ARCHITECTURAL THESIS

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STUDENT HOUSING AND COMMONS
INDIANA UNIVERSITY SOUTHEAST
NEW ALBANY, INDIANA

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FOREWORD

A basic dissatisfaction with the I.U.S. Campus brought about my initial interest in a dormitory and student complex at the campus. While attending classes at I.U.S. during 1973-1974 I became very aware of the fact that no place existed in the campus area for students to live while attending classes. Also the campus lacked a facility to serve as a campus center and focal point, this caused the student and faculty populations to be very disjoint and individualistic. These dissatisfactions caused me to question the existing facilities and campus organization, which ultimately brought about the idea of using this shortcoming as the basis for this thesis project.
ACKNOWLEDGEMENTS

Immediate acknowledgements must go to my studio critics professors Robert Koester, Robert Fisher and Dan Woodfin, who gave criticism and guidance to my products. Personal thanks to my wife who understood my goals and drove me to reach them, and to my family who encouraged me to keep this project on my mind even while other events directed my attention elsewhere. And finally my grandfather to whom I casually dedicate this work, as an expression of my awareness to his influence upon myself and everyone associated with him.
ABSTRACT

The thesis project consists of a student housing and commons complex for Indiana University Southeast in New Albany, IN. The facility contains approximately 78,000 square feet and is estimated to exceed 5.5 million dollars in construction costs and professional fees.

This book is organized in a manner which allows one to see the final product immediately while detailed and specific information which shaped the final product is available for examination in the later portions of the book. The detailed information includes the program for the project, site analysis and building type analysis. While the final product consists of schematic design, design development materials and final presentation materials such as final drawings and photographs of the final model.
INTRODUCTION

As mentioned before a basic dissatisfaction in the I.U.S. social and environmental life brought about the concept of this project. The elimination of these social and environmental deficiencies became the focus of my energies during the nine month period of this project. The major objective became the creation of a facility which would serve as an environment for both commuter students and resident students to meet and interact.

The existing campus was designed around a masterplan which allowed for expansion in a manner which caused the campus to become very decentralized and non-cohesive. Early in the design stage of this thesis project I determined this decentralized plan was not in the best interest of the university, and opted to design with the idea of enclosing the campus as a major design goal.

Auto and pedestrian circulation on the campus was established by the location of the existing buildings, parking areas and campus entrances. This concept of circulation was altered in some instances and utilized as it existed in other cases. The final design is greatly influenced by existing pedestrian circulation from the major parking area to the campus buildings. This circulation enhanced a design concept of a campus gateway as a major orientation area.

The siting of the building was determined by the design goal of providing enclosure to the central natural space of the campus. This became a major influence in not only the siting of the building but the massing of form.

A number of more specific factors have had influence upon this project and will be discussed in the sections on schematic design and design development.
CHANGE OF SITE

As mentioned in the introduction, I discarded the campus masterplan and its site directives in the early stages of the schematic design phase. The site of this project was changed from the northern edge of the existing campus—as the masterplan advised, to the central portion of the campus. This change accounts for the inclusion in this book of site information concerning a site on the northern portion of the campus.
SITE ANALYSIS

In evaluating the centrally located site for this project, I was forced to be conscious of a number of design goals such as: enclosure and circulation. The analysis of the site was further enriched by the site analysis dealing with each of the three schematics for the project.

Many of the usual site analysis criteria were evaluated: views, circulation, noise, etc. While a number of criteria more unique to this project: enclosure, division of exterior spaces, effect on natural domain, etc. were also used.
SCHEMATICS

Two levels of development are present for each of the three schematics, the first deals with the over-all campus’ influences upon the shaping of the schematic itself. While the second level displays more specific information concerning the spaces involved in the scheme and their influences and relationships with themselves and the immediate surrounding campus.
SCHEMATIC ONE

Deals with a linear-nodal scheme with public areas at the western node and the dormitory tower at the eastern end. This concept took fairly good advantage of existing pedestrian circulation as well as providing a good buffer between the northern parking area and the natural exterior space in the center of campus.

A major negative element of this scheme exists in the views from the northern side of the dormitory tower. Also this scheme does not encourage the faculty and student populations to participate in the building, primarily due to the circulation path in the north-south direction being such of minimal interaction between pedestrian circulation and building spaces.
SCHEMATIC TWO

This concept is based on a centralized-streetscape idea, where the dormitory zones surround the major pedestrian path and creates streetscape effect.

Exterior space is divided in this scheme by the use of a re-designed pedestrian walkway system with protected areas throughout the campus. While this scheme divided the exterior space, it divided it in a rather arbitrary manner.

Service to the public functions does not work as well as I would have liked, this is another shortcoming of this scheme. Noise around the dormitory area also is a problem in this scheme due to the streetscape concept.
SCHEMATIC THREE

Scheme three is based on an idea of locating the public and semi-public areas in the central portion of the campus. While the private areas such as dormitory space is positioned into the heavy vegetation area of the campus. This method of siting accomplished the goal of enclosing the campus space.

This scheme also incorporates a pedestrian walkway throughout the campus, which divides the exterior space into the distinct spaces, one a very natural heavily vegetated space and the other a very open green space.

By siting the dormitory deep into the vegetation the views are limited to the spaces near the structure and avoid the possibility of seeing poor view in the distance. The dormitory is raised above the ground plane to give security and allow the natural ground plane to flow uninterrupted below the structure.

Circulation is also very strong in this scheme in that it encourages circulation through the complex to the extent that the commons area serves as a gateway to the campus.
DESIGN DEVELOPMENT

During the development phase of this project I became very aware of the possibilities in architecture to allow the building to become a very playful statement about the functions of the building, the users, and the environment surrounding the building. This awareness lead to numerous ideas dealing with abstractions and symbolism involving the form of the structure.

The most obvious abstractions take place in the dormitory's form, in an attempt to create a student living space which was alive and full of vitality. I searched for a method of developing a form which would read both interiorly as well as exteriorly. The undulating wall is used on the exterior to reflect the soft curving edge of the vegetation, while on the interior the curved wall is used to enrich the function of circulation through the corridor. On the northern facade of the dormitory form exists a very rigid, right angle geometry. This arose from the geometry present in the parking area to the north of the complex. This method of reflecting the surroundings in an abstracted manner seems to have produced a product of quality and visual consistency between building form and physical context.

Pedestrian circulation was used as an organizing element for the complex. The forty-two feet high wall which bi-sects the complex along the major east-west circulation path. The free-standing wall at the north entrance is utilized to serve as a gateway to the campus, and as a definer of the north-south circulation axis.

The major symbolic element involved in the form of the building is the symbolism between the raised dormitory form and the surrounding vegetation. The columns used in the building appear to represent the trunks of the trees while the building mass symbolizes the leaf of mass of the trees.
Numerous other elements were incorporated into the project during the design development phase. The system of skylights used in the building were refined to give emphasis to various spaces and circulation areas. Also the amphitheater to the east of the complex helps connect the east-west circulation path to the exterior space.
CONCLUSION

By dealing with a building of sufficient complexity and size I feel enabled and forced me to develop the project to a quality of thinking which satisfied not only the functional requirements, but due to the complexity the building's form began to take advantage of the inherent qualities and complexities to produce a product of high sophistication.

The project served a great purpose to me in that it allowed me to realize that architecture can be loose, playful and extremely visually exciting. This realization will probably serve me much longer in my career than any of the more technical aspects of this nine month experience.

Another aspect of this process which I find much satisfaction in, is the manner in which I used the site to enrich the building. Originally I felt that many of the site elements tended to work in a negative manner toward the building, but after refining and developing the building form the site elements began to compliment the building itself.

In conclusion, I enjoyed a very interesting nine months while working on this project which showed me that I can develop a project to a level of thinking that in someways beyond what architecture is and more closely associated to a form of art.
VIEW FROM NORTHEAST

HOUSING INTEGRATED INTO VEGETATION
VIEW FROM SOUTH

VIEW OF LOUNGE AREA
SITE INFORMATION

The site itself is at the northern city limits of New Albany, Indiana. The university owns approximately 180 acres but has only developed approximately 40 acres of the entire tract. The physical make up of the site is of low rolling uplands blanketed by a layer of reddish-brown stony silty clay till, the deposit of glacier flows. The soil is of stiff consistency with bearing capacity adequate for moderate loads. In most parts of the site the till is not thick and heavy structures may be founded on bedrock. Ground water potential is very poor, while limestone at depths below 100 feet yields salt water. In most areas of the site natural slopes provide adequate surface drainage, the water table is not high, and excavation is easy.

The site lies at 85° 48' west longitude by 38° 15' north latitude.

Source Number Fifteen
LOCATION:

INDIANA UNIVERSITY SOUTHEAST
NEW ALBANY, INDIANA
BACKGROUND INFORMATION

The recent background of the Indiana University Southeast (I.U.S.) Campus is that of a commuter university serving a regional population of 240,000 persons. The university serves nine counties in Southern Indiana and three counties in Northern Kentucky. The present enrollment is 5,200 students with a faculty of 75. The proximity and accessibility of the Louisville area provides a special suburban character to the campus which influences the nature of instructional programs and services which I.U.S. offers. The present situation at I.U.S. is keyed by the effect of the recent transfer of all facilities from an urban campus in Jeffersonville, to a new suburban campus in an area of New Albany known as Floyd Knobs. The site is a hilly, rolling area with an abundance of vegetation and open spaces. The campus presently has seven buildings with a gross square footage of 297,362. An activities building is presently in the construction stage of development. The existing buildings and their functions are as follows:

- Physical Science - classrooms and offices: 31,538 S.F.
- Life Science - classrooms and offices: 41,401 S.F.
- Crestview Hall - classrooms and offices: 39,935 S.F.
- Hillside Hall - classrooms and offices: 53,117 S.F.
- Library - library and administration: 81,536 S.F.
- University Center - snack and rec. center: 35,397 S.F.
- Service Center - maintenance and utilities: 14,438 S.F.
CLIENT

My client of the project is the Board of Trustees of Indiana University. Even though the project is on a regional campus of the university, the Board of Trustees is the governing body to whom I am accountable.
The student population at I.U.S. is composed of 40% being 17 to 21 years of age, 41% being 22 to 30, and the remainder being over 30. The campus is located close to Louisville, a highly populated urban area. Many of the students find it easy to work while attending the university. A questionnaire revealed that 43.7% of the students work full-time, 27.6% work part-time, and 28.7% do not work. These statistics relate to the maturity and the part-time enrollment status of the majority of students. Student work is sufficiently skilled that 30.8% report incomes over $5,000 and 8.5% over $10,000. They are sufficiently motivated in spite of their heavy work load that almost 20% travel over 25 miles to attend class. Student types generally fall into four classifications:

1. Collegiate: Socially motivated with heavy emphasis on extra-curricular activities and passing academic interest.
2. Vocationally oriented: Job preparation oriented with minimal distraction.
3. Scholar: Motivated solely by intellectual desires.

The I.U.S. student population is primarily composed of the first three types with the fourth being relatively non-existent.

The fact that 71.3% of the student population works at least part-time has a dramatic effect on the operation of the university, with respect to scheduled class times. Due to the fact that many students work during the day the university has scheduled half of its academic contact hours after 7:00 p.m. Students have expressed certain extra-curricular preferences regarding social activities, student organizations, and particularly visiting entertainers. The student users want to be involved in the facility to varying degrees. They want to organize, socialize, entertain, dine, and be entertained. Just as their homes provide for small
gatherings of civic or personal involvement, so must this facility, dorm rooms on a micro scale and the commons area on a macro scale. The commons scale must respect individual activities as well as groups of 200 persons. The commons must accommodate activities such as sleeping, studying, dancing, lectures, dining, relaxing and so on. The social and studious activities of a commuter college are somewhat different than those campuses with on-campus housing. The present campus provides very few places for commuters to spend their time between classes. The proposed project would serve the students living in the on-campus housing as well as the commuters whose social needs have previously been neglected.
USERS - STAFF

The university staff primarily consists of women in clerical positions - older women returning to the work force having raised their children, younger women the wives of students and students themselves. Most administrative positions are filled by males. Staff craftsmen such as janitors; and maintenance personnel voice a feeling of being "out of place" in the present campus setting. All of the staff have highly structured schedules. The majority work from 8:00 a.m. to 5:00 p.m. with an hour for lunch and 15 minute coffee breaks mid-morning and afternoon. The staff's on-campus participation during the day is primarily for lunch and occasional evening affairs.
USERS - FACULTY

The faculty would probably be the least involved with the dormitories and commons area of any of the university family. Time is their most limited commodity, even more so than the working student. The average faculty member works approximately 60 hours per week. His or her activities involve a staggering set of responsibilities as an instructor, researcher, advisor, academic senate member, department member, building committee member, and community liaison-activist-consultant-confidant. His actual formal student contact is between 10 and 20 hours per week, yet some 2 to 3 hours is needed for preparation and examination for each of the contact hours. All of this means that the commons area must be convenient to the faculty or the faculty will most likely not use the facility. Faculty use of the facility will primarily be in the form of luncheons and evening dinner. Also educational seminars, workshops, etc. will utilize many spaces in the complex. See university organizational chart - next page.
CAMPUS GROWTH

In a university study completed by the university on June 1, 1976, it was determined that by 1986 the student enrollment would be near 6,000. By the addition of the proposed dormitory facility, it is feasible, due to this increased attractiveness that enrollment could rise to 6,500. See graph.

This increase of 18% in student enrollment would cause a similar increase in faculty and staff positions.

Note: All user and growth statistics were obtained from research source number one.
PREVIOUS PLANNING BY RELATED ORGANIZATIONS

A master plan for the entire I.U.S. campus was developed by the firm of Johnson, Johnson and Roy, Incorporated of Ann Arbor, Michigan. This master plan set forth a basic attitude for siting of buildings and parking areas on the campus, various themes about size of structures and materials. Detailed aspects of this master plan will be dealt with later in the program. I will respect the decisions and constraints set forth in the campus master plan.
FUNCTIONS: GENERAL SPACE REQUIREMENTS

Dormitory Rooms
Facility capable of housing 200 men and 200 women, this quantity includes housing for all student administrative staff. Spacial breakdowns for student housing are as follows:

MEN: 15 triple occupancy rooms
75 double occupancy rooms
5 single occupancy rooms

WOMEN: 15 triple occupancy rooms
75 double occupancy rooms
5 single occupancy rooms

NOTE: Source Number Three and Five

Spacial Performance Requirements
Student housing shall serve four basic functions:
1. Provide adequate sleeping facilities
2. Storage shall exist for student use
3. The space shall be conducive to study
4. Adequate space for socializing is needed in each unit

General Furniture and Equipment
i.e. double occupancy unit
two twin size beds
two task desks with chairs
two lounge chairs
two closets with bars and shelves

General Environmental Requirements

Acoustics
Student housing shall incorporate sufficient sound absorption materials to reduce transmission from room to room, due to the variety of activities which can take place in adjacent dormitory rooms. The following guidelines should be observed:

1. A sound attenuation blanket should enclose each housing unit with others adjacent to it.
2. Interior walls between adjacent dormitory rooms shall have an STC rating of .85 to .90.

3. Carpeting shall be installed in all student living units as well as all interior circulation spaces.

**Air Conditioning**

Student housing units are not required to be air conditioned, due to the relatively short period of occupancy during the warm weather months. Also heat gain from the occupants will normally be negligible. Natural ventilation shall be provided in each housing unit.

Source Number Five

**Lighting**

Artificial lighting should be very flexible to lend itself to the varieties of possible unit arrangements. Artificial lighting should emphasize:

- Desk areas
- Storage areas
- Loung areas

Illumination Levels should be of:

- General Illumination: 20 to 60 F.C.
- Task Illumination: 60 F.C.

Source Number Three

**Aesthetic environment**

Each unit shall be provided with natural light to enrich the space. The spaces should be of a nature which induces a sense of individuality and of a configuration which reflects the vitality of the site and campus.

**Furniture Dimensions**

- Twin bed: 39" x 80"
- Task desk: 48" x 30"
- Desk chair: 18" x 18"
- Lounge chair: 30"W x 40"D
- Storage: 8 S.F. of floor space

Source Number Eleven
POSSIBLE SPACE LAYOUTS

Single Occupancy 86 S.F.

Double Occupancy 142 S.F.

NOTE: POSSIBLE SPACE LAYOUTS ARE USED ONLY TO ARRIVE AT AN APPROXIMATE SQUARE FOOTAGE FIGURE. AND BY NO MEANS ARE THEY TO DICTATE ANY DESIGN CONSIDERATIONS.
BUILDING TYPE ANALYSIS RESEARCH SOURCES

PEI AT PRINCETON, Architectural Record, January, 1976, Pg. 123.
CORNELL UNIVERSITY HOUSING, Architectural Record, March, 1975, Pg. 118
BETWEEN TOWN AND GOWN, Progressive Architecture, April, 1975, Pg. 66
MAKING THE ORDINARY EXTRAORDINARY, Progressive Architecture, February, 1976, Pg. 47.
HOW TO MAKE A PLACE, Progressive Architecture, May 1974, Pg. 76.