Graduate Housing

BT- 892

Florida International University
University Park

October 7, 2008

PENDING FINAL APPROVAL BY FIU PRESIDENT
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III. SIGNATURE SHEET

1. Educational Specifications contained in this document have been developed in accordance with the statutory requirements of the State University System of Florida as outlined in paragraph 4 of Standard Practice 00-0000-3-04-13:

______________________________________________ Date: ______________
ROBERT W. GRIFFITH, R.A., A.U.A.
DIRECTOR
FACILITIES PLANNING

2. This document is hereby recommended by the appointed University Building Program Committee:

______________________________________________ Date: ______________
JAMES R. WASSENAAR
EXECUTIVE DIRECTOR OPERATIONS AND AUXILIARY SERVICES
COMMITTEE CHAIRPERSON

3. Information Technology and Communications Resource Specifications contained in this document have been developed in conformance with the requirements of Chapter 282, Florida Statues, and University standard practices:

______________________________________________ Date: ______________
MIN YAO, VICE PRESIDENT & CIO
UNIVERSITY TECHNOLOGY SERVICES

4. This document is hereby approved and recommended by the Provost and Executive Vice President:

______________________________________________ Date: ______________
RONALD BERKMAN, PROVOST
AND EXECUTIVE VICE PRESIDENT

5. This document is hereby approved and recommended by the Vice President of Student Affairs and Undergraduate Education

______________________________________________
ROSA JONES, VICE PRESIDENT
STUDENT AFFAIRS AND UNDERGRADUATE EDUCATION

6. This document is hereby approved and recommended by Facilities Management:

______________________________________________ Date: ______________
JOHN CAL
ASSOCIATE VICE PRESIDENT
FACILITIES MANAGEMENT

7. This document is hereby approved by the Division of Business and Finance.

______________________________________________ Date: ______________
VIVIAN SANCHEZ
CFO & SENIOR VICE PRESIDENT
DIVISION OF BUSINESS & FINANCE

8. This document is hereby approved and recommended by the University.

______________________________________________ Date: ______________
MODESTO A. (MITCH) MAIDIQUE, PRESIDENT
FLORIDA INTERNATIONAL UNIVERSITY
III. SIGNATURE SHEET (continued)

FACILITY PROGRAM COMMITTEE

This building program represents the University's requirements for the development of Graduate Student Housing building, in as specific and complete a form as is presently available. It is a comprehensive effort of the members of the Building Program Committee who have each contributed, by drawing from their expertise and respective responsibilities, the essential information required by the architects and engineers to conceptualize and develop the project. This committee will monitor the development of the design and assist the design Architects/Engineers and Landscape Architects by refining details and clarifying any ambiguities herein in a manner consistent with this program. Coordination of program requirements (compatibility, standards, finishes, utility connections, equipment, etc.) and scheduling throughout the duration of the project will be maintained by the University's Facilities Construction Department.

The members of the Program Committee are:

Chairperson: James Wassenaar
Executive Director, Student Affairs Operations

Secretary: Sue Beebe
Associate Director, Housing

Members:
Joe Mattachione, Director, Residential Life
Claudia Paz, Director, Strategic Development
Kristine Burns, Associate Dean, Architecture and the Arts

Ex-Officio:
Senior Vice Provost, Planning & Institutional Effectiveness
Associate Vice President, Facilities Management
Associate Director, Facilities Management/Operations
Vice Provost & CIO, Information Resource Management
Associate Vice President, Environmental Health & Safety
Chairperson, Faculty Senate
Chairperson, Ad Hoc Building and Environment Committee
Associate Director, Facilities Management/Utilities
Director, Auxiliary Services
Director, Purchasing
Director, Academic Space Management
Director, Facilities Management/Minor Projects & Construction
Director, Real Estate Development & Planning/Planning
Director, Real Estate Development & Planning/Operations Analysis
Senior Project Manager/Facilities Management

Program compiled by:
Cecilia Suarez
IV. INTRODUCTION

Florida International University (F.I.U.) is a growing research institution located in a major urban area which serves the diverse academic needs of student recruits from throughout the United States and worldwide. Increasing numbers of these students will require and seek on campus housing that is convenient, safe, and affordable.

Florida International University Housing and Residential Life support the mission of the University and the Division of Student Affairs by providing a living environment that fosters the educational pursuits of a diverse student population. The campus residential community provides unique opportunities for personal growth and development, leadership experiences through student participation in programming and activities, and developing an appreciation of and sensitivity to differences. The facilities and services are designed to provide a supportive and safe environment, accommodating the needs of undergraduate students.

The University opened its first housing facility in 1984 (Bay Vista / 288 beds) at the Biscayne Bay campus. In 1985 the University opened its second housing facility the University Park apartments housing 595 students. In 1993 the University began a three phase project to increase on campus housing capacity by 1,300 bed spaces. Each of the three phases was funded by the sale of revenue bonds at a total cost of $71.5 million (which includes the purchase and refinancing of the 1984 & 1985 projects). The project began with the construction of Panther Hall (1995); followed by the University Park Towers (2000); then Everglades Hall (2002) and was recently completed with the opening of Lakeview Hall (2006). Today the University has the capacity to house 3,000 students. For more information regarding our services and accommodations please visit our web page at http://www.housing.fiu.edu

The Graduate Housing project is a continuation of a multi-phase expansion of on campus student housing which upon completion will deliver 2,000 additional beds resulting in a total bed capacity of 5,000 beds. This expansion of housing at University Park will comprise a new residence hall accommodating 400 graduate students. This program also includes the use of ground floor space for a coffee house, convenience store (“retail”) and academic support space for graduate students residing in the facility.

The Graduate Housing project envisions a total of 400 residents housed in groups of forty (40) students to be identified as a “residential community”. Serving these residential communities will be community study lounges which are provided to accommodate graduate student study groups, residential life programs, and social activities. In addition one staff apartment will be provided to house a full-time professional staff member.
The Residential Life Coordinator will be housed in a two bedroom apartment with living room, full kitchen, dining room, bathroom, and laundry closet. The Residential Life Coordinator apartment must have a private entrance and must be located in such away to afford the occupants a level of privacy.

The building will provide students with two types of units to select from. The first unit type “A” is a 350 s.f. Studio apartment, one bed, private bathroom and kitchen area, housing a total of (1) student (total of 300 units). The second unit type “B” is a 700 s.f. two bedroom apartment, private bathroom, living and kitchen area.

The “Support Services” element of this program has been provided to accommodate staff offices, maintenance support space, academic support and multipurpose meeting area. This space is to be designed in such a way that allows for each “residential community” to have shared access to the academic support and multipurpose meeting area.

This element of the project can be possibly viewed as a common area linking one or more residential housing components. This element includes the Front Desk / Reception; Administrative Residential Life Staff Offices; Entrance Lobby Area with Public Restroom; Mail Processing Room / mail boxes; Laundry / Vending machine room; multipurpose Room to serve as meeting space to host student programs and activities; and Maintenance Workshop / Storage.

The layout of this new residence hall must take into consideration provisions for covered walkways with appropriate lighting, linking residential area with adjacent academic facilities. Emphasis is to be given to designing buildings that are secure insuring student safety and security. Additionally, attention is to be given to the physical location of the facilities. The building will have the character of a residential facility, while blending with the existing campus architecture and other housing buildings in the area with a preferred minimum distance of one hundred feet separation between housing facilities providing green spaces between building to enhance student interaction and ensure access to outdoor areas for recreation. The durability of finishes, building materials, and mechanical equipment is a prime concern. The University is also committed to producing buildings that comply with current energy conservation strategies and standards (LEED Silver Certification). The containment and reduction of sound transmission from the adjoining parking structure, recreation field, and the street are of a high priority as is the limiting of sound transmission between living units and bedrooms.

This complex will also serve as a hurricane evacuation center for the resident student population and must conform to building standards to allow for occupancy during a category 3 hurricane. Designated spaces are to be supported by an indoor emergency generator. It is imperative that throughout the design process the safety and security of the resident population be of primary concern. The building will be secured on a 24 hour / seven day a week basis. Access to buildings must be limited to residents and guest only.

This program prescribes a space allocation plan, construction budget and schedule, and room-by-room specifications for the Architect / Engineer’s application in the design of the facilities. Any amendment to this Official Program Statement shall be written and duly approved. Supplementary information (consistent with this program) will be provided during the course of design reviews.
V. ACADEMIC PLAN

FLORIDA INTERNATIONAL UNIVERSITY HAS ESTABLISHED THE FOLLOWING GOALS:

Enrollment Goals

The University is currently assessing each of its graduate programs assuring alignment with State and institutional goals. UGS has adopted a strategy of increasing doctoral enrollment between 5% and 7%, while keeping Grad I growth below 5% annually. Current economic conditions have created pressure on Grad I enrollment, with UGS receiving nearly 1,900 more graduate applications this year compared to last year. Continued growth in Grad I and Grad II FTEs is expected.

Currently, business-related programs contribute most heavily to increases in Grad I FTE enrollment trends. We expect current enrollment in graduate business programs to continue to increase steadily due to factors such as University support in the form of tuition waivers, the growing reputation of our business programs and the local workforce demand for business-related professions. In addition, the University continues to emphasize recruitment and enrollment efforts in the areas of science (biology, chemistry, physics, and psychology), technology, engineering, and health (STEM disciplines). The focus in the STEM disciplines will be more on improving quality than increasing quantity, i.e., we expect that overall enrollment will hold steady or increase only modestly.

Quality Goals

In order to make additional progress toward becoming an outstanding research university, FIU needs to attract highly-qualified students and continuously improve the quality of education provided by Ph.D. programs. Ultimately, it is the success of our graduates that will define us as a quality research university.

In order to attract top doctoral students, the University has already invested a significant amount of money in toward making the financial support more attractive and competitive. Strategic initiatives funded by FIU enabled UGS to annualize all currently un-annualized stipends for Ph.D. students supported by teaching assistantships (total cost of $732,235) and to raise stipend amounts. For the 2008-2009 academic year, the University Graduate School will provide 12-month increases of $3,878 in the science, engineering, technical and health related fields, and $3,103 for all other fields. The subsequent phase of this multi-year effort is to increase the total number of teaching assistant stipends for Ph.D. students, i.e., support a greater number of doctoral students in selected programs.

The University aspires to develop each novice scholar into an effective, independent teacher and researcher simultaneously through repeated practice that moves the student along both trajectories. Other aspects of scholar formation are essential as well, including service, leadership, and ethical practice. One of the strategies to achieve the development of doctoral students across the skills they will need as scholars is more purposeful, coordinated, and multigenerational forms of mentoring and advising, i.e., a more shared, collective responsibility for student learning. We must be purposeful in the development of the overall learning environment for graduate students.
V. ACADEMIC PLAN (continued)

ACADEMIC SUPPORT FOR RESIDENTIAL GRADUATE STUDENTS WILL HELP FIU ACHIEVE THESE GOALS:

Statistical Consulting

This service provided to all graduate students. It aids in the development of research proposals for theses/dissertations or for grant submission and in the analysis of data for completion of the theses/dissertations and for publication in peer-reviewed journals. Statistical Consulting has helped strong graduate students to finish in a timely fashion with publishable dissertations and has provided the more intensive statistical support required for weaker students to successfully complete their programs. Statistical Consulting currently employs one full-time faculty member and three half-time graduate assistants. Students must meet with the consulting staff members in one of their very small offices (smaller than BOG standard) adjacent to the Statistics department, DM 409 D and 409B.

The Center for Excellence in Writing (CEW)

During AY 07-08, a partnership was formed among the University Graduate School, Academic Affairs, The Undergraduate Writing Program in the Department of English, and FIU’s Learning Center to promote writing excellence among both undergraduate and graduate students at FIU. The CEW will hold workshops and provide direct mentorship for graduate student writing efforts. One goal is to provide grant writing skills while also learning the crafts of their disciplines. There are many opportunities for beginning researchers and scholars in the form of pre-doctoral fellowships and small grants in support of research. The Center also expects to further enhance the energy and potential of FIU’s graduate population. The CEW will include a center director, a technical writing specialist, a staff of writing peer tutors, and an expert to help students address the challenges encountered by non-native speakers of English (note: nearly 60% of our Ph.D. students in the sciences and engineering are international students). The CEW will provide grant proposal and thesis/dissertation writing workshops for graduates from all disciplines, as well as individual mentoring for all graduate writing efforts. The CEW is currently housed in GL 125 and the first floor of the library on BBC. It is expected that some of the statistical consulting and writing services would be available in the graduate house.

Workshops sponsored by Graduate School

The intended purpose of these programs is to build intellectual community within academic programs and/or across the University and to increase/enhance opportunities for the scholarly development and training of graduate faculty and graduate students. These might take different forms, including lectures, short courses, half-day or day-long seminars. Possible topics include: Becoming a More Effective Teacher; The Academic Job Search Process and Strategies; Faculty Life in Academia and Career Options Outside Academia; Effective Tools or New Techniques for Teaching in X field; The Internship in Higher Education Leadership; how to apply for and write a grant; academic career path: from doctoral student to full professor; opportunities for practical application in various areas like technology, hands-on-teaching, job market preparation; programs on pedagogy provided by Academy for the Art of Teaching; discussions of faculty governance issues; development of professional portfolios; and documenting expertise in teaching, research, and service. It is anticipated that many of these programs would take place in the graduate house residence.
V. ACADEMIC PLAN (continued)

Research Colloquium/Seminars

In 2008-2009 the Research and University Graduate School began offering funds for enhancement of departmental research colloquium and seminar series. The intended purpose of this support is to build intellectual community within academic programs and/or across the University and to enhance opportunities for the scholarly development and training of graduate (particularly doctoral) students. A secondary goal is to facilitate the development of research and educational partnerships within the University. To qualify for these funds departmental colloquia must meet certain criteria, including provide opportunities specifically orchestrated for graduate students (particularly doctoral students) to interact with outside speakers, e.g., escorting the speaker, special question and answer session, round-table discussion, etc. The number of appropriate spaces available for these kinds of activities is limited, e.g., conference rooms, and many of the alternatives to conference room, e.g., the Graham Center, require payment for their use. It is anticipated that some of these seminars and many of the student-centered round-table discussions, question and answer sessions and social events could take place at the Graduate House at no cost to the academic program.

SUMMARY

The Housing and Residential Life program at Florida International University can provide an integral role in meeting the institutional goals of FIU and the University Graduate School. The housing facilities, and the programs and services will provide residents with a living experience that supports their academic success at the University. Specially designed living and learning communities provide students with the opportunity to interact with visiting scholars, participate in workshops or lectures designed to meet their needs as developing scholars, receive assistance in key areas such as writing skills and statistics, or form study groups with other students.

Research in human development and learning has consistently indicated that students are significantly affected by their living environment. Residence halls, when designed to foster student interaction, can be a powerful vehicle to foster student development. Schroeder and Mable (1994) state that residence halls can promulgate educationally purposeful activities by developing learning environments that directly support the academic mission of the institution, enhancing an appreciation of cultural and racial diversity, developing civic leadership skills, and providing opportunities to explore academic, career and leisure activities. They further add that campus residence halls provide the locale to bring together many of the experiences that lead to student learning and intellectual development.
VI. SPACE NEEDS ASSESSMENT

F.I.U. has very limited on-campus housing. The student body now exceeds thirty eight thousand five hundred (38,500), with only three thousand (3,000) students living on-campus. The University’s goal is to house 20% of the total full-time student body by the year 2015. In order to achieve this goal the University must construct an additional two thousand (2,000) bed spaces. The current housing need at the University Park campus is estimated at four hundred (400) additional bed spaces.

Assessment of student’s future needs indicate an equal desire for privacy and the opportunity to share a common living space with other students. A design of this nature provides the student an opportunity for privacy for sleeping, and studying in his/or her bedroom, while still providing space for social interaction. Other important design criteria include access to wireless Ethernet services, personal storage space, and the capacity to prepare and store quick meals/snacks, adequate common area study space for groups, minimal noise transmission between living spaces, ample security measures, rental space for coffee shops/C-store and provisions for indoor/outdoor recreational activities.

Although off-campus housing has been an acceptable alternative for some students, rising costs and limited availability are two prohibitive factors. Off-campus apartment rental rates have increased consistently over the past several years and this trend is expected to continue for the foreseeable future. The immediate area surrounding the University Park campus is fully developed and primarily consists of retail shops, restaurants and single family homes. Students are also being squeezed out of the lower end of the off-campus housing market. A number of the older, more affordable apartments have been converted to condominiums; many are not well maintained and are not desirable for student housing. This creates a poor environment for students and causes worry and concerns for parents. As safety concerns increase, the issue of adequate on-campus housing will impede the growth of F.I.U. and negatively impact the University’s ability to recruit and retain students.

Evidence that the lack of on-campus housing discourages some quality students from attending F.I.U. comes when applicants learn they will not be assigned to on-campus housing, withdraw their application and go elsewhere. In some cases, parents will not allow them to come to Miami and live off-campus, and others cannot afford the additional expense.

Students who choose to live off-campus encounter an array of problems for which no immediate assistance is available. There is no in-house support when landlord, roommate, or academic problems arise. Much of their daily efforts go toward working to pay rent, maintaining their living quarters, commuting to and from classes.

In contrast, on-campus residents are free to devote all their energy to their academic pursuits. When problems do arise, interested and informed University assistance is readily available. The student housing facilities are specifically designed to provide a living environment supportive of their academic pursuits and include amenities such as seminar rooms, academic support offices, and work group study rooms.

The resident student is freer to explore, develop, and fully participate in the college experience. Students who live on-campus are more likely to graduate, know a faculty member, complete their degree, participate in research, and engage in extracurricular activities. It is this group of students that gives a specific character and sense of campus life to an institution.
The issue of affordable housing has also had negative impact on the Universities ability to recruit and retain new faculty and staff. This has recently become a critical issue for the university with the dramatic increase in housing cost and other related cost of living increases has significantly impacted our ability to fill teaching positions and essential administrative staff positions. Thus we have made provisions to provide an interim housing solution for faculty and staff to bridge the housing gap to better position the university to meet staffing needs.

F.I.U., with a present total bed capacity of 3,000 students does not have sufficient housing to meet its growing enrollment of full-time graduate students. Presently on campus student housing at the University Park campus is filled to 98% of capacity. Full-time graduate student enrollment grew by 5% in 2008 and is project to continue to grow through 2012. The growth in graduate student enrollment is expected to produce demand for an additional 400 graduate student bed spaces. The University will increasingly depend upon the availability of on-campus housing in order to attract high quality graduate students and compete with other research driven institutions. The construction of a 400 bed Graduate Housing facility is critical to the achievement of the University’s goal to become a top public urban research university with a growing medical school program.
VII. ANALYSIS OF IMPACT ON MASTER PLAN

This project is included in the "Educational Plant Survey" recommendations of May 2006 and the 2000 – 2010 Campus Master Plan update.
VIII. SITE ANALYSIS
### IX. PROGRAM AREA SUMMARY

<table>
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<th>SUMARY OF SPACE REQUIREMENTS:</th>
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<td>Custodial Closets</td>
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<td>Telecommunications Room (TC)</td>
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<td>Storage</td>
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<td>Mechanical Room (Water Heater Room)</td>
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<td>Mechanical Room (Air Handler Unit Rooms)</td>
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<td>Electrical Room (Main Room)</td>
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<td>Retail Shell Space</td>
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<td><strong>TOTAL PROGRAM AREA (SHELL SPACE NSF)</strong></td>
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*Net areas to be calculated using "inside to inside" surface Measurements, (do not use center line dimensions)

*Telecommunications Room area was calculated based on total net square footage that Telecommunications shall support based on "Appendix C" page C-7". This is an approximate figure for budget purposes, and it will be defined once the actual configuration and geometry of the building has been determined.

Non-assignable areas, refer to descriptions of these spaces in section XII.
### SPACE PLANNING

This is a Studio apartment unit with single occupancy with its own closet with overhead storage and clothes rod. All studios are to have a window. One (1) complete bathroom and dinette/kitchenette area. Fifteen (15) units must comply with Florida Accessibility Code.

Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between bedrooms & units. Studio floored with ceramic tile and baseboards. Walls to be primed and painted with 2 coats of premium grade semi-gloss.

Exterior (unit entry) door to be lockable. Unit door to be metal frame with metal door. Unit entry door to have peep hole and hardware to be institutional/premium grade. Bathroom door to be hollow core with privacy lock. All doors to have lever handle locks.

Bathroom equipped with full height tiled walls in shower unit, toilet and linen storage with (4) shelves. All bathroom floors shall be unglazed slip-resistant ceramic tiles. Wall tiles and bases shall be glazed commercial grade ceramic tile. Unit shall be provided with single piece composite vanity top and sink with mirror and medicine cabinet in shower/toilet area. Owner prefers shower base to be concrete prefab. In Accessible Units, bathroom design shall comply with Florida Accessibility Code, which include clearances, grab bars, shower w/ seat, etc. A single piece composite vanity top and sink with mirror and medicine cabinet shall be provided in the shower/toilet area.

Millwork will be made of premium grade plywood and laminate.  18” x 18” single compartment stainless steel sink with gooseneck faucet & laminate counter top with wall and bottom cabinets for storage. Space for a refrigerator & pantry will be allotted.

### ENVIRONMENTAL SYSTEMS

Wireless Data communications in each apartment unit. One Cable TV outlet in each bedroom. One Valcom emergency call button located in common area in each unit next to main unit entry door.

Fluorescent overhead lighting sufficient to read and write.

HVAC system with fixed vents and thermostat with limited temperature range. Provide sound baffles in duct work.

125V 20 AMPS duplex outlets for general power needs including refrigerator and other appliances.

All mechanical, electrical, and plumbing systems are to be energy efficient and institutional grade where applicable.

All windows must comply with Florida Building Code product approval for wind impact.

### FURNITURE/EQUIPMENT

**Main studio area:**
- 1 Full Bed (54”x 75” min.)
- 1 Drawer
- 1 Desk
- 1 Chair – 2 position Love-seat
- 1 Book Shelf
- Blinds

**Dinette /Kitchenette Area:**
- 1 Table
- 2 chairs
- Minimum 6’ in length kitchenette cabinets.
- Microhood combination Refrigerator (16 c.f.)
- Stove (4) burner and oven
- Sink

### Graduate / Faculty Residence

**Residential Area**
- AREA: 99,750 SQ. FT. (285 Units @ 350 SQ. FT.)
- Accessible Apts: 5,250 SQ. FT. (15 Units @ 350 SQ. FT.)
Apartment to house 2 occupants within 2 bedrooms, 1 bathroom, living/dining room, and kitchen. Closets for clothing as well as pantry, linen and storage. All living spaces to have windows.

Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between bedrooms and units. Entire Unit including bedrooms to be floored with ceramic floor tiles & baseboards. Walls to be primed and painted with 2 coats of premium grade semi-gloss.

Both exterior (unit entry) and interior doors are to be lockable. Unit doors to be solid core doors. Exterior (unit entry) door to be metal frame with metal door. Unit entry door to have peep hole and hardware to be institutional/premium grade. Bathroom door to be hollow core with privacy lock. All doors to have lever handle locks.

Bathroom equipped with full height tiled walls in shower unit, toilet and linen storage with (4) shelves. All bathroom floors shall be unglazed slip-resistant ceramic tiles. Wall tiles and bases shall be glazed commercial grade ceramic tile. Single piece composite vanity top and (2) sinks with mirror and medicine cabinet separate from the shower/toilet area. Owner prefers shower base to be concrete prefab. In Accessible Units, bathroom design shall comply with Florida Accessibility Code, which include clearances, grab bars, shower w/ seat, etc. A single piece composite vanity top and (2) sinks with mirror and medicine cabinet shall be provided separate from the shower/toilet area.

Millwork will be made of premium grade plywood and laminate. 18” x 18” single compartment stainless steel sink with gooseneck faucet & laminate counter top with wall and bottom cabinets for storage. Space for a refrigerator & pantry will be allotted.

### Wireless Data

- Communications in each apartment unit. One Cable TV outlet in each bedroom. One Valcom emergency call button located in common area in each unit next to main unit entry door.

- Ceiling fans in bedrooms/living area.

- Fluorescent overhead lighting all rooms sufficient to read and write.

- HVAC system with fixed vents and thermostat with limited temperature range. Provide sound baffles in duct work.

- 125V 20 AMPS duplex outlets for general power needs including refrigerator and other appliances.

- All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common area.

- All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.

- All windows must comply with Florida Building Code product approval for wind impact.

### Resident Area

- **Graduate / Faculty Residence**
  - AREA: 32,900 SQ. FT. (47 Units @ 700 SQ. FT.) Accessible Apts: 2,100 SQ. FT. (3 Units @ 700 SQ. FT.)

- **RESIDENTIAL AREA**
  - UNIT TYPE “B”

---

**Bedroom 1 and 2**
- 2 Full Beds (54” x 75” min.)
- 2 Dressers
- 4 Night tables
- 2 Desks
- 2 Chairs
- 2 Bookcases

**Living Area**
- 1 Couch
- 1 Entertainment Center
- Club Chair
- 1 End Table
- 1 Coffee Table
- 1 Table and 4 Chairs

- Blinds
- Microhood combination
- Refrigerator (full size 18. cu. ft.)
- Stove (4 burner) and Oven
- Dishwasher
- Sink

---

IX-3
<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
<th>ENVIRONMENTAL SYSTEMS</th>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves as main entrance, reception lobby and common sitting area for gathering place.</td>
<td>Acoustical ceiling with flush fluorescent lights. 125V 20 AMPS duplex outlet on each wall for general power needs.</td>
<td>2 Couches 4 Club Chairs 2 End Tables 2 Tables 8 Chairs 1 Entry phone 1 Flat Panel LCD TV Security camera(s) &amp; Digital Recording device</td>
</tr>
<tr>
<td>Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between rooms in area.</td>
<td>Sufficient data, phone and outlets for:</td>
<td></td>
</tr>
<tr>
<td>Stone floor with baseboard.</td>
<td>- Vending</td>
<td></td>
</tr>
<tr>
<td>Walls to be primed and painted with 2 coats of premium grade semi-gloss paint.</td>
<td>- University Information Kiosk.</td>
<td></td>
</tr>
<tr>
<td>Entry doors to be “store-front” type with transparent glass and heavy duty panic hardware. Door will be equipped with card reader access. This building is considered to be “limited access” for residents and guest only. All guest required to check-in at front desk.</td>
<td>Wireless Data and Cable TV outlet(s).</td>
<td></td>
</tr>
<tr>
<td>Sufficient wall space to accommodate enclosed bulletin board display case(s).</td>
<td>Security cameras and monitoring system.</td>
<td></td>
</tr>
<tr>
<td>Visual access of all entrances.</td>
<td>Provide alcove for mail boxes.</td>
<td></td>
</tr>
<tr>
<td>Separated from reception/Front Desk space by roll down shutter.</td>
<td>HVAC system with adjustable vents variable speed controls and limited temperature range. Provide sound baffles in duct work.</td>
<td></td>
</tr>
<tr>
<td>Elevators to have security cameras &amp; to be accessed from this location.</td>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public area.</td>
<td></td>
</tr>
<tr>
<td>Elevators to be furnished with vandal resistant materials &amp; equipment. High volume ceilings (10 ft.), stainless steel interior cab, high traffic flooring.</td>
<td>All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All windows must comply with Florida Building Code product approval for wind impact.</td>
<td></td>
</tr>
</tbody>
</table>
### SPACE PLANNING

- Mail to be accessed from lobby area. (1) Mail box per suite. Will also house packages for residents.
- Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between rooms in area.
- Vinyl tiled floor and baseboards.
- Entry door is to be lockable and not easily accessible to residential traffic. Door to be solid core. Door to have peep hole and hardware to be institutional/premium grade. Door to have lever handle lock.
- Walls to be primed and painted with 2 coats of premium grade semi-gloss.
- Adjacent to complex office area.
- Mail sorting table will be of premium grade plywood and plastic laminate.

### ENVIRONMENTAL SYSTEMS

- Data & Voice communications outlets.
- Fluorescent overhead lighting. 125V 20 AMPS duplex outlet on each wall for general power needs.
- Security monitoring system.
- HVAC system with adjustable vents variable speed controls and limited temperature range. Provide sound baffles in duct work.
- All mechanical, electrical and plumbing systems are to be accessible by removable panels and located in a common public area.

**All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.**

### FURNITURE/EQUIPMENT

- Built-in postal boxes (1 box per suite)
- Shelving units
- Outgoing mail chute
- 2 Chairs
- 2 Lockable Storage Cabinets
- 1 File Cabinet, legal
- Security camera
- Mail sorting table

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**Graduate / Faculty Residence Complex B**  
**AREA: 160 SQ. FT.**
<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
<th>ENVIRONMENTAL SYSTEMS</th>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves as an office for the Housing and Residential Life Coordinator.</td>
<td>Wireless Data &amp; Voice communication outlets.</td>
<td>1 Executive Desk (30” x 60”) with lockable hutch.</td>
</tr>
<tr>
<td>Access from Lobby is desirable but should not be visible from said area.</td>
<td>Acoustical ceiling with flush fluorescent lights.</td>
<td>1 Executive Chair</td>
</tr>
<tr>
<td>Adjacent to Secretary and Reception Offices.</td>
<td>125V 20 AMPS duplex outlet on each wall for general power needs.</td>
<td>4 Side Chairs</td>
</tr>
<tr>
<td>Fiberglass reinforced drywall partition systems shall be sound retardant above</td>
<td>HVAC system with adjustable vents variable speed controls and limited temperature</td>
<td>1 round 48” diameter table</td>
</tr>
<tr>
<td>and below ceiling. STC 52 rating minimum to occur between rooms in area.</td>
<td>range. Provide sound baffles in duct work.</td>
<td>1 Credenza (18” x 60”)</td>
</tr>
<tr>
<td>Carpeted floor with vinyl baseboard.</td>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable</td>
<td>1 Bookcase</td>
</tr>
<tr>
<td>Walls to be primed &amp; painted with 2 coats of premium grade semi-gloss.</td>
<td>panels and located in a common public area.</td>
<td>1 lockable lateral file</td>
</tr>
<tr>
<td>Entry door is to be lockable. Doors to be solid core. Unit entry door to have</td>
<td>All mechanical, electrical and plumbing systems and their fixtures are to be energy</td>
<td>Blinds</td>
</tr>
<tr>
<td>institutional/premium grade hardware.</td>
<td>efficient and institutional grade where applicable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All windows must comply with Florida Building Code product approval for wind impact.</td>
<td></td>
</tr>
</tbody>
</table>

Graduate / Faculty Residence
AREA: 165 SQ. FT.

OFFICE
RESID. LIFE COORDINATOR
**SPACE PLANNING**

Serves as reception counter and secretarial area for Housing and Residential Life lobby and Coordinator Office for corresponding building.

Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between rooms in area. Walls to be primed and painted with 2 coats of premium grade semi-gloss.

Stone floor with baseboard.

Doors to be solid core with Lock.

Connected to Lobby area by service counter and adjacent to Secretarial Area.

Service counter to act as storage for front desk and work space. Fabricated out of high grade plywood and plastic laminate with oak trim.

Visual access of all entrances.

24 Hour Security System with monitoring from the front desk area.

Roll down shutter.

Panic Button / Emergency call box.

Fire Alarm Control panel to be in close proximity and behind front desk area.

<table>
<thead>
<tr>
<th><strong>ENVIRONMENTAL SYSTEMS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Data &amp; Voice communications outlets.</td>
</tr>
<tr>
<td>Valcom Emergency Call Box.</td>
</tr>
<tr>
<td>Acoustical ceiling with flush fluorescent lights.</td>
</tr>
<tr>
<td>125V 20 AMPS duplex outlet on each wall for general power needs.</td>
</tr>
<tr>
<td>Sufficient data, phone and power outlets for Front Desk Operations.</td>
</tr>
<tr>
<td>Security monitoring system.</td>
</tr>
<tr>
<td>HVAC system with adjustable vents variable speed controls and limited temperature range. Provide sound baffles in duct work.</td>
</tr>
<tr>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public area.</td>
</tr>
</tbody>
</table>

**FURNITURE/EQUIPMENT**

1 Secretarial Desk w/ lockable hutch
1 Secretarial Chair
2 Lockable File Cabinets, legal
2 Side Chairs
1 Blinds

Built in work station at counter height
1 Secretarial Chair
1 Reception Counter with ADA access.
Built in lockable storage cabinets.
Security monitor system / Camera’s Panic button - linked to Public Safety Key cabinet / storage for entire inventory of building keys

<table>
<thead>
<tr>
<th>Graduate /Faculty Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA: 150 SQ. FT.</td>
</tr>
</tbody>
</table>

| OFFICE |
| SECRETARIAL/FRONT DESK |

IX-7
<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
<th>ENVIRONMENTAL SYSTEMS</th>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves as general purpose space used for studying, meeting place, programs and activities.</td>
<td>Wireless Data &amp; Voice Data communications outlets. Cable TV Outlet.</td>
<td>2 sofa</td>
</tr>
<tr>
<td>To be located in a centralized area where one or more residential communities have access.</td>
<td>Acoustical ceiling with flush fluorescent lights with dimmer switch. 125V 20 AMPS duplex outlets for general power needs.</td>
<td>4 Club Chairs</td>
</tr>
<tr>
<td>Fiberglass reinforced drywall partition systems shall be sound retardant above and below ceiling. STC 52 rating minimum to occur between rooms in area.</td>
<td>HVAC system with adjustable vents variable speed controls and limited temperature range. Provide sound baffles in duct work.</td>
<td>2 Coffee tables</td>
</tr>
<tr>
<td>Carpeted floor with vinyl baseboard.</td>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public area.</td>
<td>Flat Panel LCD TV</td>
</tr>
<tr>
<td>Walls to be primed and painted with 2 coats of premium grade semi-gloss &amp; vision panels.</td>
<td>All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.</td>
<td>2 tables</td>
</tr>
<tr>
<td>Entry door is to be lockable. Door to be solid core with vision panel. Hardware to be institutional/premium grade hardware. Door to have lever handle lock.</td>
<td></td>
<td>8 chairs</td>
</tr>
</tbody>
</table>

Graduate /Faculty Residence  
AREA: 1,680 SQ. FT. (5 @ 336)  

GRADUATE ACADEMIC SERVICES  
MULTI- PURPOSE WORK AREA
<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves as Laundry Room for entire building occupants.</td>
</tr>
<tr>
<td>Fiberglass reinforced drywall partition system shall be sound retardant above</td>
</tr>
<tr>
<td>and below ceiling. STC 52 rating minimum to occur between rooms in area.</td>
</tr>
<tr>
<td>Vinyl tiles floor and baseboard.</td>
</tr>
<tr>
<td>Walls to be primed and painted with 2 coats of premium grade semi-gloss.</td>
</tr>
<tr>
<td>Lock on door, card reader access.</td>
</tr>
<tr>
<td>Floor drains.</td>
</tr>
<tr>
<td>Card reader access for machine usage.</td>
</tr>
<tr>
<td>Wall mounted counter top surface (36” deep).</td>
</tr>
<tr>
<td>Seating area.</td>
</tr>
<tr>
<td>Sink basin for hand washing.</td>
</tr>
<tr>
<td>Ice and change machine.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENVIRONMENTAL SYSTEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Data &amp; Cable TV outlet. Data lines for card reader hook-ups.</td>
</tr>
<tr>
<td>Acoustical ceiling with flush fluorescent lights.</td>
</tr>
<tr>
<td>Provide duplex outlets as appropriate for washers, dryers and support equipment. Gas Dryers hook up (LPG).</td>
</tr>
<tr>
<td>Hose bib.</td>
</tr>
<tr>
<td>Video security system.</td>
</tr>
<tr>
<td>Proper ventilation and exhaust fans on exterior walls.</td>
</tr>
<tr>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public areas</td>
</tr>
<tr>
<td><strong>All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.</strong></td>
</tr>
<tr>
<td>All windows must comply with Florida Building Code product approval for wind impact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Double wash sink</td>
</tr>
<tr>
<td>10 Washers (commercial grade)</td>
</tr>
<tr>
<td>10 Dryers (commercial grade) / gas</td>
</tr>
<tr>
<td>Bench Seating</td>
</tr>
<tr>
<td>Card Reader for machines</td>
</tr>
<tr>
<td>Table for folding clothes</td>
</tr>
<tr>
<td>Ice Machine</td>
</tr>
<tr>
<td>Change Machine</td>
</tr>
<tr>
<td>Security Camera(s)</td>
</tr>
<tr>
<td>1 Flat Panel LCD TV</td>
</tr>
</tbody>
</table>

Graduate / Faculty Residence
AREA: 450 SQ. FT.

Graduate Support Services
LAUNDRY
### GRADUATE HOUSING, BT-892  
UNIVERSITY PARK  
FLORIDA INTERNATIONAL UNIVERSITY

<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
<th>ENVIRONMENTAL SYSTEMS</th>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves as area for trash disposal and recycling.</td>
<td>Proper ventilation and exhaust fans on walls.</td>
<td>2 – 90 gal. recycling bins</td>
</tr>
<tr>
<td>Provide exposed concrete floor with surface hardener.</td>
<td>Flush fluorescent lights to be turned on by sensor.</td>
<td></td>
</tr>
<tr>
<td>Sealed concrete floors.</td>
<td>Duplex outlets.</td>
<td></td>
</tr>
<tr>
<td>Floor Drain.</td>
<td>Hose bib.</td>
<td></td>
</tr>
<tr>
<td>Paint exposed C.B. walls.</td>
<td>All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public areas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.</td>
<td></td>
</tr>
</tbody>
</table>

---

### Graduate / Faculty Residence  
AREA: 550 SQ. FT.  
GRADUATE SUPPORT SERVICES  
TRASH/ RECYCLING ROOM

<table>
<thead>
<tr>
<th>SPACE PLANNING</th>
<th>ENVIRONMENTAL SYSTEMS</th>
<th>FURNITURE/EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IX-10
Room to store Custodial supplies and Maintenance equipments.  
Locate near building service entrance with loading area.  
Provide exposed concrete floor with surface hardener.  
Walls to be primed and painted with 2 coats of premium grade semi-gloss.  
Access to room from both interior and exterior of building.  
Lock on doors.  Self closing hinges on doors.  
Double doors for ease of access.  
Hand & Mop sink.  

| Data & Voice communications outlet.  
Fluorescent overhead lighting. 125V 20 AMPS duplex outlet on each wall for general power needs.  Additional outlets along work bench.  
HVAC system with adjustable vents and thermostat. Provide sound baffles in duct work.  
Hand & mop sink.  
All mechanical, electrical, and plumbing systems are to be accessible by removable panels and located in a common public area.  
**All mechanical, electrical and plumbing systems and their fixtures are to be energy efficient and institutional grade where applicable.** |
|---|
| 4 - Wet Vacuum  
2 - Vacuum Cleaner  
6 - Blowers  
1 - Work Bench  
2 - Lockable Storage Cabinets  
1 – Flammable material storage cabinet  
Open shelving for storage of supplies and materials | 

| Graduate / Faculty Residence  
AREA: 300 SQ. FT. | GRADUATE SUPPORT SERVICES  
MAINTENANCE/WORK AREA |
X. UTILITIES IMPACT ANALYSIS

The Project Budget includes all site development associated with normal utility extensions and hook-ups, grading, walkways, service yard, landscape drainage system, plant materials, screen walls, outdoor work areas, lighting, and landscape furnishings (benches, trash containers, etc.).
X. UTILITIES IMPACT ANALYSIS (continued)

In addition, this project budget includes campus infrastructure and extraordinary costs as follows:

Sanitary Sewer System: TBD

Water Distribution: TBD

Electrical Service: TBD

Chilled Water System: TBD

Telecommunications: TBD

Storm Water System: TBD

Extraordinary Costs: TBD

The projected electrical and water demand and consumption are as follows:

Projected Demand: TBD

Projected Consumption/year: TBD
XI. INFORMATION/COMMUNICATION RESOURCE REQUIREMENTS

Refer to Telecommunications Wiring Standards appendix “C”. General equipment/furniture requirements are noted in section IX - Program Area Summary, Functional Description of space Details. Detailed computer hardwire requirements and network linkage relationships will be established in the Furniture/Equipment expenditure plan which should be developed following completion of design development. The FIU Telecommunications wiring standards are designed to accommodate a maximum degree of flexibility in the arrangement of data and voice communications systems. Wiring and cabling as well as data / voice outlets are specified by space type and should accommodate all normal operations as identified in this program.
APPENDIX "C" - STANDARDS FOR TELECOMMUNICATIONS FACILITIES

The purpose of this standard is to provide for the planning and installation of telecommunications facilities in new buildings and major renovations. This standard has been developed with little knowledge of the telecommunications equipment that subsequently will be installed. Therefore, the definitions included herewith are for generic telecommunications facilities that will support a multitude of rapidly changing telecommunications technologies in a multi-vendor and variable end user environment.

This standard recognizes three fundamental concepts related to telecommunications and buildings:

(1) Buildings are dynamic. Renovation, remodeling and upgrading are more the rule than exception. This standard takes into account that change will occur.

(2) Building telecommunications systems and media are dynamic. As time passes both telecommunications equipment and media change considerably. This standard recognizes this fact and the facilities prescribed herein are capable of supporting a vast array of telecommunications systems and media.

(3) Telecommunications is more than telephones. Telecommunications is inclusive of a variety of building systems including data systems, environmental control, security, audio, television, sensing, alarms and much more.

Above all, this standard recognizes a fact of fundamental importance: if a building is to be properly designed, built and provisioned for telecommunications systems, it is imperative that the telecommunications design be incorporated during the architectural design phase.

The FIU/UTS Infrastructure Department developed this document in accordance with industry specifications. It is the standard by which the University defines the physical facilities required for the provisioning of telecommunications systems for new buildings and major renovations to existing buildings. These specifications take into account the physical facilities such as the size and provisioning of telecommunications rooms, cable distance limitations, vertical and horizontal cabling considerations, number and size of conduits and numbers and types of information outlets. The general cabling requirements are not addressed, however, the "Telecommunications Wiring Specifications" which are produced after consultation with the building occupants include the detailed procedures and specifications for the wiring and installation of telecommunications systems for campus buildings. The "Telecommunications Wiring Specifications" are provided to FIU Facilities Management 90 days after completion of the project design phase.
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1.0 GENERAL

1.1 RESPONSIBILITY - It is the responsibility of the project architect/engineer to ensure the inclusion of the standards for building telecommunications facilities into the design and construction documents for new and major renovation projects.

1.2 REFERENCES - In addition to the specifications included herewith the architect/engineer is encouraged to refer to the following publications for guidance during the design of the communications infrastructure:


Electronic Industries Association, Telecommunications Industry Association (EIA/TIA) Building Telecommunications Wiring Standards.

NFPA's National Electric Code (NEC).

FIU/UTS Infrastructure Department.

1.3 COORDINATION - Prior to the start of any telecommunications related work, the contractor shall contact the UTS/Infrastructure Department to coordinate the installation.

2.0 CABLE PATHWAYS

2.1 INFORMATION OUTLETS

2.1.1 REQUIREMENTS - Specific requirements for information outlets for each room and each project must be coordinated with the building occupants at the onset of the design phase of major renovations and new construction projects. The architect/engineer for major renovation and new construction projects is cautioned that the Building Program for the project includes requirements, but may not be all-inclusive regarding communication facilities. Therefore, the project architect/engineer must work closely with the building occupant and the FIU/UTS Infrastructure Department to minimize the need for revisions and changes after the completion of the design phase.

2.1.2 FLOOR MOUNTED - The use of floor mounted information outlets is strongly discouraged as it does not allow for flexibility in furniture layout and inhibits future changes to the telecommunications system.

2.1.3 ELECTRICAL BOXES - Locations for information outlets must be equipped with a 4 in. X 4 in. X 2.5-in. electrical box equipped with a mudring sized for the installation of a standard duplex outlet.

2.1.4 MOUNTING HEIGHT - Electrical boxes installed for information outlets must be placed at the same level as the adjacent duplex electrical receptacles or at least fifteen (15) inches above the finished floor.

2.1.4.1 Electrical boxes installed for information outlets located above counters equipped with a
splash back must be placed at 6 in. above the top of the counter. (Measure to the center of the outlet.)

2.1.4.2 Electrical boxes installed for information outlets located above counters not equipped with a splash back must be placed at 12 in. above the top of the counter. (Measure to the center of the outlet.)

2.1.5 FACULTY/ADMINISTRATIVE OFFICES must have a minimum of one (1) information outlet per designated occupant, however two (2) are recommended for furniture relocation of additional staff.

2.1.6 CLERICAL/STAFF OFFICES shall have a minimum of one (1) information outlet per designated occupant plus one (1) information outlet for every two (2) additional occupants.

2.1.7 SECRETARY/ADMINISTRATIVE ASSISTANT OFFICES shall have a minimum of one information outlet per designated occupant plus two (2) outlets per office or two (2) extra outlets per five (5) people.

2.1.8 CLASSROOM/LECTURE HALLS/Auditoriums shall have a minimum of one (1) to four (4) information outlets depending on occupancy size:

<table>
<thead>
<tr>
<th>Classroom Size (Student Occupancy)</th>
<th>Minimum Number of Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-50</td>
<td>1</td>
</tr>
<tr>
<td>51-100</td>
<td>2</td>
</tr>
<tr>
<td>101-200</td>
<td>3</td>
</tr>
<tr>
<td>201 or more</td>
<td>4</td>
</tr>
</tbody>
</table>

2.1.8.1 The recommended location priority relationship for the information outlets must be: chalkboard/dry erase board, lectern, projection booth/rear wall and remaining sides.

2.1.9 GRADUATE STUDENT OFFICES shall have a minimum of one (1) information outlets per designated occupant.

2.1.10 LABORATORIES shall have a minimum of one (1) information outlet per room; actual number may be more depending on function and occupant requirements.

2.1.11 CONFERENCE ROOMS shall have a minimum of one (1) information outlet per room. Rooms with more than 500 ft² shall have a minimum of two (2) information outlets installed.

2.1.12 STORAGE AREAS shall have a minimum of one (1) information outlet for rooms over 500 ft² and one (1) additional outlet for each additional 2000 ft².

2.2 CONDUITS
2.2.1  A 1 inch EMT conduit must be installed from each information outlet electrical box and "stubbed" up above the ceiling level to cable tray. (Please see attached drawing, Fig. 2.2.1-A)

2.2.2  If fixed ceilings are installed cable trays cannot be used and conduit from information outlets must be "homerun" to the telecommunications room or cable tray.

2.2.3  The open ends of conduits and/or sleeves must be equipped with bushings to avoid damage to cable sheaths and must be readily accessible and not concealed within walls.

2.2.4  Telecommunications rooms contain the vertical cable riser space. Conduits and/or sleeves must be used to interconnect telecommunications rooms. The open ends of conduits and/or sleeves must be located a maximum of 3 in. from the wall and extend a minimum of 1 in. above the finished floor.

2.2.5  REQUIRED NUMBER - The minimum number of conduits, and/or sleeves interconnecting the telecommunications rooms must be determined as follows:

<table>
<thead>
<tr>
<th>Building Total (Square Footage)</th>
<th>Quantity of Conduits</th>
<th>Size of Conduit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 50,000 ft²</td>
<td>3</td>
<td>4”</td>
</tr>
<tr>
<td>50,001 ft² to 100,000 ft²</td>
<td>4</td>
<td>4”</td>
</tr>
<tr>
<td>100,001 ft² to 300,001 ft²</td>
<td>5-8</td>
<td>4”</td>
</tr>
<tr>
<td>300,001 ft² to 500,000 ft²</td>
<td>9-12</td>
<td>4”</td>
</tr>
</tbody>
</table>

2.2.6  PULL BOXES - A pull box must be installed in sections of conduit longer than 100 ft. or containing more than two 90-degree bends or if there is a reverse bend in the run.

2.2.7  Minimum requirements for installed conduit, such as support, end protection, and continuity, are found in appropriate electrical codes.

2.2.8  The inside radius of a bend in conduit must be at least 6 times the internal diameter. When the conduit size is greater than 2 in. the inside radius must be at least 10 times the internal diameter of the conduit.

2.2.9  PULL CORDS - All conduits must have a fish tape or pull cord, rated for 200 lbs. of pull force, and installed end-to-end.

2.2.10 ELEVATOR – A ¾” conduit must be installed from each elevator equipment room to the nearest telecommunication room or cable tray.

2.2.11 EMS – A ¾” conduit must be installed from each mechanical room “homerun” back to the nearest telecommunication room or cable tray.

2.2.12 FIREALARM - A ¾” conduit must be installed from the fire alarm panel to the nearest telecommunication room or cable tray.

Note: (1) Under no circumstances will flexible metallic conduit be used for any telecommunication wiring.
(2) Under no circumstances will any conduits be “daisy-chained” together.

2.3 CABLE TRAYS

2.3.1 Cable trays are rigid structures for the containment of telecommunications cables.

2.3.2 GROUNDING - Cable trays must be installed and grounded in accordance with the National Electric Code (NEC) and local requirements. (Please see attached drawing, Fig. 2.3.2-A)

2.3.3 TYPE - Cable trays must be of the 12-in. ladder type, equivalent to Wiremold, Part No. A060612, unless otherwise specified by the UTS Project Manager.

2.3.4 Cable trays must be installed above false ceilings and run down hallways and corridors providing a pathway for telecommunications cable from the information outlets to the respective telecommunications closet.

2.3.5 Cable tray installation must be coordinated with all work of other trades to avoid any interference. Cable trays must be installed such that they are not obstructed by other trades equipment, i.e. air conditioning ducts, electrical conduit etc. Cable trays must be easily accessible for the installation of cables and, future changes to telecommunications systems.

2.3.6 A minimum of 3-in. clear vertical space must be available between the top of the ceiling tiles and the bottom of the cable tray. A minimum of 12 in. of clear horizontal space on each side of the cable tray must be available. Also, minimum of 6 in. of clearance must be available between the top of the cable tray and any other utilities.

2.3.7 Under no circumstances, shall any other utilities pass within the distances specified in 2.3.6.

2.3.8 To avoid electromagnetic interference, all cable pathways must provide clearances of at least:

- 4 ft. from large motors or transformers.
- 1 ft from conduit and cables used for electrical power distribution.
- 5 in. from fluorescent lighting. Pathways should cross perpendicular to fluorescent lighting and electrical power cables or conduits.

3.0 TELECOMMUNICATIONS ROOMS

3.1 DESCRIPTION/DEFINITION

3.1.1 Telecommunications rooms must be dedicated to the telecommunications function and related support facilities. Telecommunications rooms must not be shared with janitorial facilities or other trades especially with electrical installations other than those required for telecommunications systems.

3.1.2 Telecommunications room refers to any room where telecommunications facilities terminate and telecommunications system equipment is housed.

3.1.3 The term building Intermediate Cross Connect (IC) is used to indicate the telecommunications...
3.1.4 The term Telecommunications Rooms (TR) is used to designate the telecommunications room required for the distribution of facilities to adjoining floors and areas exceeding distance limitations.

3.1.5 NUMBER OF ROOMS. There must be a minimum of one telecommunications room per floor and centrally located in the building, unless otherwise specified by the UTS Project Manager. Additional telecommunications rooms must be provided when:

1. The floor area to be served exceeds 10,000 ft², or
2. The horizontal distribution distance to the workstation exceeds 295 ft.

3.1.6 SIZING OF ROOMS. Telecommunications rooms must be sized as follows:

<table>
<thead>
<tr>
<th>Serving Area (net bldg. ft²)</th>
<th>Room Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 ft²</td>
<td>10 ft. X 11 ft.</td>
</tr>
<tr>
<td>8,000 ft²</td>
<td>10 ft. X 9 ft.</td>
</tr>
<tr>
<td>5,000 ft² - less</td>
<td>10 ft. X 7 ft.</td>
</tr>
</tbody>
</table>

10 ft. X 7 ft. is the minimum size for telecommunications rooms.

3.1.7 Telecommunications rooms must be stacked vertically to provide for the installation of telecommunications facilities between floors. Telecommunications rooms must be interconnected as specified in section 2.2.5.

3.1.8 BACKBOARDS – All four walls must be covered with rigidly fixed 3/4 in. x 4 ft. X 8 ft. A-C plywood, preferably void free, capable of supporting attached equipment and painted with black fire retardant paint.

3.1.9 LIGHTING - Lighting must be a minimum of 50-ft. candles measured 3 ft. above the finished floor, mounted 8.5 ft. minimum above finished floor.

3.1.10 CEILINGS - False ceilings are not allowed in any Telecommunication Room.

3.1.11 DOORS - The door must be a minimum of 36 in. wide and 80 in. high, without doorsill, hinged to open outward and fitted with a lock.

3.1.12 KEYING - Access to all telecommunication rooms will be through one uniform master key system. Facilities Management will establish the lock type to be used.

3.1.13 TREATMENT - Floors, walls, and ceiling must be treated to eliminate dust. Floors must be covered with VCT tiles.

3.1.14 ELECTRICAL REQUIREMENTS - Two dedicated 30 A, 110 or 208 V AC electrical outlets (L5-30R/120, L6-30R/208), each on separate circuits, must be provided for equipment power, unless otherwise specified by UTS Project Manager. In addition, a third 20A, 110 V AC circuit
shall feed duplex outlets, which must be placed at 6 ft. intervals around the perimeter wall, at a height of 18 in above the floor. If emergency power (generator) is available, dedicated outlets must be connected to the emergency power system. Dedicated circuit outlets must be readily identifiable by using a different color outlet.

3.1.15 GROUNDING - Each telecommunications room must have direct attachment to the closest point in the building's electrical service grounding electrode system. A Number 6 AWG solid conductor cable must be placed between the ground source and a bus bar of the type: Chatsworth Products, Inc. part number 13622-010 or equivalent.

3.1.16 SLEEVES/CONDUIT - Sleeves or conduit passing through the telecommunications room floor should be adjacent to the door with a minimum of 1 in. exposed above the finished floor. Sleeves and conduit must be no more than 3 in. away from the wall. Sleeves and conduit shall not be left open except during cable installation and must be properly fire stopped per the applicable codes.

3.1.17 FIRE PROTECTION - Fire protection of the telecommunications rooms, if required, must be provided as per applicable code. All conduits and cable trays penetrating any Telecommunications Rooms must be properly sealed with the appropriate fire stopping material, as per NEC and local fire codes.

If used, fire sprinklers shall not be water based. An optional gaseous system must be used.

3.1.18 AIR CONDITIONING - HVAC must be provided on a 24 hours per-day, 365-days-per-year basis. If the building system cannot assure continuous operation for large equipment applications, a stand-alone unit must be provided for the equipment room.

3.1.19 TEMPERATURE - The temperature and humidity must be controlled to provide continuous operating ranges of 64 degrees F to 75 degrees F with 30% to 55% relative humidity.

3.1.20 COLLOCATION OF OTHER TRADES - No water, sewer etc. pipes must be placed within or pass through the telecommunications rooms.

3.1.21 PLENUM AIR SPACE - All Telecommunications Rooms must be completely separated from Plenum air space in accordance with NEC and BICSI standards. (Please see 1.2 reference)

3.1.22 LOCATION OF ROOM - All Telecommunications rooms must be accessible at all times. The IC (building main telecommunications room) must be designed to be adjacent to an outside wall in order to facilitate the addition of entrance conduits if needed, unless specified by UTS Project Manager.

4.0 OUTSIDE PLANT

4.1 DEFINITION DESCRIPTION

4.1.1 All new building construction planning must provide for connection of the building to the campus communications infrastructure.

4.1.2 CONDUIT SIZE - All direct buried conduits used to connect to the University
Telecommunications infrastructure must be 4” PVC, Schedule 40.

4.1.3 NUMBER REQUIRED - The minimum number of conduits connecting the building IC to the campus MC must be at least four four-inch (4 - 4”) conduits. Note: More entrance conduits might be needed depending on the size and utilization of the building.

4.1.4 DEPTH - The top of the conduit bank must be buried at least 30 inches below the ground surface and separated from other service structures as required for fiber optical cable under EIA/TIA specifications.

Separation of telecommunications conduits from other utilities shall meet the following guidelines:

<table>
<thead>
<tr>
<th>Structure</th>
<th>Minimum Separation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power or other conduit</td>
<td>3 inches in concrete</td>
</tr>
<tr>
<td></td>
<td>4 inches in masonry</td>
</tr>
<tr>
<td></td>
<td>12 inches in earth</td>
</tr>
<tr>
<td>Pipes (gas, oil, water)</td>
<td>6 inches when crossing pipe</td>
</tr>
<tr>
<td></td>
<td>12 inches when parallel to pipe</td>
</tr>
<tr>
<td>Power conduit terminated on poles</td>
<td>Separate poles, if possible.</td>
</tr>
<tr>
<td></td>
<td>If on same pole, 180 degree separation</td>
</tr>
<tr>
<td></td>
<td>Preferable, but not less than 90 degrees.</td>
</tr>
<tr>
<td>Railroads</td>
<td>At a crossing: 5 feet below top of the rail.</td>
</tr>
<tr>
<td></td>
<td>Terminating on poles: 12 feet from the nearest rail, except 7 feet at sidings.</td>
</tr>
</tbody>
</table>

The conduits must be placed in accordance with the requirements specified in the FIU building manual. In particular, bidders must pay special attention to the Telecommunications requirements specified in Appendix C.

4.1.5 DUCT BANK PROTECTION - Conduit must be encased in concrete when:

1. Minimum conduit depth of 30 inches cannot be attained.
2. Conduits pass under roads, driveways, or railroad tracks.
3. Bend points are subject to movement.

Note: A detectable warning tape must be placed 18 inches above all duct banks (detectable: containing metallic tracings).

4.1.6 SLOPE - Underground conduit must be installed such that a slope exits at all points of the run to allow drainage and prevent the accumulation of water. A drain slope of no less than .125 in. per foot is desirable.

4.2 MANHOLES (MAINTENANCE HOLES)
4.2.1  DESCRIPTION - A manhole (maintenance hole) is used to pull in and splice cables in an underground, concealed manner. Manholes must be equipped with a sump, corrosion resistant pulling iron, cable racks, and manhole ladders. Concrete used for manholes must be of at least 3500 lb./in² strength. All manholes must be properly grounded as required by BICSI. (Please refer to 1.2)

4.2.2  SIZE - Manholes must be sized at 6-ft. width X 12-ft. length X 7-ft. height, unless specified by the UTS Project Manager. All manholes must be equipped with a round ring and cover, clearly labeled "TELECOM" or "TELEPHONE". (Please see attached drawing, Fig. 4.2.2-A)

4.2.3  WHERE REQUIRED - Manholes must be placed when the conduit section length exceeds 500 ft, whenever a cable splice will be required, when bends exceed a total of 180 degrees or two bends, or the section length of conduit requires the pulling in of cable in two segments.

4.2.4  HANDHOLES are not an acceptable alternative to manholes described in section 4.2.1, 4.2.2. Handholes can only be used in place of manholes after consultation with and receipt of written approval from the UTS/Infrastructure Department. (Please see attached drawing, Fig. 4.2.4-A)

4.2.5  PULL POINTS - Wherever distances between manholes exceeds 200 feet or there are more than two 90 degree bends in the conduit run, a 4’ x 4’ x 4’ pull box must be placed. The number of conduits going in and out of the pull box shall not exceed six. Under no circumstances shall a pull box replace a manhole. (Please see attached drawing, Fig. 4.2.5-A)

4.2.6  POSITIONING OF CONDUITS IN MANHOLE - Conduits entering a manhole shall do so only through the manhole walls designed for conduit penetration. Under no circumstances shall the structural integrity of the manhole be compromised.

Note: Conduits being added to a manhole must be placed as deep as possible in order to accommodate future expansion of ductbanks and guarantee maximum utilization of the manhole.
CEILING AREA AND RUN TO CABLE TRAY

FINISHED CEILING

3/4" CONDUIT STUB UP WITH BUSHINGS ON

BOX AND MOUNTING HEAS SHOWN

FINISHED FLOOR

WALL STUB-UP DETAIL

FIGURE 2.2.1 - A

Wall Stub-Up Detail
### FIGURE 4.2.5 - A

**Oldcastle Precast**

**PB4848**

4'0" x 4'0" x 4'0" I.D. Pull Box with 6" Walls Weight Varies

**Oldcastle Precast**

7311 N.W. 77th Street, Medley, Florida 33166
Phone: 305-887-3027 Fax: 305-887-7119

www.oldcastleprecast.com

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XII. CODES AND STANDARDS - BUILDING STANDARDS

A. This building will conform to the following applicable building standards: In case of conflict, the strictest requirements will govern. Written approvals will be obtained when required from the State of Florida Fire Marshal, Miami-Dade Water and Sewer Department, Florida Power and Light Company, and Florida Department of Environmental Protection (Including NPDES).

1. a. Building code will be the Florida Building Code, 2007 edition as follows:
   - Florida Building Code
   - Florida Building Code-Test Protocols for High Velocity Hurricane Zone
   - Florida Building Code-Mechanical
   - Florida Building Code-Gas and Plumbing
   - Florida Fire Prevention Code
   - National Electric Code (As referenced in Chapter 27 of the Florida Building Code)
   - In all cases the date of Building Permit Application determines applicable code(s) Edition.

   b. All proposed landscape shall conform to the current FIU landscape design guidelines (element 16 of Campus Master Plan).

2. Statewide Impact Codes.
   b. HRS (Health and Rehabilitative Services Codes)
   c. Water Management District Standards
   f. SMACMA
   g. Corps of Engineers
   h. South Florida Water Management District
   i. Department of Natural Resources
   k. Florida Department of Environmental Protection
   l. Phase I and Phase II NPDES Storm water Program
   m. Miami-Dade County Water and Sewer Department
XII. CODES AND STANDARDS - BUILDING STANDARDS (continued)

3. Structural Materials Design Codes:
   a. All provisions of the High Velocity Hurricane Zone of the Florida Building Code.
   c. Referenced standards in Section 423.25 Public Shelter Design Criteria, State Requirements for Educational Facilities.

4. New or Revised Legislation
   a. Threshold law s.553.77, F.S.
   b. Building Code and reinforcement s.553.71, F.S.
   c. High hazard occupancy new definition s.633.021, F.S.
   d. Fire Marshall inspection s.633.085, F.S.
   e. Fire Marshall authority to order vacating of building s. 633.121, F.S.
   f. Master Planning (Comprehensive Capital Facilities Planning and Budget Process) amending s.255.25 and 255.29.
   g. Trench Safety Act CS/SB 2626 which adopts OSHA excavation safety standards.
   h. Compliance with Florida Statutes on Xeriscape and native plant usage.
   i. Americans with Disabilities Act (ADA) - Public accommodations regulations and accessibility guidelines for buildings and facilities.

5. Compliance with applicable local ordinances as required.

   A. The design of the facilities shall meet all requirements of the State University System Energy Efficiency Analysis criteria. The University also is requesting that a Leadership in Energy and Environmental Design (LEED) be considered to obtain certification for this project based on New Construction Green Building Rating system by the US Green Building Council. The rating is Silver level, or 34 points minimum.

   B. It is the express intent of this program to acknowledge this building as a continuum relating the existing and future developments on this campus, as outlined in the University Campus Master Plan, through the selection of design, materials, and systems utilized. Comprehensive systematizing of the campus complex provides energy and construction cost efficiencies and maintenance and repair savings by reducing replacement parts inventories and simplifying service needs, aesthetic cohesiveness, and overall life cycle cost savings based on existing plant experience.

   C. Design of this building and infrastructure must be closely coordinated with plans of the existing structures, systems development, campus utilities development, and University Campus Master Plan for building development and landscape development.

   D. The Architect/Engineer is responsible, as part of the basic services requirements, for the compliance of the construction documents with all codes until the date the project is released for bidding.
XII. CODES AND STANDARDS - ARCHITECTURAL PARAMETERS

It is the intent of this program to define building standards and specifications which will ensure environmental sensitivity, construction materials quality, construction system efficiency, adherence to building codes and standards, and awareness of university requirements to ensure functionality, ease of maintenance, energy efficiency, and cohesiveness to the existing campus mega structure.

Planning of this building will include review and updating of the University’s Building Standards. Review of this document will be coordinated with the University’s Facilities Development staff. This document sets forth standards for construction materials, interior and exterior finishes, paving surfaces, common building elements, accent materials, utilities, environmental and building systems, landscaping, and other design guidelines which are appropriate for this campus. The current FIU Building standards are to be followed unless specific deviations are coordinated with and agreed to, in advance, by the Facilities Development Department.

In the development of conceptual design, careful consideration must be given to the following items:

1. Building design should be functional and take advantage of prevailing breezes and the subtropical climate. Natural ventilation should be developed wherever practical and desirable based on initial costs, operating costs, energy conservation, and the degree of environmental control required in various functional areas. Building design should eliminate the need for excessive mechanical controls through the use of such design parameters as building orientation, sun control, breezeways, operable windows, insulating exterior materials, etc.

2. Careful consideration must be given to alternative means of accommodating level changes. The nature of the functions housed in this facility requires that most of them be directly and conveniently accessible. Design should attempt to maximize vertical accessibility to all floors in this building. Concepts to be explored include ramped walkways, exterior multi-level design and terracing. Where stairs are used, they must be prominent, inviting, and readily accessible.

3. The building will be designed for functional flexibility and expansion. It must be acknowledged from the outset that this building should be designed to allow for future addition.

4. The A/E’s documented monitoring of overall project costs, as well as costs of specific design elements will be reviewed with the Facilities Development Department. Construction cost control is understood to be a major developmental objective.

5. Together with planning for user convenience, organize and arrange departments into building/floor zones and provide accessibility for changes in mechanical and electrical services and for maintenance access requirements. Consider future economies in special revisions, and plan to affect economies in operations of mechanical systems.

6. In order to affect maximum flexibility, the building should be designed around a public circulation core which includes all required public access areas and all building services. This core would provide the vertical circulation, and contain all non-residential functions in a sound-isolated envelope which would aid in maintaining acoustical levels in the residential and non-residential areas.
XII. CODES AND STANDARDS - ARCHITECTURAL PARAMETERS (continued)

7. Interior finishes should be responsive to the traffic levels to which they will be subjected with recognition of the permanence of the facility and a desire for low maintenance. Hard or resilient floor surfaces will be specified for high volume, public traffic areas. Specific room areas should be carpeted with strong, tight weave fibers, and easily replaceable colors, easy cleaning and/or repair. Wall surfaces in public traffic areas should anticipate wear and abuse due to student traffic volumes; use washable latex paints.

8. Furnishings and equipment, interior finishes, and color selections will be coordinated with University Facilities Development personnel in design stages of project development prior to implementation. Materials samples and color will require university approval prior to design development.

9. Large glass areas which may cause sun and weather problems peculiar to South Florida should be avoided, but daylight illumination should be present, if possible, on all floors for psychological reasons. Uses of shaded or screened glass windows to permit views of the campus are encouraged. All exposed glazing must have Miami Dade product approval.

10. All utility services (electrical, plumbing, floor drains, etc.) will be provided in conditioned spaces.

11. There should be one custodial work room for each 18,000 square feet or less of floor space. All space within the building should be reachable from one of these work rooms without negotiating any airways. Each work room should be at least 80 net square feet with an 8” minimum dimension and a 36” minimum out-swinging door. Each room shall include a floor base utility sink, with floor drain. It shall be of cast iron exterior and porcelain interior with a metal spillage. No telephone panels, electrical panels, alarm system panels, or pipe chases are to be included in these rooms.

12. The A/E will include in the project design, fabrication, and installation of an informational graphics and signage system in accordance with University standards to be coordinated through the Facilities Development Department.

13. Roofing construction details will be designed in accordance with the 2006 National Roofing Contractors Association Construction Details publication. A reference copy is available in the University Facilities Development Department. Slope roofs for positive directional drainage.

14. At construction completion inspection, provide the following to the University:
   a. Complete set of reproducible “As Builts” drawings.
   b. Operating manuals on all types of equipment used in the building.
   c. List of all Contractors, Subcontractors, and their suppliers of materials and equipment.
   d. Three copies of cut sheets on all door hardware, window hardware, keying schedule, and all interior and exterior mechanical, electrical, fixed equipment, and plumbing installed in the building, will be provided in loose leaf binders.
XII. CODES AND STANDARDS - ARCHITECTURAL PARAMETERS (continued)

e. One copy of all “as-built” construction drawings (site and floor plans) in electronic medium.
   Compatible with AutoCAD systems located in University Facilities Planning & Construction offices.
f. 10% of each type and color of: ceiling tile, carpet, vinyl tile, and ceramic tile.
g. One gallon of each color paint and five gallons of primary color paint.

15. All fluorescent lighting should have an electronic ballast and energy efficient bulbs.

16. Acoustical ceiling tile system should be easily removable for maintenance access.

17. Provisions should be made for one air conditioned voice/data communication (telephone) equipment room on each building floor level, each with area of not less that 4’x8’ with a door not less than 3’ wide for equipment access, and a 125 Volt 20 Amp electrical power outlet.

18. The new Housing complex will adhere to the residential design guidelines within the master plan.

It is intended that this program will generate an overall Housing complex that will be attractive, dignified, easy to maintain, economically staffed and operated, and functionally and aesthetically satisfying to the majority of persons who see and use it. These ends can probably be best achieved through a plan that is devoted to flexible use of space with appropriate materials, light, and color, as opposed to a plan centered upon a particular architectural style, symmetry, or other nonfunctional planning considerations.

19. In accordance with the requirements for buildings to become Hurricane Shelters, The University is seeking to shelter a minimum of 500 persons in this location. The Architect/Contractor shall ensure complying with those requirements in this project.
XII. CODES AND STANDARDS - BARRIER FREE DESIGN

It is the policy of Florida International University to provide all architectural features to permit accessibility for the physically disabled. The University has adopted ANSI 117.1-1986 and the Department of Community Affairs Accessibility Requirements Manual and current revisions for standard disabled design materials, for compliance, as a part of the University Building Standards and should be used in conjunction with the State of Florida Handicap requirements and Americans with Disabilities Act (ADA) accessibility guidelines identified under "Statewide Impact Codes" in the Codes and Standards - Building Standards section of this program.

Of particular interest in these regulations will be provisions for physically disabled students and staff in the following areas:

1. Wheelchair, crutches, and braces restrictions to mobility.

2. Building access: entrance door thresholds, closers and handles, interior and exterior multi-level transitions by means of ramps, stairs, elevators, or escalators, emergency exits from all levels for the physically disabled, and hallway and corridor clearances.

3. Design criteria for public service areas, such as, restrooms (with doors), drinking fountains, telephones, etc.
   a. Visual fire alarm signals in all public toilet rooms.
   b. Door levers approved for handicap use in all major rooms. Coordinate locations with Facilities Development.
   c. Handicap drinking fountains.
   d. Handicap water closets, urinals, lavatories and mirrors in all public restrooms.
   e. Handicap parking stalls minimum 12' x 20' plus 5' x 20'.
   f. Braille numbers on elevator doors, cabs, and public room identification plaques.

4. Increase ANSI standards of 32" for closet doors to 36".

5. Design criteria for residential facilities. Five percent (5%) of all units shall be designed to provide the additional special accessibility features.
   a. Accessible route.
   b. Clear width maneuvering space(s).
   c. Doors and doorways designed to allow passage into and within all sleeping rooms, suites and units.
   d. All controls shall comply with accessibility requirements.
   e. Accessibility of all spaces within the unit.
   f. Clear floor space(s) for approach to cabinets, counters, sinks and appliances.
   g. Visual Alarms, Notification Devices, and Telephones shall be provided and shall comply with referenced code requirements.
XII. CODES AND STANDARDS - SITE DEVELOPMENT AND CAMPUS INTEGRATION

Site and building planning and design will conform to the BT acknowledged Campus Master Plan Update, dated February 2005. In the development of the conceptual designs, careful consideration must be given to the following items:

1. Site design will be coordinated with all physical facilities existing and/or currently planned for the campus. The Campus Master Plan outlines all facilities, existing or planned. Site boundaries for this project are outlined in this building program.

2. Pedestrian circulation systems between the proposed buildings must be integrated into the design which will preferably provide weather-protected connections. Perimeter walkways, exterior courtyards, and plaza areas should be designed to visually relate to the other campus adjacent buildings.

3. The service road and/or yard will be constructed according to the Dade County standards for vehicular blacktop surfaces; additional road and service yard requirements include planting, landscaping, irrigation system, lighting, signage, and graphics.

4. In engineering design and construction, particular care must be exercised for positive storm water drainage and disposal. This requirement will be strictly enforced by the University.

5. In design planning and construction staging, consideration should be given to disruption of the existing entrance road to ensure orderly traffic flow.

6. Energy efficient exterior lighting is required for service road and/or yard, site, and building. Because of the heavy use of the facility at night, particular care should be taken in the design of exterior lighting for vandal resistance, security, and aesthetics. Lighting of the service yard should be controlled by clock timers with electric photo cells. Investigate use of lighting color differences to differentiate exterior functions, i.e., service road and/or yard vs. pedestrian walkway.

7. All site utilities will be provided underground from the nearest existing primary services (power, telephone, and sanitary sewer and water distribution systems). Communications and control systems will be provided as extensions of the campus underground network to and/or from existing and future adjacent buildings to engage with central terminal (control) equipment.

8. Site design should be developed to take full advantage of South Florida's subtropical climate including the use of Xeriphytic concepts. Landscaping should be used to articulate exterior areas, provide shade for outdoor use, and provide natural buffer between zones of conflicting use and future development.

9. Particular care should be taken to provide attractive site boundaries, and building vistas from surrounding campus areas. Native landscape materials which are capable of withstanding the sun and wind conditions found in South Florida should be used. Irrigation systems for all landscaped areas are required, except where the Xeriphytic concepts are used.
XII. CODES AND STANDARDS - SITE DEVELOPMENT AND CAMPUS INTEGRATION (continued)

10. The A/E will exercise particular care in designing storm drainage for the site and walkways. Topographic site plans must specifically illustrate existing and established grades for drainage. Site construction must comply with contract documents. "As-buils" of the drainage system will be reviewed in the field at Substantial Completion of the project. All components of the construction exposed to weather will have positive drainage to a storm-water drainage system or equivalent (planters, grassed areas, etc.). Scuppers or roof runoffs will not occur over pedestrian walks or terraces. Primary circulation paths will require trench drains to ensure against storm-water accumulation during heavy rainstorms. The A/E will provide a comprehensive storm-water drainage plan for the building, connecting walkways, all weather-exposed stairways, and site, as a part of the Design Development stage.

11. Exterior handrails will be of a non-corrosive material and will not overheat when exposed to the sun.

12. Roadway and walkway post lights should be located at least 4 feet from the edge of roadway/walkway. All roadway, walkway, and exterior building lights should be controlled by photo-cell.
XIII. PROJECT SCHEDULE

Mutual coordination between the A/E and the University will be required to resolve questions of scheduling, compatibility, finishes, environmental systems, connections, etc. Scheduling of these meetings and establishment of dates for this coordination will be the task of the University's Office of Facilities Planning. Among those items which will require coordination are the following: Pre-design Informational conferences, Design Submissions and Presentations, Project Reviews, Evaluations and Approvals by the Board of Trustees. Final Document Approvals, Bidding Dates and Procedures, Award of Contracts and Construction Start, Pre-construction and Periodic Construction Conferences, Construction Interfacing with University Operations, Disruption of Services for Utility Connections, Substantial and Final Completion Inspections, and Guarantee Expiration Inspection.

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<th>Description of Task</th>
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<th>No. of Days</th>
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<td>A/E - Presentations &amp; Interviews</td>
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<td>Graduate Housing- Construction Start</td>
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XIV. PROGRAM FUNDS

The planning, construction, and equipment funding source is projected as follows:

Housing Auxiliary Revenue Funds - $44,200,000
### XV. PROJECT BUDGET SUMMARY

#### BUILDING CONSTRUCTION COST

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<tr>
<th>SPACE TYPE</th>
<th>NASF</th>
<th>NASF/GSF FACTOR</th>
<th>Residential GSF</th>
<th>COST PER GSF</th>
<th>TOTAL COST</th>
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<td>Graduate Residential</td>
<td>148,503</td>
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**TOTAL BUILDING CONSTRUCTION COST** $33,367,666

1. **CONSTRUCTION COMPONENTS PROGRAM $**
   - a. Building Construction Cost $33,367,666
   - b. Environmental Impacts/Mitigation $0
   - c. Site Preparation/Demolition/Demucking $250,000
   - d. Landscape/Irrigation $250,000
   - e. Plazas/Walks $250,000
   - f. Roadway Improvements $75,000
   - g. Parking (Allowance) $50,000
   - h. Telecommunications (interior/exterior) $725,000

   **Utilities**
   - i. Electrical Service $75,000
   - j. Water Distribution System $100,000
   - k. Sanitary Sewer System $150,000
   - l. Storm Water System $150,000
   - m. Chilled Water System $250,000

   **Subtotal (utilities) = $725,000**

   **SUBTOTAL CONSTRUCTION COMPONENTS** $35,692,666

2. **OTHER PROJECT COMPONENTS SUBTOTAL**
   - a. Land/Existing Facility Acquisition $0
   - b. Professional Fees
     - Base Agreement - A/E $2,141,560
     - Special Consultants & Inspectors $200,000
     - Construction Manager (1%) - Pre-Construction fees $356,927
   - c. Fire Marshal $89,232
   - d. Inspection Services
     - Project Representative $267,750
     - Roof Inspector (see g)
     - Threshold Inspector $150,000
   - e. Insurance Consultant (.0006) $0
   - f. Surveys/Tests
     - Topographical Survey $337,063
     - Geotechnical Tests $16,000
     - Concrete Test $20,000
     - HVAC System Tests $40,000
     - Commissioning $17,867
   - g. Permit/Impact/Environmental Fees
     - Permits - WASA, Elevator $128,803
     - Code Compliance $107,078
     - Impacts $1,500
     - Environmental $3,000
   - h. Movable Furnishings & Equipment $1,300,000
   - i. Contingencies (5%) $2,210,000

   **SUBTOTAL OTHER PROJECT COMPONENTS** $7,181,334

**TOTAL PROJECT COST (Items #1 & #2)** $42,874,000

Construction Services Reimbursement = 3% of TOTAL PROJECT COST

**NEW TOTAL PROJECT COST** $44,200,000