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The Piedmont Environmental Science Museum for Clemson University and its surrounding Piedmont Region at Clemson University, Clemson, South Carolina

Lell E. Barnes III

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THE PIEDMONT ENVIRONMENTAL SCIENCE MUSEUM
for
Clemson University and its surrounding Piedmont Region
at
Clemson University, Clemson, South Carolina

A sixth year terminal project submitted to the faculty of the College of Architecture, Clemson University, in partial fulfillment of the requirements for the degree of Master of Architecture.

Leil E. Barnes III

April, 1980

Approved:

Peter Lee, Committee Chairman

Harold Cooledge, Committee Member

Richard Norman, Committee Member

Gayland Witherspoon, Head, Dept. of Architectural Studies

Harlan E. McClure, Dean, College of Architecture
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I would like to make special note of my appreciation to Dean Harlan E. McClure and the faculty of the College of Architecture. I especially appreciate the guidance and cooperation of Professors Peter Lee, Harold Cooledge, Richard Norman, M. David Egan, and Carl Helms.
PROJECT BRIEF

The proposal for a Piedmont Environmental Science Museum is based upon the common need of the College of Sciences and the College of Agricultural Sciences of Clemson University to develop a repository of specimens for public viewing combined with an advanced research facility to scientifically study these specimens.

The theme of the proposed museum lies in the single and unique identity of South Carolina's Piedmont Region. The unique significance of an environmental science museum is the process-oriented approach of its display techniques. This approach not only offers people an interesting and entertaining exhibit, but, more importantly, it provides them with an opportunity to making their own discoveries. This process-oriented approach, will promote the lively and mutually important student/public awareness needed for a state and university relationship.
MUSEUM FUNCTION

Stated simply, a museum is a collection available to more than its collector. The human urge to collect prompts people to gather nearly anything imaginable, and these collections are expressive of the collector. Collections seem to grow and generate new collections. This characteristic is as important to a museum as the forethought given to its architecture. In fact, a good museum runs in large degree on pride, and if its design is as pride-worthy as its contents then, as a collection, the museum will be a viable educational service.  

Museums must be more than a repository, however, they must stimulate ideas as well as display collections. For example, Al's Science Shed is a demonstration area inside the Science Museum of Minnesota. It was developed to provide firsthand experience and to stimulate creative ideas in visitors to the museum. Basic scientific principles are illustrated through simple experiments which can be initiated by the visitor and controlled from start to finish, thus making the visitor a participant pursuing a particular educational interest. 

The key word when describing a museum collection is "object." Objects in science museums may be lighthearted, or serious, but they should all be educational.

The museum image in the public mind nearly always is that of a building or an "architectural" form. However, a museum is more than a building; it is an experienced environment directed towards producing the best means of expressing an interesting and unique education. The more rigid a museum building, the less opportunity exists for new educational ideas. On the other hand, an extremely flexible museum can also be a hindrance when the relationship between the exhibit and its setting becomes too vague. In this situation, a museum lacks relevancy. 

The challenge of a science museum is to achieve a tangible means of demonstrating the intangible. The process and the principles of science and nature are illustrated not only through objects, but through ideas and phenomena as well.
SCIENCE MUSEUMS AND UNIVERSITIES

Since the sciences have long regarded museum collections as a source of study material, museums and universities hold a close relationship. Most universities develop their own collections which later may evolve into public oriented museums. Until recently, the majority of university museums have been regarded as principally a library of teaching material. This project will explore an alternate approach towards a university museum in which public and university interests are integrated.

The major functional problem confronted in an environmental museum is the relationship between research and exhibit education. Although the two categories are closely related, the users of each are quite different. This functional difference tends to divide the museum into two separate parts: collections and research, and public galleries and education. However, in a university oriented museum the researchers and collection staff are, for the most part, students and faculty who are also involved in the educational part of the facility.

Florida State University’s Science Museum is operated with a staff of approximately 26 curators who are professors and technicians from the University and the surrounding area. Their work is displayed to the public by means of photographs depicting each laboratory procedure in the particular research project or collection. At Florida State, the museum is separate from the research facilities, and as the curator’s work process is displayed second-hand, the immediacy of the process is lost.

The success of an Environmental Science Museum and Research Center lies in a total experience of the participants. Visitors of all ages and backgrounds should be involved with all aspects of the Environmental Sciences from research to display. This “total interaction” concept underlies the theme that is essential for meaningful education.

Since university museums often gain their support from the public, their facilities need to be publicly oriented. The Piedmont Environmental Science Museum must be used and supported by the public or it will not fulfill its purpose. Indeed, if the museum proves successful it will become a strong symbolic link between the University and the State of South Carolina.

Another consideration is the outreach of a university. There is a trend toward universities expanding their educational roles by making their services more available to the general public. For example, numerous technological advances made in the past few
years require a great deal of understanding by the general public, thus introducing a need for continuing education of high quality. The Piedmont Environmental Research Museum should play an important role in broadening the scope of Clemson University as an educational institution.
CLEMSON UNIVERSITY

Clemson University, located in the Piedmont region of South Carolina, is a coeducational, land grant institution. The University was founded in 1889 by Thomas G. Clemson who left his estate to found the agricultural college which became known as Clemson College. The College took the name Clemson University in 1964. The University currently offers 36 major courses of study in 8 undergraduate colleges: Agriculture, Architecture, Education, Engineering, Industrial Management and Textile Science, Liberal Arts, Nursing, and Science. The campus embodies 6,000 acres of land adjacent to Lake Hartwell in Clemson, South Carolina.  

The city of Clemson is situated at the foothills of the Blue Ridge Mountains. It is about 20 miles from the more mountainous areas of the Blue Ridge and its development is owed principally to the University after which it is named.
PURPOSE

*To continue the educational growth of the Environmental Sciences and to instruct all users of the museum in the practical applications of its work to our environment.

*To provide a realistic and presentable feasibility study for the Agricultural, Biological, and Physical Science Colleges and to further integrate Clemson University with the public.

*To provide a specialized advanced research facility for science oriented majors.

*To provide a natural and realistic experience with nature by furnishing numerous firsthand environmental experiences.

*To introduce imaginative training in the Environmental Sciences for educators of all types.

*To demonstrate the importance of the Environmental Sciences and their growing future demand for increased application.

*To provide a mutual link between Clemson University and its surrounding community by physically and socially uniting both University students and staff with community citizens to propagate a stronger communication between both groups.

*To furnish answers to some of Clemson University’s planning questions relevant to the proposed site.

*To utilize existing facilities in a more useful manner.
The Piedmont Environmental Science Museum uses a public relations approach. The College of Sciences at Clemson University is currently in planning for the revitalization of their existing “field studying house,” located in the southeastern portion of the immediate Clemson University campus. The purpose and challenge of this project lies in developing the educators’ ideas and foresight into the most workable solution.

The proposed Piedmont Environmental Science Museum will be a singularly unique facility in the State of South Carolina. Although similar in some respects to a proposed Environmental Science Center to be located near Greenville, the Greenville Center will be geared primarily to grammar school and high school students.

The Piedmont Environmental Science Museum will be linked to the existing Horticulture Gardens of Clemson University. These Gardens contain a great variety of cultivated and natural horticulture displays and are a popular public attraction in addition to serving as a research and teaching facility. It is expected that the proximity of these two public oriented educational activities will be mutually beneficial.

In conclusion, the Piedmont Environmental Science Museum will encompass a merging of several significant existing and future criteria based on the growth of the University. These criteria are circulation, adaption to site characteristics, and physical and social restraints. These criteria must be blended to form the most appropriate architectural solution for the Museum’s projected use.
DESCRIPTION OF ACTIVITIES

The activities of the Piedmont Environmental Science Museum may generally be divided into Public and Private categories. These activity categories are further described below.

PUBLIC (exhibit and research)

The variable exhibit space will be the heart of the center being available for the entertainment and education of the public. The Planetarium will also be of focal value to the Museum by a prime merging space for all levels of study. The Planetarium will be a large drawing card for the public visiting the Museum. Another important public attraction will be the Museum's library. This will be a very specialized area used by people seeking pertinent information to the Museum. The library will accommodate adjustments for all age groups, and levels of study. All exterior labs and research areas will be reserved for researchers and will be used by the public only for observation. However, nature trails will be incorporated about the site for extensive public use.

PRIVATE (advanced research and support)

The research areas will provide the day-to-day direction for the Museum. The areas being studies by the researchers shall compose the major exhibits. The researchers will work out of 6 preparation rooms and 12 offices. The preparation rooms will be used by the curators of the Museum to prepare their specimens and articles for display. A photography laboratory and a walk-in deep freezer are to be privately used by the researchers. A small greenhouse will also be constructed for those curators who need to study live plant specimens. Outdoor research areas will consist of: animal storage pens (for temporary storage of live specimens), behavioral study fields (where researchers will construct micro-environments in a chronological order), aviaries, waterfowl pens, and pigeon loft will all be for researchers' use and will be viewed by the public from a distance.

The Museum support will largely be handled by the researchers, although some permanent staff will be provided for guidance. The collection storage area will be the largest support area. Interacting with the major exhibit space, the collection storage area will require constant cataloguing of specimens and articles. The director's office and secretary's office must be in direct control of the public reception areas. The service loading area, equipment work rooms, and storage areas will all be well controlled and observed by the director.
MECHANICAL CONSIDERATIONS

Acoustics:
The best overall transmission ratings and reverberation time for maximum educational absorption represents a complicated problem, and for the most part, is left to the designer. The private areas of the building will require a drop ceiling to prevent reverberation. However, the exhibit space will be a 2-story space with the roof structure exposed. The noise reverberation time will be longer but will be more conducive to a museum atmosphere. The planetarium “shell” is of particular importance. The material must be dense enough for projecting pictures on it and it must also be porous enough to absorb sound.

Lighting:
Lighting plays an important role in creating unique atmospheres in any museum. For example, both natural light and incandescent light will fade and deteriorate animal specimens. Due to the variety of exhibits and functions in the planetarium, this space must have highly flexible lighting equipment. All lighting requirements established by M. David Egan, Building Science Professor at Clemson University, apply to each individual research area when producing light conducive to the study of nature.

Climate Control:
Correct mechanical systems are also of great importance. In an overall view, the interior spaces, with exception of the deep freezer and greenhouse, should remain within the “comfort zone” being approximately 74-79 degrees F at 20% relative humidity to 73-77 degrees at 60% relative humidity. However, due to energy conservation rules the indoor temperature will remain between 65-68 degrees F. Therefore, the major mechanical problem comes in maintaining a suitable temperature and humidity ratio for human comfort and for best possible care of museum specimens. Also, direct outside air vents will be provided to all laboratories to discard harmful fumes.
CODE REQUIREMENTS

The proposed museum falls into both the “A” Assembly, and “E” Education groups described in the Southern Building Code Congress International. Requirements pertinent to the design are listed below.

Occupancy Classification

Construction Type: Type I or II
Maximum Allowable Height: Type I - no limit; Type II - 80 feet
Maximum Allowable Floor Area: Type I - no limit; Type II - no limit

Exit Requirements

Maximum Distance of Travel to an Exit: Unsprinklered - 150 feet
Sprinklered - 200 feet
Occupant per floor, concentrated use: 1 occupant per 7 square feet net area
Capacity of Means of Egress: 100 persons per 22” level travel
75 persons per 22” stairs
Stair Width: 44” Minimum

Accessibility for the Physically Disabled and/or Handicapped

Corridor Width: 44” Minimum
Door Width: 32” Minimum
Ramps: 1’ - 12’ Maximum Rise, 4’ Minimum Width, Level Area every 30’
Parking: Level Space must be 12’ wide Minimum. See Section 508.3 (SSBC) for number of spaces.
Toilets: One per Floor per Sex Minimum
Seating: see Section 508.3 (SSBC)

Toilets

Office Area and Viewing Areas: Occupancy content based on 1/100 Sq. Ft. for office and 1 per 7 Sq. Ft. for auditoriums. See Table 923.2 U.P.C. for number of urinals, waterclosets, lavatories and drinking fountains.10
### PUBLIC AREAS

#### SPACE

<table>
<thead>
<tr>
<th>Space</th>
<th>Area (Sq. Ft.)</th>
</tr>
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<tbody>
<tr>
<td>Lobby</td>
<td>300</td>
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<tr>
<td>Reception</td>
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<tr>
<td>Exhibit Area</td>
<td>15,000</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>15,400</strong></td>
</tr>
<tr>
<td>Planetarium/Lecture Hall</td>
<td></td>
</tr>
<tr>
<td>Entrance</td>
<td>100</td>
</tr>
<tr>
<td>Projection Room</td>
<td>150</td>
</tr>
<tr>
<td>Planet Projection</td>
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</tr>
<tr>
<td>Mechanical Room</td>
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<td>Viewing Area</td>
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<td>Stage</td>
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<td><strong>Sub-Total</strong></td>
<td><strong>2,750</strong></td>
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<tr>
<td>Library</td>
<td></td>
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<tr>
<td>Entrance</td>
<td>100</td>
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<tr>
<td>Reading Area</td>
<td>1,500</td>
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<tr>
<td>Instruction Room</td>
<td>400</td>
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<tr>
<td>Control</td>
<td>100</td>
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<tr>
<td>Storage</td>
<td>200</td>
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<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>2,300</strong></td>
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</table>

### PRIVATE AREAS

- 6 Preparation Rooms @ 700 ea. 4,200
- 12 Offices @ 150 ea. 1,800
- 6 Classrooms @ 500 ea. 3,000
- 6 Laboratories @ 200 ea. 1,200
- Greenhouse 200
- Loading Dock 300
- Cleaning Room 150
<table>
<thead>
<tr>
<th>Room</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Fumigating Room</td>
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<tr>
<td>Sorting Room</td>
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</tr>
<tr>
<td>Cataloguing Room</td>
<td>150</td>
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<tr>
<td>Photography Laboratory</td>
<td>400</td>
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<tr>
<td>Graphics Laboratory</td>
<td>200</td>
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<tr>
<td>Specimen Storage</td>
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<td>Equipment Storage</td>
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<td>Equipment Work Shop</td>
<td>300</td>
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<tr>
<td>Security</td>
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<td>Director’s Office</td>
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<td>Secretary’s Office</td>
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<tr>
<td>Conference Room</td>
<td>300</td>
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</table>

**Sub-Total:** 20,700

**NET TOTAL:** 41,150

Circulation, Mechanical, Structural @ 30% 12,345

**GROSS TOTAL:** 53,495

**OUTDOOR AREAS**

<table>
<thead>
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<th>Area</th>
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<tr>
<td>3 Aviaries @ 150 ea.</td>
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<tr>
<td>3 Cement Waterfowl Pens @ 300 ea.</td>
<td>900</td>
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<tr>
<td>6 Live Animal Storage Cages @ 150 ea.</td>
<td>900</td>
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<tr>
<td>Pigeon Loft</td>
<td>150</td>
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<tr>
<td>Flat Behavioral Study Fields</td>
<td>200,000</td>
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</tbody>
</table>

**TOTAL:** 202,400

Parking/Service 140,000
SPATIAL DESCRIPTION

PUBLIC
Indoor:
Variable Exhibit Space:
The exhibit areas are areas that require extreme care. Basically, the major space will be left as flexible as possible to accommodate changing exhibits and changing numbers of users. Because natural light deteriorates much of the animal exhibits, the use of natural light in the exhibit area will be limited. The exhibit area should also provide a functional and visual orientation for the rest of the complex. The space should be interesting to all users and will produce a congregation area.

Planetarium/Lecture Hall:
This space will be designed primarily for its use as a planetarium and secondly as an auditorium, lecture hall. The major viewing space will require a forty foot diameter dome and will be void of natural light. The space will present an unusual atmosphere conducive to the study of our solar system. The space will require good public access to accommodate the large numbers of gatherings expected. The space will be suited to a maximum of 150 people at one time. The planetarium will maintain mechanical and electrical systems, such as a projector, 180 degree fish-eye lens, film-reel unit, projector control console, projector elevator, umbilical connection for power, coolant, air and exhaust, loud speaker units, dome projection screen, projector enclosure, space transit simulator, planet and moon projectors, planetarium console, rear projection room, and an audience holding area.

Library:
The library will be much the same as a conventional library. Special attention will be given to natural lighting and handicap use. The library books and paraphernalia will deal solely with museum-related subjects. The space will produce a quiet atmosphere needed for sincere study.

Outdoor:
The wooded area of land surrounding the museum will be as important to the education of the visitor as the museum itself. A prime importance of the museum is to prepare the visitor to experience the natural area. The outdoor area will be similar to that of the existing horticulture gardens. Strategically placed nature trails will be incorporated to show the visitor the maximum amount of plant and animal life. These trails will also lead the visitor around the outdoor areas used by the curators. However, a pure integration of public and private functions will be discouraged.
PRIVATE

Indoor:

Collection Area:
The collection/storage area will require the largest amount of space in the indoor private area. The collection area will be primarily a storage area for specimens and their related displays. The collection area is the main link between the exhibit space and the private areas.

Preparation Rooms:
The preparation areas are where most of the research will take place. New and old specimens of all categories will be processed through these areas for routine inspection or for study purposes. The rooms will be equipped with small instruments and numerous cabinets and small storage closets.

Cleaning, Fumigating, Sorting, Cataloguing:
All specimens must be processed through these rooms upon arrival to the museum. This process is to ensure cleanliness and location of the museum specimens.

Photography and Graphics Lab:
Both of these labs will be used to aid in cataloguing the specimens and also to create a more graphic exhibit for the visitors.

Walk-in Deep Freezer:
A walk-in deep freezer is provided to temporarily store specimens and related materials.

Administration:
The administration will consist of a director, secretary, conference area, and a receptionist. All of these are more public oriented functions and are located for ease of public awareness.

Greenhouse:
A small greenhouse is to be used in conjunction with those classrooms and laboratories studying plants and related specimens.

Classrooms:
These spaces will be accommodated to instruct advanced students on specific museum related subjects. The classes will not be regular, but they will serve as adjunct classes to those on campus.
Curator’s Offices:
These offices will be occupied primarily by professors. The offices will serve the professors as a second, more private, office compared to their present office. Also, these professors will instruct the students in the classrooms.

Equipment Work Shop:
This area is geared to both public and private functions of the museum. The work shop will repair all broken equipment used in the museum.

Computer Room:
This area will be used by both students and curators. It will help in the learning process and will also aid in cataloguing specimens. The computers will also help link the museum with the other related areas of the university.

Outdoor:
All of the outdoor surrounding areas will be used in private research. However, special attention will be given to certain areas, such as the behavioral study areas, the aviaries, the live animal cages, and the waterfowl pens. All areas will be planned and managed by the curators.
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- **maximum use**
- **moderate use**
- **minimal use**
CASE STUDIES

Case Study No. 1

Project: THE GIVEN INSTITUTE OF PATHOBIOLOGY
Location: 100 E. Francis Street, Aspen, Colorado
Architect: Harry Weese

Concept:
Nestled among fir and spruce trees as high as 60 feet, the Given Institute of Pathobiology rests on land donated to the University of Colorado by Mrs. Walter P. Paepcke. Her architect friend, Harry Weese, attempted to keep the site as natural as possible by placing the building in a most subtle setting. Although the structure of the building remains simple and very geometric, a "playful rigor" is achieved with three-dimensionality. The circular seminar room houses the most important interior function and constitutes overwhelming visual dominance from at least three sides. Placing long grooved horizontal joints in the white masonry block makes the building more personal while the paleness of the building creates a dynamic contrast with the richness of its natural surrounding. 11

Function:
The Institute provides research facilities for University of Colorado students as well as a setting for summer courses for visiting students and faculty. Frequent week-long conferences are held requiring catered lunches and banquets. Public lectures and chamber concerts are held weekly. The furniture in the seminar room is flexible in its arrangement. When the building is not in its normal use, outside groups may rent it. The Institute has a computer terminal and closed circuit T.V. connection to the University. 12

Analysis:
Compared to other similar research institutes of its type, the Given Institute is relatively small, and its activities present no real circulation problem. Since the building is in a residential area, traffic maintains a slow deliberate circulation pattern. The Institute is centered in a wooded area. A number of entrances and exits are available which lead the user in different directions to the wooded land. The circular seminar room dominates the Institute both inside and out, directing the traffic flow merely by its presence. 13

A separate building was provided for the mechanical system to decrease the noise attenuation. This additional building is not hidden but rather is used as an integral design element. 14
Case Study No. 2

Project: FLORIDA STATE UNIVERSITY MUSEUM
Location: University of Florida, Gainesville, Florida
Architect: William Morgan

Concept:
In fulfilling the need to more openly display the natural history collection at Florida State, William Morgan creatively used a natural hillside of the northeast edge of the University of Florida to build the museum. This site became more defined by the existence of the Biological Research Complex located to the west of the site. Long interested in earth-form architecture, Morgan uses earth berms, concrete sun canopies, and landscaped courts to help the building flow more naturally with the land forms. The interior of the museum projects warmth and appeal with natural concrete, soft brown carpeting, and bright color graphics and posters. Flexible lighting and glass walls help keep the motif soft and simple.

Function:
The upper level of the museum contains the display and administrative areas. The lower level houses research and storage space for the natural and social sciences. Offices and small labs occupy sections of this floor while a loading dock provides for newly arriving materials. The upper level contains a similar loading dock. The reception area on the upper level leads to a collection display in the multimedia exhibition hall. At the south end of this gallery, a bridge leads down to the sculpture courts where the land forms reach their peak. Archaeological displays are located on staged platforms. The museum’s future expansion seems most likely in the southerly direction.

The learning atmosphere of the Florida State Museum creates interest in many areas. Exhibits and object-filled drawers house answers to questions visitors to the museum may have. Such areas as common and exotic birds, snakes, fossils, tools, clams, insects, and people of Florida are explored in great detail on tapes and cards for those desiring to know more than what appears on the surface. Twenty-six wall cases show photographs of the curators working in their labs and “conversations with the curators” are even possible through tapes. Some of the curators plan to use exhibits and drawers in educating students in their junior and senior high classes. A checkout system, similar to that in a library, organizes the removal of the displays. The Object Gallery, designed for maximum flexibility, allows for the possibility of addition and change. It builds interest showing that the Gallery is a place to learn rather than just a place to be entertained.
The Discovery Room provides further opportunities to explore in depth objects common to the Floridian heritage. "Stumpers" (large obvious objects openly displayed to attract attention) get people interested enough to ask questions and probe further into drawers, cards, and tapes. Small objects arranged in Discovery Boxes may be taken to tables or raised platforms in other parts of the room to be examined. The boxes are a "mini-museum" full of specimens organized to get a point across. The cards, films and tapes expand on the visual display discovery. Age level tends to determine if the visitors simply look and touch, or delve deeper into the material.18

Analysis:
The Florida Museum is an "L" shaped building which fits into a natural hillside. The upper floor is accessible from the top of the hill and the lower level is accessible from the bottom of the hill with interior vertical circulation placed at strategic locations. With exception of the exhibit areas, the circulation is well defined by straight walkways and ramps that have a definite linking direction. The complex does not possess diagonal circulation in a linear form, but rather, the diagonal circulation is solved by large open patios and enclosed courts.

The building was completed in 1970 and encompasses an area of 105,000 square feet of interior space. An addition is planned and will require another 287,000 square feet. A feature of the museum is the below ground storage spaces which are isothermal the entire year and require only humidity control.
Case Study No. 3

Project:  DICKINSON SCIENCE BUILDING AND TISHMAN LECTURE HALL
Location:  Bennington College, Bennington, Vermont
Architect:  Robertson Ward, Jr.

Concept:
"The building should be a vacuum that invites." This is the philosophy of Robertson Ward, Jr. when he commenced designing the "New Barn for Bennington." It was decided that the most successful building on the Bennington campus was an old barn which from time to time was very active with a variety of functions. Architect Ward felt that the simple motif and character of the barn was important to the students and persons living about the campus. The barn has grown and responded to the environment much in the same way the new science building was envisioned.  

Function:
The new building is a two-story wood structure with exposed wiring and ducts built on a 10 ft. 8 in. modular grid. The building allows for forty percent expansion and is equipped with "pre-plugged" floors. The two floors of the structure contain about 20,000 square feet of space each. A flexible loft space above can accommodate a variety of functions. A 750 person lecture hall is at the eastern end of the building and a small greenhouse is linked to the south side.  

Analysis:
The main plan is basically two rectangular shaped buildings, one about twice the size of the other, with a connection exhibit space which is used as the main entrance. The smaller building to the left of the entrance is used primarily for large gatherings while the spaces to the right are for the most part classrooms and laboratories and produce a variety of smaller interior circulation patterns. The main circulation is also of rectangular form which produces a very simple scheme.  

The atmosphere of the building is left casual and inviting although the plan is very functional and deliberate. This combination makes the structure both attractive and luring.
PERSPECTIVE

LECTURE

CLASSES/LABORATORIES

SCHEMATIC FLOOR PLAN
SITE INVESTIGATION

Selecting a suitable site for the Clemson Environmental Science Museum and Research Center required careful consideration of various factors including availability of the property, access to and from the site, and the choice of an appropriately natural setting to meet programmatic requirements.

The southeastern portion of the Clemson University campus is a unique section of land in that the land, for the most part, is in its original natural state. The area is currently held in reserve by the University Planning Department. Unlike most of the buildable land on the campus, this property has an undetermined future, and thus offers a unique opportunity for study of its best use. For this project, this entire area will be studied with the purpose of selecting a specific site for the museum building and adjacent outdoor areas. Three sites selected for investigation are shown on the site selection map designated as Sites 1, 2, 3. The boundaries of all three are somewhat flexible. Following are evaluations of these sites.

Site No. 1

Pro

It is centrally located in terms of major vehicular circulation.
It is located near a more public area of campus.
A proposed rerouting of Perimeter Road would probably cross this site.
Existing science facilities (Field Study House and Support) are located on this site.
It is between two campus “parks.”
It is next to the horticulture gardens.
It has both flat open areas and steep wooded slopes.

Con

It is approximately 14 minutes from the science buildings on campus, and is the furthest site from campus of the three.
It is next to heavily travelled highways.

General

It contains the highest elevation on the immediate campus.
A large cylindrical water tower stands next to the site.
It is buffered from the main campus by a small housing complex.
Site No. 2

Pro
The site is well located in terms of pedestrian accessibility.
The site is close to environmental science buildings on the campus.
The site is in its natural state.

Con
The site has no natural flat open areas.
The site may prove awkward for ease of public circulation.
The site is removed from the public oriented horticulture gardens.

General
The site is next to a vast area of natural land.
The site is near an existing student parking lot.

Site No. 3

Pro
The site is next to College of Agriculture buildings.
The site provides an acceptable pedestrian circulation.
The site provides flat open areas.

Con
The site is cut off from the major natural area by a student parking lot and access road.
Natural land formations on the site are very similar with no real variation.

General
The site is next to major campus vehicular circulation.

Conclusion
Through a process of evaluation it was determined that Site No. 1 best answers the needs of this project. A detailed analysis of the selected site is provided in this report and will be used as a basis for the building design.
LEVEL 2
FOOTNOTES


2. Ibid., p. 12.

3. Ibid., p. 38.

4. Ibid., p. 84.

5. Ibid., p. 85.


12. Ibid., p. 64.

13. Ibid., p. 62.


17. Ibid., pp. 124-125.


22. Ibid., p. 47.
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Books


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Karst, William B. Jr., *Greenville Environmental Science Center*, Clemson University, 1975.

Booklets


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