

STATEMENT OF THE LIBRARY BUILDING PROGRAM
FOR THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

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Submitted to Northington, Smith, Kranert and Associates
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A. NATURE OF THE INSTITUTION

1. The University of Alabama in Huntsville is rapidly changing from an institution chiefly concerned with meeting the needs of part-time special students to a full-fledged university embodying full-time programs in undergraduate and graduate work in the liberal arts, sciences, engineering, business administration and teacher training. Located in one of the fastest growing and dynamic communities in the country, its plan for curriculum expansion, enlargement of the faculty and staff, continuous and steady growth in student body and concomitant expansion of physical facilities are very exciting and challenging.* Each new physical structure probably should be planned to house a much larger function than that which exists today and should emphasize the principles of expansibility and flexibility.

B. CHARACTERISTICS OF LIBRARY SERVICE

1. In a university that is engaged in graduate and professional work in addition to undergraduate instruction, the library must be especially responsive to the specific needs of the university. It is different from other university libraries to the extent that it does tailor its services to the institution it supports, although the degree of financial support also may have a major effect. In general, however, there is a large degree of similarity in the principles of organization and function, the kinds of service, the qualification of staff, and the nature of library materials among university libraries.

2. In setting forth guidelines for planning the library building for the University of Alabama in Huntsville, it is necessary to recognize both the general basic needs of the library that are like those of any university library and the special requirements of this particular institution. The special characteristics of the University of Alabama in Huntsville which may have an effect on its library services are: graduate work, engineering instruction, the extent to which the students are less than full time, the possibility of cooperation with Redstone Arsenal and the independent research agencies of the Research Park, and the distance of some of the campus buildings from the library.

a. Graduate work at any level demands more comprehensive, concentrated and expensive library support than does undergraduate work. Since a large part of the instruction at University of Alabama in Huntsville is graduate, it follows that the library will grow faster and need special work stations for use by graduate students while they are concentrating on library research. Individual study carrels will be needed.

*See Vice-President Reeves' Summary, prepared in April 1966, [REDACTED]

b. In 1965 eighty-one percent of the enrolled student body attended classes on a part-time basis. In the Fall of 1966 seventy-five percent of the enrolled students are part-time. It is estimated that by 1969-70 this percentage will be reduced to fifty percent. The effect on the library is that more seats should be provided, because there are more people to be seated at any specific time. Seating should be provided for thirty percent of the total enrollment instead of the usual twenty-five percent.

c. The possible effects of library cooperation with Redstone Arsenal and the research agencies are:

(1) A large collection of microfilm, microfiche and necessary reader-printers.

(2) A broader collection of commercially published materials in some technical fields, if contract library service were arranged for the research agencies.

(3) Special facilities for telephone reference and borrowing services.

(4) Possible need for facsimile transmission and/or closed circuit television.

d. The distance of classroom and research buildings on campus from the library might require extra parking close to the library.

C. BUILDING NEEDS

1. The general characteristics of the services of the library include the acquisition, cataloging, physical preparation, storage (shelving), reference and circulation functions that are common to any university library. Space should be provided for these activities and for readers not only in terms of adequacy of area but also in regard to spatial relationships, noise control, elements of visual supervision and other considerations.

2. Usually a library is planned to be large enough to provide storage, reader, and staff space for fifteen to twenty years. The University of Alabama in Huntsville, however, is growing so rapidly, and possibly at an increasing rate, that a building that can be financially supported now would be outgrown in a very few years. Fortunately libraries can be planned with enough internal flexibility and external expansibility to permit relatively low-cost adjustments for change. These two characteristics are extremely important in this building.

3. The modern planning of university libraries has had the attention of architects and librarians with increasing emphasis in the years since World War II. Experimentation and analysis of completed buildings have resulted in general recognition of the advantages of a modular structure designed for the efficient use of standard library shelving and furniture.* The standard dimension for shelving is three

*See Metcalf: Planning Academic and Research Library Buildings, McGraw-Hill, 1965.

feet and multiples thereof. Tables, loan desks, etc., are manufactured to fit in this standard. The dimensions of the module are not standard and must be designed by the architect taking into account the three-foot dimension of furniture and equipment and the structural and aesthetic elements of the building.

4. All the basic elements of the building related to library service (shelving, reading areas, work areas) with the use of movable walls can be adjusted as needed in a modular structure. Rest rooms, stairs, heating and building maintenance facilities no doubt should be fixed. The needed flexibility is not easily obtainable with the use of a tiered stack which is fixed and immovable. Free-standing shelving is preferred.

5. A modular structure with no weight-bearing walls also permits horizontal expansion. The architect should advise on the possibility and desirability of vertical expansion planning.

D. SPACE REQUIREMENTS

1. Shelving. It is anticipated that the Library will have a book collection of 40,000 volumes in the Fall of 1967, 115,000 volumes in 1972 and 300,000 volumes by 1985. This estimated growth rate is based on an acquisition of 15,000 volumes annually. At 12 volumes per square foot (Metcalf, p.157), 6,000 sq. ft. will be needed to house the book collection in 1969, etc.

2. Readers. Seating should be provided for 30 percent of the undergraduate student body at 25 sq. ft. per reader (Metcalf, p. 100). Seating for graduate students should be provided for 50 percent of the enrollment at 30 sq. ft. per reader (Metcalf, p. 101). An enrollment estimate through the year 1975 for undergraduate and graduate students at the University of Alabama in Huntsville is attached.

3. Staff work space. Each staff member should have 125 sq. ft. allocated for work space.

4. Staff lounge for coffee breaks, box lunches, etc., 300 sq. ft.

5. Multipurpose room(s) that can be used as a small auditorium, class rooms or conference room should be available as soon as space permits. In a later phase of the library building listening rooms, a manuscript room, and a rare book room should be added.

6. Non-assignable space is an estimated 30 percent of the total building. Non-assignable space includes walks, stairs, equipment rooms, rest rooms, etc.

7. Summary of space needs for the years 1969, 1972 and 1975. It is anticipated that the first two phases of the library will be outgrown shortly after occupancy, but that the last phase to be completed in 1975 will be adequate until 1985.

1969

Shelving for 70,000 volumes		6,000 sq. ft.
Readers		
Undergraduates - seating capacity: 703 (based on an enrollment of 2110)		17,600 sq. ft.
Graduates - seating capacity: 125 (based on an enrollment of 250)		3,800 sq. ft.
Staff		3,600 sq. ft.
Non-assignable space		<u>11,000 sq. ft.</u>
		42,000 sq. ft.

1972

Shelving for 115,000 volumes		10,000 sq. ft.
Readers		
Undergraduates - seating capacity: 1,170 (based on an enrollment of 3,510)		30,000 sq. ft.
Graduates - seating capacity: 163 (based on an enrollment of 325)		6,000 sq. ft.
Staff;		6,000 sq. ft.
Non-assignable space	approx.	19,000 sq. ft.
Listening room, manuscript room, rare book room, increased number of microfilm reader-printers		<u>9,000 sq. ft.</u>
		80,000 sq. ft.

Second phase of the building program should be an addition of 40,000 sq. ft.

1975 (to be completed in 1975 and adequate until 1985)

Shelving for 300,000 volumes		27,800 sq. ft.
Readers		
Undergraduates - seating capacity: 1900 (based on an enrollment of 5,690)		47,500 sq. ft.
Graduates - seating capacity: 205 (based on an enrollment of 410)		6,150 sq. ft.
Staff		16,000 sq. ft.
Lobby		2,400 sq. ft.
Electronic carrels, etc.		8,150 sq. ft.
Non-assignable space	approx.	<u>22,000 sq. ft.</u>
		130,000 sq. ft.

Last phase of the building program should be an addition of 50,000 sq. ft.

E. GENERAL RECOMMENDATIONS

1. Floor Load. In designing the floor construction the architect will need to know that the weight of a typical section three feet long of double-faced bookstack seven shelves high, when loaded with books, is about 900 pounds. This weight is concentrated at the bottom of the uprights, covering a space of perhaps six square inches, more or less, depending upon the construction of the bookshelving. It is vital that the library floors be of sufficient strength to withstand this load at any place in the library -- reading rooms, workrooms, or stack rooms.

2. Floor-to-Floor Height. Assuming that the library may need to occupy more than one floor of the building, it will be well to bear in mind that the members of the library staff will be required to do considerable traveling to various departments of the library every day. Operational cost can therefore be kept lower if the floor-to-floor heights are held at a minimum.

3. Interior Stairways. For the same reason it is wise to plan convenient stairways for the staff to use in traveling floor to floor.

4. Booklifts and Elevators. Again for the same reason, if the library occupies more than one level there should be a booklift from the technical processes and circulation departments to the book stacks. Also, preferably, provision should be made for a staff elevator within the library. If lack of funds does not permit installation of such devices in the initial building contract, the floor framing should be so designed that these aids to efficient operation can be installed economically at some time in the future.

5. Thresholds. Throughout the library there should be no thresholds or variations on the same floor level requiring steps. These interfere with the operation of book trucks - an active part of the library operations.

6. Lighting. With the availability of much-improved lighting equipment, lighting standards have rapidly become much higher than they were a decade or two ago. Progress has been marked even in the past four or five years. There are two main requirements of good library lighting today:

a. The quantity of light should be 75 to 100 foot-candles, maintained, at table height. This requirement should be the standard throughout the library, whether in book stack areas or reading areas or work areas. The word maintained is underlined because, as is well known, lighting efficiency deteriorates during the first year after installation, perhaps 20 percent. It is therefore a good guide to engineer the lighting for at least 100 foot-candles so that after the first year it can be maintained at around 80.

b. The quality and the evenness of light are very important. There should be no glare. The library should have shadow-free illumination at all points, whether in book stack areas or reading areas. There

should not be a sharp difference in lighting intensity between the bottom shelves and the top shelves. This second requirement poses problems for lighting engineers. However, the specification has been met satisfactorily in several recent libraries. One solution is through the use of the familiar "egg-crate" type of suspended fixture, extended continuously over entire ceilings. Another is the so-called luminous ceiling in which rectangles of plastic set side by side, are used. Both contribute some problems in cleaning, although where the plastic has been used in rectangles no larger than two feet by two feet, this problem is reduced.

7. Main Switch. It is recommended that it be possible to turn off all of the lights in the library by the throwing of one main switch, located preferably at or near the charging desk. This will save much time.

8. Floor Coverings. Whatever material is used for the floor covering, it should be of an overall pattern and it should be the same for all areas of the library. This is to permit flexibility of equipment arrangement. Years back it was the practice of some interior decorators to outline the charging desk or shelving ranges by patterns in the floor covering. This is objectionable and should be avoided. Flooring materials should be tough but resilient and the selection of materials should be made with consideration of sound-conditioning. A hard floor reflects sounds. Much progress has been made in recent years in the development of carpeting that is tough enough and low enough in maintenance cost to make it worth consideration for use in schools and libraries, and many of these institutions are using it. The floor covering should cover the complete floor -- i.e., it should not stop at the shelving ranges or be placed merely in the shelving aisles -- it should run under the bookshelving.

9. Telephone System. An intercom or local line system should be available to transfer calls to various stations within the building.

10. Electric Wiring. One of the most important of the more recent requirements of libraries is the ability to install additional electrical devices or provide additional telephone outlets at close intervals throughout the library. Various forms of electrical devices, radio and television facilities, copying devices, microform equipment, etc., are rapidly coming into wide use in libraries, and this increasing trend will continue, very likely, and perhaps increase rapidly. The future library use of automation devices is likely to be very great indeed. It is important, therefore, that the floor structure be so designed that, while the wiring is not actually done now, it can easily be installed in the future, to the end that electrical devices or telephone outlets can readily be installed about three feet apart in either direction throughout the library. There is nothing impractical about this. There are several floor systems well known to architects which allow such economical shifting of electrical outlets.

11. Sprinkler Systems. A sprinkler system should be avoided at all costs. Much experience has proved that water can be as damaging to books as fire.

12. Book Drops. Most new public and college library buildings are equipped with book drops by which the borrower can return a book to the library through a book drop in the door or wall, at hours when the library is closed. The book drop can be closed to use whenever desired. Standard equipment is available commercially of this nature. A book drop would be of value in this particular library. The devices are not expensive.

13. Conflicts of Opinion. Conflicts between aesthetic considerations and functional considerations are bound to occur in the planning of every library building. Compromises must be reached on many points. In this connection it is necessary to note that most architects, when considering conflicts between the aesthetic and the functional are very likely to lean toward the aesthetic. This is as it should be. This is the way they are trained, and this is one of their prime responsibilities-- to take care of the aesthetic considerations which the owner may not be, and usually is not, qualified to judge. Recognizing this tendency on the part of the architect, it is important that the owner pay particular attention to the functional aspects to assure against too many conflicts being settled in favor of the aesthetic. It is a fact that too many libraries are monumental monstrosities insofar as functional considerations are concerned. It is at the early stage of the planning that functional considerations should be considered most carefully. At that time it is relatively easy -- much easier than it will be later -- for the architect to make changes in his designs. Later in the planning it may be unfair to expect him to undo large sections of his creative designing. All of this leads to this strong recommendation: That in the early stages of the planning, in an conflict between the aesthetic and the functional, the issue should be resolved in favor of the functional.

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J. UNDERGRADUATE ENROLLMENT TRENDS AND PROJECTIONS

INCLUDE HERE ONLY UNDERGRADUATE ENROLLMENT DATA FOR THE SPECIFIC CAMPUS COVERED BY THIS APPLICATION. INDICATE IN COLUMN (iv) THE FALL TERM WHICH OPENED IMMEDIATELY PRECEDING THE STATE COMMISSION CLOSING DATE FOR WHICH THIS ORIGINAL OR REVISED PAGE OF THE APPLICATION IS FILED; INDICATE IN COLUMNS (i) THROUGH (iii) THE THREE PRECEDING FALL TERMS, AND IN COLUMNS (v) THROUGH (ix) PLANNED AND REASONABLY EXPECTED PROJECTED ENROLLMENTS.

CHECK ONE OF THE FOLLOWING BOXES TO INDICATE THE METHOD USED IN DETERMINING FULL-TIME EQUIVALENT NUMBER OF UNDERGRADUATE STUDENTS ENROLLED FOR CREDIT WORK GIVEN AT THE INSTITUTION OR BRANCH CAMPUS AT WHICH THE PROJECT COVERED BY THIS APPLICATION WILL BE CONSTRUCTED:

THE METHOD DESCRIBED IN THE INSTRUCTIONS FOR THIS PART; OR AN ALTERNATIVE METHOD SPECIFIED IN THE APPLICABLE STATE PLAN.

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)				
19 <u>63</u>	19 <u>64</u>	19 <u>65</u>	19 <u>66</u>	19 <u>67</u>	19 <u>68</u>	19 <u>69</u> ✓	19 <u>70</u> ✓	19 <u>71</u>	72	73	74	75
Grad. —	—	152	170	190	230	250	275	295	325	330	335	340
UG 318	448	573	721	1310	1775	2110	2615	3004	3510	4100	5010	5600

K. CALCULATION OF CAPACITY/ENROLLMENT RATIO

1. TOTAL NUMBER OF STUDENT CLOCK HOURS OF SUPERVISED LABORATORY OR SHOP WORK AND FORMAL CLASSES PER WEEK FOR WHICH RESIDENT STUDENTS WERE ENROLLED AT THE INSTITUTION OR BRANCH CAMPUS AT WHICH THE PROJECT WILL BE CONSTRUCTED, AS OF THE OPENING OF THE FALL TERM WHICH OPENED IMMEDIATELY BEFORE THE STATE COMMISSION CLOSING DATE (SEE INSTRUCTIONS)	18,535
2. TOTAL ASSIGNABLE AREA IN INSTRUCTIONAL AND LIBRARY FACILITIES AVAILABLE FOR USE AT THE INSTITUTION OR BRANCH CAMPUS AS OF THE OPENING OF THE FALL TERM (INCLUDE ONLY ASSIGNABLE AREA OF INSTRUCTIONAL AND LIBRARY FACILITIES--SEE THE INSTRUCTIONS FOR DEFINITIONS RELATED TO THE COMPLETION OF THIS ITEM)	79,822 sq. ft.
3. DERIVED CAPACITY/ENROLLMENT RATIO (LINE 2 DIVIDED BY LINE 1)	4.31

L. INCREASE IN INSTRUCTIONAL AND LIBRARY FACILITIES TO BE PROVIDED BY THE PROPOSED TITLE I PROJECT

1. TOTAL ASSIGNABLE AREA IN INSTRUCTIONAL AND LIBRARY FACILITIES AVAILABLE FOR USE AT THE INSTITUTION OR BRANCH CAMPUS AS OF THE OPENING OF THE FALL TERM (TRANSFER THE FIGURE SHOWN IN ITEM 2 OF PART K)	79,822 sq. ft.
2. ASSIGNABLE AREA IN INSTRUCTIONAL AND LIBRARY FACILITIES INCLUDED IN THE TITLE I PROJECT COVERED BY THIS APPLICATION (TRANSFER THE FIGURE SHOWN IN COLUMN (iii) OF LINE 3 IN PART F)	93,389 sq. ft.
3. ASSIGNABLE AREA IN EXISTING INSTRUCTIONAL AND LIBRARY FACILITIES AVAILABLE AS OF THE FALL TERM WHICH ARE SCHEDULED TO BE WITHDRAWN WHEN THE PROPOSED CONSTRUCTION IS STARTED (REHABILITATION, ETC.) OR COMPLETED (NEW CONSTRUCTION)	7,697 sq. ft.
4. RESULTING NET INCREASE IN ASSIGNABLE AREA OF INSTRUCTIONAL AND LIBRARY FACILITIES WHICH WILL BE PROVIDED BY THE PROPOSED TITLE I PROJECT (LINE 2 MINUS LINE 3)	85,692 sq. ft.
5. PERCENTAGE INCREASE IN ASSIGNABLE AREA OF INSTRUCTIONAL AND LIBRARY FACILITIES TO BE PROVIDED BY THIS PROJECT (LINE 4 DIVIDED BY LINE 1)	107.35 %