Williams Village Residence Hall
Design–Build Technical Criteria

Housing & Dining Services
University of Colorado at Boulder

February 26, 2009
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Credits

**Housing and Dining Services**

Deb Coffin, Co-Chair for Residential Campus 2020  
Kambiz Khalili, Executive Director (Interim)  
Deb Cook, Director, Conference Services  
Curt Huetson, Director, Facility Services  
Steve Hecht, Manager, Projects Group  
Lori Lander, Assistant Director, Residence Life  
Heidi Roge, Project Manager

**Facilities Management**

Thomas Goodhew, Architect, Facilities Planner  
Katherine A. Dunklau, Project Manager

**Residential Academic Program**

Lori Lander, Assistant Director, Residence Life and RAP
INTRODUCTION AND OVERVIEW

The CU-Boulder campus is proposing a program plan which will expand the development at Williams Village by constructing a 500 bed student housing facility within a project budget of $51.5 million. The additional income from new student housing, decreased maintenance cost and other auxiliary sources has been identified to provide revenue for the project scope.

This is the next step of a multi-phase project which began with the Bear Creek housing development. The new building will be approximately 127,724 gross square feet in size, consisting of 86,175 assignable square feet as identified in the program plan. Future phases in the Williams Village Complex are anticipated to provide an additional 636 beds with associated residential academic spaces, dining facility improvements, structured parking, along with family/faculty housing east of Bear Creek. The scope of the project includes construction of a new site access intersection at 35th Street and Baseline Road, roadway to provide access to the new residence hall and existing parking areas, and utility infrastructure in the new roadways to support the build-out of this and subsequent phases.

Residents of Williams Village IIa will be members of a Residential Academic Program that is yet to be determined. Students apply to be participants in the program on a first come first serve basis, and they pay an additional fee to be a part of it, as well. They will not only live in the building but they will also take classes and study in it. The intention is to create a special place where students can easily interact with one another, with faculty and with staff. The program is designed to serve all four years including freshman and sophomores, with the desire to attract more upper division students.

The Campus Master Plan states goals to provide housing that enhances the living and learning experiences of students, in a way that is affordable to students and economically feasible to the university. As stated in the Campus Master Plan goals, the university intends to provide housing for at least 27% of the student enrollment(3). Given the projected enrollment growth of 6500 students by 2030, an additional 2360 to 2390 beds will be necessary by the end of that period. The Campus Master Plan recognizes the need to provide phase 3 and 4 of the Williams Village housing along with the parking structures and the multi purpose center to support the growth of the residential academic program as well as to support the anticipated increased enrollment. In the initial master plan approved by the CCHE in 2001, implementation of these projects was indicated within a five to ten year period. The timing of this project today is in alignment with the Campus Master Plan.

The academic courses that are taught are “core courses,” which are conducted in the building throughout the day and evening. Approximately eight to nine courses are taught each semester. The program offers relatively small classes, with only 20-22 students per class for core curricula. As students pay extra for the program, they expect higher quality space for living, teaching, advising and administration. In order to attract more sophomores and upperclassmen, the residential options need to be greater than those found in other residence halls. This includes greater privacy for them, which will be facilitated by the provision of single rooms with double occupancy suites which will have shared baths.

CU Conference Services, a division of Housing and Dining Services, provides professional meeting planning services variety of conferences and gatherings across campus, year-round. It provides conference related on-campus housing from June 1st through the first weekend in August each summer. Conferees consist of adults and youth-groups, some of whom are housed in the residence halls where some meeting sessions also are held. The Williams Village IIa residence hall will be the location for Conference Services, and act as a summer conference hall.
center in parallel with serving the students by creating a more comfortable and contemporary residential and learning environment. This will allow the current Conference Services space in Darley South to be reclaimed as residential space.

OVERALL GOALS

It is the intent of the University that the Design-Build Team delivers a fully functional and operational facility.

The construction of Williams Village IIa residence hall should result in an environment that facilitates a dynamic learning, interdisciplinary environment. The design should encourage students to spend time in the common spaces. These spaces should be multifunctional and have a high utilization. It is the expectation that the success of the Williams Village IIa will create further interest among the students for similar facilities.

Williams Village IIa residence hall is intended to be a community where students and faculty alike can share in academic pursuits. It will be a place where casual conversations, interactions and the exchange of ideas occur naturally. It should be a place with the feeling of a neighborhood, where students feel “ownership” and that it is “their place”. Students will be able to customize their own academic experiences and learn from one another in a non-compartmentalized learning environment.

The character of the new facility should transcend that of the residence halls of the past. It should be a place of inspiration and discovery.

REFERENCE DOCUMENTS

The following documents are integral to the design criteria for Williams Village IIa, and shall be considered included in this Technical Criteria. All are available on via the web at the addresses listed below.

Williams Village Micro Master Plan
http://fm.colorado.edu/planning/projects/willvill/masterplan.pdf

Master Site Development Plan
http://fm.colorado.edu/planning/projects/willvill/williamsvillage2.pdf

Williams Village Design Guidelines

Williams Village Phase II Program Plan

UCB Architectural Standards
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/arch.html

UCB Mechanical Standards
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/mechanical.html

UCB Electrical Standards
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/electrical.html

UCB Civil Standards
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/civil.html

UCB Appendices
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/appendices.html

UCB Commissioning
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/commissioning.html

UCB CAD Standards

UCB Telecommunications Standards
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/documents/Division27CommunicationsSpecifications.pdf

State Codes and Standards
http://www.colorado.gov/dpa/dfp/sbrep/forms/sb/buildingcodes.doc

[END OF SECTION]
SCOPE OF WORK SUMMARY

It is a fundamental and primary requirement of this project that the total number of beds and academic spaces shown in the use program be provided, at a minimum. Additional beds and/or academic spaces beyond the minimum may be included in the design and would be welcome, provided the building remains useful in all other aspects and the spaces do not compromise the quality of the overall environment. It is the goal of the University to achieve a bathroom fixture to occupant ratio of between 1:7 and 1:8.

The information contained in the Program Plan, dated December 4, 2008, is complimentary to the information contained within the Design-Build Criteria. If there are conflicts in the information contained within these two documents then the owner shall be contacted to resolve the conflicts. The Program Plan can be found at the following website:


The completed building will have a variety of academic spaces from formal classroom settings to less formal ones for seminars, to informal spaces where students can study quietly, either alone or in small groups. There will be several options for relaxation and recreation that enhance the experience of the residents and contribute to their personal and academic goals.

The building envelope must be architecturally compatible with the existing Williams Village complex and the surrounding neighborhoods; and is anticipated to be masonry veneer with asphalt shingle roofing. Building scale and pattern is expected to act as a transition between the tall towers of Williams Village original construction and the surrounding neighborhoods. Based on the micro master plan, the building is anticipated to be 3 to 5 stories, and will define the northern edge of the recreation fields, establishing a “village green.”

Public spaces incorporated into this phase shall: allow for a central open space system, create axial relationships to existing and future building elements, provide a hierarchical system of courts and plazas, be oriented to sun and views, provide for common uses within buildings, and foster social interaction.

Maintenance and durability have a high priority. Residence halls see a significant amount of wear and tear and the costs to maintain the facilities is substantial. The selection of materials should reflect this important fact.

All furniture and some electronic equipment will be furnished and installed by the Owner. The latter includes: security cameras; televisions; digital video projectors; sound amplification, recording and playback equipment; and audio speakers. All power and data wiring, for connections by others, is to be included in the Design-Build scope. The Owner or one of its vendors will furnish washers and dryers for the laundry rooms, and such kitchen appliances as an electric oven/range, refrigerator and dishwasher, all for installation/final connection by the Design-Build Team. Refer to the section title “Room Programs” for specific information on Owner furnished items.

Site improvements are identified in the section of this document titled, “Technical Criteria: Exterior Scope and Materials”.

Way-finding in Williams Village IIa residence hall is also a priority. It has been very difficult to find one’s location in some residential corridors because of “racetrack” or “figure 8” layout of the hallways and the repetitive nature of the residence hall building type. We request that the D/B
Teams consider this issue in their design. We also request the D/B Team break up the common hallway corridors with architectural detailing to minimize long stretches of corridor.

STAGING

The University’s Standards for protecting the site during construction and restoring it afterwards will be strictly enforced. The trees adjacent to the site are mature and are highly valued, and all within the area of the limits of construction must be protected with fencing at their drip-lines. All trees must be watered at regular intervals to ensure their continued viability and growth during construction. None may be removed for construction accessibility and any which are damaged will be required to be replaced at their assessed value. Adhere to current University standards for tree protection and site restoration.

Limited Contractor parking spaces will be included in the staging area for the use by the Design-Build Team without charge. If needed, crew parking may be able to be arranged through CU. Cost of parking to be born by the Contractor.

Contractor shall maintain access to existing adjacent facilities at all times. These facilities include, but are not limited to: parking areas, tennis courts, soccer fields, residence halls, and the heating plant.

ACCESSIBILITY

It is the University’s policy to exceed the requirements of the Americans with Disabilities Act wherever possible.

It is the intent of the University for all common areas of the building to be as accessible to the disabled as possible. All public and academic areas shall be made accessible by the installation of elevators or lifts.

SUSTAINABILITY

In support of the University’s commitment to sustainability, the work will meet the United States Green Building Council’s points for a LEED Gold certified building (LEED Gold certification is required.) The successful design-build entity will have the obligation to meet all the requirements of design, documentation, and construction to achieve this goal. The design team is expected to deliver a facility that should exceed the minimum requirements of the LEED Gold, with special emphasis in the areas of energy and environment. Design-Build Entity is required to have team members that are directly associated with the project to have working knowledge of the LEED process. Adhere to the sustainability/LEED requirements (indicated in red) in the “University of Colorado Building and Construction Standards,” 2008 Edition.

For purposes of evaluation, the building will be categorized as LEED-NC (New Construction). The LEED scorecard indicates the credits which are expected to be achieved. There will be a formal submittal for certification to the US Green Building Council, consequently, the successful Design-Build Team will be obligated to maintain records, provide all methodologies and submissions that are required to substantiate the compliance with the identified credits and points. UCB will contract with a LEED consultant separately from the design-build contract. The UCB LEED consultant will be responsible for uploading submittals to the USGBC website.
HAZARDOUS MATERIALS

The building site contains hazardous materials which must be abated under the Design-Build contract. Refer to the Environmental Site Assessment and University of Colorado at Boulder Asbestos Specification (http://ehs.colorado.edu) for requirements and procedures. Specifically, piping in the utility tunnel connecting the Heating and Cooling plant with adjacent buildings is wrapped with asbestos containing insulation. Abatement is typically required in 10’ sections (stanchion to stanchion) from center point of tie-ins. Abatement and tie-ins/taps to the high pressure steam line will require a steam outage when performing abatement work. All existing piping serves other buildings or facilities than Williams Village IIa shall be left in place after abatement. All abated piping shall be reinsulated per the UCB Construction Standards. UCB will contract for Industrial Hygienist work associated with the asbestos abatement and will not be part of the Design-Build contract. The Design/Build Team will select from pre-qualified abatement contractors from the State of Colorado State Buildings’ Approved List.

The Environmental Site Assessment Form for this project is included as Attachment IX.

MISCELLANEOUS

1. Coordinate with the CU CAD office for building room numbers. Contact the Project Manager to help with coordination during the design development phase.

2. CU Boulder encourages the use of electronic media for product data submittals.

3. Provide a detailed cost estimate in the CSI format as an attachment to the Cost Proposal Form. Cost detail should include costs related to profit, overhead, home office staff, home office expenses, accounting and/or legal fees, insurance (exclusive of on-site staff payroll related insurance). Provide a separate line item amount for abatement.
VICINITY PLAN

WILLIAMS VILLAGE COMPLEX
**Staging area to be confirmed prior to the Schematic Design pricing submittal.**
LEED Scorecard

**LEED for New Construction v2.2**  
Registered Project Checklist

Project Name: Williams Village Expansion  
Project Address: Boulder Colorado

<table>
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<th>Sustainable Sites</th>
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<tr>
<td>Prereq 1</td>
<td>Construction Activity Pollution Prevention</td>
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<td>Credit 1</td>
<td>Site Selection</td>
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<tr>
<td>Credit 2</td>
<td>Development Density &amp; Community Connectivity</td>
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<td>Credit 3</td>
<td>Brownfield Redevelopment</td>
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<td>Alternative Transportation, Public Transportation Access</td>
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<tr>
<td>Credit 4.2</td>
<td>Alternative Transportation, Bicycle Storage &amp; Changing Rooms</td>
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<tr>
<td>Credit 4.3</td>
<td>Alternative Transportation, Low-Emitting &amp; Fuel-Efficient Vehicles</td>
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<tr>
<td>Credit 4.4</td>
<td>Alternative Transportation, Parking Capacity</td>
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<tr>
<td>Credit 5.1</td>
<td>Site Development, Protect or Restore Habitat</td>
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<td>Credit 5.2</td>
<td>Site Development, Maximize Open Space</td>
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<tr>
<td>Credit 6.1</td>
<td>Stormwater Design, Quantity Control</td>
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<td>Stormwater Design, Quality Control</td>
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<td>Credit 7.1</td>
<td>Heat Island Effect, Non-Roof</td>
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<td>Credit 7.2</td>
<td>Heat Island Effect, Roof</td>
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<tr>
<td>Credit 8</td>
<td>Light Pollution Reduction</td>
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<td>Water Efficient Landscaping, Reduce by 50%</td>
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<td>Credit 1.2</td>
<td>Water Efficient Landscaping, No Potable Use or No Irrigation</td>
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</tr>
<tr>
<td>Credit 2</td>
<td>Innovative Wastewater Technologies</td>
<td>1</td>
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<tr>
<td>Credit 3.1</td>
<td>Water Use Reduction, 20% Reduction</td>
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<tr>
<td>Credit 3.2</td>
<td>Water Use Reduction, 30% Reduction</td>
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<td>Prereq 1</td>
<td>Fundamental Commissioning of the Building Energy Systems</td>
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<td>Prereq 2</td>
<td>Minimum Energy Performance</td>
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<td>Prereq 3</td>
<td>Fundamental Refrigerant Management</td>
<td>Required</td>
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*Note for EAc1: All LEED for New Construction projects registered after June 26th, 2007 are required to achieve at least two (2) points under EAc1.*
### Credit 1: Optimize Energy Performance

Optimize Energy Performance

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<tr>
<td>10.5%</td>
<td>New Buildings or 3.5% Existing Building Renovations</td>
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<td>14%</td>
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<td>17.5%</td>
<td>New Buildings or 10.5% Existing Building Renovations</td>
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<tr>
<td>21%</td>
<td>New Buildings or 14% Existing Building Renovations</td>
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<td>24.5%</td>
<td>New Buildings or 17.5% Existing Building Renovations</td>
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<td>28%</td>
<td>New Buildings or 21% Existing Building Renovations</td>
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<td>New Buildings or 28% Existing Building Renovations</td>
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<td>42%</td>
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### Credit 2: On-Site Renewable Energy

On-Site Renewable Energy

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<td>12.5%</td>
<td>Renewable Energy</td>
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### Materials & Resources

**13 Points**

**Prerequisite 1:** Storage & Collection of Recyclables

Yes: Required

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<tr>
<th>Credit 1.1</th>
<th>Building Reuse, Maintain 75% of Existing Walls, Floors &amp; Roof</th>
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<td>Credit 1.2</td>
<td>Building Reuse, Maintain 95% of Existing Walls, Floors &amp; Roof</td>
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<td>Credit 1.3</td>
<td>Building Reuse, Maintain 50% of Interior Non-Structural Elements</td>
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<td>Credit 2.1</td>
<td>Construction Waste Management, Divert 50% from Disposal</td>
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<td>Credit 2.2</td>
<td>Construction Waste Management, Divert 75% from Disposal</td>
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<td>Credit 3.1</td>
<td>Materials Reuse, 5%</td>
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<td>Credit 3.2</td>
<td>Materials Reuse, 10%</td>
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<td>Credit 4.1</td>
<td>Recycled Content, 10% (post-consumer + ½ pre-consumer)</td>
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<td>Credit 4.2</td>
<td>Recycled Content, 20% (post-consumer + ½ pre-consumer)</td>
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<td>Credit 5.1</td>
<td>Regional Materials, 10% Extracted, Processed &amp; Manufactured Regionally</td>
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<td>Credit 5.2</td>
<td>Regional Materials, 20% Extracted, Processed &amp; Manufactured Regionally</td>
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<td>Credit 6</td>
<td>Rapidly Renewable Materials</td>
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<td>Credit 7</td>
<td>Certified Wood</td>
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### Indoor Environmental Quality

**15 Points**

**Prerequisite 1:** Minimum IAQ Performance

Yes: Required

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<tr>
<th>Credit 1</th>
<th>Outdoor Air Delivery Monitoring</th>
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<tr>
<td>Credit 2</td>
<td>Increased Ventilation</td>
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<td>Credit 3.1</td>
<td>Construction IAQ Management Plan, During Construction</td>
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<td>Credit 3.2</td>
<td>Construction IAQ Management Plan, Before Occupancy</td>
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<td><strong>Credit 4.2</strong> Low-Emitting Materials, Paints &amp; Coatings</td>
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<td><strong>Credit 4.3</strong> Low-Emitting Materials, Carpet Systems</td>
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<td><strong>Credit 4.4</strong> Low-Emitting Materials, Composite Wood &amp; Agrifiber Products</td>
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<td><strong>Credit 5</strong> Indoor Chemical &amp; Pollutant Source Control</td>
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<td>1</td>
<td><strong>Credit 6.1</strong> Controllability of Systems, Lighting</td>
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<td>1</td>
<td><strong>Credit 6.2</strong> Controllability of Systems, Thermal Comfort</td>
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<td><strong>Credit 7.1</strong> Thermal Comfort, Design</td>
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<td><strong>Credit 7.2</strong> Thermal Comfort, Verification</td>
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<td><strong>Credit 8.1</strong> Daylight &amp; Views, Daylight 75% of Spaces</td>
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<td>1</td>
<td><strong>Credit 8.2</strong> Daylight &amp; Views, Views for 90% of Spaces</td>
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<td><strong>Innovation &amp; Design Process</strong></td>
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<td><strong>Credit 1.1</strong> Innovation in Design: Provide Specific Title</td>
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<td><strong>Credit 1.3</strong> Innovation in Design: Provide Specific Title</td>
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<td><strong>Credit 1.4</strong> Innovation in Design: Provide Specific Title</td>
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</table>

**Project Totals (pre-certification estimates)**

- **Certified**: 26-32 points
- **Silver**: 33-38 points
- **Gold**: 39-51 points
- **Platinum**: 52-69 points

Certified 26-32 points  Silver 33-38 points  Gold 39-51 points  Platinum 52-69 points
USE PROGRAM

The following table summarizes the square footage requirements for all of the use and support spaces for the building as outlined in the 2008 Program Plan:

<table>
<thead>
<tr>
<th>Room area table: Pod C (5 levels)</th>
<th>No of spaces</th>
<th>beds/unit</th>
<th>total beds</th>
<th>%</th>
<th>area per unit</th>
<th>total area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit types (no kitchen)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single bedroom no bath (RA)</td>
<td>16</td>
<td>1</td>
<td>16</td>
<td>3%</td>
<td>155</td>
<td>2,480</td>
</tr>
<tr>
<td>Double bedroom no bath</td>
<td>172</td>
<td>2</td>
<td>344</td>
<td>69%</td>
<td>190</td>
<td>32,680</td>
</tr>
<tr>
<td>Semi Suite single with bath</td>
<td>10</td>
<td>2</td>
<td>20</td>
<td>4%</td>
<td>420</td>
<td>4,200</td>
</tr>
<tr>
<td>Semi suite double with bath</td>
<td>30</td>
<td>4</td>
<td>120</td>
<td>24%</td>
<td>605</td>
<td>18,150</td>
</tr>
<tr>
<td>Common residential spaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community bathrooms</td>
<td>16</td>
<td></td>
<td>500</td>
<td></td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Gender neutral bathrooms</td>
<td>16</td>
<td></td>
<td>60</td>
<td></td>
<td>960</td>
<td></td>
</tr>
<tr>
<td><strong>Apartments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hall director apartment</td>
<td>1</td>
<td></td>
<td>1,100</td>
<td></td>
<td>1,100</td>
<td></td>
</tr>
<tr>
<td>faculty in residence apartment</td>
<td>1</td>
<td></td>
<td>1,500</td>
<td></td>
<td>1,500</td>
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</tr>
<tr>
<td><strong>Total residential</strong></td>
<td>262</td>
<td></td>
<td>500</td>
<td>69,070</td>
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<tr>
<td><strong>Public spaces</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lounge/study-small</td>
<td>16</td>
<td></td>
<td>240</td>
<td></td>
<td>3,840</td>
<td></td>
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<tr>
<td>Lounge/study-large</td>
<td>5</td>
<td></td>
<td>320</td>
<td></td>
<td>1,600</td>
<td></td>
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<tr>
<td>Main lounge/great room</td>
<td>1</td>
<td></td>
<td>750</td>
<td></td>
<td>750</td>
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<tr>
<td>kitchen</td>
<td>1</td>
<td></td>
<td>200</td>
<td></td>
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<td>1</td>
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<tr>
<td>workroom</td>
<td>1</td>
<td></td>
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<td></td>
<td>100</td>
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</tr>
<tr>
<td>HD offices</td>
<td>2</td>
<td></td>
<td>120</td>
<td></td>
<td>240</td>
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<tr>
<td>public restrooms</td>
<td>1</td>
<td></td>
<td>300</td>
<td></td>
<td>300</td>
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<tr>
<td>Gender neutral restrooms</td>
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<td></td>
<td>40</td>
<td></td>
<td>40</td>
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<tr>
<td>vending machines</td>
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<td>50</td>
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<td>Optional ITS lab</td>
<td>1</td>
<td></td>
<td>200</td>
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<td>200</td>
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<tr>
<td><strong>RAP spaces</strong></td>
<td></td>
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</tr>
<tr>
<td>Small Classroom/seminar room</td>
<td>2</td>
<td></td>
<td>350</td>
<td></td>
<td>700</td>
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<tr>
<td>Large Classroom/Seminar room</td>
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<td></td>
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<td>450</td>
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<td>RAP Admin assistant office</td>
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<td>120</td>
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<td>RAP faculty offices</td>
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<td>-----------------</td>
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<tr>
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<td>Offices/conference</td>
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<td>Service spaces</td>
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<td></td>
<td></td>
<td></td>
<td>400</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>IT closets</td>
<td>16</td>
<td>100</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IT room</td>
<td>1</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>custodial closets</td>
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<td></td>
<td></td>
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<td>720</td>
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<td>custodial storage</td>
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<td></td>
<td></td>
<td>250</td>
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<td></td>
<td>custodial break room</td>
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<td></td>
<td></td>
<td>125</td>
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<td></td>
<td>misc storage</td>
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<td></td>
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<td>500</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>student storage</td>
<td>500</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>service entry</td>
<td>1</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>350</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Common</td>
<td></td>
<td></td>
<td>17,105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total assignable</td>
<td></td>
<td>86,175</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>net/gross</td>
<td></td>
<td>67%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total gross area</td>
<td></td>
<td></td>
<td>127,724</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use Program (continued)

Notes:
TBD = To Be Determined
ROOM PROGRAMS

The following pages contain the spatial requirements of each of the use spaces and describe their interrelationships. They also include the moveable equipment within each. Verify if equipment is provided by Owner. Refer to the Technical Criteria for built-in fixtures, equipment and accessories. Room Programs listed includes room types not included in the Program Plan. Additional room types are described as potential alternative to room configurations and further describe the Owner’s intent for the qualities of the completed facility.

<table>
<thead>
<tr>
<th>Room Name:</th>
<th>Single Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function/Activity:</td>
<td>Housing for one Resident Advisor (RA). It is preferred that the Resident Advisor rooms be centrally located in their respective floors. There should be a ratio of approximately 1 RA per 35 student residents. Provide one RA room on each floor of each wing.</td>
</tr>
<tr>
<td>Area:</td>
<td>155 SF</td>
</tr>
<tr>
<td>Total Number of Identical Rooms:</td>
<td>14</td>
</tr>
<tr>
<td>Number of Occupants:</td>
<td>1</td>
</tr>
<tr>
<td>Adjacent to:</td>
<td>Double Bedrooms</td>
</tr>
<tr>
<td>Close to:</td>
<td>Double Bedrooms, Common Bathroom</td>
</tr>
<tr>
<td>Away from:</td>
<td>Suites and other bedrooms with private baths, public areas</td>
</tr>
<tr>
<td>Other Design Considerations:</td>
<td>- One closet, 3'-6&quot;W x 2'-0&quot;D (included in room area). - There should be a single bedroom on every floor that has double bedrooms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Bed (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
<td></td>
</tr>
<tr>
<td>(1) Dresser (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
<td></td>
</tr>
<tr>
<td>(1) Hutch Bookcase (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
<td></td>
</tr>
<tr>
<td>(1) Desk (Furniture by Thurston No. 133)</td>
<td>42&quot;W x 24&quot;D x 30&quot;H</td>
<td></td>
</tr>
<tr>
<td>(1) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
<td></td>
</tr>
<tr>
<td>(1) Desk chair (Sauder Trey)</td>
<td>20&quot;W x 18&quot;D x 32&quot;H</td>
<td></td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W x 19 ¼&quot; D X 43 1/2 &quot; H</td>
<td></td>
</tr>
</tbody>
</table>
### Single Bedroom (Accessible)

**Function/Activity:** Housing for one Resident Advisor (RA). It is preferred that the Resident Advisor rooms be centrally located in their respective floors. There should be a ratio of approximately 1 RA per 35 student residents. Provide minimum of one RA room on each floor of each wing.

- **Area:** 155 SF
- **Number of Occupants:** 1
- **Adjacent to:** Double Bedrooms
- **Close to:** Double Bedrooms, Common Bathroom
- **Away from:** Suites and other bedrooms with private baths, public areas

**Other Design Considerations:**
- One closet, 3'-6" W x 2'-0" D (included in room area).
- Accessibility: All features and components are to be accessible to the disabled.

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Bed (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
</tr>
<tr>
<td>(1) Dresser (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(1) Hutch Bookcase (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
</tr>
<tr>
<td>(1) Desk (Furniture by Thurston No. 133)</td>
<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(1) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
</tr>
<tr>
<td>(1) Desk chair (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W X 19 ½&quot; D X 43 1/2 &quot; H</td>
</tr>
</tbody>
</table>

### Double Bedroom

**Function/Activity:** Housing for two students

- **Area:** 190 SF
- **Number of Occupants:** 2
- **Adjacent to:** Other Double Bedrooms
- **Close to:** Single Bedrooms, Common Bathroom
- **Away from:** Suites and other bedrooms with private baths, public areas

**Other Design Considerations:** Two closets, each 3'-6" W x 2'-0" D (included in room area).

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Beds (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
</tr>
<tr>
<td>(2) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(2) Hutch Bookcases (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
</tr>
<tr>
<td>(2) Desks (Furniture by Thurston No. 133)</td>
<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(2) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
</tr>
<tr>
<td>(2) Desk chairs (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W X 19 ½&quot; D X 43 1/2 &quot; H</td>
</tr>
</tbody>
</table>
**Room Name:** Double Bedroom (Accessible)  
**Function/Activity:** Housing for two students  
**Area:** 190 SF  
**Total Number of Identical Rooms:** 17  
**Number of Occupants:** 2  
**Adjacent to:** Other Double Bedrooms  
**Close to:** Single Bedrooms, Common Bathroom  
**Away from:** Suites and other bedrooms with private baths, public areas  
**Other Design Considerations:**  
- Two closets, each 3'-6" W x 2'-0" D (included in room area).  
- Accessibility: All features and components are to be accessible to the disabled.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2) Beds (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
</tr>
<tr>
<td></td>
<td>(2) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td></td>
<td>(2) Hutch Bookcases (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
</tr>
<tr>
<td></td>
<td>(2) Desks (Furniture by Thurston No. 133)</td>
<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td></td>
<td>(2) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
</tr>
<tr>
<td></td>
<td>(2) Desk chairs (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td></td>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W X 19 ½&quot; D X 43 1/2&quot; H</td>
</tr>
</tbody>
</table>

**Room Name:** Suite: Two Single Bedrooms with One Connecting Bathroom  
**Function/Activity:** Housing for two students  
**Area:** 420 SF  
**Total Number of Identical Rooms:** 9  
**Number of Occupants:** 2  
**Adjacent to:** Other suites and bedrooms with private baths  
**Close to:** Other suites and bedrooms with private baths  
**Away from:** Single and Double Bedrooms (without private baths), public areas  
**Other Design Considerations:** One closet in each Bedroom, each 3'-6" W x 2'-0" D (included in room area).

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) Bed (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot;</td>
</tr>
<tr>
<td></td>
<td>(1) Dresser (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td></td>
<td>(1) Hutch Bookcase (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
</tr>
<tr>
<td></td>
<td>(1) Desk (Furniture by Thurston No. 133)</td>
<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td></td>
<td>(1) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
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<tr>
<td></td>
<td>(1) Desk chair (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td></td>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W X 19 ½&quot; D X 43 1/2&quot; H</td>
</tr>
</tbody>
</table>
Room Name: Suite: Two Single Bedrooms with One Connecting Bathroom (Accessible)

Function/Activity: Housing for two students

Area: 420 SF

Total Number of Identical Rooms: 1

Number of Occupants: 2

Adjacent to: Other suites and bedrooms with private baths

Close to: Other suites and bedrooms with private baths

Away from: Single and Double Bedrooms (without private baths), public areas

Other Design Considerations:
- One closet in each Bedroom, each 3’-6” W x 2’-0” D (included in room area).
- Accessibility: All features and components are to be accessible to the disabled.

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Beds (Furniture by Thurston No. 146-HW-3)</td>
<td>36” x 80”</td>
</tr>
<tr>
<td>(1) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32” W x 19”D x 30”H</td>
</tr>
<tr>
<td>(1) Hutch Bookcase (Furniture by Thurston No. 208-C9)</td>
<td>40”W x 9”D x 28”H</td>
</tr>
<tr>
<td>(1) Desks (Furniture by Thurston No. 133)</td>
<td>42W” x 24”D x 30”H</td>
</tr>
<tr>
<td>(1) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17”W x 22”D x 26”H</td>
</tr>
<tr>
<td>(1) Desk chair (Furniture by Thurston No.1005D)</td>
<td>20”W x 18”Dx32”H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19”WX19 ¼”DX43 ½”H</td>
</tr>
</tbody>
</table>

Room Name: Suite: Two Double Bedrooms with One Connecting Bathroom

Function/Activity: Housing for four students

Area: 605 SF

Total Number of Identical Rooms: 27

Number of Occupants: 4

Adjacent to: Other suites and bedrooms with private baths

Close to: Other suites and bedrooms with private baths

Away from: Double Bedrooms, public areas

Other Design Considerations:
- Two closets in each Bedroom, each 3’-6” W x 2’-0” D (included in room area).

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Beds (Furniture by Thurston No. 146-HW-3)</td>
<td>36” x 80”</td>
</tr>
<tr>
<td>(2) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32” W x 19”D x 30”H</td>
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<td>40”W x 9”D x 28”H</td>
</tr>
<tr>
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<td>42W” x 24”D x 30”H</td>
</tr>
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</tr>
<tr>
<td>(2) Desk chair (Furniture by Thurston No.1005D)</td>
<td>20”W x 18”Dx32”H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19”WX19 ¼”DX43 ½”H</td>
</tr>
</tbody>
</table>
## Suite: Two Double Bedrooms with One Connecting Bathroom (Accessible)

- **Room Name:** Suite: Two Double Bedrooms with One Connecting Bathroom (Accessible)
- **Function/Activity:** Housing for four students
- **Area:** 605 SF
- **Total Number of Identical Rooms:** 3
- **Number of Occupants:** 4
- **Adjacent to:** Other suites and bedrooms with private baths
- **Close to:** Other suites and bedrooms with private baths
- **Away from:** Double Bedrooms, public areas
- **Other Design Considerations:**
  - Two closets in each Bedroom, each 3'-6" W x 2'-0" D (included in room area).
  - Accessibility: All features and components are to be accessible to the disabled.

### Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2 Beds) (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot;</td>
</tr>
<tr>
<td>(2) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(2) Hutch Bookcases (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
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<tr>
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<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(2) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
</tr>
<tr>
<td>(2) Desk chairs (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;WX19 ¼&quot;DX43 ½&quot; H</td>
</tr>
</tbody>
</table>

## Triple Bedroom (Not Required)

- **Room Name:** Triple Bedroom (Not Required)
- **Function/Activity:** Housing for three students
- **Area:** 280 SF
- **Total Number of Identical Rooms:** 0
- **Number of Occupants:** 6
- **Adjacent to:** Single and Double Bedrooms
- **Close to:** Single and Double Bedrooms, Common Bathroom
- **Away from:** Suites and other bedrooms with private baths, public areas
- **Other Design Considerations:** Three closets, each 3'-6" W x 2'-0" D (included in room area).

### Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3) Beds (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
</tr>
<tr>
<td>(3) Dressers (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(3) Hutch Bookcases (Furniture by Thurston No. 208-C9)</td>
<td>40&quot;W x 9&quot;D x 28&quot;H</td>
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<td>42W&quot; x 24&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(3) Under-desk Files (Furniture by Thurston No. 140)</td>
<td>17&quot;W x 22&quot;D x 26&quot;H</td>
</tr>
<tr>
<td>(3) Desk chairs (Furniture by Thurston No.1005D)</td>
<td>20&quot;W x 18&quot;Dx32&quot;H</td>
</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;W X 19 ¼&quot; D X 43 1/2 &quot; H</td>
</tr>
</tbody>
</table>
### Single Bedroom with Bathroom (Not Required)

- **Room Name:** Single Bedroom with Bathroom (Not Required)
- **Function/Activity:** Housing for one student
- **Area:** 190 SF
- **Total Number of Identical Rooms:** 0
- **Number of Occupants:** 1
- **Adjacent to:** Suites and other bedrooms with private baths
- **Close to:** Suites and other bedrooms with private baths
- **Away from:** Single and Double Bedrooms (without private baths), public areas
- **Other Design Considerations:**
  - One closet, 3'-6" W x 2'-0" D (included in room area).

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Bed (Furniture by Thurston No. 146-HW-3)</td>
<td>36&quot; x 80&quot; (mattress)</td>
</tr>
<tr>
<td>(1) Dresser (Furniture by Thurston No. 203-24)</td>
<td>32&quot; W x 19&quot;D x 30&quot;H</td>
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</tr>
<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;WX19 ¼&quot;DX43 1/2 &quot;</td>
</tr>
</tbody>
</table>

### Single Bedroom with Bathroom (Accessible) (Not Required)

- **Room Name:** Single Bedroom with Bathroom (Accessible) (Not Required)
- **Function/Activity:** Housing for one student
- **Area:** 255 SF
- **Total Number of Identical Rooms:** 0
- **Number of Occupants:** 1
- **Minimum Width:** 10'-0"
- **Adjacent to:** Suites and other bedrooms with private baths
- **Close to:** Suites and other bedrooms with private baths
- **Away from:** Single and Double Bedrooms (without private baths), public areas
- **Other Design Considerations:**
  - One closet, 3'-6" W x 2'-0" D (included in room area).
  - Accessibility: All features and components are to be accessible to the disabled.

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
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<tr>
<td>(1) Micro-fridge (furnished by Owner)</td>
<td>19&quot;WX19 ¼&quot;DX43 1/2 &quot;</td>
</tr>
</tbody>
</table>
### Suite: One Single & One Double Bedrooms with One Connecting Bathroom (Not Required)

- **Room Name:** Suite: One Single & One Double Bedrooms with One Connecting Bathroom (Not Required)
- **Function/Activity:** Housing for two students
- **Area:** 430 SF
- **Total Number of Identical Rooms:** 0
- **Number of Occupants:** 3
- **Adjacent to:** Other suites and bedrooms with private baths
- **Close to:** Other suites and bedrooms with private baths
- **Away from:** Single and Double Bedrooms (without private baths), public areas

**Other Design Considerations:**
- One closet in each Single Bedroom, two closets in each Double Bedroom, each 3'-6" W x 2'-0" D (included in room area).
- Accessibility: All features and components are to be accessible to the disabled.

### Moveable Furnishings and Equipment

<table>
<thead>
<tr>
<th>Item (each Bedroom)</th>
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<tbody>
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<tr>
<td>(2) Micro-fridge (furnished by Owner)</td>
<td>19&quot;WX19 ¼&quot;DX43 ½&quot; H</td>
</tr>
</tbody>
</table>
Room Name: Common Bathrooms (Accessible)
Function/Activity: Bathrooms for multiple residents (gender neutral)
Area: 250 SF each, 500 SF/bank; 8,000 SF, total (areas and quantities of fixtures in each may vary; the total area and number of fixtures should be divided proportionately to the numbers of individuals served by each bathroom).
Total Number of Identical Rooms: 16 (provide bathrooms in pairs, one per floor/per wing, excluding floors with suites and bedrooms with private baths or two per floor/per wing if desired).
Number of Occupants: -
Room Proportions: TBD
Adjacent to: -
Close to: Bedrooms without private baths
Away from: Public Areas
Other Design Considerations: Each room is to meet accessibility requirements
No urinals, so that restrooms are not gender specific
Provide plumbing fixtures based on code requirements for occupants served
Shower areas to have increased level of privacy for individual stalls

Moveable Furnishings and Equipment: | Item | Size |
--- | --- | --- |
[None]  |  |  |

Room Name: Common Bathrooms (Accessible)
Function/Activity: Bathrooms for multiple residents (gender neutral)
Area: 60 SF each; 960 SF, total (areas and quantities of fixtures in each may vary; the total area and number of fixtures should be divided proportionately to the numbers of individuals served by each bathroom).
Total Number of Identical Rooms: 16 (one per floor/per wing, excluding floors with suites and bedrooms with private baths or two per floor/per wing if desired).
Number of Occupants: -
Room Proportions: TBD
Adjacent to: -
Close to: Bedrooms without private baths
Away from: Public Areas
Other Design Considerations: Each room is to be fully accessible to the disabled
No urinals, so that restrooms are not gender specific
Include shower

Moveable Furnishings and Equipment: | Item | Size |
--- | --- | --- |
[None]  |  |  |
Room Name: **Apartment: – Hall Director**  
Function/Activity: Housing for director – two bedroom, two bath  
Area: 1,100 SF  
Total Number of Identical Rooms: 1  
Number of Occupants: 1  
Adjacent to: Student bedrooms  
Close to: Student bedrooms  
Away from: Public areas  
Other Design Considerations:  
- Accessibility: All features and components are to be accessible to the disabled.  
- Living/dining area  
- Kitchen  
- One full bath  
- Laundry/storage area  
- 2 bedroom apartment with adjoining optional lock-off bedroom  
- Exterior door access, outdoor patio amenity space  

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture to be provided by owner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen appliances by owner</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Room Name: **Apartment: – RAP Faculty in Residence**  
Function/Activity: Housing for RAP faculty in residence – three bedroom, two bath  
Area: 1500 SF  
Total Number of Identical Rooms: 1  
Number of Occupants: 1  
Adjacent to:  
- Student Bedrooms  
- Single room or double bedroom (for potential connection and use as third bedroom, utilize “hotel type double door” for single room privacy when not in use with the FIR apartment)  
Close to: RAP program space  
Away from: Public areas  
Other Design Considerations:  
- Accessibility: All features and components are to be accessible to the disabled.  
- Living/dining area  
- Kitchen  
- Laundry/storage area  
- Simple master bedroom suite with shower and walk-in closet  
- Guest bath to have tub/shower, accessible to apartment living area  
- Office or study alcove space preferred  
- 3 bedroom apartment  
- Exterior door access, outdoor patio amenity space  

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item (each Bedroom)</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture to be provided by occupant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen appliances by Owner</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Room Name: Floor/Study Lounge (Type A)
- **Function/Activity:** Small group meetings, lounging, individual/group study
- **Area:** 240 SF
- **Total Number of Identical Rooms:** 16
- **Number of Occupants:** 10
- **Room Proportions:** 2:3
- **Adjacent to:** Common circulation.
- **Close to:** Bedrooms (in combination with Floor/Study Lounge Type B, locate one on each floor of each wing; i.e., one lounge per floor per wing)
- **Away from:** Public areas

**Other Design Considerations:**
- Provide a minimum of 16 SF of window from the room to the corridor.
- Provide one per wing per floor
- Visible locations

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofas, loveseats, armchairs, coffee tables</td>
<td>TBD</td>
</tr>
<tr>
<td>(1) Round Table</td>
<td>36” dia. x 30” H</td>
</tr>
<tr>
<td>(4) Chairs</td>
<td>20”W x 19”D x 45”H</td>
</tr>
</tbody>
</table>

---

### Room Name: Floor/Study Lounge (Type B)
- **Function/Activity:** Small group research, study and discussion.
- **Area:** 320 SF
- **Total Number of Identical Rooms:** 5
- **Number of Occupants:** 12
- **Room Proportions:** 2:3
- **Adjacent to:** Common circulation
- **Close to:** Bedrooms (in combination with Floor/Study Lounge Types A, locate one on each floor of each wing; i.e., one lounge per floor per wing)
- **Away from:** Public areas

**Other Design Considerations:**
- Provide a minimum of 16 SF of window from the room to the corridor.
- Provide one per wing per floor
- Visible, central locations

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Tables</td>
<td>60”W x 30”D x 30”H</td>
</tr>
<tr>
<td>12 task chairs</td>
<td>20”W x 19”D x 45”H</td>
</tr>
</tbody>
</table>

(1) Printer
### Great Room/Community Room

**Room Name:** Great Room/Community Room  
**Function/Activity:** Large group gatherings and meetings; recreation and relaxation for individuals and small or medium sized groups; games; television and movie watching; lectures and programs.

<table>
<thead>
<tr>
<th>Area</th>
<th>750 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Identical Rooms</td>
<td>1</td>
</tr>
<tr>
<td>Number of Occupants</td>
<td>50</td>
</tr>
<tr>
<td>Room Proportions</td>
<td>2:3</td>
</tr>
</tbody>
</table>

**Adjacent to:**  
- Terrace on the east side of the center wing.  
- Kitchen.

**Close to:** Reception, Main Entry

**Away from:** Bedroom areas

**Other Design Considerations:**  
- Fireplace  
- Comfortable furnishing  
- Daylighting

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofas, loveseats, armchairs</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>(2) Round Tables</td>
<td>36” dia. x 30” H</td>
<td></td>
</tr>
<tr>
<td>(8) Chairs</td>
<td>20”W x 19”D x 45”H</td>
<td></td>
</tr>
<tr>
<td>Coffee and end tables</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Flat-screen television (LCD), wall mounted w/ surround sound</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>AV and projection Equipment enclosed in millwork &amp;/or &quot;Smart Boxes&quot;</td>
<td>TBD</td>
<td></td>
</tr>
</tbody>
</table>

### Kitchen

**Room Name:** Kitchen  
**Function/Activity:** Cooking of snacks and light meals by residents; serving/prep area for food

<table>
<thead>
<tr>
<th>Area</th>
<th>200 SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Identical Rooms</td>
<td>1</td>
</tr>
<tr>
<td>Number of Occupants</td>
<td>-</td>
</tr>
<tr>
<td>Room Proportions</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Adjacent to:** Great Room, Corridor

**Close to:** -

**Away from:** Public access

**Other Design Considerations:**  
- Provide a door directly from the corridor and/or from the Great Room.  
- Kitchen to be on residential side of secure door, away from general public areas  
- Not used for catering or event service

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Electric range with four burners and self-cleaning oven</td>
<td>30”W x 27”D x 48”H</td>
<td></td>
</tr>
<tr>
<td>(1) Refrigerator</td>
<td>30”W x 30”D x 66”H</td>
<td></td>
</tr>
<tr>
<td>(1) Dishwasher</td>
<td>24”W x 24”D x 34”H</td>
<td></td>
</tr>
<tr>
<td>(1) Microwave Oven</td>
<td>30”W x 18”D x 18”H</td>
<td></td>
</tr>
<tr>
<td>(1) Garbage Disposal</td>
<td>30”W x 27”D x 6”H</td>
<td></td>
</tr>
<tr>
<td>(1) Range Hood</td>
<td>30”W x 27”D x 6”H</td>
<td></td>
</tr>
</tbody>
</table>
Room Name: **Reception/Information Desk and Reception Work Room**

**Function/Activity:**

1. Staffed location for providing information to residents, greeting visitors, a place to store vacuum cleaners, games, etc. and for students to check-out such items. Provide custom reception counter with storage areas and cabinets. Provide counter with upper and lower cabinets in storage room. Provide built-in display case in main hallway.
2. Office for student to do administrative work and projects.

**Area:**

- Reception/Office: 200 SF; Work Room: 100 SF (total of 300 SF)

**Total Number of Identical Rooms:** 1

**Number of Occupants:** 6

**Room Proportions:** TBD

**Adjacent to:** Building main entry,

**Close to:** Great Room; Communications Program Administrative Suite (no direct connection between the two)

**Away from:** -

**Other Design Considerations:** Lockable door on closet

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers as per RES LIFE</td>
<td></td>
</tr>
<tr>
<td>(3) Task Chairs</td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>(1) Work table</td>
<td>36&quot;W x 96&quot;L x 30&quot;H</td>
</tr>
<tr>
<td>(1) Copier</td>
<td>24&quot;W x 28&quot;D x 43&quot;H</td>
</tr>
</tbody>
</table>

Room Name: **Offices – Hall Director**

**Function/Activity:** A place for the hall director to work,

**Area:** 120 SF

**Total Number of Identical Rooms:** 2

**Number of Occupants:** 1 + visitors

**Minimum width:** 10’ – 0”

**Adjacent to:** Reception/information desk

**Close to:** Main entry

**Away from:** Bedrooms

**Other Design Considerations:** Provide an outside window

**Moveable Furnishings and Equipment:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Desk</td>
<td>60&quot;W x 32&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(1) Task Chair</td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>(2) Side Chairs</td>
<td>23&quot;W x 26&quot;D x 33&quot;H</td>
</tr>
<tr>
<td>(4) Lateral filing cabinets</td>
<td>36&quot;W x 18&quot;D x 60&quot;H</td>
</tr>
<tr>
<td>(1) Bookcase</td>
<td>48&quot;W x 12&quot;D x 72&quot;H</td>
</tr>
</tbody>
</table>
Room Name: Public Toilets  
Function/Activity: Restroom facilities for visitors, RAP program users  
Area: 300 SF  
Total Number of Identical Rooms: -  
Number of Occupants: -  
Room Proportions: 1:2  
Adjacent to: -  
Close to: Public areas, Great Room, Main Entry, Classroom  
Away from: Bedroom areas  
Other Design Considerations:  
- Each toilet room is to be fully accessible to the disabled  
- Fixture count to be based on code requirements for spaces served

Moveable Furnishings and Equipment:  
<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(None)</td>
<td></td>
</tr>
</tbody>
</table>

Room Name: Public General Neutral Bathroom  
Function/Activity: Non gender specific restroom  
Area: 40 SF  
Total Number of Identical Rooms: 1 (unisex)  
Number of Occupants: -  
Room Proportions: 1:2  
Adjacent to: -  
Close to: Public areas,  
Away from: Residential areas  
Other Design Considerations:  
- Each toilet room is to be fully accessible to the disabled.

Room Name: Vending Area – need not be discrete room  
Function/Activity: Dispensing snacks and soft drinks  
Area: 50 SF  
Total Number of Identical Rooms: 1  
Number of Occupants: -  
Room Proportions: TBD  
Adjacent to: Great room, public circulation  
Close to: Public and Common Areas, Main Building Entry RAP spaces  
Away from: Bedrooms  
Other Design Considerations:  
- Locate to facilitate sales and to allow easy observation of individuals in the space, however the space should not be visible from the Building Main Entry (no door required).  
- Allow 2" clear space between vending machines and walls.  
- Provide space for 3 vending machines

Moveable Furnishings and Equipment:  
<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3) Vending Machines</td>
<td>37&quot;W x 35&quot;D x 72&quot;</td>
</tr>
</tbody>
</table>

(Note: Machines require 110v electrical service and each draws 14amps.)
Room Name: ITS Lab
Function/Activity: Lectures, seminars
Area: 200
Total Number of Identical Rooms: 1
Number of Occupants: 9
Room Proportions: 2:3
Adjacent to: Public circulation
Close to: Other academic spaces, RAP Administrative Suite
Away from: Bedrooms
Other Design Considerations:
- Refer to UCB Building and Construction Standards, Appendix 9
- Room shall have “smart-to-every-seat” classroom technology, including A/V cabinet, digital project and sound amplification
- Provide tack board, dry erase board, and chalk board

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item per room</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 tables</td>
<td>60&quot;W x 30&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>20 task chairs</td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>1 cart for laptop computers</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Room Name: Classrooms – Small
Function/Activity: Lectures, seminars
Area: 350 SF
Total Number of Identical Rooms: 2
Number of Occupants: 12
Room Proportions: 2:3
Adjacent to: Public circulation
Close to: Other academic spaces, Communications Administrative Suite
Away from: Bedrooms
Other Design Considerations:
- Refer to UCB Building and Construction Standards, Appendix 9.
- Each room is to have “smart-to-every seat” classroom technology, including A/V cabinet &/or “Smart Box”, digital projection and sound amplification.
- Provide tackboard, dry erase board and chalk board.
Room Name: Classrooms – Large
Function/Activity: Lectures, seminars
Area: 450 SF
Total Number of Identical Rooms: 1
Number of Occupants: 17
Room Proportions: 2:3
Adjacent to: Public circulation
Close to: Other academic spaces, Communications Administrative Suite
Away from: Bedrooms
Other Design Considerations:
- Refer to UCB Building and Construction Standards, Appendix 9.
- Each room is to have “smart-to-every seat” classroom technology, including
  A/V cabinet &/or “Smart Box”, digital projection and sound amplification.
- Provide tackboard, dry erase board and chalkboard.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item per room</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 tables</td>
<td></td>
<td>60&quot;W x 30&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>20 task chairs</td>
<td></td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>1 cart for laptop computers</td>
<td></td>
<td>TBD</td>
</tr>
</tbody>
</table>

Room Name: Administrative Assistant Office: RAP
Function/Activity: Administrative work; receptionist for the Program
Area: 120 SF
Total Number of Identical Rooms: 1
Number of Occupants: 1 + visitors
Minimum Width: 10'-0"
Adjacent to: RAP Reception, RAP Work Room, RAP Director
Close to: -
Away from: Bedrooms
Other Design Considerations:
- Provide an outside window.
- This is one of four spaces that comprise the RAP Administrative Suite.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Desk</td>
<td></td>
<td>60&quot;W x 32&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(1) Task Chair</td>
<td></td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>(2) Side Chairs</td>
<td></td>
<td>23&quot;W x 26&quot;D x 33&quot;H</td>
</tr>
<tr>
<td>(4) Lateral filing cabinets</td>
<td></td>
<td>36&quot;W x 18&quot;D x 60&quot;H</td>
</tr>
<tr>
<td>(1) Bookcase</td>
<td></td>
<td>48&quot;W x 12&quot;D x 72&quot;H</td>
</tr>
</tbody>
</table>
Room Name: **Director's Office: RAP**

**Function/Activity:** Administrative work; consultation with students and parents

**Area:** 150 SF

**Total Number of Identical Rooms:** 1

**Number of Occupants:** 1 + visitors

**Minimum Width:** 10'-0”

**Adjacent to:** RAP Administrative Assistant

**Close to:** Student academic areas

**Away from:** Bedrooms

**Other Design Considerations:**
- This is one of four spaces that comprise the RAP Administrative Suite.
- Provide an outside window.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Desk</td>
<td></td>
<td>66”W x 36”D x 30”H</td>
</tr>
<tr>
<td>(1) Task Chair</td>
<td></td>
<td>20”W x 19”D x 45”H</td>
</tr>
<tr>
<td>(4) Side Chairs</td>
<td></td>
<td>23”W x 26”D x 33”H</td>
</tr>
<tr>
<td>(1) Meeting Table</td>
<td></td>
<td>36” dia. x 30”H</td>
</tr>
<tr>
<td>(1) Credenza</td>
<td></td>
<td>66”W X 24”D x 30” H</td>
</tr>
<tr>
<td>(2) Lateral filing cabinets</td>
<td></td>
<td>36”W x 18”D x 60”H</td>
</tr>
<tr>
<td>(1) Bookcase</td>
<td></td>
<td>48”W x 12”D x 72”H</td>
</tr>
</tbody>
</table>

Room Name: **Work Room: RAP**

**Function/Activity:** Copying; document preparation; supply storage

**Area:** 100 SF

**Total Number of Identical Rooms:** 1

**Number of Occupants:** -

**Room Proportions:** 2:3

**Adjacent to:** RAP Administrative Assistant's Office

**Close to:** Student academic areas

**Away from:** Bedrooms

**Other Design Considerations:**
- This is one of four spaces that comprise the RAP Administrative Suite.
- Provide an outside window

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Copier</td>
<td></td>
<td>60”W x 30”D x 43”H</td>
</tr>
<tr>
<td>(1) Fax</td>
<td></td>
<td>16”W x 14”D x 8”H</td>
</tr>
<tr>
<td>(4) 4-drawer vertical files</td>
<td></td>
<td>18”W x 28”D x 52” H</td>
</tr>
<tr>
<td>(1) Microwave</td>
<td></td>
<td>21”W x 15”D x 13”H</td>
</tr>
<tr>
<td>(1) Coffee Maker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Under-cabinet Refrigerator</td>
<td></td>
<td>19”W x 20”D x 34”H</td>
</tr>
</tbody>
</table>
### Room Name: **Faculty Office: RAP**

**Function/Activity:** Administrative work; consultation with students and parents  
**Area:** 120 SF  
**Total Number of Identical Rooms:** 2  
**Number of Occupants:** 1 + visitors  
**Minimum Width:** 10'-0"  
**Adjacent to:** RAP Reception, RAP Work Room, RAP Director  
**Close to:** -  
**Away from:** Bedrooms  
**Other Design Considerations:**  1. Provide a outside window  2. This is one of four spaces that comprise the RAP Administrative Suite.

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Desk</td>
<td>60&quot;W x 32&quot;D x 30&quot;H</td>
</tr>
<tr>
<td>(1) Task Chair</td>
<td>20&quot;W x 19&quot;D x 45&quot;H</td>
</tr>
<tr>
<td>(2) Side Chairs</td>
<td>23&quot;W x 26&quot;D x 33&quot;H</td>
</tr>
<tr>
<td>(4) Lateral filing cabinets</td>
<td>36&quot;W x 18&quot;D x 60&quot;H</td>
</tr>
<tr>
<td>(1) Bookcase</td>
<td>48&quot;W x 12&quot;D x 72&quot;H</td>
</tr>
</tbody>
</table>

### Room Name: **CU Conference Services (CUCS)**

**Function/Activity:** Logistical planning and management of on and off campus conferences  
**Area:** 2,500 SF  
**Total Number of Identical Rooms:** 1  
**Number of Occupants:** TBD  
**Room Proportions:** -  
**Adjacent to:** Public circulation  
**Close to:** Bedrooms, public restrooms  
**Away from:** Public student circulation  
**Other Design Considerations:**  1. Provide adequate space to include:  1. 7 offices  2. 9 open work spaces  3. A 10 person conference room  4. Small kitchenette / break room  5. Storage space  2. Dedicated exterior entrance or close proximity to the public entrance without crossing residential security
Room Name: **Storage – Secure – CUCS**
Function/Activity: Building storage of miscellaneous items
Area: 200 SF
Total Number of Identical Rooms: 1
Number of Occupants: 0
Room Proportions: 2:3
Adjacent to: CUSC Conference Room
Close to: -
Away from: -

Other Design Considerations:
- Provide space for recyclable containers
- Provide exterior access via double doors. No raised dock is required.
- Provide combination of built-in shelving along walls and open floor area for large items and boxes.

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(15) Washers (typical)</td>
<td>27&quot;W x 28&quot;D x 44&quot;H</td>
</tr>
<tr>
<td>(15) Dryers (typical)</td>
<td>27&quot;W x 29&quot;D x 45&quot;H</td>
</tr>
</tbody>
</table>

Room Name: **Laundry Rooms**
Function/Activity: Laundering by residents; casual interaction
Area: 400 SF
Total Number of Identical Rooms: 1
Number of Occupants: 15
Room Proportions: TBD
Adjacent to: Elevators
Close to: Bedrooms
Away from: Public spaces

Other Design Considerations:
- The space should be arranged with an area for washers, dryers and folding (provide counter for folding as described in Technical Criteria).
- May be a single facility, or divided into multiple areas
- One washer/dryer per every 35 students
- Data jacks for washer/dryer card reader controls

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(15) Washers (typical)</td>
<td>27&quot;W x 28&quot;D x 44&quot;H</td>
</tr>
<tr>
<td>(15) Dryers (typical)</td>
<td>27&quot;W x 29&quot;D x 45&quot;H</td>
</tr>
</tbody>
</table>
### Room Name: Sink Niches
- **Function/Activity:** Location for residents to get water for coffee, etc. and to wash personal dishes
- **Area:** 20 SF
- **Total Number of Identical Rooms:** 18
- **Number of Occupants:** -
- **Room Proportions:** -
- **Adjacent to:** Corridor and one adjacent to community bathrooms.
- **Close to:** Bedrooms
- **Away from:** -
- **Other Design Considerations:**
  - Provide a recess adjacent to the corridor for the counter and cabinets (refer to Technical Criteria).
  - Include recycling station
  - Provide one niche per common bathroom group

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Garbage Disposal</td>
<td></td>
</tr>
</tbody>
</table>

### Room Name: IT Closets
- **Function/Activity:** Housing IT distribution equipment
- **Area:** 100SF
- **Total Number of Identical Rooms:** 18
- **Number of Occupants:** 0
- **Room Proportions:** TBD
- **Adjacent to:** -
- **Close to:** Electrical rooms, rooms containing transformers or motors
- **Away from:** -
- **Other Design Considerations:** Construct per UCB Telecommunications Standards

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment per UCB Telecommunications Standards</td>
<td></td>
</tr>
</tbody>
</table>

### Room Name: IT Room
- **Function/Activity:** ITS server room
- **Area:** 120SF
- **Total Number of Identical Rooms:** 1
- **Number of Occupants:** 0
- **Room Proportions:** 2:3
- **Adjacent to:** -
- **Close to:** Electrical rooms, rooms containing transformers or motors
- **Away from:** -
- **Other Design Considerations:** Construct per UCB Telecommunication Standards

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment per UCB Telecommunications Standards</td>
<td></td>
</tr>
</tbody>
</table>

- 37 -
Room Name: **Custodial Closets**

Function/Activity: Storage of routine custodial supplies and custodial cart, water access

Area: 40 SF

Total Number of Identical Rooms: 18 (one per floor per wing)

Number of Occupants: 0

Room Proportions: 1:2

Adjacent to: Each Common Bathroom

Close to: -

Away from: Bedrooms

Other Design Considerations: Provide 30”x30” mop sink and shelving

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Custodial Cart</td>
<td>60L” x 24W” x 48”H</td>
</tr>
</tbody>
</table>

Room Name: **Custodial Storage Room**

Function/Activity: 1- Storage of bulk custodial supplies (paper products and cleaning agents)
1- Storage of linens (sheets, pillows, blankets)

Area: 250 SF

Total Number of Identical Rooms: 1

Number of Occupants: -

Room Proportions: 2:3

Adjacent to: -

Close to: Exterior service entry; Custodial Break room

Away from: -

Other Design Considerations: Provide shelving for storage

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(12) Shelving units</td>
<td>36”W x 24”D x 84”H</td>
</tr>
</tbody>
</table>

Room Name: **Custodial Break room**

Function/Activity: Space for custodians to relax and to eat lunch.

Area: 125 SF

Total Number of Identical Rooms: 1

Number of Occupants: 4

Room Proportions: 2:3

Adjacent to: Public circulation

Close to: Custodial Storage Room

Away from: Bedrooms

Other Design Considerations: Provide a sink with adjacent counterspace, 2 data jacks and electrical power for a computer, refrigerator, microwave and coffeemaker.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment:</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) Round Table</td>
<td>48” dia. x 30”H</td>
</tr>
<tr>
<td></td>
<td>(4) Task chairs</td>
<td>20”W x 19”D x 45”H</td>
</tr>
<tr>
<td></td>
<td>(1) Refrigerator</td>
<td>30”W x 30”D x 66”H</td>
</tr>
<tr>
<td></td>
<td>(1) Microwave Oven</td>
<td>30”W x 18”D x 18”H</td>
</tr>
<tr>
<td></td>
<td>(1) Coffee Maker</td>
<td></td>
</tr>
</tbody>
</table>
### Room Name: Storage – Miscellaneous

- **Function/Activity:** Building storage of miscellaneous items
- **Area:** 500 SF
- **Total Number of Identical Rooms:** 1
- **Number of Occupants:** 0
- **Room Proportions:** 2:3
- **Adjacent to:** Public circulation, custodial storage closets
- **Close to:** Custodial breakroom
- **Away from:** Bedrooms
- **Other Design Considerations:**
  - Provide space for recyclable containers
  - Provide exterior access via double doors. No raised dock is required.

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

### Room Name: Storage – Student

- **Function/Activity:** Storage of miscellaneous student supplies
- **Area:** 31 SF
- **Total Number of Identical Rooms:** 16
- **Number of Occupants:** 0
- **Room Proportions:** TBD
- **Adjacent to:** Corridor
- **Close to:** Bedrooms without private baths, common bathrooms
- **Away from:** Public areas
- **Other Design Considerations:**
  - Provide small storage closets scattered throughout the residential areas as opposed to one large storage area.
  - One storage room per floor per wing; size at 1 SF per bed.
**Room Name:** Service Entry  
**Function/Activity:** Location for exterior loading and unloading of materials, student dropoff of recyclable materials  
**Area:** 350  
**Total Number of Identical Rooms:** 1  
**Number of Occupants:** TBD  
**Room Proportions:** 2:3  
**Adjacent to:** Public circulations, custodial storage closets  
**Close to:** Custodial breakroom  
**Away from:** Bedrooms  
**Other Design Considerations:**  
- Provide space for recyclable containers  
- Provide exterior access via double doors. No raised dock is required.

<table>
<thead>
<tr>
<th>Moveable Furnishings and Equipment</th>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-gallon recycle carts</td>
<td>46&quot;hx26&quot;wx43&quot;d</td>
<td></td>
</tr>
</tbody>
</table>

[END OF SECTION]
TECHNICAL CRITERIA: GENERAL

Except as modified in this document, all work in all disciplines is governed by and must comply with:

1. "University of Colorado Building and Construction Standards," 2008 Edition (or most recent addition), including sustainability/LEED requirements (indicated in red), and all of its Appendices;

2. "Instructions: UCB Standards for Construction Component Performance, Preference and Selection"


4. It shall be a requirement of this project that all mechanical, electrical and IT/security system components shall be fully integrated and coordinated with one another, with the building structure and with all architectural elements to achieve the following:
   a. There are no physical conflicts between the components/elements of the systems.
   b. There is easy access to all components for maintenance and replacement.
   c. All mechanical, electrical and IT/security components are fully concealed as required elsewhere in this document.

These documents may be found at the following websites:
http://colorado.edu/facilitiesmanagement/pdc/construction/standards/index.html
http://colorado.edu/facilitiesmanagement/pdc/safety/index.html

Refer also to:
Williams Village Master Plan
http://fm.colorado.edu/planning/projects/willvill/williamsvillage2.pdf
Williams Village Design Guidelines
Campus Open Space Development Plan
http://www.colorado.edu/masterplan/plan/plan.cgi?4&3&&1

5. City of Boulder Fire Department access shall be maintained at all times to existing Williams Village and Bear Creek facilities. Should a temporary detour be required, it shall be coordinated with and approved by City of Boulder Fire Department.

TECHNICAL CRITERIA: EXTERIOR SCOPE AND MATERIALS

1. SITE

   A. Bike Racks / Covered Bike Parking: Provide a permeable hardscape surface under bike racks and provide concrete “mow” strips around the bike rack areas. Provide bike racks as required by CU from review of rack count provided to CU per CU Standards. For bike
storage only, the sub surface gravel can be 4” deep. Provide good compaction and enough rock installed to cover the gravel pave product at the top surface. See Attachment II.

1. Bike racks shall be provided at .75 spaces per bed using the campus standard Cora Bike Racks. Where possible, racks should be located on pervious materials.
2. Bike racks to be placed in close proximity to entrances, at landscape periphery. Large ‘gang’ bicycle parking configurations are discouraged.
3. Covered bike parking to follow LEED requirements.

B. Provide minimum two (2) waterproof duplex receptacles at all entry terraces.

C. Provide exterior lighting at all terraces that:
   1. Provides a suitable amount of light for informal gatherings of small groups.
   2. Contributes to the security of the space.
   3. Is of an architectural character appropriate for the purpose and which is in compliance with Campus Standards.
   4. Lighting around the building shall be LED fixtures and lamps so as to comply with LEED standards. Submit fixtures for approval by CU Electrical AHJ. Note that incandescent lights are not permitted in this application as per UCB standards.

D. Areas of sod shall be in accordance with current CU standards:
   1. New sod shall have no backing of any type.
   2. Prior to installation of new sod, till the area to a depth of 6” and add 3 cu. yds. of compost per 1,000 SF of surface.
   3. Design-build firm must cut new sod three times following installation before the owner will accept maintenance responsibility for the new sod. See CU Standards.
   4. Provide tree rings around all new trees consisting of weed barrier overlaid with western red cedar mulch to a depth of 4” and edging.

E. Site Furnishings: All exterior open spaces shall include a variety of site furnishings including site walls, benches, tables/shelters, trash and recycle receptacles in accordance with current CU standards.

F. Design of open spaces shall focus on water conservation wherever possible. Design team shall take care to consider design of passive and recreation spaces to include careful selection of pervious paving, plant materials, and irrigation products.

G. The intent is to screen new transformers; coordinate with Owner

H. Protect all trees and existing landscaping. Fence all trees to the drip line of each tree; ensure proper watering of each tree during the life of the project. Tree protection shall comply with CU Construction Standards Section 02111 - Tree and Plant Protection.
I. Replace all paving in staging area after construction to match adjacent paving. Provide signage per CU standards to re-route pedestrian, bicycle and automobile traffic as indicated by project manager.

J. Staging
   1. Please follow Division 1 – General Requirements for all parking and staging needs for the project. Design/Build entity parking arrangements for the project shall be made through the Owner (and Parking Transportation Services) for the appropriate fees.

II. BUILDING ENVELOPE

A. WINDOWS AND DOORS.

1. Windows (typical)
   a. Operation: Sliding or single-hung, with locks.
   b. Grade: Heavy Duty Commercial.
   c. Material: Aluminum.
   d. Finish: Black anodized.
   e. Glazing: 1” insulating units, argon filled (each lite: 1/4” minimum, 3/16” preferred)
      1. Indoor light: 1/4” clear.
      2. Outdoor light: 1/4”, with low-E coating; provide glass with gray tint on east, south and west exposures, and clear glass on north.
   f. Provide screens on all windows, removable from the inside.
   g. Manufacturers:
      1. EFCO Corporation
      2. Graham Architectural Products
      3. Kawneer
      4. Wausau Window and Wall Systems
      5. Approved Substitute prior to bidding
   h. Sliding glass doors will be considered by the Owner in lieu of doors as specified elsewhere – consideration will be based on exterior access for such spaces as Hall Director and Faculty in Residence apartments and Conference Services.

2. Doors: Provide new hollow metal doors at all exterior locations, except where noted in paragraph A.3.
   a. Glazing: 1” insulating units.
      1. Indoor light: 1/4” clear.
      2. Outdoor light: 1/4”, with low-E coating; provide clear glass on north exposures and glass with gray tint on south exposures.
   b. Provide continuous geared hinges on all exterior doors.

3. Storefront:
   a. Materials
      2. Finish: Black anodized.
      3. Storefront Glazing: 1” insulating units (each lite: 1/4”)
         a. Indoor light: 1/4” clear.
         b. Outdoor light: 1/4”, with low-E coating; provide clear glass on north exposure and glass with gray tint on east, south and west exposures.
      4. Door Type: Full-lite with medium stiles.
5. Door Glazing:
   a. Indoor light: 1/4” clear.
   b. Outdoor light: 1/4”, with low-E coating; provide clear glass on north exposures and glass with gray tint on south exposures.
6. Provide continuous geared hinges on all doors.

B. INSULATE THE BUILDING ENVELOPE

1. Foundation: Provide closed-cell polystyrene insulation around the perimeter of the foundation with minimum R-value of 11, from slab elevations to 30” below grade.

2. Exterior walls: Provide insulation on all exterior walls to achieve an overall minimum wall R-value of 19 and at least 1” thick exterior board insulation (or that required to meet ASHRAE Standard 90 analysis required by IECC and LEED). Fill voids left in the rigid insulation. Insulation must comply with “flame spread” and “smoke developed” limitations of the IBC and tested per ASTM E84. Enclose and protect the insulation with studs and drywall.

3. Roof: Provide insulation to achieve a minimum assembly rating of R =40. The insulation must be enclosed with metal studs and drywall unless otherwise directed by Owner (attic spaces – typical). See attachment for guidelines for installation of attic under-roof insulation.

4. Fold and staple seams to insure the continuity of the vapor barrier on all batt insulation.

TECHNICAL CRITERIA: INTERIOR SCOPE AND MATERIALS

Note: Refer to the Mechanical and Electrical Technical Criteria for additional criteria pertaining to those disciplines.

I. PLANNING

A. CEILINGS AND CEILING HEIGHTS

1. All ceilings shall be no less than 8’-0” except in areas of soffits that are required to enclose duct, pipes and other systems, and as noted below.

B. CORRIDORS

1. Primary corridors shall be no less than 5’-0” in width (this may vary slightly in select locations if the Design-Build Team determines that doing so will improve the overall plan).

C. ROOM SIZES

1. Provide minimum room dimensions or approximate room proportions as indicated in the Room Programs, or proportions appropriate for the use and fixtures/furnishings indicated.

2. Classrooms should be located and designed to prevent structural components from occurring in the interior space of these rooms causing interrupted visual sight lines.

D. SYSTEMS
1. All ducts, pipes, conduits, wires and devices must be concealed within walls, ceilings or soffits (Exception: Inside mechanical, electrical, and custodial rooms and utility closets).

E. ELEVATORS

1. Elevators, elevator shafts and elevator equipment rooms shall be in compliance with all applicable codes including but not limited to suppression, detection, shunt trips, recall and ADA.

2. The elevator shafts are to be fully fire rated shafts.

F. ADJACENCIES

1. No utility spaces (Custodial Closets/Rooms, IT Closets/Rooms, Electrical and Mechanical Closets/Rooms) may be adjacent to any bedrooms. Of these spaces, only custodial closets may be adjacent to Common Bathrooms.

G. ACOUSTICS

1. Provide the Sound Transmission Class (STC) indicated for the space adjacencies shown on the table below.

<table>
<thead>
<tr>
<th>ROOM TO ROOM STC</th>
<th>Rooms* and Bedroom to Classrooms</th>
<th>Offices</th>
<th>Seminar/Study Rooms</th>
<th>Lounges</th>
<th>Corridors</th>
<th>Laundry Rooms</th>
<th>Mechanical Rms.</th>
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<tbody>
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<td>Bedroom</td>
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<td>Bathrooms/Toilet Rooms</td>
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</tbody>
</table>

*The STC does not apply between private baths and the bedrooms they serve. **Bedroom doors to corridors are to be rated at an STC 32 minimum.**

H. ACCESSIBILITY

1. All public areas of Williams Village IIa must be ADA accessible; this includes all areas inside the building separated from student residence areas by security doors. ADA access is required to the main entry.
I. FURNISHINGS

1. Window Coverings:
   a. Provide PVC horizontal blinds with 2” slats at all exterior windows.
   b. Provide black-out window coverings and 1” mini-blinds at great room and all classroom windows.

J. FLOORS

1. Floor/ceiling assemblies shall provide a minimum STC rating of 55 and a minimum IIC rating of 55. Additional IIC rating is suggested in areas above classrooms, Hall Director and Faculty apartments. Where attic floor areas/levels are required for mechanical and electrical equipment, access must be provided. This floor needs to provide a STC rating of 55.

K. STAIRS

1. Provide fully fire-rated stairwell shafts.
2. Stairways shall be considered as significant circulation elements of the building. Stairway design should encourage student interaction and consider special needs of student move-in/move-out periods.
3. Provide to attic spaces.

II. CRITERIA FOR ROOM TYPES

A. APARTMENTS
1. See Attachment V.

B. BEDROOMS

1. Windows
   a. Each bedroom shall have, as a minimum, one window.

2. Closets
   a. Each bed shall have one closet 3’-6” wide by 2’-0” deep, with two, 12” deep fixed shelves and a coat rod.
   b. Shelves: ¾” melamine-clad particle board.
   c. Doors: All bedrooms (except in double and triple bedrooms) shall have swinging closet doors with pulls. Double and triple rooms will not have doors for the closets. Provide door frames prepped for door hardware with blank covers for double and triple bedrooms.

3. Finishes
   a. Floors: Stained concrete, VCT or linoleum tiles to comply with LEED green standards (TBD)
   b. Walls: Drywall
   c. Base: Rubber
   d. Ceiling: Drywall
4. Accessories:
   a. Provide one tackboard for each bed. Standard size is 60” x 120.” Contact CU Housing Project Manager for specification.
   b. Provide one 18”W x 30”H aluminum framed markerboard (no marker-tray) and one 18”W x 12”H tackboard on the corridor side of each bedroom entry door.

C. PRIVATE BATHROOMS

1. Fixtures and Accessories
   a. In each bathroom serving one single bedroom, provide the following:
      1. Fixtures:
         a. One water closet.
         b. One under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”D x 36”W. Provide a plastic laminate base cabinet with doors and one shelf, and at least one drawer.
            i. In bathrooms serving accessible bedrooms, provide maximum amount of shelving in lieu of base cabinet if base cabinet cannot be installed adjacent to or in between the HC lavatories.
         c. One shower in solid surface enclosure measuring 36” x 36” minimum with solid surface shower pan. See Attachment IV for ADA pan.
      2. Accessories
         a. (1) Full-size mirror above sink area.
         b. (1) Single-roll toilet tissue dispenser.
         c. (2) Robe hooks; locate one adjacent to the shower and one on the back of the bathroom door.
         d. (1) 24 inch long towel bar.
         e. (1) Wash cloth ring, located adjacent to the vanity.
         f. (1) Shower curtain rod.
   b. In each bathroom serving two single bedrooms (connecting rooms), provide the following:
      1. Fixtures
         a. One water closet.
         b. One under-mounted solid-polymer surfacing lavatories in a solid-polymer surfacing material vanity measuring at least 22”D x 60”W. Provide a plastic laminate base cabinet with doors and one shelf, and two drawers in one tier.
            i. In bathrooms serving accessible bedrooms, provide maximum amount of shelving in lieu of base cabinet if base cabinet cannot be installed adjacent to or in between the HC lavatories.
         c. One shower in solid surface enclosure measuring 36” x 36” minimum with solid surface shower pan. See Attachment IV for ADA pan.
      2. Accessories
         a. (1) Full-size mirror above sink area.
         b. (1) Single-roll toilet tissue dispenser.
         c. (3) Robe hooks; locate one adjacent to the shower and one on the backs of each of the two bathroom doors.
d. (2) 24 inch long towel bars.
e. (2) Wash cloth rings, located adjacent to the vanity.
f. (1) Shower curtain rod.

c. In each bathroom serving two double bedroom suites (connecting rooms), provide the following:
   1. Fixtures
      a. One water closet.
      b. Two under-mounted solid-polymer surfacing lavatories in a solid-polymer surfacing material vanity measuring at least 22”D x 60”W. Provide a plastic laminate base cabinet with doors and one shelf, and four drawers.
         i. In bathrooms serving accessible bedrooms, provide maximum amount of shelving in lieu of base cabinet if base cabinet cannot be installed adjacent to or in between the HC lavatories.
      c. One shower in solid surface enclosure measuring 36" x 36" minimum with solid surface shower pan. See Attachment IV for ADA pan.

   2. Accessories
      a. (1) Full-size mirror above sink area.
      b. (1) Single-roll toilet tissue dispenser.
      c. (5) Robe hooks; locate one adjacent to the shower and two on the backs of each of the two bathroom doors.
      d. (4) 24 inch long towel bars.
      e. (4) Wash cloth rings if adequate space (review with Owner), located adjacent to the vanity.
      f. (1) Shower curtain rod.

d. In all bathrooms serving accessible bedrooms, provide the following in addition to the above requirements:
      a. Accessible shower enclosure with seat and grab-bars.

2. Finishes
   a. Floors: 12”x 12” Porcelain tile).
   b. Walls: Ceramic tile wainscot, to 4’-0” height on all four walls, with painted drywall above.
   c. Base: Ceramic tile cove, to match wall tile.
   d. Ceiling: Drywall.
   e. Shower:
      1. Solid Surface Walls and Shower Pans.
      2. Ceiling/soffit: Drywall.

D. OFFICES, RECEPTION ROOMS, OFFICE WORK ROOM/OFFICE-STORAGE ROOM AND CUCS CONFERENCE ROOM/STORAGE:

1. Windows
   a. Each office shall have, as a minimum, one window.

2. Finishes (Reception)
   a. Floors: Carpet.
   b. Walls: Drywall.
3. Finishes (Offices)
   a. Floors: Carpet.
   b. Walls: Drywall.
   c. Base: Carpet.
   d. Ceiling: Suspended ceiling.

4. Finishes (Conference)
   a. Floors: Carpet.
   b. Walls: Drywall.
   c. Base: Carpet.
   d. Ceiling: Suspended ceiling.

5. Finishes (Storage)
   a. Floors: VCT.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Ceiling: Drywall.

6. Casework
   a. RAP Director/Administrative Assistant Offices - None.
   b. RAP Faculty Offices - None.
   c. Building Reception – Main Counter: Provide plastic laminate base cabinet (with doors) and solid-polymer surfacing material top, 8’-0” L x 30”D x 40”H, with an accessible area that is 34” high. Provide cabinets and one tier of drawers. Provide locks on all cabinets and drawers. Provide cabinet for computer equipment. Provide fifteen (15) mailboxes at reception area. Mailboxes to be 12” W x 12” D x 4” H.
   d. RAP Work Room: Provide two plastic laminate base and wall cabinets (with doors) the full lengths of opposite walls (Exception: Provide empty spaces for floor-mounted copier, four-drawer filing cabinets and a residential-size refrigerator). Provide one tier of drawers in each, and locks on all cabinets and drawers.
   e. Storage Rooms: Provide plastic laminate counter with cabinets above and below.
   f. Reception Work Room: Provide plastic laminate counter with upper and lower cabinets.
   g. Hall Director Offices: None.
   h. CUCS Conference/Storage: None.

7. Accessories
   a. Building Reception
      1. Provide one recessed display case near entrance, 48”W x 48”H x 6”D.

E. GREATROOM/COMMUNITY ROOM

1. Finishes
   a. Floors: Carpet.
   b. Walls: Drywall.
   c. Base: Carpet.
   d. Ceiling: Drywall.
2. Casework: None.

3. Accessories
   a. Provide one 96"W x 72"H projection screen in accordance with UCB Building and Construction Standards, Appendix 9 - Classroom Guidelines, recessed in soffit.
   b. Provide a bracket for a ceiling-mounted projector (projector furnished and installed by Owner).

F. MAIN LOBBY AREA

1. Finishes
   a. Floors: Porcelain Tile.
   b. Walls: Drywall.
   d. Ceiling: Drywall.

G. FLOOR/STUDY LOUNGES

1. Windows: Locate the rooms to have at least one window to corridor.

2. Finishes
   a. Floors: Carpet.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Ceiling: Suspended ceiling.

3. Accessories
   a. Markerboards
      1. Provide 10 lineal feet of markerboard on one wall of each.
   b. Tackboards
      1. Provide one 4' x 4' tackboard each

H. CLASSROOMS

1. Windows: Locate the rooms to have at least one exterior window.

2. Finishes
   a. Floors: Carpet.
   b. Walls: Drywall.
   c. Base: Carpet.
   d. Ceiling: Suspended ceiling.

3. Casework
   a. Provide plastic laminate A/V Cabinet &/or “Smart Box” and Laptop Shelf per UCB Telecommunications Standards (provide lock on A/V cabinet). Note: No lectern is required.
   b. Provide plastic laminate shelving in Storage Closet.

4. Accessories
   a. Markerboards
      1. Provide 12 lineal feet of markerboard on one wall and 12 lineal feet of chalkboard on another wall.
b. Tackboards
   1. Provide one 4’ x 4’ tackboard each in the Classroom

c. Projection Screens
   1. Provide each room one 72”W x 54”H pull-down projection screen, recessed in a
      soffit in accordance with UCB Building and Construction Standards, Appendix 9
      – Classroom Guidelines. Coordinate size and location with project manager
      and CU audio/visual department.
   2. Brackets for Ceiling-mounted Projectors: Provide one each in Classroom
      (projector furnished and installed by Owner).
   d. Provide manually operated ‘blackout’ window coverings at each classroom
      window and door.

I. LAUNDRY ROOMS

1. Finishes
   a. Floors: VCT.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Ceiling: Drywall.
   e. One washer and one dryer (owner provided items) per 35 beds.

2. Casework:
   a. Bracket-supported plastic laminate counter for folding.
      1. Provide 2’-0” wide x 2’-0” lineal feet per washer/dryer pair; 2’-0” wide x 6’-0”
         length minimum counter size.

J. VENDING AREA

1. Finishes
   a. Floors: VCT.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Ceiling: Suspended ceiling.

K. KITCHEN

1. Fixtures and Accessories (refer to Plumbing Fixtures for additional information).
   a. One double stainless steel sink with mixing valve and gooseneck faucet.
   b. Garbage disposal.
   c. Cold-water supply for coffee-service machine and refrigerator ice-maker.
   d. One re-circulating-type residential exhaust hood.
   e. Install one Owner-furnished paper towel dispenser.

2. Appliances
   a. Install the following Owner provided appliances (refer also to the Room Program):
      1. Dishwasher
      2. Oven/Range
      3. Refrigerator
      4. Range hood
      5. Microwave oven

3. Finishes
a. Floors: Stained concrete or VCT.
b. Walls: Drywall.
c. Base: Rubber.
d. Ceiling: Drywall.

4. Casework:
   a. Provide a minimum of 16 lineal feet of base and wall cabinet. Countertop to be of solid-polymer surfacing material. Provide finished laminate to match cabinet face underneath sink area.

L. SINK Niches

1. Fixtures and Accessories (refer to Plumbing Fixtures for additional information).
   a. One single stainless steel sink with mixing valve and gooseneck faucet located on side of sink.
   b. Garbage disposal.

2. Finishes
   a. Floors: Ceramic Tile shall be installed on the floor in front of the sink niches to a depth of 2 feet.
   b. Walls: Drywall.
   c. Base: Ceramic Tile.
   d. Soffit: Drywall.

3. Casework:
   a. Provide 5 lineal feet of plastic laminate base and wall cabinet in each niche. Countertop to be of solid-polymer surfacing material. Provide finished laminate to match cabinet face underneath sink area.

M. COMMON BATHROOMS

1. General
   a. Provide bathrooms in pairs, one pair per floor per wing.
   b. Provide fixtures at the maximum ratio of 1:7 per floor, per wing, divided proportionately to the population on each floor that will be utilizing the Common Bathrooms (i.e., exclude the population served by private baths).
   c. Single Occupant Floor Bathrooms: Single bathrooms consisting of a water closet, a lavatory and a shower. These bathrooms shall be ADA compliant and located on floors/wings having common bathrooms. These bathrooms will not change the total fixture count necessary for the floor upon which they are located.
   d. It is the goal of the University to achieve an occupant to fixture ratio of 1:7 to 1:8.

2. Fixtures and Accessories
   a. Provide the following in each bathroom:
      1. Water closets in compartments, each with sanitary napkin disposals.
      2. Vitreous china under-mounted lavatories in a solid-polymer surfacing material vanities:
         a. Vanities: 20"D x 30"W for each lavatory.
         b. Solid-polymer surfacing material shelf 5"D, positioned 10" above vanity (below mirror) integral with the wall in front of the vanity.
         c. 8" diameter hole in vanities between each lavatory (provide trim ring) for access to Owner-furnished trash cans below.
3. Unframed mirror spanning the width of the vanity from the top of the shelf above the vanity to the ceiling.

4. Showers in enclosures, each measuring 36” x 36”, with an adjacent 36” x 36” drying compartment, each with its own swinging partition door. Provide each with a curtain and rod, and one robe hook on the door to the enclosure. Coordinate curtain rod mounting height with Owner.

b. Install the following Owner furnished accessories in each room:
   1. One toilet paper dispenser for each water closet.
   2. Two paper towel dispensers at lavatories.
   3. One soap dispenser for each lavatory mounted on lavatory counter.
   4. One (non-electric) hand sanitizer.

3. Finishes
   a. Floors: 12” x 12” Ceramic tile w/ sloped to drain (floor drain should be provided).
   b. Walls: 4” x 4” Ceramic tile, full height.
   c. Base: To match wall tile.
   d. Ceiling: Drywall.
   e. Shower:
      1. Solid Surface Walls and Shower Pans.
      2. Ceilings/soffits: Drywall.
   f. Provide tile accent band on all walls in common bathrooms. Each wing shall have a different color accent band.

N. PUBLIC TOILETS (Gender Neutral)

1. Fixtures and Accessories
   a. In each public toilet, provide the following:
      1. One water closet.
      2. One wall-mounted vitreous china lavatory.
      3. One framed mirror, 18” x 24”.
      4. One single-piece, L-shaped grab-bar.
      5. One sanitary napkin disposal.
      6. One infrared sensor faucet.

2. Install the following Owner furnished accessories in each room:
   a. One toilet paper dispenser.
   b. One paper towel dispenser.
   c. One soap dispenser.
   d. One (non-electric) hand sanitizer.

3. Finishes
   a. Floors: 12” x 12” Ceramic tile.
   b. Walls: 4” x 4” Ceramic tile.
   c. Base: To match wall tile.
   d. Ceiling: Drywall.

O. STORAGE ROOMS

1. Finishes
   a. Floors: Sealed Concrete, VCT or linoleum tile.
   b. Walls: Drywall.
   c. Base: Rubber.
d. Ceiling: Drywall.

P. CUSTODIAL CLOSETS

1. Fixtures and Accessories
   a. In each custodial closet, provide the following:
      2. One 26”L stainless steel mop rack.
      3. Five, 24”D x 36”W heavy duty adjustable shelves on standards and brackets.
      4. 18” H stainless steel wall guard on two sides of mop service basin.

2. Finishes
   a. Floors: Non-slip quarry tile.
   b. Walls: Drywall with epoxy paint.
   c. Base: Rubber.
   d. Ceiling: Drywall.

Q. CUSTODIAL STORAGE CLOSETS

1. Finishes
   a. Floors: Non-slip quarry tile.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Ceiling: Drywall.

R. CUSTODIAL BREAKROOM

1. Fixtures and Accessories (refer to Plumbing Fixtures for additional information).
   a. One single stainless with mixing valve and gooseneck faucet.
   b. Disposal.

2. Finishes
   a. Floors: Stained concrete of VCT.
   b. Walls: Drywall.
   c. Base: Rubber.
   d. Soffit: Drywall.

3. Casework:
   a. Provide plastic laminate base and wall cabinet along the length of the short wall of the room, leaving space for a full-size refrigerator. Countertop to be of solid-polymer surfacing material.

S. CORRIDORS

1. Finishes
   a. Floors:
      1. Carpet (typical).
      2. Tile.
      a. Provide tile for a maximum length of 6’-0” in the long axis of the corridor, spanning the width of the corridor, at every door to a Common Bathroom.
b. Walls: Drywall.
c. Base: Carpet.
d. Drywall.
2. Accessories:
   a. Provide two 4' x 4' tackboards in each hallway.

T. ITS ROOM AND CLOSETS

1. Design and construct per UCB Telecommunications Standards.

2. Finishes
   a. Floors: VCT or sealed concrete, confirm with Owner.
   b. Walls: Drywall, cover w/ ¾” A-C fire-resistant plywood backboard
   c. Base: Rubber.
   d. Ceilings: Open to structure.

U. MECHANICAL/MACHINE ROOMS, ELECTRICAL & MDF-IDF ROOMS

1. Finishes
   a. Floors: Sealed concrete in Mechanical & Machine Rooms. VCT in Electrical and in MDF and IDF Rooms.
   b. Walls: Drywall.
   c. Base: Rubber at VCT only.
   d. Ceiling: Open to structure.

V. ELEVATORS

1. Finishes:
   a. Floors: 24” x 24” quartz-reinforced vinyl tile by Rikett Quartz or approved substitute prior to bidding.
   b. Walls: Plastic laminate.
   c. Ceiling: Plastic laminate with down lights.

2. Control console: Stainless steel.

W. All interior stairs shall have VCT tile, rubber stair treads, base and stair nosing with gypsum board ceilings and painted walls and ceilings. Coordinate colors with the University.

III. CRITERIA FOR INTERIOR MATERIALS

A. GENERAL

1. The Design-Build Team will make recommendations of colors for all materials and components to enable the Owner to make decisions about them in the context of an entire palette.

B. MILLWORK

1. General: All millwork is to have LEED MRc7 certified wood products.

2. Cabinets
a. All cabinets are to be clad with plastic laminate (except F.I.R. and Hall Director’s Apartment). Refer to the Criteria for Room Types for countertop materials.
b. Provide one adjustable melamine-clad shelf in each base cabinet.
c. Provide one adjustable melamine-clad shelf in each wall cabinet up to 24” in height, and two shelves for all others.
d. Provide locks as indicated in the Criteria for Room Types.

3. Countertops: Self-edged, square profile; provide 4” high backsplash at Sink Niches and full height at Kitchen at each abutting wall.
   a. Materials: As indicated under Criteria for Room Types.

4. Window Sills: Provide ½” thick solid-polymer surfacing material at all window sills.

5. Shower Enclosures
   a. Walls: ¼” thick solid-polymer surfacing material.
   b. Shower Pan: ½” thick solid-polymer surfacing material.

C. DOORS, DOORFRAMES AND HARDWARE

1. Doors
   a. All rooms and closets are to be enclosed by at least one door, except where specifically noted otherwise in this document.
   b. All doors are to swing into rooms except those serving mechanical/electrical/IT rooms and closets, custodial closets and storage rooms, or doors otherwise required by building and life-safety codes to swing outward.
   c. All doors are to be solid-core wood, with plastic laminate faces and edges. All doors are to have LEED MRc7 certified wood products.
   d. Door sizes:
      1. All room entry doors are to be 3’-0” x 6’-8” x 1¾”.
      2. All bedroom closet doors are to be 2’-8” x 6’-8” x 1¾”.
   e. Manufacturers:
      1. Buell Door Company
      2. Eggers Industries
      3. The Maiman Company
      4. Approved Substitute prior to bidding
   f. Vision Panels: Provide vision panels (of the largest size permitted by code) in doors into the RAP Reception, Classroom, Great Room and Floor/Study Lounges.

2. Hardware
   a. Finish: All hardware is to have US26D finish – Satin Chrome.
   b. Locking/Latching Hardware
      1. Locksets
         a. Typical on all doors except as noted otherwise: Onity Integra 5 CT mortise locksets. Locksets to be furnished and installed by Owner.
            i. Student rooms: With PIN pad option
            ii. All other Onity locations: Without PIN pad
         c. All doors between public areas and student residential areas (C-Cure).
         e. Private Baths in Suites: Schlage “L” series mortise privacy sets.
2. Passage Sets: Provide Schlage “L” series mortise sets.
3. Door Operators: Provide campus standard LCN pneumatic door operator on the entry doors of each wing at the entry plazas (only one operator at pairs of doors). The operator shall be integrated with the CCURE system where applicable. Any substitutions shall be coordinated with Housing Access Services.
4. Provide all bedroom entry doors from corridors with a wide-angle, one-way door viewer.
5. Provide Rockwood kick plates on doors in the following location:
   a. All exterior doors.
   b. Common Bathroom doors.
   c. Stairway doors.
   d. Custodial closets.
   e. Mechanical rooms.
   f. IT Room and Closets.
   g. Corridors
   c. Provide floor or wall-mounted doorstops. Verify with Owner.
   d. Closet doors in student rooms shall have pull handles & roller latches.
   e. Provide Rockwood push/pulls.
   f. Provide magnetic hold-open devices on the doors at the following locations:
      1. Main entry doors to each wing.
      2. Great Room.
      4. Classroom.
      5. Stairways unless part of security system.
   g. Provide spring hinges, 2 per door at middle & bottom locations, at student rooms.

D. FINISHES

1. Walls
   a. Typical: Type X drywall, with Level 4 finish.
   b. Corridors: Type X abuse-resistant drywall, with Level 4 finish. Soffits in the corridors shall have Type X abuse-resistant drywall on vertical surfaces only. Provide 2 layers of Type X drywall on horizontal surfaces at soffit with slip-joint at strike side of door.
   c. Private Bathrooms:
      1. 4” x 4” ceramic tile (with epoxy grout) wainscots to 4’-0” above floor.
      2. Moisture-resistant drywall with Level 5 finish above ceramic tile wainscots.
   d. Common Bathrooms and Toilet Rooms: “4” x 4” ceramic tile, full height, with epoxy grout.

2. Flooring and Bases
   a. Carpet
         a. Base: 4” high carpet base with bound edge to match Carpet-1.
      2. Walk-off Matt: Van Dijk Contract “Hercules Nop Tile”, color “7-Grijs” (CU Standard).
         a. Base: Match adjacent base.
      3. All carpet shall have a pad installed under the carpet. Provide Fairmont 30 oz. pad or Approved Equal prior to bidding.
b. VCT or Linoleum Tile
   1. Flooring materials in accordance with CU Standards.
   2. Base: 4” high rubber.

c. Ceramic Tile:
   1. Bathrooms and Toilet Rooms: 2” x 2” ceramic mosaic tile, with dark colored epoxy grout.
      a. Base: 4” high ceramic tile cove.

d. Porcelain Tile:
   1. Main Lobby, Private Bathroom and Sink niche: 12” x 12” or 6” x 24” porcelain tile.
      a. Base: 4” high porcelain tile cove.

3. Ceilings and Soffits
   a. Type X drywall, typical, except in corridors as noted above.
   b. Suspended Acoustic Ceiling (where indicated under Criteria for Room Types).
      1. Armstrong 2’ x 4’ “Armatuff” medium texture, #860 suspended ceiling system (or Approved Equal prior to bidding).
      2. Provide 15% extra ceiling panel materials.
   c. Solid wood slat ceiling with black scrim and acoustical batt above in Community Room.
   d. No new ceiling is required in the following spaces:
      1. Mechanical Rooms.
      2. Electrical Rooms.
      3. IT Rooms.
      4. Custodial Rooms.

E. SPECIALTIES

1. Visual Display
   b. Tackboards: Provide Tack Boards - Fabricmate Systems Interactive Panel System with square edge profile, reCore substrate, 2100 FR701 fabric or alternate color as selected by RES LIFE. Student room tack boards cannot be prefabricated, but must be constructed in the field as per Housing Maintenance standards.
      1. Thickness: 5/8”.
      2. Edges: Resin-hardened with square edge.
   c. Display Cases: Recessed, internally illuminated, wood display case with lockable sliding glass doors and adjustable glass shelves.

   a. Product: Bobrick “Sierra” Series, solid color reinforced composite partitions; floor-mounted/overhead braced, with latches and coat hooks on doors. Provide coat hooks with bumper pads or wall-mounted stops as necessary.

3. Corner guards: Provide two-piece extruded rigid plastic corner guards, with aluminum retainers, at all exterior corners in corridors and Floor Study Lounges, Classrooms, Kitchens and Vending Rooms to a height of 4’-0”.

4. Signage:
b. Every sign is to have the room number. No name slot.
c. Except for Single Bedrooms, Double Bedrooms, Suites and the Faculty Residence Apartment, every sign is to have the room name.
d. Provide signs at Common Bathrooms with removable/interchangeable rooms names (provide “Men” and “Women” for each bathroom).
e. Provide Way-Finding Signage. Coordinate with Owner.

5. Fire Extinguishers/Cabinets
   a. Provide extinguisher types and quantities as required by Code requirements.
   b. Cabinets
      1. Semi-recessed.
      2. Flat-trim.
      4. Vandal resistant lock.

6. Toilet and Bath Accessories
   a. Provide the following toilet and bath accessories manufactured by American Specialties Inc. (ASI) or comparable products by one of the manufacturers listed in the “University of Colorado Building and Construction Standards”.
      1. Toilet Tissue Holder; No. 7402.
      2. Washcloth Ring; No. 7385.
      3. Towel Bars; No. 7355.
      4. Shower Curtain Rods; No. 1204. Coordinate mounting height with Owner.
      5. Robe Hook; No. 0751.
      7. Mop Rack; No. 8215 (26” long).

7. Access Panels: Access panels must be provided with a lockable panel keyed alike and to CU Housing specifications. Provide factory finish.

F. EQUIPMENT

   a. Motorized or pull-down as indicated under Criteria for Room Types.

G. FURNISHINGS

1. Window coverings: PVC horizontal blinds with 2” slats.
   a. Product: “3 Day Blinds” Solaire, Smooth Alabaster with cord tilt, or Approved Substitute prior to bidding.

2. Blackout shades at Great Room and Classrooms: Provide Thermoveil, 1000 Series, medium vertical weave by Mecho Shade Systems, Inc.

3. Black mini-blinds at Great Room and Classrooms.
TECHNICAL CRITERIA: MECHANICAL

I. MECHANICAL SYSTEMS: GENERAL

A. Mechanical systems shall be designed in accordance with UCB Mechanical Standards Version 2008. The Standards include design criteria, guidelines and acceptable products. The Standards include minimum performance criteria for specific materials and equipment.

B. Building utilities shall be zoned by floor, to allow utilities at one floor to be off-line for service or maintenance, and the remaining building to function. The Hall Director Apartment and Faculty Residence Apartment shall be zoned so as to remain functional when the remainder of the building may be off-line.

C. Provide separate electrical metering as follows:
   1. Hall Director Apartment
   2. Faculty in Residence Apartment
   3. Each building floor

II. HVAC SYSTEMS: GENERAL

A. Locate the central cooling water pumping system, central heating water system and the central domestic hot water system in a mechanical room. From this mechanical room, distribute piping throughout the building to serve terminal users.

B. The Williams Village high-pressure steam service exists and shall be used. Provide a new chilled water distribution system from existing distribution system to the new mechanical room, through a pumping system and distributed within the building to serve terminal users.

C. Utilize pre-insulated steel piping for steam and uninsulated plastic piping for chilled water, installed below the frost line. Maintain 6' minimum separation between chilled water lines and steam lines installed below grade. Install expansion loops and anchors as needed to allow piping expansion.

D. Conceal all pipes, ducts, and devices within wall or ceiling construction in occupied spaces.

E. Provide lead and lag sequence for hot water and chilled water pumps.

III. CAMPUS STEAM SYSTEM

A. Williams Village IIa will be supplied by the Williams Village underground high pressure steam system which will be utilized for this project. Provide all new devices within the mechanical room (i.e., pressure relief valve (PRV) stations, condensate pumps and steam meters, installed in the central mechanical room and tied into the BAS system). Provide a PRV system to regulate the high pressure steam to 15-50 psig steam serving the heating water heat exchangers and domestic water heat exchangers. Condensate return pumps shall be powered by Campus compressed air system.

B. Steam pressure from the Williams Village system is 90-120 psig [please verify].
C. Steam pressure reliefs shall extend to the roof or other pre-approved safe discharge point.

IV. CHILLED WATER SYSTEMS

A. Include a minimum of two pumps in the pumping design (100% redundancy) for the chilled water systems. Arrange the building pumping system as a variable speed “secondary” tier pumping system from the district chilled water system.

B. Provide a minimum 14 degree temperature differential between chilled supply and return water temperature in the design of the system.

C. Provide a complete chilled water system.

D. Provide the building interface (UCB Standard) piping and control valve within the chilled water pumping room and extend chilled water piping for connection to the chilled water system. Provide a chilled water meter per CU-Boulder standards. All piping within the building and through the foundation shall be steel and be insulated per UCB specifications. The insulation at the foundation wall will be sealed to prevent condensation. The penetration of the foundation wall will be sealed using Link-Seal. The exterior piping will be bedded with a minimum of 6” of pea-gravel on undisturbed soil. The sides and top will be surrounded with pea gravel, with a minimum of 6” on top. Backfill will be free of large stones.

V. HEATING WATER AND AIR-HANDLING SYSTEMS

A. GENERAL

1. Provide two steam/hot water heat exchangers (Armstrong Flo-Rite), each sized at 75% of total load, from the Campus system. Size this system for 20% excess capacity.

2. Provide heating water that is pumped to coils located in each air-handling unit, air terminal heating coils, cabinet heaters, unit heaters and fan coil units.

3. Provide a pumping system with two pumps, each sized at 100% of total load and controlled from variable frequency drives.

4. Provide a dedicated heating water system for all Make-up Air Units. This heating water system shall have a heat exchanger and shall use water to water Dowtherm 4000 propylene glycol solution (approximately 35%) Provide a coupon rack.

B. BEDROOM AND SUITE APARTMENT HVAC SYSTEMS.

1. In each bedroom include a single four pipe heating/cooling fan coil unit located in a ceiling soffit. All fan coils are to include a throw-away type filter, a remote mounted speed selector switch, window proximity switch to disable the fan coil with an open window, and a single wall mounted Andover SmartStat (or equivalent) (+/- 4 degree F occupant adjustment) connected to DDC panels within the building connected to the Housing and Dining Services network. Pipe chilled water, heating and condensate piping branches from each fan-coil unit (FCU) to nearby vertical risers. Locate these FCU’s such that they are readily and easily accessible for maintenance. All rooms shall have tempered ventilation air from the central make-up air handling units. All FCU’s
shall have isolation valves on all supply and return lines and a capped nipple to allow for complete system ‘blow down’. Isolation valves on all supply and return lines shall be easily accessed and serviced by CU maintenance staff. Provide Andover Smart Sensor for all thermostats.

The specified FCU’s must:
- Allow for accessible control valves. They must not be stacked vertically but installed horizontally.
- Have all the electrical connections configured to allow easy and quick motor replacement or coil cleaning.
- Have heating valves that fail open.
- Include filter frames to prevent air bypass of filters.
- Have window switches that are above residential grade and cannot be easily disabled with tape or a toothpick. Provide magnetic switch.
- Include tamper proof screws for FCU access panels.

2. In each bathroom, include an exhaust grille located above the water closets and shower areas connected to a central exhaust system. Ventilation air quantities for the Bathrooms shall be sized in excess of 10 air changes per hour. No heating or air conditioning is to be provided to interior bathrooms.

C. GREAT ROOM HVAC SYSTEM

1. Provide HVAC for the Great Room from the central air-handling unit serving public areas.

D. FLOOR/STUDY LOUNGES HVAC SYSTEMS

1. Depending on the final location of Floor/Study Lounges, heating and air conditioning may be provided either from the central air handling unit serving public areas (see below) or from individual fan coil units located above the ceiling. Provide a separate temperature zone for each lounge.

E. AIR HANDLING SYSTEMS SERVING PUBLIC AREAS

1. Provide make-up air from the central system for public areas. Public areas include such spaces as main corridors, lounges, support spaces and other spaces without exterior exposures.

2. Arrange each air-handling unit to provide additional outside air ventilation to provide positive building pressure relative to the outdoors. These units may be utilized for complete conditioning of these spaces or in conjunction with four pipe fan coils to provide the required conditioning, ventilation air requirements and positive building pressurization.

3. Provide the kitchen with a re-circulating residential hood.

4. Washers and dryers in laundry rooms will be furnished and installed by the Owner’s vendor. Provide venting to the exterior for all dryers. Provide conditioned outside air for make-up air in the laundry rooms, and provide a separate temperature zone (i.e. dedicated thermostat) in each laundry room.
F. INFORMATION TECHNOLOGY (IT) EQUIPMENT ROOMS HVAC SYSTEMS

1. Provide exhaust or other ventilation systems to maintain appropriate equipment operating temperatures. Where necessary, provide air conditioning equipment per TIA/EIA 560 standards and UCB Telecommunications Standards, to maintain a temperature range between 64 and 75 degrees F. and connected to the Andover Building Automation Control System (DDC system) for room temperature alarm.

G. MISCELLANEOUS HVAC SYSTEMS

1. Provide all elevator equipment rooms with a HVAC system for ventilation cooling. Provide ventilation exhaust and make-up air.

2. Install exhaust fans and duct risers to serve as toilet exhaust for each building. Fans are to run continuously and each fan shall include a 10% excess capacity. Provide back draft dampers at the exhaust grille.

3. Design all exhaust systems and ventilation systems to eliminate “cross-talk” through the duct system.

4. Provide all small sub-electrical rooms with thermostatically-controlled ceiling ventilation fans. Provide cooling only fan coil units in the main electrical room. Only electrical rooms with transformers or other heat-generating equipment need cooling or exhaust fans.

5. Provide a hot water cabinet heater at all building entries.

6. For ventilation, provide with fresh air from overhead air handling unit system to meet outside air minimum requirements. The tempered fresh air system shall be directly connected to the return air duct of the fan coil.

7. For ductwork serving dryer-vent exhaust, provide new aluminum ductwork. Ductwork shall be of a thickness to resist impact damage or the ductwork will have to be protected from such damage.

8. Provide gravity drains for condensate drains. Sump pumps for cooling condensate should be installed only if strictly necessary due to design considerations and tie into the Andover system.

VI. BUILDING CONTROLS SYSTEMS

A. Provide a DDC “Andover” automated controls system as per UCB standards and the present system that exists on the UC Boulder campus for all HVAC equipment and devices. Tie all building utility meters into Andover system.

VII. PLUMBING SYSTEMS

A. GENERAL

1. Fire and Domestic Water Entry: New fire and domestic water mains will be required. Create a water entry room that has a large floor drain or shutoff with secondary containment for the backflow preventers in the event of a major discharge. Provide
the domestic water system with two reduced pressure type backflow preventers, each capable of handling the building demand.

2. All insulated pipes in wet areas are to be sleeved.

B. DOMESTIC WATER HEATING SYSTEM

1. Provide a domestic water heating system with two feed forward steam to hot water generators. Locate generators located in the central mechanical room. Each water heater shall be capable of handling two-thirds of the total project demands. The water from the heaters shall be routed through a master thermostatic mixing station reducing the temperature to 120 degrees F. before being routed to plumbing fixtures. The domestic hot water system shall have a pumped return circulation system.

2. The domestic water distribution system shall have a duplex variable frequency drive booster pump package located in the central mechanical room with an expansion tank and remote pressure sensing switch. The domestic water will be routed through risers and serve each floor. The booster pump system shall be monitored by the BAS.

3. Provide individual hot water heaters for the faculty apartment and hall director apartment as a back-up to steam generated domestic hot water.

4. Provide additional Andover temperature probe between hot water heater head and three-way mixing valve as an anti-scald measure.

C. SANITARY DRAINAGE SYSTEM

1. Provide a standard cast iron pipe sanitary waste and vent system to serve all plumbing fixtures, public and private toilet rooms, janitor’s closets, break rooms and mechanical room floor drains. Route this cast iron system below grade to the exterior of the building. Mechanical rooms are to have two floor drains.

2. Sanitary waste piping is to exit the building and pass through a cleanout and connect to the site sewer system to the site main.

3. Provide 3” floor drain lines at all showers and floor drains.

D. FIRE PROTECTION SYSTEM

1. Connect to the Williams Village fire main. Provide a concealed automatic fire sprinkler system with full coverage for the entire building.

2. The sprinkler system shall comply with NFPA 13 for common areas and NFPA 13R for sleeping rooms.

3. Provide sprinkler systems serving elevator equipment rooms and shafts in accordance with UCB Building and Construction Standards.

4. Utilize semi recessed and sidewall heads.

5. Fire protection system components may not be located in custodial closets.
6. Provide sprinkler guards (cages) on heads in student rooms, public areas accessible to students, mechanical rooms and electrical rooms.

E. PLUMBING FIXTURES

1. Except as required by UCB Building and Construction Standards, provide fixtures described or specified below.

2. Faucets, general: Provide only Delta faucets (no substitutes).

3. Faucets, public restrooms: Provide infrared sensor faucet with temperature control.

4. Low-flow Aerators
   a. Provide the following Niagara Conservation Corp. aerators on all faucets, as indicated:
      1. Lavatories: No. N3205FIP laminar flow 0.5-gpm FIP aerator.
   b. Provide Niagara Conservation Corp. No. N3117 aerator adapters (55/64"M x 15/16"M) as required to convert to male threads for faucets.

5. Water closets
   a. Wall mounted flush valve type.
   b. Flush Valves: Dual mode flush valves.
   c. Toilet seats and lids: Provide closed-front toilet seats with lids in all private bathrooms, and open-front toilet seats with no lid in Common Bathrooms and Public Toilets. All toilet seats are to be white.
   d. Products
      1. Water Closets: Toto CT705; Color: Cotton.
      2. Flush Valves: Sloan ‘Dual-Flush’. Provide signage at the flush valve that advises user on flushing protocol.

6. Lavatories
   a. Under-counter mounted vitreous china, white.
      1. Product

7. Garbage Disposals
   a. Provide a disposer in the Kitchen sink, the sinks in Sink Niches, and in the (optional) Custodial Breakroom.
   b. Product: In-Sink-Erator Evolution PRO Essential Food - PRO ES or Approved Substitute prior to bidding.
   c. Duty: ½ HP.

8. Showers
   c. Mount shower heads on soffits, adjacent to the wall with the shower controls.
   d. Provide hand held showers with slide bars at disabled-accessible showers.
   e. Provide solid brass body strainer for all shower pans.
9. Water Fountains
   a. Provide one set of water fountains per floor, per wing.
   b. Provide disabled-accessible, high-low models with equipment recessed in wall.

10. Service Sinks and Basins
    a. Mop Service Basins
       1. Terrazzo composition, 36" x 36", with stainless steel rim guards.
       b. Provide a check valve in the water supply piping to each mop service basin and
          spouts with vacuum-breakers.

11. Miscellaneous Sinks
    a. Kitchen Sink and sink in (optional) Custodial Breakroom: Provide one double
       stainless steel sink with two 13½" x 16" x 7½" deep (approximate) compartments,
       with gooseneck faucet and mixing valve, sprayer, and disposer.
    b. Sinks in Sink Niches and Classroom: In each, provide one stainless steel sink with
       single 22" x19"x 5½" deep compartment (approximate), with gooseneck faucet
       and mixing valves. Provide a disposer in each sink niche.

12. Fixtures in Mechanical Rooms
    a. In mechanical rooms with chemical treatment stations, provide an emergency
       shower/eye wash.
    b. Provide a cold water hose bibb in each mechanical room.
    c. There should be a minimum of two floor drains in each mechanical room.

13. Floor Drains
    a. Provide a floor drain in all Public Toilets, Common Bathrooms and Laundry Rooms.
       Minimum size 3" at showers and floor drains. Floor surfaces in these rooms shall slope
       to the floor drain for easy maintenance.

14. Clothes Washer connections: Recessed in wall box with shut off valves and waste
    fitting.

15. Hose bibs shall meet UCB standards. Coordinate with CU for location.

[END OF SECTION]
TECHNICAL CRITERIA: ELECTRICAL AND SYSTEMS

I. POWER DISTRIBUTION

A. GENERAL

1. Conceal all conduits, wire-ways and junction boxes within the building construction except in unoccupied or utility spaces.

B. PRIMARY POWER DISTRIBUTION

1. Provide new pad-mounted transformer to serve Williams Village IIa. Size transformer per project requirements with aluminum windings. Connect pad-mounted transformer to the existing underground 13.2kV loop feeder.

2. The Design-Build Team shall provide the new pad-mounted transformer, 13.2kV wiring, duct bank, terminations, etc.

3. Design for the transformer location must comply with electrical codes. The Design-Build Team must propose several alternatives looking at all the issues, e.g. open windows, trees and vegetation, proximity to the building, egress and building access, Campus AHJs will review and comment on the issues & alternatives.

C. MAIN POWER DISTRIBUTION

1. The Main Distribution equipment for the Williams Village IIa is required to be 1000A, 120/208V, 3P, 4W, fed by the new 500KVA pad-mounted transformer. Contractor to provide new transformers. Campus AHJs will review and comment.

2. Provide the main breaker with zero sequence type ground-fault protection and solid-state trip.

3. The Distribution Breakers shall be insulated or molded-case type breakers.

4. Switchgear
   a. Provide front accessible switchgear only with fully rated copper bussing for both vertical and horizontal bussing.
   b. The switchgear shall contain a minimum of (2) section with each section being a minimum of 38” Wide by 24” Deep. The switchgear shall also be provided with Transient Voltage Surge Protection (TVSS).
   c. Locate the switchgear in a dedicated Main Electrical Room to be located on grade level near the pad-mounted transformer.

5. Provide sub-metering capabilities for each building wing; coordinate with Owner.

D. SECONDARY DISTRIBUTION

1. Provide 120/208V, 3P, 4W panels and step-down dry-type transformers located to serve the convenience receptacle loads, etc.

2. Locate panels and transformers in closets with lockable doors.
3. Provide a 100 amp panel in the MDF Room.

E. EMERGENCY GENERATOR – NOT USED

II. LIGHTING

A. LUMINAIRES

1. All luminaires are to be surface mounted with the exception of those in spaces specifically identified to receive fixtures recessed in ceilings. MC cable may be used for the resident room lighting only with a maximum of 18 feet of MC cable in any one residence room.
   a. Light fixtures in student rooms to be mounted on the ceilings (no wall-mounted fixtures) and must be located so that they will not interfere with the potential lofting of the beds.
   b. Fluorescent bulbs only except for halogen fan lights installed in apartment bedrooms.

2. A target of less than 1.0 watts/SF for Lighting Power Density (LPD) has been established.

3. Refer to the Luminaire Standards on the following page for types of luminaires required in each space. The products shown are not intended to be the only fixtures which may be considered or used. Rather, they illustrate a level of quality, performance and appearance which must be met. In some cases more than one product is shown for a particular luminaire, to further illustrate the standard.

4. Exit Signs throughout the facility shall be LED Type. Use vandalism resistant housings and mountings in all corridors; coordinate with Owner.

5. Exterior Lighting
   a. Use LEDs at the building eaves as indicated on the Luminaire Standards.
   b. Provide exterior lighting at terraces and building entries except no new step lights. This lighting shall be designed to provide general area illumination for informal, nighttime gatherings in the space. Select types and quantity of luminaires which provide a suitable light level for such activities, minimize glare, are in character with the building and which comply with Campus Standards. All exterior lighting shall be controlled by an interior local, secure switch. Exterior lighting at balconies shall be locally switched inside the building. Exterior lighting underneath bridges shall be controlled via photocell and local switching.

B. INTERIOR LIGHTING CONTROLS

1. Occupancy Sensors
   a. Provide Hubbell occupancy sensor controls for lighting where shown on the Luminaire Schedule and provide extreme temperature/moisture-resistant sensors for bathroom locations.
   b. Lighting in Mechanical Rooms, Electrical Rooms, IT Rooms, Custodial Closets and Offices shall be controlled by a ceiling mounted dual technology occupancy sensor and a wall mounted override switch.

2. Provide local switching at all student rooms.

3. Provide switches controlled by time clocks for all non-emergency lights in corridors.
Luminaire Standards – All luminaires are surface mounted except where noted. The products used in the Kittredge Complex Renovations are representative of a level of overall quality, performance and appearance that is expected in the finished project. They are not to be considered as the only products which may be considered or incorporated in the work.

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</table>

Notes:
1 Provide ceiling mounted luminaires at vanities, and recessed luminaires at soffits over showers and water closets (as necessary).
2 Provide recessed downlights (Type N) in soffits over showers.
3 Provide dual-level switching for all luminaires.
4 Provide ceiling mounted luminaires for general lighting, and under-cabinet luminaires for the full width of wall cabinets.
5 Provide occupancy sensors.
6 Provide dual switched lighting in student bedrooms, lighting levels are measured at the center of the room.
7 Provide occupancy sensor with wall-mounted override switch.
8 Provide plastic cover & wire guard.
9 Provide wire guard.
III. POWER

A. All receptacles shall be 20A unless otherwise noted.

B. Provide each room throughout the facility with at least one receptacle, as a minimum.

C. All receptacles within 6’ of water (sinks, showers, etc.) shall be provided with GFI Protection.

D. Refer to the Power, IT and CATV Systems Schedule on page 76 for quantities and types of receptacles in each space category.

IV. FIRE ALARM SYSTEM

A. The Fire Alarm System shall be a totally addressable intelligent system manufactured by Simplex/Grinnell.

B. The Fire Alarm Control Panel shall be Simplex 4100-U (CPU, zone cards, batteries, cabinet, etc.).

1. The panel shall be provided with a Simplex 4100-1240 Auxiliary Audio Input Module, which is provided to accommodate external audio inputs to the FACP.
2. The card shall allow multiple inputs of audio signal.
3. If the panel is not Simplex 4100U, the panel shall be configured to accept 10 volts root mean squared (VRMS), 25 VRMS, 70.7 VRMS, and/or line level (.707 VRMS) audio inputs.

C. Notification appliances shall be Wheelock Multitone MTWP-2475W-FR-UL/ULC, 128420, 0704.

D. Simplex Mapnet II pull station PID-2099-9761, Part 0630567, with Stopper II tamper resistant cover.

E. All fire alarm system wiring shall be installed in conduit.

F. Locate the FACP in Reception (as an alternative, the FACP may be located in a closet if an annunciator is located in Reception).

G. The Fire Alarm System shall have an integrated Public Address system included allowing for room notification, corridor notification; by wing, by floor and all call modes of notification. Follow the UCB Standards which can be found on the CU website under Current Electrical Standards, Section 16720, Fire Alarm and Detection Systems.

1. The building emergency communication system (ECS) shall be compatible with the wireless system being planned for the university.
2. The fire alarm and detection system shall be fully compliant with the most current edition of NFPA-72 for an Emergency Voice/Alarm Communications System including intelligibility requirements.

H. Provide multimode fiber from MDF room to fire alarm control panel.
I. Provide Screen Shots (color graphics) at CU Central Command Center with CU/Boulder Fire Dept. interface.

J. The following language is to be modified by the project engineer of record based on project specifics, and provided in the fire alarm specifications:

1. Fire Alarm Voice Communication panels shall be capable of accepting a dry contact input from an Emergency Communication System (ECS) to alert the fire alarm panel that an ECS message is forthcoming.
2. The Fire Alarm Panel shall be capable of being programmed so that while this input is active (contact closed) the fire alarm panel shall route audio provided by the ECS interface directly to all connected fire alarm speakers.
3. The system shall be capable of being programmed so this external audio input will receive the highest priority and override all fire alarm notification so long as the input is active. When the input goes inactive (contact open) the external audio routing will cease and the fire alarm panel shall automatically return to the prior notification program that was active before the ECS message.
4. Note, based on communications from SimplexGrinnell, the simplex 4100U is capable of meeting the required programming configuration.

V. GROUNDING

A. All conduits throughout the facility shall be provided with an equipment-grounding conductor. Equipment needing Isolated Ground (IG) Power shall be provided with (1) Equipment Ground Conductor and (1) Isolated Ground Conductor.

B. The grounding for the Main Distribution Switchgear and the Secondary Panels and Gear shall be provided in accordance to NEC Article 250.

C. Each Electrical Room and Telecomm Room throughout the facility shall be provided with one 12"x4"x1/4"D Copper Ground Bar. These Ground Bars shall be tied together with a #4/O AWG Stranded Copper Conductor in a grounding riser configuration. The Main Electrical Room Ground Bar shall be tied to the Ground Bus in the Main Electrical Switchgear with a 250kcmil Stranded Copper Conductor.

VI. INFORMATION TECHNOLOGY

A. The Design-Build Team will be responsible for a turn-key installation. The Design-Build Team will provide all system design, conduit infrastructure and boxes, wiring, devices and termination, system testing and system certification in accordance with UCB Telecommunications Standards. UCB will provide all head-end equipment (routers, servers, etc.).

1. Provide both a cabled system and a wireless system throughout the building.
2. Provide for wireless accommodation of “A, B, and G” radio frequencies.

B. The Design-Build Team shall include an RCDD-certified consulting firm (i.e., not an RCDD-certified individual within the electrical engineer’s office).

1. Provide as-built drawings for all audiovisual systems.
2. Follow UCB ITS classroom equipment standards.

C. The building shall be provided with one 62.5 multi-mode 24-strand fiber, and one single-mode 24-strand fiber cable. All wiring for both phone and data shall be Category 5E.
D. Elevator Machine Room should be wired for future information technology connections. Use two (2) Cat 5e cables wired with 2 jacks and two (2) pair, 18 gauge power cable for future card reader.

E. Provide a CAT5E cable for the wireless network system. Run cable in 1" conduit to antenna locations in hallways.

F. IT Rooms and Closets
   1. Provide one MDF Room for the building and one IDF Room per wing, centrally located to serve each floor. The rooms to be 10’ x 10’.
   2. Do not locate the rooms/closets adjacent to any bathroom or toilet room or laundry rooms (in any dimension).
   3. The closets should accommodate the following:
      a. Resnet
      b. Data
      c. Voice
      d. CATV
   4. Provide UPS in MDF and IDF room large enough to supply sufficient power for two-hour run time.
   5. From the MDF Room to each IDF Room provide:
      a. One (1) CAT5e for voice
      b. One (1) CAT5e for utility
      c. One (1) CAT5e for Qwest
      d. One (1) 50/125 multi-mode 24-strand fiber cable
      e. One (1) single-mode 24-strand fiber cable
   6. If an MDF is used as an IDF with horizontal cables, provide riser voice and utility to the racks.
   7. Each MDF and IDF rack location shall have a dedicated outlet from one panel in the MDF and be connected to one UPS and generator.

G. Provide one data jack and power for a C-cure card reader at each lockable, non-bedroom interior security door between public and residential areas.

H. Locate the PA system controls in the FACP panel.

I. Refer to the Power, IT and CATV Systems Schedule on page 76 for quantities and types of voice and/or data jacks in each space category.

J. Provide a discrete WiFi system based on Cisco infrastructure. Design/Build entity shall provide a third party wireless design.

K. Design/Builder shall provide all electronics (switches, access points, etc.) Install all electronics in the MDF and IDF rooms (rack-mount) and ceiling access boxes, configure the electronics, and commission the WiFi system. Access points (APs) will be located on site by Housing IT Dept. All APs will be housed in secure access boxes. The D/B team will install locked ceiling access boxes at AP locations identified by Housing IT. Ceiling access boxes must be secured to the ceiling at four (4) points. Do not use antenna holes for mounting – drill mounting holes when necessary. The D/B team will install, terminate and test a single CAG 5E cable from each PA location to the serving IDF room in that wing. The length of that CAD 5E cable shall be within the distance standard defined in the UCB Telecom
Specification. Provide 1” conduit (homerun) to all wireless AP boxes for CAT5E cabling and to accommodate future DAS cabling. Follow the CU standards for pulling CAT5E cable and all runs. D/B team is required to review ceiling box locations with Housing IT representative prior to installation. D/B team is responsible for installation of a WiFi system providing 100% coverage of wireless per Owner's design requirements.

L. The Owner prefers to have IT pathways located in accessible areas above the corridor ceilings. The Owner will accept cable tray above acoustical drop-in tile ceilings only.

M. The MDF (including connectivity for network) fiber must be ready 6 weeks prior to end of construction to allow for testing other systems.

N. The Design/Build Team must activate connectivity to Campus IT network 4 weeks prior to the end of construction to allow for Andover testing.

O. Provide conduit sleeves through corridor hard ceilings for future cabling.

P. Provide 62.5 fiber drops for Andover communication line and fire alarm system.

VII. SECURITY SYSTEMS

A. The Design-Build Team will be responsible for a total turn-key installation that is compatible with the existing security system and utilizes equipment by the same manufacturer (C-Cure). Provide all system design, wiring, device installation and termination, system testing and system certification. All C-Cure locations require door contacts and motion sensors.

B. The security system should terminate in the MDF Room. All MDFs and IDF’s shall be connected to the C-Cure system.

C. Provide wiring for CU supplied cameras at all C-Cure locations. Cameras will be installed in the interior of the buildings. Contact CU project manager to arrange site walk for locations. This scope of work should be performed by the same data comm. vendor that is wiring the rest of the building.

D. Provide card readers/electric strikes (C-Cure) on corridor doors within the building that separate public or common areas from bedroom areas.

E. It is the purpose of the scope to ensure that all lockable doors are equipped with either a wired security door (C-cure) or a stand alone security lock (Onity).

F. The cameras, as sighted by the owner, are owner-supplied and are required on the interior side of all exterior door locations, the reception desk and within the elevator cabs.

VIII. CABLE TV

A. The cable TV system is to be installed by the Contractor as a turn-key Installation. Design-Build Team will install all wiring, raceways and trunk system to nearest tie-in point in the Utility Tunnels.

B. Refer to the Power, IT and CATV Systems Schedule on page 76 for quantities and locations of devices in each space category.
IX. LAUNDRY CARD READER

A. Provide dedicated data jack and 120V outlet for each laundry card reader. Owner to provide one laundry card reader for each laundry room. Mount card reader at ADA height and semi-recess in wall. Provide daisy chain wiring to each washer and dryer from card reader in ¾ inch conduit. Owner to approve location of card reader in each laundry room prior to installation.
## POWER, IT AND CATV SYSTEMS SCHEDULE

<table>
<thead>
<tr>
<th>Space Category</th>
<th>Power Receptacles</th>
<th>Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Duplex</td>
<td>Quadruple</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Private bathrooms</td>
<td>1 per lav.</td>
<td>-</td>
</tr>
<tr>
<td>Reception</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Great Room</td>
<td>4+1</td>
<td>-</td>
</tr>
<tr>
<td>Floor/Study Lounges</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Offices</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Laundry</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Vending</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Kitchen</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Common Bathrooms</td>
<td>1 per lav.</td>
<td>-</td>
</tr>
<tr>
<td>Public Toilets</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Storage Rooms</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Work Rooms</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Classroom -each</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Conference Room</td>
<td></td>
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<tr>
<td>Apartments</td>
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<tr>
<td>ITS Lab</td>
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</tr>
<tr>
<td>Service Entry</td>
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<td></td>
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<tr>
<td>Custodial Closets</td>
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<td>-</td>
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<tr>
<td>Custodial Storage Closets</td>
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<td>-</td>
</tr>
<tr>
<td>Custodial Break Room</td>
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<td>-</td>
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<tr>
<td>Mechanical Rooms</td>
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<tr>
<td>Electrical Rooms</td>
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<tr>
<td>Elevator Machine Rooms</td>
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<td>1</td>
</tr>
<tr>
<td>IT MDF Room</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>IT IDF Rooms</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Corridors</td>
<td>1/ 40LF</td>
<td>-</td>
</tr>
<tr>
<td>Elevator Cab</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes:

1. Locate one receptacle or jack on each wall.
2. Locate above vanity at each lavatory.
3. Locate quadruplex receptacle at reception desk or receptionist work-station under desk or work-station.
4. Provide one dedicated receptacle for coffee-maker or other equipment.
5. These receptacles are in addition to the dedicated ones required for washers and dryers.
6. This receptacle is in addition to the dedicated ones required for vending machines.
7. Provide two dedicated receptacles above counter.
8. NOT USED.
9. Provide two quadruplex dedicated receptacles above counter.

Electrical outlets for the primary audiovisual cabinets in each classroom shall be dedicated 20 amp circuits.
Each printer, copy machine, and data project shall have a dedicated 20 amp circuit each.
All Power outlets shall be clearly labeled with respective circuit numbering.
10. Provide voice and data ports above counter.
11. Refer to UCB Standards, Appendix 9 for information pertaining to data and power requirements for “smart-to-every-seat” classroom technology, in addition to the requirements shown here.
12. In addition to duplex receptacle in each mechanical room, provide one welding outlet (NEMA 10-30R).
13. Each power receptacle is to be a dedicated 20 amp circuit.
14. Provide one wall jack per floor in each wing for emergency telephone.
15. Provide in-floor receptacles for maximum flexibility.
16. Place on top of cab.
17. Locate voice/data outlet for laundry card reader per owner direction.

[END OF SECTION]
CODE REVIEW

Please refer to the preliminary code review contained in the Program Plan. Comply with all applicable CU-Boulder Standards and Code Requirement (most recent edition). It shall be the responsibility of each Design-Build Team to perform its own review and analyses of the codes to ensure full compliance with them.

I. CODE REVIEW

The code review system and format is described in Section 3 of the Construction / Life Safety Handbook which can be accessed via the web at:


II. APPLICABLE CODES

The following links identify the most current code editions for UCB projects.

Approved State Building Codes
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/index.html

Adopted Codes and Standards
http://www.sos.state.co.us/CCR/Rule.do?deptID=17&deptName=1507%20Department%20of%20Public%20Safety&agencyID=43&agencyName=1507%20Division%20of%20Fire%20Safety&ccrDocID=2792&ccrDocName=8%20CCR%201507-11%20FIRE%20SUPPRESSION%20PROGRAM&subDocID=27895&subDocName=SECTION%20206%20%20CODES%20AND%20STANDARDS%20ADOPTED&version=5

City of Boulder Amendments to the IFC
http://www.bouldercolorado.gov/files/PDS/codes/dcs/ch05.pdf

[END OF SECTION]
ATTACHMENT I – ALTERNATES & UNIT PRICE FORM

State of Colorado / University of Colorado at Boulder

Alternate and Unit Price Form

Williams Village IIa Residence Hall

A. ALTERNATES:

None used.

B. UNIT PRICES:

None used.

[END OF SECTION]
ATTACHMENT II – CORA BIKE RACK PAD INSTALLATION DETAIL

GENERAL NOTES:

Installation: This series has a two bolt fastening system with 1/2 inch clearance holes.
Galvanized bolts greater than five inches are recommended.
Stainless stief hardware is required for stainless product.
Standard hardware for installing on concrete is included in the shipping package and
in most cases a hand-held drill and a wrench are all that is required to secure the units in place.

Capacity is rated for double-sided access. Single-sided access reduces capacity by one-third.
Allow two feet from the footing pin to a curb or wall when installing for single-sided use.
Parallel layouts allow twelve feet nine inches between mainframe.
In-line layouts allow three feet between mainframe.
Allow three feet (eighteen inch min.) between the shoulder and any obstruction.

Site Selection: The most convenient location is adjacent to the building entrance doors.
Good line of sight in view of office windows or security personnel.
If line of sight is not possible, then the rack should be placed beside high pedestrian traffic.
Where a rack is being installed at an existing building, it should be placed at the location
where bicycles are to be seen.
The location should be flat and at grade with the surface which the cyclist uses for access.
Covered areas are preferable to uncovered areas.
MINIMUM CLEARANCE IN TIGHT QUARTERS

GENERAL NOTES:

Installation: This series has a two bolt fastening system with 1/2 inch clearance holes. Galvanized bolts greater than five inches are recommended. Stainless steel hardware is required for stainless product. Standard hardware for installing on concrete is included in the shipping package and in most cases a hand-held drill and a wrench are all that is required to secure the units in place.

Capacity is rated for double-sided access. Single-sided access reduces capacity by one-third. Allow two feet from the footpin to a curb or wall when installing for single-sided use. Parallel layouts allow twelve feet nine inches between mainframe. In line layouts allow three feet between mainframe. Allow three feet (eighteen inch min.) between the shoulder and any obstruction.

Site Selection: The most convenient location is adjacent to the building entrance doors. Good line of sight in view of office windows or security personnel. If line of sight is not possible, then the rack should be placed beside high pedestrian traffic. Where a rack is being installed at an existing building, it should be placed at the location where bicycles are to be seen. The location should be flat and at grade with the surface which the cyclist uses for access. Covered areas are preferable to uncovered areas.

University of Colorado at Boulder

CORA BIKE RACK INSTALLATION STANDARDS

Department of Parking and Transportation Services

Date: May 2008
6" CONCRETE CURB

TOP OF GRAVEL 1/2'- 2' OVER TOP OF RING SO WHEN COMPACTED RING IS NOT VISIBLE. GRAVEL 1/2' BELOW CURB.

GRAVEL/PAVING ATTACH WITH SNAP FIT FASTENERS

FILTER FABRIC, OVERLAPPING JOINTS

FILL RING SECTION WITH GRAVEL FILL - 3/4" MINUS (WYOMING RED)

6" COMPACTED SANDY GRAVEL BASE COURSE

CORA BIKE RACK INSTALLATION STANDARDS

Department of Parking and Transportation Services
Date: 09.09.2009
ATTACHMENT III – ADA SHOWER PAN DETAIL
ATTACHMENT IV – light fixture cut sheets

See thirty nine (39) pages WVIIa - Attachment IV - General Light Fixtures cut sheets.

CAN BE FOUND AT:

http://fm.colorado.edu/construction/ - Open Submittal - Notice 09-15

It is the responsibility of the submitting firm to review the information referenced above and posted on the above web sites. Report any difficulties in accessing the referenced document to

margaret.chiu@colorado.edu
## ATTACHMENT V – APARTMENT PROGRAMS

### Hall Director’s Apartment (HD)

<table>
<thead>
<tr>
<th>Room Name:</th>
<th>Function/Activity: Housing for one Adult Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area: 1100 SF</td>
<td></td>
</tr>
<tr>
<td>Total Number of Identical Rooms: 1</td>
<td></td>
</tr>
<tr>
<td>Number of Occupants: 1</td>
<td></td>
</tr>
<tr>
<td>Adjacent to: Student Bedrooms</td>
<td></td>
</tr>
<tr>
<td>Close to: Student Bedrooms</td>
<td></td>
</tr>
<tr>
<td>Away from: Public areas</td>
<td></td>
</tr>
<tr>
<td>Other Design Considerations:</td>
<td>Provide two bedrooms, one living/dining area one kitchen, one full bath and laundry/storage area, provide for conversion to ADA accessibility (Type B accessible unit).</td>
</tr>
</tbody>
</table>

### Faculty in Residence Apartment (FIR) – Type A

| Room Name: Faculty in Residence Apartment (FIR) – Type A |
| Function/Activity: Housing for faculty and family |
| Area: 1500 SF |
| Total Number of Identical Rooms: 1 |
| Number of Occupants: Family of 4 |
| Adjacent to: Single Room or Double Bedroom (for potential connection and use as third bedroom, utilize “hotel type double door” for single room privacy when not in use with FIR apt.) |
| Close to: Single Bedroom or Double Bedroom |
| Away from: Public areas |
| Other Design Considerations: | One living/dining area one kitchen, and laundry/storage area, provide for conversion to ADA accessibility (kitchen at ADA heights, including appliances). Provide two bedrooms: One ‘Master Suite’ configuration with ¾ bath and W.I.C; One ‘child’s bedroom’ adjacent to one full bath. Full bath to have access to apartment living area. Office or Study alcove space preferred. Provide Private entrance to building exterior. |

### Furniture to be provided by Owner. Anticipate typical furniture for the above listed space types. Kitchen Appliances (by Owner) – Refrigerator, Stove, Hood/Microwave combination, stacking Washer/Dryer, Dishwasher. |

### Furniture to be provided by occupant. Anticipate typical furniture for the above listed space types. Kitchen Appliances (by Owner) – Refrigerator, Stove, Hood/Microwave combination, Washer, Dryer, Dishwasher. |

### Faculty in Residence Apartment (FIR) – Type B (Not Required)

| Room Name: Faculty in Residence Apartment (FIR) – Type B (Not Required) |
| Function/Activity: Housing for two Graduate Assistant faculty or faculty and family |
| Area: 1200 SF |
| Total Number of Identical Rooms: 0 |
Number of Occupants: 2

Adjacent to: Single Room or Double Bedroom (for potential connection and use as third bedroom, utilize “hotel type double door” for single room privacy when not in use with FIR apt.)

Close to: Single Bedroom or Double Bedroom

Away from: Public areas

Other Design Considerations:

- One living/dining area, kitchen and laundry/storage area; provide for conversion to ADA accessibility (type B accessible unit).
- Provide two bedrooms: One Bedroom suite with ¾ bath; One bedroom suite with one full bath. Bedrooms to be separated to provide privacy to individual occupants.
- Office or Study alcove space preferred.
- Provide Private entrance to building exterior.

Moveable Furnishings and Equipment:

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture to be provided by occupant. Anticipate typical furniture for the above listed space types. Kitchen Appliances (by Owner) – Refrigerator, Stove, Hood/Microwave combination, Washer, Dryer, Dishwasher.</td>
<td>TBD</td>
</tr>
</tbody>
</table>

A. HALL DIRECTOR’S APARTMENT

It is the intent of the Owner to provide a staff member (one occupant typical) a standard residential apartment with all of the standard residential amenities in the bathroom, kitchen and living areas.

1. Fixtures and Accessories – Bathroom
   a. One water closet.
   b. Two lavatory sinks - under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”D x 60” W with back splash. Provide a hardwood base cabinet with doors and one shelf, and at least one drawer.
   c. Tub/Shower with shower curtain rod and curtain, solid surface enclosures except ceiling (drywall w/ high build semi-gloss paint). Shower at ¾ bath to have solid surface enclosure with 2x2 unglazed ceramic mosaic base.
   d. Typical residential Bathroom accessories – including but not limited to mirror (no medicine cabinet), towel bar, wash cloth ring, etc.
   e. Window Coverings – match building standard

2. Fixtures and Accessories – Kitchen
   a. Stainless steel double sink with disposal and hand sprayer
   b. Cabinets – Economy grade hardwood cabinets (hardwood on exposed surfaces, melamine interior) with solid surface countertops and tile backsplash.
   c. Utility Connections for Refrigerator, stove/oven combination, Hood Microwave oven combination, dishwasher
   d. Ceiling light.
   e. Window Coverings – match building standard

3. Fixtures and Accessories – Laundry/Storage room
   a. Utility Connections for Washer/Dryer, either full size stacking unit or side-by-side.
   b. Laminate folding counter measuring at least 22”D x 36”W
   c. Adjustable storage shelving, six laminate shelves at least 16”D x 48” W
4. Fixtures and Accessories – Living areas and Bedrooms
   a. Ceiling Fan with Light in bedrooms.
   b. Window Coverings – match building standard
   c. Built-in desk area 60"W x 24" D

5. Finishes – Living areas
   a. Floors – pre-engineered hardwood
   b. Walls – Standard drywall and standard paint (anticipate up to four accent colors)
   c. Ceilings – Standard drywall and paint
   d. Base and trim – Stain and lacquer hardwood base, MDF crown molding

6. Finishes – Bedrooms
   a. Floors – Broadloom carpet
   b. Walls – Standard drywall and standard paint (anticipate up to four accent colors)
   c. Ceilings – Standard drywall and paint
   d. Base and trim – Stain and lacquer hardwood

7. Finishes – Kitchen
   a. Floors – pre-engineered hardwood
   b. Walls – Standard drywall and standard paint
   c. Ceilings – Standard drywall and paint
   d. Base and trim – Stain and lacquer hardwood base, MDF crown molding

8. Finishes – Bathrooms
   a. Floors – porcelain tile (except use unglazed ceramic mosaics at shower base)
   b. Walls – ceramic tile wainscot – 42" AFF except in shower enclosure, Standard drywall and standard paint
   c. Ceilings – Standard drywall and paint
   d. Base – ceramic tile

9. Miscellaneous –
   a. Living areas –
      i. 1 – 4’-0” wide x full height built-in hardwood bookshelves
      ii. 1 – data/cable/phone jack per campus standard
   b. bedrooms –
      i. 1 – data/cable/phone jack per campus standard
   c. bathroom –
      i. obscure glass in exterior window(s)
   d. Doors –
      i. Exterior entrance door – Insulated Steel with hollow metal frame
      ii. Interior entrance door – 1-3/4” thick, solid core with hollow metal frame; code compliant
      iii. Doors connecting to the required adjacent single room shall be 1-3/4” thick, solid core with hollow metal frames
      iv. All other doors – standard residential grade, solid core, 1-3/8” thick
e. Fire sprinkler/alarm
   i. Match and incorporate into building alarm and notification system

B. FACULTY IN RESIDENCE APARTMENT (Type A)

It is the intent of the Owner to provide a faculty member and their family (four occupants typical) a standard residential apartment with all of the standard residential amenities in the bathroom, kitchen and living areas.

1. Fixtures and Accessories - Bathroom (Master Suite)
   a. One water closet.
   b. Two lavatory sinks - under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”D x 60” W with backsplash. Provide a hardwood base cabinet with doors and one shelf, and at least one drawer.
   c. Shower with shower curtain rod and curtain, solid surface enclosures except ceiling (drywall w/ high build semi-gloss paint). Shower to have solid surface enclosure with 2x2 unglazed ceramic mosaic base.
   d. Typical residential Bathroom accessories - including but not limited to (2) towel bars, mirror, washcloth ring, etc.
   e. Window Coverings - match building standard

2. Fixtures and Accessories - Bathroom (child/guest)
   a. One water closet.
   b. One lavatory sink - under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”D x 42” W with backsplash. Provide a hardwood base cabinet with doors and one shelf, and at least one drawer.
   c. Tub/Shower with shower curtain rod and curtain, solid surface enclosures except ceiling (drywall w/ high build semi-gloss paint).
   d. Typical residential Bathroom accessories - including but not limited to (1) towel bars, mirror, washcloth ring, etc.
   e. Window Coverings - match building standard

3. Fixtures and Accessories - Kitchen
   a. Stainless steel double sink with disposal and hand sprayer
   b. Cabinets - Economy grade hardwood cabinets (hardwood on exposed surfaces, melamine interior) with solid surface countertops and tile backsplash.
   c. Utility Connections for Refrigerator, stove/oven combination, Hood Microwave oven combination, dishwasher
   d. Pantry Closet w/ four laminate shelves at least 12”D x 36” W
   e. Ceiling light.
   f. Window Coverings - match building standard

4. Fixtures and Accessories - Laundry/Storage room
   a. Utility Connections for Washer/Dryer, either full size stacking unit or side-by-side.
   b. Laminate folding counter measuring at least 22”D x 36”W
   c. Adjustable storage shelving, six laminate shelves at least 16”D x 48” W

5. Fixtures and Accessories - Living areas and Bedrooms
   a. Ceiling Fan with Light.
   b. Master bedroom to have at least 18 lin. feet of rod space and shelf; 30% to be full height.
c. Child/guest bedroom to have at least 3 lin. feet of rod space and shelf; at least 30% to be full height.
d. Window Coverings – match building standard

6. Finishes – Living areas
   a. Floors – pre-engineered hardwood
   b. Walls – Standard drywall and standard paint (anticipate up to four accent colors)
c. Ceilings – Standard drywall and paint
d. Base and trim – Stain and lacquer hardwood base, MDF crown molding

7. Finishes – Bedrooms
   a. Floors – Broadloom carpet
   b. Walls – Standard drywall and standard paint (anticipate up to four accent colors)
c. Ceilings – Standard drywall and paint
d. Base and trim – Stain and lacquer hardwood

8. Finishes – Kitchen
   a. Floors – pre-engineered hardwood
   b. Walls – Standard drywall and standard paint
c. Ceilings – Standard drywall and paint
d. Base and trim – Stain and lacquer hardwood base, MDF crown molding

9. Finishes – Bathrooms
   a. Floors – porcelain tile (except use unglazed ceramic mosaics at shower base)
b. Walls – ceramic tile wainscot – 42” AFF except in shower enclosure, Standard drywall and standard paint
c. Ceilings – Standard drywall and paint
d. Base – ceramic tile

10. Miscellaneous –
   a. Living areas –
      i. 2 – 4'-0" wide x full height built-in hardwood bookshelves
      ii. 1 – data/cable/phone jack per campus standard
   b. bedrooms –
      i. 1 – data/cable/phone jack per campus standard
   c. bathroom –
      i. obscure glass in exterior window(s)
d. Doors –
      i. Exterior entrance door – Insulated Steel with hollow metal frame
      ii. Interior entrance door – 1-3/4” thick, solid core with hollow metal frame; code compliant
      iii. Doors connecting to the required adjacent single room shall be 1-3/4” thick, solid core with hollow metal frames
      iv. All other doors – standard residential grade, solid core, 1-3/8” thick
e. Fire sprinkler/alarms
      i. Match and incorporate into building alarm and notification system
f. Exterior entrance and patio/yard area
   i. A private exterior entrance is to be provided for the residents and guest of the faculty apartment. This entrance should be separated from major building entrances and accessible to nearby parking.
   ii. An enclosed patio/garden area is desired for the occupants of the FIR apartment. Fencing and/or site walls are to provide separation from the main public landscape areas.

C. FACULTY IN RESIDENCE APARTMENT (Type B) (Not Used)

It is the intent of the Owner to provide two graduate assistant faculty or a faculty member and their family (two to four occupants typical) a standard residential apartment with all of the standard residential amenities in the bathroom, kitchen and living areas.

1. Fixtures and Accessories - Bathroom One
   a. One water closet.
   b. One lavatory sink – under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”Dx54” W with back splash. Provide a hardwood base cabinet with doors and one shelf, and at least one drawer.
   c. Shower with shower curtain rod and curtain, solid surface enclosures except ceiling (drywall w/ high build semi-gloss paint). Shower to have solid surface enclosure with 2x2 unglazed ceramic mosaic base.
   d. Typical residential Bathroom accessories – including but not limited to (1) towel bar, mirror, washcloth ring, etc.
   e. Window Coverings – match building standard

2. Fixtures and Accessories - Bathroom Two
   a. One water closet.
   b. One lavatory sink – under-mounted solid-polymer surfacing lavatory in a solid-polymer surfacing material vanity measuring at least 22”Dx54” W with back splash. Provide a hardwood base cabinet with doors and one shelf, and at least one drawer.
   c. Tub/Shower with shower curtain rod and curtain, solid surface enclosures except ceiling (drywall w/ high build semi-gloss paint).
   d. Typical residential Bathroom accessories – including but not limited to (1) towel bar, mirror, washcloth ring, etc.
   e. Window Coverings – match building standard

3. Fixtures and Accessories - Kitchen
   a. Stainless steel double sink with disposal and hand sprayer
   b. Cabinets – Economy grade hardwood cabinets (hardwood on exposed surfaces, melamine interior) with solid surface countertops and tile.
   c. Utility Connections for Refrigerator, stove/oven combination, Hood Microwave oven combination, dishwasher
   d. Pantry Closet w/ four laminate shelves at least 12”D x 36” W
   e. Ceiling light.
   f. Window Coverings – match building standard

4. Fixtures and Accessories - Laundry/Storage room
a. Utility Connections for Washer/Dryer, either full size stacking unit or side-by-side.
b. Laminate folding counter measuring at least 22”D x 36”W
c. Adjustable storage shelving, six laminate shelves at least 16”D x 48” W

5. Fixtures and Accessories - Living areas and Bedrooms
   a. Ceiling Fan with Light.
   b. Each bedroom to have at least 8 lin. feet of rod space and shelf; 30% to be full height.
   c. Window Coverings - match building standard

6. Finishes - Living areas
   a. Floors - pre-engineered hardwood
   b. Walls - Standard drywall and standard paint (anticipate up to four accent colors)
   c. Ceilings - Standard drywall and paint
   d. Base and trim - Stain and lacquer hardwood base, MDF crown molding

7. Finishes - Bedrooms
   a. Floors - Broadloom carpet
   b. Walls - Standard drywall and standard paint (anticipate up to four accent colors)
   c. Ceilings - Standard drywall and paint
   d. Base and trim - Stain and lacquer hardwood

8. Finishes - Kitchen
   a. Floors - pre-engineered hardwood
   b. Walls - Standard drywall and standard paint
   c. Ceilings - Standard drywall and paint
   d. Base and trim - Stain and lacquer hardwood base, MDF crown molding

9. Finishes - Bathrooms
   a. Floors - porcelain tile (except use unglazed ceramic mosaics at shower base)
   b. Walls - ceramic tile wainscot - 42” AFF except in shower enclosure, Standard drywall and standard paint
   c. Ceilings - Standard drywall and paint
   d. Base - ceramic tile

10. Miscellaneous-
    a. Living areas -
        i. 1 - 4'-0” wide x full height built-in hardwood bookshelves
        ii. 1 - data/cable/phone jack per campus standard
    b. bedrooms -
        i. 1 - data/cable/phone jack per campus standard
    c. bathroom -
        ii. obscure glass in exterior window(s)
    d. Doors -
        i. Exterior entrance door - Insulated Steel with hollow metal frame
        ii. Interior entrance door - 1-3/4” thick, solid core with hollow metal frame; code compliant
iii. Doors connecting to the required adjacent single room shall be 1-3/4” thick, solid core with hollow metal frames
iv. All other doors – standard residential grade, solid core, 1-3/8” thick

e. Fire sprinkler/alarm
  i. Match and incorporate into building alarm and notification system

f. Exterior Entrance and patio/yard area
  i. A private exterior entrance is to be provided for the residents and guest of the faculty apartment. This entrance should be separated from major building entrances and accessible to nearby parking.
  ii. An enclosed patio/garden area is desired for the occupants of the FIR apartment. Fencing and/or site walls are to provide separation from the main public landscape areas.

D. HALL DIRECTOR AND FACULTY RESIDENT APARTMENT LUMINAIRE STANDARDS

All luminaires are surface mounted except where noted. These products are used in the Kittredge Complex Renovations and are standardized for all Hall Director and Facility Resident Apartments. See Attachment VI for Hall Director and Faculty Resident Apartment light fixture cut sheets.

<table>
<thead>
<tr>
<th>Space</th>
<th>Mounting</th>
<th>Luminaire Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master Bedroom</td>
<td>Ceiling</td>
<td>F, N1</td>
<td>1</td>
</tr>
<tr>
<td>2nd or 3rd Bedrooms</td>
<td>Ceiling</td>
<td>F1</td>
<td>1</td>
</tr>
<tr>
<td>Master Bathroom</td>
<td>Wall and Ceiling</td>
<td>B, B1, N, N1</td>
<td></td>
</tr>
<tr>
<td>2nd or 3rd Bathrooms</td>
<td>Wall and Ceiling</td>
<td>B, B1, N, N1</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>Ceiling, Under Cabinet &amp; Work Island</td>
<td>A, K, N N1</td>
<td>2</td>
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<tr>
<td>Dining Area</td>
<td>Ceiling @ 6’2”Aff</td>
<td>T</td>
<td>3</td>
</tr>
<tr>
<td>Living Area</td>
<td>Ceiling</td>
<td>N, N1</td>
<td></td>
</tr>
<tr>
<td>Closets</td>
<td>Ceiling</td>
<td>N1</td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
<td>Ceiling</td>
<td>N1</td>
<td></td>
</tr>
<tr>
<td>Storage Rooms</td>
<td>Ceiling</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Hallways</td>
<td>Ceiling</td>
<td>H1, H1E, N1</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Provide 2 wall mounted switches, 1 for Fan and 1 for Light.
2. Provide ceiling mounted luminaires for general lighting, and under-cabinet luminaires for the full width of wall cabinets.
3. Provide Wall Mounted Dimmer Switch
ATTACHMENT VI – HALL DIRECTOR AND FACULTY RESIDENT APARTMENT LIGHT FIXTURES CUT SHEETS

See fifty four (54) pages included in ATTACHMENT IV.
ATTACHMENT VII - REFERENCE DOCUMENTS

Williams Village Micro Master Plan  
http://fm.colorado.edu/planning/projects/willvill/masterplan.pdf

Master Site Development Plan  
http://fm.colorado.edu/planning/projects/willvill/williamsvillage2.pdf

Williams Village Design Guidelines  

Williams Village Phase II Program Plan  

UCB Architectural Standards  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/arch.html

UCB Mechanical Standards  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/mechanical.html

UCB Electrical Standards  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/electrical.html

UCB Civil Standards  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/civil.html

UCB Appendices  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/appendices.html

UCB Commissioning  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/commissioning.html

UCB CAD Standards  

UCB Telecommunications Standards  
http://www.colorado.edu/facilitiesmanagement/pdc/construction/standards/documents/Division27CommunicationsSpecifications.pdf

State Codes and Standards  
http://www.colorado.gov/dpa/dfp/sbrep/forms/sb/buildingcodes.doc

[END OF SECTION]
ATTACHMENT VIII – CITY OF BOULDER STANDARDS

Wetland Protection Ordinance
http://www.colocode.com/boulder2/chapter9-3.htm#section9_3_9

Comprehensive Flood and Stormwater Master Plan Update

City of Boulder Design and Construction Standards
http://ci.boulder.co.us/index.php?option=com_content&task=view&id=209&Itemid=48

[END OF SECTION]
### ATTACHMENT IX – ENVIRONMENTAL SITE ASSESSMENT FORM

<table>
<thead>
<tr>
<th>Building &amp; Location</th>
<th>Job Description</th>
<th>Work Order / Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>WVLIC</td>
<td>Williams Village Ila</td>
<td>PR#003965</td>
</tr>
</tbody>
</table>

#### Suspect Building Components, Materials, and Site Conditions:

- Project involves construction of new apartment complex at Williams Village. Site location is unexcavated with no current building. Utility tunnel located adjacent to site contains asbestos pipe insulation and is a permitted confined space location. Note: Tennis courts have not been sampled for asbestos material but were determined to not be located in the project area.

#### Samples / Results:

- Pipe insulation in utility tunnel is positive for asbestos. Confined space readings in tunnel at time of inspection were all below LEL and PEL levels with adequate oxygen.

#### REQUIRED ACTION:

Prior to work occurring in tunnel, the Contractor shall ensure that all employees, subcontractors, and their consultants have a minimum 2 hour asbestos awareness training (OSHA Class IV) and applicable confined space training. Removal of asbestos will be required for steam taps and other utilities brought from tunnel system to the new building(s). This work shall be coordinated directly with the EH&S Asbestos Manager to include, but not limited to, written scope of work, permitting with Colorado Department of Public Health and Environment (CDPHE), asbestos contractor selection, industrial hygienist selection, and asbestos disposal. Asbestos work will be conducted only by CDPHE certified and Colorado State Buildings approved listed contractors. All work shall be conducted in accordance with the University of Colorado at Boulder Asbestos Specifications (http://ehs.colorado.edu), CDPHE Regulation #8, and all applicable Federal regulations. Should any contractor be used that is NOT on the UCB standing order contractor list, evidence of applicable insurance and hazardous materials transportation permitting must be submitted to and approved by the EH&S Asbestos Manager prior to that contractor conducting this work. A minimum of ten linear feet on each side of pipe taps, valves, etc. (usually stalk/station to stalk/station from center point) is required at a minimum. All asbestos work will require the steam to be shut down and cooled to a minimum of 150 degrees F prior to asbestos work occurring. Contractor is responsible for coordinating this outage. Contractor is responsible for ensuring that all site conditions are controlled for including de-waterization plan, controlling dusts and debris (silt fencing) and ensuring that all surrounding buildings are protected for indoor air quality issues.

<table>
<thead>
<tr>
<th>EH&amp;S Inspector</th>
<th>Date Inspected</th>
<th>EH&amp;S Manager</th>
<th>Date Reviewed</th>
</tr>
</thead>
</table>

This report based upon conditions, regulations, policies at time of inspection and is valid for 90 days. Changing scope of work requires re-inspection. If areas contain hazardous materials (asbestos, chemicals, gases, bio-hazards, radioactive materials or radiation) and/or involve laboratories, shops, haz exhausts, tanks, sewer drains or traps, storm or surface water, or other occupational hazards; work must be coordinated with appropriate EH&S manager. No new materials containing asbestos may be used for any part of the construction project. Project must conform with all applicable codes & standards. Project Rep must submit to EH&S Env Compliance - comprehensive haz materials/chemical inventory used to determine additional requirements. Contractor and/or Project Rep must provide above information to employees, subcontractors and other relevant parties.

<table>
<thead>
<tr>
<th>University Representative / Contact</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katherine Dunklau</td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Contractor Name</th>
<th>Phone Number</th>
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<table>
<thead>
<tr>
<th>Contractor Representative (signature)</th>
<th>Date Signed</th>
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</table>