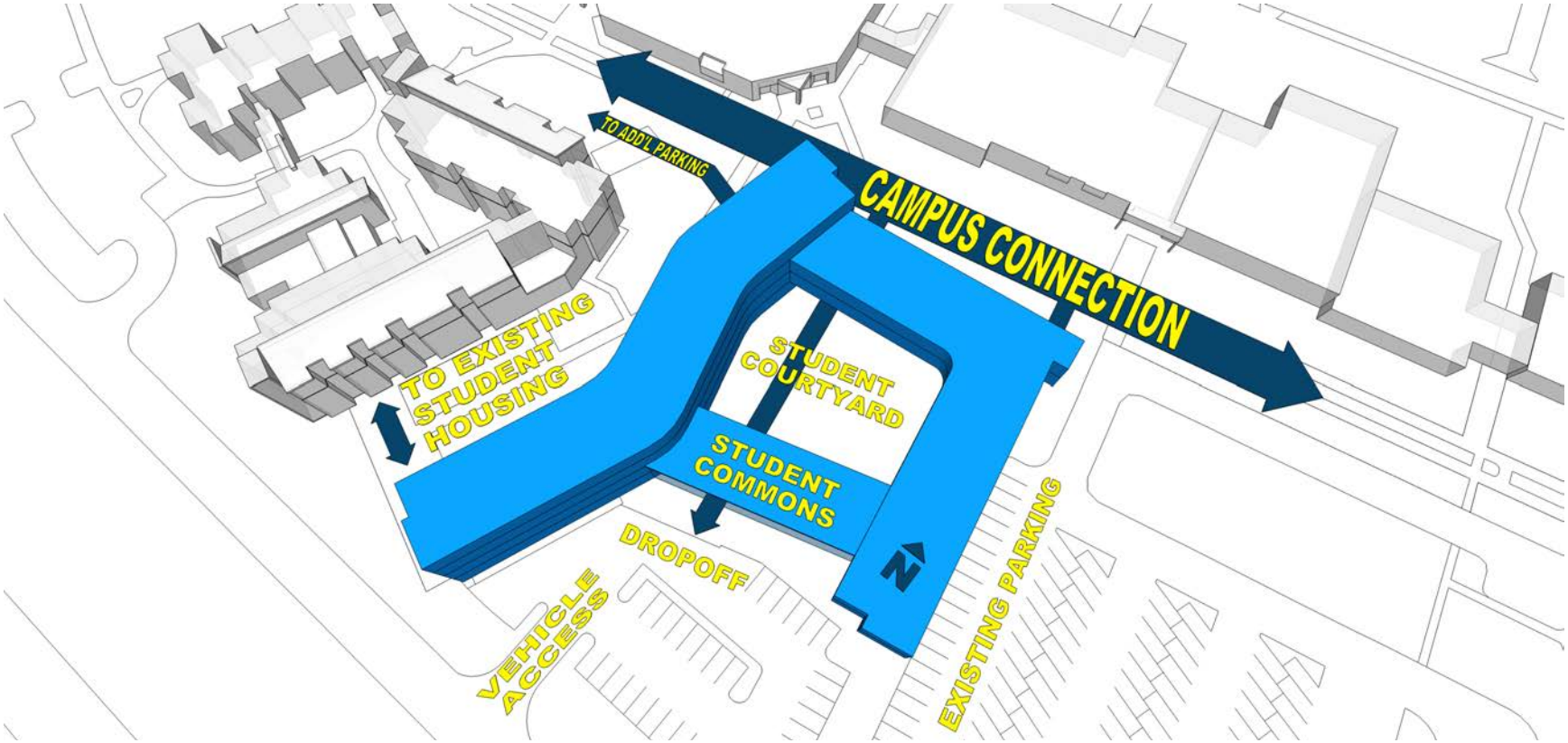
The predominant academic mall offers pedestrian & bicycle traffic flows that run adjacent to the site and facilitate access to the broader campus. The sidewalk immediately north of the site has been identified by LCCC campus planning as a primary east/west walkway and receives a moderate volume of foot traffic as pedestrians travel from the residence neighborhood to the plaza nodes and academic core of campus.

Another predominant pedestrian corridor is the corridor that runs north/south adjacent to and on the west side of the site. This is considered a significant campus walkway and is intended to provide safe pedestrian thoroughfare from the existing housing facilities to the academic core. This corridor also facilitates the existing housing facilities to the site.

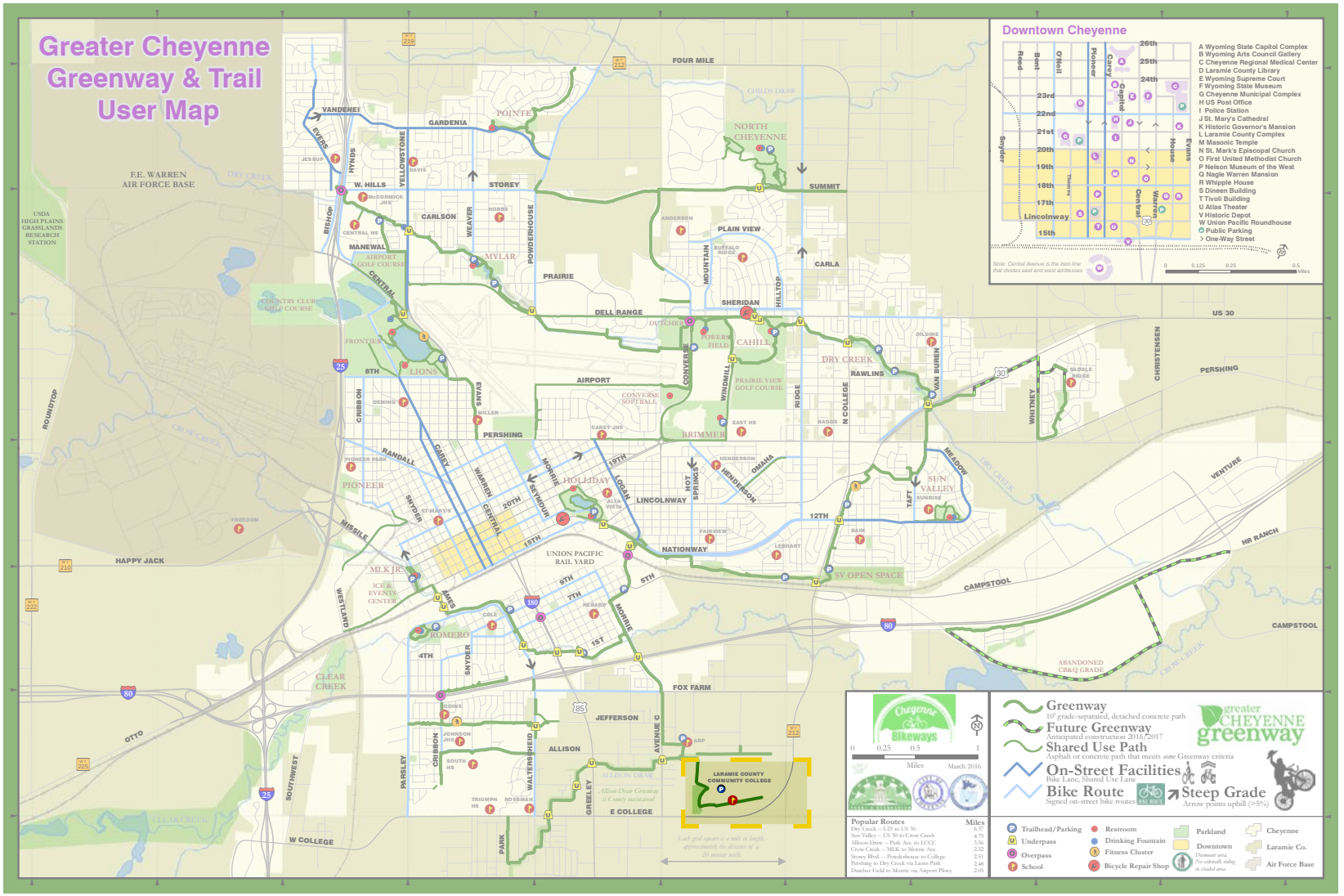
A semi public walkway will run directly through the site on a north/south axis. It will pass through the student common area, but will pass through an open breezeway on the north side of the site. This path is intended to further strengthen the pedestrian pathway to the academic mall and vehicular to pedestrian access from the loop road around campus.

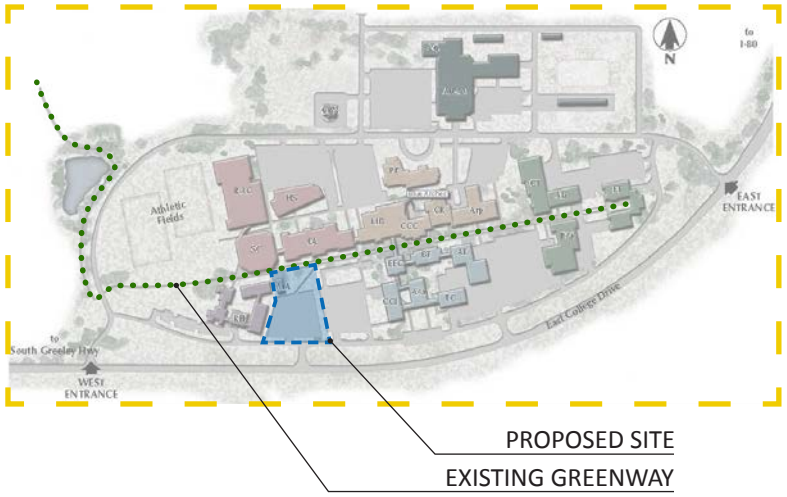


CIRCULATION SITE PLAN



SITE ADJACENCIES


Greater Cheyenne Greenway & Trail User Map
Downtown Cheyenne
A Wyoming State Capitol Complex
B Wyoming Arts Council Gallery
C Cheyenne Regional Medical Center
D Laramie County Library
E Wyoming Supreme Court
F Wyoming State Museum
G Cheyenne Municipal Complex
H US Post Office
I Police Station
J St. Mary's Cathedral
K Historic Governor's Mansion
L Laramie County Complex
M Masonic Temple
N St. Mark's Episcopal Church
O First United Methodist Church
P Nelson Museum of the West
Q Nagle Warren Mansion
R Whipple House
S Dineen Building
T Tivoli Building
U Atlas Theater
V Historic Depot
W Union Pacific Roundhouse
Public Parking
One-Way Street
Greenway
10' grade-separated, detached concrete path
Future Greenway
Anticipated construction 2016/2017
Shared Use Path
Asphalt or concrete path that meets some Greenway criteria
On-Street Facilities
Bike Lane, Shared Use Lane
Bike Route
Signed on-street bike routes
Steep Grade
Arrow points uphill (>5%)
Trailhead/Parking
Underpass
Overpass
School
Restroom
Drinking Fountain
Fitness Cluster
Bicycle Repair Shop
Parkland
Downtown
Cheyenne
Laramie Co.
Air Force Base
Popular Routes
Miles
FOUR MILE
POINTE
NORTH CHEYENNE
SUMMIT
PLAIN VIEW
CARLA
SHERIDAN
DELL RANGE
PRAIRIE
MYLAR
STOREY
CARLSON
W. HILLS
MANEWAL
GARDENIA
YANDEMEI
F.E. WARREN AIR FORCE BASE
AIRPORT
CAHILL
DRY CREEK
RAWLINS
US 30
PERSHING
CHRISTENSEN
VENTURE
HR RANCH
CAMPSTOOL
ABANDONED CB&Q GRADE
LINCOLNWAY
NATIONWAY
12TH
SUN VALLEY
SV OPEN SPACE
BRIMMER
HOLLIDAY
PIONEER
UNION PACIFIC RAIL YARD
MLK JR.
ROMERO
FOX FARM
JEFFERSON
ALLISON
E COLLEGE
W COLLEGE
HAPPY JACK
OTTO
CLEAR CREEK
LARAMIE COUNTY COMMUNITY COLLEGE
Each grid square is a mile in length, approximately the distance of a 20 minute walk.



GREENWAY OVERVIEW

The Greenway is a 10-foot wide grade-separated, detached, reinforced concrete path that works it's way throughout the city of Cheyenne. More than just a fancy sidewalk, the Greenway serves as a safe and accessible recreational corridor; a key component of the non-motorized transportation system; an open-air science, ecology, history, and health classroom for students of all ages; and a vital public space integral in building sustainable, vibrant and healthy neighborhoods and a cohesive community.

The man made and natural barriers that traditionally divide a community are the same corridors the Greater Cheyenne Greenway has employed to connect neighborhoods, school districts, and socioeconomic divides. Connecting governmental agencies, businesses, citizen volunteers and schools, Cheyenne boasts approximately 37 miles of completed Greenway path with plans for additional path.

The goal of the pathway system is two-fold: create a hub-and-spoke system that encircles the city in one continuous loop; and connect the non-contiguous segments to serve all neighborhoods while accommodating future growth. A segment of the Greenway terminates along the academic mall of the LCCC campus. The proposed site is located directly adjacent to the Greenway.

SITE CLIMATE + ORIENTATION

SOLAR AZIMUTH

The angle of the sun is at its highest during the Summer Solstice (June 20th). As the seasons change, the height of the sun gets lower in the sky until it is at its lowest point during the Winter Solstice (December 21st). Using the proper length of over hangs will help to shade the interior from the summer sun, while allowing the winter sun to enter, adding heat to the interior. The amount of lighting and electrical loading from the building uses will necessitate the management of direct sunlight entering the building to improve building efficiency.

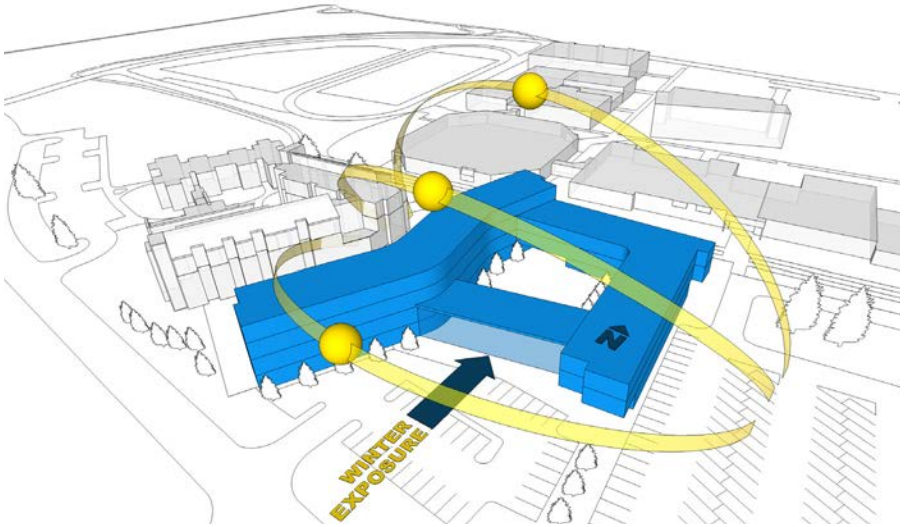
SOLAR GRAPH

The length of the day varies significantly over the course of the year. The shortest day is December 21 with 9:13 hours of daylight; the longest day is June 20 with 15:09 hours of daylight.

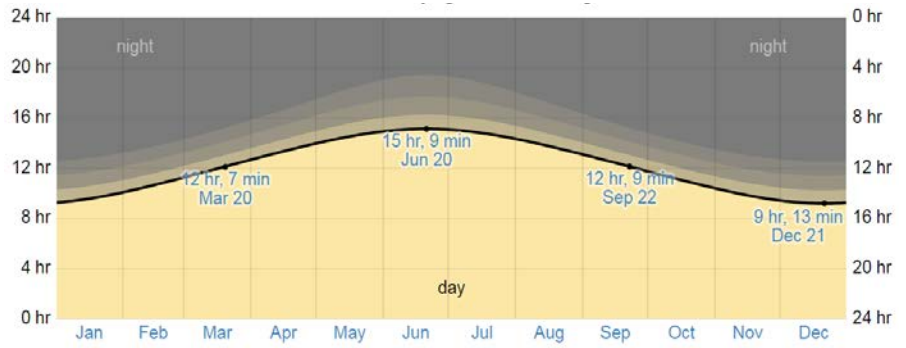
The number of hours during which the Sun is visible (black line), with various degrees of daylight, twilight, and night, indicated by the color bands. From bottom (most yellow) to top (most gray): full daylight, solar twilight (Sun is visible but less than 6° from the horizon), civil twilight (Sun is not visible but is less than 6° below the horizon), nautical twilight (Sun is between 6° and 12° below the horizon), astronomical twilight (Sun is between 12° and 18° below the horizon), and full night.

The solar information and other climate data included in this section is sourced from weatherspark.com.

https://weatherspark.com/y/3765/Average-Weather-in-Cheyenne-Wyoming-United-States-Year-Round



SOLAR ORIENTATION



DAILY HOURS OF DAYLIGHT AND TWILIGHT

The number of hours during which the Sun is visible (black line). From bottom (most yellow) to top (most gray), the color bands indicate: full daylight, twilight (civil, nautical, and astronomical), and full night.

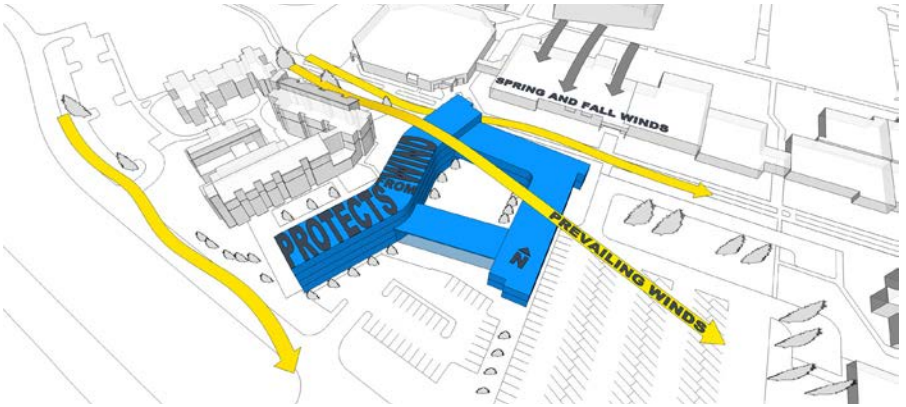
WIND PATTERNS

Over the course of the year average wind speeds vary from 4-8 mph (light to gentle breeze), with gusts rarely exceeding 22 mph (fresh breeze). It is calm roughly 6% of the year.

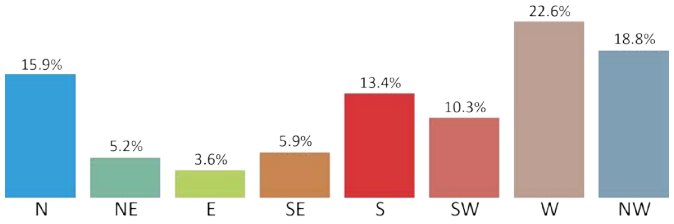
The highest average wind speed of 8 mph (gentle breeze) occurs around January 18, at which time the average daily maximum wind speed is 13 mph (moderate breeze).

The lowest average wind speed of 4 mph (light breeze) occurs around August 10, at which time the average daily maximum wind speed is 7 mph (gentle breeze).

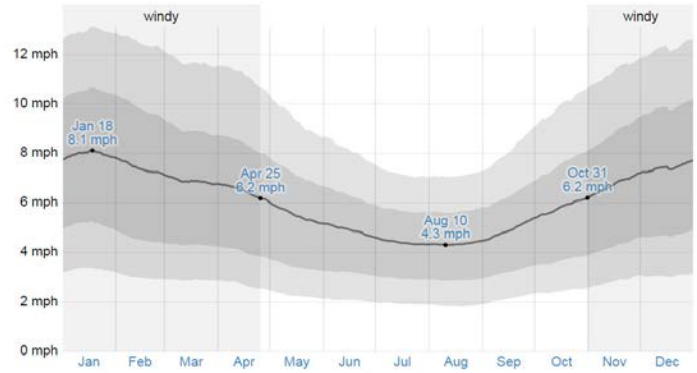
The wind is most often out of the west (23% of the time). The wind is least often out of the east (4% of the time).



WIND DIAGRAM

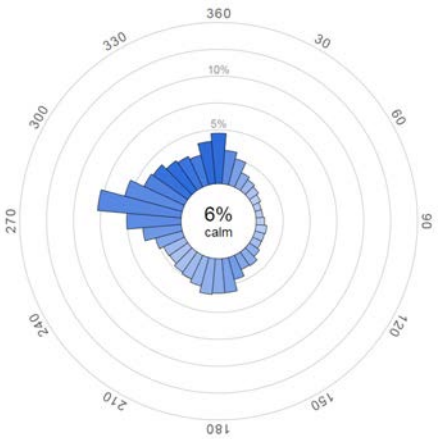


ANNUAL FREQUENCY BY DIRECTION

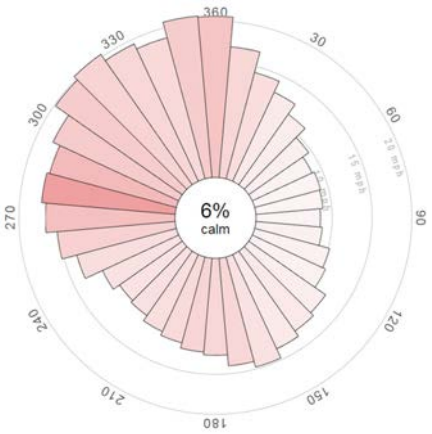


The average of mean hourly wind speeds (dark gray line), with 25th to 75th and 10th to 90th percentile bands.

AVERAGE WIND SPEED



ANNUAL FREQUENCY BY DIRECTION



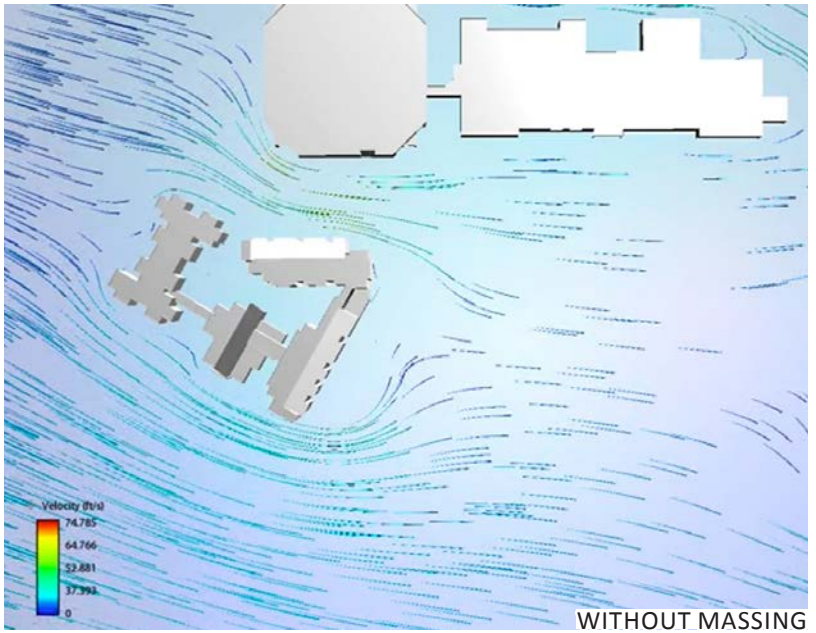
AVERAGE SPEED BY DIRECTION

SITE CLIMATE + ORIENTATION

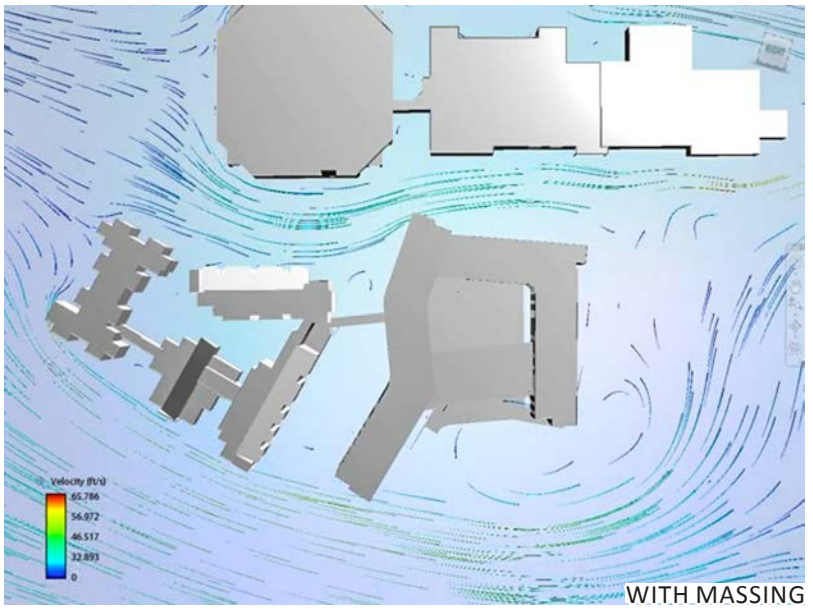
WIND TUNNEL STUDY

Due to the challenging nature of wind on site, attention was given to the specific effects of the prevailing wind from the West. A virtual wind tunnel shows windflow lines before and the resulting lines after the model mass is placed in the environment.

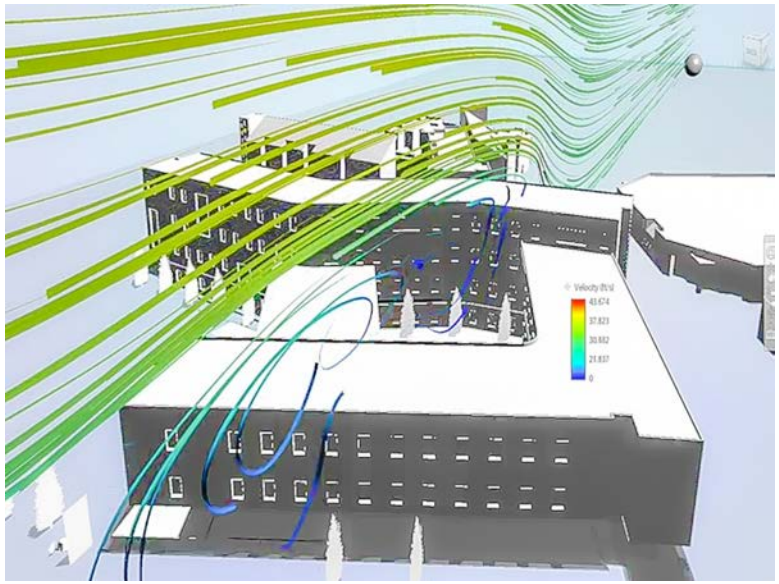
The initial wind velocity modeled is 20 ft/s, or roughly 13 mph, the average daily maximum wind speed in January.

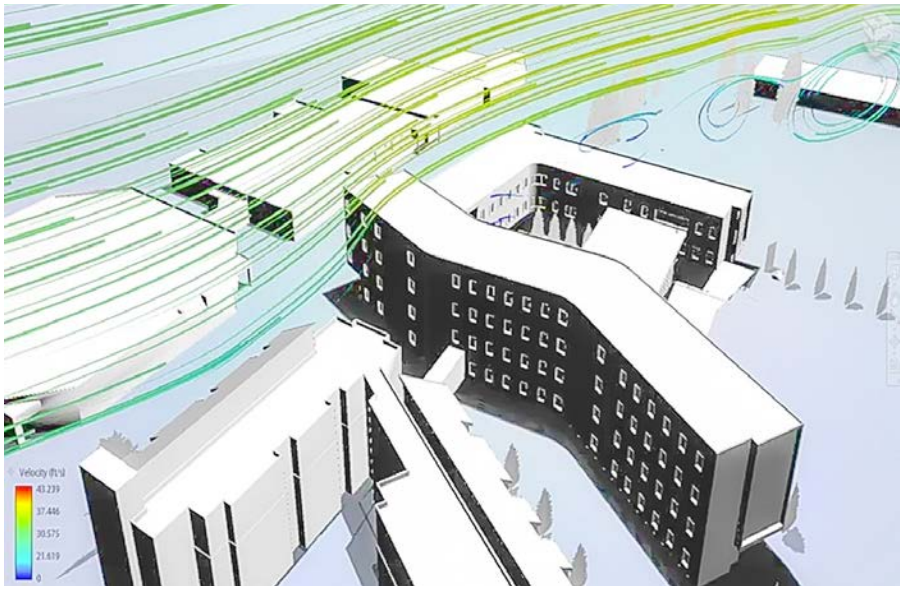


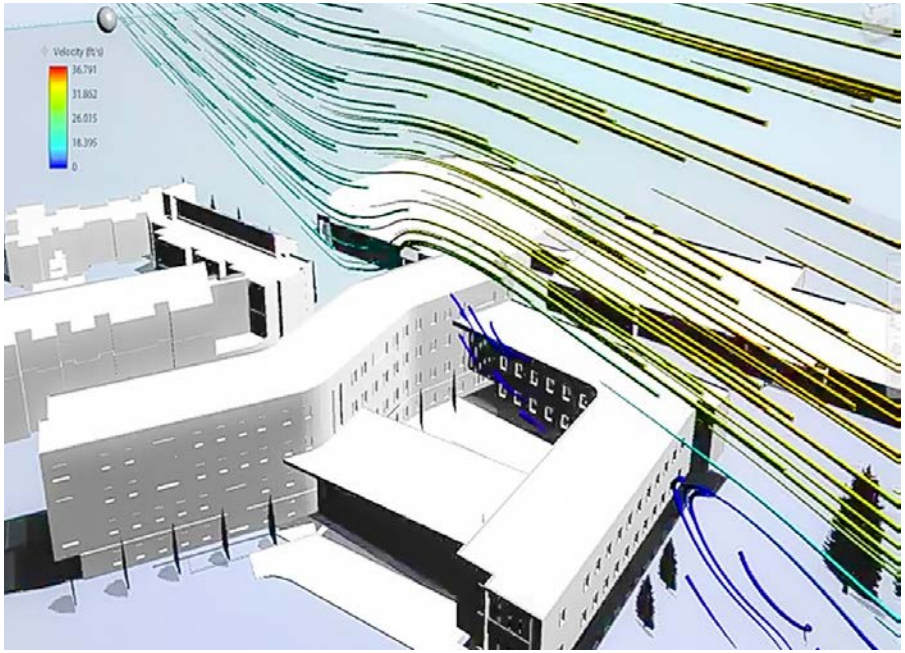
WITHOUT MASSING



WITH MASSING





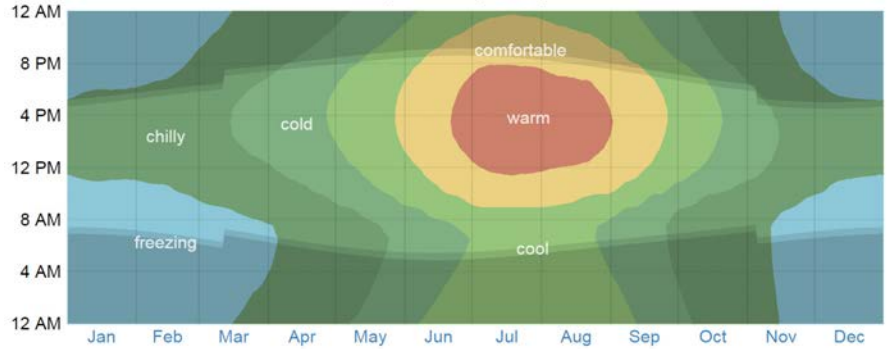


SITE CLIMATE + ORIENTATION

TEMPERATURE GRAPHS

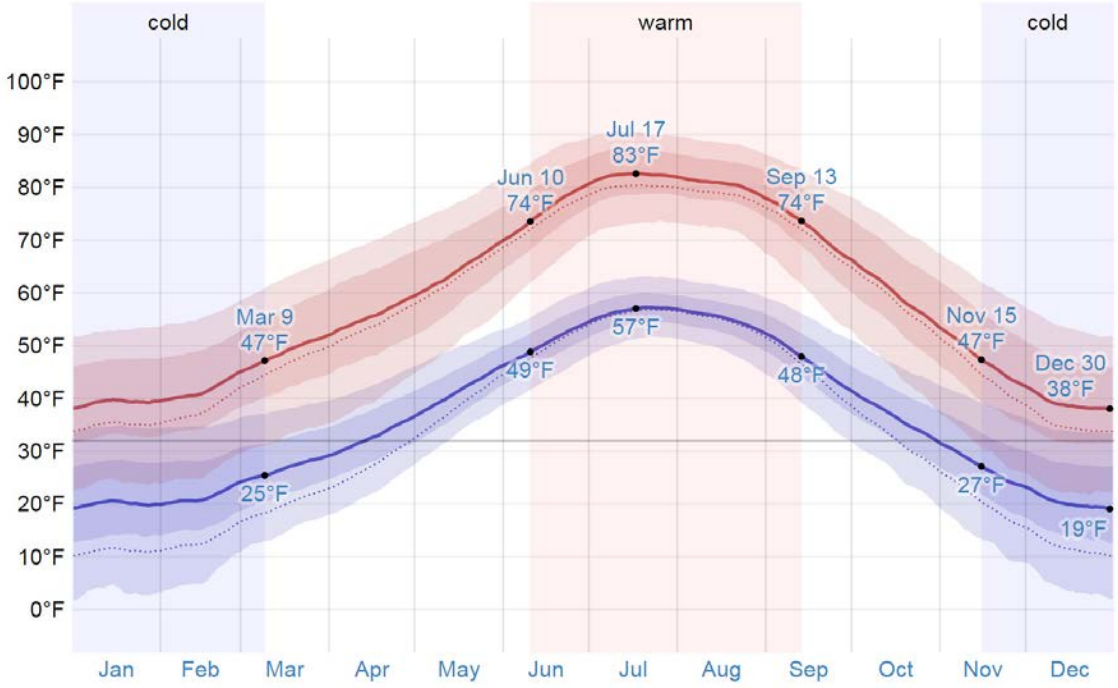
The warm season lasts from June 17 to September 9 with an average daily high temperature above 79°F. The hottest day of the year is July 20, with an average high of 91°F and low of 56°F.

The cold season lasts from November 20 to March 8 with an average daily high temperature below 42°F. The coldest day of the year is January 14, with an average low of 14°F and high of 31°F.



AVERAGE HOURLY TEMPERATURE

The average hourly temperature, color coded into bands: frigid < 15°F < freezing < 32°F < chilly < 45°F < cold < 55°F < cool < 65°F < comfortable < 75°F < warm < 85°F < hot < 95°F < sweltering. The shaded overlays indicate night and civil twilight.



AVERAGE HIGH AND LOW TEMPERATURE

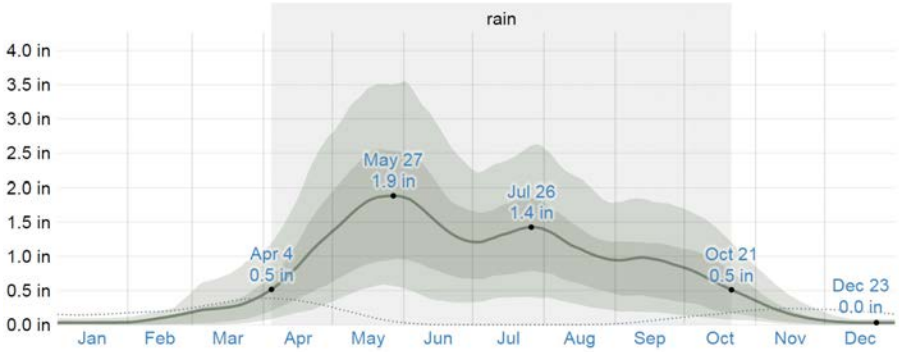
The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

PRECIPITATION GRAPHS

The wet season lasts about five months, from the beginning of April til the end of August, usually raining about once a week. The highest probability of rain occurs near the end of May, with precipitation every three days on average. The remainder of the year is the drier season with very little precipitation.

Rain is the most common precipitation 8 months out of the year, followed by snow for 4 months out of the year.

Cheyenne receives 16 inches of rain per year. The US average is 39 inches. Annual snowfall accumulation is 59 inches. The US average is 26 inches of snow per year. The number of days with any measurable precipitation is 41.

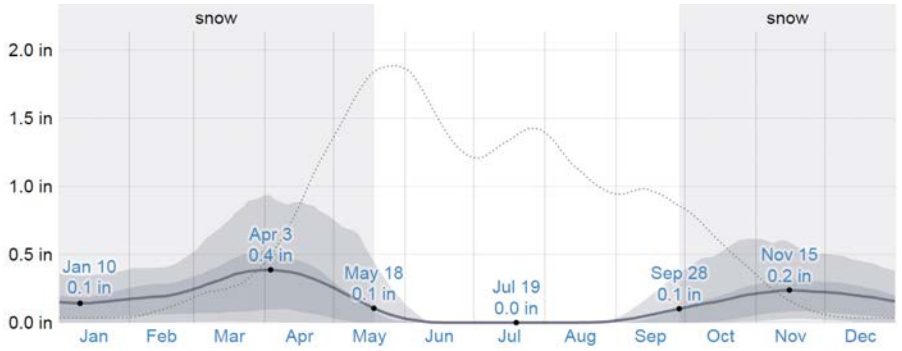


AVERAGE MONTHLY RAINFALL

The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average liquid-equivalent snowfall.

DAILY CHANCE OF PRECIPITATION

The percentage of days in which various types of precipitation are observed, excluding trace quantities: rain alone, snow alone, and mixed (both rain and snow fell in the same day).



AVERAGE LIQUID-EQUIVALENT MONTHLY RAINFALL

The average liquid-equivalent snowfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average rainfall.

BUILDING REQUIREMENTS

03

ARCHITECTURAL NARRATIVE

CONCEPT

Located on the high plains of Wyoming, just outside of Cheyenne, rests a landscape seasoned by time and the elements. This enchanting landscape of Veedauwoo is primarily defined by its 1.4 billion-year-old Sherman Granite outcroppings and hoodoos. It is a place where recreation and joy are found amongst the stones. But Vedauwoo is more. In the words of the poet Gerry Spence, this landscape is where silence resides and "the silence has always been my friend".

Lori Howe provides another vivid description of Vedauwoo in her poem Winter Archipelago. Some portions have been redacted for clarity.

MINDLESS OF TIME, THESE LAST FEW MAMMOTHS STOOD STILL
WRITTEN IN HEAT AND WATER ON THE INSIDES OF THEIR IGNEOUS SKINS,
UNTIL THEY HARDENED, IMMORTAL

IN SOFTER SEASONS, HUMANS COME
BRIGHT, FRAGILE, TINY AS BEETLES,
TO DRY THEMSELVES AGAINST THE PLACID STONE

VEDAUWOO GAZES OUT ACROSS THE PLAINS,
SOFTENING THE WORLD BACK TO AN ANCIENT SEA.
LOST TO ALL BUT ELEPHANT ISLANDS,
AND THEIR LONG MEMORIES OF WATER

The architectural concept for the New Student Housing at Laramie County Community College seeks to engage in the philosophical understanding of place as the catalyst for architectural discovery and design development. Vedauwood provides a contextual condition that removes itself from the immediate and positions our work in the timeless and the relevant. As such, the architectural concept is derived from our own experience of the place, poetic descriptions of the landscape, and other observations. Our concept for the project is…

THE CLOSENESS OF TOWERING MOUNTAINS OF SKY
FRAMED BY SEASONED MAMMOTHS
BORN OF THE EARTH

The architecture of this project will figuratively and literally rise up from the earth as great monoliths of material to greet and frame the closeness of the great Wyoming sky.

The following are 6 key concepts developed in concert with the primary concept to give image, reality, and further definition to the abstract.

NO. 1 CAPTURE THE CLOSENESS

Gerry Spence continues to describe Wyoming's landscape as one filled with "towering mountains of sky". Others have commented on their arrival to Cheyenne that the sky feels closer. This ever-present closeness of the sky can be felt and observed. The idea is that the proposed architecture rises to meet the sky and the sky will provide a canopy over the courtyard of the building.

NO. 2 INHABIT THE VOID

As the monoliths of stone position themselves in the landscape of Vedauwoo, curious voids develop in the spaces between. These voids are hubs for activity and inhabitation. The architecture proposal seeks to examine the spaces between as environments of engagement – both for the communal and for the individual.

NO. 3 CONTEXT AND COLOR

Material palette and color are to be derived from the natural and man-made landscapes – rustic orange, soft teal, fluorescent green, and natural earthen red and grey. Contextualizing color keeps the proposal rooted in place and speaks of the energy and liveliness of campus life.

NO. 4 IMMERSE, EMERGE, ENVELOPE

The architecture will envelope its inhabitants and create a place of rest from the rigors of academic life. It will be a refuge where students are

immersed in all aspects of residential life. And it will serve as a portal wherein students emerge ready to embrace their successes.

NO. 5 EROSIVE SOFTNESS

Vedauwoo's landscape is seasoned and shaped by the elements – wind and water. The stones manifest as softened, yet strong and resilient, forms. The architectural proposal seeks to relate to the softness of material through form and geometry. Durable, resistant materials are used in ways that elicit softer, more gentle expressions.

NO. 6 EXPANDING THE SPACE BETWEEN

As stones are stacked stone upon stone the space between is of particular interest. This is the zone of habitation, of activity, of transparency. The proposal engages the spaces between architectural elements to articulate their potentialities. The basic formal move of the proposal is to position a heavier mass on top of a lighter one – thus articulating zones of communal activity.

INTERIOR DESIGN NARRATIVE

OVERALL APPROACH

The overall approach to the interior space is to create a warm and inviting environment that captures the beauty and heritage of the great state of Wyoming while creating a sense of place and school spirit. It also includes the desire to enhance learning, encourage social interaction and engage students in a way that isn't evident on campus to date. Both formal and informal gathering spaces are provided in main lounges, gathering and study spaces but also created in niches like "wet core" entries, corridors and other nooks resulting from the shape of the floor plan. It is the colleges desire that students feel they have "arrived at something different" with a 21st century, high tech and leading edge facility.

Utilizing accents of indigenous materials like stone and wood but with bold accents that build upon school spirit and "breaks the mold" in student housing both on campus and in the region. With a goal to enhance recruiting within and without of the state and a desire to enhance campus atmosphere which includes interior spaces in this new residence life building, this energetic and unique interior will draw students in. It will also reflect through murals, graphics, and art the beauty of its surroundings and the breadth of opportunity on campus and in this beautiful surrounding geographic area. Colors, textures, finishes and furniture will be carefully selected and placed to promote an evolving spirit of campus, that creates an innovative living experience that is durable and maintainable. Colors should also be used to enhance wayfinding throughout the building. Durability and maintainable materials appropriate for a highly trafficked, student environment are essential.

A balance of hard and soft flooring materials will be utilized where appropriate; soft materials in accent areas and hard surfaces in corridors, units, and highly trafficked entry's and exits. Seating and spaces with access to views and/or adjacent to windows promote connection to the outdoors. Warmth of wood is desired as accents whether in accent wall(s), ceiling treatment, columns or furniture. Concrete flooring in lobby and other areas is a beautiful and desired look for certain public areas. A fireplace to promote gathering and warmth is also desired. Flexible spaces are also of great importance to allow the university to adapt and mold as needs, technology and student demographic changes.

spaces that ENGAGE INTERACTIVE spaces STUDY SPACES QUIET SPACES
LIVING LEARNING encourage SOCIAL INTERACTION indoor outdoor space
storage spaces BREAK THE MOLD game spaces INNOVATIVE LIVING expe
break up HALLWAYS consistency and uniformity in LIGHTING natural ligh
ACOUSTICS between floors + across hall INTERACTION places to CONNEC
individual GROWTH student SPIRIT enhance STUDENT SUCCESS academ
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APPROACH TO KEY SPACES

COMMON SPACES

- Spaces visually and physically connected to the outdoors
- To feel like a home or family room
- Outdoor/indoor fireplace
- Polished concrete preferred for look and maintenance
- Flexible seating arrangements are preferred
- Seating variety and built in seating should also be included
- Avoid the futuristic or "jetson" furniture
- Material palette to match the surrounding context
- Preferred a balance between rich materials and neutrals
- Like the hidden lighting that grazes the wall
- LCCC wants to create interior space that relate more to the future of the student rather than past of Cheyenne
- Like the idea of bringing in pops of color to highlight a space
- The campus is mainly a neutral tone and LCCC would like to bring in more color
- LCCC likes neutral floors with a warm colored/ceiling

KITCHENS

- Like the kitchen as a gathering space for the students
- Various levels of seating to break the space into different eating spaces
- Prefer the polished concrete floors
- Rich materials: wood and brick
- Plug-in on islands

CORRIDORS

- Like the idea of colored doors in the corridor. Also like the idea of texture on the wall and/or use of color on the corridor walls, if bold color is not used on entry doors.
- Desire murals in spaces to help break up long and/or narrow spaces and add student spirit
- Use pattern in flooring to break up corridors and colors for wayfinding/floor differentiation
- LCCC like the depth at the door but it does cause a security concern – need to make sure corridors are visually open so no issue with security of places for someone to hide.
- Like the idea of the light plan corresponding with the door location
- Like the seating that could be integrated into the corridors adjacent to the wet wore
- Seating in the corridor to orient towards the courtyard

STUDY ROOMS

- High seating with outlets preferred
- Seating variety is desired
- White board or chalk board to be the adjacent wall

UNITS

- Rooms more "vanilla" to encourage kids to spend more time out of the room. But do we add some color? Shelving? Slider door? Liked this concept and can further consider as interiors develop and furniture is discussed.
- Storage is key, even using walls – and creatively – for additional storage. Like storage under the bed in controlled drawers.
- Hard surface flooring in units
- Loftable beds are desired with potential for desks/furniture underneath.

Note: Please review the Interiors Inspiration material located in the appendix section of this document for further detail on aesthetic objectives.

PROGRAM REQUIRES + SPECIFICATIONS

All interior materials will be designed to meet or exceed the program requirements and specifications while bringing a unique sense of student life to the project. Each material will be responsive to the specific use of each space with special consideration given to texture, color, acoustics, sustainability, and light reflectance. All materials will be maintenance friendly requiring only routine cleaning procedures.

CODES, REGULATIONS + SAFETY

OVERVIEW

For the Laramie County Community College Student Housing Project, the materials, design and construction will conform to the standards established by the LCCC. Furthermore, it will conform to all building, accessibility codes and requirements and the energy codes adopted by the State of Wyoming at the time of design and construction, regardless of specific reference in this document.

It is the Design Team and the Architect of Record's responsibility to verify and use all the latest revisions, editions and adopted version code documents. If there are conflicting standards, code provisions and/or regulations, the most stringent will govern unless such requirements are waived in writing by, Laramie County, the State of Wyoming – Department of Administration & Information Construction Management and LCCC Facilities Management. The following preliminary analysis is intended to assist the design firm and steering committee to establish general parameters for design. Specific, in depth, analysis shall be conducted during Level III by the design firm to insure conformance with applicable codes and standards relative to their specific design proposals.

A copy of the current Laramie County Commercial Building Permit application is included in the appendix.

DESIGN STANDARDS

Partial list of applicable codes and standards:

- National Electric Code (NEC) w/ Amendments 2017
- Life Safety Code NFPA 101 w/ Amendments
- International Building Code (IBC) 2015 w/ Amendments
- International Fire Code (IFC) 2015
- International Mechanical Code (IMC) 2015
- International Plumbing Code (IPC) 2015
- Laws, Rules, & Regulations of the Wyoming State Fire Marshal
- Americans w/ Disabilities Act Title III, 1991/1998 (ADA)
- Planning & Design Criteria to Prevent Architectural Barriers for Aged & Physically Handicapped (4th Revision, w/ lever hardware amendment)
- International Energy Conservation Code 2009
- International Fuel Gas Code (IFGC) 2015
- EIA/TIA, Electronics Industries Association / Telecommunications Industry Association
- IEEE 1100-1999, Recommended Practice for Power & Grounding Electronic Equipment
- IESNA, Illuminating Engineering Society of North America
- NFPA, National Fire Protection Association (applicable sections including but not limited to): NFPA 70, National Electrical Code & NFPA 72, National Fire Alarm Code
- ASHRAE Indoor Air Quality 62-2001 & Addendum 62 American Society of Heating, Refrigeration & Air Conditioning (ASHRAE)

- Occupational Safety & Health Administration (OSHA)
- Sheet Metal & Air Conditioning Contractor National Association (SMACNA)
- Underwriters Laboratory (UL)
- American Society of Testing Materials (ASTM)
- American Standards Association (ASA)

OCCUPANCY CLASSIFICATION

The occupancy presented in this package is for preliminary programming and planning purposes. The occupancy determination must be confirmed by the Architect of Record with the State Building Official and the State Fire Marshall (or designee) at the time of design.

ADA ACCESSIBILITY

The new LCCC Student Housing Project is required to be in compliance with the American with Disabilities Act, Title III, 1991/1998 (ADA). We recommend the following additional requirements:

- All public entries to the building will be ADA compliant with automatic door operators including required vestibule doors.
- One set of accessible Rest room doors shall be equipped with automatic door operators including vestibule doors if applicable.
- ADA compliant parking shall be provided if applicable.

2015 INTERNATIONAL BUILDING CODE REVIEW

GENERAL BUILDING CONCEPT

This project will be 4 floors of wood framed student housing partially (or wholly) above a basement mechanical, electrical and storage area.

TYPE OF CONSTRUCTION	
(Chapter 6)	Type VA
OCCUPANCIES	
Residential (dormitories)	R-2 (section 310)
Offices	B (section 304)
Multipurpose room	A-3 (section 303)
Occupancy Separation required	Yes (Table 508.4)
Occupancy Separation	It is anticipated that the primary occupancy type will be R-2 with separated uses for assembly and business areas of 1 hour if sprinkled throughout.
FIRE SPRINKLERS	Yes, NFPA 13
FIRE PROTECTION SYSTEMS	Sections 907.2.9 and applicable subsections are directly related to R-2 occupancy classifications.
FRONTAGE	
(Section 506.3)	Assume .75
STORIES ALLOWED	
(Table 504.4)	R-2: 4 stories, if fully sprinkled.
ALLOWABLE BUILDING AREA (TYPE IIIB)	
Occupancy	R-2
Program area sf	Approximately 25,000 sf footprint on average (each Floor)
Allowable area Per Table 506.2 w/ NFPA 13 sprinklers:	144,000 sf (for all four floors combined)
Table (506.2) per floor (w/ NFPA 13 Sprinklers):	36,000 sf
Frontage increase (506.2)	0.75
Story increase with Sprinklers	+1 Story (4 maximum)
Allowable area with frontage & Sprinkler increase (506.2.4)	45,000 sf/floor
Actual/Allowable per floor	Approximately 56%

FIRE-RESISTIVE REQUIREMENTS (TYPE IIIB)

Primary Structural Frame- including columns, girders, trusses	1 HR
Bearing Walls- Exterior walls	1 HR
Interior walls	1 HR
Non Bearing walls- interior/exterior	0 HR
Floor Construction-including supporting beams and joists	1 HR
Roof Construction- including supporting beams and joists	1 HR

BUILDING SYSTEMS DESIGN CRITERIA | STRUCTURAL

OVERVIEW

The structural design for this project provides a building system which will integrate with the program requirements for space layout, as well as with the architectural and building service needs, while meeting current code standards for vertical and horizontal load carrying capacity.

STRUCTURAL / SERVICE COORDINATION

During the design development phase, a completely integrated approach to building systems will be implemented. Distribution of HVAC, plumbing and electrical services will be carefully coordinated with the structural elements, particularly at framing intersections and major crossover points. Close coordination of disciplines must be achieved in order to avoid conflicts and minimize the height of the building.

CODES AND STANDARDS

Codes and standards that apply to the design of this building are:

- 2015 International Building Code
- 2015 NDS for Wood Construction
- American Institute of Steel Construction (AISC) 360-10 Specification for Structural Steel Buildings
- American Institute of Steel Construction (AISC) 341-10 Seismic Provisions for Structural Steel Buildings
- ACI 318-11 Building Code Requirements for Reinforced Concrete
- American Iron and Steel Institute (AISI) Specifications for the design of Cold-Formed Steel Structural Members
- American Welding Society (ANSI/AWS) D1.1 Structural Welding Code
- Steel Deck Institute (SDI) for Metal Floor and Roof Decks

GEOTECHNICAL CRITERIA

A geotechnical investigation by Inberg-Miller Engineers was provided for use on the project. The soils typically on site consist of sands, clays, and gravel/cobblestone. Shallow, spread and continuous-type footings are recommended with an allowable bearing capacity of 2000 psf. The site is classified as a Site Class D. Groundwater was encountered in the borings at a depth of 12 feet.

DESIGN CRITERIA

The structural systems in the facility shall be designed to meet the requirements of the 2015 International Building Code (IBC). The following minimum requirements should be anticipated:

- Risk Category — Category II
- Wind Loads
  - Wind Velocity: 115 mph, (3 second Gust), ASCE 7-10 design criteria
  - Exposure Type: C
- Seismic Loads
  - Short Period Mapped Acceleration: S_s = 0.217 g
  - Long Period Mapped Acceleration: S_1 = 0.064 g
  - Short Period Acceleration: S_{DS} = 0.231 g
  - Long Period Acceleration: S_{D1} = 0.103 g
  - Site Class: D
  - Seismic Design Category: B
  - Seismic Importance Factor, I_e: 1.0
- Roof Loads
  - Roof Live Load: 20 psf
  - Ground snow, p_g: 43 psf
  - Snow Importance Factor, I_s: 1.0
  - Roof Snow load: 30 psf plus drift loads

- Floor Live Loads

  Floor design live loads will be in accordance with the 2015 International Building Code and as follows:

  1. 40 psf, unreduced, except for column and footing designs with 15 psf movable partition load.
  2. 100 psf for exit corridors, common areas, and stairs.
  3. Mechanical Equipment Rooms: 125 psf minimum or as required by actual equipment.

STRUCTURAL SYSTEMS

The housing areas will be wood I-joist floor and roof framing with and wood floor sheathing, supported by wood bearing/shear walls. Shrinkage of sawn lumber over time is a key design aspect and will be coordinated with architectural and other design disciplines.

The exterior wood bearing/shear walls will be 2x6 or 2x8 wood stud walls sheathed with wood sheathing. The first level of wood bearing/shear walls will use 2x6 nominal LSL studs or Doug-Fir #2 2x8 studs at 16" o.c. and the levels thereafter of wood bearing and shear walls will use Doug-Fir #2 2x6 nominal studs @ 16" o.c. The exterior bearing/shear walls will be designed for force transfer around openings, reducing the quantity of holddowns at the ends of shear panel segments. Based on current building sections and preliminary shear demand calculations, some interior corridor walls and some demising walls between housing units will also be sheathed shear walls. Special concentric holddowns at the ends of shear walls will consist of floor-to-floor threaded rods and shrinkage take-up devices at each floor. Sheathing for walls is anticipated to be 7/16" OSB.

The floors and roof of the housing area will be supported by 14" deep I-joists at 16" on center, with the basis-of-design being a 14" BCI 6000 1.7. Headers and other beams will be required where there is no support from bearing walls. The floors at the corridors will consist of 9-1/2" deep I-joists or 2x8 joists, hung from rim boards supported on interior bearing walls. Floor sheathing is anticipated to be 23/32 tongue & groove OSB sheathing.

Walls surrounding stair and elevator shafts will be reinforced masonry. The masonry walls will require special detailing to tie into the surrounding wood. The masonry walls are anticipated to be shear and bearing walls. The basement area will consist of a reinforced concrete slab on composite steel deck, supported by wide-flange beams. The concrete slab on composite steel deck will consist of 3" type "W" composite floor deck with a minimum 3-1/2" above the flutes. The 3-1/2" of concrete allows for 1" recesses in the deck without stepping the steel structure.

FUTURE BUILDING EXPANSION

No future building expansion has been considered.

TESTING AND INSPECTIONS

The Architect/Engineer, and the selected testing lab, shall perform periodic construction observations, testing, and special inspections. Costs for special inspections and testing services will be paid for directly by the owner. Anticipated Special Inspections will include:

- Engineered fill placement & backfilling
- Wood shear wall nailing
- Wood diaphragm nailing
- Steel framing & bolting
- Welding
- Concrete placement
- Rebar placement
- Welding of composite deck & shear studs

BUILDING SYSTEMS DESIGN CRITERIA | MECHANICAL, PLUMBING + FIRE PROTECTION SYSTEMS

PROPOSED UTILITY CONNECTIONS

CHILLED WATER, AND HOT WATER

The chilled water, and hot water systems for the proposed facility are to be connected to the adjacent Residence Hall. Space has been allocated in that facility to house an additional chiller, closed circuit cooling tower and boiler. These two utilities are to be connected to the existing systems in that building and extended through a new utility tunnel into the new facility. The material to be used for the new facility is to match the latest design standards.

MECHANICAL

CODES AND STANDARDS

The HVAC system will comply with the following codes and design standards:

- International Building Code, 2015 edition
- Internal Mechanical Code, 2015 edition
- International Plumbing Code, 2015 edition
- International Fire Code, 2015 edition
- International Energy Code, 2015 edition, ASHRAE 90.1 2010
- International Residential Code, 2015 edition
- International Fuel Gas Code, 2015 edition
- LCCC Construction Quality Standards (Dated March 28, 2017)

DESIGN CRITERIA

	Summer	Winter
Design Temperatures, dry bulb:	92°F	-10°F
Design Temperatures, wet bulb:	58°F	-
Site Elevation:	6,150 feet	

	Summer	Winter
Typical Indoor Design Conditions:	75°F	72°F

Humidity: Humidification is not required for this facility

INTERNAL EQUIPMENT HEAT GAINS

In addition to people and lighting loads, Heat gains in all rooms should be based on anticipated equipment to be used in each room together with appropriate diversities.

People:		
	Office:	250 BTUH, Sensible
	Bedrooms:	200 BTUH, Latent
Lights:		
	Office:	0.70 watts/ft2
Office Areas:		1 desktop with LCD Monitor per office seat
		1 copy machine per office group

VENTILATION/INDOOR AIR QUALITY

The proposed system will comply with ASHRAE Standard 62.1-2012, Ventilation of Acceptable Indoor Air Quality, for minimum ventilation requirements. Reset the outdoor air intake flow and/or space or zone airflow as operating conditions change in all areas other than the residential units.

Develop and implement an Indoor Air Quality Construction Management Plan that includes high efficiency filters (Minimum Efficiency Reporting Value (MERV) 8, as determined by ASHRAE 52.2-1999) for systems used during construction. Provide MERV 13 filters at the air handlers when project is complete. In addition to toilet exhaust, provide exhaust for janitor closets and dedicated copy rooms at the rate of 0.5 cfm/ft2. These rooms must maintain a negative pressure between the adjoining spaces. The goal of the project is to provide the amount of ventilation air based on

actual occupancy in lieu of CFM/ft2.

BUILDING MECHANICAL HEATING/ COOLING SYSTEM BASIS OF DESIGN

HOT WATER SYSTEM

The building will be heated with a hot water heating system. The hot water will be generated in the existing Residence Hall Building. Space has been allocated with the existing mechanical room to add an additional boiler, and hot water pump. The new boiler shall be tied into the existing system and new hot water lines will be extended to the new building trough a new utility tunnel.

Provide one new condensing high efficient type hot water boiler to match the size and capacity of the existing boilers. Provide a new hot water pump to match existing hot water pumps. Tie the new boiler and pump into the existing piping system, and interconnect them through the control system to operate in conjunction with the existing system. There is currently a location provided adjacent to the existing boilers in that mechanical room. Verify capacity for the new boiler to meet the capacity of the new building.

The existing hot water pumps may need to be modified to compensate for the potential additional head pressure created by the new building. The existing pumps and the new pump shall all designed for the same head pressure.

Extend new hot water piping from the existing mechanical room to the new building through a new tunnel.

The individual residential rooms will be heated through the means of a four-pipe fan coil system. Individual fan coil units will be provided for each residential unit. Each fan coil unit shall consist of a vertical fan coil unit complete with a fan section, heating coil, cooling coil and filter section, located in a serviceable closet. The fan coil closets will be accessible from the corridor with two fan coil units per closet serving back to back residential units.

CHILLED WATER SYSTEM

The building will be cooled through the means of a four-pipe fan coil system. Individual fan coil units will be provided for each residential unit. Each fan coil unit shall consist of a vertical fan coil unit located in a serviceable closet. The fan coil closets will be accessible from the corridor with two fan coil units per closet serving back to back residential units.

Provide a new water-cooled chiller, associated closed circuit cooling tower and new chilled water and condenser water pumps, that will be located in the Residence Hall building. There is currently a location provided adjacent to the existing chiller and cooling tower in that mechanical room. Tie the chiller, and pumps into the existing piping and control system. Verify capacity for the new chiller and associated closed circuit cooling tower to meet the capacity of the new building.

The existing chilled water pumps may need to be modified to compensate for the potential additional head pressure created by the new building. The existing pumps and the new pump shall all be designed for the same head pressure.

The chilled water and condenser water systems shall be provided with 30% propylene glycol solution to match existing systems.

Extend new chilled water piping from the existing mechanical room to the new building through a new tunnel.

ZONING

One fan coil unit will be provided to each bedroom. All other areas will be zoned as appropriate based on load and orientation.

FAN COIL LOCATION

All fan coil units that serve the individual bedrooms and assorted areas that are located in the service areas of the building will be floor mounted units located in the mechanical rooms that are accessible from the corridor.

VAV AIR HANDLING SYSTEM

The common areas and office areas of the building will be serviced by a VAV air handling system with chilled water and hot water coils. The system shall be provided with a full economizer system to meet ventilation requirements and provide for free cooling capabilities.

Air handling units to be sectional type according to campus standards.

GENERAL EXHAUST

Each toilet will be exhausted to atmosphere via roof mounted exhaust fans. Exhaust for janitor closets and dedicated copy rooms will be exhausted at the rate of 0.5 cfm/ft2.

CONTROLS

Provide individual room temperature controls.

The control system will be a direct digital control (DDC) system with electric driven actuators. The DDC system will monitor, control and adjust the building controls from an in-building location. The following items of equipment will be monitored and/or controlled:

All central HVAC equipment including chillers, boilers, fan coil units, air handling units, pumps, variable speed drives and exhaust fans.

All decentralized HVAC equipment such as thermostats, meters, air and water temperature sensors, system pressure sensors.

Provide interface modules as necessary in order to provide communication and information from manufactured equipment such as chillers, boilers, and VFD's.

The control system will be connected to the campus network or the campus telecommunications Ethernet network. The system shall be by Reliable and shall be Backnet compatible.

SUSTAINABILITY

Mechanical and plumbing systems will be designed to exceed the mandatory and prescriptive requirements of ANSI/IESNA/ASHRAE Standard 90.1-2010 (Standard 90.1). Design shall incorporate efficiencies in electric, natural gas, and water use for all building energy systems.

BASIC REQUIREMENTS

- 2.9 – System Efficiency: Project equipment will meet the prescribed efficiencies listed in Table 2.9.1 of the AB:NCG for the type and capacity of equipment used.
- 2.10 – Economizer: Integrated air side economizers will be provided for individual systems exceeding 54,000 Btu/h in cooling capacity.
- HVAC Controls: The existing campus DDC system will be expanded to incorporate the project building. This system will be modified as required to meet the criteria described in this section.
- 2.14 – HVAC – Fault Detection and Diagnostics: The DDC system will be capable of monitoring for failed equipment and provide alarms to the end-user via the control interface, and keep a log of faults with a 6 month history.
- 2.15 – Water Heating: Building will utilize an instantaneous gas fired hot water heater for generating hot water.

PLUMBING

A complete plumbing system as outlined below and in accordance with the 2015 International Plumbing Code will be provided.

PLUMBING INSULATION

Insulate all domestic hot, cold, hot water return and roof drainage piping with fiberglass insulation with all service jacket. Provide PVC jacket on all exposed piping insulation. Provide insulation thickness as required by the 2015 International Energy Conservation Code.

Insulate domestic hot water equipment with fiberglass insulation. Provide

aluminum jacket on all exposed insulation in the tunnels. Provide insulation thickness as requirement by the 2015 International Energy Conservation Code.

DOMESTIC WATER SYSTEM

- Below Grade Piping: Provide type K copper with wrought copper fittings and brazed joints.
- Above Grade Piping: Provide type L copper with copper fittings and soldered joints.
- Valves 2" and smaller: Provide bronze ball valves for shut off and throttling. Provide bronze swing check valves, strainers and balancing valves.
- Valves 2½" and larger: Provide butterfly valves shut off and throttling. Provide cast iron swing check valves, strainers and balancing valves.
- Provide pilot operated pressure regulating valves on building cold water supply.
- Provide water hammer arrestors on cold water supply to flush valves, water boxes and washing machine boxes.
- Provide hose bibs in toilet rooms and equipment rooms.
- Provide non-freeze wall hydrants near entries to the building.
- Provide all bronze in-line centrifugal domestic hot water circulating pumps.

WASTE AND VENT SYSTEMS

- Below Grade Piping: Provide solid wall schedule 40 PVC piping with DWV fittings.
- Above Grade Piping: Provide no-hub cast iron pipe with DWV fittings and standard no-hub couplings.
- Floor Drains: Provide cast iron body drains with bronze tops and secured strainers.
- Floor Sinks: Provide cast iron floor sinks with enameled interior and bronze secured grates.
- Provide cleanouts as required by the 2015 International Plumbing Code.

ROOF DRAINAGE SYSTEM

- Below Grade Piping: Provide solid wall schedule 40 PVC piping with DWV fittings.
- Above Grade Piping: Provide no-hub cast iron pipe with DWV fittings and standard no-hub couplings.
- Roof Drains: Provide cast iron drains with extension, underdeck clamp, sump receiver and cast iron dome. Provide 2" exterior collar on overflow roof drains. Provide bronze downspout nozzles located near grade for overflow drain discharge.
- Provide cleanouts as required by the 2015 International Plumbing Code.

DOMESTIC HOT WATER HEATING

- Provide two instantaneous, gas fired, hot water heaters each sized at 60% of the design load for redundancy.
- Provide a duplex digital thermostatic mixing valve to control the water temperature to the building at 120°F.
- Provide domestic hot water return system.
- The new domestic hot water heaters shall be located in the basement mechanical room of the new building.

PLUMBING FIXTURES

- Group Toilet Room Fixtures:
- Toilets: vitreous china floor mounted, floor outlet flush tank type toilets, with 1.28 gallons per flush.
- Lavatories: vitreous china self rimming counter mounted with bronze, lead free battery- operated sensor faucets with 0.5 GPM aerator.
- Shower Valves: Concealed chrome plated pressure balance shower valve with chrome plated shower head.
- ADA Shower valves: Concealed chrome plated pressure balance valve with chrome plated flexible hose with in-line vacuum breaker and hand-held wand.

GENERAL FIXTURES

- Counter mounted sinks: stainless steel with bronze, lead free gooseneck faucet.

Provide 5.5” deep sinks where ADA is required.

- Service sinks: Stainless steel free standing single compartment sink with bronze service sink faucet including vacuum breaker and 5’-0” hose.
- Water coolers: dual height, vandal resistant, lead free.

FIRE PROTECTION

Automatic fire sprinklers are to be provided for the proposed facility for R occupancy. The type of system to be used is a wet type sprinkler system. Sprinkler discharge densities and areas of application will be in accordance with NFPA 13 requirements. The use of anti-freeze solutions for piping exposed to freezing conditions is to be avoided.

The fire sprinkler riser will be adjacent to the exterior wall. A minimum clear and unobstructed distance of 12 inches will be provided from the installed equipment to the elements of permanent construction.

A clear and unobstructed width of 36 inches will be provided in front of all installed equipment and appliances, to allow for inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.

Automatic sprinkler system riser rooms will be provided with a clear and unobstructed passageway to the riser room of not less than 36 inches, and openings into the room will be clear and unobstructed, with doors swinging in the outward direction from the room and the opening providing a clear width of not less than 34 inches and a clear height of the door opening will not be less than 80 inches.

UTILITY TUNNELS

The new Hot Water, and Chilled Water piping that will be connected to the exiting systems in the existing residence Hall and shall be extended to the new facility in the new utility tunnels. Utility tunnels shall be constructed to allow all distribution piping to be racked on one side of the tunnel allowing adequate space along side of the utility rack with a minimum of 7’-00” height and 3’-00” in width access space for maintenance.

EQUIPMENT LOCATIONS

The fan coil units will be located in dedicated mechanical rooms with the fan coil units located on the floor, with access doors from the corridors for maintenance.

BUILDING SYSTEMS DESIGN CRITERIA | ELECTRICAL

CODES AND STANDARDS

Codes and Standards which are applicable to the design of the electrical systems are listed below. Comply with each of the latest adopted publications.

- ASHRAE 90.1, Standard for Energy Conservation in New Building Design
- BICSI, Building Industry Consulting Services International
- Laramie County Community College Design Standards
- EIA/TIA, Electronics Industries Association/Telecommunications Industry Association
- IBC 2015, International Building Code
- IECC 2015, International Energy Conservation Code
- IESNA, Illuminating Engineering Society of North America, The Lighting Handbook, 10th Edition
- NFPA, National Fire Protection Association (applicable sections including but not limited to):
  - NFPA 70, National Electrical Code (2017)
  - NFPA 72, National Fire Code
  - NFPA 101, Life Safety Code
- Standard Broadcast Wiring and Installation Practices", as excerpted from "Recommended Wiring Practices," Sound System Engineering, (2nd Edition), D. Davis
- UL, Underwriter's Laboratories
- Wyoming State Fire Marshal Laws, Rules and Regulations

SITE ELECTRICAL AND TELECOMMUNICATIONS

SITE ELECTRICAL UTILITIES

LCCC owns the medium voltage distribution system that runs throughout campus. This project shall be responsible for connecting into the medium voltage system, extending it to the new building location and provide a new distribution transformer to feed the building. A new medium voltage VFI switch shall be included upstream of the new distribution transformer to provide primary overcurrent protection for the transformers and to serve as the medium voltage disconnecting means. Medium voltage junctions, terminations, and splices shall be Elastimold and 3M.

A new concrete encased ductbank consisting of 2 to 5" conduits shall be routed from the existing manhole to the building transformer location. A minimum of 1 spare conduit will be required. The transformer will be pad-mount style installed outside in a location to be coordinated with the Owner and Architect. The transformer is estimated to be 750-1000 KVA with a 208Y/120 V secondary and minimum K-4 rating; the final size will be determined once all loads are known.

TELECOMMUNICATIONS UTILITIES

Four (4) 4" conduits from the new main telecommunication equipment room (ER) shall be tied into the existing campus telecom system. All telecom service cabling shall be designed and installed as part of the project.

BUILDING POWER SYSTEMS

LOW VOLTAGE SERVICE AND DISTRIBUTION

The main building switchboard is anticipated to be 3000A, 208Y/120V, 3-phase, 4-wire, exact size shall be determined during design once all loads are known. For power quality and sub-metering purposes, separate loads onto different feeders based on load type where feasible, such as motors, lighting and outlets. The switchboards shall have provisions to add breakers for future load growth. Provide a minimum of 25% spare bus capacity.

The main and branch distribution equipment shall be located indoors, in dedicated electrical rooms. Provide additional electrical rooms depending on floor plan configuration to keep branch circuit runs to a minimum (see voltage-drop requirements below). Electrical rooms shall be located on

System Responsibility Matrix				v.01 10/27/17
	Designed	Furnished	Installed	Notes
Power				
Medium Voltage Switch(es)	Design Team	Contractor	Contractor	Elastimold Products
Medium Voltage Transformer(s)	Design Team	Contractor	Contractor	Square D, GE
Medium Voltage Cabling	Design Team	Contractor	Contractor	
Emergency/Standby Generator	Design Team	Contractor	Contractor	Natural Gas, Cummins
UPS Systems	Design Team	Contractor	Contractor	Mitsubishi
Electric Vehicle Charging Stations	NIC	NIC	NIC	
Lightning Protection System	Design Team	Contractor	Contractor	Owner to confirm system is desired
Communications				
Raceways & Cabletrays	Design Team	Contractor	Contractor	
Structured Cabling System	Design Team	Contractor	Contractor	CAT6 Solution planned, Owner to confirm
Building ER/TR Racks	Design Team	Contractor	Contractor	
DAS Testing - Emergency Response	Design Team	Contractor	Contractor	
DAS System - Emergency Response	Design Team	Contractor	Contractor	
DAS System - Cell Phone Systems	NIC	NIC	NIC	
Security & Misc.				
Raceways	Design Team	Contractor	Contractor	
CCTV Security Camera System	Design Team	Contractor	Contractor	
Access Controls System	Design Team	Contractor	Contractor	
Intrusion Detection System	Design Team	Contractor	Contractor	
Fire Alarm System	Design Team	Contractor	Contractor	Notifier, addressable
Wireless Clock System	NIC	NIC	NIC	
A/V				
Raceways	Design Team	Contractor	Contractor	
Audio Systems	Design Team	Contractor	Contractor	
Video Systems	Design Team	Contractor	Contractor	
Digital Signage	Design Team	Contractor	Contractor	
Monitors/Projectors	Design Team	Contractor	Contractor	
Projector Mounts & Screens	Design Team	Contractor	Contractor	
TV Distribution System	Design Team	Contractor	Contractor	
Intercom/Paging System	NIC	NIC	NIC	

every floor of the building, and stacked vertically. Panelboards serving normal lighting and outlet circuits shall be located on the same floor as the equipment they serve. For residential units, panels shall be located within each unit. Final location shall be coordinated with building official and housing. All panels shall have locking covers with matching keys. Size panels and feeders per NEC, with 25% additional capacity and provide 25% spare breakers in all branch panelboards. Stub spare conduits out of panelboards into accessible ceiling space equal to 10% of the total number of conduits that enter the panel.

Outlet and lighting branch circuits shall be loaded to no more than 80% of what is allowed by NFPA 70. Dedicated circuits shall be provided where the load requires and where the NEC dictates. Typically a maximum of 8 outlets per circuit shall be used. In some cases, fewer outlets shall be on a circuit as required by the loads. Outlets with dedicated branch circuits (one outlet per circuit) are required for exercise equipment, vending machines, kitchen counters, refrigerators, dishwashers, microwaves, appliances, A/V cabinets, and other locations likely to have equipment requiring dedicated circuits. Each branch circuit homerun conduit shall have no more than 3 circuits. All 120V multi-wire branch circuits shall have a dedicated neutral conductor for each circuit.

Conductors shall be all copper and installed in raceways, minimum 0.75" diameter. Insulation shall be XHHW-2 for outdoor main feeder entrances and THWN-2 for feeders and branch circuits within the building. Aluminum conductors may be used for branch panel feeders between 100A and 400A. EMT or rigid metal conduit shall be used indoors. MC cabling may be used for branch circuiting. Romex may be used where approved by code within residential units. Branch circuits shall be sized to prevent voltage drop exceeding 3% at the farthest load. The total voltage drop on both feeders and branch circuits shall be designed to not exceed 5%.

A fault current and coordination study shall be performed by a licensed electrical engineer to indicate available fault current at all points in the distribution system. New equipment shall be adequately rated for the amount of available fault current. System coordination shall be studied, and fuses or breakers selected to ensure minimum system outage due to overloads or fault currents. The breakers shall be set with adjustable long time, short time, instantaneous and/or ground fault settings for optimum system coordination. Demonstrate compliance with the NEC regarding selective coordination of overcurrent protective devices serving emergency systems and elevators. Provide arc-flash reduction means for all circuits breakers rated at 1200 amps and higher.

Equipment and Furniture: Power shall be run to any equipment indicated in the program as requiring power and empty raceway. Obtain equipment cut sheets and shop drawings and incorporate requirements into the design to ensure that the proper power and conduit is run to the equipment.

POWER METERING

Provide digital metering on the main switchboard(s) and emergency generator system and route ¾" conduit to nearest IT room for remote monitoring by LCCC. Additional sub-metering of systems like HVAC, lighting, and plug loads is not currently anticipated. Additional discussion is needed to determine a final direction on sub-metering for the power systems.

POWER QUALITY AND RELIABILITY

Surge protective devices (SPD's) and "noise" protection shall be provided at service equipment and on 120/208V distribution panelboards. To the greatest extent possible, SPD units shall be integral to the panelboard or switchboard to ensure that lead lengths do not raise the clamping voltage and negate the use of the SPD unit. The SPD shall protect the sensitive electronics from disturbances that are generated inside or outside of the building.

VFD's shall be specified by the electrical engineer in compliance with LCCC design standard and shall include harmonic mitigation.

A lightning protection system is recommended by NFPA 780 and as a result the programming Engineer; however, LCCC shall make the final decision on whether this will be included or not since NFPA 780 is a standard and not a code.

GROUNDING

The grounding system shall be installed per NFPA 70 requirements. A complete equipment grounding system shall be provided such that metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, and all other conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, should be connected to earth so as to limit the voltage to ground on these materials. A separate green insulated equipment grounding conductor shall be provided in all feeder and branch circuit raceways.

OUTLETS

The program space data sheets shall be used as a guideline for placing outlets, however, adjustments shall be made to suit the end users' needs during the design and review process with the user groups. The term "outlet" in general refers to a 120V/20A duplex receptacle outlet. All outlets shall be 20A minimum rated and be specification grade and the back-wired type. Residential-grade or 15-amp receptacles are not allowed. All outlets shall be neatly labeled with the panel and circuit number. Where outlet requirements cannot be identified elsewhere in the program, the following shall be used as a general guideline: GFCI personal protection of outlets shall be provided through 5mA GFCI breakers rather than GFCI outlets.

- Apartments, Suites and Dormitory Units: As a minimum, comply with the NEC for placement of outlets for dwelling units. Locate outlets convenient to furniture and equipment identified on the architectural interiors plan. Ensure that there are outlets provided for appliances, televisions, student study desks and tables. Provide one dedicated duplex outlet for each basin sink in bathrooms and makeup counters. Also meet arc fault, ground fault and tamper-resistant requirements of the NEC for dwelling units.
- Offices/Workstations: For each workstation, provide one outlet dedicated to computer terminals and one normal outlet, and one additional normal outlet for every 10' of wall space.
- Conference Rooms and Meeting Rooms: One outlet for every 10' of wall space, plus one outlet dedicated to computer terminals on two walls. Include at least one floorbox underneath conference room table for power and data. Provide outlets as required for audio-visual equipment.
- Commons Areas, Lounges and Waiting Rooms: Provide power outlets for laptop computers for planned seats, but no less than one outlet per each 12' of wall space. Provide floor outlets where stations or equipment cannot be served directly from the wall without crossing aisle space.
- Break rooms, Kitchenettes (non-dwelling): GFI Outlets on dedicated circuits every 4' on counter top plus dedicated outlets for refrigerator, microwave, and disposal (switched at counter top), plus one outlet for every 10' of other wall space in room.
- Counter tops (in general –non-dwelling): One outlet every 4'; GFI where within 8' of a sink.
- Restrooms (non-dwelling): One GFI outlet near each sink.
- Locker/Shower Rooms (non-dwelling): One GFI outlet on a dedicated circuit near each grooming counter top.
- Telephone/Data Closets: At least 6 quad outlets on standby power with circuit density to allow for at least 50 VA per square foot.
- Electrical Rooms: At least one outlet on emergency power.
- Corridors, Lobbies: Provide at least one outlet every 25', on alternating sides of the corridor or lobby.
- Stairs: One outlet at the landing of each level.
- Storage Rooms (small), Janitors Closets: One outlet.
- Building Exterior: One WP/GFI outlet near each entrance.

EMERGENCY / STANDBY POWER SUPPLY SYSTEMS

EMERGENCY/STANDBY SERVICE AND DISTRIBUTION:

Provide an emergency/standby natural gas generator for the new building. Approved manufacturer is Cummins/Onan for generator and ATS's. Locate generator outdoors in a screened area with weather-protective, sound-attenuating housing and skid-mounted, with local storage tank. Local fuel storage shall be minimum 90 minutes at full load to meet life safety code requirements. Design at least two transfer switches: one for emergency and one for standby loads. Annunciate alarms adjacent to fire alarm panel. Design generator distribution panel with digital metering. The following shall be provided with emergency power:

- Emergency egress and exit lighting
- Fire Alarm
- Elevators (where required by IBC)
- Smoke Control Systems (if required)
- Communications rooms – outlets, lights and air conditioning
- Electrical rooms – lights and outlets
- Security systems
- Building management systems
- Heating systems shall be considered and Owner shall provide final direction

UPS SYSTEM

Individual rack mount UPS units are anticipated for backup power of IT equipment within the ER/TR rooms. UPS systems shall be Mitsubishi as required by LCCC. At this time it is anticipated that these UPS units will be included with the project, but this will be coordinated and finalized with LCCC during design.

LIGHTING

GENERAL:

The basis for design shall be the IESNA Handbook (10th Edition) and its Recommended Practices. For all lighting, a point-by-point plot of illuminance establishing conformance with the Recommended Practices shall be furnished. The design-build proposal shall include lighting fixture cut sheets with a description of where used on the project.

IECC requirements shall be met and exceeded to meet the overall project requirement to beat this energy code by at least 20%. Energy savings design techniques such as daylighting control, occupancy sensors, centralized and de-centralized control systems, and LED lamps shall be used to maximize energy efficiency.

PARKING, PEDESTRIAN, AND STREET LIGHTING:

Provide only campus-standard light poles that match existing campus standard Kim LED fixtures.

Exterior lighting levels along pedestrian walkways shall be at least 1 FC average with no point falling below 0.5 FC minimum.

INTERIOR LIGHTING:

Quantitative and qualitative factors must be considered for interior lighting of this facility. Refer to the cited references and to room data sheets for the desired illuminance levels for each space, and balance this with the requirements for energy conservation, durability for student use, and aesthetics. Important considerations include quality of light, uniformity ratio, glare reduction, color rendering and contrast. All interior lighting shall utilize LED source modules (screw-in type LED lamping for incandescent fixtures will not be acceptable), in fairly standard sizes and shapes. Lighting fixture manufacturers shall have a minimum 5-year proven track record in the manufacture of LED fixtures. Required minimum lighting levels shall be met with permanently installed fixtures without relying on plug-in task lights or table lamps, although, separately-switched task lighting is encouraged to reduce energy consumption.

For offices and meeting rooms, pendant indirect lighting should be strongly considered. Select luminaires for areas where monitors are planned which are designed to minimize veiling reflections, and provide multilevel lighting control and task lighting to reduce the illuminance on the monitor. In addition, in rooms with audio visual, design lighting with variable or switched levels as indicated with a separate controlled zone to reduce glare and illuminance on the audio-visual display.

For housing units, fixtures shall be durable while maintaining a look complimentary of residential living. Appropriate fixtures include recessed and surface-mounted types. Pendant fixtures shall not be used. Lenses shall be high-impact acrylic or polycarbonate, and be fasted in place (not relying on gravity only to hold the lens in place. Color temperature shall not exceed 3000K, with a color rendering index of 85 minimum. As part of the design-built submittal package, include lighting fixture cut sheets of the proposed selection for the housing units.

For other spaces where glare control is not required recessed fixtures may be used. This includes corridors, workrooms, public restrooms, common areas, equipment rooms and storage rooms. Recessed LED downlights shall be used in areas where aesthetics call for an upgraded appearance, such as in main lobbies.

All interior lighting, including housing units, shall be controlled by some automatic means. This shall include vacancy/occupancy sensors for smaller enclosed areas and relay control with clock and/or timer supervision for larger areas. Manual on/off switches shall be provided in addition to the automatic means of control. Uniformity must be maintained when in reduced lighting modes. Provide dual-level switching where practical to allow users to reduce light in a uniform manner. The corridors and common areas shall be controlled through the building management system with local wall switch override. Wherever natural daylight is provided, incorporate automatic daylighting controls in accordance with IECC by using artificial lighting only as needed. This shall be accomplished with LED fixtures and automatic dimming. Daylighting control is not required for inside housing units. Approved lighting control manufacturers are: NLight, Hubbell, and Wattstopper for room controls and NLight, Wattstopper, and GE for building relay based controls. Manufacturers to be confirmed with LCCC.

Exit and emergency lighting shall comply with the IBC. Emergency lighting for means of egress to 1 fc average, 0.3 fc minimum, shall be provided. The emergency lighting shall be shut off during non-business hours to avoid energy waste from 24-hour burn time. Minimal “night-lights” could be considered as way-finding. Emergency lighting shall be included in restrooms, electrical rooms, and communication rooms.

SUSTAINABILITY

Every effort shall be made where economically feasible to incorporate sustainable design into the electrical systems. LEED design and documentation is not anticipated at this time.

No photovoltaic generation is anticipated at this time. No electric vehicle charging stations are anticipated at this time.

FIRE ALARM

The fire alarm system shall report to the LCCC campus off-site monitoring and be a Notifier system. Comply with campus standards and Wyoming State Fire Marshal requirements. Provide a fire alarm and detection system in compliance with NFPA, IFC, federal, state and local codes. Design an addressable, Class A system capable of reporting back to a central station. The fire alarm system will include, but not be limited to, manual fire alarms, automatic smoke detection, audible/visible alarm notification appliances, single-station type detectors for residential units, and required control equipment. Single station-type detectors and notification devices shall also be monitored by the building central fire alarm panel. Provide duct detectors and fan shutdown where required by NFPA and the IMC. Coordinate

Lighting Summary

TYPICAL AREA	ILLUMINANCE (FC) AVERAGE	METHOD OF CONTROL*	COMMENTS
Other than Housing Units:			
Offices	40 – 50	Vacancy Sensor Manual on/off, auto off	Task/ambient lighting
Conference Rooms	40 – 50	Vacancy Sensor Multi-zone control Manual on/off, auto off	
Lobbies	20 – 30	Time schedule on/off with manual on/off override	
Student Gathering	30 – 40	Time schedule on/off with manual on/off override	
Corridors and stairs	15 – 20	Time schedule on with night set back (not all off), occupancy sensor override.	
Storage Rooms	10 – 15	Vacancy Sensor Manual on/off, auto off	
Housing Units:			
Bathrooms	20-25	Vacancy Sensor Manual on/off, auto off	
Showers/Tubs	20-25	Control with room	
Sink/Vanities	40-50	Control with room	Vertical and horizontal lighting levels
Bedroom	25-30	Vacancy Sensor Manual on/off, auto off	Plug-in task light at study desks
Kitchen	40 – 50	Toggle switch	Vertical and horizontal lighting levels
Dining	20-25	Vacancy Sensor Manual on/off, auto off	
Laundry	40 – 50	Vacancy Sensor Manual on/off, auto off	
Hallways	15 – 20	Vacancy Sensor Manual on/off, auto off	

*If daylighting is present, provide daylighting control except for within apartment units

location of the building annunciator with the fire marshal. All other detectors and functions shall comply with the referenced codes and standards. All fire alarm wiring shall be in metal conduit.

TELECOMMUNICATIONS PATHWAYS

GENERAL

Provide raceways for all telephone, data, television, security, audio/visual and communications cabling. Coordinate all design with the installers and manufacturers of the various systems, and the Owner.

RISER DISTRIBUTION

Telecommunications closets shall be provided in each area of the building and stacked on each floor. Coordinate size, equipment layout and wall space with all communications, security, audio/visual and other equipment that will be housed in these rooms. Closets shall be located such that when cabling is routed through the raceway system provided, the cable distance will not exceed 290 feet to the furthest outlet. Provide a minimum of four 4" conduits from the ER to the each TR location, and 4" sleeves between floors. Twenty-four hour HVAC is required in each closet and shall be supplied with emergency power. Conduits shall be stubbed to the roof from each telecommunications room for roof-mounted dish and antennas.

HORIZONTAL DISTRIBUTION

Provide a cable tray distribution network above accessible ceilings throughout the building and into the TR and communications closets. Extend the cable tray around inside of the ER closet to allow cables to be routed within the room. Consider ease of access to the tray system when the building is in full operation. Limit cable tray routing to be above corridors, common and similar areas. Where ceilings are exposed or inaccessible, then provide a bridge of equivalent conduit connecting the cable trays in the accessible ceiling areas. Do not load the cable tray and raceway system to more than 50% of what is allowed by cable fill requirements of NFPA 70.

VOICE/DATA DROPS

Each voice/data outlet location, or "drop" including AP's, shall consist of a 4-11/16" square box with single-gang mud ring and one 3/4" conduit for house spaces and 1" ENT (Smurf tube) for housing units run to the nearest cable tray. Exact locations will be coordinated with the users during design. As a minimum, provide one voice/data drop for each workstation, study desk, computer terminal, television, and AV monitor. Each dwelling unit shall have one data drop (with two cables) at each student study desk, and one for the TV location. For each voice/data outlet location or "drop" in floorbox, poke through or below grade provide 1" conduit stubbed to the nearest cable tray.

Wireless access points shall be designed and located by LCCC, raceway and cabling shall be provided by the Contractor.

All structured cabling shall be designed and installed as part of the project.

In addition, each TV location shall include one additional box and conduit stubbed to cable tray for cable TV distribution.

OTHER EMPTY CONDUIT SYSTEMS

Provide empty conduit and boxes for all other low-voltage signal and communications wiring systems that may be provided in this or other contracts, such as audio/visual systems.

SECURITY SYSTEMS

Security systems shall be comprised of two main elements – access control (card readers) with intrusion detection, and video surveillance. These systems shall report to central campus security. Comply with campus standards. New equipment shall be compatible and integrated with existing systems and equipment.

ACCESS CONTROL

The planned facility will be a mixture of 24/7 accessed spaces and regular business hours which will be monitored using zone partitions. Areas can be “secured” while other spaces remain “alarm-free”. Door contact indicators and motion detectors will be the main sensing devices.

Electronic access control of doors using access controls compatible with the LCCC standards. Access control system alarms (forced doors or propped open) shall be integrated into the alarm monitoring system and annunciation. Regular authorized usage of cards shall be executed in the “background” of the system, not burdening system with regular traffic.

Provide card access on all exterior door entrances, all apartment and suite doors, and all telecommunications rooms.

The system shall be an expansion of the existing campus housing card access system and be an integral and connected part thereof. Provide system upgrades, including additional licenses, hardware and software updates, as required for the additional card readers and functions required by this project. Verify and coordinate requirements with Campus IT/Security.

VIDEO SURVEILLANCE

System design and installation as part of the project. Contractor shall be responsible to provide a complete system compatible with LCCC standard CCTV systems. This shall include all equipment, programming, cabling and raceways, with typical camera requiring a ¾” conduit to the nearest cable tray.

DISTRIBUTED ANTENNA SYSTEM

A distributed antenna system (DAS) field testing shall be included as part of the project. If the testing determines that a DAS is needed for public safety first responder radio signal strength, then the DAS will be provided by LCCC. A budget should be carried for the DAS system until it is determined that is it not required.

A cellular phone booster system shall be provided by the Owner as desired or necessary.

CLOCK SYSTEM

No self-correcting clock system will be included with the project.

EMERGENCY CALL STATIONS

Emergency call phones, such as the “code blue” type, are not anticipated to be included within this project.

AUDIO/VISUAL SYSTEMS

Audio/visual systems shall be designed and installed as part of the project. Equipment and manufacturers shall match campus standards. Speakers shall be JBL, controls and switching shall be AMX, and monitors shall be Sharp interactive displays. Locations of monitors and audio/video systems shall be coordinated with the Owner as design progresses and budget allows.

SITE | LANDSCAPE DESIGN CRITERIA

LANDSCAPE AND SITE DESIGN OBJECTIVES

- Primary objectives for outdoor space will be to attract new students and enhance the experience of new and existing students and faculty and to support LCCC mission to attract “Next Gen” college students, improve the quality of life of the students and improve the opportunity for “High Speed” learning while living on campus.
- Screen the big openness and expanse of the parking lots with fencing and other appropriate landscape and site features.
- Create a strong connection from the LCCC New Residence Hall Building to the existing LCCC campus housing and learning buildings while maximizing parking and pedestrian circulation.
- Legitimize the student experience between architecture and land with its own unique design theme which will tie into the existing LCCC campus buildings but will also help it standout in its own unique way.
- All Landscape and Irrigation Design is to comply with High Performance Standards and shall be reviewed and approved by LCCC officials.

OUTDOOR SPACE DESIGN OF AMENITIES AND SITE FEATURES

- Lines and other important physical elements represented by the architectural material palette will be extruded out into the landscape to strengthen and enhance the lines and design of the LCCC architecture and to connect the surrounding campus landscape and adjacent neighborhoods with the LCCC New Residence Hall Building and other site elements.
- Appropriate vegetation that blends with the existing campus palette and new LCCC will play an important role as it fingers its way through the various outdoor spaces and creates interesting edges that juxtapose against the more refined elements of sculpture.
- Pedestrian links from campus and adjacent neighborhoods will be made and enhanced to clarify routes of travel and to strengthen the connection between the New LCCC building and connected existing buildings.
- The vehicular experience with respect to views and circulation patterns will be designed to promote efficiency of travel along designated pathways and also to focus attention on important views, connections, and features of the New LCCC Residence Hall Building. Safety of travel along these pathways will be addressed through sound design guidelines and queues from landscape and hardscape treatments in paving, walls, and plantings.

PLANT MATERIALS FOR HIGH PERFORMANCE STANDARDS

- Use of indigenous and/or water efficient plant materials is encouraged and will be a majority of the plant palette and should be able to withstand drought tolerant conditions during the high heat of the summer months and also integrate well with the surrounding planted materials and shade created from large deciduous and evergreen trees.
- Deciduous trees are encouraged along pedestrian corridors and walkways and also in plaza areas to provide shade and relief from the hot sun and to reduce the “heat island effect” in parking lot areas.
- Ornamental and Flowering Trees are encouraged at main entryways, plazas, and important spaces people will use and be traveling through to make a clear distinction between primary, secondary, and tertiary uses. Limit patio trees to those that make a direct impact on users comfort and that maximize functionality of patio(s).
- Shrub plant massing’s will avoid creating a security hazard by obstructing views through the site, especially along pedestrian corridors, walkways, entries, etc.
- Natural earth and turf berming with plant massing’s between roads and parking lots may be used to screen negative views of parking lot and focus attention onto the Architectural features of the LCCC New Residence Hall Building.
- Limit turf grass to those areas can be deemed to have a designated recreational or other use as agreed upon or requested by LCCC and

that coincides with High Performance Standards.

- Trees will be planted to provide shade and to enhance views of surrounding campus landscape features so as not to take away from the beautiful surrounding mountain vistas that one will enjoy from inside the building looking out.

IRRIGATION DESIGN FOR HIGH PERFORMANCE STANDARDS

- Irrigation System will be designed to deliver maximum watering efficiency while minimizing the use of water on the site.
- Native vegetation and more drought tolerant material will be designed and implemented on a majority of site. Colorful flora and textures of plant material will be intensified and massed at important pedestrian and vehicular pathways and at entryways and around signage to enhance, delight, and direct users and travelers of the various outdoor spaces.
- The irrigation system will not be the primary source of plant sustainability. Other methods may be incorporated to ensure that plants get the necessary water requirements.
- Drought tolerant turf areas in limited use will be incorporated to give usable recreational spaces and visual contrast from native planting areas to more functional outdoor spaces.
- Water wise and Xeriscape irrigation design will be incorporated and coordinated between installing contractors and landscape maintenance providers.
- All Irrigation is to comply with LCCC campus standards and shall be reviewed and approved by LCCC officials.

SITE ACCESSIBILITY

- Main entrance and plaza entrances to building shall meet ADA criteria for slope and landings. Wherever possible, all other site paths shall meet ADA criteria. If that is unfeasible in a particular location, provide elevator access within the LCCC Building that will allow wheelchair users to transition the non-compliant grade condition.

CONSTRUCTION LIMITS OF DISTURBANCE AREAS

- Areas that are disturbed by earthwork will need to be transitioned appropriately to connect new with existing landscape in a seamless transitions.

CIVIL + UTILITY DESIGN CRITERIA

WATER

The water distribution system on the LCCC campus is owned and maintained by LCCC. This system will provide domestic and fire sprinkler water to the proposed building. This system is connected to the South Cheyenne Water and Sewer District (SCWSD) at two connection points with master meters. Based on the footprint of the proposed building, site grading and other factors, two existing water mains will need to be relocated so they are not located under the proposed building.

Static pressures on the campus are approximately 165 pounds per square inch (psi), and fire flows are typically greater than 1000 gallons per minute (gpm). Coordination with the mechanical/plumbing engineer will be required for the locations of the water service lines. Appropriate backflow prevention devices will be required on the new water service (domestic and fire sprinkler) lines. Additional fire hydrants may be required to provide proper flows and coverage to the proposed building.

Any irrigation lines that conflict with the work in the project area will need to be moved/adjusted as designed by the Landscape Architect.

The LCCC campus is within the boundary of Laramie County Fire District No. 1 (LCFD1). LCFD1 will review the locations of fire hydrants for approval. Improvements to water distribution system will need to be permitted by the Wyoming Department of Environmental Quality (DEQ). Plans for improvements to the water system may be provided to SCWSD for their information, however they will not need to approve the modifications.

SANITARY SEWER

The sanitary sewer system on the LCCC campus is owned and maintained by LCCC. This system will convey wastewater generated within the proposed building to an offsite system for treatment. This system discharges into the SCWSD's system at two locations. It is anticipated the wastewater from this building will be discharged to the sanitary sewer system located north of the proposed building footprint. At this time, we anticipate this existing line has adequate capacity to properly convey wastewater from the anticipated residence hall. Coordination with the mechanical/plumbing engineer will be required for the location of the sanitary sewer service line(s).

Improvements to the sanitary sewer system will need to be permitted by the DEQ. Plans for improvements to the sanitary system may be provided to SCWSD for their information, however they will not need to approve the modifications prior to submittal to DEQ.

STORMWATER DRAINAGE AND SITE GRADING

The stormwater drainage network on the LCCC campus is owned and maintained by LCCC. The proposed project site currently drains from the southeast toward northwest. An existing 36-inch main is located north of the proposed footprint, this line discharges into the west pond that is located northwest of the on-campus soccer field. Roof drains from the proposed building will either be surface drained away from the building or connected to a storm sewer network. Coordination with the mechanical/plumbing engineer will be required for the location of the roof drain discharge points.

The site will be graded to maintain positive drainage from the building. Swales, retaining walls, and other features may be required to minimize impact on to other features and meet site grading requirements. Laramie County will require that stormwater is properly detained prior to discharge. A Grading, Erosion and Sediment Control (GESC) permit from Laramie County and a Storm Water Pollution Prevention Plan (SWPPP) will be required.

DRY UTILITIES

Gas, electrical, fiber optic and communication lines are located throughout the campus. LCCC owns and maintains the respective gas and electric lines on the campus. Black Hills Energy is the supplier for both the gas and electric power to the campus. Coordination may be required for new

service lines to the proposed building and any adjustments or relocations of these dry utilities. Any designs associated with these various lines will be completed by others, including site lighting and emergency call pedestals in the parking lots.

UTILITY TUNNEL

As needed, we will coordinate the civil design with the anticipated utility tunnel to this building, as designed by others.

GROUNDWATER

Per the geotechnical report completed in 2005 for the residence hall that is located west of the proposed residence hall, groundwater was encountered at depths between 8.5 and 12 feet from the previous existing grade. This could impact the proposed utility tunnel between these two building.

PARKING AND ACCESS

The proposed building will be partially located on an existing paved parking lot. This project includes the creation of a new, paved parking lot west of the existing residence halls. There will be a net gain of approximately 43 parking spaces. ADA accessible spaces will be provided as required. Existing parking spaces for diesel vehicles to plug-in during cold weather will be removed by this project. Coordination with LCCC will be needed to verify the need for similar parking spaces with electric power, the preferred location, and the quantity of spaces. No new access points are proposed from College Drive with this project, and no improvements are anticipated to be within the Wyoming Department of Transportation (WYDOT) right-of-way.

PAVEMENTS

New pavements and sidewalks will be either asphalt and/or concrete. As required, access lanes for fire trucks and other emergency services will be provided. As needed pads and screened areas will be provided for refuse containers and other building infrastructure components that may be located on the site. Final pavement sections will be based on a site-specific geotechnical investigation and report that will be completed by others.

ADDITIONAL SITE IMPACTS

A modular building that houses campus security services is currently located at the project site. Coordination will be required for the relocation of this building, associated work to removing and/or disconnecting any service lines for this building, removal of sidewalks and other features.

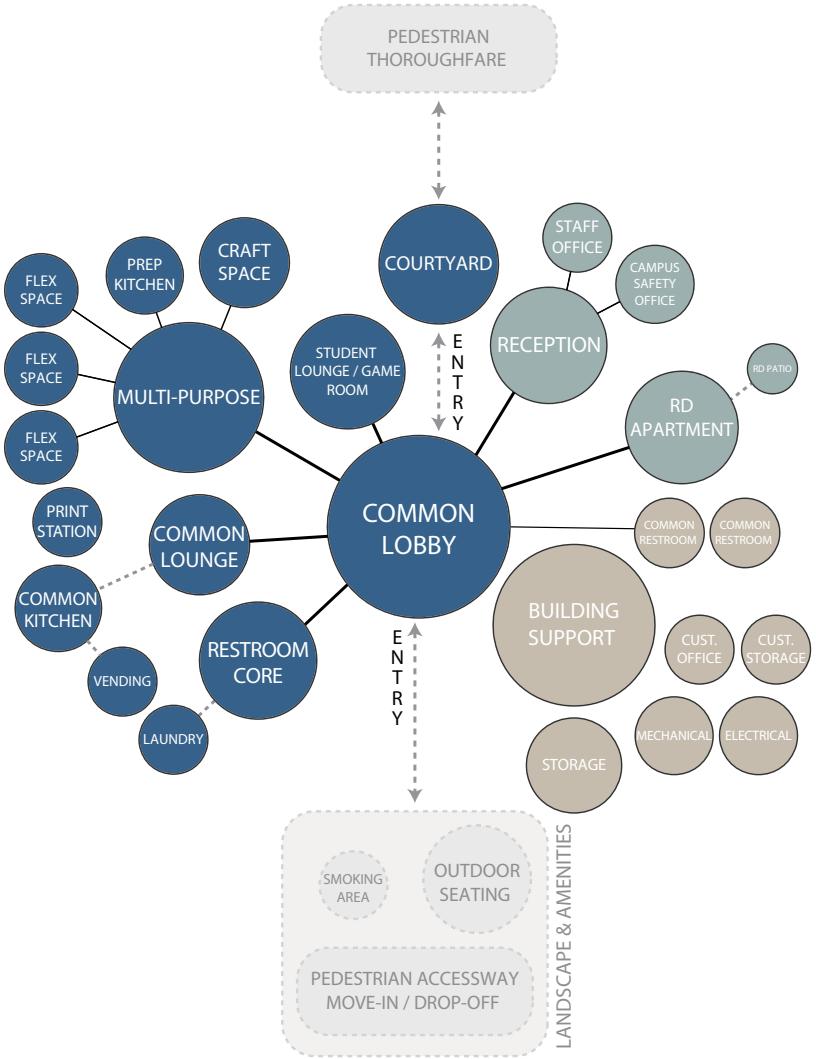
SPECIFICATIONS

The City of Cheyenne and Board of Public Utilities Construction Specifications and Standard Drawings, 2014 Edition will be called out as the standard specification for the civil-related improvements for this project. Special provisions and/or notes will be provided for modifications to these standards including ownership, measurement and payment, and other specifics as related to a project on the LCCC campus.

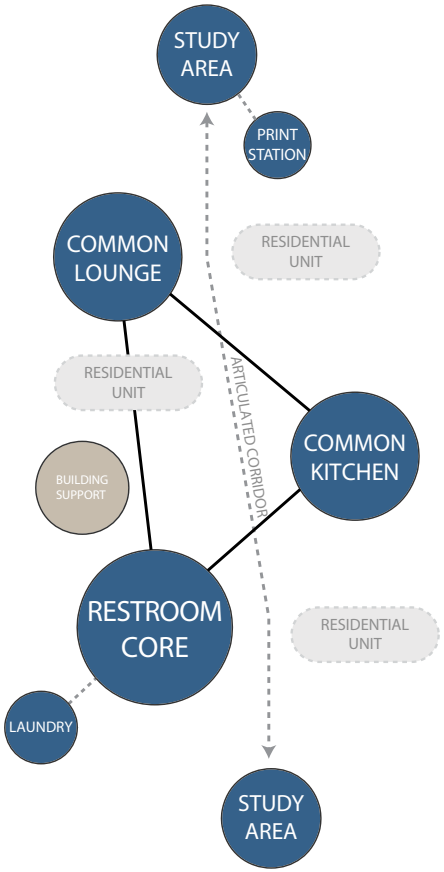
DESIGN CONCEPT & COST ESTIMATION

04

ADJACENCY DIAGRAMS

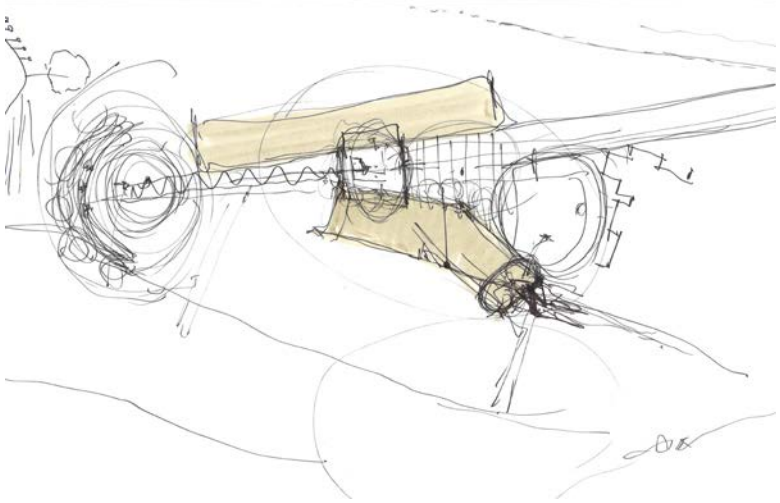


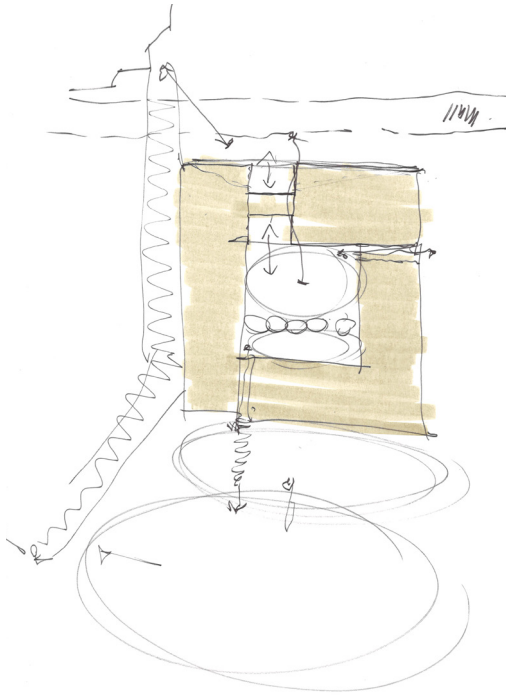
MAIN LEVEL ADJACENCY DIAGRAM

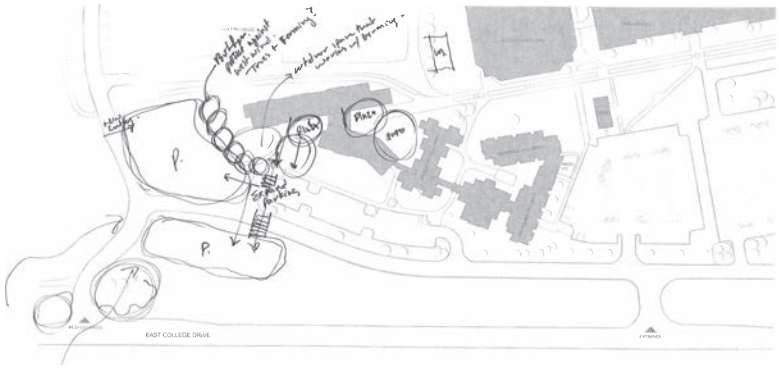


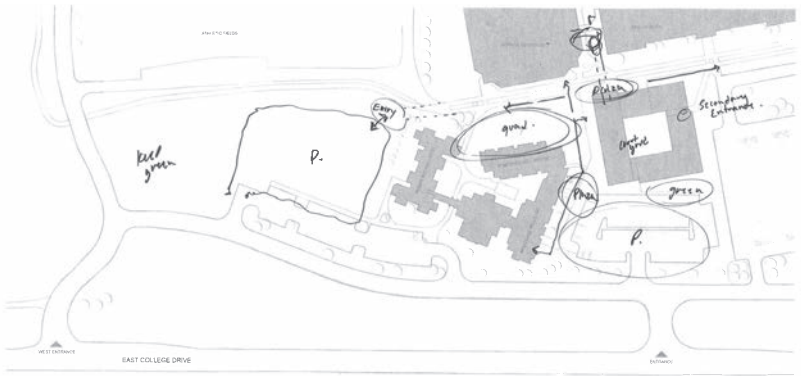
UPPER LEVEL ADJACENCY DIAGRAM

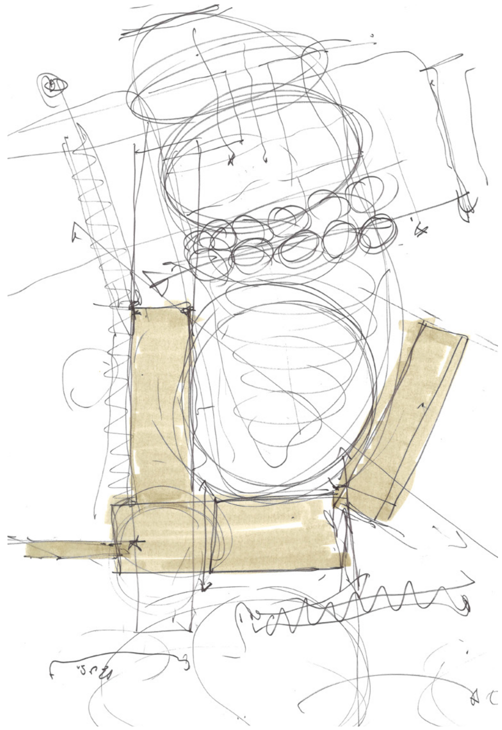
CONCEPT SKETCHES

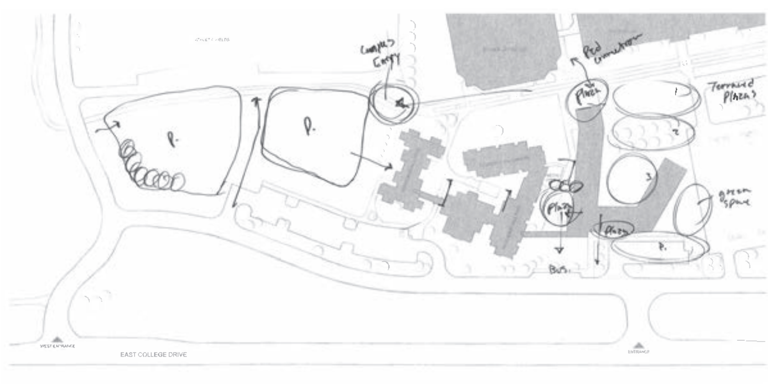


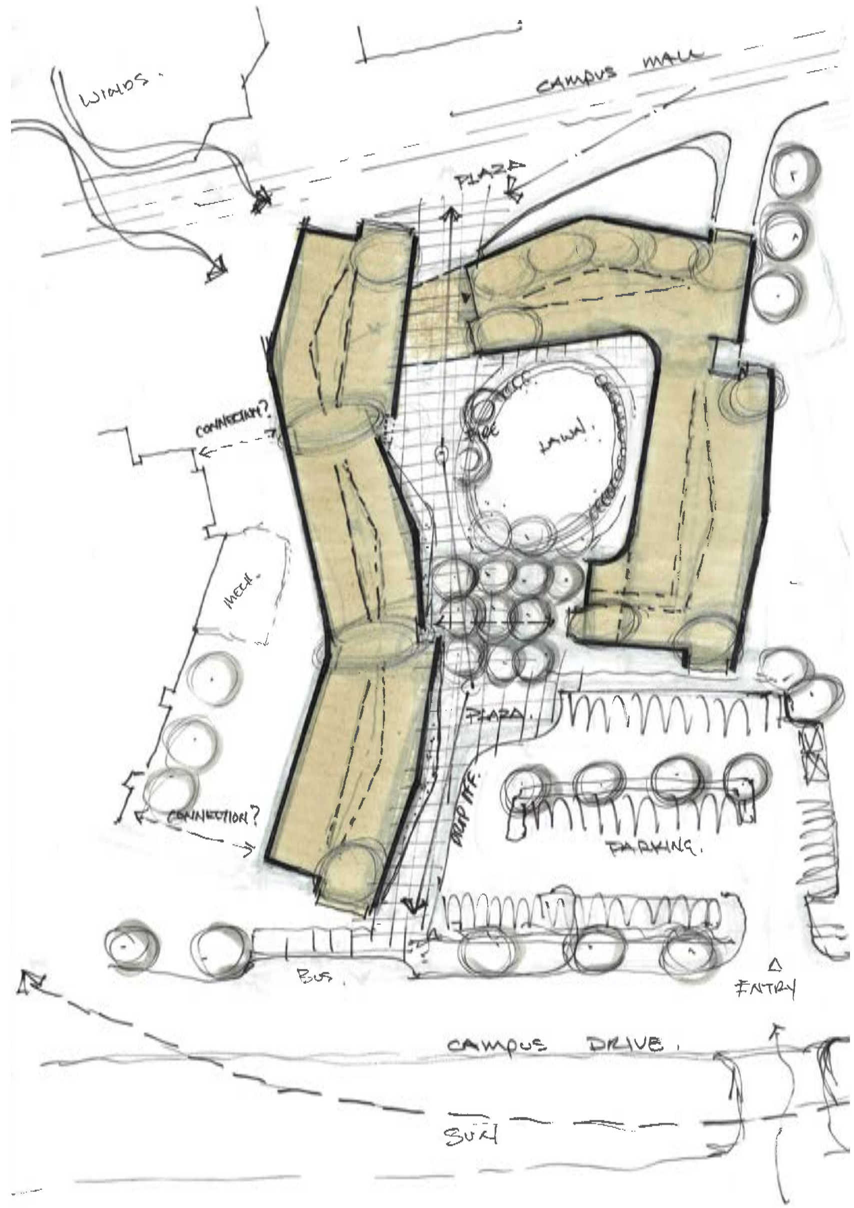




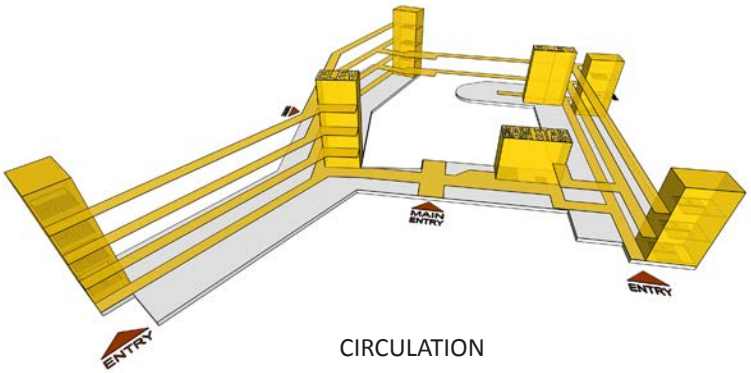




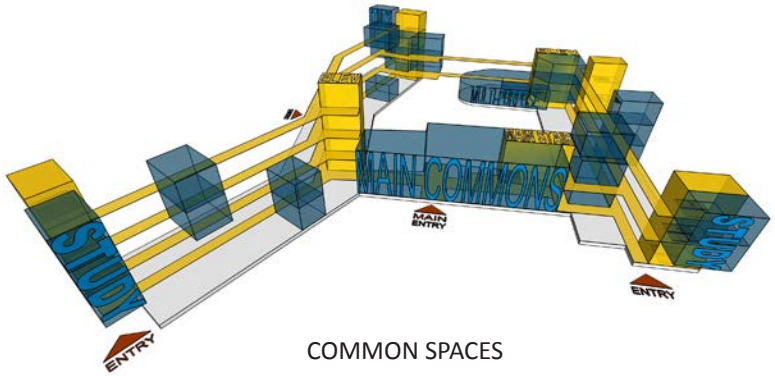



WINDS.
CAMPUS MALL
PLAZA
CONNECTION?
LAWN
MECH.
PLAZA
DROP OFF
CONNECTION?
PARKING.
BUS.
ENTRY
CAMPUS DRIVE.
SUN

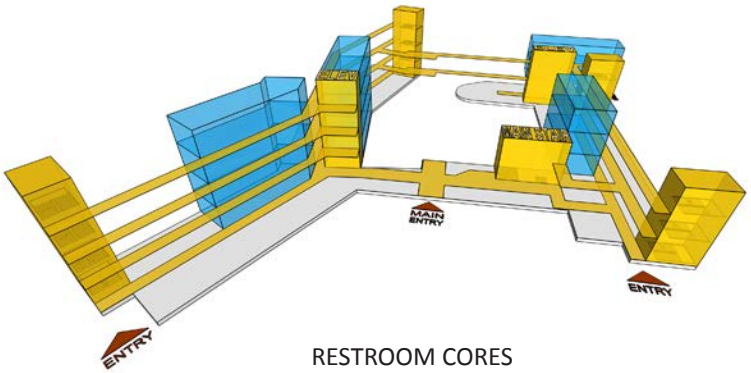
STACKING DIAGRAMS



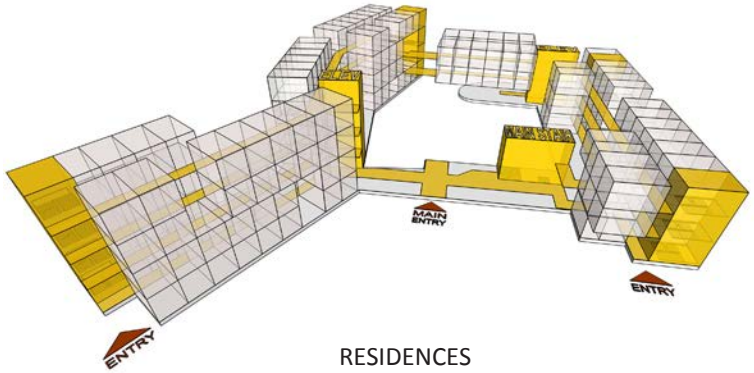
CIRCULATION



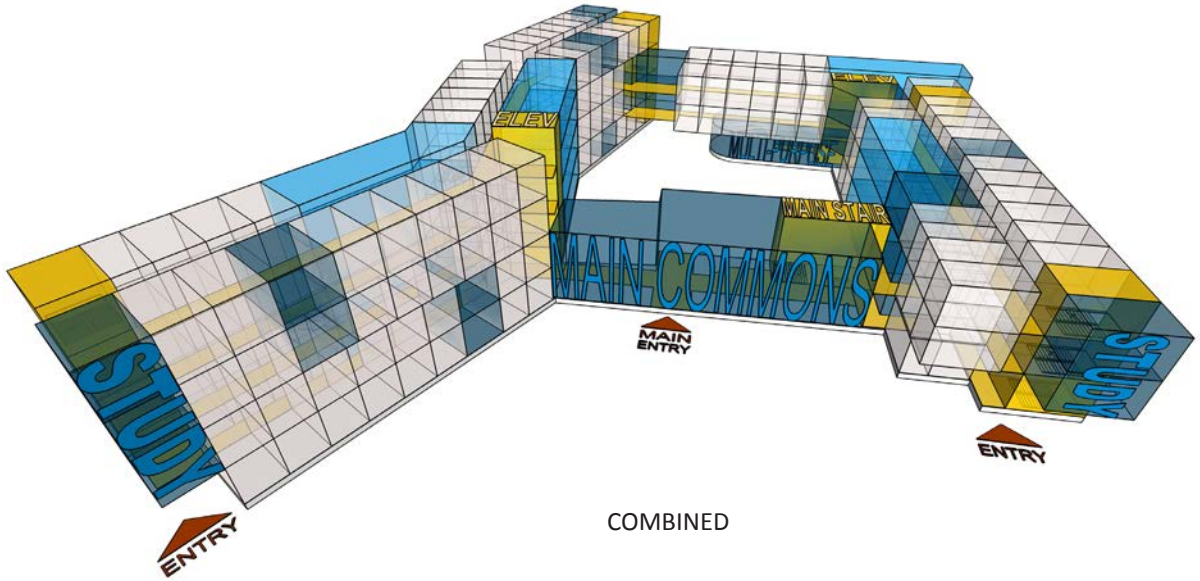
COMMON SPACES



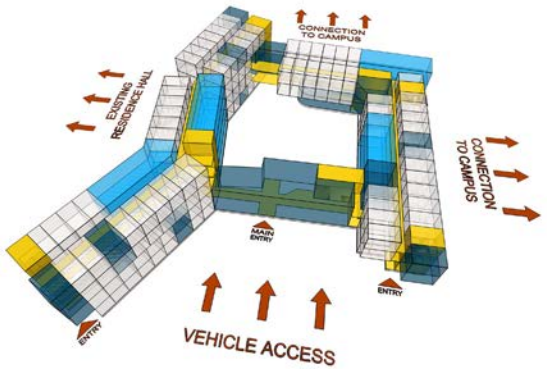
RESTROOM CORES



RESIDENCES

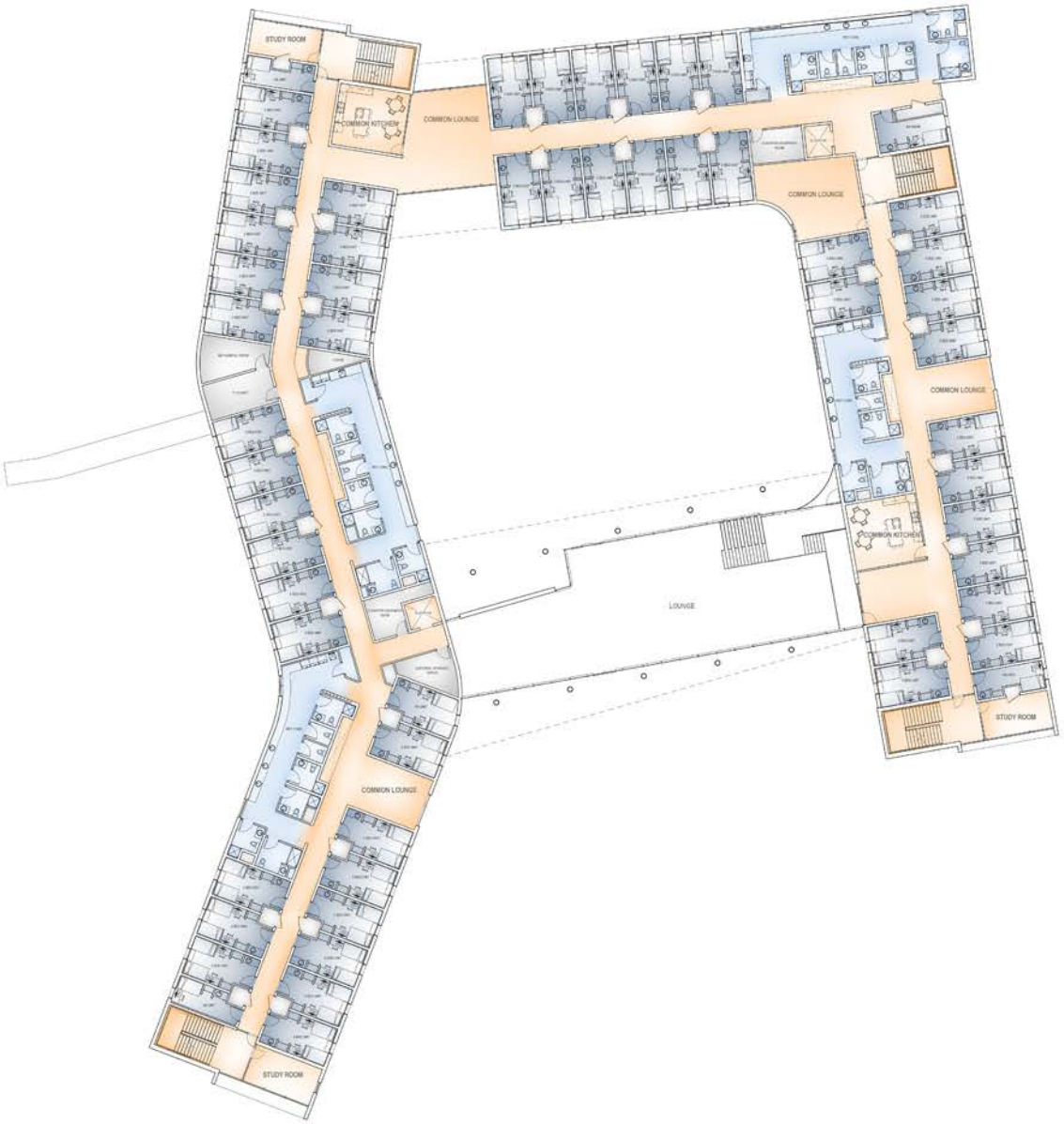

ELEV
MULTIPURPOSE
MAIN STAIR
MAIN COMMONS
STUDY
STUDY
MAIN ENTRY
ENTRY
ENTRY

COMBINED


CONNECTION TO CAMPUS
EXISTING RESIDENCE HALL
CONNECTION TO CAMPUS
MAIN ENTRY
ENTRY
ENTRY
VEHICLE ACCESS

TEST FIT FLOOR PLAN | LEVEL 1

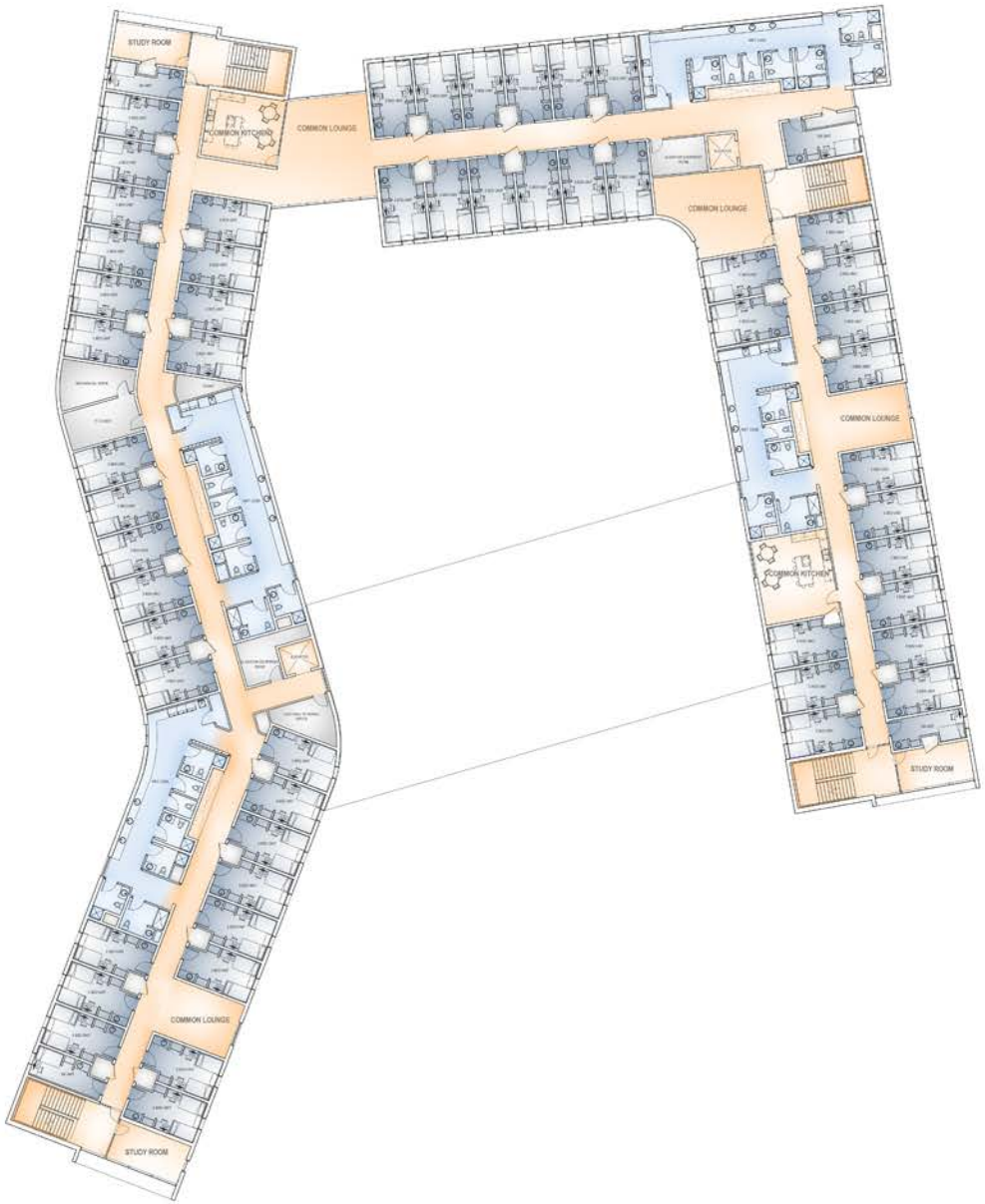
LEVEL 2



north

0′ 10′ 50′

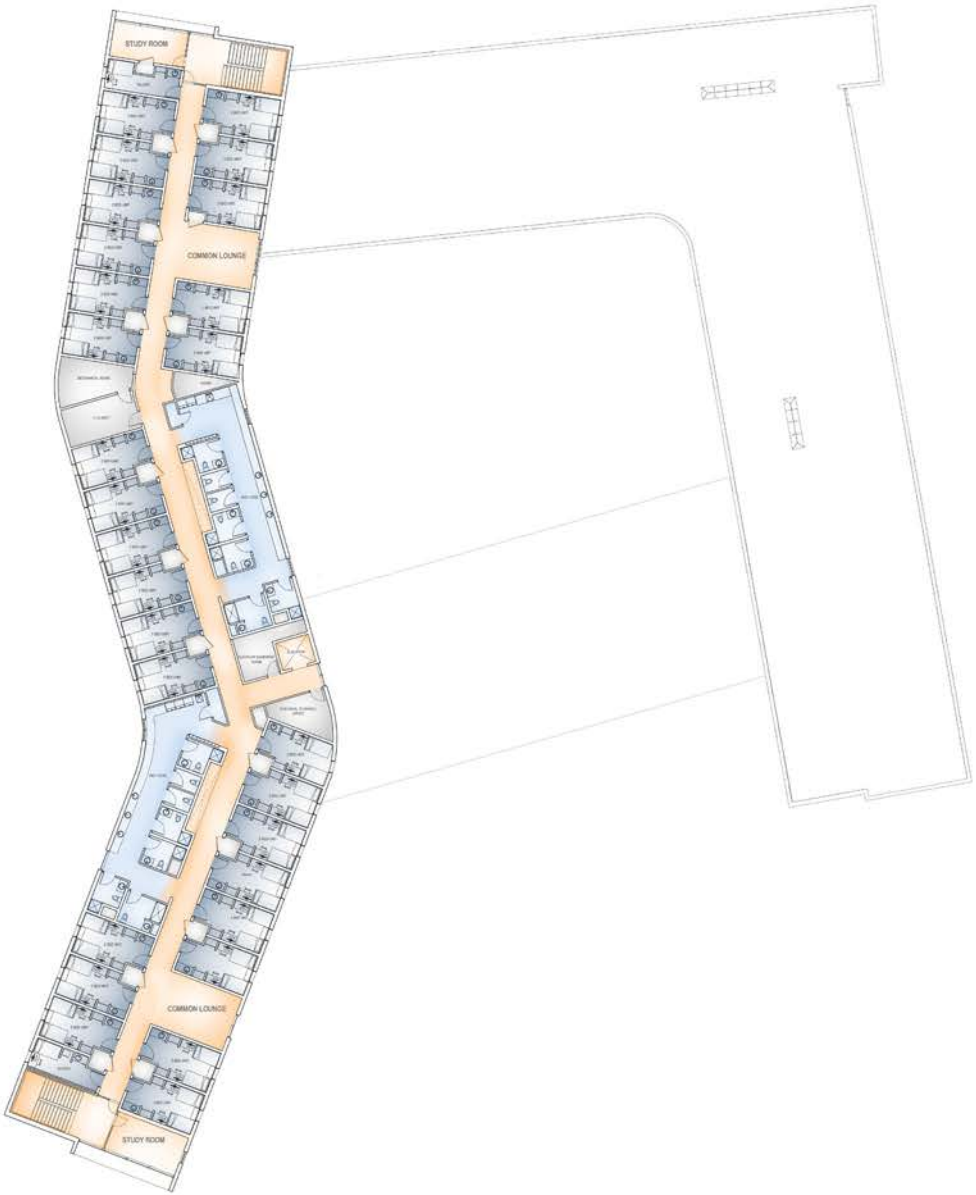
LEVEL 3



SERVICE
UNITS
WET CORE
COMMON SPACES

0′ 10′ 50′

LEVEL 4



north

0′ 10′ 50′

SOUTH ELEVATION

EAST ELEVATION

04

NORTH ELEVATION

WEST ELEVATION

WEST COURTYARD ELEVATION

TRANSVERE SECTION

SECTION PERSPECTIVES

04

RENDERINGS

MAIN ENTRY EXTERIOR ELEVATION VIEW

VIEW IN COURTYARD LOOKING NORTH

NORTH EXTERIOR VIEW FROM PRIMARY CAMPUS CIRCULATION

STUDY AREA VIEW AT SOUTHWEST EXTERIOR CORNER

COMMON PUBLIC AREA OVERLOOKING COURTYARD

MAIN STUDENT COMMONS WITH VIEWS TO COURTYARD + OPEN PLAINS

COST ESTIMATION

One of the most significant pieces of this project is the budget. It is critical that the nature of requesting public funds is respected to the greatest extent possible. While there is a real benefit to the community, there is an essential need to create spaces and amenities that offer the greatest possible advantage to students attending the College.

As part of the effort to maintain and monitor costs associated with the project, the design team has developed a program summary budget that was reviewed at regular meetings. In addition, a construction cost estimator was engaged to work closely with the design team to establish criteria for their initial estimate. Concurrent with their efforts, other general contractors familiar with the College, area and project type were asked to participate in an early cost evaluation. Their participation and help has been amazing, and has informed the spectrum of possible budget scenarios as they help to identify gaps in budgets as well as possible overruns in this early phase.

In comparing the estimates alongside the each other, we are able to see where the differences stand out and note areas for future clarifications. While the process is early, this has allowed us to get a fairly good view of what we can begin to expect as the project prepares to move into the Level III phase. Ultimately, the range of costs demonstrates that the project team and steering committee has its finger on the pulse of the market – placing the project within reach of its budgetary goals.

METHODSTUDIO INC.

LARAMIE COUNTY COMMUNITY COLLEGE

LCCC STUDENT HOUSING

SPACE AREA SUMMARY

10.16.2017 — **2 BED UNITS**

SPACE TYPE	DESCRIPTION	QTY	NET SF	TOTAL NET SF
UNITS				
1 Bed Unit		4	140	560
2 Bed Unit		168	196	32928
RA Unit		12	140	1680
Number of Beds		352		
	Subtotal			**35168**
RD APARTMENT				
Apartment s.f.				826
Number of Apartments		1		
Number of Beds		2		
	Subtotal			**826**
AMENITIES				
Lobby		1	548	548
Common Laundry	varies	varies	varies	2496
Restroom Cores	6:1 ratio 87 beds per floor = 29 fixtures or (6) 5 fixture cores per floor	varies	varies	9084
Fitness Room		1	596	596
Classroom/Theater Room		1	461	461
Student Lounge/Game Room	On Level 01	1	4818	4818
Vending	1 per floor	4	20	80
Print Station	1 per floor, 2 computer stations & 1 printer	1	45	45
Prep Kitchen		1	163	163
Common Kitchen	amount varies per floor	varies	varies	1792
Common Lounge/living rooms	amount varies per floor	varies	varies	3768
Multi-Purpose Room		1	811	811
Music Room	all on first floor	0	0	0
Craft Space		1	244	244
Classroom		1	353	353
Study Room	varies	1	1728	1728
Storage		1	384	384
Restroom		2	58	116
	Subtotal			**27487**
ADMINISTRATIVE				
Reception		1	114	114
Staff Office		1	122	122
Campus Safety Office		1	145	145
Storage		1	100	100
Mailroom		1	100	100
	Subtotal			**581**
STORAGE & MAINTENANCE				
Support-Electrical/Comm		4 vary		1174
Support-Mechanical		5 vary		974
Custodial Storage		1	141	141
Custodial Office		1	115	115
Main - Electrical		1	2458	2458
Main - Mechanical		1	2458	2458
Elevator Equipment Room		1	137	137
Elevator		2	87	174
	Subtotal			**7631**
Total Number of beds		**354** (348 student + Live in Director)		

	Net SF	Gross SF	Cost
Student Housing Building	**71693**	**99,294**	**$ 22,986,561.00**
		28% grossing factor	$231.50/sf
		20% soft costs	$ 4,942,110.62
Total			**$ 27,928,671.62**

LCCC ESTIMATOR & CONTRACTOR COMPARISON

Division	Work Description	CCC	Contractor 1	Contractor 2	Contractor 3**
Division 1	General Requirements	-	1,154,285	463,215	816,829
Division 2	Existing Conditions	125,325	100,000	-	-
Division 3	Concrete	579,985	893,120	645,358	1,162,722
Division 4	Masonry	625,791	455,000	696,925	656,011
Division 5	Metals	429,052	237,675	369,860	1,593,632
Division 6	Woods & Plastics	2,050,843	2,566,445	2,503,895	698,854
Division 7	Thermal & Moisture Protection	2,395,422	1,392,576	1,827,520	1,260,217
Division 8	Doors & Windows	1,512,274	1,445,129	1,736,045	1,819,016
Division 9	Finishes	2,365,749	1,737,075	2,273,895	3,123,157
Division 10	Specialties	258,389	135,411	76,630	110,150
Division 11	Equipment	39,420	45,118	74,400	437,792
Division 12	Furnishings	59,260	1,111,500	11,400	50,917
Division 14	Conveying Systems	291,600	227,500	234,000	208,000
Division 21	Fire Suppression	327,074	350,000	323,884	308,949
Division 22	Plumbing	784,720	2,200,000	896,346	4,171,670
Division 23	HVAC	2,680,938	2,100,000	1,493,910	
Division 26	Electrical	2,038,275	2,500,000	2,166,170	2,203,536
Division 27	Telecommunication	536,188	425,000	-	272,459
Division 28	Electronic Safety & Security	348,522	250,000	-	-
Division 31	Earthwork	408,056	485,000	395,800	436,816
Division 32	Exterior Improvements	1,167,707	1,150,000	1,545,974	1,425,953
Division 33	Utilities	201,157	110,000	69,150	167,927
	Sub-total	$ 19,225,747	$ 21,070,834	$ 17,804,377	$ 20,924,607
	General Conditions	1,109,280	101,140	548,500	1,200,000
	Overhead & Profit	739,520	1,174,026	826,757	-
	Bonds & Insurance	369,760	622,658	204,137	1,373,973
	Contingency	1,848,799	1,685,667	1,791,039	2,410,366
	Total	$ 23,293,106	$ 24,654,325	$ 21,174,810	$ 25,908,946
	Cost per sf @ 99,294 sf	$ 234.59	$ 248.30	$ 213.25	$ 260.93

**estimate adjusted from steel construction to wood

Cost Per Square Foot Range: $213-261/sf

DATA SHEETS + ROOM DIAGRAMS

05

TYPICAL 2 BED UNIT | 196 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Resident bedroom
TOTAL NUMBER:	171
OCCUPANTS:	(2) per bedroom
PRIMARY FUNCTION:	Provide a comfortable environment to sleep and study

- **RELATIONSHIPS**

LOCATION:	None required
ADJACENCIES:	Rest room Wet Core
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, comfortable feel, natural light

- **PRIVACY/SECURITY:** Provide key/card lock on bedroom door.

  Provide (1) location per student per bedroom for private/valuable items, securable with student's own lock.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9' - 0"

- **FINISHES**

FLOOR:	LVT (Plank)
WALLS:	Painted gypsum board
CEILING:	Painted gypsum board
SPECIALTY FINISHES:	Quartz counter top at vanity, laminate cabinets
ACOUSTICAL / SOUND:	STC 50 walls between rooms.

- **DOORS**

TYPE:	Solid core wood with clear finish. No closet doors.
FRAME:	Painted hollow metal
SPECIAL:	Sound isolation at door. Key/ card access

- **WINDOWS**

TYPE:	Exterior, 1 operable per bedroom, 20 sf min
GLAZING:	Insulated w/Low-E coating
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis, built-in or portable fans
CONTROLS:	TBD
SPECIAL SYSTEMS:	TBD
PLUMBING:	(1) vanity and sink fixture in each bedroom

- **ELECTRICAL**

POWER:	Min. (1) duplex outlet on each wall, one of these located adjacent to each desk area
PHONE/DATA:	Wifi coverage, data jack, conduit to hallway
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

- **LIGHTING**

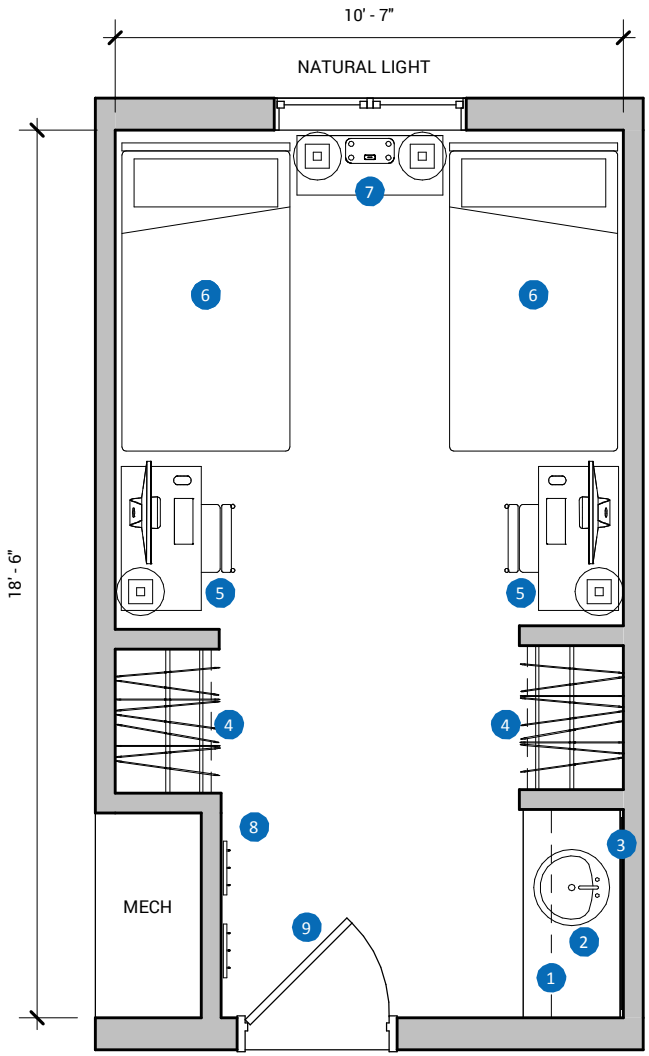
FOOT CANDLES:	20 ambient, 40 task
FIXTURE TYPE:	LED
TASK LIGHTING:	At each desk
CONTROLS:	LED surface mounted with vacancy sensor

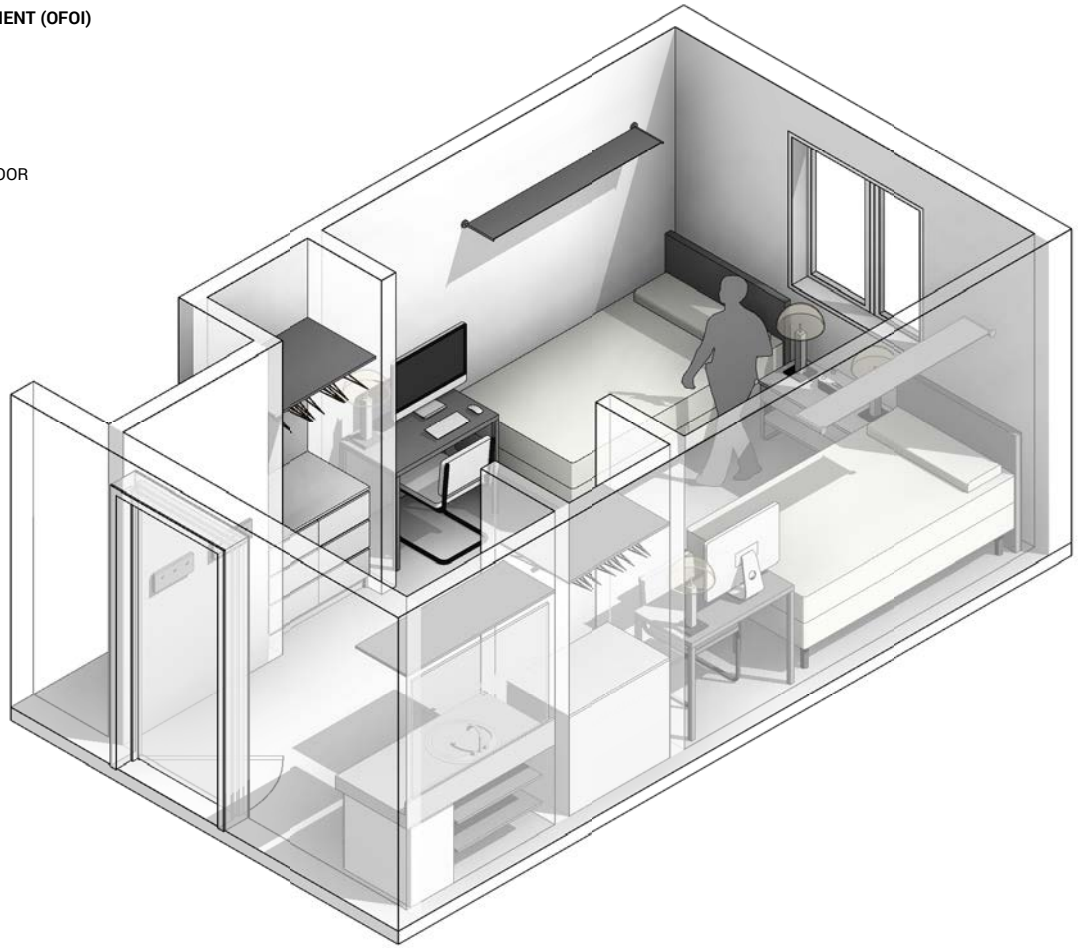
CASEWORK/FIXED EQUIPMENT (CFCI)

1 OVERHEAD SHELF
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 VANITY MIRROR
4 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 COMPUTER DESK
6 BED
7 END TABLE
8 HOOKS (3) W/ BACKING
9 18X36" MIRROR ON BACK OF DOOR





TYPICAL RA UNIT | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Resident bedroom
  TOTAL NUMBER: 13
  OCCUPANTS: (1) per bedroom
  PRIMARY FUNCTION: Provide a comfortable environment to sleep and study
- **RELATIONSHIPS**
  LOCATION: None required
  ADJACENCIES: Rest room Wetcore
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, comfortable feel, natural light
- **PRIVACY/SECURITY:** Provide key/card lock on bedroom door.
  Provide (1) location per student per bedroom for private/valuable items, securable with student's own lock.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9' - 0"
- **FINISHES**
  FLOOR: LVT (Plank)
  WALLS: Painted gypsum board
  CEILING: Painted gypsum board
  SPECIALTY FINISHES: Quartz counter top at vanity, laminate cabinets
  ACOUSTICAL / SOUND: STC 50 walls between rooms.
- **DOORS**
  TYPE: Solid core wood with clear finish. No closet doors.
  FRAME: Painted hollow metal
  SPECIAL: Sound isolation at door. Key/card access
- **WINDOWS**
  TYPE: Exterior, 1 operable per bedroom, 20 sf min
  GLAZING: Insulated w/Low-E coating
  NATURAL LIGHT: Required
  FRAME: Aluminum Storefront
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

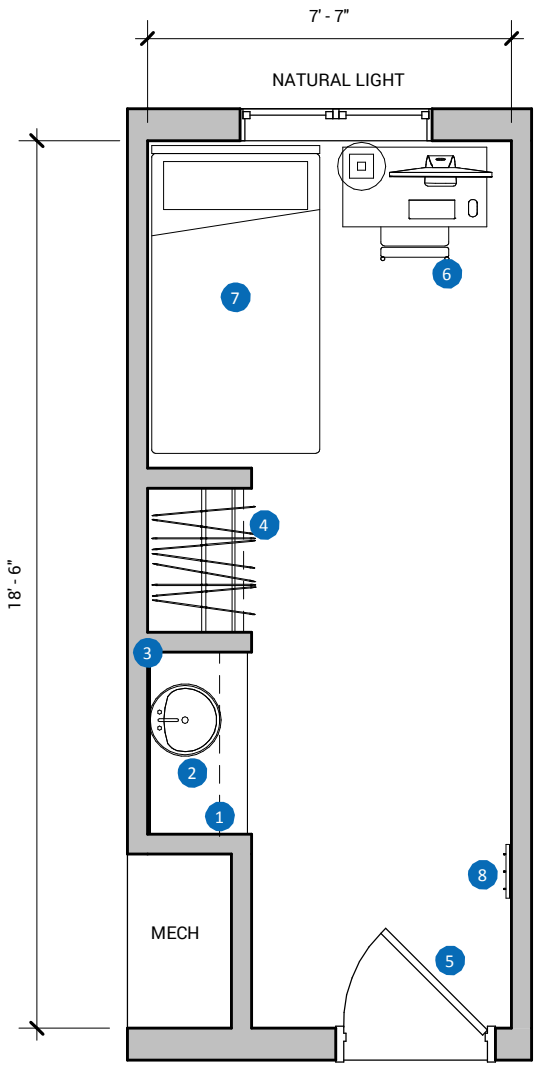
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis, built-in or portable fans
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: (1) vanity and sink fixture in each bedroom
- **ELECTRICAL**
  POWER: Min. (1) duplex outlet on each wall, one of these located adjacent to each desk area
  PHONE/DATA: Wifi coverage, data jack, conduit to hallway
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 20 ambient, 40 task
  FIXTURE TYPE: LED
  TASK LIGHTING: At each desk
  CONTROLS: LED surface mounted with vacancy sensor

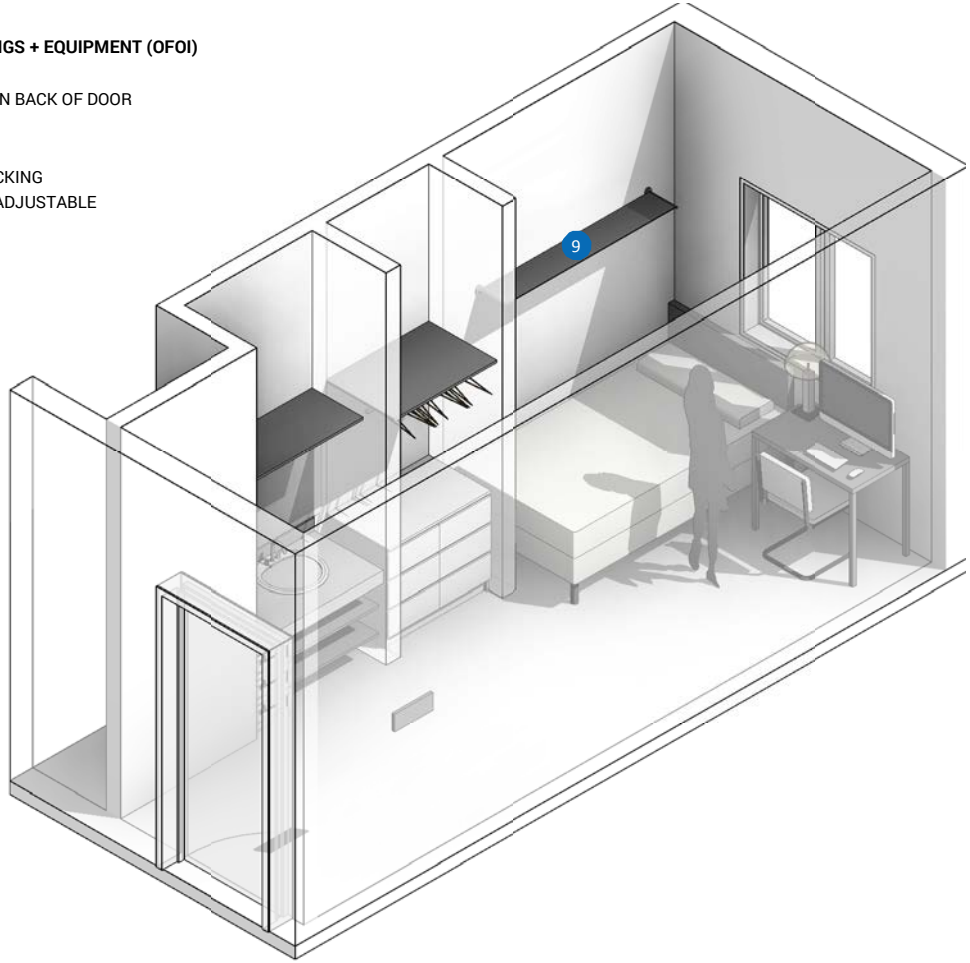
CASEWORK/FIXED EQUIPMENT (CFCI)

1 OVERHEAD SHELF
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 VANITY MIRROR
4 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

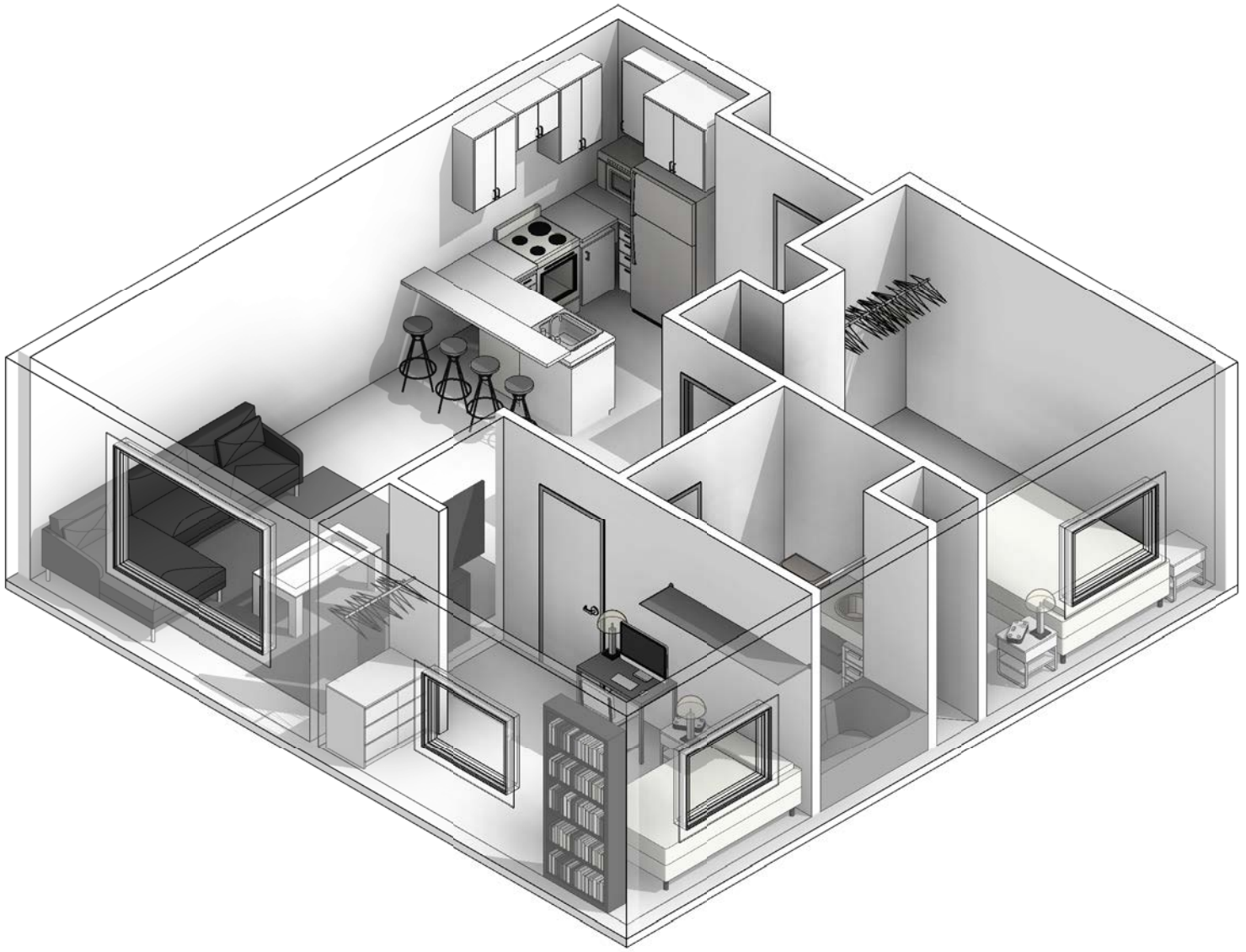
5 18X36" MIRROR ON BACK OF DOOR
6 COMPUTER DESK
7 BED
8 HOOKS (3) W/ BACKING
9 WALL MOUNTED ADJUSTABLE SHELVING

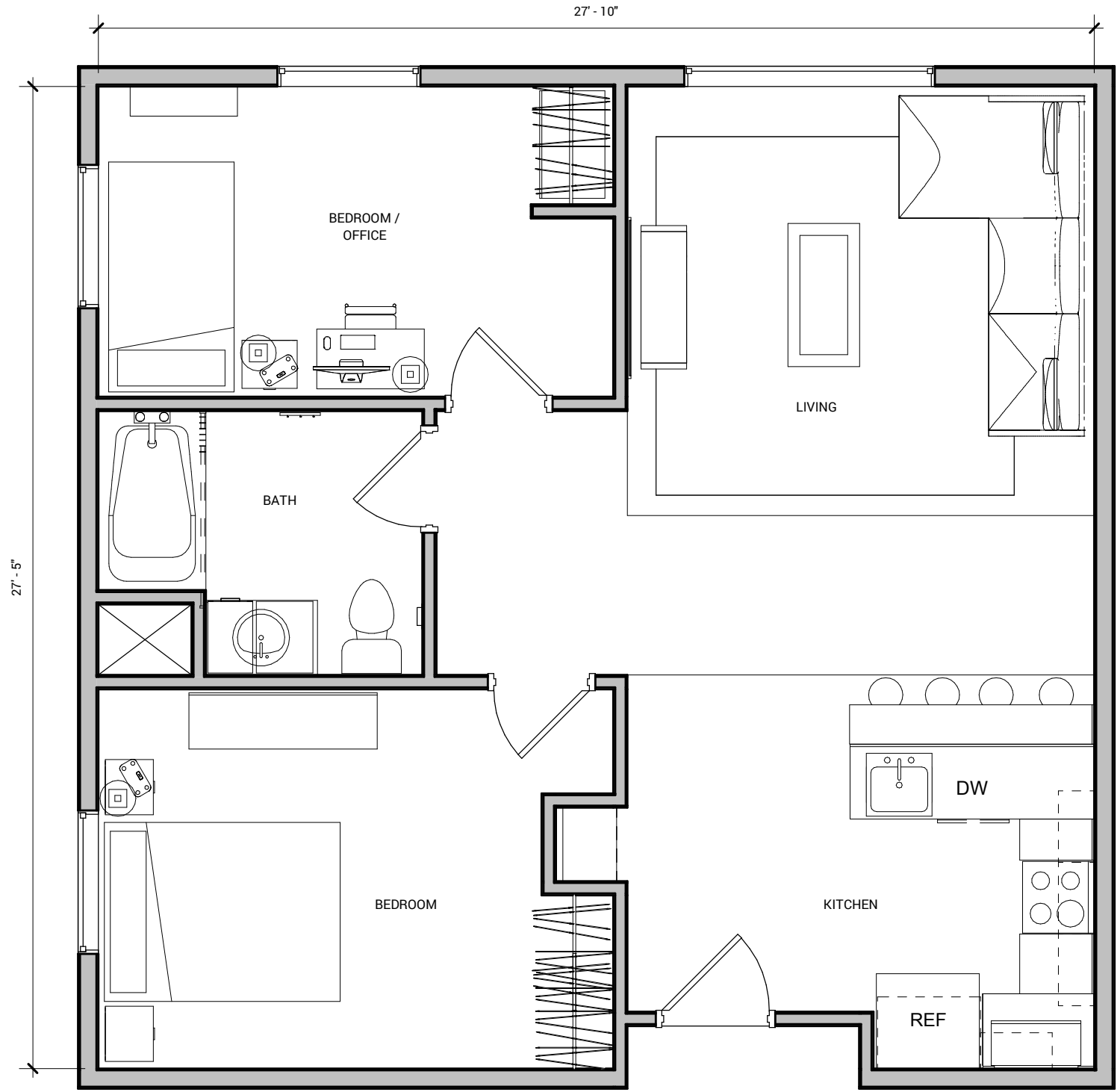




05

RD APARTMENT | 750 SQ FT




27' - 10"
27' - 5"
BEDROOM /
OFFICE
LIVING
BATH
BEDROOM
KITCHEN
DW
REF

RD APARTMENT - BATHROOM | 60 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1
  - **PRIMARY FUNCTION:** To provide bath/shower and toilet facilities within the RD apartment.
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bedrooms
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** Provide privacy lock on bathroom door

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Tile
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top at vanity, laminate cabinets
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

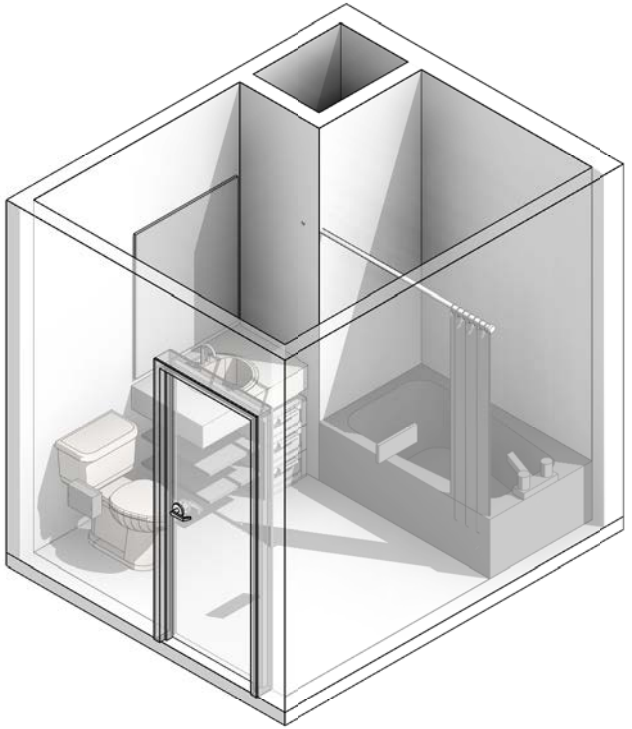
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** (1) flush valve toilet, (1) shower, (1) one-piece vanity w/ built in sink
- **ELECTRICAL**
  - **POWER:** (2) duplex outlets per sink location, must be able to accommodate curling irons and blow dryers
  - **PHONE/DATA:** None required
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40 ambient
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

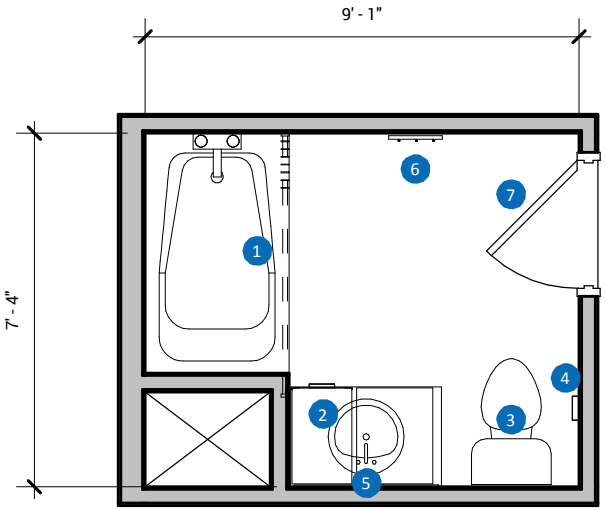
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SHOWER ROD & SOLID SURFACE SHOWER: FLOOR, WALLS & CEILING
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 FLOOR MOUNTED TOILET W/ FLUSH VALVE
4 TOILET PAPER HOLDER
5 VANITY MIRROR

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

6 HOOKS (3) W/ BACKING
7 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - LIVING ROOM | 156 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 4
  - **PRIMARY FUNCTION:** To provide an environment where RD and guests may relax, socialize, entertain and interact.
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near kitchen
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

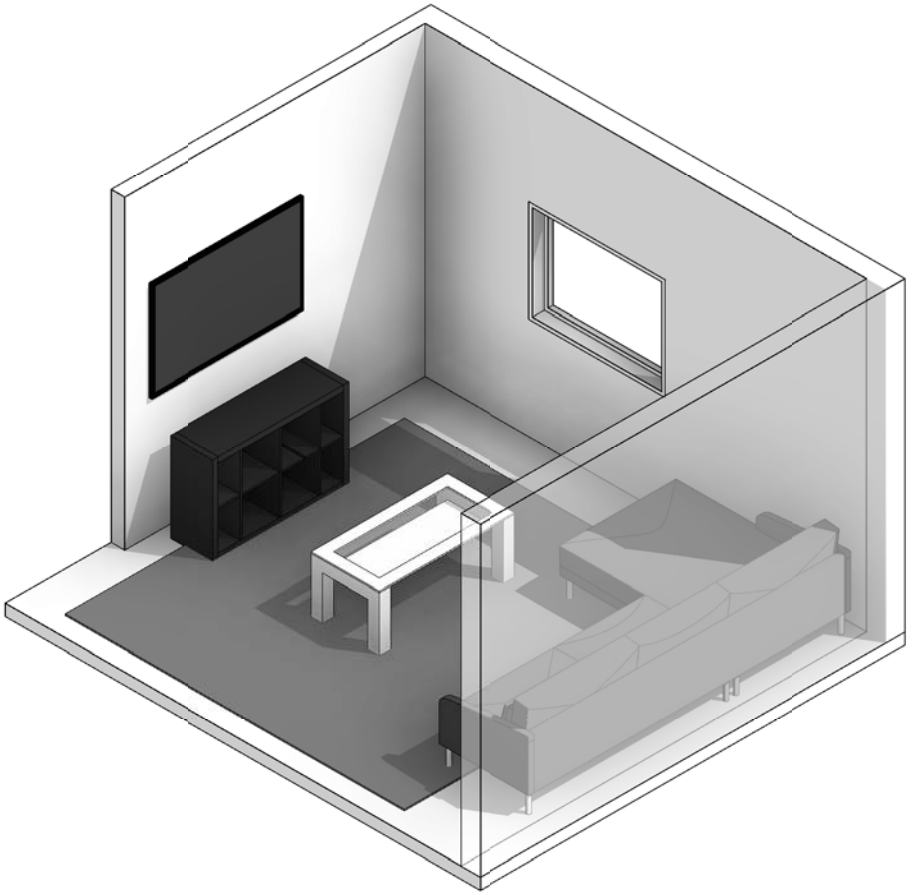
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Include min. (1) operable window
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

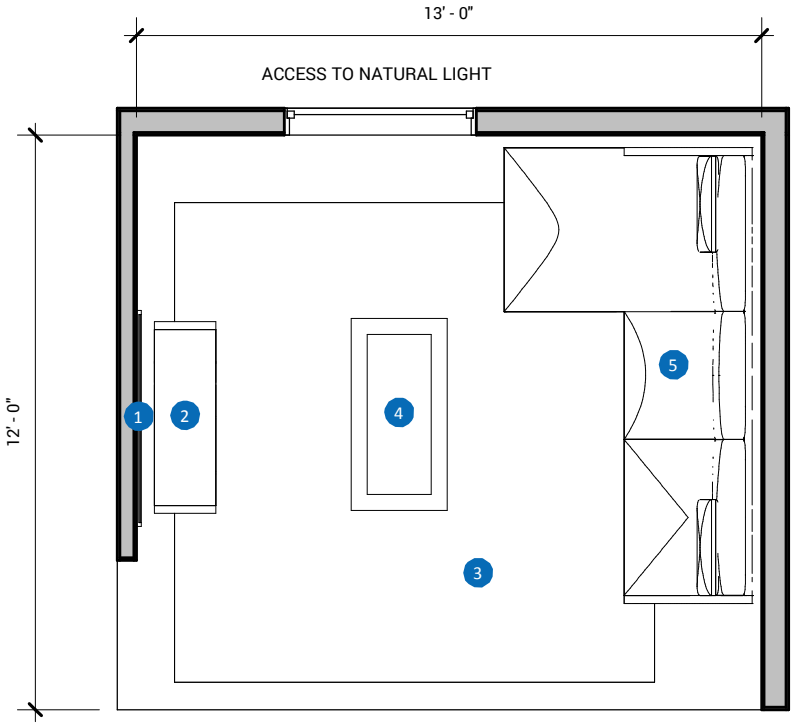
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Duplex wall outlets at max. of 12'-0" o.c., and one for TV
  - **PHONE/DATA:** (1) network outlet, (1) wireless access, (1) network outlet at TV, (1) coax TV/ cable outlet
  - **AUDIO/VIDEO:** (1) coax TV/ cable outlet
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 WALL MOUNTED LCD TV W/ BACKING
2 MEDIA CENTER
3 AREA RUG
4 COFFEE TABLE
5 COUCH





RD APARTMENT - MASTER BEDROOM | 146 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-2
  - **PRIMARY FUNCTION:** Provide a comfortable environment to sleep
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bathroom
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior, 1 operable per bedroom, 20 sf min
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

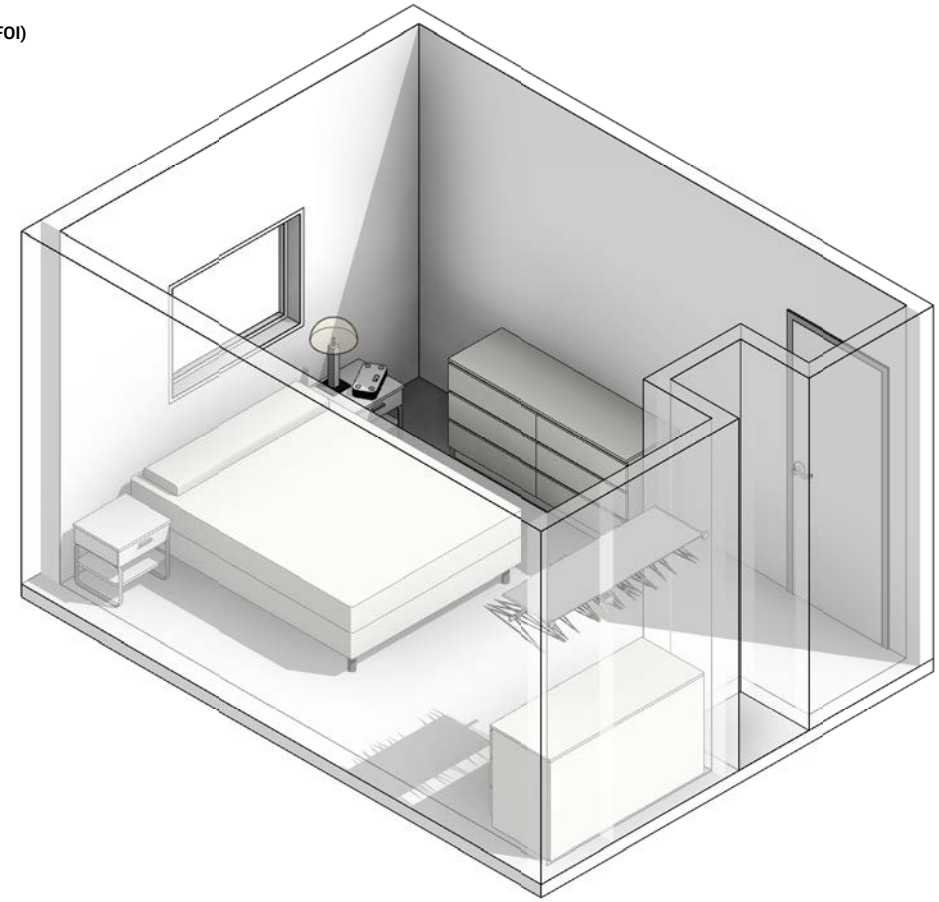
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Min. (1) duplex outlet on each wall
  - **PHONE/DATA:** wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

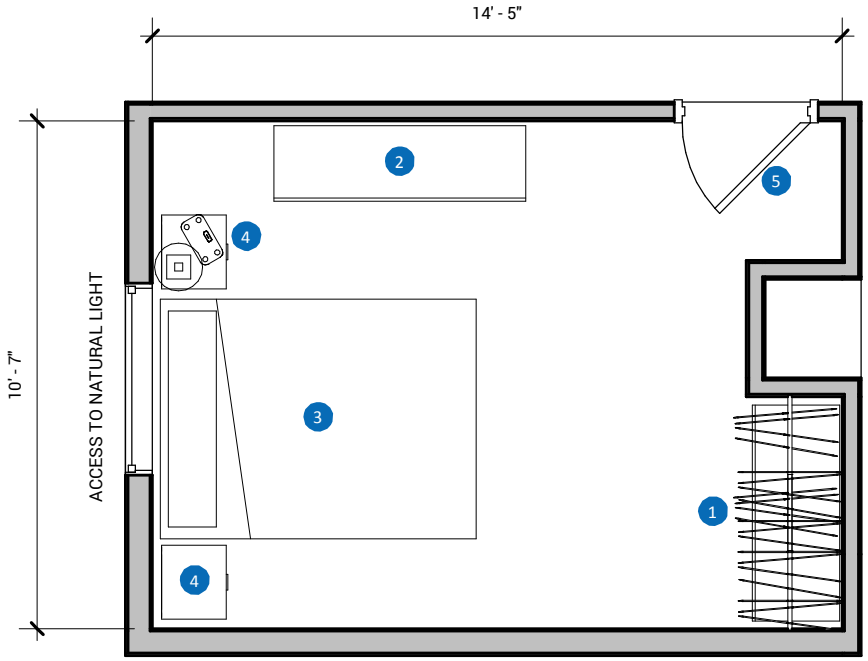
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 DRESSER
3 BED
4 END TABLE
5 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - BEDROOM/OFFICE | 124 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-2
  - **PRIMARY FUNCTION:** Provide a comfortable environment to sleep and/or study
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bathroom
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior, 1 operable per bedroom, 20 sf min
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

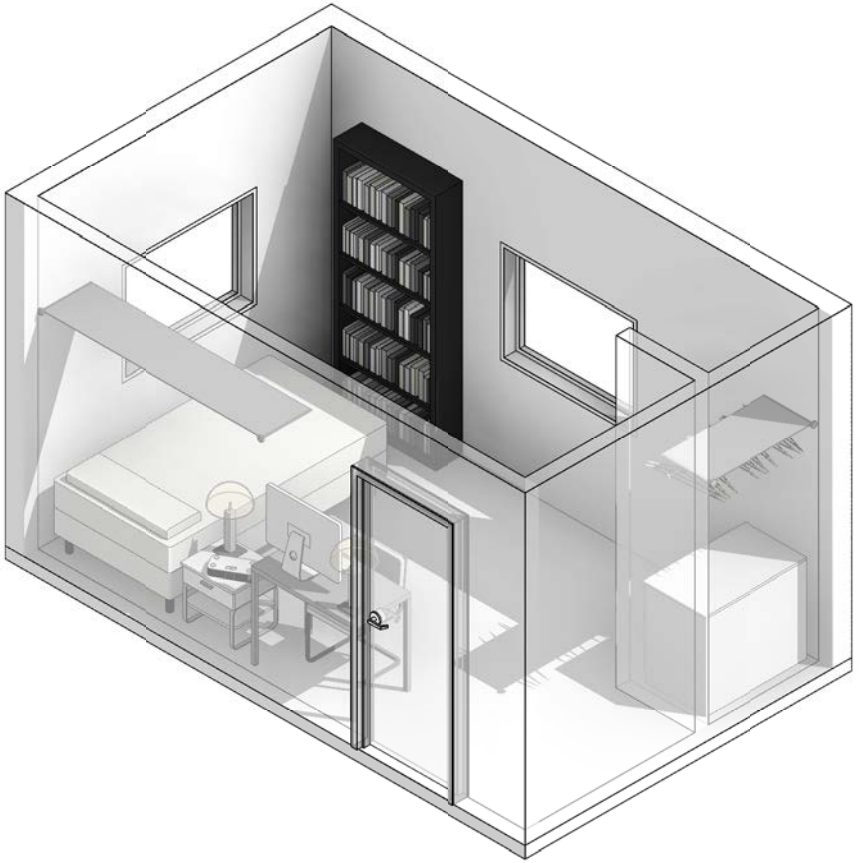
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Min. (1) duplex outlet on each wall
  - **PHONE/DATA:** wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

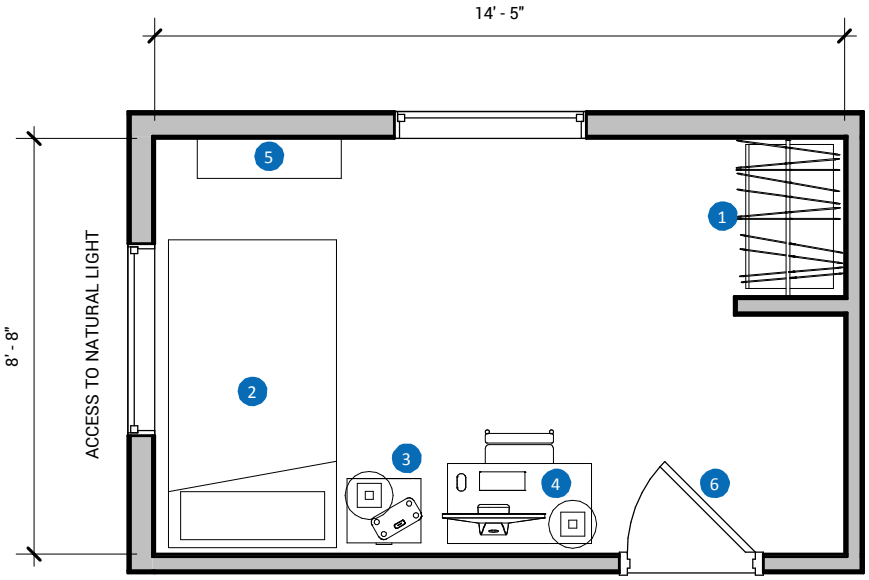
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 SINGLE OR POSSIBLE BUNK BED
3 END TABLE
4 COMPUTER DESK
5 BOOKSHELF
6 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - KITCHEN | 136 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 4
  - **PRIMARY FUNCTION:** Comfortable location to prepare and eat food
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near living area
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top, laminate cabinets
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

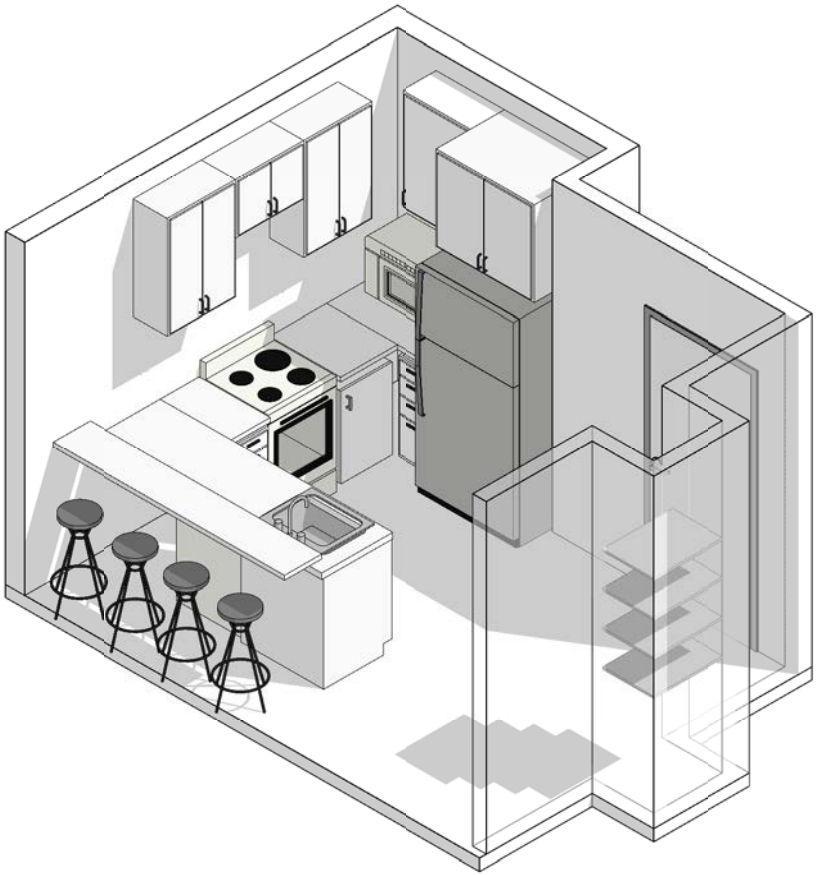
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** Two compartment, stainless steel sink, swing type gooseneck kitchen faucet, 36" supply lines
- **ELECTRICAL**
  - **POWER:** Duplex outlets above counter at 24" centers (GFI required, reset button at outlet), 2 minimum, (1) duplex outlet each for microwave and fridge, all on dedicated circuits, 220V outlets at oven range on dedicated circuit
  - **PHONE/DATA:** wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

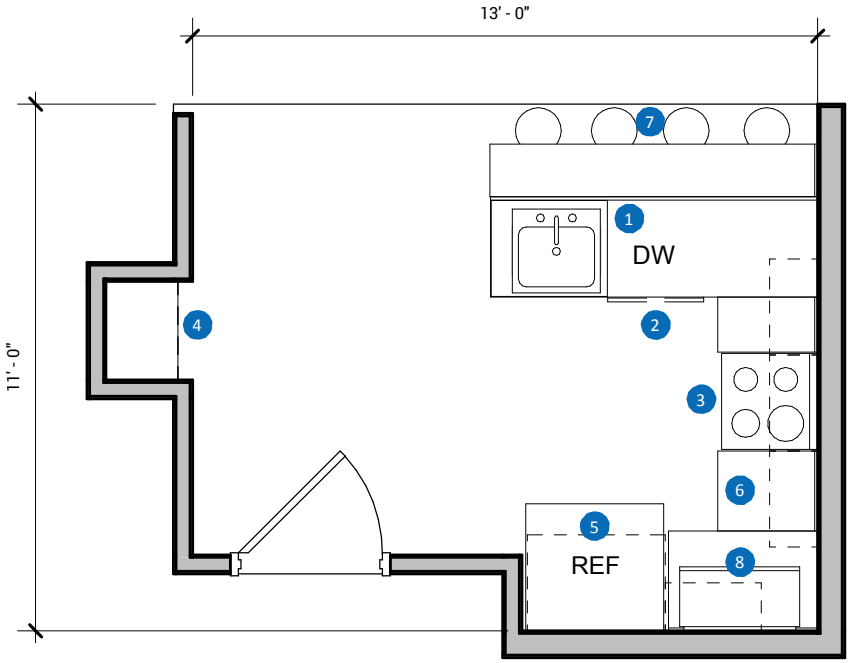
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 DISHWASHER
3 RESIDENTIAL GRADE OVEN
4 OVERHEAD SHELF
5 FULL SIZE FRIDGE & FREEZER
6 COUNTERTOP & STORAGE CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

7 STOOLS
8 MICROWAVE





05

LOBBY | 1000 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Entrance lobby
  TOTAL NUMBER: 1
  OCCUPANTS: 10-15
  PRIMARY FUNCTION: Serve as a waiting space for individuals/groups. Serves to showcase the building to prospective students/ parents.
- **RELATIONSHIPS**
  LOCATION: Near main bldg entrance
  ADJACENCIES: TBD
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, natural light, showcase the building
- **PRIVACY/SECURITY:** Security camera. Secure access to housing portion of building / upper floors.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 10'-0" +
- **FINISHES**
  FLOOR: Polished Concrete
  WALLS: Painted, impact-resistant gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: Wood accent wall
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Aluminum storefront entry doors/vestibule
  FRAME: Aluminum storefront
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Exterior, floor to ceiling storefront
  GLAZING: Insulated w/Low-E coating
  NATURAL LIGHT: Required
  FRAME: Aluminum Storefront
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

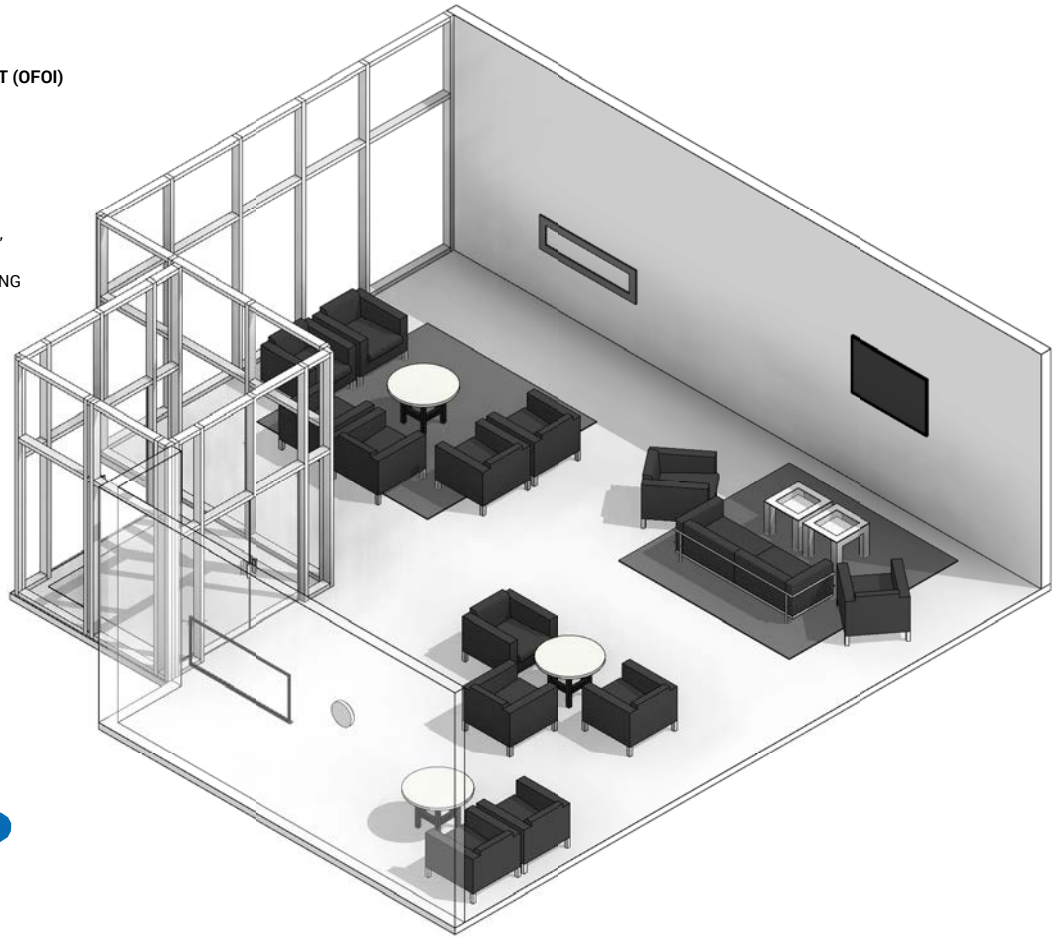
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: TBD
- **ELECTRICAL**
  POWER: (1) duplex outlet per wall, (1) network outlet at TV. Rechargeable jacks in outlets.
  PHONE/DATA: Wifi coverage
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 20 ambient, 40 task
  FIXTURE TYPE: LED indirect and ceiling surface mounted. Accent fixtures as req'd for showcasing the lobby and/or artwork
  TASK LIGHTING: TBD
  CONTROLS: Relay control with wall station override

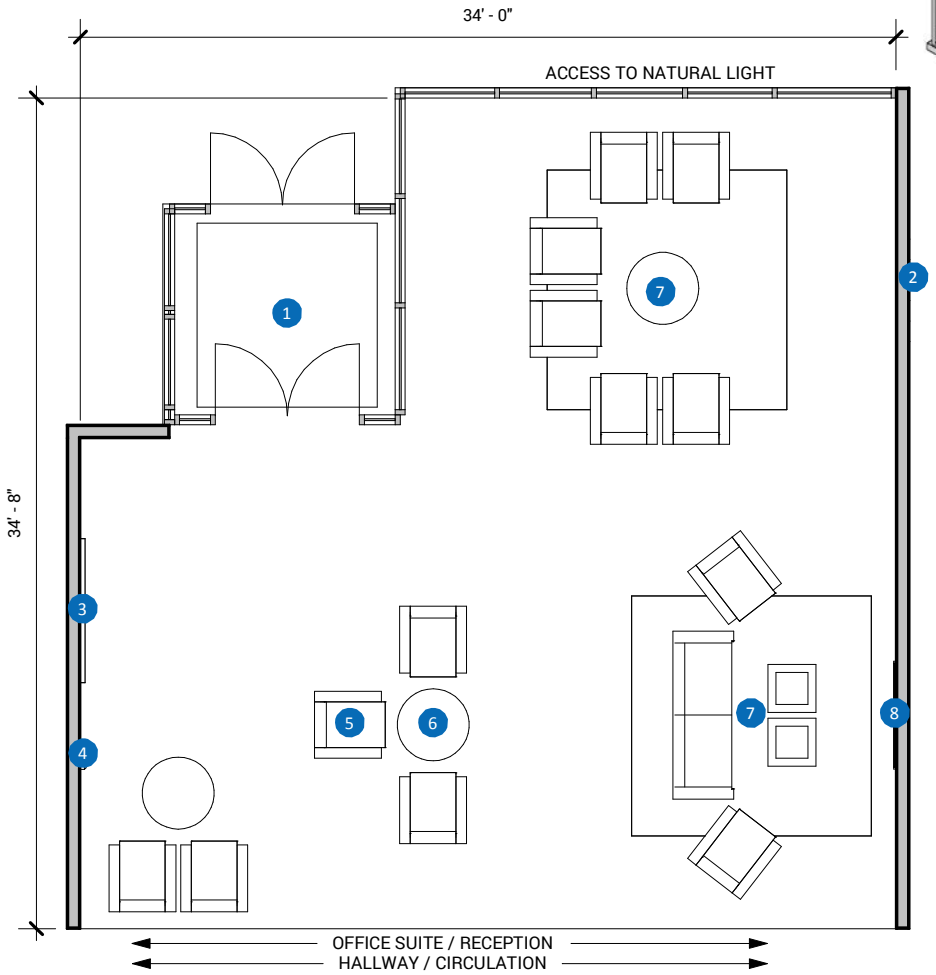
CASEWORK/FIXED EQUIPMENT (CFCI)

1 VESTIBULE WITH 2" REMOVEABLE MATTING
2 FIREPLACE

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 BULLETIN BOARD
4 CLOCK
5 ARM CHAIR
6 COFFEE TABLE
7 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
8 WALL MOUNTED LCD TV W/ BACKING





COMMON LAUNDRY | 275 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Public Amenities
  TOTAL NUMBER: (8), 2 per floor
  OCCUPANTS: 3-6
  PRIMARY FUNCTION: To provide a space for students to do laundry
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: Game room, TBD
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, visual connection to community spaces
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: TBD
  CEILING: TBD
  SPECIALTY FINISHES: Quartz counter top
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Interior, to provide visual access to community spaces
  GLAZING: Clear, tempered
  NATURAL LIGHT: TBD
  FRAME: TBD
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

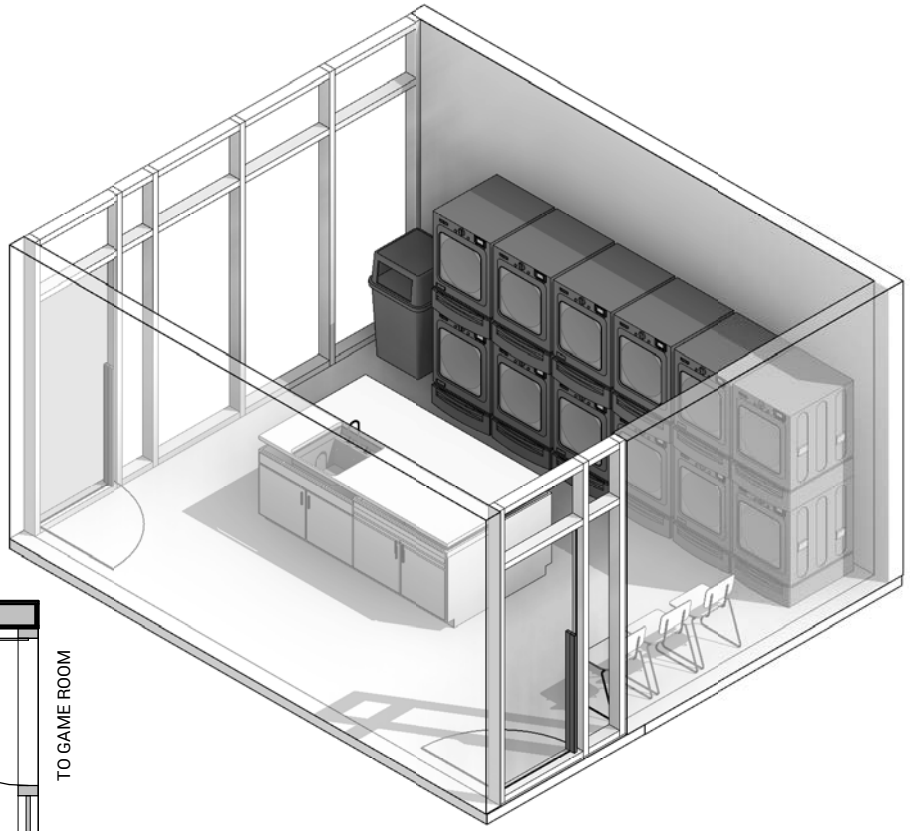
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: Dryer venting as required, wall mounted louver and damper for combustion air
  PLUMBING: Hot/cold water supply lines, drains for washers, floor drain, laundry sink (small, deep sink with goose neck faucet), gas piping, washer and dryer wall mounted fitting housing the waste, electric, and hot and cold water valves
- **ELECTRICAL**
  POWER: (1) duplex outlet per wall, (1) 220v outlet per dryer, (1) duplex outlet per washer
  PHONE/DATA: Wifi coverage
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: None required
  CONTROLS: Vacancy sensor with wall station override

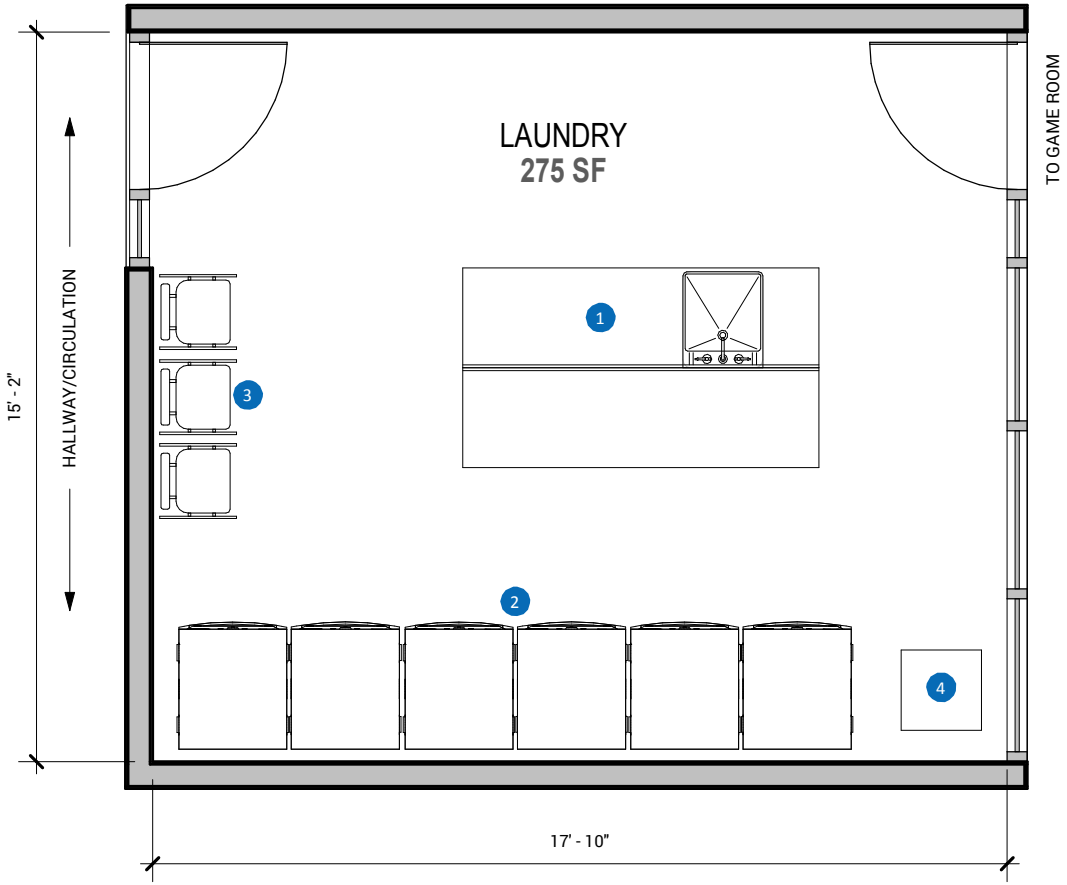
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 (6) STACKABLE FRONTLOAD WASHERS & DRYERS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 CHAIRS
4 TRASH CAN





REST ROOM WET CORE | 1097 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Bathroom space
  - **TOTAL NUMBER:** (12), 3 per floor
  - **OCCUPANTS:** 5-10
  - **PRIMARY FUNCTION:** To provide shower and toilet facilities to student residents
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Near bedrooms
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, comfortable communal feel
- **PRIVACY/SECURITY:** Provide privacy lock on individual bathrooms

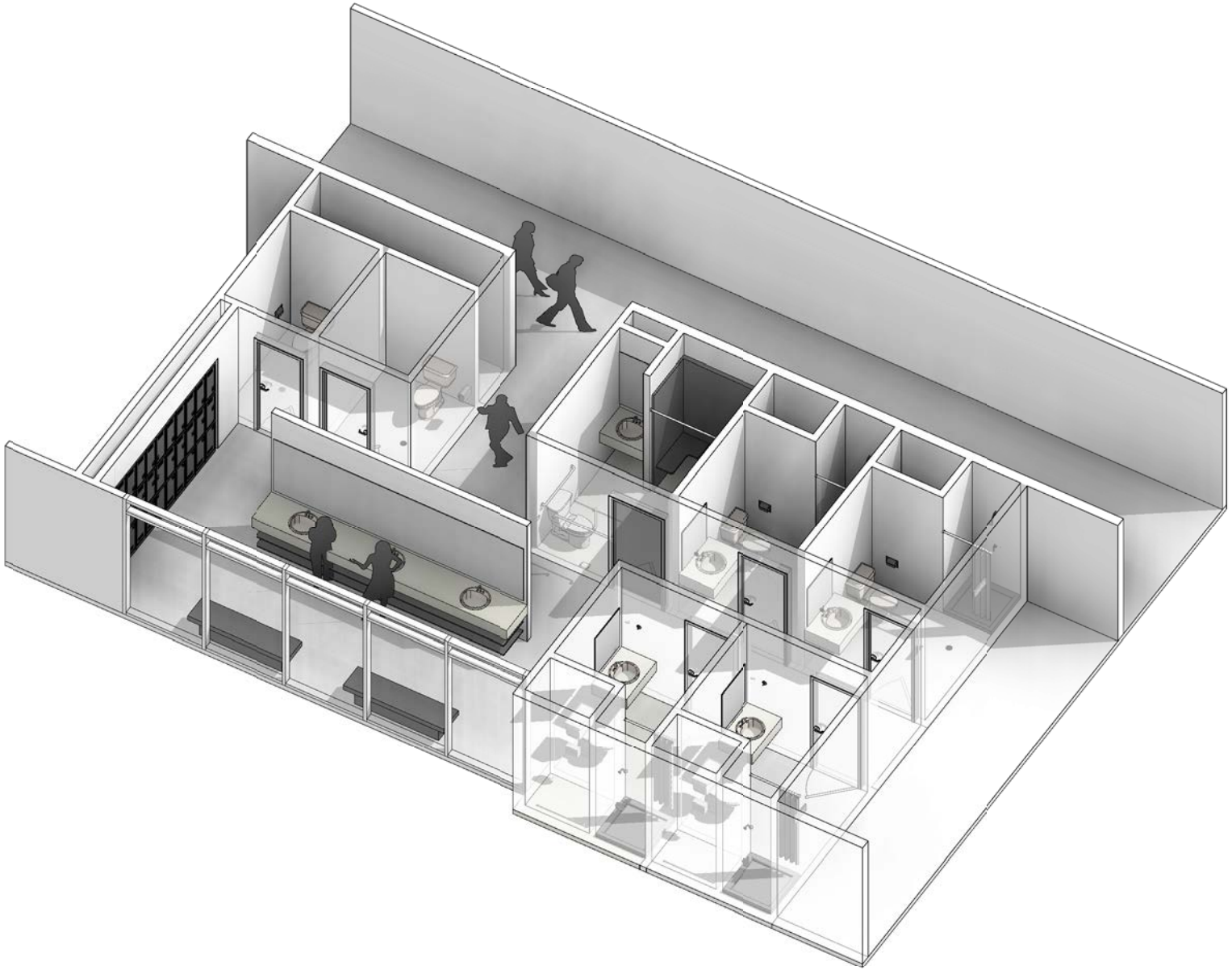
  Provide (1) personal locker per student

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Tile (plank)
  - **WALLS:** Epoxy paint
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top at vanity and in each rest room
  - **ACOUSTICAL / SOUND:** Sound isolation const. at perimeter walls and around bathrooms
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior storefront
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** (7) toilets, (5) showers, (5) sinks, (3) under counter lavatories per sink location outside toilet/shower room, (9) floor drains
- **ELECTRICAL**
  - **POWER:** (2) duplex outlet per sink location, each on dedicated circuits
  - **PHONE/DATA:** Wifi coverage
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override



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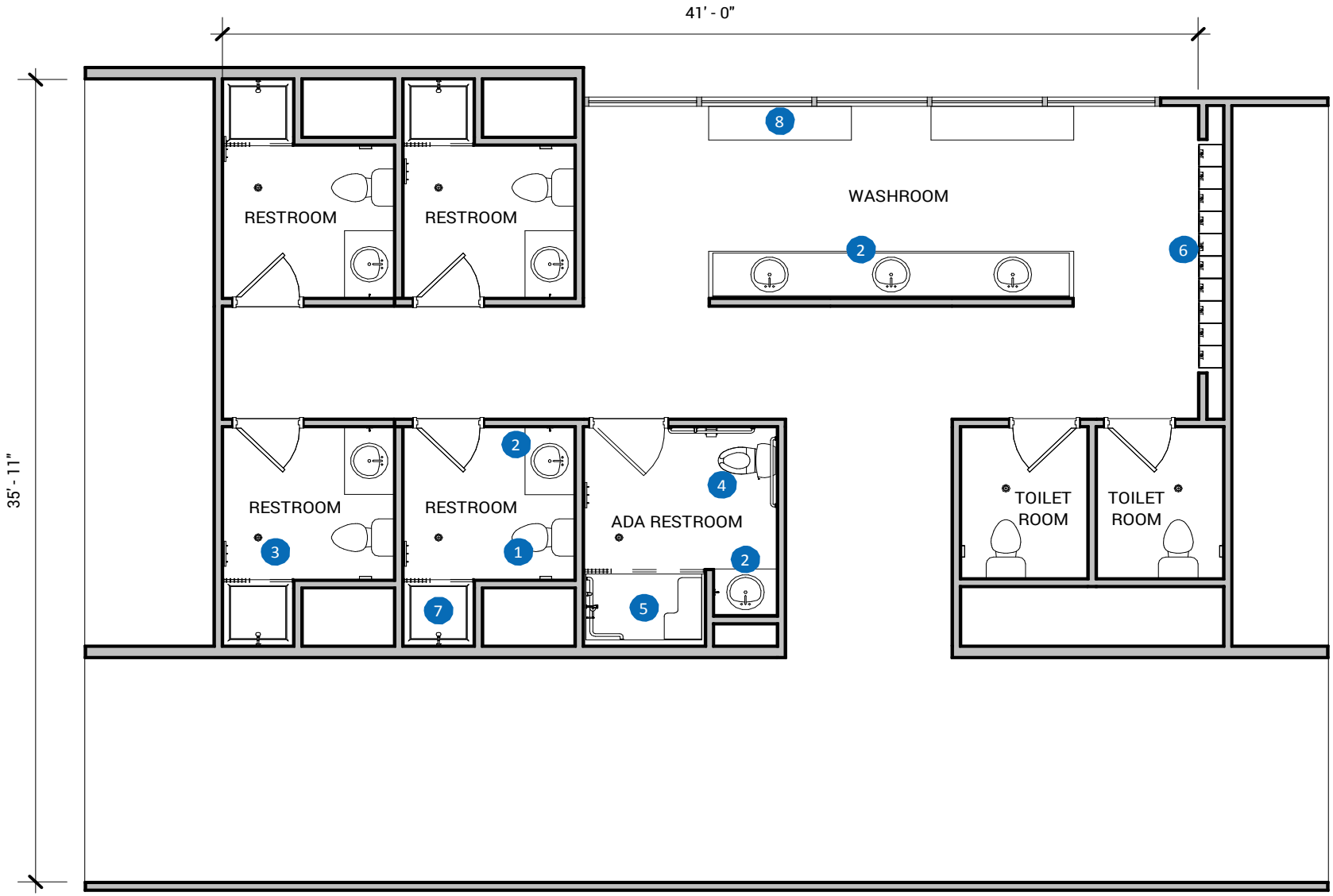
REST ROOM WET CORE | 1097 SQ FT

CASEWORK/FIXED EQUIPMENT (CFCI)

1 FLOOR MOUNTED TOILET W/ FLUSH VALVE
2 SINK & COUNTER
3 FLOOR DRAIN
4 ADA COMPLIANT FLOOR MOUNTED TOILET & GRAB BARS
5 ADA COMPLIANT SHOWER & GRAB BARS
6 LOCKER BAY
7 SHOWER ROD & SOLID SURFACE SHOWER: FLOOR, WALLS & CEILING

CASEWORK/FIXED EQUIPMENT (CFCI)

8 CONCRETE BENCH


41' - 0"
35' - 11"
RESTROOM
RESTROOM
WASHROOM
RESTROOM
RESTROOM
ADA RESTROOM
TOILET ROOM
TOILET ROOM
8
2
6
2
4
3
1
2
7
5

CLASSROOM + THEATER ROOM | 500 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 40
  - **PRIMARY FUNCTION:** Tiered seating for theater and classroom
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, large glass wall/ window to interior hallway, and stepped seating.
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** TBD
- **FINISHES**
  - **FLOOR:** Carpet tiles
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Acoustic wall panels
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Interior, to provide visual access to community spaces
  - **GLAZING:** Clear, tempered
  - **NATURAL LIGHT:** TBD
  - **FRAME:** TBD
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

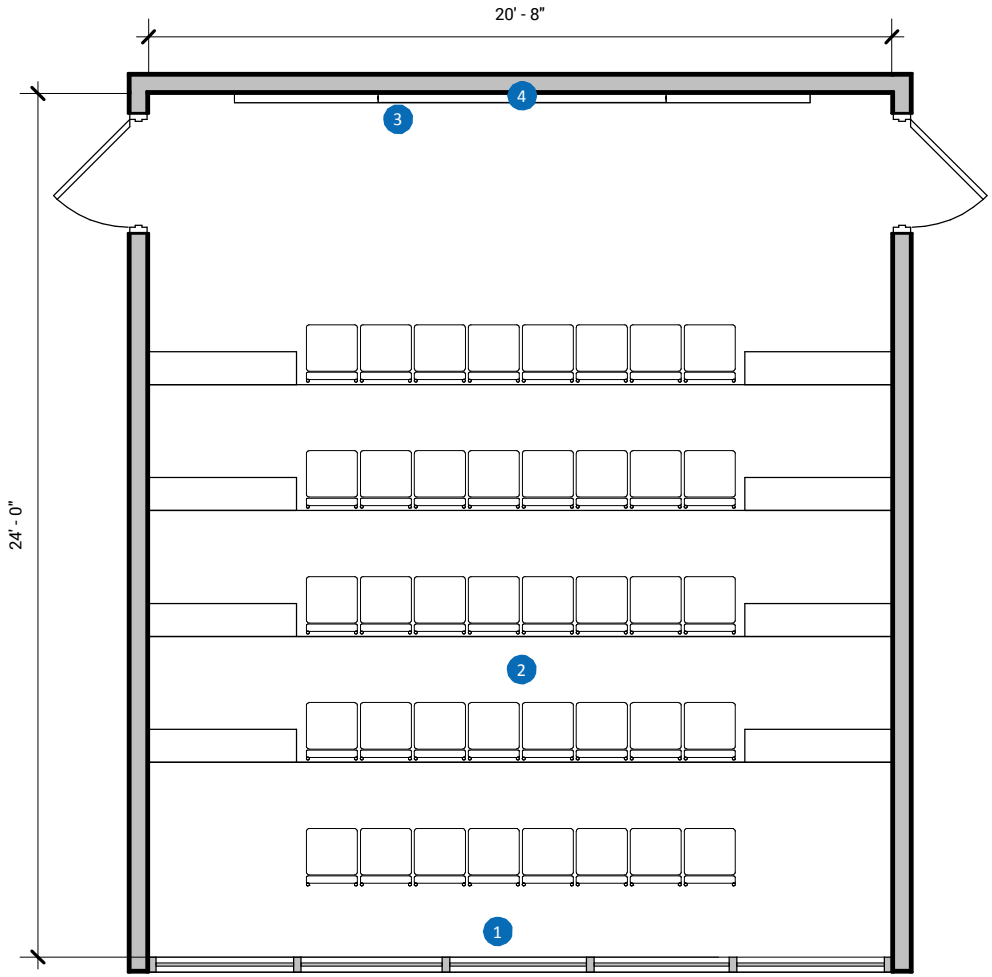
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment
  - **PHONE/DATA:** Wifi coverage
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

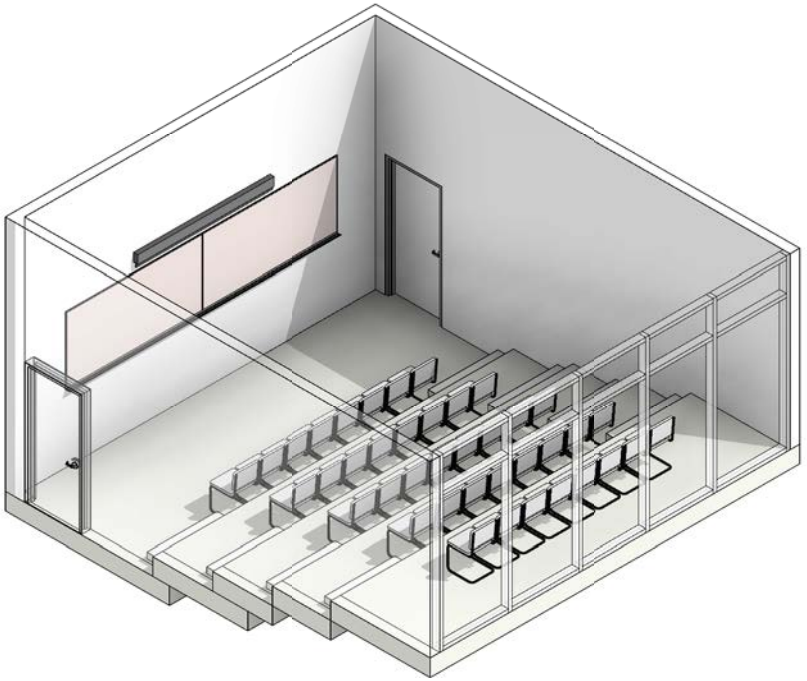
CASEWORK/FIXED EQUIPMENT (CFCI)

1 BLACK-OUT SHADES
2 TIERED SEATING
3 WHITE BOARD

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

4 PROJECTOR SCREEN





05

STUDENT LOUNGE + GAME ROOM | 700 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(8), 2 per floor
OCCUPANTS:	10-15
PRIMARY FUNCTION:	To provide space where students can hang out, play games and watch TV

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Point of interest with walls and carpet, durable finishes, inviting feel, large glass wall/window to interior hallway and natural light.
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**

FLOOR:	Hard surface (polished concrete on main level)
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	Wood accent wall
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	TBD
FRAME:	TBD
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Exterior: floor to ceiling storefront; Interior: to provide visual access to community
GLAZING:	Exterior: Insulated w/Low-E coating; Interior: clear, tempered
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None required

- **ELECTRICAL**

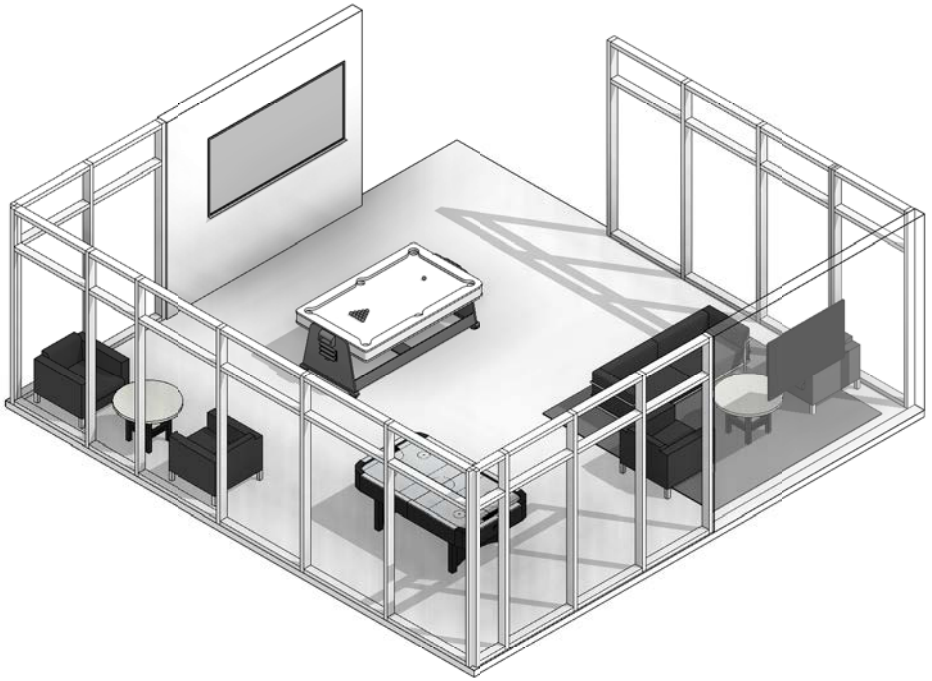
POWER:	Special outlets for equipment. Recharge-able jacks in outlets.
PHONE/DATA:	Wifi coverage, jacks to TV
AUDIO/VIDEO:	TV wiring and power, including campus cable TV
FIRE ALARM:	TBD

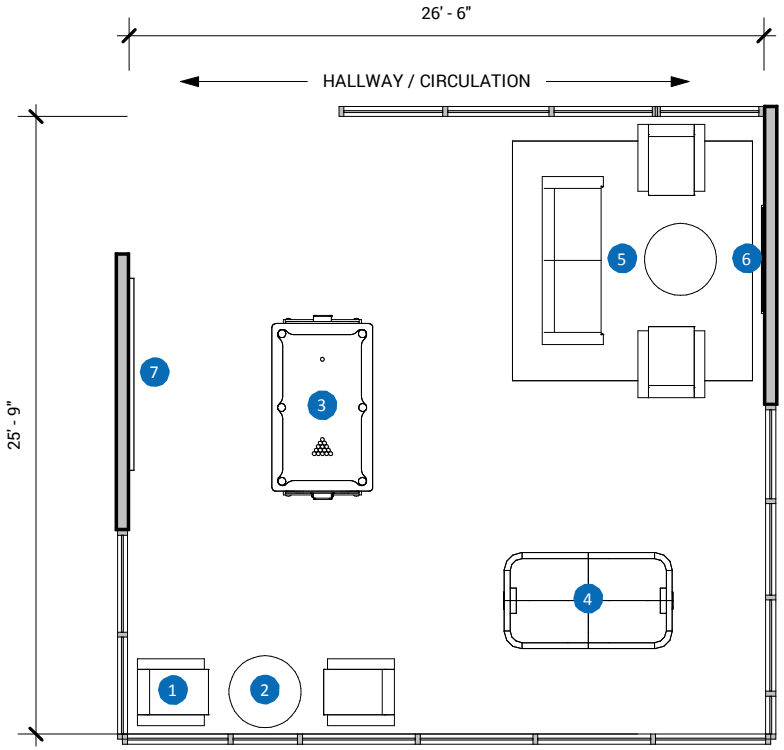
- **LIGHTING**

FOOT CANDLES:	30
FIXTURE TYPE:	LED indirect and ceiling surface mounted, vacancy off sensor
TASK LIGHTING:	None required
CONTROLS:	Relay control with wall station override, daylighting control

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 ARM CHAIR
2 COFFEE TABLE
3 POOL TABLE
4 AIR HOCKEY TABLE
5 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
6 WALL MOUNTED LCD TV W/ BACKING
7 BULLETIN BOARD





ACCESS TO NATURAL LIGHT

05

VENDING | 20 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(4), 1 per floor
OCCUPANTS:	N/A
PRIMARY FUNCTION:	Snacks and drinks

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, visual connection to community spaces, place of interest with walls and carpet
- **PRIVACY/SECURITY:** N/A

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**

FLOOR:	TBD
WALLS:	TBD
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	None required
FRAME:	None required
SPECIAL:	None required

- **WINDOWS**

TYPE:	None required
GLAZING:	None required
NATURAL LIGHT:	None required
FRAME:	None required
SPECIAL:	None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	None required
SPECIAL SYSTEMS:	None required
PLUMBING:	None required

- **ELECTRICAL**

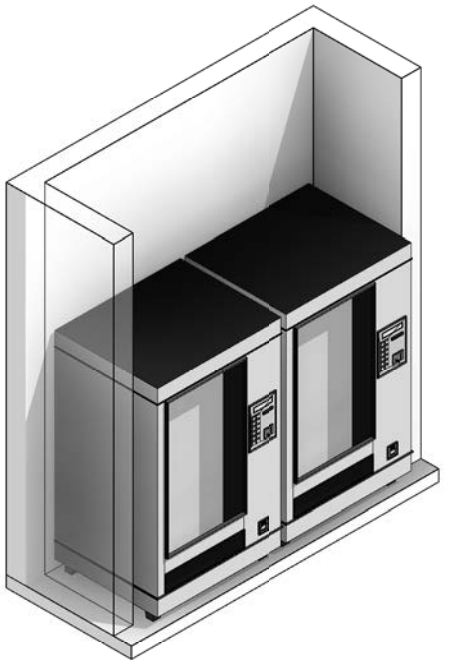
POWER:	Special outlets for equipment
PHONE/DATA:	None required
AUDIO/VIDEO:	None required
FIRE ALARM:	TBD

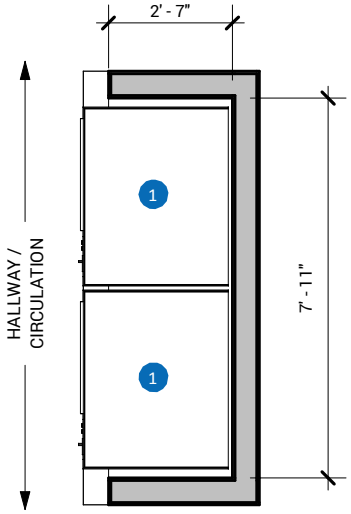
- **LIGHTING**

FOOT CANDLES:	30
FIXTURE TYPE:	LED
TASK LIGHTING:	None required
CONTROLS:	Relay control with wall station override, daylighting control

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 VENDING MACHINE





PRINT STATION | 45 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** (4), 1 per floor
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Printing
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

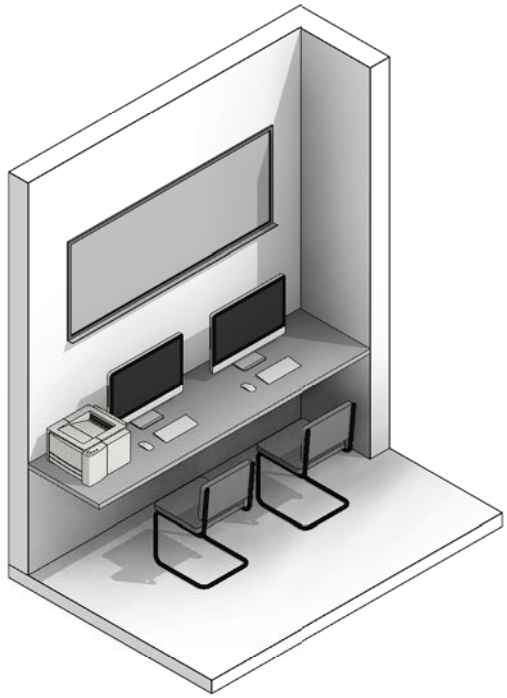
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** None required
  - **SPECIAL SYSTEMS:** None required
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Relay control with wall station override, daylighting control

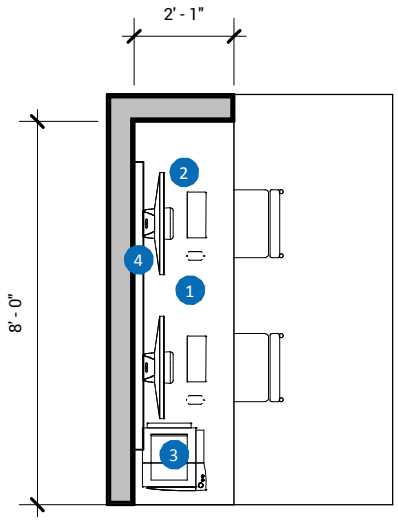
CASEWORK/FIXED EQUIPMENT (CFCI)

1 COUNTER TOP

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER
3 PRINT STATION
4 BULLETIN BOARD





05

PREP KITCHEN | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Public Amenities
  TOTAL NUMBER: 1
  OCCUPANTS: N/A
  PRIMARY FUNCTION: To provide a kitchen space for catering events or student social use adjacent to the multi-purpose room
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: Multi-purpose room
  SEPARATION: TBD
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Keyed (digital card or key) access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: Polished concrete
  WALLS: TBD
  CEILING: TBD
  SPECIALTY FINISHES: Quartz counter top, laminate cabinets
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Bi-fold ?
  FRAME: TBD
  SPECIAL: TBD
- **WINDOWS**
  TYPE: TBD
  GLAZING: TBD
  NATURAL LIGHT: TBD
  FRAME: TBD
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

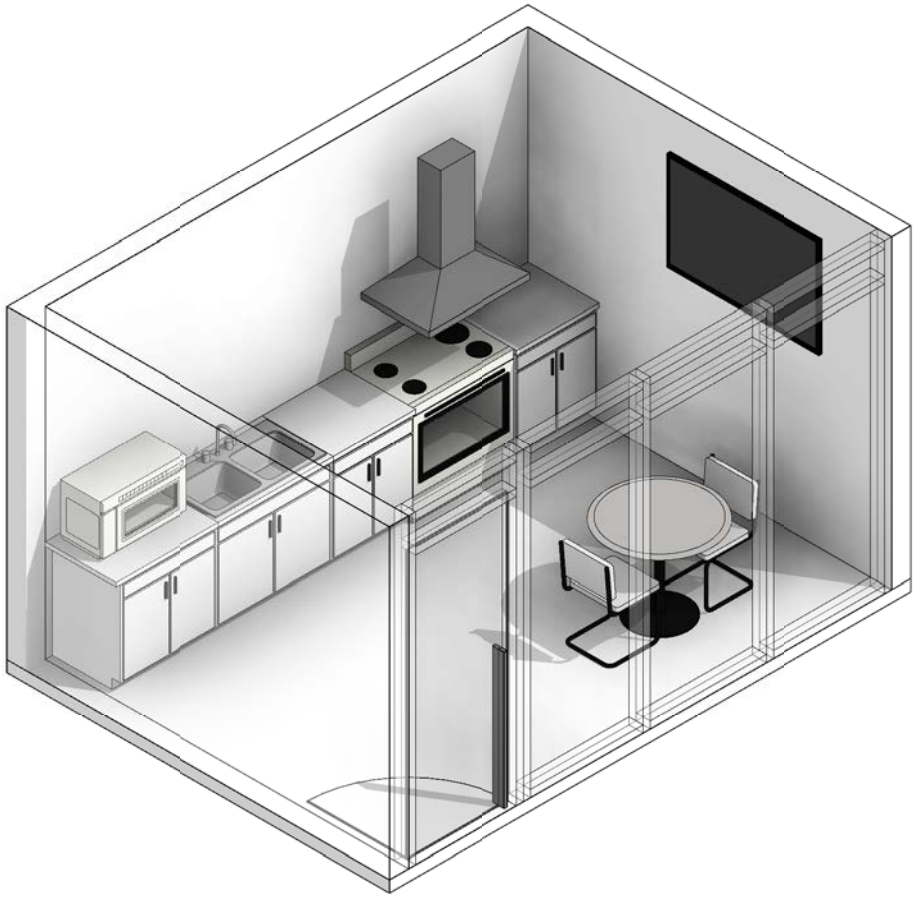
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: Two compartment, stainless steel sink with disposal
- **ELECTRICAL**
  POWER: Special outlets for equipment
  PHONE/DATA: TBD
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 30
  FIXTURE TYPE: LED
  TASK LIGHTING: None required
  CONTROLS: Vacancy sensor with wall station override

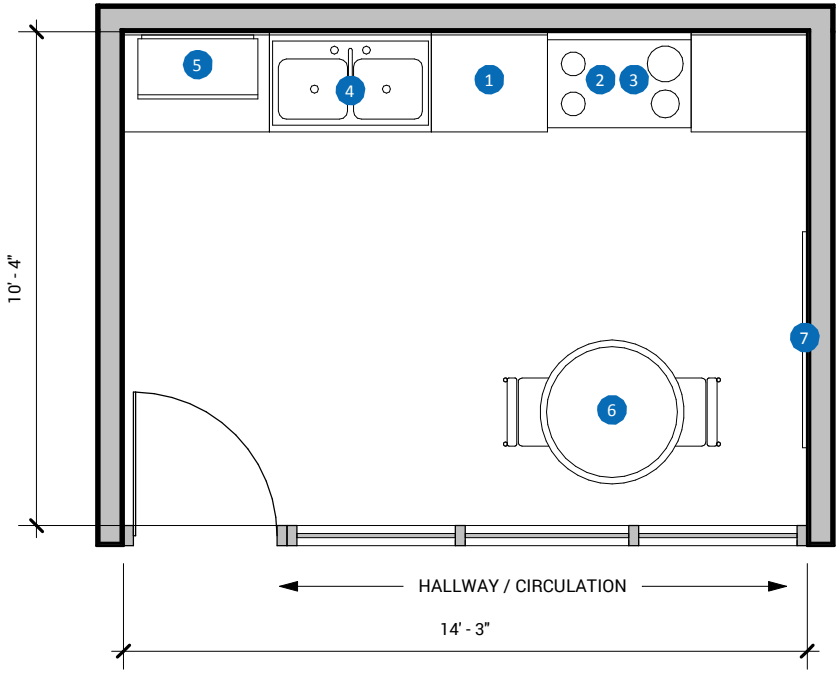
CASEWORK/FIXED EQUIPMENT (CFCI)

1 COUNTERTOP & STORAGE CABINETS
2 RESIDENTIAL GRADE CERAMIC TOP ELECTRIC RANGE & HOOD
3 RESIDENTIAL GRADE OVEN
4 DOUBLE SINK

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 MICROWAVE
6 TABLE & CHAIRS
7 WALL MOUNTED LCD TV W/ BACKING





05

COMMON KITCHEN | 350 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Resident kitchen
  TOTAL NUMBER: (8), 2 per floor
  OCCUPANTS: N/A
  PRIMARY FUNCTION: To provide a kitchen/ cooking space for resident students
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: Multi-purpose room
  SEPARATION: TBD
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel
- **PRIVACY/SECURITY:** Keyed (digital card or key) access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: Hard surface
  WALLS: Painted, impact-resistant gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: Quartz counter top, wood accent wall, laminate cabinets
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: TBD
  GLAZING: TBD
  NATURAL LIGHT: TBD
  FRAME: TBD
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

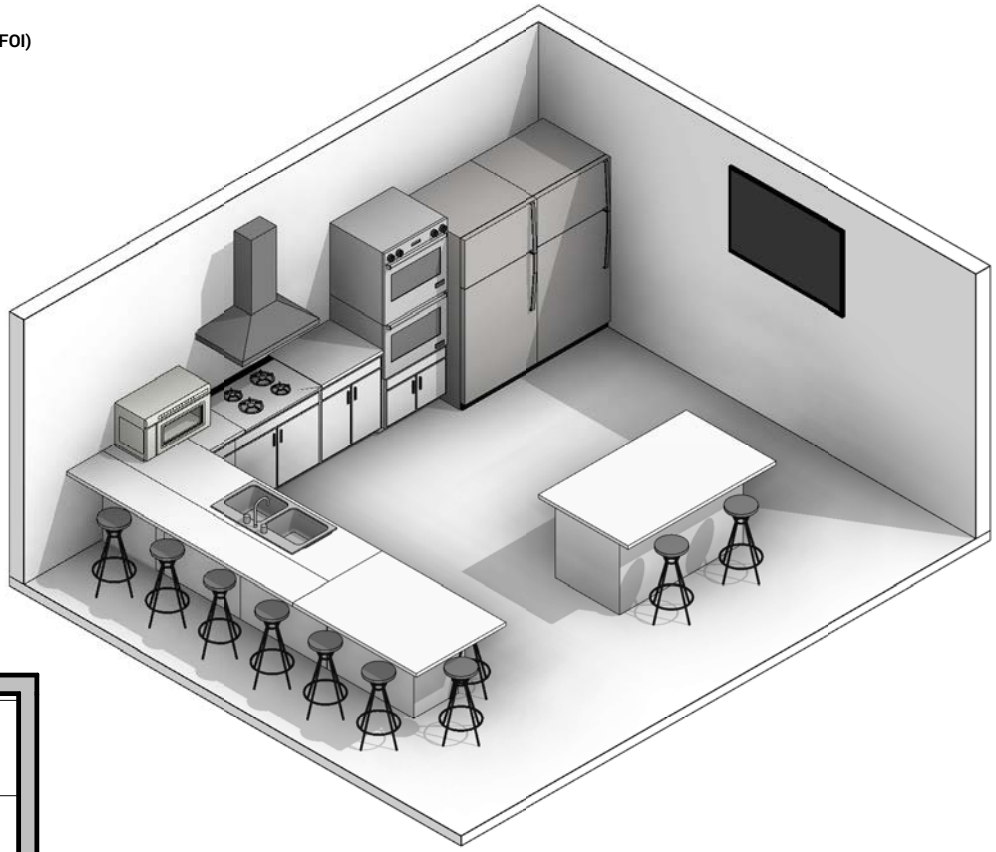
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: (1) two compartment, stainless steel sink with disposal, swing type goose neck kitchen faucet, water line to each fridge for ice maker, dishwasher supply/drain
- **ELECTRICAL**
  POWER: (1) duplex outlet per open wall and at fridge; duplex outlets above counters at 4'-0" o.c. on dedicated circuits; 220v outlet at oven; (1) duplex outlet per two stools at island/ peninsula, horizontally mounted on a vertical face (counter top design to include vertical extrusion)
  PHONE/DATA: Wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 30
  FIXTURE TYPE: LED
  TASK LIGHTING: Over island/peninsula
  CONTROLS: Vacancy sensor with wall station override

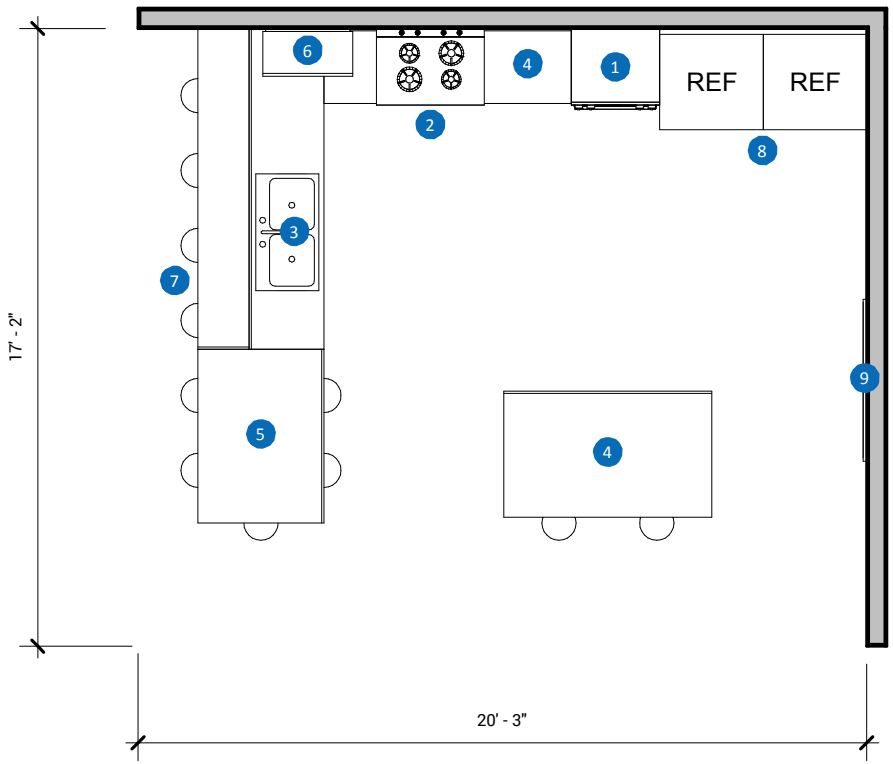
CASEWORK/FIXED EQUIPMENT (CFCI)

1 RESIDENTIAL GRADE DOUBLE OVEN
2 RESIDENTIAL GRADE CERAMIC TOP ELECTRIC RANGE & HOOD
3 DOUBLE SINK
4 COUNTERTOP & STORAGE CABINETS
5 COUNTER TOP

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

6 MICROWAVE
7 STOOLS
8 FULL SIZE FRIDGE & FREEZER
9 WALL MOUNTED LCD TV W/ BACKING





COMMON LOUNGE + LIVING ROOM | 300 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(12), 3 per floor
OCCUPANTS:	Varies
PRIMARY FUNCTION:	To provide lounge and community space

- **RELATIONSHIPS**

LOCATION:	Dispersed throughout
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** TBD

- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	Hard surface (polished concrete on main level)
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	TBD
FRAME:	TBD
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Exterior: floor to ceiling storefront
GLAZING:	Exterior: Insulated w/Low-E coating
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None required

- **ELECTRICAL**

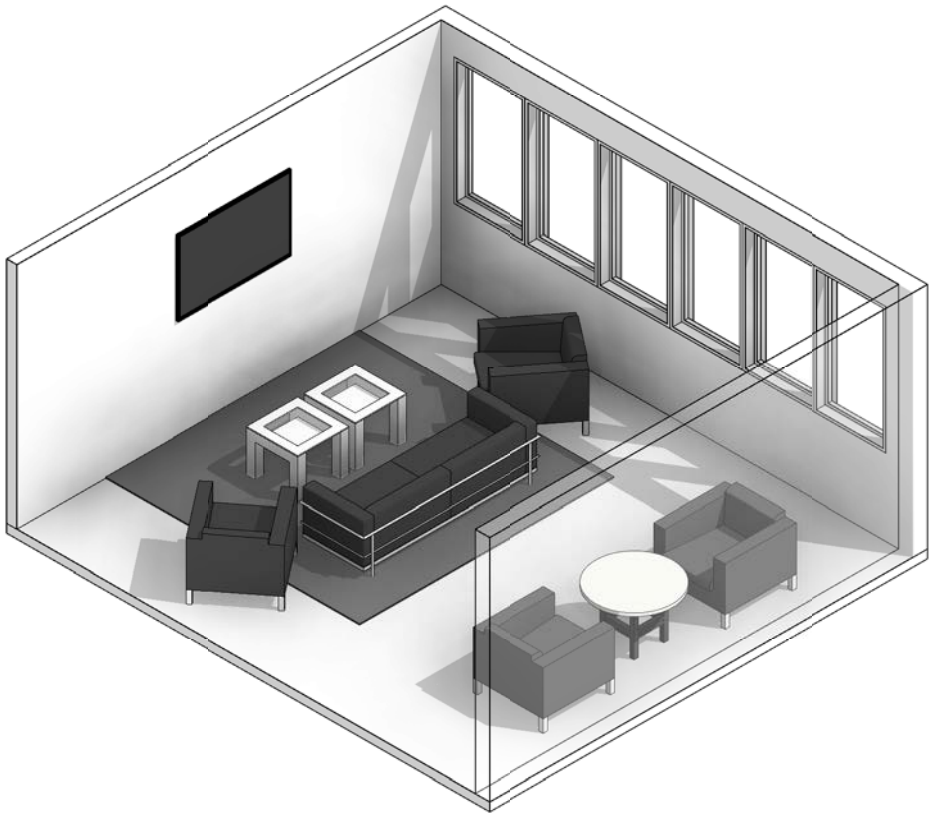
POWER:	Special outlets for equipment. Rechargeable jacks in outlets.
PHONE/DATA:	Wifi coverage, jacks to TV
AUDIO/VIDEO:	TV wiring and power, including campus cable TV
FIRE ALARM:	TBD

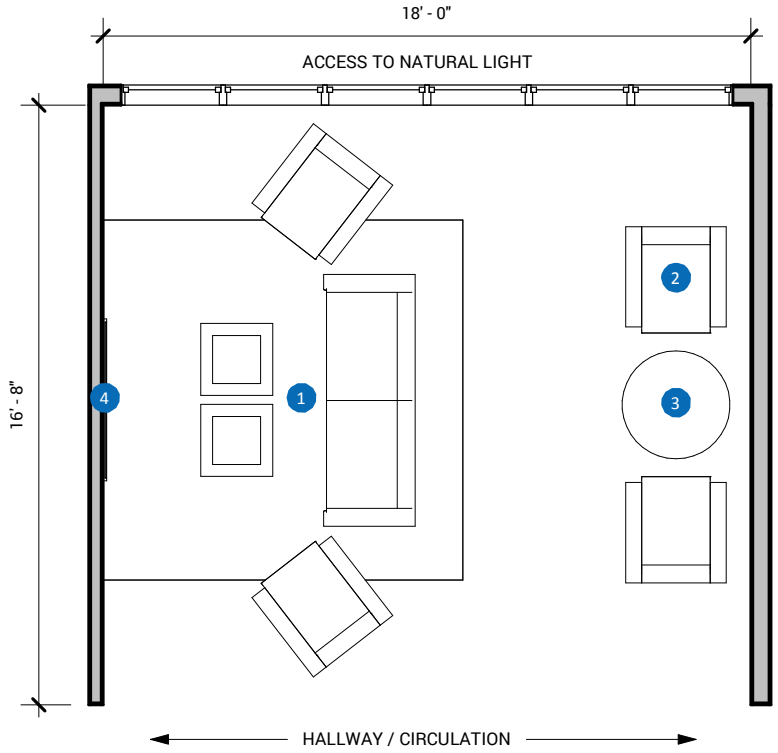
- **LIGHTING**

FOOT CANDLES:	10-40, variable
FIXTURE TYPE:	LED indirect and ceiling surface mounted, vacancy off sensor
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
2 ARM CHAIR
3 COFFEE TABLE
4 WALL MOUNTED LCD TV W/ BACKING





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MULTI-PURPOSE ROOM | 800 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	1
OCCUPANTS:	Varies, up to 50
PRIMARY FUNCTION:	To provide a large meeting room for education, professional, and social gatherings

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	Near prep kitchen
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, point of interest with walls

- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 10'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Exterior: floor to ceiling storefront
GLAZING:	Exterior: Insulated w/Low-E coating
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None required

- **ELECTRICAL**

POWER:	Duplex outlets at 12'-0" o.c. outlets for AV equipment. Rechargeable jack in outlets.
PHONE/DATA:	(1) network outlet each wall, (1) network outlet at ceiling, wireless
AUDIO/VIDEO:	Ceiling mounted projector, speakers, network for projector
FIRE ALARM:	Required

- **LIGHTING**

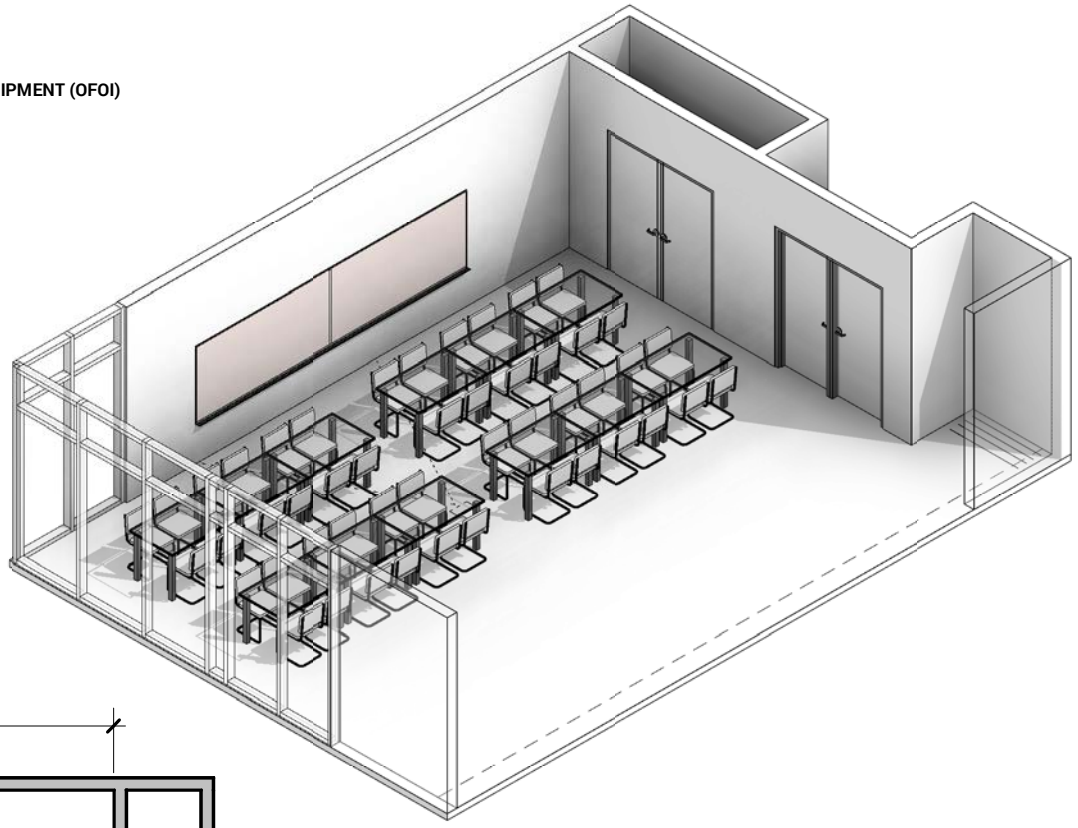
FOOT CANDLES:	10-40, variable
FIXTURE TYPE:	LED indirect and ceiling surface mounted, vacancy off switching
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override, emergency exit lighting

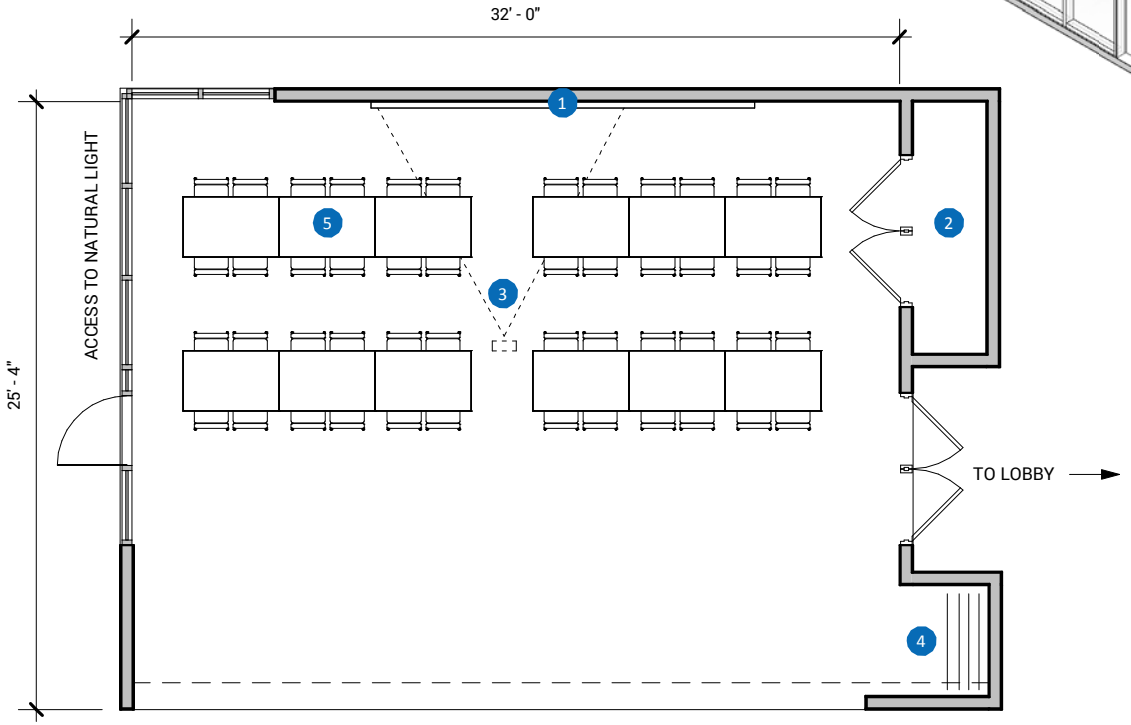
CASEWORK/FIXED EQUIPMENT (CFCI)

1 WHITE BOARD
2 TABLE & CHAIR STORAGE
3 CEILING MOUNTED PROJECTOR & SPEAKERS
4 OPTIONAL BI-FOLDING OPERABLE WALL

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 TABLE & CHAIRS





CRAFT SPACE | 250 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Public Amenities
  TOTAL NUMBER: 1
  OCCUPANTS: Varies
  PRIMARY FUNCTION: To provide a space for students to craft
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: TBD.
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, natural light, large window to exterior views, glass wall/window to interior hallway
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Exterior: floor to ceiling storefront; Interior: to provide visual access to community
  GLAZING: Exterior: Insulated w/Low-E coating; Interior: clear, tempered
  NATURAL LIGHT: Required
  FRAME: Aluminum Storefront
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

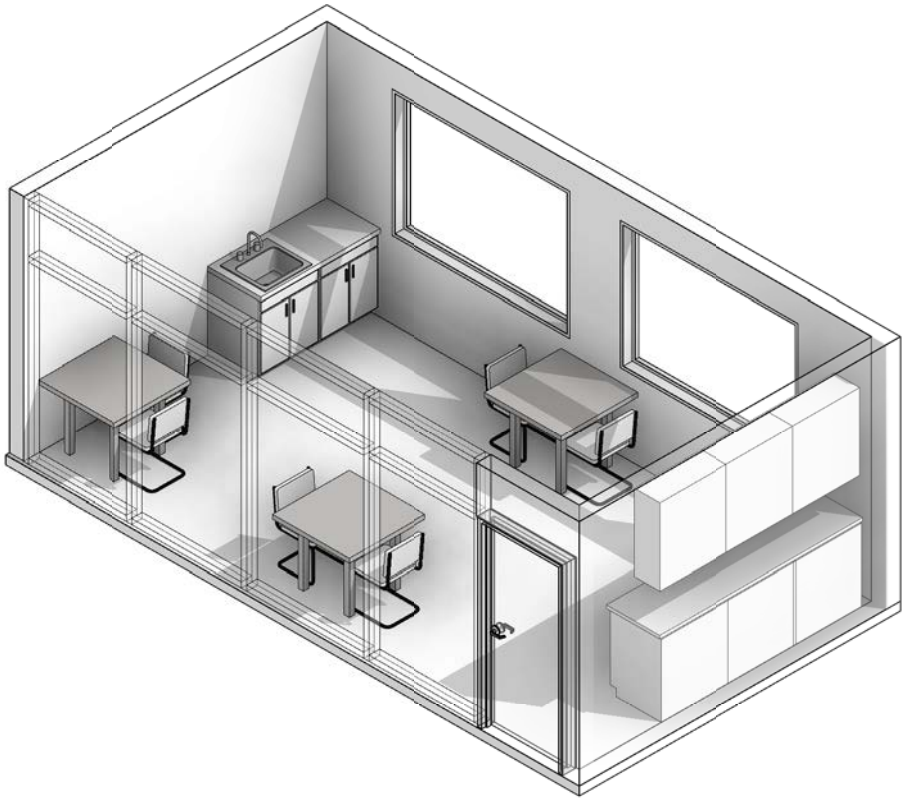
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: Sink
- **ELECTRICAL**
  POWER: Every 4' at perimeter
  PHONE/DATA: Wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: None required
  CONTROLS: Vacancy sensor with wall station override

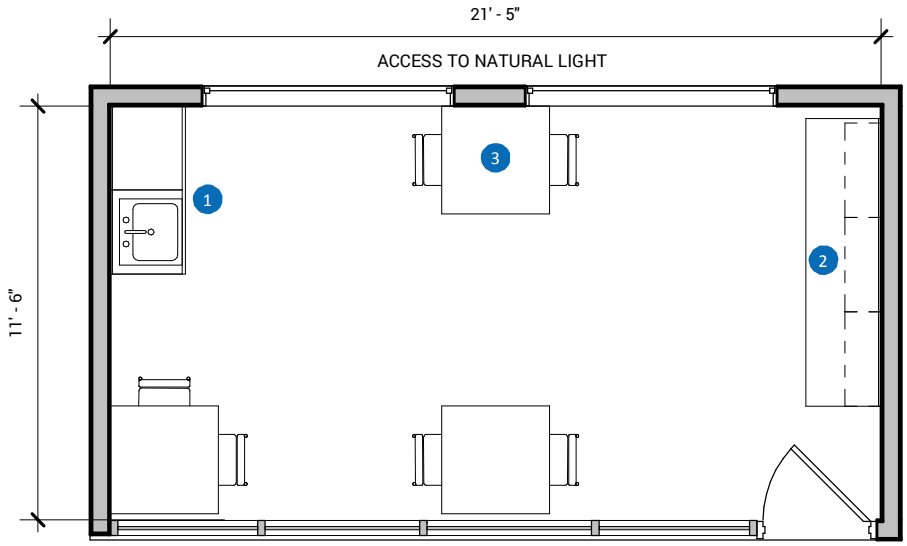
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 COUNTERTOP & STORAGE CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 TABLE & CHAIRS





05

CLASSROOM | 300 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	1
OCCUPANTS:	Varies
PRIMARY FUNCTION:	To provide a space for small classes and study sessions to be held

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD.
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, glass wall/window to interior hallway

- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Interior: to provide visual access to community
GLAZING:	Interior: clear, tempered
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None Required

- **ELECTRICAL**

POWER:	(1) duplex outlet @ 12'-0" o.c. around perimeter outlets
PHONE/DATA:	Wireless access
AUDIO/VIDEO:	TBD
FIRE ALARM:	Required

- **LIGHTING**

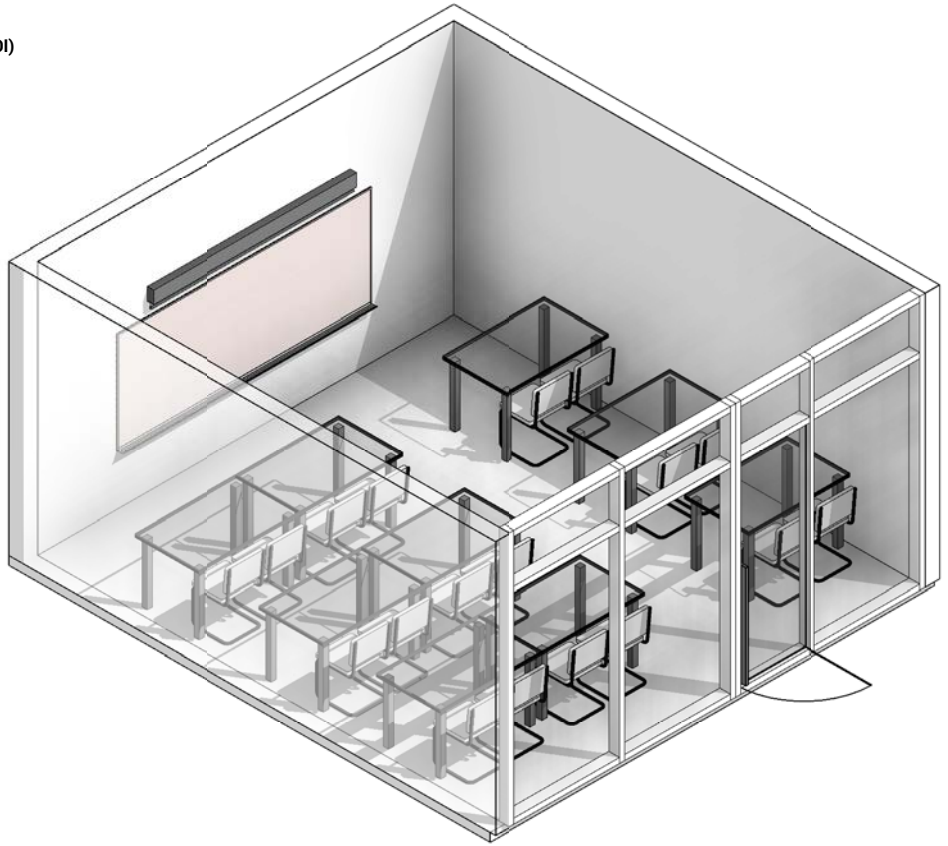
FOOT CANDLES:	40
FIXTURE TYPE:	LED surface mounted, vacancy off switch
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

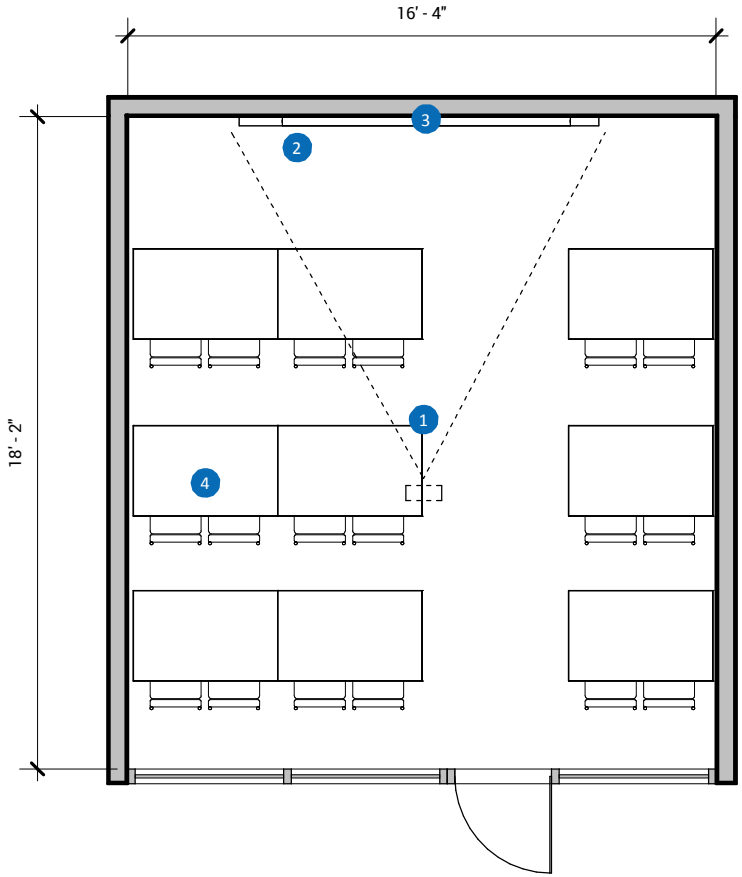
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CEILING MOUNTED PROJECTOR & SPEAKERS
2 WHITE BOARD
3 PROJECTOR SCREEN

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

4 TABLE & CHAIRS





05

STUDY ROOM | 120 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(8), min 2 per floor
OCCUPANTS:	Varies, 2-6
PRIMARY FUNCTION:	To provide a private and quiet room for studying

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD.
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, glass wall/window to interior hallway

- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Interior: to provide visual access to community
GLAZING:	Interior: clear, tempered
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None Required

- **ELECTRICAL**

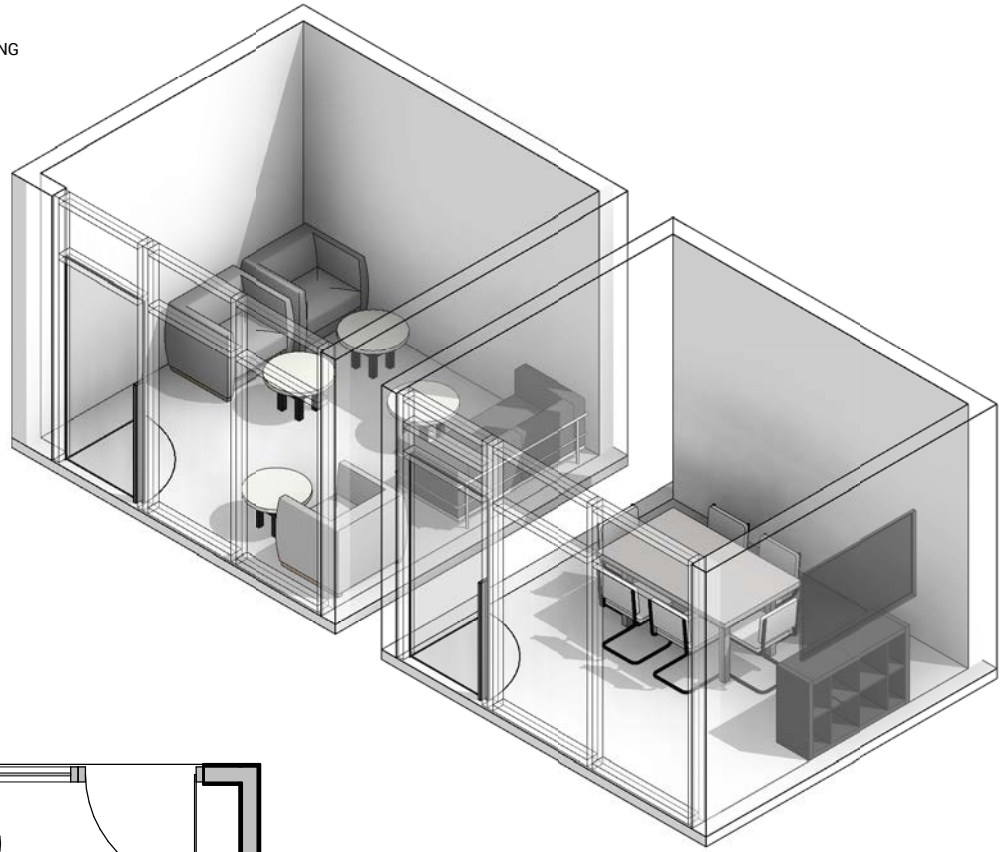
POWER:	(1) duplex outlet @ 12'-0" o.c. around perimeter outlets
PHONE/DATA:	Wireless access
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

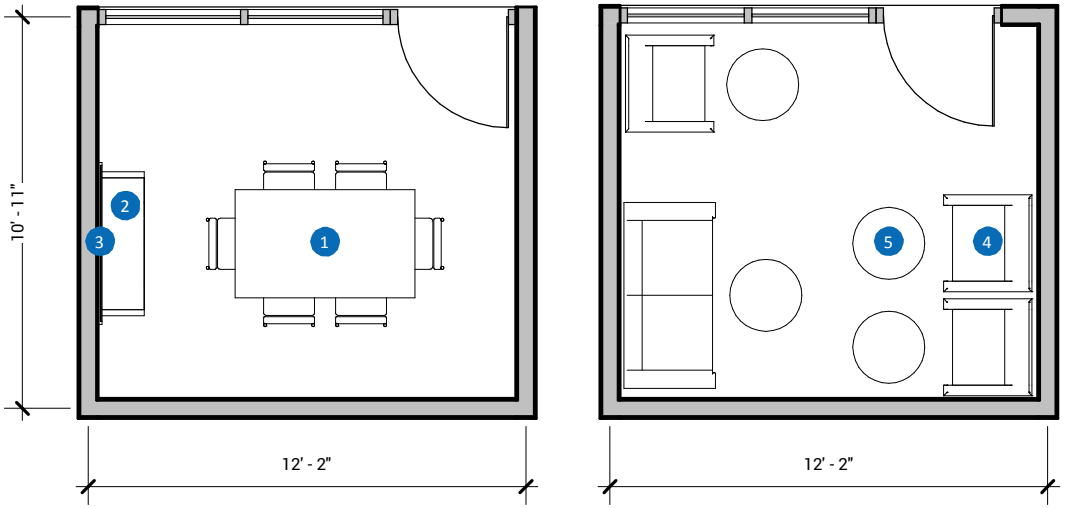
- **LIGHTING**

FOOT CANDLES:	40
FIXTURE TYPE:	LED surface mounted, vacancy off switch
TASK LIGHTING:	TBD
CONTROLS:	Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 TABLE & CHAIRS
2 MEDIA CENTER
3 WALL MOUNTED LCD TV W/ BACKING
4 ARM CHAIR
5 END TABLE





05

STORAGE | 400 SQ FT

SPACE REQUIREMENTS

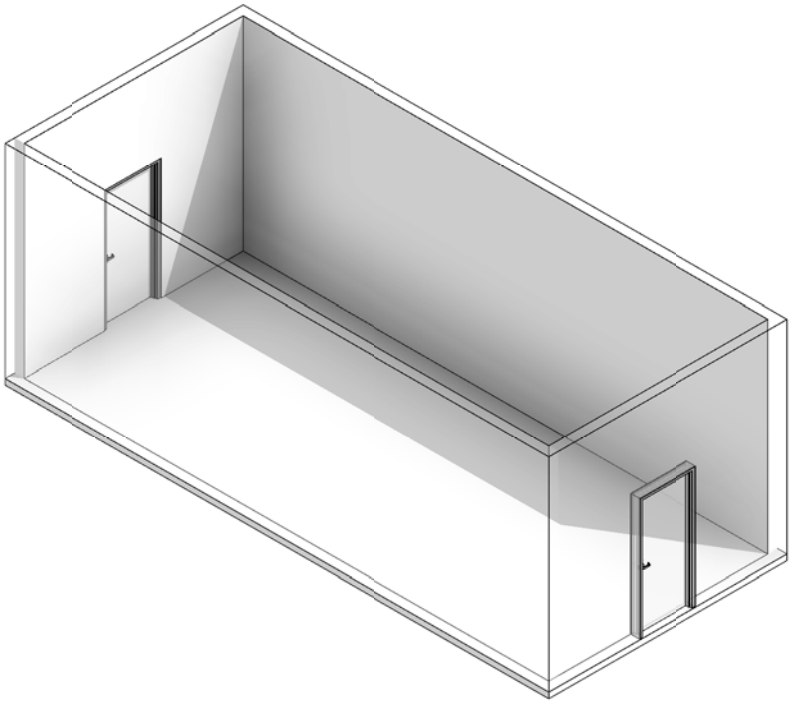
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

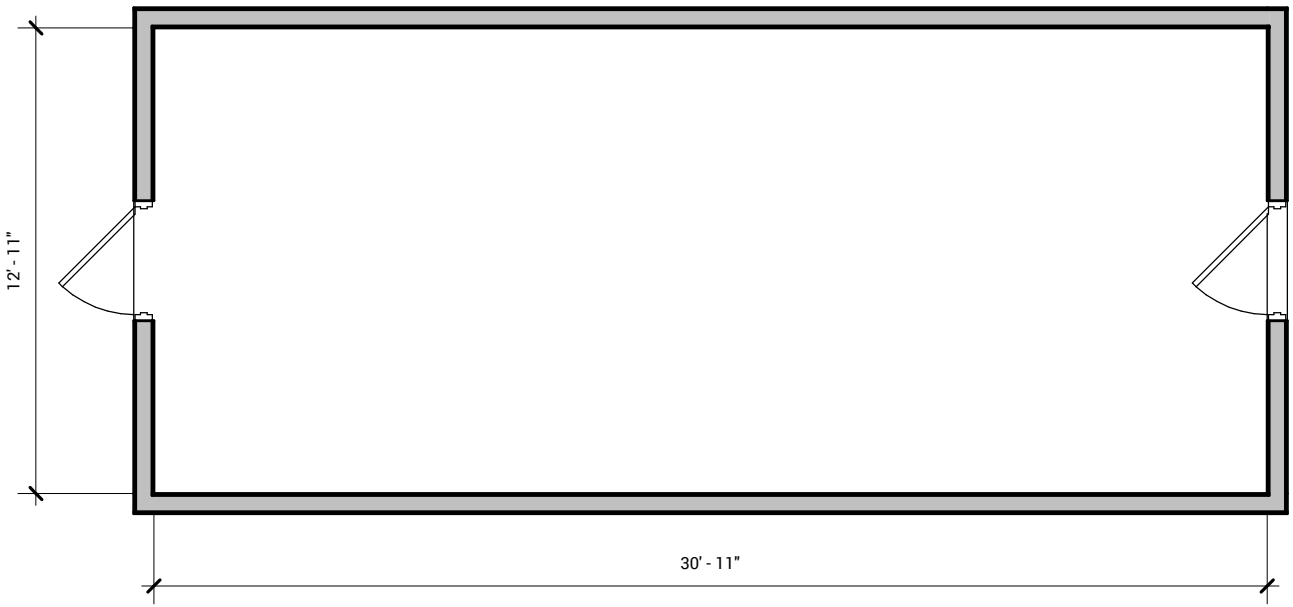
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Relay control with wall station override




12' - 11"
30' - 11"

05

REST ROOM | 60 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	2
OCCUPANTS:	1
PRIMARY FUNCTION:	To provide toilet facilities

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes

- **PRIVACY/SECURITY:** Provide privacy lock on bathroom door

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	TBD
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	None required
GLAZING:	None required
NATURAL LIGHT:	None required
FRAME:	None required
SPECIAL:	None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Zoned within suite
SPECIAL SYSTEMS:	TBD
PLUMBING:	(1) ADA toilet and (1) ADA sink

- **ELECTRICAL**

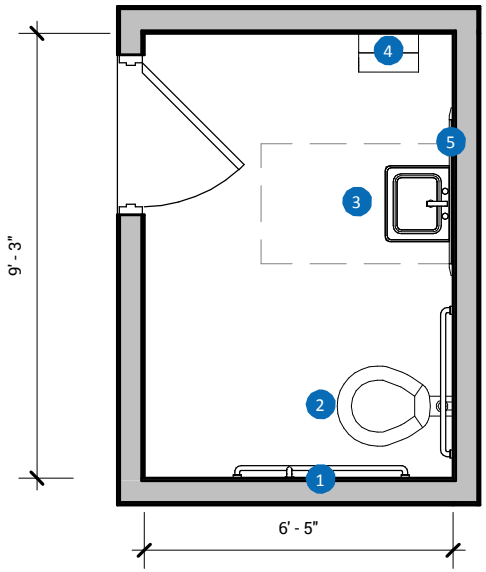
POWER:	(1) duplex outlet
PHONE/DATA:	None required
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

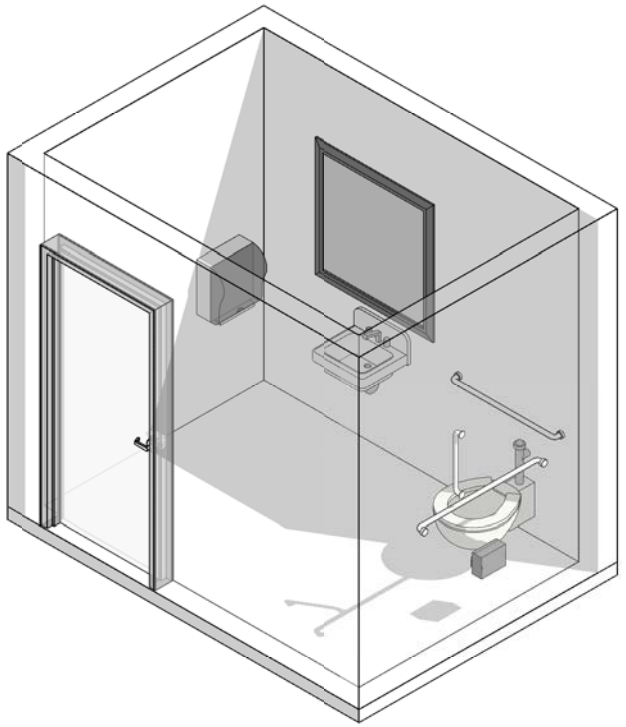
- **LIGHTING**

FOOT CANDLES:	40 ambient
FIXTURE TYPE:	(1) LED wall mount, (1) ceiling mount
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 TOILET PAPER HOLDER
2 PUBLIC ADA TOILET W/ GRAB BARS
3 ADA HAND SINK
4 PAPER TOWEL DISPENSER
5 MIRROR





05

RECEPTION | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administration
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 2
  - **PRIMARY FUNCTION:** To be the first point of contact to assist residents and building visitors as well as to perform office tasks
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** Near entry, workroom, mailroom?
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

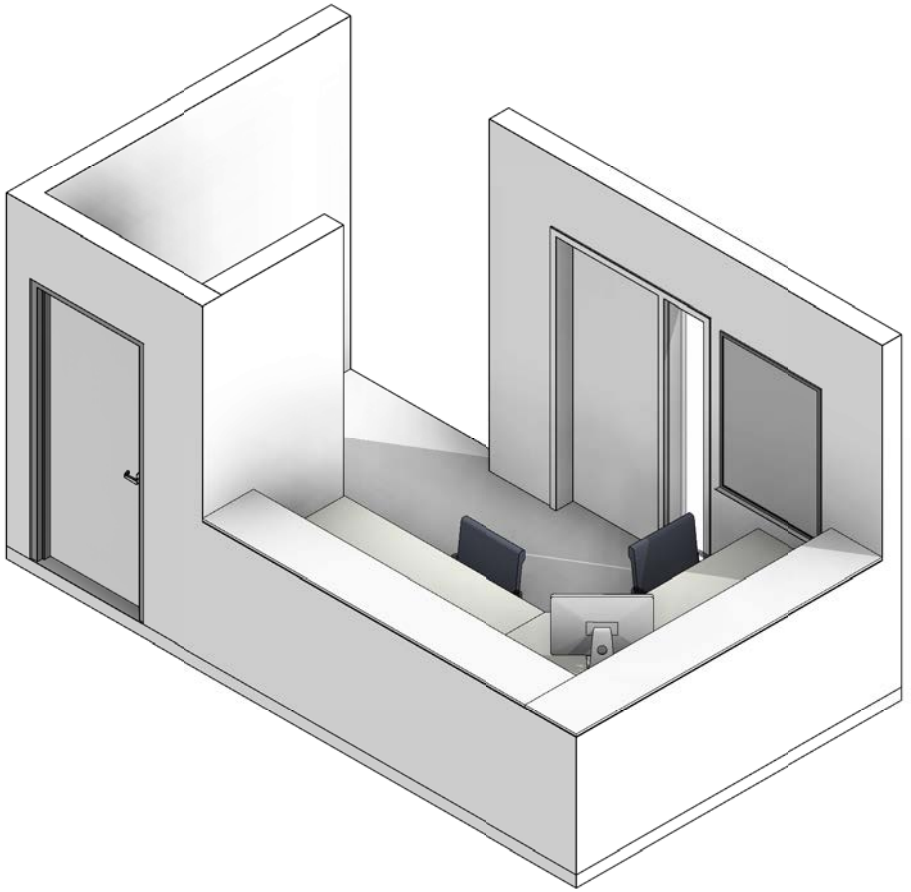
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** Duplex outlets at 12'-0" o.c., above counter duplex outlets near equip. locations (2) for each workstation
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** At desks
  - **CONTROLS:** Vacancy sensor with wall station override

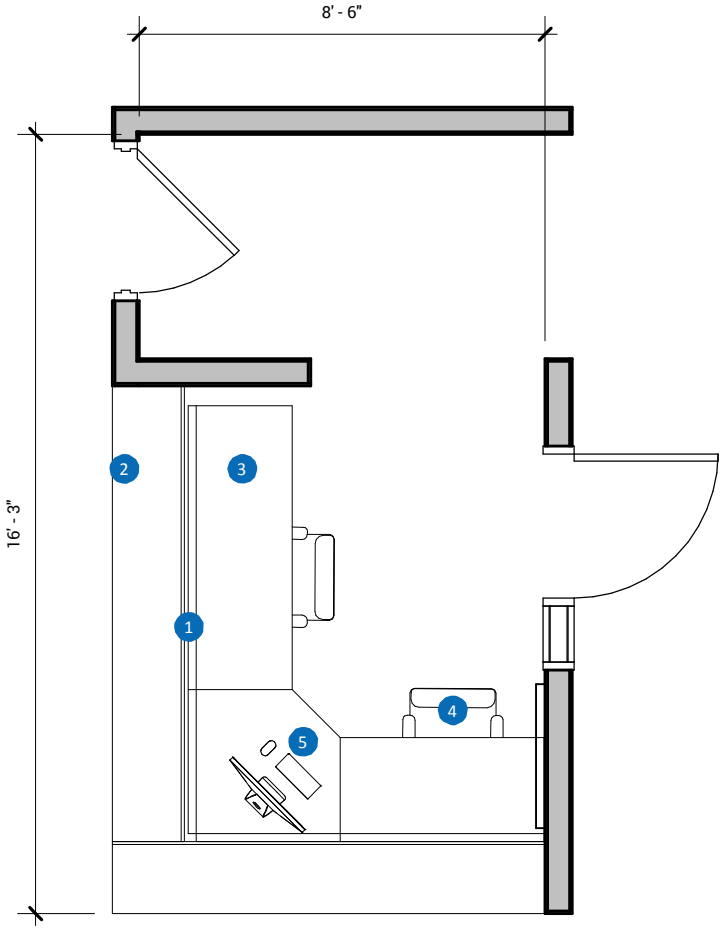
CASEWORK/FIXED EQUIPMENT (CFCI)

1 HIGH & LOW COUNTER
2 OVERHEAD SOLID SECURITY GATE

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 UNDER-COUNTER PRINTER
4 CHAIRS
5 COMPUTER





05

STAFF OFFICE | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administration
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-3
  - **PRIMARY FUNCTION:** To provide office space for the staff to perform admin responsibilities
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Receptionist
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** Card / key access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** w/ sidelight window
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

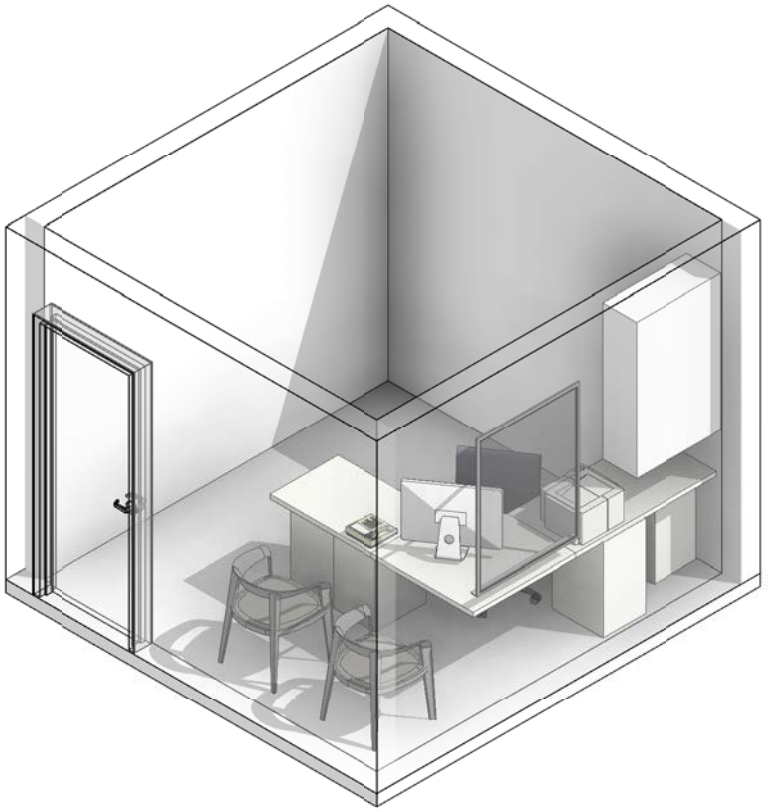
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  - **PHONE/DATA:** (1) telephone jack, (1) network outlet, wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** At desks
  - **CONTROLS:** Vacancy sensor with wall station override

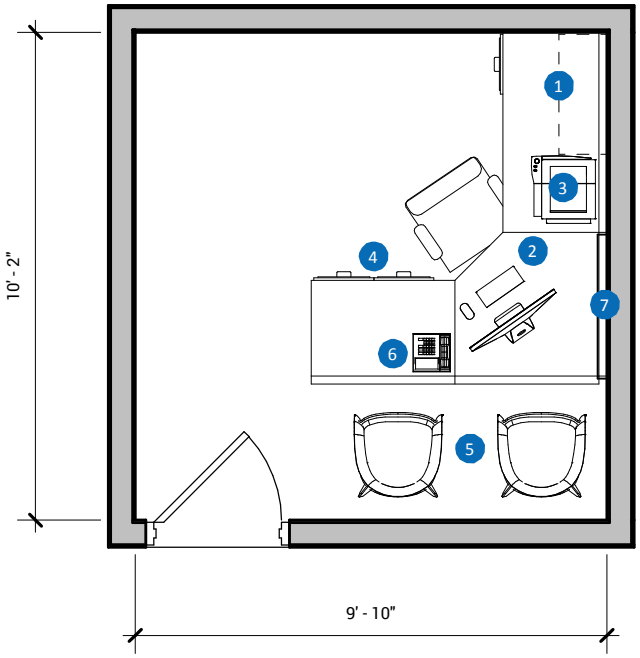
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CABINET/SHELVING

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER DESK
3 PRINT STATION
4 FILE CABINET
5 CHAIRS
6 PHONE
7 BULLETIN BOARD





05

CAMPUS SAFETY OFFICE | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administration
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-3
  - **PRIMARY FUNCTION:** To provide office space for the staff to perform admin responsibilities
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Receptionist
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** Card / key access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** w/ sidelight window
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

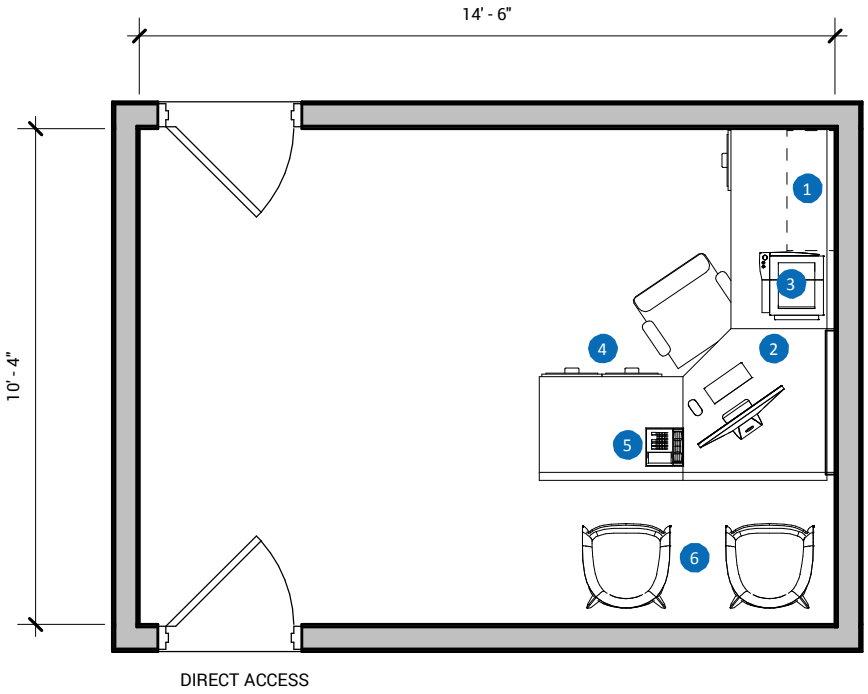
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  - **PHONE/DATA:** (1) telephone jack, (1) network outlet, wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** At desks
  - **CONTROLS:** Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 CABINET/SHELVING

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER DESK
3 PRINT STATION
4 FILE CABINET
5 PHONE
6 CHAIRS



ADMIN STORAGE | 200 SQ FT

SPACE REQUIREMENTS

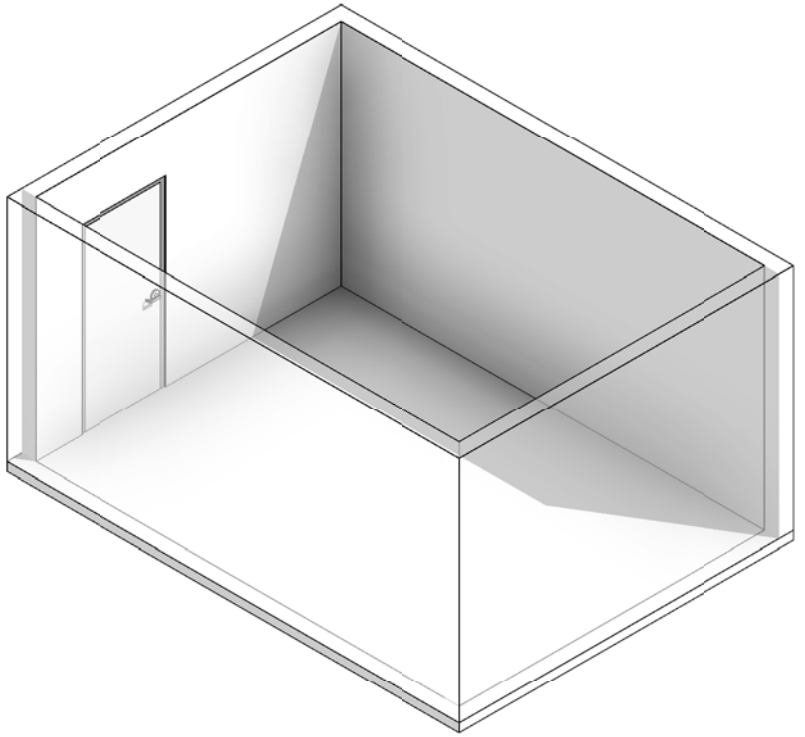
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administrative storage
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

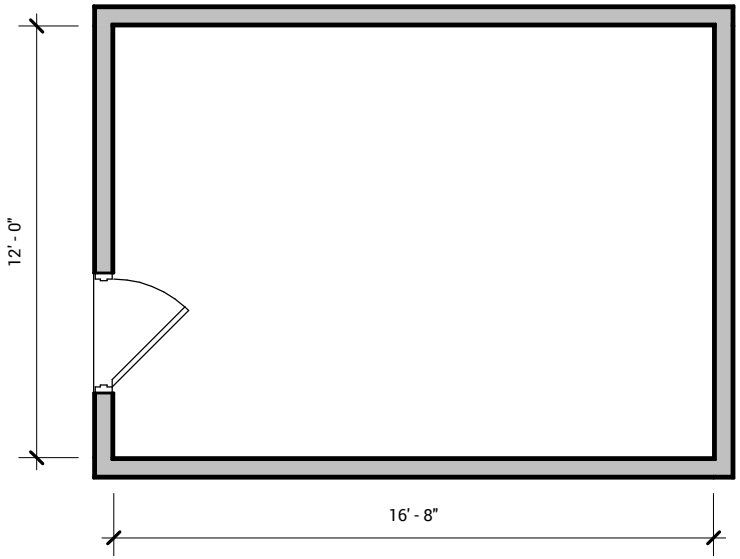
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override




12' - 0"
16' - 8"

05

MAILROOM | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Administration
  TOTAL NUMBER: 1
  OCCUPANTS: 1-3
  PRIMARY FUNCTION: To sort and process mail. Provide an area to work on bulk paperwork. Allow some area for storage.
- **RELATIONSHIPS**
  LOCATION: First floor
  ADJACENCIES: Near entry, reception counter
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

ARCHITECTURAL REQUIREMENTS

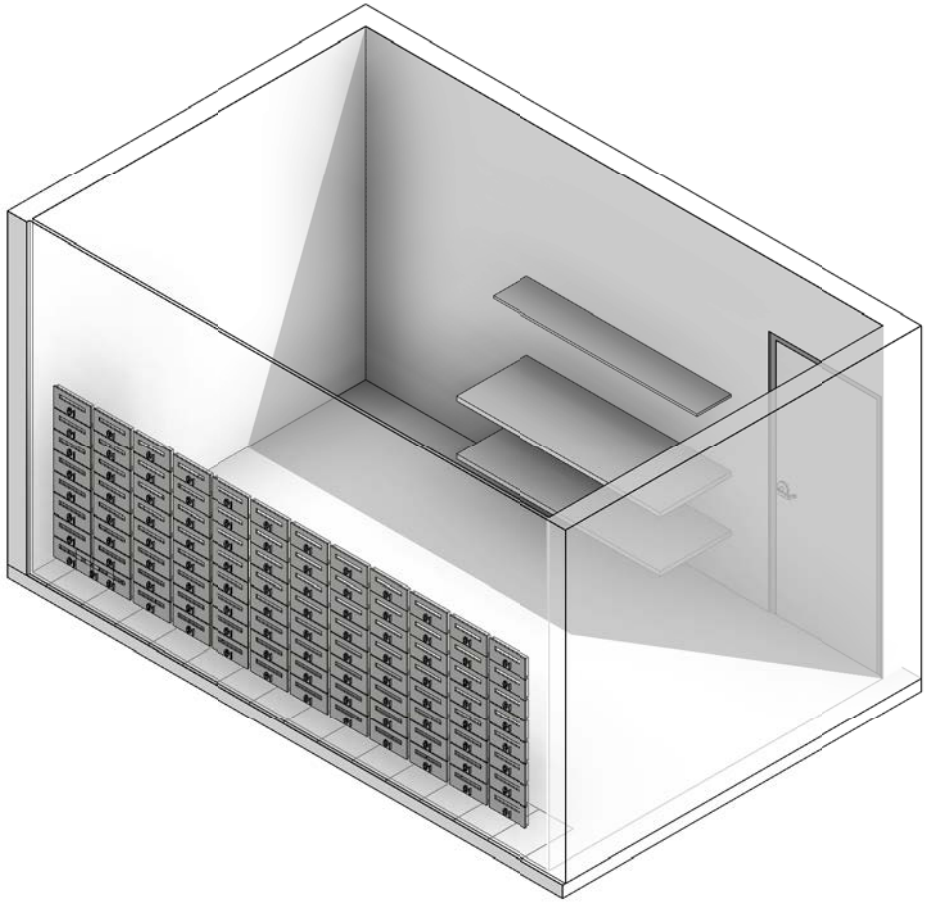
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Not required
  GLAZING: Not required
  NATURAL LIGHT: Not required
  FRAME: Not required
  SPECIAL: TBD

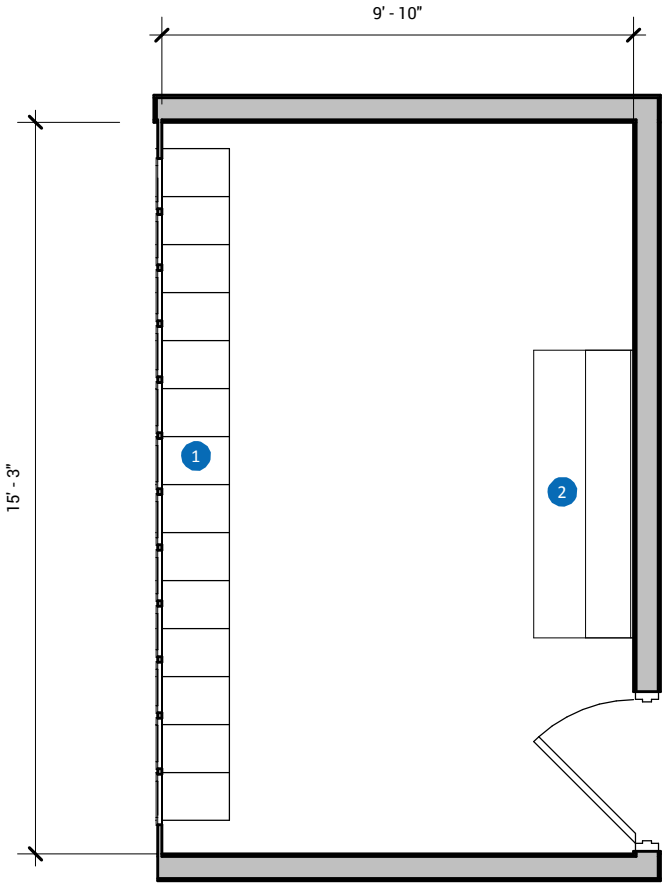
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: None Required
- **ELECTRICAL**
  POWER: Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  PHONE/DATA: (1) telephone jack, (1) network outlet, wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: TBD
  CONTROLS: Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 BUILT-IN MAILBOXES
2 COUNTER & SHELVES





ELECTRICAL COMMUNICATION SUPPORT ROOM | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 8
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Electrical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

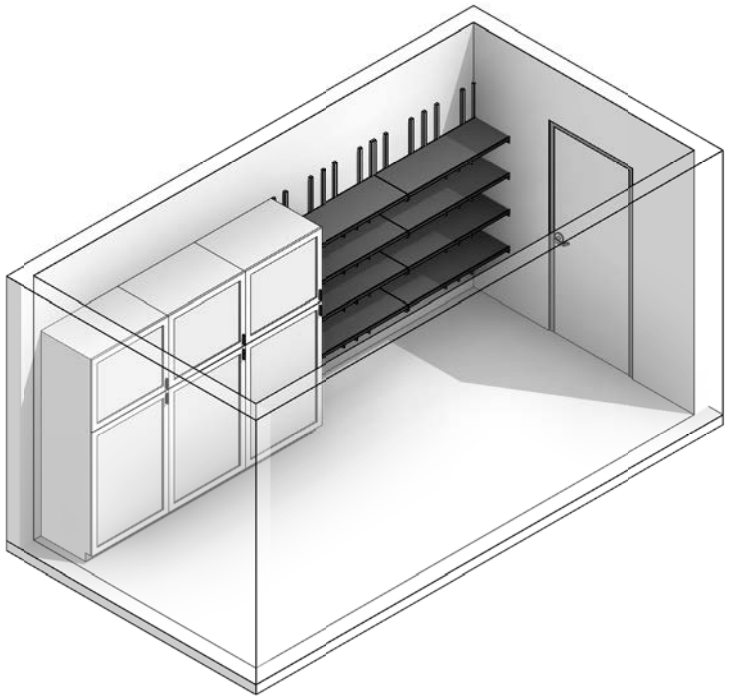
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override

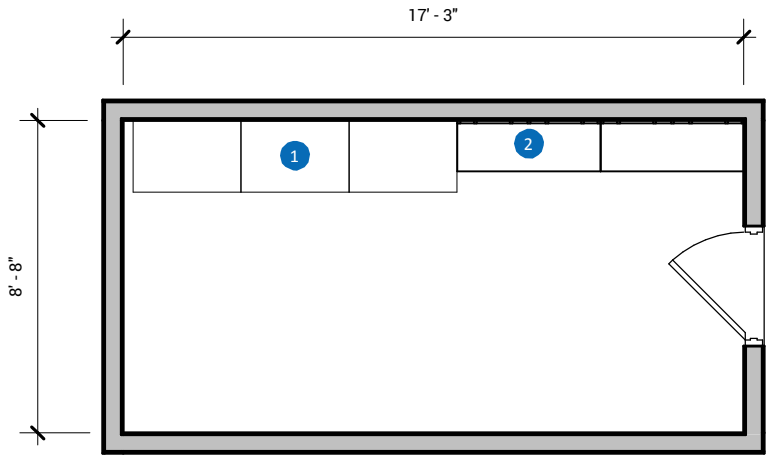
CASEWORK/FIXED EQUIPMENT (CFCI)

1 I.T. CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 WALL MOUNTED ADJUSTABLE SHELVING





MECHANICAL SUPPORT ROOM | 350 SQ FT

SPACE REQUIREMENTS

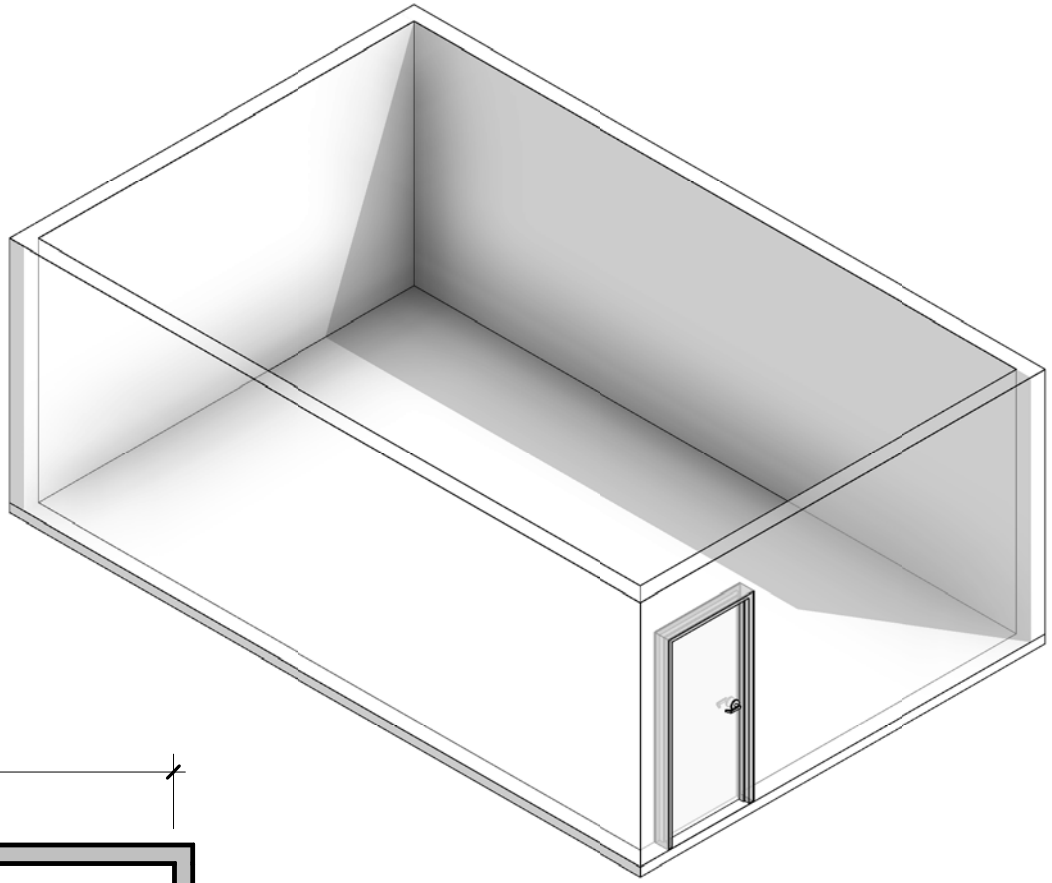
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 4
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Mechanical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

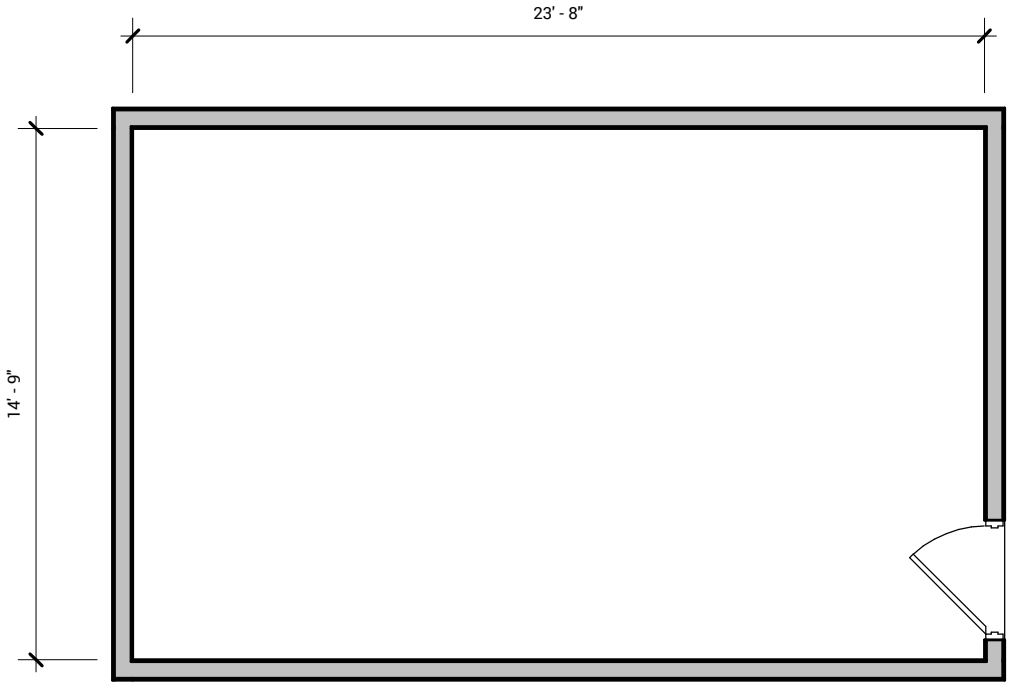
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




23' - 8"
14' - 9"

CUSTODIAL STORAGE | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 4
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

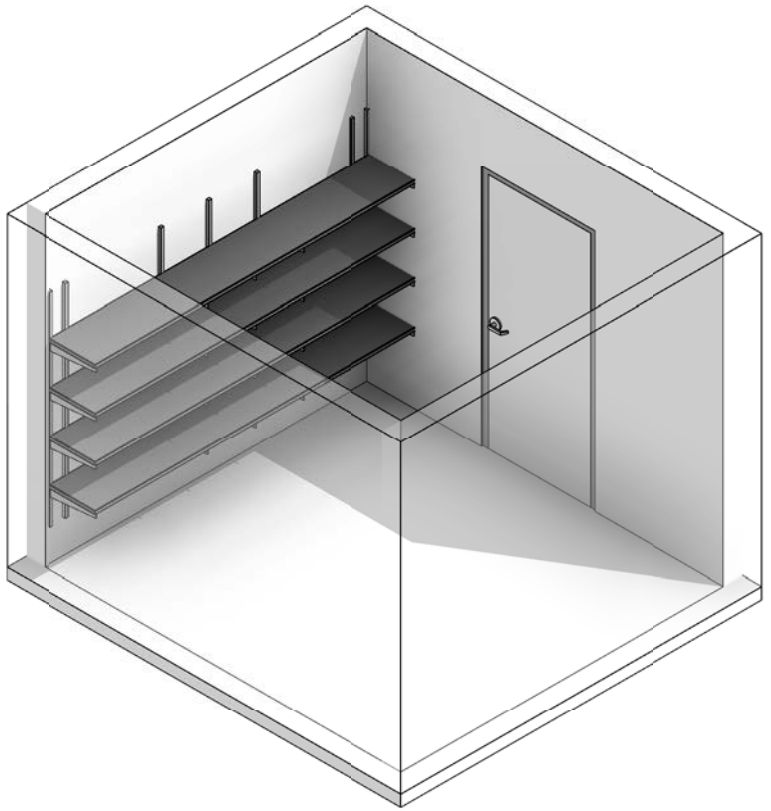
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

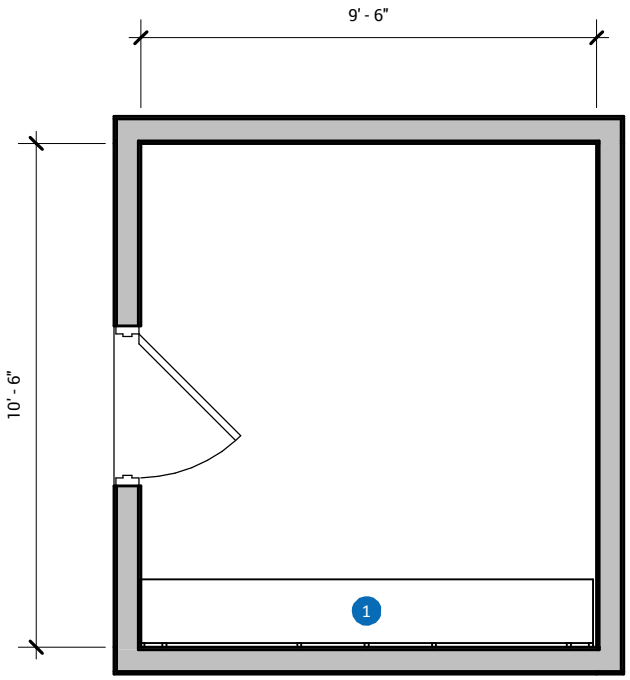
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 WALL MOUNTED ADJUSTABLE SHELVING





05

CUSTODIAL OFFICE | 80 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Storage + Maintenance
TOTAL NUMBER:	1
OCCUPANTS:	1-2
PRIMARY FUNCTION:	To provide office space for the custodial department to perform custodial responsibilities

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes

- **PRIVACY/SECURITY:** Card / key access, lockable

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	TBD
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	w/ sidelight window

- **WINDOWS**

TYPE:	Not required
GLAZING:	Not required
NATURAL LIGHT:	Not required
FRAME:	Not required
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

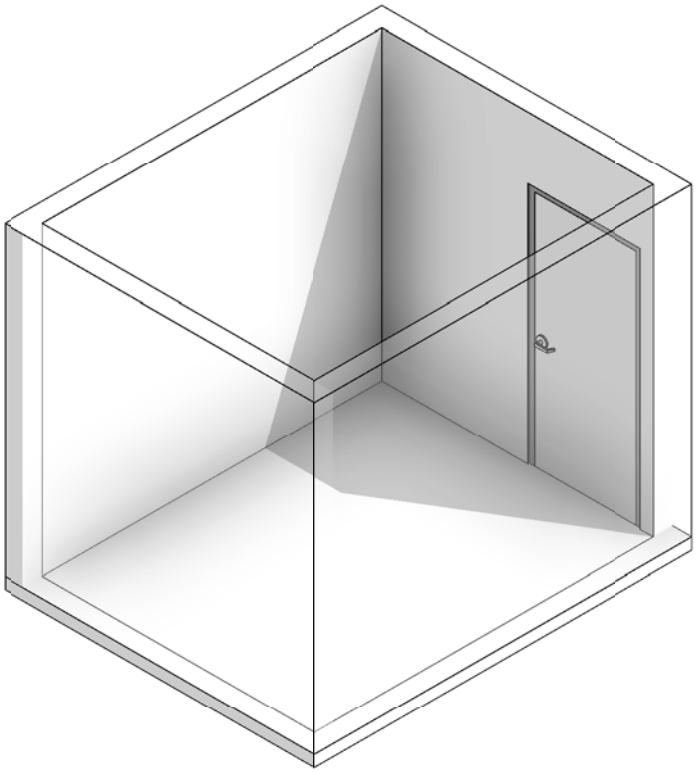
SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None Required

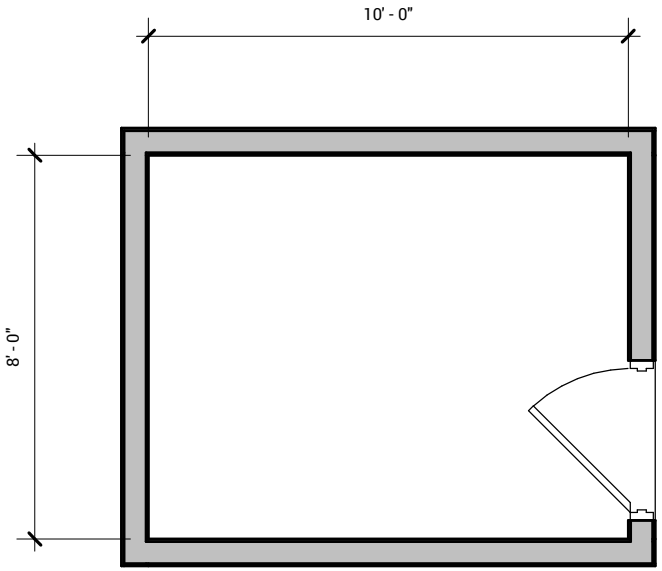
- **ELECTRICAL**

POWER:	Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
PHONE/DATA:	(1) telephone jack, (1) network outlet, wireless access
AUDIO/VIDEO:	TBD
FIRE ALARM:	Required

- **LIGHTING**

FOOT CANDLES:	30
FIXTURE TYPE:	LED surface mounted, vacancy off switch
TASK LIGHTING:	TBD
CONTROLS:	Vacancy sensor with wall station override




10' - 0"
8' - 0"

MAIN ELECTRICAL ROOM | 3000 SQ FT

SPACE REQUIREMENTS

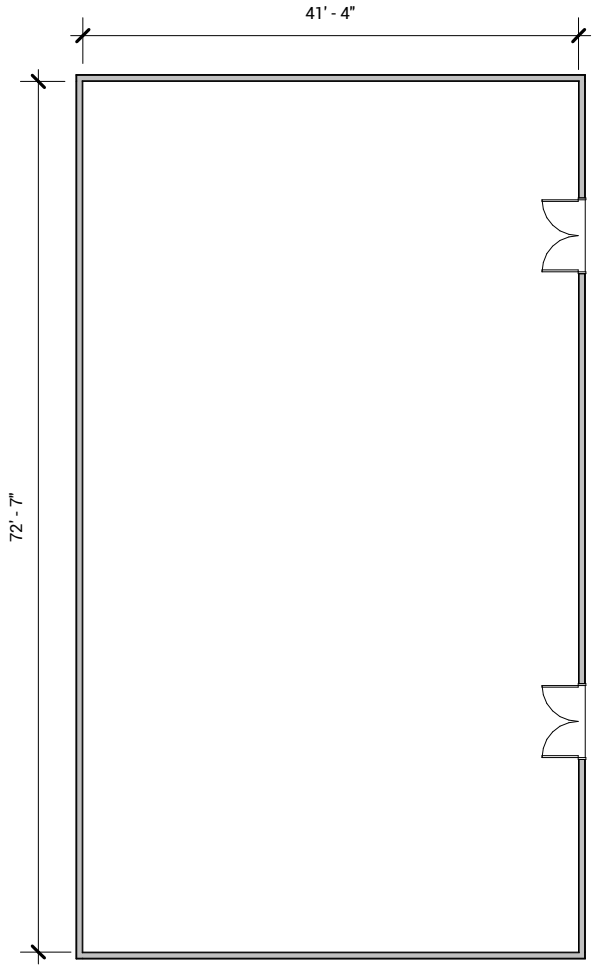
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Electrical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

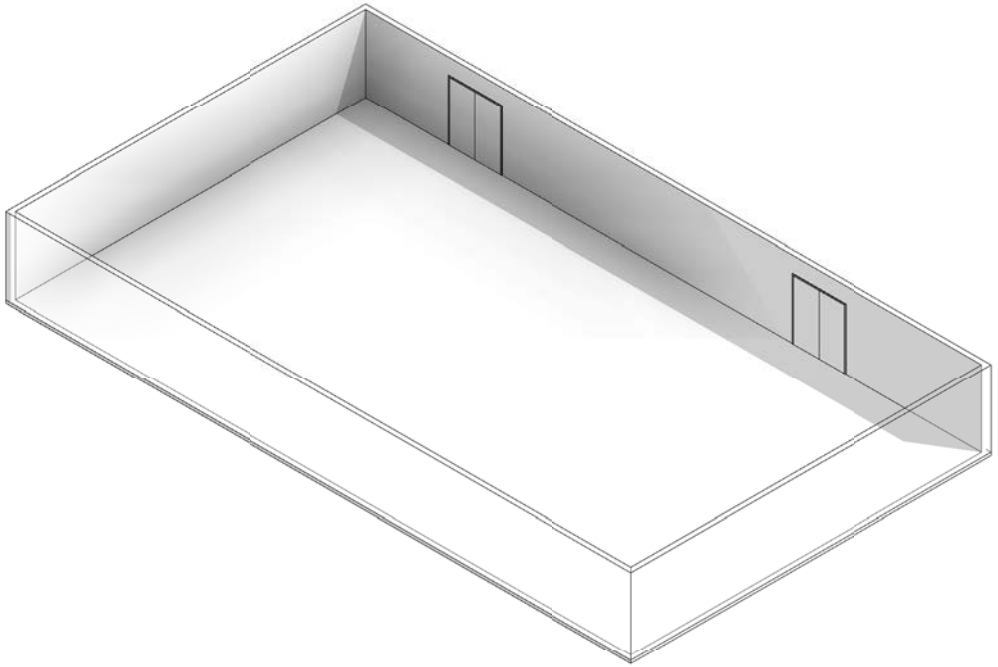
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override


41' - 4"
72' - 7"



05

MAIN MECHANICAL ROOM | 4000 SQ FT

SPACE REQUIREMENTS

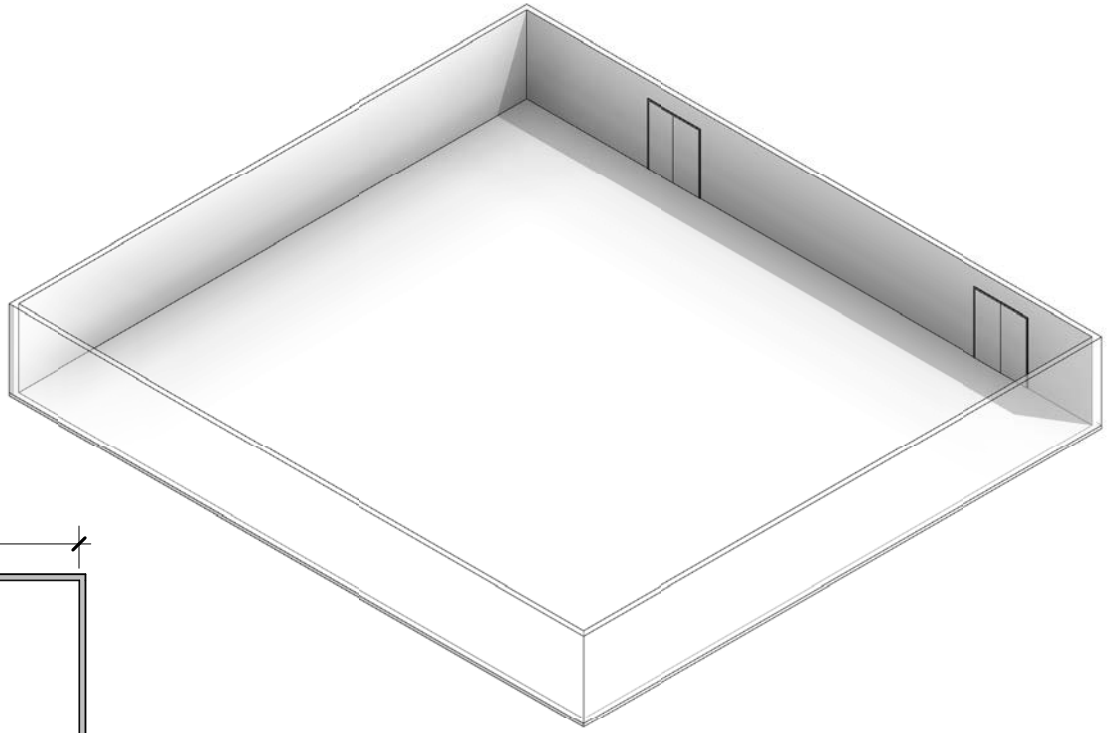
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Mechanical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

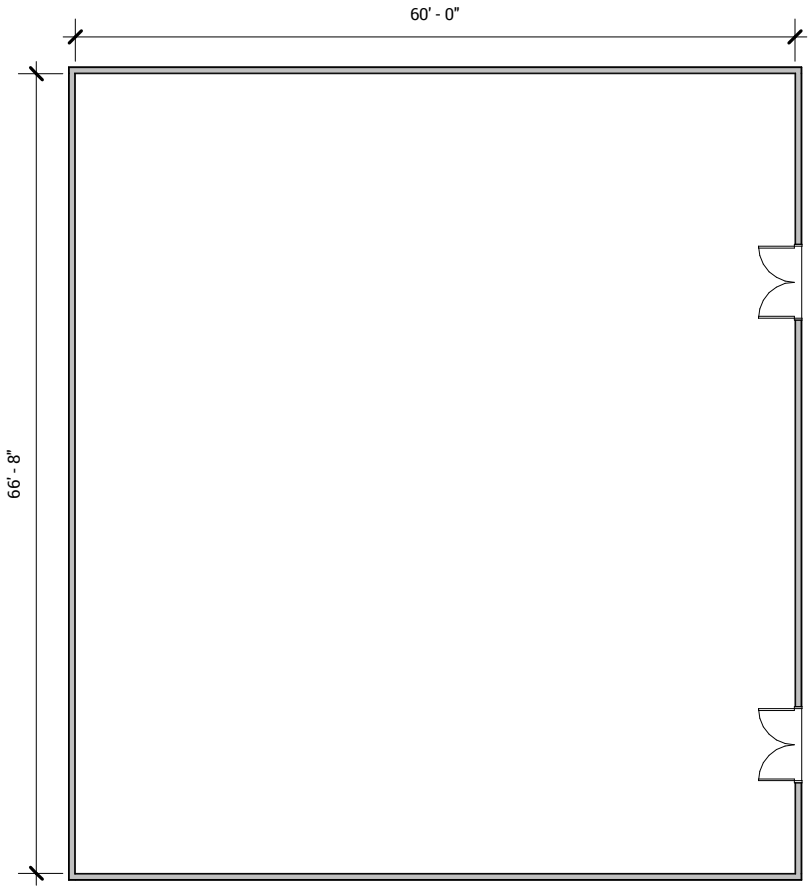
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




60' - 0"
66' - 8"

ELEVATOR EQUIPMENT ROOM | 250 SQ FT

SPACE REQUIREMENTS

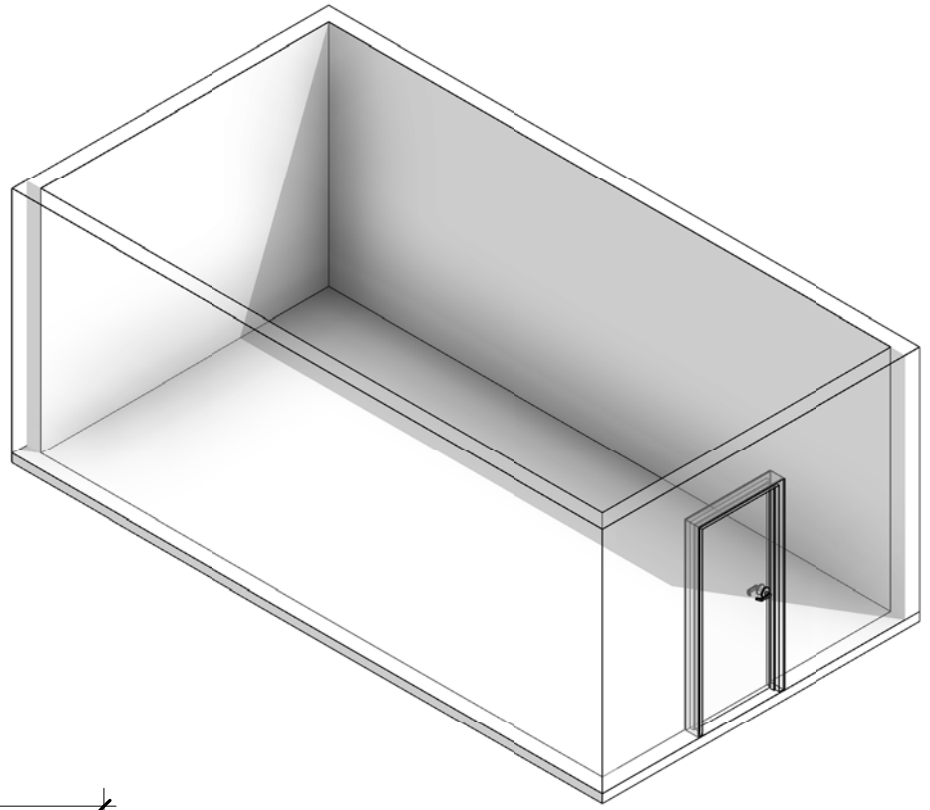
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1
  - **PRIMARY FUNCTION:** Elevator + Equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

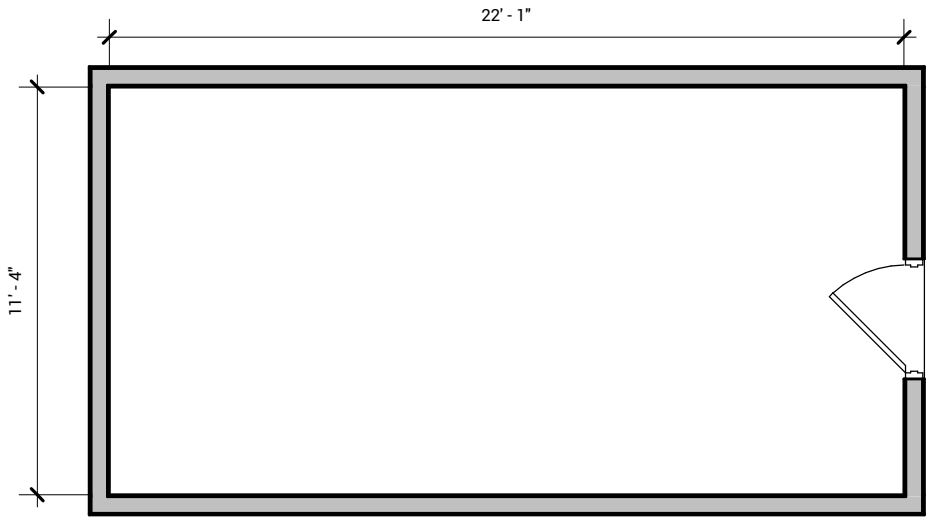
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** Not required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




22' - 1"
11' - 4"

05

ELEVATOR | 160 SQ FT

SPACE REQUIREMENTS

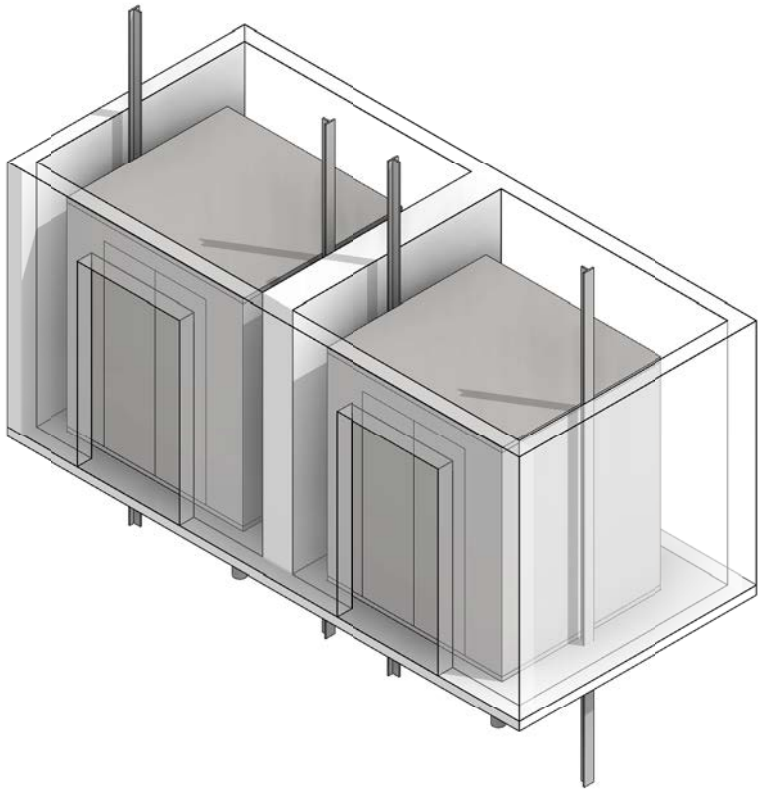
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 2
  - **OCCUPANTS:** 1
  - **PRIMARY FUNCTION:** Elevator + Equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** Lobby, Entry
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

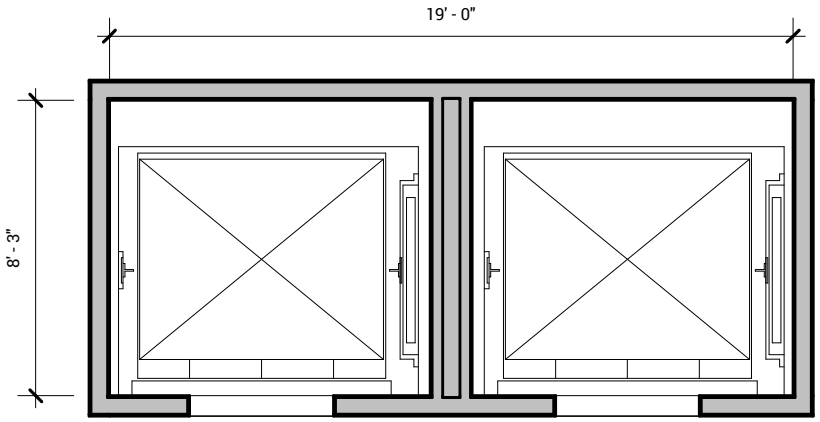
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** Not required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** None required




19' - 0"
8' - 3"

APPENDICES

06

A - Geotec, East Res Hall (2005)
B - Compiled LCCC Housing Specs TOC
C - Architect Meeting Minutes
D - Context and Concepts
E - Laramie Interiors Presentation
F - LCCC New Housing Presentation - Kickoff Meeting
G - LCCC Progress Meeting Presentation
H - LCCC Landscape Design Concept
I - Material Presentation
J - Wet Core Rest room Concepts
K - Cheyenne Greenway Map
L - Commercial Building Permit Submittal Checklist 2017
M - Construction Control Corporation Cost Estimate

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