

15.0 ARCHITECTURE DESIGN ELEMENT

Florida International University (FIU) aspires to create contextual and sustainable buildings that represent the institution's guiding principles and vision for an innovative, diverse, learning community serving locally and globally.

The character and identity of all buildings shall represent FIU's commitment to student life, formal and informal learning, promoting collaboration, integration and multidisciplinary education.

These guidelines will help identify the characteristics, drivers or goals that buildings must achieve in their particular location. These will bring a more cohesive fabric of buildings and spaces that in time will develop very iconic and recognizable context, particular and singular to Florida International University.

Each Campus should continue to reinforce their brand and vision utilizing these guidelines as the framework to successfully create strategies for growth, efficiency, performance and student life enhancement.

These guidelines follow the understanding that buildings significantly contribute to the experience of the public realm. Buildings, with the appropriate guidelines of the setbacks, scale, massing, connectivity and ground floor planning, can and should enhance the overall Universities' character and quality of student life in its various campus zones, making this experience memorable and uniquely FIU.

The five comprehensive goals that inform the Architecture Design Element at FIU:

- Incorporating a **Project Responsibility Checklist**, to assist in the process of following all necessary guidelines during the design and development of projects.
- Establishing a **Sustainable Design Guidelines** and goals to help elevate the standards of energy efficiency and performance for all new buildings, as well as specifying principles and design drivers that will enhance pedestrian and outdoor environments.
- Outline the frame work for an **Integrated Design Process**, to assure successful implementation of all campus master plan guidelines.
- Establish the **FIU Design Review Process**, that will provide reviews and approvals all designs within existing Campuses. This will ensure that all guidelines and goals established within the FIU Master Plan document are followed and achieved.
- Establish **Architectural Guidelines** and Components to reinforce and work in partnership with the Urban and Landscape Design guidelines, the FIU Building Standards and the Office of Sustainability Guidelines.

15.1 PROJECT RESPONSIBILITY CHECKLIST

Process, Principles and Goals

The new Design Guidelines are a result of an extensive coordination process with the university leadership, various focus groups and Facilities Management to assure all components on the Master plan are working together and the guidelines are utilized to reinforce every single one of them.

A project responsibility checklist should be utilized at the beginning of each project issued by the FIU project team as a tool to assure an equal process for quality control and guidelines compliance. The design team shall use this checklist to assist in assuring FIU, all criteria is met during the development and construction process.

The responsibility checklist is intended to assist design teams and FIU Project Managers in developing a consistent approach to all phases of the project and adherence to Master plan and Architectural Guidelines, this to be used in partnership with the established process outline by the FIU Building standards and contractual agreements.

Checklist items:

- Review and establish Programmatic, Budgetary and Master Planning parameters.
- Coordinate schedule of reviews and approval process for the project.
- Establish Sustainable Design expectations within budget.
- Coordinate parking, infrastructure impact or any other aspect of overall campus impact due to the scope assigned to project.
- Establish and Coordinate BIM implementation plan
- Create, review, and approve project directory, communication protocol and responsibility matrix.
- Hold a visioning session with key stakeholders and establish all project drivers and design principles.
- Establish proper siting strategies
- Establish Sustainable Design charrette goals and expectations
- Establish program stacking and massing early on.
- Develop all envelope strategies for sun mitigation, heat gain, and materiality
- Analyze and develop strategies in coordination with Landscape Guidelines
- All Urban design Guidelines must be coordinated and met, such as setbacks, scale criteria and public space definition
- All program elements and their infrastructure requirements must be defined and coordinated with all disciplines.
- Energy Model and day lighting analysis must accompany all phases and validated with data and metrics even after completion.
- All phase documentation requirements must be met to assure overall phase alignment with project goals and drivers.

- Presentation, review and approvals are required as a part of the Design Review Process.
- Presentation, review and approval to President are required.
- End user review and approval must be achieved thru Steering committee guidance and coordination.
- All sustainable Design Guidelines must be consistently measured during all phases.
- Update Program criteria on all phases
- Update Budget cost model on all phases
- Provide samples of all materials
- Three dimensional massing and envelope details will be required to validate energy modeling, budget and maintenance.
- Interior and exterior material board must be presented to the steering committee prior to the President Presentation.
- All program areas must be developed with layout details, systems strategies in order to validate functionality and efficiency of the planning criteria.
- Site must be fully developed to ensure there are no conflicts with existing conditions.

15.2 SUSTAINABLE DESIGN GUIDELINES

It is the intent of these guidelines to establish that FIU's expectations is to build in an environmentally responsible manner which is sensitive to geography, sensitive to energy and resource consumption as well as supporting regional resources and strong local relationships.

These guidelines are aimed to establish direction for a successful outcome of new Buildings.

All buildings at FIU campuses will be required to follow the USGBC guidelines for a minimum LEED level of Silver certification. The criteria outline by the USGBC score card should be utilized and monitored at every phase of project.

All buildings must also meet basic Energy Star criteria and must comply with all the FIU building standards regarding Master plan infrastructure strategies and overall sustainable Campus practices.

The FIU sustainable office must review and comment during all phases of the project to Assure campus wide best practices are being taken into account.

All new buildings must meet all FIU building standard criteria that refers to hurricane preparedness assuring all building systems, envelop and infrastructure strategies are not in conflict or will enhance sustainable criteria, such as with storm water management, and overall water collection systems, day lighting, power redundancies, envelop materials and design.

The following drivers should be taken into consideration:

- Set goals and benchmarks for each building aligned with budget.
- Conduct site survey and evaluation of existing conditions
- Analyze various methods of meeting goals and benchmarks and use results to make decisions.
- This analysis should be repeated during all phases to further refine and validate decisions.
- Expected outcome must be reviewed and monitored during construction.
- This outcome should be measured to determine success and establish benchmarks or lessons learned for future projects.

15.3 INTEGRATED DESIGN PROCESS

The design process of each new Building must be coordinated with all the criteria outlined within the Urban Design Guidelines, Landscape Guidelines, FIU Building Standards, the Office of Sustainability and all applicable Codes and State regulations.

All these must be equally integrated into the design with a particular emphasis on creating a process of collaboration and dialogue amongst all project leadership, participants, design team and FIU leadership.

A clear and precise process must be outlined by the design team prior to commencing the design of new buildings. Workshops, focus groups and presentations must be integrated to the review process required by FIU and its committees.

This process will allow for designs to emerge as a consolidated result of consensus building, integration of all disciplines, and coordination of all Master plan guidelines.

The following process activities should be achieved:

- Project kick off meeting where all team members are introduced, protocol of communication, schedule and budget and project specific expected goals are discussed.
- Programming program verification workshop should be part of initial responsibilities, to align budget and scope.
- Visioning Session with all disciplines and FIU selected steering committee should establish early on all project drivers, expectations and special requirements.
- Sustainable Design Charrette should be done to initiate project during Pre-Schematic design phase. Lessons learned and overall campus criteria should be shared by the University with the Design team, in conjunction with a Life-Cycle Cost analysis.
- Each phase should carry a minimum of two workshops, to present initial development and to present adjustments based on comments and previous

workshop outcomes.

- All disciplines are required to present development at all phases.
- During all phases the cost model and value management of budget should be discussed, reviewed and validated. Process and participants will depend on the deliver method.

15.4 Design Review Process

The Design Review Process is managed by Facilities Management and serves to ensure that all projects comply with the Master Plan guidelines. It is coordinated with the President, the Director of Facilities, and the Office of Development.

Three main stages will regulate the approvals:

- Conceptual Design Approval

This stage will carry the overall purpose to assure all main Master plan guidelines are being followed, as well as programmatic, budget and technical requirements are being considered and successful implanted within an innovative contextual design.

- Design Development Approval

This stage will required all complete documentation of the design with overall site plan, elevations, plans, sections and all necessary renderings to successful showcase all design elements important to the overall program and budget. Architectural and Engineering technical drawings will not be required but utilized if necessary to explain concepts or solutions. Landscape drawings and overall campus location and surroundings must be fully developed and at this stage will receive final approval.

- Final Project Approval

This stage will require a final review of the project. All necessary documentation to explain, validate or clarify any previously received comments or action items will be required. All previously issued comments must have been addressed and documented properly approvals. Any pertinent approvals, external or internal, must have been met prior to this stage.

Each of these stages will carry specific requirements and the design team will be responsible to formally present at all stages.

The material will be reviewed and evaluated during the presentation with comments and action items issued to the team in writing after each review.

15.5 ARCHITECTURAL GUIDELINES

15.5.1 Architectural Characteristics

The Architectural language of the various campuses has developed thru the years with a diversity of characteristics, allowing for individuality and flexibility of expression to create a vibrant and plural fabric. The Master plan continues to celebrate the diversity of spaces, buildings and general atmosphere, but establishes very clear guidelines to bring more commonality to specific campus spaces, avenues or edges.

While encouraging diversity and creativity each Campus must establish a coherent architectural vocabulary that while achieving contemporary innovation and character, establishes an overriding architectural character linking individual buildings.

This practice will assure a strong building context that should strive always to inform, define, enhance and re-enforce student life, healthy and welcoming public spaces as well as pedestrian connectivity. Maintaining consistency of this context will allow for each campus to develop singular and recognizable brands.

There various potential approaches to the architectural character of the three campuses; Traditional, Non-traditional but Contextual and a Design responsive to Contemporary Concerns or of Singular Character such as specialty buildings or Structures.

A Traditional Design would be necessary if in relation to an existing building but must focus on its response not on imitation but on relationships of scale, proportions, formal elements, materials or colors.

The Non-Traditional but Contextual Approach is one that will allow to be more responsive to the adjacent context without direct referencing. This approach is the most suitable for most campuses since it focuses on strategies that will bring continuity and re-enforces a sense of connectedness among different structures and building types.

A Design responsive to Contemporary Concerns or of Singular Character may suggest the Potential to allow a design based on innovation, clarity or specificity of program, transparency or relationship to outdoor environments, sustainability and the integration of Art. In this approach, a rich vocabulary can emerge that responds to the needs of South Florida such as large expanses of glass, green roofs, overhands, sunshades, new building technology and materials.

FIU has a strong legacy of the integration of Art in its' Campus and Buildings. This is one of the most important characteristics to retain and re-enforce on all new buildings. Incorporating art into the fabric of the campus as well as allowing for exterior spaces to work in partnership with interior spaces, creating potential outdoor learning experiences will create a strong sense of community.

In summary, these guidelines contemplate a place for both singular and contextual

buildings, with an overriding architectural character of all campuses to be based on a response to contemporary concerns, with a focus on activity and functionality, transparency, sustainability, art and people.

15.5.2 Framework Elements:

Materials

Exterior:

Materials used in all new construction should respond to the adjacent context, follow any criteria outline in the building standards for both exterior and interior. They must support permanence and integration while allowing for efficiencies in maintenance and repair. Precast is a required primary material in all new buildings. Furthermore, the guidelines are specific about a light colored precast that will allow for heat reduction of building envelop. Variation of colors may be considered as part of the building design, but are encourage to follow more neutral contextual colors in order to reinforce the continuity of the campus fabric.

Metal panels are allowed but are discourage near public or pedestrian accessible areas in order to prevent scratching or staining from irrigation and service zones.

Proper research and specifications must be presented when utilizing new materials. Glazing must be high performance, non-reflective, and low-e coated glass. Ceramic frit, shadow boxes as well as spandrel glass is accepted when necessary. Reflective glass or tinted glass is not allowed and all assemblies and mullion finished should follow the criteria of the building standards.

Silver color powder coating is encouraged. Any material that helps reduce heat gain to the envelope of the building is highly encouraged, such as reflective metals or light colored components.

Natural materials, mainly from the region, are highly encouraged as long as they can be easily maintained and are not endangered.

Incorporating Art at ground levels is highly encouraged, as well as durable tactile materials that can enhance the pedestrian experience.

Interior:

Interior materials are outlined in the Building Standards, but both interior and exterior should work in harmony to follow sustainable criteria and develop constant language on all building experiences.

Materials should be kept light and transparent to enhance day lighting and visual

connectivity on all areas when possible. This transparency will enhance collaboration, social interaction and passive safety measures while elevating the efficiency of energy consumption, by diminishing the use of interior lights.

Scale

All buildings must comply with the Urban Design Guidelines according to zones, spaces, axis, avenues or edges.

While most of the buildings are encouraged to keep an average of 6 stories, taller buildings are allowed in certain areas such as campus edges or main campus quads and avenues.

Unless otherwise noted on the Guidelines all buildings are to minimize their footprint, comply with the setbacks required and allow for light and breezes to be maintained or enhance at adjacent public spaces

Massing must be developed to ensure proper building performance and efficiencies of scale.

Transparency and Connectivity

The guidelines encourage maximum transparency as appropriate, based on program, solar orientation, and function.

All glazing must be studied and energy modeling must be part of the Schematic Design Phase. This analysis must be validated at all phases to ensure the proper balance between day lighting and energy efficiency. Refer to materials for proper Glazing Guidelines.

All new buildings must enhance connectivity, utilizing three main strategies:

- Incorporation of covered walkways within their footprint.
- Creating detached covered walkways to adjacent buildings.
- Allowing for pedestrian connectivity thru the ground level of the building thru breezeways, canopies or building overhangs.

Siting and Context

All new buildings must respond to their context thru proper alignment with existing building massing, while following the criteria of setbacks set forth within the urban design guidelines. However, all new buildings must be carefully studied for solar orientation, wind patterns pedestrian circulation, vehicular circulation, emergency and service vehicle access, impact on utility corridors, and master plan regulating lines.

Buildings must follow the siting criteria within depending to their location such as with courtyards, plazas, campus axis, main avenues, pedestrian corridors, quads, Campus edges, and Special purpose .

Building Performance and Hardening

The guidelines highly encourage for early analysis of building performance to assist in the design process. This will help understand and inform siting, scale, materials and energy efficiencies.

The guidelines encourage a minimum of 25% reduction of energy consumptions based on ASHRAE standards as well as a maximization of water re-use strategies on site.

It is encouraged to look into potential capturing of water condensation as well as rain water, into cisterns that can supply the building and it's irrigation during normal operations peaks as well as help on emergency conditions such as hurricanes or water shortages.

All new buildings must follow FIU's Hurricane Preparedness Standards and all County, City and State regulations.

Way finding, Branding and Signage

Each building must carry a strong Way finding strategy internally and externally, while following Campus standards for internal and external signage.

Branding is highly encourage since, together with Way finding, it will help re-enforce FIU's identity and brand on all campuses.

While these guidelines highly encourage these characteristics, it is also important to make sure that they are in balance and harmony with the Building design, this in order to create environments that flow from building to building without competing with each other on color, location, scale of brand or signage.

Together with the University's Building Standards, these criteria must be in concert with adjacent buildings and overall Branding strategies of FIU.