DESIGN AND DEVELOPMENT OF STUDENT APARTMENTS

Architectural Thesis Project for completion of requirements for the Bachelor of Architecture degree, Ball State University, Muncie, Indiana

by John Lee Warmack, Jr.

Gratitude to the following people for input and assistance:

- John E. Wyman, Thesis Professor, Architecture
- Brad Neal, Thesis Critic, Architecture
- Ken Carpenter, Thesis Critic, Architecture
- Paul Lasseau, Thesis Critic, Architecture
- Joseph Cascio, Thesis Critic, Landscape Architecture
- Stan Geda, Thesis Critic, Landscape Architecture
- Steven Meyerhotz, Invited Critic, Landscape Architecture

- Dr. David Rice, President, Indiana State University-Evansville Campus
- Mr. Joseph O'Daniel, Development Chairman, Southern Indiana Higher Education, Inc.
- Mr. Rolland Eckels, President, Southern Indiana Higher Education, Inc.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>1</td>
</tr>
<tr>
<td>Abstract</td>
<td>2</td>
</tr>
<tr>
<td>Project Description</td>
<td>4</td>
</tr>
<tr>
<td>Regional Location</td>
<td>5</td>
</tr>
<tr>
<td>Client</td>
<td>9</td>
</tr>
<tr>
<td>Users</td>
<td>13</td>
</tr>
<tr>
<td>Living Unit Description</td>
<td>14</td>
</tr>
<tr>
<td>Site Analysis</td>
<td>20</td>
</tr>
<tr>
<td>Building Type Study</td>
<td>38</td>
</tr>
<tr>
<td>Master Plan</td>
<td>48</td>
</tr>
<tr>
<td>Academic Core</td>
<td>49</td>
</tr>
<tr>
<td>Mid-America University Center</td>
<td>50</td>
</tr>
<tr>
<td>Master Plan Proposal</td>
<td>59</td>
</tr>
<tr>
<td>Site Master Plan</td>
<td>61</td>
</tr>
<tr>
<td>Design Development</td>
<td>76</td>
</tr>
<tr>
<td>Cluster</td>
<td>77</td>
</tr>
<tr>
<td>Living Unit</td>
<td>100</td>
</tr>
<tr>
<td>Design Conclusion</td>
<td>120</td>
</tr>
<tr>
<td>Design Drawings</td>
<td>124</td>
</tr>
<tr>
<td>Japan Architect Housing Design Competition</td>
<td>135</td>
</tr>
<tr>
<td>Bibliography</td>
<td>141</td>
</tr>
</tbody>
</table>
Abstract

The design for a group of student apartments near Indiana State University-Evansville, is the subject of this thesis effort. A thorough study of programatic needs and site conditions, coupled with a look at other developments throughout history, preceded the design development.

A look at the existing master plan for the area and the academic core of the university, was the next step. A careful analization of the master plan for the academic core promoted some new ideas, while the possibility of new housing in the area suggested a new master plan for the entire area. After the development of several different schemes for the master plan, a final scheme was designed and proposed.

Zeroing-in on the site nearest the university, a complete design effort was made to master plan future housing. Again, after scores of schemes for the site, a clear direction emerged and was pursued.

A major concept for the actual housing project was to utilize a courtyard idea which organized the living units into clusters. The arrangement gives the apartment dwellers identity with other persons in much the same way a typical dormitory would. The student (or other user) shares a common courtyard as well as common facilities, such as laundry and mail facilities.
The living unit is arranged in such a way as to collect as much sun and wind for distribution throughout the unit. The main living room, therefore, acts as a plenum, collecting both sun and wind as well as people for distribution throughout the other spaces in the apartment.
PROJECT DESCRIPTION
The project chosen for my Architectural Thesis is to be located directly south of the Indiana State University-Evansville campus (I.S.U.E.) on a large area of land owned by Southern Indiana Higher Education, Inc. (S.I.H.E.), a non-profit corporation organized for the development of higher education in Southern Indiana. S.I.H.E. donated part of an approximately 1500 acre Mid-America University Center site to the university for the development of a campus. The total area of land is located approximately three miles west of Evansville, Indiana on state highway 62. Since 1965, when the I.S.U.E. campus was established, the campus has grown to include several buildings upon its rolling site. Areas around the central campus have been left as natural scenic sites or have been developed into trails and natural appreciation sites.

The development of a student apartment complex, as well as master planning for a second major entrance to the university will take place on the 300 acre site directly south of the I.S.U.E. campus. The complex will be a private development by S.I.H.E., but will primarily serve the student population of I.S.U.E. and of other educational entities which may locate in the Mid America University Center.

The site, itself, consists of two large open areas surrounded by densely wooded areas with interesting ravines, rock outcroppings,
and other interesting natural features.

The project incorporates both student housing and apartment housing criteria, and so, is very interesting and unique. An Indianapolis project near the campus of I.U.P.U.I. is very similar in needs and requirements and will be studied.

Although apartment housing is a well-known building type, the proposed project for S.I.H.E. will have many unique features. The users will be varied, students will occupy most units most of the time, however, in periods of low student enrollment, the units will be open for rental to non-traditional students wishing to relate with a campus, with community persons, and with faculty members. In addition, convention housing, graduate and married students will be other users of the complex. Because of the diversity and complex nature of the users, flexibility is an important quality the project should include. Each unit should be as open and flexible as possible, to be changed or adjusted by the user or the university.

An idea, or prototype, to be pursued and studied during the schematic phase is one utilized by Charles Moore in the design for the Sea Ranch Condominiums. Here, spaces requiring wet
services, such as the bathroom and kitchen, are collected into one area, thus freeing the remaining space for various other functions. The concept works well with the desire for the units to allow maximum flexibility. In addition, units can be more easily grouped to minimize chases for utilities.

Clustering of the units, also, is desirable in order to allow an 'individual' feeling with each unit. The units should be designed according to an orderly system, yet should allow each unit to reflect freshness and uniqueness in their layout.

Indiana State University-Evansville is campus of Indiana State University developed primarily to serve Evansville and the region surrounding it with a state operated university. The enrollment of the university at present is primarily commuter students. These students and others who will be attracted to the university offerings in the future are the users of the project. Predictions are that the new student apartments will increase the draw of the university or universities and add to the user population.

Southern Indiana Higher Education, Inc. is a not-for-profit organization owning the "Mid-America University Center", a large tract of land west of Evansville, from which they donated
three hundred acres of land upon which the I.S.U.E. campus now stands. The area of land directly to the south of the campus is owned by S.I.H.E. and is the site of the proposed project. The new housing project will be financed by S.I.H.E. monies as a private development, serving the needs of the university communities in the Mid-America University Center.

The project will reflect the master planning for university growth in future years as well as the growth of the Mid-America University Center.

A nearby (within one mile of campus) apartment complex offers approximately ninety units for rent by students and the community.

Residential areas near the university primarily to the north and east provide some student housing, yet no on-site housing now exists. These residential areas and others in future developments, do, however, provide housing for faculty members. The new housing complex will be the first campus related and oriented housing for the university offering exposure to all campus activities as well as becoming a valuable adjunct to the campus plan and operations.
Eating facilities for the residents will be available in the student union on a meal ticket basis for those residents not wishing to prepare meals within the unit.

Occupancy group for the project within the Uniform Building Code is R-1 which includes hotels and apartments.

The complex requires a minimum of two exits per structure and egress by ramp for handicapped persons (for more than three story structures). All exits and stairs should open directly upon a street or yard or courtyard not less than four feet in width and directly connected to a street or alley by a passageway. Each sleeping room (below fourth floor) shall have at least one operable window or exterior door for emergency egress or rescue.

Main exits should be arranged at a distance apart equal to not less than one half the length of the maximum overall diagonal dimension of the building. Maximum distance to an exit door, horizontal exit, exit passageway, or an enclosed stairway from any point shall not exceed one hundred fifty feet. Egress for handicapped persons is required to the main entrance on the elevator level.
STAIRS

Stairways shall not be less than 44 inches in width. Rise shall not exceed 7\(\frac{1}{2}\) inches and run shall not be less than 10 inches. There shall not be more than 12 feet vertically between landings. Interior stairways shall be constructed as specified in Part V of the UBC.

NATURAL LIGHT

All habitable rooms within a dwelling unit shall be provided with natural light by means of exterior glazed openings with an area not less than one-tenth of the floor area of such rooms with a minimum of 10 square feet. All bathrooms and laundry rooms shall have natural ventilation by an openable exterior opening of not less than one-twentieth of the floor area with a minimum of 1\(\frac{1}{2}\) square feet. All habitable rooms within a dwelling unit shall be provided with natural ventilation by means of openable exterior openings with an area of not less than one-twentieth of the floor area of such rooms - minimum 5 square feet.

MECHANICAL VENTILATION

A mechanical ventilation system may be provided in lieu of natural venting requirements. It shall make two air changes per hour in habitable rooms and corridors. One fifth of the air shall be taken from the outside. In bathrooms and laundry rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.
SANITATION

Each dwelling unit shall have a kitchen sink and bathroom facilities with water closet, lavatory and bathtub.

FIRE ALARM

Each unit shall be provided with smoke detectors mounted on ceiling or walls at a point centrally located in the corridor or area of access to sleeping areas. In efficiency units, detectors should be centrally located on the ceiling of the main room. If sleeping rooms are on the upper level of a unit, detectors should be located at the center of the ceiling directly above the stairway.

RENTAL OF THE UNITS

The units will be rented by the users from S.I.H.E. Furnishings and water/sewer service will be included; however, electricity will not. Users will have a choice of buying an additional meal ticket to eat in the student union or to cook for themselves, or any combination of the two. A variety of meal plans will be available to choose from. As neither a shopping center or supermarket can be found in the near vicinity of the university, it is expected that many students will choose the meal plan. For this reason only a small kitchenette and not a full kitchen will be provided in most rooms. Some rooms, however, include a large kitchen to provide another alternative.

USERS

A variety of users are expected to utilize the complex at various times and must be recognized. The most frequent user will be the
undergraduate student, primarily single men and women with married undergraduates as a second user type. Married and single graduate students are another type, although at present the existing university campus has no graduate studies, plans for these have been indicated. As a third student type, retired citizens returning for schooling are a possibility. Faculty and community persons are other resident types.

Other, non-resident users are: staff members, guests, visitors, club groups, mailmen, maintenance crews and trash collectors.

The living units should be flexible in order to adjust to many student needs and a variety of students. Interaction between students is to be encouraged, yet privacy is important, also. The equipment or furnishings for each unit should be very flexible and extra items could be "rentable" from the housing project. Students must be able to conform the rooms to their own needs and privacy. The units should also be able to be easily returned to their initial condition at the end of the rental period. The units should also be conformable by the university for various user groups.
Students should have a potential for isolation to encourage individual thinking, study, and privacy - yet spaces of interaction are important and major indoor and outdoor spaces are important for groups of users.

Interior finishes should not appear 'institutionalized', but should be easy to maintain. Two person units should be easily conformed to two distinct spaces for privacy of each student. Students shouldn't have to walk through a roommate's personal area to reach his own - so as, to emphasize privacy.

The student's units are the 'base of operation' for them during their school-day and term. Attention should be made to the 'path' to classes and other university functions as these will shape the students' attitudes about the university.

Varieties of sizes and shapes of units should be available, each housing up to five students per unit. A range of costs should also be available. Eating facilities are to be 'briefly' provided (kitchenette) in the units, yet the university dining room is also open to the users for meals. A common area in the complex should be provided both indoors and outdoors for meetings, get-togethers, TV, etc. Rentable club rooms for groups will also be provided.
"Natural ventilation" should be utilized with auxiliary electric heaters and air conditioning units in each unit (it is assumed that each user will pay utilities, and so, absorb the extra costs of operation). Site conditions should reinforce natural venting. Exposure to outdoor air, views, and environment is very important - both in indoor as well as outdoor areas.

Maintenance of the complex and its environs should be kept to a minimum. Security of each unit and the entire complex should be established. Much of this can be accomplished through proper unit placement.

The market for the student apartments consists primarily of undergraduate students and the community. For economic reasons, the units will be available to community citizens and faculty until enough students fill the complex. As the university grows and broadens its market, the spaces will be filled with students. Phase I development will respond to the needs of undergraduate students and possible community persons, with Phase II development providing housing for graduate students at a later date. The enrollment is expected to remain level rising only slightly over the next thirty years, then increasing around the turn of the century. Phase II development will probably not take place until this time.
The aim of the complex is to eventually become a vital part of the Mid-America University Center's appeal and image. It is thought of as a 'residential village' of the university center. The master plan of the university will respond to new departments of the university center added over the years. Also, incorporated in the master plan will be the possibility of fraternity and sorority houses and church related meeting houses. The university will also add at some time in the future, spectator athletic areas which should be projected in regard to their role and impact on the housing. On a long term basis, parking for future housing is also to be master planned in terms of the number of future students expected to enroll (up to 15,000) keeping in mind the need for commuter parking.

As a university center project, it is expected that an average budget is available. In addition, funding may be available to private developers through the H.U.D. college housing act of 1972.
FUNCTION
RELATION
AREAS
(Living
Units)
1 Sleeping
   Resting
   Reading
   Entertaining
   TV Watching
   Studying
   Stereo listening
   Relaxing
   Lounging
   Phoning

1a Storage of clothes
   Dressing

2 Reading
   Study

3 Resting
   Entertaining
   TV
   Stereo
   Relaxing
   Lounging

4 (cont) Dressing
   Toiletry storage

   Toilet

5 Cooking
   Washing Dishes
   Storing Food

6 Reading
   Eating
   Hobbies
   Games

7 Other Storage
<table>
<thead>
<tr>
<th>FUNCTION RELATION AREAS</th>
<th>INDOOR AREA</th>
<th>OUTDOOR AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Common Areas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Laundry</td>
<td>Trash Collection</td>
</tr>
<tr>
<td>2</td>
<td>Mail Pick-up/Collection</td>
<td>Mailing</td>
</tr>
<tr>
<td>3</td>
<td>Lounging</td>
<td>Sunbathing</td>
</tr>
<tr>
<td></td>
<td>Waiting</td>
<td>Studying</td>
</tr>
<tr>
<td></td>
<td>TV Watching</td>
<td>Talking</td>
</tr>
<tr>
<td></td>
<td>Talking</td>
<td>Resting</td>
</tr>
<tr>
<td>3a</td>
<td>Snacking</td>
<td>Waiting</td>
</tr>
<tr>
<td>4</td>
<td>Socializing-Dance</td>
<td>Reading</td>
</tr>
<tr>
<td></td>
<td>Games</td>
<td>Playing</td>
</tr>
<tr>
<td>4a</td>
<td>Cooking</td>
<td>Entertaining</td>
</tr>
<tr>
<td>5</td>
<td>Restrooms</td>
<td>Parking</td>
</tr>
<tr>
<td>6</td>
<td>Club Meetings</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Club Housing</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Studying</td>
<td></td>
</tr>
</tbody>
</table>
SITE ANALYSIS
The site, owned by Southern Indiana Higher Education, Inc., is planned for the development of the Mid-America University Center, upon which the existing Evansville campus of Indiana State University now is sited. An approximately 25 acre site south of the central academic core of ISUE was chosen for the development of the housing project because of the proximity of the site to the main campus center of ISUE and its ability to be linked to any other development on the Mid-America University Center.

Buildable areas were determined, due to the consideration of soils, slopes, topography and ground cover. The site occupies the south-western quadrant of the northern portion of the Mid-America University Center. The campus of ISUE occupies the area directly north of this site and is bordered by Highway 62. The area is richly varied in topography and vegetation, having a total relief of about one hundred feet.

The site, diagramed on page 28, is bordered by two dense hardwood forest edges to the east and west and by a flood plane to the south. The threat of flood at the elevation of about 400 feet above sea level reduces the buildable area of the site and accounts for the large amount of alluvial soil in that area. Also located in the general area of the site, are sandstone outcroppings and a classified forest.
The site varies a great deal in topography and includes slopes to over 12%. Several types of soil are found on the site, including soils of the Wellston series which are deep and well-drained soils. These soils are found on gentle and steep slopes and have bedrock beneath at 40 to 60 inches. There are limitations to building at slopes from two to twelve percent, but these can be overcome with good management of design. Use is, however, questionable at slopes over 12%, but again, the limitations can be overcome with good management. Also included on the site are soils of the Hosmer series and Alford series. Both soil types are deep and well drained and can be found on nearly level and strongly sloping land. Both soils are free of building limitations at slopes of 0 to 6 percent, while they have some limitations at slopes of 6 to 12 percent which can be overcome with careful design and land management. At slopes of 12 to 50%, use is questionable but can be attained through thoughtful management. In the areas subject to flooding, we find soils are considered unbuildable due to flooding and high water table. These areas could, however, be used for parking or athletic fields.

By combining the information of the soil analysis and the slope analysis of the site, a net buildable area has been determined and is shown on page 32.
SITE TOPOGRAPHY

- Proposed general site for project
- Sandstone outcroppings

[Map showing topographical features]
EXISTING SITE FEATURES
**Soils Analysis**

- **Buildable - Cheek Slope (2 to 12%):** Careful planning essential to overcome site limitations. Over 12% - use questionable.
- **Buildable - Cheek Slope (0 to 6%):** Free of limitations.
- **Buildable - 6 to 12%:** Careful planning essential to overcome site limitations.
- **Buildable - 12 to 25%:** Use questionable.
- **Unbuildable - Flooding:**
- **Unbuildable - Gullied (requires sitework):**
free of limitations

careful planning essential to overcome site limitations due to slope

limited (questionable) buildability depending on severity of slope

unbuildable

NET BUILDABLE LAND
IGE property line

area of buildable site equals approximately 23 football fields

classified forest

"oil" road

SHE property line

SITE SCALE

EXISTING SITE FEATURES
SITE ANALYSIS

prevailing winter winds
prevailing summer winds
winter gusts due to "macro site channel effect" (client only)

property line

primary entrance to campus from site

exposure to ravine

dense forest edge

existing oil well

existing oil tanks

visually undefined south border of buildable land

NORTH
BUILDING TYPE STUDY
To begin the analysis for this architectural thesis proposal, a study of pertinent examples of housing projects was taken. The building type study, together with the program and site analysis, served to give a base from which to design. In studying the examples, special note was taken to realize the way in which each project functioned. Zoning of living functions, orientation to site amenities, or problems and organization of circulation paths were all noted within each example. A brief note of explanation of each project is given below, and each project is diagramed on the following pages.

**Amarna East**  
**Egyptian workman's village, 1360 B.C.**

This ancient example incorporates a clear system of zoning from public to private functions off of a common circulation network. Units are arranged to gather early sunlight in the bedroom and kitchen, while afternoon sunlight is utilized in the living room by use of clerestory.

**Chinese House**

The traditional Chinese house approach again utilizes a clear public to private zoning system within which four houses open upon a public patio space.

**Rochdale Village**

University of California, Berkeley.

This scheme utilizes a large courtyard surrounded by
living units which are pulled tight to the street. The scheme allows a maximum open area which is separated from the street. The scheme also incorporates a clear service/vertical circulation zone as shown in the diagram on page 43.

Chandler Village

This project is nestled neatly in a forest and is organized around a flowing pedestrian walkway. The units, which are based on a few basic plans, are organized into seven houses which are grouped around the pedestrian way.

Sea Ranch

This project utilizes clear open spaces within which other components, such as kitchens and bathrooms, are placed. The result is a feeling of a much larger space. The units are placed around a simple open courtyard off of which each entry is individually placed.

Conclusion

A method of zoning from public to private spaces seemed to be prevalent one in most of the schemes. The idea of organizing around a courtyard of interior patios is very conducive to my project in order to achieve the feeling of community identity. Also important to the project, is the idea of a pedestrian walkway through the complex, an idea seen in the Chandler Village. An element such as this would allow a good link to the university campuses.
site orientation is E-W for early sun rays for bedroom and kitchen, low sunset rays for front hall and living room through clerestory

ZONING OF LIVING UNIT
PLAN
Four private living spaces sharing a common courtyard

SECTION
 Masonry bearing

ENLARGED PLAN

USE ZONING

CHINESE HOUSE
Four family patio house
SITE LAYOUT

blocks are tight to the site line allowing an interior courtyard and maximum density

SECTION

USE ZONING

ROCHDALE VILLAGE

UNIVERSITY OF CALIFORNIA, BERKELEY
SITE LAYOUT

individual units clustered into seven houses which are organized into a village about a roadway/circulation path.

SECTION

PLAN SMALL GROUP

PLAN COLLECTIVE - II STUDENTS

USE ZONING

CHANDLER VILLAGE

WORCESTER STATE COLLEGE
 SITE LAYOUT

"Sugar cube"-like volumes form a series of spaces linked by a continuous shed roof to form a total mass.

PLAN 2 UNITS

SEA RANCH CONDOMINIUMS
interior volumes determined by interaction of roof with floors at grade level.

The structural framing system emphasizes the cubic form allowing projected appendages to bulge "outside" without interrupting high volumes of the main space.
Place of House

SEA RANCH

The Schneider Farm 1920 and Sea Ranch 1923. Chertian later intro-
duced the idea of letting the admin area live in the interior.

Space
MASTER PLAN
Before beginning to design the housing units, it was important to master plan for the area in and around Indiana State University-Evansville. The project was first approached by redesigning or re-evaluating the academic core and master plan of the university. From this approach, it was easy to get an idea of the impact of the university on the site. By next working towards a master plan for the northern half of the Mid-America University Center (north of Broadway Avenue), the role that housing would play would be brought into focus.

In redesigning the academic core of ISUE, it seemed necessary to allow the large rolling green areas of that campus to be used in full force. The current master plan congested buildings on the site to the point that the atmosphere was one of urban nature rather than of the rolling meadow character that exists on the site. The student center seems a natural focus for the campus, and so in the new design for the academic core, it begins to emerge as a central collective point. Within the new scheme, buildings are placed to create a 'quad' plan with a courtyard meadow. Key buildings on campus, such as the library and administration building are allowed to remain on the axes, thus giving slightly more importance to these buildings (see diagram on page 55).

In designing the master plan for the site, many things were to be kept in mind, among these were:
1. The first area of housing development should be near to ISUE, but with adequate access to any future universities developed within the Mid-America University Center.

2. Development of a second entrance to the site from Broadway Avenue.

3. Planning of secondary roads on site

4. Planning of trails through site

5. Planning for future ISUE needs, such as, athletic fields for intramurals or intercollegiate activity.

Three basic schemes for development were explored and are diagramed on the pages following. Scheme one plans for a single main road to run through the site, emphasizing the axis upon which ISUE is planned. A lake at the end of a housing village would provide an ending to the vista along the university axis. A second housing village would gain access also from the main road. A research park and nature study park would be located near the southern half of the Mid-America University Center in order to allow usages from both institutions north or south of Broadway Avenue.

In scheme two, the main road is divided, allowing separate access to two major housing villages. The second entrance in this scheme is located on a smaller road just off Broadway Avenue.
Scheme three divides the housing villages into smaller areas by allowing the main road to circulate through them. Again, a lake is planned at the end of the axis.

The master plan proposal, shown on page 59, incorporates many features shown on the previous schemes while attempting to maximize the amenities of each. In this final scheme we find three major housing areas, one in a clear area in the north part of the site and two others nearer the lower lower portion of the site. The latter housing villages would probably be utilized by institutions either on the north or south site, while the first (northern) complex would be more particular to ISUE. Open green areas near the entries both at Highway 62 and Broadway Avenue, are to allow an entry buffer to the site. A greek village located directly east of ISUE would provide still another type of housing while athletic facilities could be built in the valley between the greek village and the ISUE campus.
ACADEMIC CORE PLAN PROPOSAL
hierarchy of buildings by use:
- AD — all students
- Student Union — all students
- Library — all students
- Science
  - business (some students)
  - Tech (specialized)

Focus points upon axis
- Nuclear Logical Location for Administration
- Secondary housing
- Other buildings
  - off secondary axis
- Secondary
main entrance

heating plant
academic core
power station
circulation spine
future housing
future lake
nature study area

research park

proposed secondary entrance

existing athletic center
future athletic area

MASTER PLAN SCHEMATIC "1"
- main entrance
- future athletic center
- existing athletic center
- research center
- future development
- heating plant
- academic core
- power station
- circulation spine
- future housing
- nature study area
- proposed secondary entrance

MASTER PLAN SCHEMATIC "2"
open space
heating plant
academic core
power plant
parking
housing village
housing village
intraunural athletic
research park
open area
north

MASTER PLAN PROPOSAL
NCAL - SITE MODEL COLOR - TOPOGRAPHIC LOCATION WOULD HELP

WYMAN - DON'T BUILD MODEL BECAUSE OF NAGLE PLANNING

NCAL - EXPLANATION OF ATHLETIC FIELD LOCATION ON

MAYOR - HOW STRONG IS EXISTING AXIS? IDEA OF VISTA

WYMAN - WHAT ARE EXISTING LINES? FUNCTION?

MAYOR - LIKELY IDEA OF FUTURE LAKES - WATER

WYMAN - WHAT'S INTENTION OF PRIVATE DEVELOPERS

WYMAN - TIE BACK TO EXISTING RELATIONSHIP

NCAL - ADJACENT VALLEYS OF LAND DEVELOPMENT

NCAL - ALLEY TO OPERATE ON LAND BECAUSE

WYMAN - OF CONDITIONS

NCAL - TOO SPACED OUT

NCAL - IF USUALLY CONTROLLING COULD BE SELECTIVE

WYMAN - HIGH VALUE OF CONTROL BECAUSE OF

NCAL - SECOND WHAT WYMAN SAID

WYMAN - LIST IMPLICATION - ESPECIAL DIAGRAMS

NCAL - WHAT DOES IT REALLY MEAN?
SITE MASTER PLAN
To begin the development of the housing project, it was first necessary to master plan the entire site chosen for the housing units. The area chosen was a clear, tree-lined meadow directly south of the Technology Building of I.S.U.E. and in line with the axis of the university. The site, like the site of I.S.U.E., is nicely rolling, yet the strong tree lines allow a very clear boundary to the meadow. The relationship of this meadow to the university axis can be seen on page 25. Pages 27 through 32 give a basic idea of the topography and soil condition of the site, while page 37 zeros in on the actual natural aspects uncovered in an analysis of the building site. Among issues to be addressed in the development of the master site plan of housing, was the fact that active an active oil well and usable oil tanks existed on the site. The winds upon the site did not seem to be a problem as a shelter belt on the west side of the area disallowed and problem with the prevailing winter winds, yet summer breezes are allowed to circulate through the site from the southwest. It was necessary to achieve a strong connection to the I.S.U.E. academic core, and also allow a connection to any future southern developments.

Schemes one through three for the schematic site plan development address the issue of connection to the north and south in a slightly different manner. Each scheme separates the band of parking surrounding the
campus in order to allow a funnelling effect into the academic core. Each scheme, also, is based on a variation of a pedestrian walkway winding through the site and providing a connection with the southern developments. Scheme one is based on a roadway spine passing to the right of the site and allowing a loop to pass through the housing development, providing access to various areas of parking. Scheme two provides two separate road spines passing on either side of the meadow while scheme three provides parking on only one side of the site off of a main road spine. Each scheme has some merits, but importance of parking and auto access in each case seems to distract from a desirable pedestrian atmosphere. The final basic scheme, shown on page 74, provides a single roadway on the left side of the site where all auto traffic and parking are removed from the meadow. Locating the pedestrian walkway along the left tree line helps to organize the site and provides quick access from parking areas to the living units. A system of loops from the parking and road allow access for emergency vehicles in the complex and a direct pedestrian way to each cluster of units. In addition, the need for close access for moving in of out of apartments can be handled by the loops. A further evolution of the master plan can be seen on page 124, in which the clusters are pulled tight against the left tree line to provide a more open meadow area and further emphasis of the
axis through the university. In addition, a series of vistas and a variety of activities will be seen along the pedestrian walkway.
STUDENT RELATIONSHIPS

- TO ENVIRONMENT
  - TO ROOMMATE
  - TO HALL OR APARTMENT "MATES"
  - TO COMMUNITY
    - TO OTHER RESIDENTS OTHER THAN HIS/HER GROUP
    - TO SELF

FLEXIBILITY IS AN IMPORTANT CRITERIA - MOST ACTIVITY AT BEGINNING OF QUARTERS

RENTABLE FURNISHINGS FROM UNIVERSITY, PROVIDE USER WITH WHAT HE NEEDS.

social
relaxation (couch, TV)
games (chess, cards)
meals
studying/reading
parties

EARLY IDENTIFICATION OF MAJOR REGULATIONS TO BE CONSIDERED IN DEVELOPMENT
1. Organization with transition (link to university)

2. Link to remainder of site

3. Minimal exposure road

4. Clear pedestrian arc

5. Various public and private outdoor spaces

6. Response to natural include passive solar housing concepts?

7. Identity of house

8. Shared facilities
   a. Large scale
   b. Small scale
   c. Other

150 Squares

10 - 30 main houses
2 - 50 mid

Master plan of housing - identification of major needs
varied boundary

lack of special identify

Possibilities for pedestrian walkway