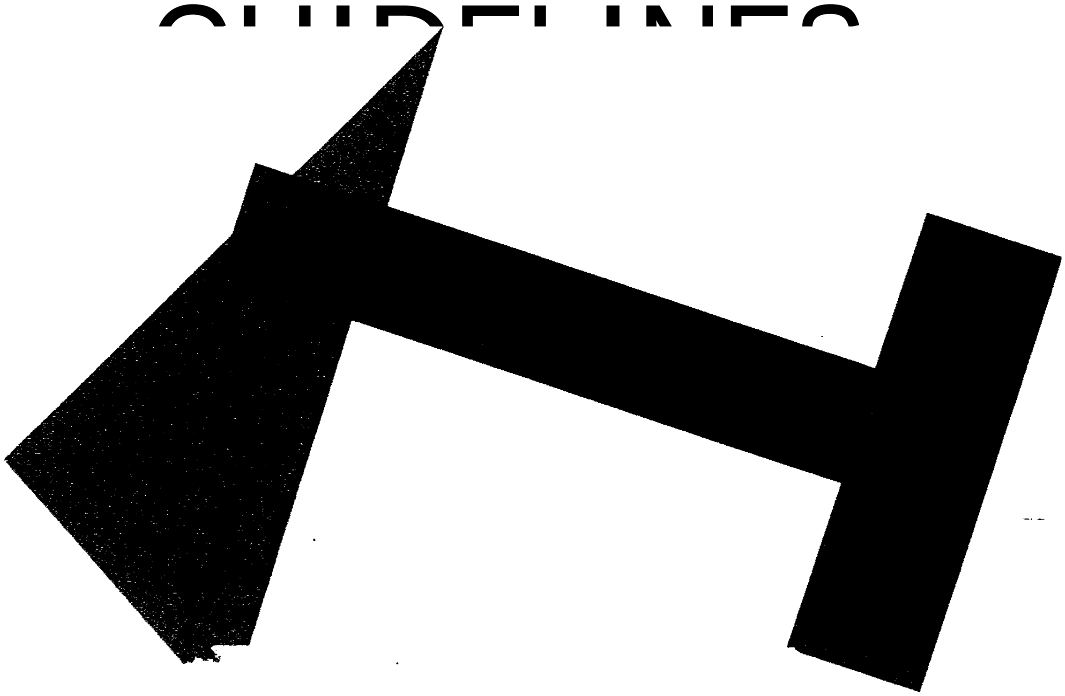
Board of Regents
University System of Georgia
Office of Facilities

2000 PREPLANNING GUIDELINES



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Part I

Guidelines for Preplanning

Introduction

At its July 9, 1997 meeting, the Board of Regents of the University System of Georgia adopted the University System of Georgia Comprehensive Plan 1996-97. This plan incorporated four sets of comprehensive planning principles to guide actions dealing with enrollment planning, workforce planning, academic planning, and the provision of facilities.

The first three principles pertaining to enrollment, workforce, and academic planning are summarized below.

- Enrollment planning principles set the context for the ensuring development of enrollment targets for the System and each institution;
- Workforce planning principles were developed using the statewide needs assessment, which was funded by ICAPP (Georgia's Intellectual Capital Partnership Program). The resulting list of high demand occupations should spur program development and student interest and should also inform program expansion; and
- Academic planning principles resulted in the modification of the program approval and review process. Although institutional initiatives will continue to drive new program development, state needs will play a larger role in the future in determining which new programs should be approved and which existing programs should be discontinued. The Board may also initiate the call for new programs.

Although these four sets of principles work together to provide the guidance for the System's planning and decision-making processes, the fourth set of principles on Capital Resources Allocation are central to the focus of this document and are fully reproduced on the following pages.

Principles for Capital Resources Allocation

Principle 1

The construction or acquisition of new space to accommodate existing enrollment should generally take precedence over the construction or acquisition of facilities to serve future growth targets in the five-year capital allocation plan (subsequently referred to as "the plan").

Principle 2

The acquisition of space whether for the purposes of acquiring land for new construction or existing facilities for adaptation to university or college purposes needs to be evaluated with two considerations: first, the relationship of the site and/or facility to academic mission, student needs and physical layout of the campus, and second, the benefits or liabilities of the existing facility.

Principle 3

The construction or acquisition of new space should parallel the future growth targets adopted by the Board for each campus in the plan and should be consistent with institutional missions and strategic plans, including workforce needs.

Principle 4

There should be a balance between the need for new facilities and the need to maintain, rehabilitate or modernize existing facilities within the overall plan which includes attention to health and safety issues (ADA, asbestos, etc.) as well as the accommodation of new academic programs and capacity expansion.

Principle 5

In setting priorities for the use of State resources, highest weight will be given first to instructional facilities (classrooms, laboratories) followed by academic support facilities (libraries, computer centers), student support facilities (e.g., housing, recreational and student activities centers), and finally administrative facility and infrastructure needs. Critical infrastructure needs may take precedence in some cases, especially where cost-effectiveness is a major rationale. Special consideration for the role of the State support for research facilities will be evaluated in light of the unique research mission of certain institutions.

Principal 6

Where other than State financial resources, especially auxiliary or donated resources, are available to partially fund a facility, special consideration will be given to the role that State resources can plan in completing a financial package.

Principal 7

In planning facility projects, capacity expansion, while critical should not result in facilities which are of lower quality.

Principal 8

New construction and building renovations should incorporate modern, energy efficient building and electronic communications systems appropriate to modern instructional delivery systems, with special attention to furthering the goals of an expanded distance education capacity in the State.

Principal 9

In evaluating projects, consideration should be given to: (i) existing facility utilization efficiency and operating hours of each campus, (ii) whether the campus' existing utility, road, parking and pedestrian infrastructure will accommodate the new project, (iii) quality of life issues, (iv) impact on the local community, (general cost effectiveness of the projects including facility operating costs, and (vi) where appropriate, reduction of the use of lease space.

Principal 10

In establishing and amending the 5-year capital outlay plan for the University System, consideration will be given to the timely completion of programming and design of capital projects as well as the maintenance of projects within budgets.

As each year of the major capital outlay five-year plan passes, it is the Chancellor's and Board's intention to add additional projects to the plan. [See page 7 for further explanation.] It is anticipated that projects in the major capital plan will follow a process over a number of years which make the project ready for design development and construction. The purposes of Principle #10 is to alert all parties that projects must meet certain readiness tests to remain in the major capital outlay plan.

<u>Limitations and Warning</u>

Although the benefits that result from proper preplanning and significant, there are risks. Errors can result with the resultant effect becoming inherent flaws in the project. It is with this admonition for caution that this document is presented in the form of "guidelines."

These guidelines are intended to provide planning parameters for various space-related features to facilitate the program planning and later phases of an anticipated project. The space guidelines included here are reasonable estimates of the space needed and are not to viewed as rigid minimums or maximums. In applying any guideline to specific cases, consideration must be given to the room shape, equipment requirements, access, utilization, and other functional requirements that may be required by the program or expected by institutional norms. These additional considerations become especially critical when applying the guidelines within the context of an existing facility and may be grounds for well-reasoned departures from these guidelines.

Finally, these guidelines are based on current planning standards and functions applicable to the University System of Georgia and should be reviewed periodically.

Preplanning Defined

No matter how simple or technically difficult a capital project may be, the preplanning process is critical to the project's success. Preplanning is necessary to establish and reinforce user objectives, to confirm the practicality of the project, and to assess the multiple relationships that will affect the project and its costs. Preplanning is necessary for all capital improvements, including building renewals or renovations, new construction, or utilitarian projects such as streets and other infrastructure expansions or upgrades. It is through this process that the campus has the opportunity to start a project in a manner that best assures its success. Although the selected design professional (generally an architectural firm) will prepare the project's formal "building program", it is the responsibility of the campus to provide sufficient information to:

- ❖ Establish a clear, written description of the project objectives and rationale;
- ❖ If the project is a building renovation, identify any problems with the structure as it exists (including stewardship aspects of historic buildings);
- ❖ If the project anticipates new construction, identify the site; identify and evaluate any site-specific issues; prepare appropriate GEPA documentation;
- ❖ Define the academic and architectural project objective(s);
- ❖ Ensure that the final project program is reasonably calculated to achieve the intended goals of the campus user(s);
- ❖ Ensure that the funding appropriation is sufficient to support the intended project; and
- ❖ Identify critical or otherwise desired timelines or deadlines that the project should meet.

These are the basic elements that comprise preplanning. In summary, the preplanning process is intended to coordinate a project's construction objective with the project cost estimate so that sufficient funds can be requested to complete the desired facility in the size and in the quality necessary to provide an acceptable life-cycle cost-to-benefit ratio and to complete the project on time and within budget.

In addition, discussions regarding following topics and issues will expand the scope and depth of the preplanning activities and contribute to a better understanding of the projects program prior to initiation of the design phase of development.

Identify the Desired Project

It is the responsibility of the campus to provide the design professional with a written narrative of what is needed to resolve a facility-related problem. This part of preplanning is intended to quantify the future construction activity by identifying as precisely as possible the features that will be included within the scope of the project; for example, the number of classrooms, the number of office spaces, the type and kind of storage needs, conferencing needs, space requirements to accommodate new technologies, and so forth. The campus should assure that these program requirements are consistent with the mission and purpose of the campus and have been anticipated by the campus's Physical Master Plan.

Options for resolving the physical space problem may include:

- ❖ The modernization or rehabilitation of an existing building;
- ❖ The construction of an addition to an existing building;
- ❖ The construction of an entirely new building or facility; or
- ❖ A combination of building addition, building modernization, and new construction.

It is also important to cite any particular accreditation requirements, standards, or specific requirements of a regulatory authority and to note any particular or unusual program or site requirements. To assess these and all other features, it is usually beneficial for the campus to form a committee of users to identify and define the facility needs collaboratively.

The campus does not need to identify building service features (such as toilet rooms, corridors, lobby space, circulation space) at this preplanning stage of the project's development unless there are special service requirements, such as the building needs to provide elevator or toilet services for adjacent buildings.

Building Renovation or Addition

If the project intends the renovation, rehabilitation, modernization, preservation, or other revitalization of an existing building, the campus should consider the following basic questions as part of the preplanning activities:

- Is all of the building to be included in the project? If not, what portion of the building does the project intend to renovate?

- Will it be necessary to maintain current operations in the portion of the building not being altered? An important question to ask at this time is, "Is it permissible by the appropriate building code(s) to leave any part of the building unaltered?"

- Frequently, the building code(s) and/or other regulations require "upgrading" of all of the building elements, although they may not be directly affected by the renovation. The earlier that this question is answered, the less likely it is that unanticipated costs will result during the latter stages of the project. It should not be automatically presumed that any non-conforming situation will be "grandfathered" into the new project.

- Is this an historic building? Is it listed on the Georgia Register? How will the historic context of the building be accommodated by the desired project?

- Are there environmental concerns? When will the GEPA and SHPA evaluations be performed, and by whom?

Other important questions are:

- Is the renovation intended to return the building to its existing configuration, or will the interior of the building be reconfigured? Is the building on the register of historic buildings, or is it otherwise historically or architecturally significant?

- It is necessary to evaluate the potential for environmental hazards, such as the need to abate asbestos-containing materials (ACMs) or lead-based paint. [A special consultant may be required to evaluate these factors.]

- Will this project include a new air handling system, or is it practical to repair the existing system? What will have to be done with the building's plumbing and electrical systems?

- Does the roof need to be repaired or does it need to be totally replaced? Will the renovation project require penetrations in an otherwise perfectly good roof?

- Does the current configuration of the building comply with the access requirements of the Americans with Disabilities Act (ADA), or will access improvements be required? Will it be necessary to provide or improve elevator service?

- Will it be necessary to make improvements or modifications to satisfy the requirements of the Standard Building Code (SBC), Life Safety Code or other applicable regulations e.g., fire sprinklers?

- Does the project anticipate or require any work on the exterior of the building? If so, to what degree? Does the existing building envelope meet the code requirements for energy efficiency?

- Are exterior components (e.g., sidewalks, parking lots, delivery or service areas, etc.) included within the project? If so, they should be specifically identified.

Other items of particular concern when engaging in a renovation or renovation/addition project include:

- Examination of the existing floor-to-floor heights may dictate the need for expensive mechanical systems and/or may require the addition to have floors at different levels than the existing building;

- The connection of the addition to the existing building may require the elimination of existing rooms. The need to replace these rooms in the addition should be anticipated.

- The addition may change the occupancy characteristics of the existing building as defined by the code. Will changes to the exiting of the existing building be required?

- What degree of work will be required to assure the appropriate provision of the following utilities:
    - Communication requirements, including data cabling/fiber optics
    - Domestic water service
    - Electrical service [Is emergency or uninterrupted electrical service required?]
    - Fire prevention water service
    - Road or highway access; including service access for deliveries and trash removal
    - Sanitary sewer
    - Storm sewer [Is a retention or detention pond required?]
    - Gas service
    - Hot and chilled water service

Special attention must be given to the comprehensive project schedule:

- Can the campus vacate the building on a schedule satisfactory to the contractor?
- Will it be necessary to utilize temporary facilities (trailers, rental of other space) during the period of construction?
- Has enough time been allocated between completion and occupancy to allow for set-up and testing?

New Construction

The site for the new building must be precisely identified. The need for environmental documentation should be anticipated and the manner in which compliance with GEPA and SHPA requirements are to be met should be identified.

All appropriate utilities must be reasonably available to the future building location in sufficient quantity to serve the projected needs. If existing utilities are not available, the service provider and location of the future service connection must be identified so that funding can be requested to provide utility extensions to serve the project. Basic building services include the following:

- Communication requirements, including data cabling and fiber optics;
- Domestic water service;
- Electrical service [Is emergency or uninterrupted electrical service required?]:
- Fire prevention water service;
- Sanitary sewer;
- Storm sewer [Is a retention or detention pond required?]:
- Gas service;
- Hot and chilled water service;
- Road or highway access; including service access for deliveries and trash removal

Moreover, if the building is part of a larger complex on campus, are heating and cooling to be provided through a central plant facility? Is there sufficient capacity in the existing central plant to serve the new construction? If not, should the new construction project: 1) include sufficient funds to upgrade/expand the central plant; or 2) should the new facility be served by an individual heating/cooling system? [Short-term (initial) costs, together with longer-term (life-cycle) cost implications should be evaluated.]

Site constraints may have large impacts on the cost of construction; such constraints include:

- Rock outcroppings;
- Underlying bedrock at a relatively shallow level;
- Unusual sandy or clay-containing soil conditions;
- Standing water, intermittent streams, springs, below surrounding grade conditions, or high water table characteristics;
- Steep grade;
- Need to provide unusual level of water diversion or on-site storm-water containment;
- Limited or constrained access for construction equipment;
- Lack of adequately sized construction staging area or need to “stage” at a distant location;
- Building site is very close to other buildings or facilities;
- Unusual constraints on the hours that the contractors

or construction-related noise constraints or other neighborhood / community issues

- The need to obtain any permits required by a local government or a local utility provider to secure utility connection, together with establishing a schedule with the utility provider for this purpose;
- Environmental constraints, including archeological considerations;
- Presence of wetlands (special attention will need to be paid to both building foundation and drainage);
- Unusual topographic features; and
- Does the site warrant further environmental investigations(s) and documentation?
  - Is hazardous waste cleanup or trash cleanup required?
  - Will it be necessary to raze existing aged facilities?
  - Is there reason to suspect the presence of endangered flora or fauna?
- Are there archeological or other historic constraints?

Note: If the building site incorporates or borders on a drainage swale, wetlands areas, stream, pond, or other water body, the project design team should anticipate additional construction costs and, potentially, recurring water intrusion problems in the building

Technology Considerations:
Instructional & Academic Support

Technology requirements for instruction must be carefully considered at the time of programming and carried forward into the preplanning stage for both new construction and renovation projects. Verification and coordination of instructional technology requirements is required throughout all phases of a project's implementation, including the preplanning and subsequent design phases. The Board of Regents' commitment to technology is evidenced in the University System of Georgia's Strategic Plan.

The challenge will be to provide a learning environment in which the values inherent in traditional residential instruction continue to be fostered as distance and other learning technologies enable new opportunities and universal access.

The need for providing flexible and expandable infrastructure for satellite communications, digital transmission, distance learning, and accessible hardware should be considered during the preplanning phase for building new space or renovating existing buildings.

Consideration shall be given to flexibility for students to take coursed via alternative mode of delivery as well as flexible infrastructure to provide high capacity connections that have potential for future expandability while compatible with current industry standards.

Consideration shall also be given to technology accessibility and campus connectivity to various sites. Spaces should be designed o be flexible, and multi-purpose whenever possible and consistent with the program mission of the building.

One of the biggest issues will be to consolidated the new infrastructure and to insure sufficient capacity (bandwidth) and the ability to reconfigure the rooms, while designing new infrastructure including appropriate cabling (twisted pairs, fiber, etc.) to each building and room, together with sufficient telecommunications / data closet space and appropriate security.

See the Board of Regents publication, "facilities Buidelines for Instructional Technology" on the web at:

http://www.usg.edu/pubs/pdf/fac_glines_instr_tech.pdf

Technology Considerations:
Building & Construction Requirements

Buildings, and the construction techniques associated with their creation, are becoming increasingly sophisticated. As such it is important as part of preplanning to anticipate particular building functions that will require special or particular attention, such as air-handling to accommodate wet or research laboratories, cooling capacity necessary to serve areas with cooling capacity necessary to serve areas with high concentrations of computers or other electronic equipment, particular needs for electrical capacity, and unique needs for the storage and/or disposal of chemical or other wastes.

Although the project's design professional (generally an architectural firm) will design the project to meet applicable codes consistent with the Standard Building Code, an assessment of the building's functional requirements during preplanning is necessary to allow the designer and the user to start from a uniform basis of understanding. It is also important to assess the full range of technological requirements, including active and passive heating and cooling, conduit and cabling needs, energy management system and emergency power needs, along with many others, during preplanning in order to establish an appropriate project cost estimate.

Historic Properties:
The Legislative Context

House Resolution 425 of the 1997 Session of the General Assembly created a Joint Study Committee whose purpose was to develop recommendations for legislation, funding and other strategies to strengthen preservation in Georgia. The resolution identified a broad slate of preservation topics for examination, including community revitalization, economic development, technological and computerization needs, existing infrastructure, urban sprawl, regional preservation planning services, archaeology, financial assistance, the Georgia Heritage 2000 Program, **stewardship of historic properties**, delivery of community services, and heritage tourism. [Emphasis added].

The Joint Study Committee met and issued its final report in December 1997. The report included a series of recommendations, one of which dealt with "legislation for the 1998 Session of the General Assembly." A component of the recommended legislative package was entitled, "Stewardship of Sate-Owned Property" and read as follows:

"Enact new state legislation requiring improved state agency heritage stewardship activities."

Requirements call for each state agency and department to develop a historic preservation plan, with technical assistance fro the Historic Preservation Division, to preserve and protect historic buildings and archeological sites under their control.

Consistent with this recommendation, Senate Bill (SB) 446 was introduced to amend Part 1 of Article 3 of Chapter 3 of Title 12 of the Official Code of Georgia Annotated. The bill was passed into law and became effective on July 1, 1998, and requires four planning steps leading to the full implementation of the legislation in the year 2000:

- December 1998 – complete a study of the planning processes which may be required to effectuate the intent of the legislation;
- February 1999 – prepared a program (implementation costs and personnel utilizations) cost estimate;
- May 1999 – formally adopt a process for developing a preservation program; and
- July 1999 – commence formulation of a preservation program.

Not later than July 1, 2000 each state agency shall establish and implement, in consultation with the division (Division of Historic Properties of DNR), a preservation program for the identification, evaluation, and nomination of historic properties to the Georgia Register of Historic Places to further the protection of such historic properties.

Implementation

Implementation of this legislation, consistent with the steps listed above, is currently underway with the objective of complying with the July 2000 target for full implementation. Due in large part to its multiple objectives and its newness, this legislation is referred to by various terms, including the State Historic Preservation Act (SHPA), the State Agency Historic Property Stewardship Program, the Historic Preservation Legislation, and other similar titles.

Each campus is advised to become familiar with the purpose and intent of this historic legislation and to carefully consider it as part of its on-going capital program. The chief Business Officer at each campus has been designate as an Assistant Preservation Officer and should be relied upon for guidance. Refer to the state-adopted "Standards for the Treatment of Historic Properties (1998). See the web site: http://hpd.dnr.state.ga.us/

Part II

Space Guidelines for Preplanning

Preplanning Guidelines for Space Allocation

The objective of any building project, whether new construction or the renewal of an old facility, is to provide the size, configuration, and relative juxtaposition of spaces needed to properly support an approved program objective. In striving to reach the optimum physical characteristics, the building's design team will be required to make a series of tradeoff decisions in order to fit the building on the owner's preferred site, to keep the overall project contained within its budget allocation, to provide needed or perceived lobby space or formal entryways, to house all of the program requirements, etc. This process can be a long and burdensome one for all parties, or it can be accomplished efficiently and in a timely manner.

The success of any capital project can frequently be linked directly to how well the project was started, and the start is dependent on the "quality" of information initially provided to the design team by the user's representatives. In this regard, the design team will be expected to provide alternative design solutions; these will be discussed and debated among the users and finally result in an approved design concept. In order for the designers to meet this expectation, it is incumbent that the user's representatives provide a comprehensive, well conceived program document that, among other things, identifies the room size parameters and adjacencies that are required to support the program objectives.

There are several ways that the user(s) can establish space need parameters as part of the project's program documentation. One way is to rely on traditional practices and previous experience. The following section of these Guidelines provides examples of this methodology. This is generalized information that can be helpful when considering traditional types of space. More sophistication can be introduced by referencing the *Space Planning Guidelines'* as published by the Council of Education Facility Planners, International. These guidelines project typical space allocations based on weekly student contact hours (WSCH) and station occupancy rate factors and by the higher education general information survey (HEGIS) code factors for each academic discipline. The CEFPI guidelines were used as the basis for the space-needs evaluation for each campus's physical master plan. Either of these two techniques will result in space allocations that reflect historically accurate space assignments but may not account for unique site conditions or may not adequately project the requirements needed to support new technologies.

Another method for determining program-to-space relationships is through benchmarking. This process may be more time consuming than the analytical methodologies incorporated in the CEEPI guidelines. Benchmarking is, however, more likely to result in space allocations that represent current best practices in teaching and learning (and incorporating modern technology into the building program). The benchmarking methodology requires the user to: 1) identify peer institutions; 2) identify the program-to-space standards used at the peer institutions; 3) visit selected peer institutions and assess programs and spaces; 4) question each peer institution regarding their perception of their program to space relationships; and 5) tabulate this information into a space-to-program allocation for the particular project being developed. Care must be taken to assure: 1) that appropriate peer institutions are included in the benchmarking study; and 2) the reasonableness of the final program-to-space relationships that result from this process.

As stated previously, the space guidelines included here are to be considered reasonable estimates of the space needed for selected purposes and not a definitive minimum or maximum that must be adhered to rigidly. In applying the guidelines, consideration must be given to the room shape, equipment requirements, access, utilization, and other functional requirements that may be required by the program or expected by tradition. This becomes especially critical when applying the guidelines within the context of an existing facility. These guidelines are based on current planning standards and functions applicable to the University System of Georgia and they warrant review on a periodic basis to verify their continued validity.

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[1] *The Space Planning Guidelines* are published by the Council of Educational Facility Planners, International, 29 W. Woodruff Ave., Columbus, Ohio, 43210, and are updated annually.

Classrooms
Including Seminar Rooms

It is likely that classrooms, including seminar and conference-type rooms, will rapidly evolve to support a variety of state-of-the-art instructional technologies employing ever-changing electronic characteristics. These "smart" classrooms are likely to include cabling and multiple types of electronic support equipment, particular line-of-sight requirements, audio and video transmission capabilities, and numerous other types of existing and yet-to-be-invented electronic support equipment, some of which are discussed in the *Design Guidelines for Instruction Presentation Systems and Facility Infrastructure* as prepared for the Office of Facilities in January 1998. A copy of these guidelines is fully reproduced as Appendix 2 to this document.

Even with the evolution of modern electronic instructional support capabilities, it is likely that use of, and reliance on, the more traditional form of classroom will be appropriate. This document, thus, includes a variety of information that could be applicable to any type of teaching and learning situation.

Table 1

Intended Use	*Assignable Square Feet*
35-station, tablet arm chair-type seating	600-700
35-station, table-type seating	750-875
50-station, tablet arm chair-type seating	800-900
60-station theatre-type seating	800-900
15-station seminar-type seating	325-375

Suggested Topics For Consideration:

- ❖ During the life of any classroom, it is likely that the classroom will be used to support several different academic programs. Accordingly, all classrooms should be designed to accommodate the full range of modern electronic instructional support capabilities.

- ❖ Classrooms should be designed to accommodate the teaching methodologies that will support the academic discipline(s) for which the building is being designed. For example, some classrooms might be designed without windows (to support two-way video instruction) while tiered seating may be necessary for other teaching methods. The size of such rooms may vary based on the particular instructional method(s) that will be used.

- ❖ The number of each classroom type should be determined by the program requirements of the academic discipline(s) that are scheduled to occupy the building.

- ❖ The design of all classrooms should incorporate proportions such that the room has functional length to width and floor to ceiling characteristics. Factors that should be considered include sight lines from all student stations to the instructor's position (and to the viewing screen(s) in the case of two-way interaction classrooms), acoustic characteristics, door placement to minimize class disruption for late arrivals, window placement (if windows are appropriate), and the location and type of lighting.

- ❖ Classroom design should avoid unique shape characteristics to ensure the room's future flexibility.

- ❖ The type of learning station (tablet armchair, table-type, or fixed seating) should be as required to serve the instructional program(s) that will be offered in the classroom; the type of seating must be clearly identified in the project program because it affects the project's scope.

- ❖ Classrooms which incorporate a traditional configuration, tablet arm chair-type seating, should not generally exceed fifty stations.

- ❖ An executive conference room should include or otherwise have access to a sink, counter and secure storage areas suitable for the serving of prepared food. Executive conference rooms are limited to the President's suite and the vice president's office suites but should also be made available to other campus users.

- ❖ It is important to make certain that each classroom has adequately anticipated the faculty-instruction needs by providing, as required, counter tops, technology requirements, sinks, hot and cold water, video projection capabilities, power and data service needs, and similar features.

Computer Laboratories

Computer laboratories, including computer classrooms, require dedicated support spaces, together with areas reserved for storage and maintenance of computer-related equipment and supplies. It is intended that the following space guidelines include all computer laboratory-related spaces.

Table 2

Type of Computer Laboratory	*Assignable Square Feet/Station*
General Computer Laboratory	45-50 ASF/Station
Advanced (CAD) Computer Laboratory	85-90 ASF/Station

Suggested Topics for Consideration:

- ❖Space for the following uses/functions is included in the guideline space standard: student workstations (terminals), instructor's station, an office (160 SF) for lab consultant/lab technician, equipment repair area, storage room, network equipment/server room. These functions do not need to be included within the laboratory they serve but may be grouped or otherwise located to allow efficiencies or economies.
- ❖Careful consideration should be given to the number of stations included within a self-instruction computer laboratory to take advantage of "economies of scale" savings but not to create laboratories that are so large that they become unfriendly factories.
- ❖Consideration should be given to grouping computer laboratories around, or in the vicinity of, central supporting facilities.
- ❖The need for security, and the need for 24-hour access, if applicable, be considered.
- ❖The need for additional power requirements and air-conditioning must be accounted for at significant concentrations of computer-related equipment.
- ❖The location of the printers that serve the computer laboratories is very important. Are the printers to be networked and located at a single location, randomly placed throughout the labs, or configured in some other fashion? Costs, power, and data cabling factors should be considered.
- ❖ Attention should be given to the type of furniture that will be used to support the laboratories. Will the furniture incorporate power and data cable capabilities or will it be necessary to provide for these services in other ways? Will the furniture be fixed in place or movable?

Libraries

Generally, university and college libraries include three distinct types of space: reading space, stack space, and public and technical service-support spaces. One method for estimating the amount of library space is to calculate space needs as a function of student enrollment, as in Table 3 below. A project program, based on the institution's mission, purpose, accreditation criteria, and site and circumstance, will result in the final determination of the size and types of spaces needed in any library facility.

Reading Space

Reading Space includes General Purpose Reader Stations, Study Carrels, Telecommunications / Computer Workstations and Individual/ Group Study Rooms.

One method for determining the amount and type of reader stations is as a function of enrollment:

Reading Space = (Percent usage student enrollment by division + faculty percent usage) times ASF per reading station.

Table 3

Users (EFT)	*Universities*	
	With Department Libraries	*Without Department Libraries*
Lower division students	10%	15%
Upper division students	5%	15%
Graduate students	5%	20%
Doctoral students	5%	20%
Faculty	5%	10%

For department and specialty libraries the percentages may vary significantly and are generally higher.

The program should confirm and validate the number of each type of reading station. All reading stations should have data and power access. The following types of reading stations may be anticipated:

- General Purpose Reader Stations: sized at 25-30 ASF per station;

Study Carrels: 35-40 ASF per station;

- Telecommunications/Computer Workstations: 45-50 ASF/station; and
- Individual/ Group Study Rooms: Generally 30-35 ASF/student.

Stack Space

Stack space includes "Open stacks" and "Movable Aisle Compact Shelving" (MACS).

Generally, a library will house “non-book materials” at a ratio of 40 percent of the open stack area.

Table 4

EFT Student Enrollment	*Collection Volumes*	*Volumes in Open Stacks*	*Volumes in MACS*	*Assignable Square Feet*
Up to 3,000	300,000	300,000	N/A	20,000
6,000	630,000	630,000	N/A	30,000
8,000	840,000	400,000	440,000	50,000-60,000
10,000	940,000	400,000	540,000	55,000-65,000
12,000	1,060,000	480,000	580,000	65,000-70,000
14,000	1,200,000	600,000	600,000	75,000-80,000
18,000	1,400,000	700,000	700,000	90,000-100,000
20,000	1,500,000	800,000	700,000	95,000-105,000
25,000	1,800,000	100,000	800,000	120,000-130,000

Public / Technical / Service / Support Space

Service / support space can be estimated at 35% to 45% of the reading stack areas and it may include administrative offices, reference areas, cataloging, acquisitions, lounges, circulation space, utility space, and other miscellaneous areas:

Library space (GSF) = reading space + stack space + service/support space

Planning for Modern Library Technologies

The preceding methodology for estimating library space needs is based on the traditional form and function(s) expected from university libraries. Modern technological innovations, coupled with changes in the learning and teaching environment, make it doubtful if traditional libraries will be constructed in the future. However, the basis for estimating the space eligibility for library purposes, no matter how the purposes are provided, remains valid.

It should be expected that space previously devoted to volumes in stack spaces and/or in MACS will be used to accommodate student work stations, group study spaces, electronic library interface stations, and many other types of electronic-support-for-learning opportunities. Library planners must pay careful attention to the manner in which printed material will be acquired and managed versus the manner in which the same information can be accessed electronically. It is also quite likely that libraries will evolve to become integral components of larger "learning centers" that include a variety of teaching and learning spaces. Library planning is evolving and a great effort should be made to evaluate the multitude of available opportunities and to develop a configuration that is best suited to the particular teaching mission, site and circumstance, and need of each campus.

Suggested Topics For Consideration:

- There are two types of collection space: "open stacks" and "movable aisle compact shelving" (MACS). The amount of each type of collection space will change as a campus’s collection grows.
- The location of the electronic card catalogues and related support spaces should be carefully considered in order to allow for appropriate pedestrian circulation and for future flexibility.
- Movable Aisle Compact Shelving (MACS) provides denser storage and a resultant reduction in the amount of space needed to house the collection. MACS or dense storage should be designed at a 25:1 ratio of volumes to square feet. MACS should be carefully monitored so that the least frequently used volumes are housed in this less accessible method. MAC equipment is not generally accessible to library clients.
- The control of humidity is of particular concern in certain regions.
- Lighting requirements differ significantly throughout the various parts of the library; close attention should be paid to assure the provision of the appropriate type and levels of light.
- The site for a new library should take into account the need for access by campus and community users, the need for extended hours of security, after hours access requirements, and the delivery and custodial access requirements.

Office Spaces

Table 5

Use	*Size in Square Ft*
Campus President (private)	225 – 300
Vice President or Dean	200 – 250
Library Director	150 – 200
Department Head	125 – 175
Professional Staff (private office)	110 – 125
Faculty Office (private office)	115 – 130
Professional Staff, 4 stations (open office environment or workroom configuration)	400 – 440 (+ 80 sq. ft. for each add'l staff)
Senior Secretary or Department Receptionist	145 – 160
Clerical or Technical Support Staff (single office)	100 – 120 (+ 60 square feet for each additional staff)
Student Assistant	60 – 80
15-station executive conference room	350 – 400

Suggested Topics for Consideration:

- The campus president's office is the only space on campus that should incorporate a private restroom. The need for a campus president to have ready access to a meeting or conference room is recognized; space for such use is not included in this office space calculation but should be accommodated within the President's suite of spaces.
- It is intended that faculty offices be provided on the basis of one office for each full-time equivalent faculty position. Gang or multiple-station faculty offices are discouraged because they do not allow the confidential counseling necessary between student and faculty and do not provide the security needed to protect testing materials or intellectual property.
- Professional staff may be housed in private offices or in the open office/workroom environment, depending on the type of function to be performed and the organizational framework utilized by the campus. This space includes all circulation, files and equipment requirements.
- The senior secretary or department receptionist's area is sized to include departmental files, electronic support equipment, and/or a waiting area as appropriate to serve the program requirements.
- The arrangement of administrative offices for the president, vice presidents, and their respective staffs should be designed to support the particular administrative organizational style determined to be best suited to the campus and its educational purpose. Thus an administrative facility may be designed to accommodate all central administration, or the central administration may be dispersed throughout the academy.
- Economies are associated with the open office configuration. Careful consideration should be given to using this design when appropriate.
- Whenever possible, offices should be designed to incorporate the use of natural light.
- Office suites should be designed to include waiting or reception areas when the office serves the public or when clients visit the office space on a regular basis.
- Clusters of office spaces should be provided with appropriate service-support facilities, including work rooms incorporating mail and storage service areas, copy rooms, and spaces for electronic support equipment.
- An executive conference room should include or otherwise have access to a sink, counter and secure storage areas suitable for the serving of prepared food. Executive conference rooms are limited to the President's suite and the vice president's office suites but should be made available to serve other campus users.

Indoor Physical Education

The instructional need for physical education space will depend greatly on the campus's academic mission, together with the campus's site and situation within the local and/or regional community. However, the general need for indoor physical education space to support the academic program might be similar to that referenced in the following table.

Table 6

Campus Student Enrollment (EFTS)	*Square Feet (ASF)*
Minimum eligibility	24,000 ASF
2,000 – 4,000	11 ASF/EFTS
4,000 – 8,000	10 ASF/EFTS
8,000 – 15,000	8 ASF/EFTS
15,000 – 25,000	6.5 ASF/EFTS
25,000+	6 ASF/EFTS

Suggested Topics For Consideration:

- The basic gymnasium facility, suitable for campuses with smaller enrollments, should be designed to accommodate multiple activities, i.e., a multipurpose building. Attributes of such facilities should be designed to accommodate instructional programs that are consistent with the campus's academic mission. Thus, while the overall size of the gymnasium may be the same at campuses with similar enrollments, the integral components of the buildings may vary because of the particular programmatic requirements of the institutions.
- Because of the large volume spaces, combined with the potential for large numbers of persons attending spectator sports or other activities, the method(s) by which a gymnasium facility is heated, cooled, and dehumidified should be carefully considered. Operating cost factors should be evaluated at part of a gymnasium's initial design to assure that construction cost savings are considered together with the longer-term operating cost characteristics.
- Normally, a campus gymnasium should be sited so that its various facilities (e.g., locker rooms, showers, etc.) can serve both indoor and outdoor physical education activities.
- Gymnasium facilities should be sited and designed to optimize the use of available parking in order to reduce the need to construct additional parking to serve the occasional event assembly needs of the facility.
- Because it is common for a gymnasium to service multiple assembly events that are attended by persons not particularly acquainted with the campus grounds, special attention should be given to the provision of exterior lighting and signage that is useful during the hours of darkness.

Outdoor Physical Education

Any campus s need for outdoor physical education space is influenced greatly by factors beyond the requirement for instructional space. The following table indicates the amount of outdoor space a campus may require in support of its instructional programs.

Table 7

Campus Student Enrollment (EFTS)	*Acres*	*Teaching Stations*
2,500	18	4
5,000	22	8
7,500	26	9
10,000	29	11
15,000	34	14
20,000	37	17
25,000	39	19

- Examples of outdoor teaching stations include baseball or softball fields, soccer fields, track and field areas, field hockey areas, tennis courts, multi-use outdoor areas, and other similar outdoor athletic areas that support instruction in physical education.
- The type of outdoor physical education areas constructed should be consistent with the needs of the physical education (academic) program.

- Support facilities, such as lockers and showers, are typically provided in the campus gymnasium rather than in free-standing buildings.

Plant Operations

(Physical Plant)

An appropriately sized and configured corporation yard is vital to the operation and maintenance of all campus facilities. Corporation yard space includes shops, drafting room, offices, warehouse areas, storage, groundskeepers workrooms, vehicle storage and maintenance facilities, and may include campus security quarters and shipping and receiving facilities. Corporation yard space eligibility is calculated on the basis of ASF per EFTS and includes both indoor and outdoor areas.

Table 8

EFTS	*ASF Per EFTS*	*ASF*	*Outdoor Paved Area*
Minimum	N/A	7,500	10,000 sq. ft.
2,500	4.8	12,000	20,000 sq. ft.
5,000	4.2	21,000	33,000 sq. ft.
10,000	3.0	30,000	40,000 sq.ft.
15,000	2.4	36,000	45,000 sq. ft.
20,000	2.0	40,000	50,000 sq. ft.
25,000	1.8	45,000	55,000 sq. ft.

Suggested Topics For Consideration:

- The plant operations area should include all facilities necessary to support the physical requirements of the institution and may include offices for the plant director and administrative support staff, shops for the trades, warehousing (and if determined appropriate to the nature and operations of the campus, central receiving), and outdoor paved storage for vehicles and equipment.

- If weather or other site-specific conditions make it practical or necessary, the area established for the outdoor paved parking of vehicles and equipment may include a roof covering. Such roofing installations are not considered as a building within a campus's inventory of facilities.

- The plant operations area should be well fenced and capable of being well secured when not in use.

- If practical, the plant operations area should have direct vehicle access from a suitable public highway, in addition to private egress to the campus. It is preferable to encourage the separation of commercial delivery vehicles from on-campus traffic.

The Efficiency Ratio

(Burden Factor)

The total area of a building is a combination of the assignable and non-assignable areas of the building and is generally known as the "gross area."

For preplanning purposes the gross area may be calculated by multiplying the assignable (net) area by an efficiency factor, or its reciprocal, the burden factor [net area times efficiency ratio (or burden factor) = gross area].

Computing the gross area by use of typical burden factors is one method to estimate the overall size of a building during its initial planning. The burden factor accounts for non-assignable spaces such as lobbies and corridors, toilet rooms, mechanical spaces, custodial closets, and electronic support and telephone rooms. Certain building types are typically more efficient than others; as such, the following table may be helpful in computing the gross size of a building during **preliminary planning**.

Table 9

Building Efficiency Factors
For Use During Preplanning

Building Type	*Burden Factor*	*Efficiency Ratio*	*Target For Construction Efficiency Ratio*
Classroom / Faculty Office Building	1.6 – 1.5	62% - 66%	65%
Administration Building	1.7 – 1.6	59% - 62%	60%
Classroom / Laboratory Building	1.7 – 1.6	59% - 62%	60%
Laboratory or Research Laboratory	1.8 – 1.6	55% - 62%	60%
Large Volume, Large Circulation Buildings	1.5 – 1.3	66% - 77%	70%
Large Volume, Small Circulation Buildings	1.2 – 1.1	83% - 91%	85%

The Building Project Procedure Manual

Capital improvements implemented under the auspices of the Board of Regents will be in accordance with the *Building Project Procedure Manual* as issued by the Office of Facilities, Board of Regents of the University System of Georgia. This manual includes definitive information regarding each stage of a project's development and implementation. Chapters of the manual include topics such as an Introduction to Programming, Schematic Design, Preliminary Design, Construction Documents, Bidding and Award of the Construction Contract, and Construction Administration and Project Close-Out.

A review of the *Building Project Procedure Manual* during the preprogramming stage of a project's development can help focus tasks to assure that the user/owner group develops achievable schedules and expectations. Such a review can also serve to reassure the user group that its involvement and oversight is anticipated through the preliminary Design stage of a project's development.

Part III

Building Design Philosophy

Building Design Philosophy

Introduction

This section of the his section of the Preplanning Guidelines is intended to assist the campus user group and the professional consultant in the preparation of the Building Program' document that will guide the subsequent design of a new building or other capital improvement. Among other functions, the building program will serve as the frame of reference for the owners design preferences which underscore the project's program goals, together with inherent life cycle and cost/benefit factors. The knowledge of the owner's preferences included in the building program document will also reduce the project's design time, thereby providing the user with the building more quickly and efficiently.

Buildings constructed for the University System of Georgia (USG) are intended to accommodate adaptive reuse and to support an institutional educational mission for an indefinite period of time, a length of time that could well exceed 50 years. Thus, the type of construction utilized, together with the materials employed, should be selected to support this long-term life cycle. It is believed that the citizens of the State of Georgia will receive the best cost-to-benefit return on the initial investment if University buildings are sited, designed, constructed (or remodeled) and maintained with these goals in mind.

The Board of Regents utilizes a design process that relies on private design firms, rather than employing an "in-house" design staff. This process has worked well and continues to yield buildings that reflect creativity, ingenuity, and utility. To encourage and support this process, it is important to inform the design team(s) regarding the "philosophy of design" expected by the client (Board of Regents). This document expresses this philosophy, but does not direct any particular design solution nor supercede any building code or other statutory, regulatory or "industry practice" standard'. It is not likely that all of the following design preferences will be achieved on any particular project, but each preference should be considered and the intent discussed with the user/owner and incorporated within the project to the extent practical.

Deviations from the following preferences are expected and may be employed on a case-by-case basis with the approval of the Vice Chancellor for Facilities. The need for deviations should be identified as early in the programming, planning, design cycle as possible and finalized as part of the project's schematic design review.

Organization

This section of the Preplanning Guidelines is divided into two parts`. The first part deals with some of the basic design concepts that are generally desirable for University buildings. The second section addresses some specific issues more comprehensively and provides examples for emphasis and clarity. Again, the purpose of this document is to inform the design team about the owners preferences and, in this way, reduce the design time and ensure that the final building product meets the owners goals for program compatibility, maintainability, longevity and cost-effectiveness.

2 Reference "Glossary Of Terms & Acronyms" for more detail regarding the expectations of a Building Program.

3 In accordance with Board of Regents policy, the designer is responsible for assuring compliance with applicable building, health, welfare and safety codes and standards.

4 This section of the document is intended to be brief and focus on major features that, based on past experience, warrant special attention. The design team should not presume that features not discussed in this document are unimportant to the user or owner.

Building Design

Part A --- Design Objectives

Each new construction, building addition or renovation project must accommodate the project's program objectives as identified by the building's users during the justification and programming phases. There are, however, considerations that pertain to all construction activities - these deal with the physical attributes of the structure, including quality, durability, maintainability, sustainability, flexibility and historic significance. All buildings should include appropriate service capacities and capabilities, provide acceptable maintenance characteristics, and yield desirable life cycle cost-to-benefit ratios. The following design objectives are intended to respond to these factors and guide the physical development of the project by maximizing the value of the project over the building's life expectancy. Each of the following attributes will contribute to the achievement of this goal.

- Design a durable structural frame and exterior skin; these components should be expected to last for 50 or more years.
- Design a flexible and adaptable interior; it should be expected that the interior portions of the building will be remodeled, renovated or otherwise altered several times during the building's life to meet changes in program requirements and to respond to evolving technologies.
- Incorporate appropriate electrical and mechanical equipment to provide a reasonable life span (25-30 years); it would not be cost-effective to expect the building's initial MEP systems to serve for 50 or more years.
- Where practical utilize a modular design concept (i.e., structural bay sizes and window placement) resulting in more efficient design, construction, and future adaptive reuse flexibility.
- Simplicity can frequently be the key to success - consistency in the use of materials and systems can provide an attractive, highly functional building that has reasonable maintenance requirements and the desired life cycle characteristics.
- Use standard sizes and shapes - this reduces the initial cost of construction and allows repair parts to be obtained and installed at a lower cost than custom-designed components. Standardization also facilitates maintenance.
- Strive for clarity in the building's design and configuration. Primary entrance ways should be easily discernable; circulation should be designed to facilitate wayfinding.
- Thoroughly consider the building project in context with its site and situation. The building program should appropriately respond to the need landscape design, hardscape features, site lighting and signage.
- Refer to the campus physical master plan and *Guidelines for Preplanning* when siting a new facility. This will assure consistency with the campus’s desired architectural statement and contribute to the creation of anticipated adjacencies and planned outdoor spaces.
- Site buildings appropriately; consider sustainable design concepts together with environmental opportunities and constraints; do not build over buried utilities.

Part B --- Design Preferences

This section addresses several specific topics and circumstances that regularly become an issue during the design phase of a project. The sign preference has been stated for the several topics/issues and this is followed by the rationale for the preference; examples or other clarification are also provided. The emphasis is intended to focus discussion on designs that accommodate future flexibility; operational, long-term and life-cycle cost issues, and the broad range of issues relating to sustainability of the building as part of the campus community.

- Site Design
  - Master Plan & Site Development
  - Environmental considerations & Sustainability
  - Paving & Storm Water Management
  - Utilities

- Space Planning Concepts
  - Space Organization
  - Room Shapes
  - Height Requirements
  - Interior Flexibility
  - Instructional Technology
  - Layout – Utilities & Service
  - Building Efficiencies
  - Service Areas

- Exterior Materials & Construction
  - Foundation Systems
  - Building Envelope
  - Roof Design

- Operational Costs & Efficiencies
  - Interior Materials & Equipment
  - Maintainability, Service & Technology
  - Systems Design
  - Telecommunications, Including Voice, Video & Data
  - Placement of Mechanical Equipment (not on roofs)

Master Plan & Site Development

Design preference: Validate the project's site and circumstances as identified in the campus's physical master plan.

Rationale: The campus's physical master plan was developed to guide the long-term growth of the campus. In this regard, the plan (maps and text) describe utility characteristics, desired building and facility adjacencies, appropriate locations for new buildings and a number of other important features, including the campus's desired architectural palette. These plans were prepared with the assistance of professional consultants and included significant participation from the campus constituencies and local communities. The campus master plans have also been reviewed by the Board of Regents. Deviation from the plan's expectations should only be pursued in the context of revisiting the entire physical master plan. The designer must, however, validate the site circumstances to assure that the identified location is reasonable and will not require extraordinary measures due to severe site constraints or other limitations.

Environmental Considerations & Sustainability

Design Preference:

- ❖ Consider the project and its location in the context of the entire campus and evaluate environmental opportunities and constraints.
- ❖ Consider the benefits of sustainable design with regard to consideration of natural resources, minimization of waste and pollution, enhancing occupant comfort, better energy management, and lower long-term operation and maintenance costs.
- ❖ Evaluate the project/site's historic and cultural significance, if any.

Rationale: Each building or other facility on a campus becomes part of the fabric that, in total, forms the campus's physical environment. In this regard, each renovation, building addition, or new building project needs to fit into and complement this environment. Building sites, and the context of a building on each site, should be thoroughly evaluated to avoid a variety of negative circumstances, e.g., prevailing winds blowing directly at the front entrance, the front entrance or other major feature of the building facing an adjacent loading dock, odors from neighboring uses entering the fresh air intake, etc. Likewise, the building context should be evaluated to take advantage of, and enhance, positive features, e.g., views across a lake or river, convenient access to adjacent facilities, etc. Particular issues and topics that should be considered and discussed with the user group include site preparation, materials selection, and operating and life-cycle cost implications.

Paving & Storm Water Management

Design preference: Reduce the amount of project-related storm water runoff and increase the amount of ground water recharge.

Rationale: The use of concrete and asphaltic paving for sidewalks, driveways, parking lots and similar purposes has the result of: 1) sealing the surface of the ground so that water does not penetrate to recharge the underlying groundwater aquifer; 2) requires the construction of surface water drains, swales or other means of diversion; 3) requires the construction of storm water retention ponds or the construction of underground storm sewers; and 4) requires the long-term maintenance of these water management facilities. Both the campus and the environment can benefit from reducing the amount of impervious materials and by utilizing permeable surfacing materials as appropriate. These decisions should incorporate the findings resulting from a hydrology study and analysis. Current technologies provide opportunities for making choices on the type and nature of surfacing materials and, although the initial costs may vary, the long-term operational and maintenance costs may be reduced considerably. The designer should identify the range of available options and discuss them with the user group as part of the schematic design review process.

Utilities

Design preference: Assure that all needed services and utilities are provided in an appropriate quantity, volume and pressure to serve the maximum design capacity of the building.

Rationale: The adequacy of the existing utility system to serve a new, remodeled or expanded building should be thoroughly evaluated as part of the preplanning and project programming functions. Accordingly, the need to extend the length or expand the capacity of any utility should be identified in advance and incorporated within a project's scope and budget. The need to "connect" a building should be considered as an integral part of the design commission. Accordingly, the provision of all utilities and services must be accommodated from the start of the design process and monitored through design development to assure that the building project will be afforded appropriate utility connections and capacities. If cost effective, reserve capacity to serve future needs should be provided.

Space Organization

Design preference:

- Provide a design that reduces the need for vertical transportation as the height of the building increases.
- Locate heavy or vibration-sensitive equipment on grade.
- Develop a simple, clear circulation pattern that smoothly accommodates the building's access needs.

Rationale: Building efficiencies can frequently result from stacking building functions with the more dense-use spaces (number of people that use a room or space on a routine basis) located at the main floor, followed by the next dense function on the second floor, and so forth. Other efficiencies can result from locating spaces that will house heavy objects (heavy instructional or research equipment, building-support mechanical equipment) on the ground floor (or basement), and still other efficiencies can result from locating vibration-sensitive equipment on grade. All of these factors should be considered, and the most efficient configuration that will accommodate a building's program requirements should be considered. The key to achieving this preference is simplicity. For example, group or stack like functions, reduce the people-load spaces as the building's height increases, develop a clear and simple circulation pattern, and incorporate a user-friendly concept that responds to life-safety requirements. A stacking diagram should be developed by the project's designer and presented to the user/owner as part of the Schematic Plan review process.

Room Shapes

Design preference: All rooms should be designed to accommodate the prescribed programmatic requirements but configured to allow reasonable re-use of the rooms for other purposes. Oddly shaped rooms should be avoided.

Rationale: Careful consideration needs to be given to the shape of each room. For example, classrooms should be configured to allow reasonable sight distances between the instruction station and the student stations – rooms with unusual or extreme dimensions (e.g. long, narrow rooms, pie-shaped rooms, etc.) do not serve these purposes well and severely limit the ability to adapt these spaces for other future uses. Careful attention must also be given to the placement of doors and windows because these relationships can either enhance or detract from the usefulness of a room.

Height Requirements

Design preference: New construction should incorporate an appropriate floor-to-floor height with a corresponding floor-to-ceiling height for each type of space. The minimum clear separation between the ceiling and the lowest point of the structure above should be 24 inches.

Rationale: The character expressed by a room or space can dramatically affect the ability of a person to work and concentrate – the feeling that the "room is closing in on me" can hamper the effectiveness of an otherwise suitable space. One of the primary causes for this "confinement" circumstance is the floor to ceiling height. As a minimum, classrooms, teaching laboratories, lobbies and similar spaces where numbers of people congregate should have a floor to ceiling height of ten feet; office spaces may utilize a nine foot floor to ceiling height. Likewise, in order to allow a suitable amount of space for above ceiling uses (i.e., duct work and mechanical equipment, wiring, lighting fixtures, etc.) and to allow for the future flexibility of the building, a clear floor-to-floor height (distance between the floor to the bottom of the structure above) of twelve feet is generally desirable.

Interior Flexibility

Design preference: Design and construct buildings to allow future flexibility in the reconfiguration of interior spaces without undue cost.

Rationale: Experience indicates that universities shoul expect the need to remodel or otherwise reconfigure th interior layout of a building on irregular intervals t accommodate changing academic program and suppor space requirements. The ability to reconfigure building's interior to meet these new prograr requirements can be constrained by the type c construction materials and engineering systems use initially. For example, poured-in-place concrete c concrete masonry unit (CMU) partition walls: 1) impa the ability to reconfigure spaces to fit changing prograr needs; and 2) significantly increase the cost associate with the reconfiguration of spaces. Certain areas, such a restrooms and heavily used public areas, may warrant th use of durable, long-life cycle materials.

Instructional Technology

Design preference: Incorporate modern technologies to support the project's programmatic requirements (instruction, student support, research, etc.) and allow for the incorporation of evolving technologies in a cost-effective manner.

Rationale: All building projects must incorporate modern communication capabilities and allow for the enhancement of these capabilities as the industry and user-needs evolve. Teaching and learning spaces must also anticipate the need to import or export instructional information in the form of voice, video and data using a variety of electronic technologies. There are many associated challenges, including the need to accommodate what is available today while not excluding the technology that may become available in the future; making it possible/practical to upgrade technology cost-effectively; and providing the electronic technologies in a form and manner that are not beyond the user's capabilities for operation and/or maintenance. Other considerations include the need to assure flexibility for students to take courses via alternative modes of delivery as well as flexibility infrastructure to provide high capacity connections that have potential for future expandability while compatible with current industry standards and the need to assure broad technology accessibility and campus connectivity to various sites. Spaces should be designed to be flexible, reconfigurable, and multi-purpose whenever possible and consistent with the program mission of the building.

Interior Layout – Utilities & Services

Design preference: Incorporate the utility core concept; group and/or stack like functions.

Rationale: One building design concept frequently utilized in commercial development, but a concept that has been less frequently incorporated in our buildings, is the "utility core" concept. This practice locates building support utilities and services (elevator, restrooms, electrical and janitorial closets, telephone rooms, data-support rooms, etc.) together in a central location within the building. This concept has multiple benefits: 1) it can reduce the overall construction cost by limiting the separation of similar functions; 2) it allows the remainder of the building to be remodeled without the necessity of altering expensive support systems; and 3) it results in both cost and operational efficiencies from "stacking" like uses on adjacent floors. In many situations, this concept can also lead to other efficiencies within the building.

Building Efficiencies

Design preference: Optimize efficiency factors, incorporation all features and systems of the building, including layout, design, selection of materials, type and location of equipment, the location of access points, and all other features that comprise the building.

Rationale: Taken together, all features of the building or renovation project should be designed for efficiency and cost-effectiveness. This does not mean that the least costly design or products must be selected; often these do not provide the greatest cost-to-benefit relationships. The lead design professional should assure that individually efficient systems and design layouts provide the sired result when "packaged" into the final building product. Some common themes that should generally be avoided include the single-loaded corridor, rooms that open directly to the outdoor environment, and large glass walls that face southwest.

Service Areas

Design preference: Consider the building service needs from the start of the design process to assure that these requirements are located to provide appropriate access characteristics while limiting the negative aspects that can be associated with such facilities.

Rationale: All buildings require some type of building-support area through which supplies and materials can be delivered to the building and from which trash may be removed. In large buildings, such service areas may consist of a dedicated loading dock with one or more truck bays, lift gates, trash container storage areas, areas for the delivery and pick up of bottled gases, and various other building-support features. These areas should be sited and designed to allow for the convenient servicing of the building while not imposing on the aesthetic characteristics of the campus community or negatively impacting pedestrian or vehicular circulation.

Foundation Systems

Design preference: Buildings should incorporate a consistent foundation system.

Rationale: A building's siting may include different soil types. One potential way to reduce the initial cost of construction is to employ the least costly type of foundation for each soil type, a circumstance that could lead to a single building having multiple types of foundations. This practice can lead to differential settling that can produce multiple types of damage throughout the building. The ramifications of using more than one type of foundation design can generate long-term costs that exceed the initial savings. It is recommended that soil borings be taken initially at selected locations and at additional specific locations when the structural layout is available.

Building Envelope

Design preference: Building envelopes should be durable and designed for long-term (50 or more years) use.

Rationale: Consistent with the campus' architectural palette and design standards, the exterior components of a building should incorporate durable and maintainable products that have a proven long-life cycle cost-to-benefit ratio. Natural materials, such as stone, brick, stucco, concrete and similar products have historically produced these desirable characteristics. Other materials, such as metal or enamel panels, spandrel glass panels, large curtain wall sections, and similar features should be utilized only after a thorough discussion regarding durability, maintenance, and repair issues with the user. Other manufactured materials, such as exterior insulation and finish systems (EIFS, synthetic stucco), manufactured siding, and imitation brick panels should not be used. The building envelope should be waterproof and allow for the differential expansion/contraction of dissimilar materials. The exterior envelope should be designed with the requirements of the Georgia Energy Code in mind and with the objective of achieving energy efficiencies using tried-and-true methods and consistent materials.

Roof Design

Design preference: New buildings should be conceived utilizing a roof pitch appropriate for the size, type and location of the building. A pitch of 3 units of rise in 12 units of run is desirable, but the rise to run ratio should not be less than 1:12

Rationale: Roof leaks are among the most troublesome, costly and recurring maintenance issues on our campuses. Leaks result from "sloped to drain" roofs due to settling of the building that allows water to pond, the separation of flashing, poor detailing at joints and changes in materials, punctures and a variety of other reasons. These problems are exacerbat4ed when parapet structures are created necessitating both surface and overflow scuppers or drains. Parapets also can create dams that contribute to the retention of water and debris. For example, in FY1999, more than $7 million in major repair and renovation funds were allocated for 43 roof repair/replacement projects at 20 campuses. This does not include many more similar projects that were undertaken with other campus resources by the campuses. Pitched roofs do not exhibit as many of these negative characteristics as do the nearly flat "sloped to drain" roofs.

Interior Materials & Equipment

Design preference:

- Carefully evaluate the use of materials to provide an appropriate cost-to-benefit ratio for the intended life of the building.
- Use consistent materials throughout the building whenever practical.

Rationale: University System of Georgia buildings, structures and envelopes are expected to serve for 50 or more years. Thus, when selecting or specifying materials and component systems the designer should consider climate conditions, the duration of service, and the type of use (long-term, wear-and-tear). For example, public lobbies that are expected to receive a high volume of foot traffic may benefit from hard surfaced flooring such as terrazzo or ceramic tile. Other examples include the selection of wall finishes, the quality of plumbing and lighting fixtures, and the design and quality of equipment composing the heating and cooling systems. It should be noted that the most expensive materials do not necessarily provide the greatest benefit-to-cost ratio, but the least costly materials generally do not yield the best long-term value. Thus the designer, in consultation with the user, needs to evaluate these factors carefully before making a final selection. Incorporation an unnecessarily large number of types of materials, brands, etc. will lead to long-term cost inefficiencies by requiring the user to stock numerous types of replacement parts, many different colors of paints and other finishes, etc.

Maintainability, Service & Technology

Design preference:

- New construction and renovations should be designed to allow and encourage the proper maintenance of building components and systems;
- Appropriately sized and located spaces should be provided for building support/custodial purposes; and;
- Building systems should be designed commensurate with the institution's capability to provide necessary maintenance and upkeep; do not over design the electrical or mechanical systems or provide a more sophisticated system than necessary.

Rationale: Because it is likely that buildings will serve a useful purpose for more than 50 years, every effort should be made during the project's design development phase to ensure that the final design allows simple and easy maintenance. For example, the design of atrium spaces should accommodate the need to change lights at great heights; mechanical spaces should allow sufficient space surrounding all equipment to allow for proper maintenance of the equipment, including the changing of filters, replacing motors, servicing coils, etc.; and exterior features such as sun screens, canopies or other architectural features should be designed to allow appropriate maintenance, including cleaning and painting. Each building should incorporate janitorial closets or other suitable spaces to support the routine need for custodial services and the storage of regularly used supplies (e.g., cleansers, toilet paper, floor wax, and similar materials that are used on a routine basis). Spaces for these purposes should not be shared with other building support or "program" spaces. It is important that the designer understand and appreciate the campus' capability for maintenance of the designed system does not exceed the campus' capability to provide for these maintenance and operational needs.

Systems Design

Design preference: New construction and major renovation projects should be designed to allow for the logical and cost-effective removal and replacement of building engineered equipment systems and components that have reached the end of their useful life.

Rationale: It is recognized that certain building engineered equipment systems and components will not have a useful life of 50 years or more; even with adequate maintenance and service systems/components will have to be removed and replaced. The designer must be mindful that these building systems/components will have to be cost-effectively removed and replaced, generally without major disruption to the operation of the facility or costly demolition/repair of the building itself.

Telecommunications, Including Voice, Video & Data

Design preference: Telecommunications commensurate with the project's program should be accommodated comprehensively in the final bid set and within the construction budget (drawings and specifications).

Rationale: The designer is responsible for accommodating the program requirements for all systems, including telecommunications and the project's cost estimate has been calculated to include a reasonable cost for an appropriate telecommunications system. The building's telecommunications needs are as important as any of the other building systems, but frequently are not considered until the final design stages of design development. When this happens, unreasonable last minute trade-off choices are forced on the owner/user, i.e., delete cabling or remove some other feature that has been discussed thoroughly by the development team for months. An equally unacceptable circumstance is to delay the design development process for "redesign" purposes or to otherwise defer telecommunications features to another budget. The designer, likewise, is responsible for working with the owner/user to assure the reasonableness of the telecommunications systems that is designed – over design is to be avoided and future flexibility is encouraged.

Placement of Mechanical Equipment on Roofs

Design preference: Avoid the location of mechanical equipment on rooftops.

Rationale: The placement of mechanical equipment on rooftops can result in savings during the initial construction of a building. However, within the University System, this practice has resulted in an increase in the long-term cost of operating and maintaining the buildings, and these added costs must be absorbed by the campus over the life of the building. Experience has shown that roof-mounted equipment frequently contributes to leaks in the roof (frequent walking on the roof for maintenance and repair purposes), makes it more difficult to service the equipment properly, exposes the equipment to exterior environmental conditions, increases the cost of roof repairs and replacements, and results in reduced preventive maintenance because of the difficulty in accessing the equipment.

Glossary of Terms & Acronyms Frequently Associated With Building Projects

ADA (Americans with Disabilities Act): Specific regulations, generated from 1990 federal legislation and adopted by the State, intended to assure an appropriate level of accessibility to facilities and programs.

Assigned Square Feet (ASF): Sometimes referred to as Net Square Feet or Net Assignable Square Feet – The sum of space allocated to the major room use categories and measured at the interior walls of the rooms. Assignable square feet does not include building service areas (cleaning, public hygiene, mechanical rooms) or circulation areas, such as corridors and lobby areas.

Building Program (Project Program): A building or project program emanates from the initial user's concept to identify the specific size and nature of each room, together with specifying any particular relationships that are desired between rooms, describes the purpose of the overall project and the functions that will occur in the different parts of the building (e.g., receiving, processing, assembly, accounting, distribution). The program should identify the number of employees that will be housed in each room and provide information (as appropriate) regarding the need for people and/or goods to move throughout the facility. The program should clearly identify the purpose for the project and include other information that could assist the architect during the facility's design. The project program does not develop architectural design detail, but may indicate the need for specific site and circumstance relationships, e.g., loading dock to street access, angle of sun, etc.

Capital Project: The construction, addition, expansion, renovation or removal of buildings, utilities, roads, walks and other site features.

Classroom: Classrooms are defined as general purpose classrooms, lecture halls, recitation rooms, seminar rooms, and other rooms used primarily for scheduled non-laboratory instruction. For more information, see *Postsecondary Education Facilities Inventory and Classification Manual* produced by the National Center for Education Statistics (the Roslyn Korb National Center for Education Statistics) and printed by the U.S. Government Printing Office, ISBN 0-16-038227-0.

Construction Cost Estimate: That portion of the project estimate that pertains to the actual costs associated with construction activities. See Project Cost Estimate, following.

EFT (Equivalent Full-Time): A term used when computing the number of full-time individuals that comprise one full unit of time measurement. For example, two one/half time employees would comprise one equivalent full-time staff position. This term more frequently is used to identify student credit units in terms of undergraduate or graduate semester hours wherein many students may be enrolled on a part-time basis. In such a case, the total number of credit hours is tallied and divided by the number of credit hours or units necessary to comprise full-time attendance. When referring to students EFTS (equivalent full-time students) is applied; when referring to faculty, EFTF is applied. A commonly used alternative is FTE, full-time equivalent.

GEPA (Georgia Environmental Policy Act): A law passed in 1991 by the Georgia General Assembly which requires environmental impact evaluations of virtually all state construction and/or land-disturbing projects. If a state project is determined to have a "significant environmental impact" the GEPA law requires that an environmental effects report (EER) be prepared and/or that the project plans be altered appropriately to eliminate the impact.

Gross Square Feet (GSF): The total floor area of a structure, measured from the outside faces of the exterior walls.

Historic Survey: The assessment of historic buildings, sites or monuments as required before applying for historic register status.

Laboratory: A room or space characterized by special purpose equipment or a specific configuration that ties instructional or research activities to a particular discipline or a closely related group of disciplines. There are three general types of laboratories: Class Laboratory, Open Laboratory and Research/Non-class Laboratory. For more information, see *Postsecondary Education Facilities Inventory and Classification Manual* produced by the National Center for Education Statistics (the Roslyn Korb National Center for Education Statistics) and printed by the U.S. Government Printing Office, ISGN 0-16-038227-0.

Land Use: The purpose for which land is used, including academic, residential, athletic or recreational facilities, medical and health services, natural resources, open spaces or any other use.

Offices (or Office Facilities): Spaces specifically designed for and assigned to support each of the various academic, administrative, and service functions. For more information, see *Postsecondary Education Facilities Inventory and Classification Manual* produced by the National Center for Education Statistics (the Roslyn Korb National Center for Education Statistics) and printed by the U.S. Government Printing Office, ISGN 0-16-038227-0.

Physical Master Plan: The investigation and documentation of existing and proposed conditions and objectives that contribute to a proposed set of recommendations (narrative, tabular, graphic) for future development.

Performance Standards: Any particular functional level of performance or impact intended in the design or development of a given facility. Example include: positioning of a building to avoid casting shadows on an important space, provision of adequate visibility for security purposes, direction of emission of site lighting to avoid glare on adjacent properties, etc.

Project Cost Estimate: A project cost estimate should be based on the approved building program requirements and should include the information necessary to identify the true and accurate cost to construct the project. Construction cost estimates should include cost components that are broken down into the 16 sections of the Construction Specifications Institute format and should, in addition to construction costs, include costs for the general contractor's fee, contractor's overhead and mark-up/general conditions, performance bond, design contingency, loose equipment, resident engineer inspector, architect and engineer's fees, any special consultant's fees, escalation in cost to the anticipated bid date and any other special cost items which might be required for the project.

Project Program: See Building Program.

SHPA (State Historic Preservation Act) also referred to as the State Agency Historic Property Stewardship Program: A law passed in 1998 by the Georgia General Assembly (SB 448; chaptered as 12-3-55 et seq.) which provides guidance concerning the preservation of state-owned historic properties and duties and responsibilities of state agencies with respect to such properties. The law is designed to require state agencies to identify, evaluate and nominate state-owned historic properties to the Georgia Register of Historic Places to further the protection of such properties.

Space Standards: Any operating group, agency, or membership organization may utilize specific quality or size standards for particular types of spaces. As an example, space standards could identify the size, in terms of square feet, for a professional office or any other type of room, or the standard may deal with the quality of a particular space, e.g., epoxy or other approved non-permeable floor covering will be required in the animal handling room. The design architect will need to be advised of any such standards (they should be clearly identified in the building program).

Scope (Project Scope): The scope of a project is a written description of the features to be included as part of the project and generally consists of two parts. The first part of the project scope describes the program functions that the project will serve and identifies the philosophical rationale for the arrangement of spaces. For example, "This project will serve the writing arts and should include a mix of classrooms, writing laboratories, and faculty offices arranged to minimize the distance between the three space types and maximize the interaction between students and faculty." The second part, for example, may include technical statements similar to "This project will consist of 67,500 gross square feet of new construction including a receiving/processing area with loading dock, 3 material assembly rooms, 15 professional offices, a lobby/reception area, and a data processing room." The project scope identifies the overall size of the project and specifies the number and type of areas that will be constructed; it is not necessary to identify building or service areas (corridors, toilet rooms) in a project scope. The project scope should identify the function that will be housed in the project.

SBC (Standard Building Code): The "code" currently adopted by the State of Georgia, along with other codes, such as Standard Gas, Mechanical and Plumbing Code. The Georgia Department of Community Affairs should be contacted to determine the latest version of the adopted codes to be used as the basis of preplanning.

Unit Cost: The cost per unit of measurement, such as square foot, cubic yard, linear foot, etc., measured in dollars, as in "dollars per square foot."

Notes

- This information should be used as a guide during the programming component of a capital project. Each institution must consider its institutional mission, mix of academic programs, teaching techniques, campus philosophy and other related matters to determine which of these guidelines are appropriate for the particular project being considered.
- The "scope" of a project is the program as it relates to location, site and facility size, shape, use of assigned program space, and all other physical characteristics of a facility. A project's approval is based on a specific scope at a specified cost.
- Underground pedestrian tunnels and above-ground pedestrian bridges which connect separate buildings are circulation areas and, as such, are not counted as assignable space.
- Seating in outdoor stadia is not classified as assignable space and does not generate formula funds. However, the space under the seats can meet the definition of a building and, if such space is used for offices or other related activities, may be included within the formula.

- Equipment is provided in a capital project in two ways, fixed equipment and loose equipment.

  - Fixed equipment (sometimes referred to as Group I Equipment) is defined as built-in equipment that is installed as a part of the construction project. Examples include science laboratory benches, fume hoods, distilled water systems, wind tunnels, theater rigging, etc. Fixed equipment includes all program-specific build-in items. Funds for fixed equipment are included in the project's construction budget.

  - Loose equipment sometimes referred to as Group II Equipment) also includes program-specific items, but these are portable or movable items that do not require permanent attachment to the building r significant utility connections. Loose equipment items are not included in the construction budget, but are included within the project's total cost. Examples include tables, chairs, and other office-type furniture, laboratory preparation equipment, dishwashers, etc.

- Certain equipment items cannot be purchased with bond funds and should not be included in the capital project budget. Examples of such non-eligible equipment include items with a useful life of less than five years, computers and peripherals, coin operated machines, and expendable items which may be easily removed from the facility or depleted by use.

- It is expected that each capital project will be completed in such a manner as to provide a fully operable facility, including all infrastructure needs. The project's infrastructure requirements should be evaluated as part of the project's programming phase and the project scope and budget should be adjusted appropriately if additional infrastructure needs are required. In this regard, infrastructure includes all utilities, fixed telecommunication and alarm systems, roads, drives, parking lots, exterior lighting, signage, storm water management requirements, landscaping, and potentially other features that are required to allow the facility to operate as envisioned.

Appendix

THE FIVE-YEAR READINESS PROCESS

One of the benefits associated with a rolling five-year plan is that the sponsoring campus will have the opportunity to review, refine, and fully prepare the proposal prior to its being funded. This will provide the greatest assurance that the facility that is constructed meets the needs of the campus and that the amount of funding is appropriate to the size of the project.

Once the Board has approved a project for inclusion in the five-year plan, it is expected that the sponsoring campus will complete the tasks identified below for each year of the plan. Likewise, this process underscores the concept that the purpose of the physical plant is to support the academic and educational missions of the campus. To achieve this purpose, capital improvements need to be planned and coordinated to support the goals of the campus as identified in the institution's strategic plan. Coordination will identify the long-term capital needs of the campus and allow adequate time for the development of well-conceived and appropriately documented capital project proposals.

Year 1	Year 2	Year 3	Year 4	Year 5
Project Initiation	Project Update	Project Refinement	Final Development	Project Funding

Year One – Campus initiates major capital proposal and is placed on the five-year major capital project list based on Board determination. To allow consideration for entry into Year Two of the Plan, the campus will prepare and submit to the BOR Facilities Office a preliminary project justification for the volume of space anticipated (if new construction) or justify the need for a building rehabilitation or for a property acquisition project. Basic statistical information, supported by a preliminary cost estimate and project size (gross and net square feet), the prospective use for the renewed or new facility, and rationale for the physical siting (if a new building is anticipated), are required. The relationship between the proposal and the campus' physical master plan should be identified. If the project is for an academic or academic-support facility, the proposal should identify how the project is consistent with the campus' enrollment targets and other academic plans. This information should be presented in a concise, three to five page project justification statement incorporating appropriate preplanning factors.

Year 1	**Year 2**	Year 3	Year 4	Year 5
Project Initiation	Project Update	Project Refinement	Final Development	Project Funding

Year Two – To advance to Year Three, additional project detail will be required. The five-page justification statement should be updated to include current information and expanded to discuss those functions the new or renewed facility will accommodate, together with the provision of information concerning the desired number of classrooms, laboratories, faculty offices, etc. Emphasis should be placed on the physical characteristics associated with the proposed capital project, i.e., site, situation, utility capacity, etc. In addition, the Year Two report should include information regarding any secondary and tertiary effects that will result from the project, in addition to a brief analysis of the project's utility requirements and the relationship and impact to the campus' existing utility infrastructure. The cost estimate should be updated. This information should be presented in a concise, seven to 10-page project justification statement.

Year 1	Year 2	**Year 3**	Year 4	Year 5
Project Initiation	Project Update	Project Refinement	Final Development	Project Funding

Year Three – To advance to Year Four, the previous justification statement should be updated and expanded to delineate the academic program(s) that will be housed in the new or rehabilitated facility, specify the number of faculty and staff to be accommodated with office space or other features of the building project and, in general, refine and expand the justification for this project. If this project anticipates a new building or a land acquisition, this report should also thoroughly review the options considered and the rationale for selecting the identified site or land acquisition.

Year 1	Year 2	Year 3	**Year 4**	Year 5
Project Initiation	Project Update	Project Refinement	Final Development	Project Funding

Year Four – A complete building program document, including all appropriate BOR forms, will be required to move a project into Year Five; campuses are encouraged to retain the services of a professional to assist in creating this documentation. The program should address the EFT capacity of the desired project and identify how this capacity will be accommodated by the project, i.e., number of lecture stations, laboratories, etc. Likewise, the program document should identify the desired method of accommodating this need (i.e., 35-station classrooms, large lecture halls, studio, wet or dry laboratories, etc.) and should also address all of the features that will be necessary to support the principal needs, such as faculty or administrative offices, laboratory preparation rooms, chemical storage areas, etc. A program document does not include a floor plan or other architectural design features but must completely describe all aspects of the intended use in writing. Any mandatory relationships between spaces should be included in the program documentation, e.g., each wet laboratory must be separated by a lab preparation room. The cost estimate should be updated; this is the final opportunity to adjust scope and cost issues.

Year 1	Year 2	Year 3	Year 4	**Year 5**
Project Initiation	Project Update	Project Refinement	Final Development	Project Funding

Year Five – A project architect will be selected, and the project's design will commence with funding as available from the System's "revolving fund" or from a combination of campus and System funds. The project will be included in the Capital Outlay portion of the System's budget request as submitted to the Governor and General Assembly.

PROCEDURE

The current five-year rolling plan for Major Capital Projects lists a total project value of approximately $500,000,000. It is intended that the plan will be maintained at about this level by calculating the total value of projects funded and annually adding an equivalent dollar value of new or amended projects to the plan. Projects will be incorporated within the five-year rolling plan in the following two-part procedure:

1) Each campus may prepare and present to the Office of Facilities justification for a new major capital project. This material must include all of the information indicated in *Instructions for preparation of Five-year Capital Outlay Funding Request* (Major Capital Project portion), together with the two-page "Major Capital Project Summary." Staff of the Facilities Office will review and screen the proposals to a manageable number (perhaps 25) that will be presented to the Board of Regents for consideration. The objective of this initial review by the Board will be to further reduce the proposals to one and one-half times (in dollar value) the number eligible for placement in to the five-year rolling plan (e.g., if 8 projects are needed to meet the dollar objective, 12 projects will be forwarded for further consideration).

2) Each of the projects emerging from this initial staff and Board screening will be formally presented to the Board of Regents (Committee of the Whole) by the sponsoring president in the same manner as was followed in June 1997. After all projects have been presented, the Regents will: (1) select those projects that will be added to the rolling five-year plan; and (2) determine the order in which each project will be placed within the plan.

Some Notes:

Projects added to the rolling five-year plan for Major Capital projects generally will be placed in the plan's Project Initiation year. However, in extraordinary circumstances a project may be placed at any location within the plan.

Projects that are currently in the plan may be reconsidered to amend the project's scope (size, context, cost, etc.). The campus may seek to replace a project (at the same place in the plan) with a different project for extraordinary reasons only.

<u>Projects that are not being actively pursued by the sponsoring campus</u> (as described in the process above<u>) may be considered for removal from the list.</u>