



OVERTON ADDITION STUDENT COMMUNITY

OVERTON ADDITION STUDENT COMMUNITY

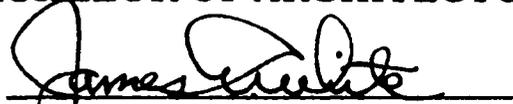
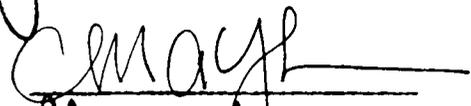
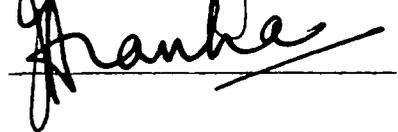
BY

KHIRUDIN MISBA

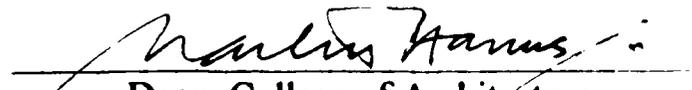
A THESIS IN ARCHITECTURE

Submitted to the Architecture Faculty of
The College of Architecture of Texas Tech University
in partial fulfillment for the Degree of

BACHELOR OF ARCHITECTURE


Chairman of the committee



Programming Instructor : A.D. Thompson
Arch 4395, Fall 1992
Accepted


Dean, College of Architecture
May, 1993

30
1990 no. 34

ACKNOWLEDGEMENTS

It is with deep appreciation that I offer thanks to those who helped me during the journey of writing this program. I regard the interest and encouragement of these people as priceless.

I am deeply indebted to the patience and tolerance of professor A.D. Thompson throughout this course. His helps and guidance inspired me to do my best. The people at PASS, the English Department, and Mr Clayton Naff who patiently endure the torture of my incompetence English.

To my mother and family who support and stood behind all the way through my studies. Lastly, to my beloved Fazilah Hj Noh for her patience and love that make all of this possible.

TABLE OF CONTENTS	PAGE
PREFACE	1
THESIS STATEMENT	3
THESIS RESEARCH	5
PROJECT EXPLANATION	21
LOCATION SITE	23
CONTEXTUAL STUDY	30
ISSUES TO BE ADDRESSED	50
BACKGROUND ANALYSIS	55
CASE STUDIES SUMMARIES	62
SITE ANALYSIS	97
ACTIVITY ANALYSIS	109
SPATIAL REQUIREMENT	125
COST ANALYSIS	133
BIBLIOGRAPHY	136

TABLE OF ILLUSTRATIONS	PAGE
#1. CORRIDOR PLAN	16
#2. SUITE PLAN	17
#3. APARTMENT PLAN	17
#4. MAP OF LUBBOCK & OVERTON ADDITION	25
#5. MAP OVERTON AREA	26
#6. MAP - THE SITE	27
#7. MAP - LOCATION OF TEXAS	31
#8. MAP - LOCATION OF LUBBOCK	32
#9. MAP - CRATON AND BASIN OF TEXAS	33
#10. PROFILE OF AMARILLO - ACUFF	34
#11. MAP - LUBBOCK COUNTY SOIL SURVEY	35
#12. PRECIPITATION	37
#13. SOLAR ANGLES	38
#14. WIND SPEED & DIRECTION	39
#15. TEMPERATURE	40
#16. DUST STORM HOURS	40
#17. POPULATION BY DECADE	41
#18. POPULATION PYRAMID (1980)	41

#19. POPULATION PYRAMID (1990)	42
#20. POPULATION PYRAMID (2000)	43
#21. LUBBOCK SOUTHWEST MARKET	43
#22. HIGHWAY SERVICING LUBBOCK	44
#23. LUBBOCK'S BUS SERVICE	45
#24. LUBBOCK'S RAIL SERVICE	46
#25. LUBBOCK AIR SERVICE	47
#26. MAP - THE PANHANDLE AND SOUTH PLAINS	58
#27. MAP - OVERTON AREA	59
#28. MAP - OVERTON LAND USE	100
#29. TOPOGRAPHIC MAP	101
#30. THE SITE - WATER LINE	102
#33. THE SITE - SEWER LINE	103
#34. ACTIVITY MATRIX RELATION	124
#35. SPACE SUMMARIES	132

PREFACE

"Many educators have recognized that the classroom and the laboratory do not contribute to the development of every facet of the human personality, nor are they intended to. There is no extra classroom agency in existence in higher education today which can be expected to accomplish the whole task. But life in residence halls, center in an intelligently conceived program, can give strong support to formal education and can serve certain definite ends which higher education claims as objectives for itself.

The subject here is not the house, which is merely another kind of social unit on a campus already overburdened with social affairs, but rather the residence hall, which is part of an over - all educational plan. The educational plans of colleges should, but often do not attempt to capitalize on and integrate the social, recreational, cultural, and intellectual phases of group living. The basic concept for such a plan implies a collation of opportunities : opportunities for reading good books and magazines in the house library; opportunities for listening to the world's great recorded music in a house music room or in the student's own room; opportunities to confer, to counsel, to converse with staff members who are socially poised, intellectually alert, and culturally informed; opportunities to meet people, to live with people, to understand people in a friendly manner, and to deal with them on whatever level seems most appropriate to the occasion : opportunities for growing up in the sense of whole, integrated education - these are some of the things which are meant when the premises and values of a house plan are under consideration."

Robert M. Strozier, "Housing of Students", American Council on Education Studies, Washington D.C, p.16.



THESIS STATEMENT

THESIS STATEMENT

In designing the student housing, there are several ideas that need to be considered. In order for the students to accept this facility as a living environment, it should be designed ergonomically dimensioned for the students' comfort. This is to provide an architecture that the students feel comfortable to adopt and manipulate. Therefore, the housing facility should allow for some degree of flexibility so that the students can fit it to both their physical and mental needs. In short, the building design should allow the students to express their individuality. By giving some control of the interior spaces, the spaces should be able to enhance the students' productivity in their studies. However, the facility will be utilizing energy conserving technologies, and natural environmental adaptation so that the facility is economical to operate. The idea of natural surround environmental adaptation will help to achieve an environment that is designed for humans. The facility should be designed to promote the images of context and setting.



THESIS RESEARCH

THESIS RESEARCH

Today's architecture is searching for a direction, a purpose and a constituency.[1] There are so many ways to go and so many challenges facing present architecture. It is also true to say that today's technology allows architects a degree of flexibility that was not available just a few years back. However, some of these new innovations blind many architects to design buildings that contradict to the natural environment and historical precedent. We are standing at the junction of an energy efficient world. Consequently, it is an architect's duty to lead the world in producing buildings that are energy efficient.

As many of us remember, we were first awakened from the long sleep of wasting energy, when America first encountered an oil crisis in the 70's. This was the direct result of the Arab-Israeli conflict in October of 1973. The price of gasoline was increased to sky high levels and Americans had to get in line to purchase this fossil fuel. Since that event, energy has gotten our attention. Our scientists are working on finding other materials to substitute for gasoline. Although other fossil fuels will work to substitute gasoline, these fossil fuels will be used up too. Predictions of vast coal, oil, natural gas, and other reserves are mainly based on present consumption rates of present population bases. Considering that the U. S, with only six-percent of world population, consumes as much as thirty three-percent of energy the future calls for more sharing of these reserves. While these reserves continue to decline, the population will continue

to grow at a faster rate. Moreover, today's technology also requires the use of fossil fuel in many man-made chemical compounds such as plastics, fertilizers and structural materials. Therefore, some of the fossil fuel will have to be set aside to produce these materials that are essential for modern life.[2] As we have seen earlier, it is essential for architects to design buildings that will respond to the climatic condition of a specific in order for energy efficient buildings to be energy efficient.

Without consciously considering climatatic conditions, humans have always designed their building to perform according to the climate. The pre-historic people built their shelter as a protection against the harsh elements, their enemies, or dangerous animals. It was also to serve the various humans needs such as a place to sleep or a place to cook and save their food. As these people built more buildings, they made discoveries that allowed them to adapt themselves to the climate and also to the natural world around them. Since these people did not have our present technological knowledge, they used whatever material that was available to them. In addition, they were continually experimenting with things which later benefitted them in providing a better environment to live in. This is the evolution of architecture which is a reflection of the achievement of these people. Scientist also concluded that these people were a part of the natural world since they depended heavily on it for their own survival. In short, they became a significant part of the ecological balance of the natural world.

As historians have observed, the pre-historic people were always moving from one region to another. The Eskimos and the American Red Indians, believed to have come from Asia, provide clear example of migratory people.[3] Therefore, they continued to experiment with their environment so that they could live in each new surrounding comfortably. When they started to build, it was as a way to modify their landscape to achieve this intention. Unintentionally, they created their micro climate. They were creating six micro climates in every square hut they built. For example, the south side of the hut was warmer than the north side, while, the east side faced morning sun and the west side opened to the prevailing wind. Since humans had lost their physical ability to adapt to the natural environment, this was the only method available for the pre-historic people.[4] As these people settled down in specific regions, their buildings reflected what they had learned about the climate of the region. In short, this was the beginning of climate responsive buildings.

As we have seen that human's first built structures for protection from the elements. From Aristotle to Montesquieu, scholars have come to the conclusion that climate has pronounced effects on both human's physiology and temperament. This is because humans respond to the environment around them. Consequently, the thermal quality dictates the activities in the space. Ellsworth Huntington has hypothesized that climate is as important as racial inheritance and cultural development in determining the condition of civilization. This theory provides us with the proof of how climate

has been influencing people and cultures. He also suggested that there are three conditions in which humans can really develop their physical and mental energy to the maximum.

1. average temperature ranges from somewhat below 40 F in the coldest months to nearly 70 F in the warmest months.
2. frequent storms or winds, to keep the relative humidity quite high except in hot weather, and provide rain during all seasons.
3. a constant succession of cyclonic storms that bring frequent moderate changes in temperature but are not severe enough to be harmful.[5]

This theory shows us that humans respond to the surrounding environment. The changes in the climate help to increase the productivity of humans' minds and bodies. Since we spend half of our life indoors, it is justifiable to control the micro climate of the interior space.

In order to understand the importance of climate, we need to study the effects of climate on humans. Climate in a given region is determined by the pattern of variations of a combination of elements. There are several elements that are important when human comforts and building design are being considered. These principal elements are solar radiation, long wave radiation to the sky, air temperature, humidity, wind, and precipitations.[6] All of these elements are very important. They constitute our environment and the equilibrium between humans and their environment is one of the primary

requirements for health, well being and comfort. Therefore, our bodies at all times strives to be in equilibrium to the environmental temperature. Humans have a very complex thermoregulation system that governs heat loss and heat production by the body. Although heat exchange at the body surface depends on the physical factors of temperature and vapor pressure difference between the skin and the environment, the body can control it by dynamic regulation of the various physiological systems and behavioral pattern. The main physiological responses are as follows: the circulatory regulation (vasomotor regulation and pulse rate), change in skin temperature and inner body temperature and weight loss (sweat rate). The main sensory responses are thermal sensation (feeling of warmth) and the feeling of skin wetness (sensible perspiration). Although all of these responses are affected by the changes in the climatic conditions and physical activities, some people are more sensitive to internal heat stress (metabolic rate) while others are more sensitive to external environmental conditions. It is also true that some people are more affected by humidity, while and others are more affected by temperature.[7]

As we have observed, there are so many elements in climate that it is impossible to express human need of thermal environment as a function of a single factor. This is because all of these elements such as humidity, temperature, air velocities, etc., depend heavily on the levels of each other while at the same time it is also affecting the human body. Therefore, it is very important to study the combined effects of environmental factors on the physiological and sensory

responses of the body and try to explain this phenomenon as a single parameter. Scientists have decided to call this phenomenon as Thermal Index. The Thermal Index is used as a basis for expressing the combined effect of the various factors, in the range of conditioned of their application and in the relative importance attributed to each of the factors and their mutual interdependence.[8]

Climatic responsive building is very essential in achieving the goal of conserving energy. This is because the building will not use as much energy as the conventional building. One important method of how this building conserves energy is the circulation of fresh air through out its interior. Although ventilating natural air needs to be designed carefully to work, success in design will create a more pleasant interior than building conditions by mechanical systems. The mechanical system (HVAC) uses a lot of energy, usually fossil energy, to create a cool micro climate [9]. People in the desert use the available wind to help cool down the interior of their houses. The Pakistani people scoop the harsh wind outside their houses and circulate a tamed breeze to cool the interior [10]. The strong winds also provide these people with renewable energy. The Malays who live in a different climate built their houses on stilts so that air can circulate under the house. This method provides the Malays with a very airy and comfortable interior. Since they live in a hot humid climate, the interior should be protected from the sun while allowing fresh air to circulate through out the house. The elevated living quarters also provide the Malays with a very comfortable working area underneath the house.[11]

People in different regions of the world adapt to their different climate. Like the Malays and the Pakistanis, the people of North Africa and the Arctic Region also adapt to their climate for comfort. The traditional white robe of the Arab people is a way of responding to the climate. The white color reflects the sun radiation while the robe helps to increase the evaporative rate on their skin. Consequently, the robe is a very practical solution for these people to feel cool in a very hot climate. On the other hand, the Eskimos are the reverse from the Arabs. Their clothes, *Parka*, help conserve keep their body heat and slow down the evaporative rate on their skin which makes them very comfortable as though they were living in semi-tropic area [12] People in North Africa built adobes while people in the Arctic built igloos. This is another response to the climate of these people. The mud wall has a high rate of heat retention that allows it to collect the heat from the sun during day time while leaving the interior temperature constant through out the day. This collected heat is then radiated back into the interior during the night when the temperature starts to drop rapidly. Therefore, the interior of the adobe architecture is always constant temperature through the year [13]. In contrast, the igloo that is always located behind a large rock also provides a constant temperature in its interior. The ice and snow trap heat in the igloo so that the interior temperature can be kept constant through out the year. Moreover, with the advent of fire, the interior of the igloo is always warm. These people only need to prevent wind from entering the igloo that can lower the temperature inside it. Therefore, they have designed their

dwelling to always include a buffer zone which screens out wind from entering the interior of the igloo.[14]

An understanding of how people adapt to their environment will help us to design an indoor environment for a group of people. Specifically, we are designing a facility in which a group of people will live and respond to it. A student housing facility is an example of this facility since a group of student will live in this facility for some extended time. Since a housing facility will operate twenty-four hours a day for seven days a week, it is appropriate for the facility to use the concept of energy conserving architecture. In addition, this housing facility will be designed to use available spaces optimally to provide a comfortable micro climate for the students.

In order to design for the students' needs, we must study the students themselves. Going to college for many students is a step toward adulthood. It is a common perception that during their college years the students will grow and become members of the community. Therefore, the society has placed the burden of educating the student on the colleges and universities. This is a very crucial period in the life of the students. During this time, they will face a lot of difficulties and challenges. The psychological problem at this point in life is the most difficult to solve since they are in their late adolescence. The result of this inner turmoil will determine the success of the students which later determines the kind of citizens for the society. As psychologists have noted, social groups can have an important impact on the students. For many of the students, this is the first time that they have to leave their parents and home. Therefore, for many of



them they are just been given their freedom. They can do whatever they want since nobody has the authority to discipline them. In addition, they will face social change, that is, from relatively homogeneous high school friends to heterogeneous college students [15]. They will make new friends and encounter people with different backgrounds. In addition, they will have the opportunity to live with their own peers, which is a change from living at home. Therefore, the students will learn to work as a group to solve their own problems and create their own culture and social interaction. It is an opportunity for them to express themselves and experience new things. These students will have to make all of these adjustments simultaneously. However, many educators have observed that the student housing facility can help to make the transition smoother by providing the opportunity for social groups to form [16].

As we understand, the students who live in student housing are usually from the same age group. Therefore, the students can find comfortable environment since they are among themselves who face the similar problems. By living together they can compare their experience and make an intelligence choice of solution. The social group can also make a student feel like they belong to a group. In short, the experience of living and working together can help to make a student feel at home at the housing facility. The student will be groomed to become a mature, self directing individual. In summary, the housing facility is an important part of the education process of its residents.



As we have seen, student housing is an important part of the student's life. Thus, the housing facility has to expand from only a shelter for sleeping, to a facility for physical and psychological growth [17]. In addition, the housing facility must also provide the feeling of closeness with the university or college that it is part of. A few educators also believe that the housing facility must carry some of the educational function of the institution. They feel that the housing facility can help relieve the pressure of a large and impersonal classroom by carrying some of the formal and informal functions such as seminars and tutorials. Moreover, the advent of portable electronic equipment - radios, televisions, and video cassette recorders - can help to ensure the successfulness of the class. In short, the function of the housing facility is changing from shelter provider to a part of the education institution [18].

Some people might wonder why the students at the University of Virginia sought to live in a one-hundred seventy year old dormitory. The reason is that the architect, Thomas Jefferson had successfully designed a well-proportioned rooms that provide both security and privacy to the inhabitants. In addition, the rooms were relative to humans' scale. What Jefferson has shown on the campus of the University of Virginia is still adaptable in today's world. Student housing has expanded from a place for sleeping to a rewarding place to live and work [19]. As Harriet Hayes suggested student housing should provide :

1. The personal safety and physical welfare of its occupants.



2. Proper conditions for living, for studying, and for managing activities.
3. Social life, formal and informal, for the group as a whole and for small groups within the larger unit [20].

In general the housing facility should be a pleasant place for the student to study. In order to achieve this objective the facility should be designed to accommodate students' needs. The facility should have a bigger desk, adequate storage for books, better lighting, and more importantly noise distraction should be at a minimum level. For example, the desk should have a built-in lighting fixture as well as over the bed post. This is in addition to the general lighting for the room. The room should also have adequate windows to link the room to the outside. In addition to providing daylight in the room, the window's size and location also affects the organization of the interior space. It also has psychological value because it gives visual access to the surroundings and relaxes the eyes. The window also has tremendous value for ventilation that will effect the heat gain and heat loss in the room [21].

In order to control noise the living area and the study area should be separated as far as possible from each other. By providing several rooms for group study and discussion and working rooms for students who work all night, the noise distraction can be controlled significantly. In addition, the wall can be treated with acoustical panel to absorb some of the noise. The wall treatment should be



planned to enhance the comfort of the resident and the efficiency of the space by the use of varieties colors, surfaces and lighting [22].

The living quarters should be dimensioned to the student scale so that the units allow for some privacy without creating isolation, and securing relationships with small intimate groups [23]. This promotes the sense of community throughout the student inhabitants. This objective can be achieved by providing several spaces for internal cultural activities, indoor and outdoor recreational activities, dining services, a periodical room, and many other common spaces [24].

In designing the housing facility, there are two kinds of buildings that can accommodate the intended function- a small, low rise building or a big, high rise building. Both of these buildings have their own advantages over each other. Usually the low rise building can maintain a favorable ratio of student to administrator that is around 100 or 150 to 1. It is a desirable housing feature because the size of the smaller building is more relative to human scale. The low rise building is also economical to build or costs less for initial construction if it is built in several units. Because of its size, the low rise building can provide a small and intimate living group [25].

On the other hand, a tall building is very efficient to operate. It cost less to operate as the number of student increases. This is because it cost less per student for heating and cooling and sewage. In addition, because of its design, there is less need to duplicate the common use space. However, more common use spaces can be provided without increasing the floor area. Because of its nature, the

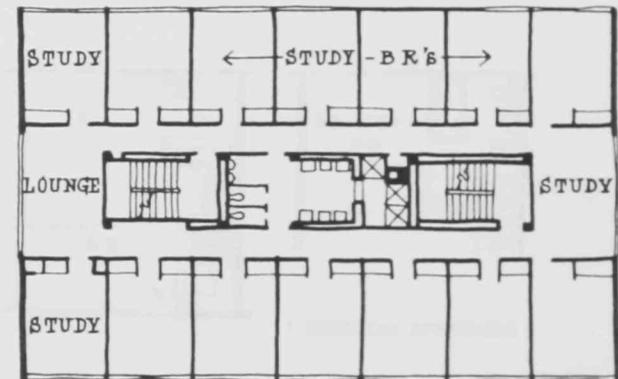


FIG. #1 CORRIDOR PLAN

tall building is usually constructed with better materials for its structure and finishes [26].

There are three kind of floor plans for student housing: 1) corridor plan, 2) suite plan and 3) apartment plan [27].

Of these three floor plans, the corridor plan is the most common and the least satisfactory. It varies into different floor plans which are single and double - loaded corridor with rooms opening off either or both sides of the corridor. This type of floor plan is unfavorable because of exterior noise and long wings or corridor [28]. The suite plan is a variation to the former plan. In this floor plan, a room or several bedrooms share a common study or sitting room. This arrangement can be modified as the needs arise, such as sleeping and socializing in one room with dressing and studying in the other. It provides the students with closer association with each other and the freedom to use spaces as they wish. This arrangement allow the interchange of ideas among the students that will stimulate intellectual and social development [29]. With the addition of a kitchen or kitchenette and a little modification, the suite becomes an apartment. Usually, married or graduates students prefer the apartment because it allows the students some control of the space. This type of arrangement require bigger storage space, better finishes in the bathroom and the kitchen and a special provision of study area. Therefore, the apartment plan need some commom use space so that it is easier for physical control of the apartment and the inhabitant [30].

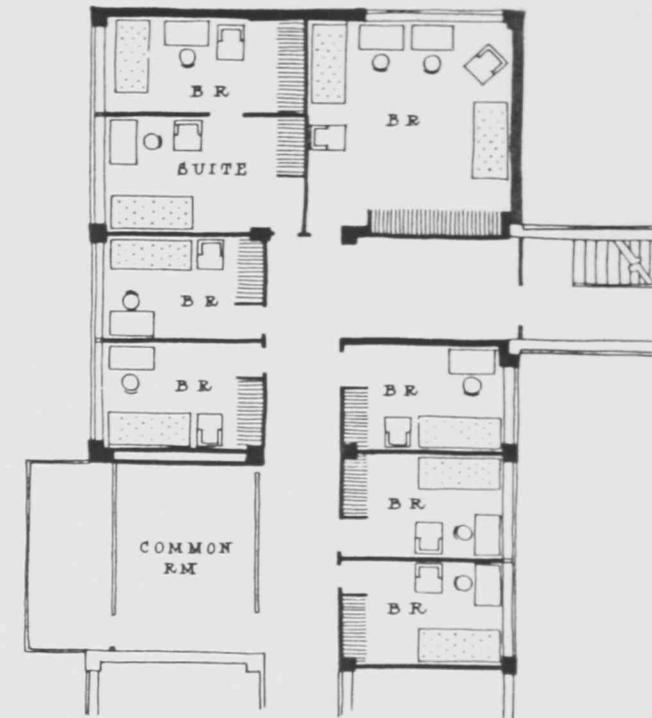


FIG.#2 SUITE PLAN

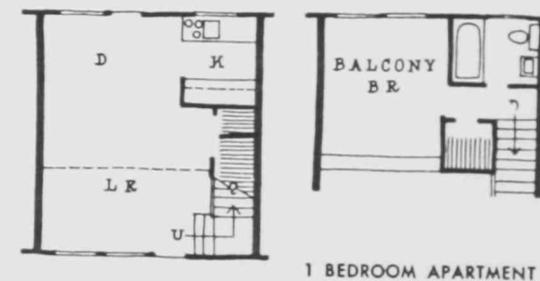


FIG. #3 APARTMENT PLAN

thesis research

**End Notes*

END NOTES

1. Mark Frederickson, "An Architecture of Minimums," Desert Housing, The University of Arizona, Office of Arid Lands Studies, Tucson, Arizona 1980, pp.73.
2. Henry Clyde Landa, "The Solar Energy Handbook," The Solar Energy Engineering Company of America, Milwaukee, Wisconsin, 1977, pp. G 2-2.
3. Victor Olgay, "Design With Climate," Princeton University Press, Princeton, New Jersey, 1973, pp. 4.
4. Lisa Hescong, "Thermal Delight in Architecture," MIT Press, Cambridge, Massachusetts, 1979, pp. VII.
5. Victor Olgay, "Design With Climate," Princeton University Press, Princeton, New Jersey, 1973, pp.3.
6. B.Givoni, "Man, Climate, and Architecture," Elsevier Publishing Company Limited, New York, 1969, pp.1.
7. *ibid*, p 30.
8. *ibid*, p. 68
9. *ibid* ,Mark Frederickson, p.75.
10. Jean-Louis Bourgeois, "Spectacular Vernacular," An Aperture Book, Hong Kong, 1989, pp. 92-105.

thesis research

**End Notes*

11. TA Markus and EN Morris, "Building, Climate, and Energy," Pitman Publishing Limited, London, England, 1980, pp.13-15.

12. *ibid*, Lisa Heschong, pp. 1-13.

13. Jean-Louis Bourgeois, "Spectacular Vernacular," An Aperture, Hong Kong, 1989, pp.55-62.

13. Jeffrey Ellis Aronin, "Climate and Architecture," Reinhold Publishing Corporation, New York, New York, 1953, pp.1-6.

14. *ibid*, Lisa Heschong, pp. 1-13.

15. Robert M.Strozier, "Housing of Students", American Council on Education, Washington D.C. 1950, pp.1-15.

16. Students Growth- A Living Dimension, "Proceedings of The Eleventh Annual Conference of The Association of College and University Housing Officers", Boulder, Colorado, 1959, pp.9-22.

17. *ibid*, pp.9-22

18. *ibid*, pp.9-22

19. Hayes, Harriet, "Planning Residence Halls", Bureau of Publications, Teachers College, Columbia University, New York, New York, 1932, p.9

20. *ibid*, Hayes, p.14

21. Harold C. Riker, Frank G. Lopez, "College Student Live Here", Educational Facilities Laboratories, Inc. New York, New York, 1961, pp.6-18.

22. *ibid*, pp.6-18

23. *ibid*, pp. 6-18

24. *ibid*, pp. 6-18

25. *ibid*, pp. 35-38

26. *ibid*, pp. 35-38

27. *ibid*, pp. 42-52

28. *ibid*, pp. 42-52

29. *ibid*, pp. 42-52

30. *ibid*, pp. 42-52.



PROJECT EXPLANATION

project explanation

** scope*

PROJECT EXPLANATION

The intention of the program is to provide a criteria and an idea to develop a unique off-campus student housing development for 150-graduate students of Texas Tech University. The selected site is in the Overton Addition that is adjacent to the campus of the university.

Functionally, the student housing should provide the student with their needs of identity, orientation, convenience, accesiblity, and safety. In addition, the students should control the physical spaces for privacy. Control of their environment will facilitate student growth and development. In short, the facility should be flexible enough to accommodate the different groups of students with diverse requirements through out the life of the building.

Since energy is a major concern, this facility must be very economical to operate. The design of the building should take the climate and the natural environment into consideration. In addition, the facility should utilize new technology for meeting its energy needs concerning electricity and environmental control.

Architecture that combines the best of natural environment adaptation and energy conserving technologies will produce a building that will be sensitive to physical and psychological needs. A student housing facility that utilizes these concepts will provide a comfortable living and studying environment. The pleasant interior will induce productivity both physically and mentally, while economical to operate.



LOCATION SITE

project explanation

^ location - site

LOCATION SITE

In January 1985, the Lubbock Avalanche Journal published a survey that indicated that the primary concern of the citizens of Lubbock was crime and crime prevention. The oldest part of Lubbock, a neighborhood called the Overton Addition, has the highest crime rate. Consequently, in April of that year, they formed the Lubbock Redevelopment Association to achieve these goals:

1. To reduce the crime rate in the Overton Addition.
2. To encourage efforts to rehabilitate the real estate in the area.
3. To be a catalyst for the many segments of the community, such as the City Council, Lubbock Independent School District, Texas Tech University, business, and professional people, and homeowners, to make the Overton area a beautiful and inviting place to live, to do business and to raise families.

The Institute of Urban Studies International at Texas Tech University was invited to do an indepth study on the Overton Addition.

The site for the new student housing for Texas Tech University will be a part of the Overton Addition. The Revitalized Plan was an effort to redevelop the oldest neighborhood in Lubbock. This area which is located between downtown Lubbock and the Texas Tech University campus has the potential to be the center city of Lubbock. The Overton Addition is an area covering about one

project explanation

** location - site*

square mile near the center of the city of Lubbock. This area is bordered by four arterial streets: north by 4th Street, east by Avenue Q, south by 19th Street, and west by University Avenue. In 1980, approximately 8,000 people lived in this area.

Since Texas Tech University is an integral part of the Lubbock community, it should take a central role in the redevelopment of the Overton Addition. Furthermore, Texas Tech's campus lies on the immediate border of this area, so Texas Tech University is directly effected by the development in the area. Since the university's population is projected to grow, Texas Tech will need new student housing. More importantly, this new facility will be a bridge that links this university with its Overton neighborhood, the business community, and the City government.

▲ location - site

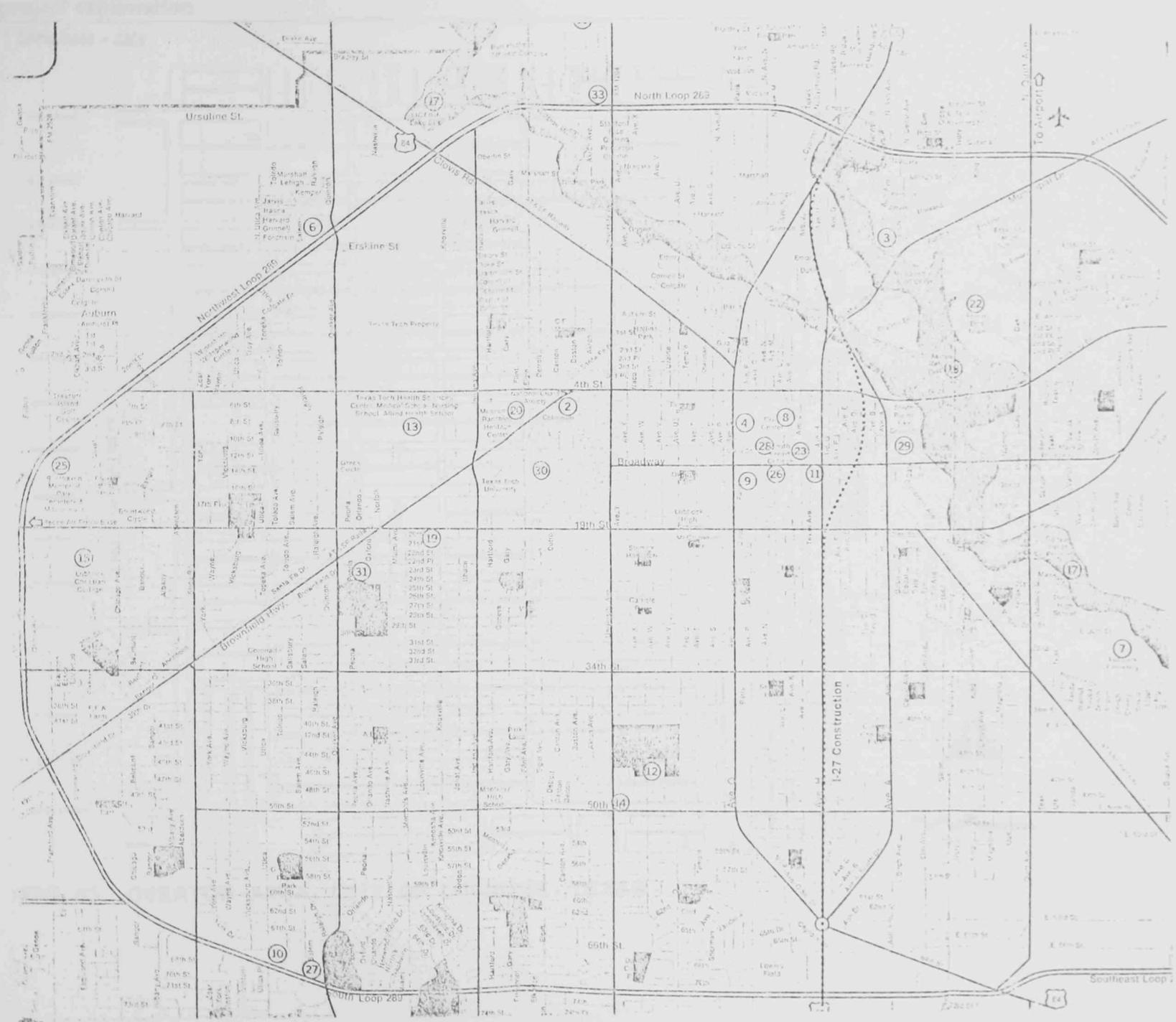


FIG.#4 LUBBOCK & OVERTON

project explanation

^ location - site



FIG. #5 OVERTON AREA, CITY OF LUBBOCK, TEXAS

project explanation

^ location - site



FIG.#6 SITE

project explanation

^ location - site

source

1. Overton Revitalization Plan 2005, Institute for Urban Studies International, College of Architecture, Texas Tech University, Lubbock, Texas, 1986.



CONTEXTUAL STUDY

CONTEXTUAL STUDY

The housing facility is located the City of Lubbock, Lubbock County, Texas which is a southern border state of the United State of America. Texas is the largest of the states that make up the "sun belt" so called for its abundant supply of direct sunlight throughout the year. There are five natural regions in Texas which are:

1. East Texas Basin
2. Gulf Coast Basin
3. Permian Basin
4. Texas Craton
5. Trans - Pecos

The climate in Texas ranges from winds, snow, and heavy northern rains in the winter to subtropical in the lower Rio Grande Valley.

Geographically, Lubbock is located at 33 39'N and longitudinally 101 49'W at an elevation of 3243 ft above sea level. Lubbock is situated on the South Plain of Texas which is a part of Llano Estacado. The South Plain is bordered on the north by the Canadian River, by the Pecos River on the west, and on the southwest and east by a caprock, which forms an erosional escarpment - a "break of the plain". This city is easily accessible to many major cities by road and air. The distances from several cities are:

Albuquerque	318	El Paso	298
Amarillo	120	Fort Worth	268
Dallas	298	Midland	117

contextual study

*general



FIG. # 7 LOCATION OF TEXAS

0 50 100 200 300 400
Miles

contextual study

*general

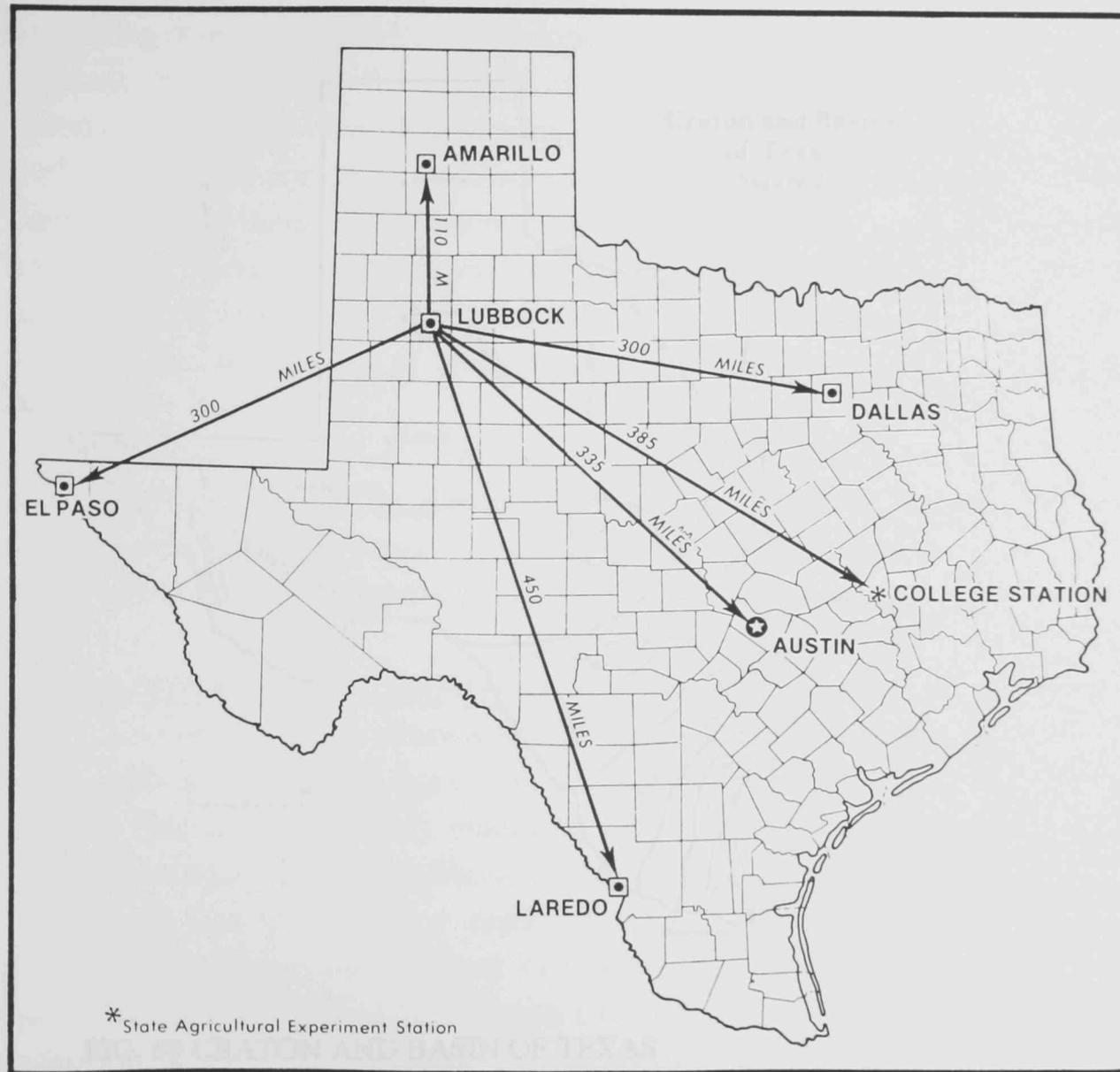


FIG. #8 LOCATION OF LUBBOCK

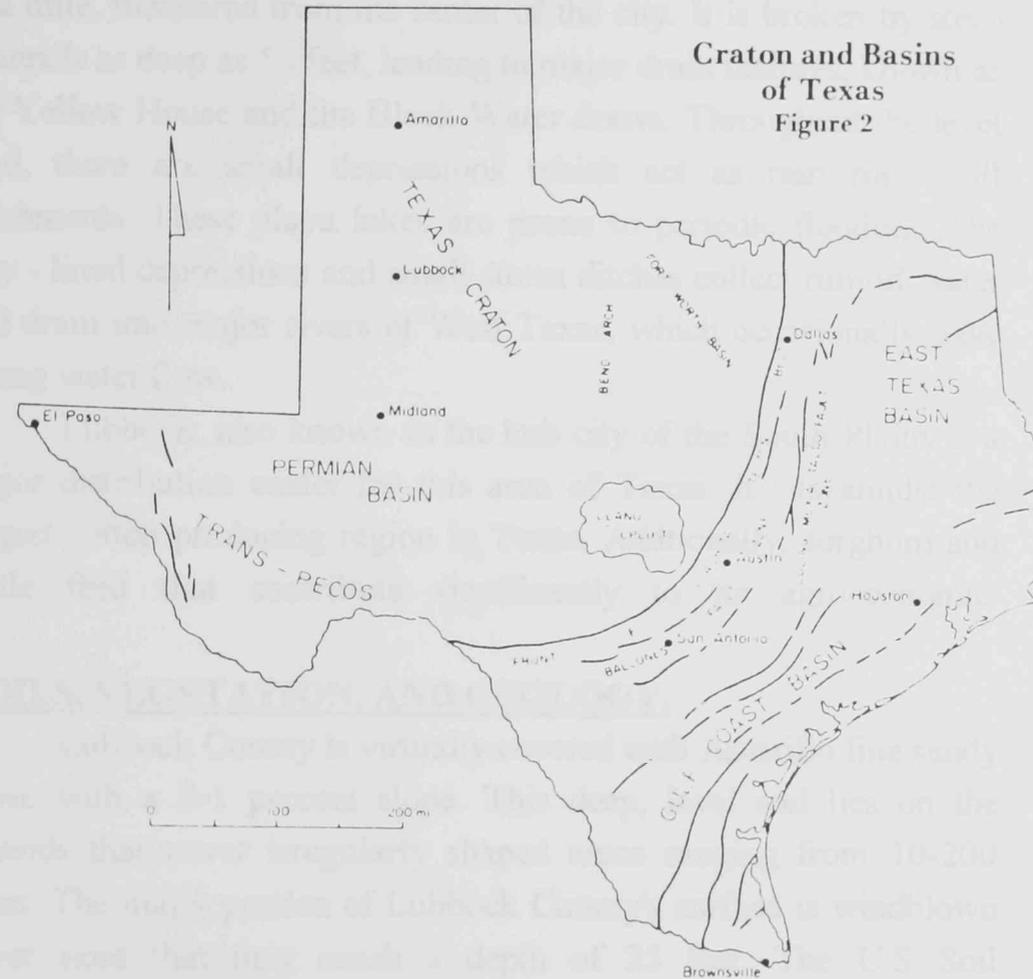


FIG. #9 CRATON AND BASIN OF TEXAS

contextual study

**general*

Physically, most of Lubbock County is flat land with a gently undulating plain. The general surface slope is to the east with 10 feet to a mile, measured from the center of the city. It is broken by steep channels as deep as 50 feet, leading to major drain features, known as the Yellow House and the Black Water draws. Throughout the level land, there are small depressions which act as rain run - off catchments. These playa lakes are prone to periodic flooding. The clay - lined depressions and small storm ditches collect run-off water and drain into major rivers of West Texas, which occasionally have strong water flow.

Lubbock, also known as the hub city of the South Plains is a major distribution center for this area of Texas. It sits amidst the largest cotton producing region in Texas. Additionally, sorghum and cattle feed that contribute significantly to its agro-economic.

SOILS, VEGETATION, AND GEOLOGY.

Lubbock County is virtually covered with Amarillo fine sandy loam, with a 0-1 percent slope. This deep, level soil lies on the uplands that cover irregularly shaped areas ranging from 10-200 acres. The major portion of Lubbock County's surface is windblown cover sand that may reach a depth of 25 feet. The U.S Soil Conservation Service characterized Lubbock under the Amarillo-Acuff unit. This soil is well drained with a slow run-off surface. The hazard of water erosion is slight, because the soil has a moderate permeability, and water absorption capacity is high. Therefore, plant roots can easily penetrate the soil to get to the water.



FIG. #10 PROFILE OF AMARILLO - ACUFF SOIL

contextual study

**soil, vegetation, and geology*

This soil is used for cropland because the surface layer is friable, mildly alkaline, reddish - brown fine sandy loam about 14 inches thick. The next layer, up to 46 inches, is also friable, reddish - brown sandy clay loam that is mildly alkaline in the upper 10 inches and moderately alkaline pink sandy clay loam below that. The upper part of this layer is about 30% by volume masses a weakly cemented concentration of calcium carbonate.

The Amarillo-Acuff soil has a high potential for non - irrigated and irrigated cotton, grain sorghum, and soy bean. The farmers keep the crop residue on or near the surface to conserve moisture and help to control soil blowings and water erosions. In addition, diversion terraces and grass - lined waterways are used to control outside run-off. A well - designed irrigation system and proper application are essential. Either surface or sprinkler irrigation will do. However, fertilizer is needed for the irrigated soil.

Lubbock climate and geology provide support for many types of vegetation. Grama and threeawn, are Lubbock's native vegetation. On the deep sands, vegetation is mally little bluestem, sand dropseed, and side oat grama and threeawn grasses. Lubbock County has few wildlife species, among them are insects, rodents, rabbits, and snakes.

Lubbock County has very few minerals. The two most important, oil and gas are pumped to storage tanks for shipping to refineries to other parts of the states of Texas.

CLIMATE

In general, Lubbock's climate is semi-arid and mild, transitional between temperate conditions to the West and the humid climate to the East. Cool nights and warm days predominate, with low levels of relative humidity. Most of the annual precipitation occurs during the months of May, June, and July. The maximum rain fall in a 24-hour period is 5.85 inches recorded on October 19, 1981. The mean annual rainfall for Lubbock is 18.41 inches with recorded lowest being 8.7 inches in 1917, and the highest 40.5 inches in 1941. Much of the rain fall comes during thunderstorms in the spring and summer, resulting in excessive downpours. These create a rapid run-off that erodes the soil. Such storms are frequently accompanied by winds, hail, and sometimes tornadoes. Hail stones landing in the area range from pea size to the size of grapefruit. The Lubbock area does not experience long periods of cold weather. During winter, Lubbock received an average of 15.11 inches of snow fall with the maximum snow fall in a 24-hour period being 16.3 inches. The snow usually does not remain on the ground more than 3-4 days. However, a 20 inches snowfall was recorded in January 1983 and remained on the ground for twenty-one days.

Throughout the year, Lubbock experiences on average a very pleasant climate. Spring in Lubbock provides a variety of weather. During this season warm and cold follow each other. However, the spring months also have the highest probability for strong winds and sand storms. The thunderstorm continues to occur well into the summer months.

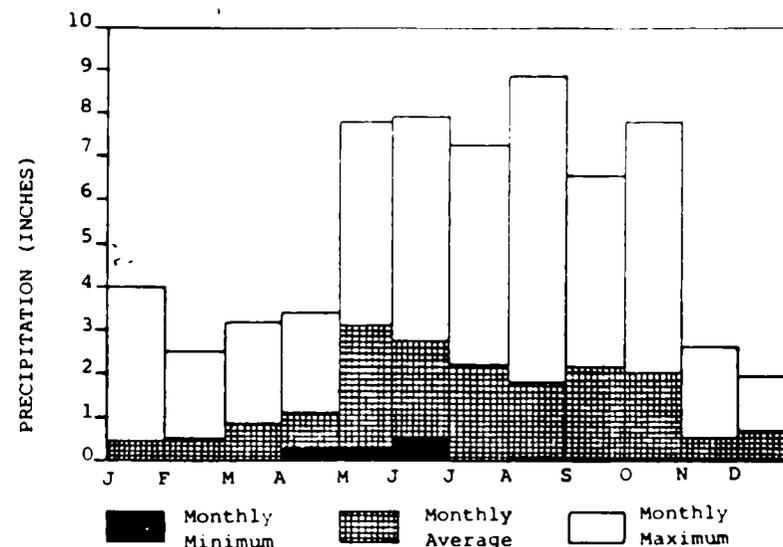


Fig. 3.5

FIG. #12 PRECIPITATION

contextual study**climate***Solar angles for Lubbock, Texas**

Month	Angle in degree	8.00 a.m	12.00 noon	4.00 p.m
December	Profile	18	34	16
	Bearing	54	0	53
	Altitude	10	34	9
January & November	Profile	23	37	21
	Bearing	57	0	56
	Altitude	13	37	12
February & October	Profile	37	47	35
	Bearing	64	0	63
	Altitude	19	47	18
March & September	Profile	59	57	57
	Bearing	73	0	72
	Altitude	25	57	24
April & August	Profile	81	70	79
	Bearing	84	0	83
	Altitude	25	57	24
May & July	Profile	95	78	79
	Bearing	93	0	92
	Altitude	36	78	35
June	Profile	100	82	98
	Bearing	97	0	96
	Altitude	38	82	37

FIG. #13

contextual study

**climate*

Wind Speed & Direction for Lubbock

Month	Wind speed (mph) & direction
January	13 NE
February	15 NE
March	17 NNE
April	16 NNE
May	15 N
June	15 N
July	12 N
August	11 N
September	12 N
October	12 N
November	13 NNE
December	14 N

FIG. #14

contextual study

**climate*

The summer season is also very pleasant because the average daily temperature are near 94 F, while cooling to 6 F during at night and early morning hours. July records the highest temperature in a year, with the average temperature of 79.9 F. The highest recorded temperature in Lubbock was 109 F recorded in 1980. However, the summer climate sometimes is regarded as uncomfortable because of the low relative humidity and constant light breezes. Seventy-nine days of Lubbock summer season, recorded a high temperature of 90 F or greater. Therefore, Lubbock has a fairly high mean annual temperature, averaging 59.7 F. This is because of the fairly long warm season and the 215 days between the mean dates of the last 32 F in the spring and the first 32 F in the fall.

As noted, Lubbock has a fairly low relative humidity. However, the mean relative humidity does not accurately describe the amount of moisture in the air, because Lubbock has a twelve - hour swing ranging from 75% at 6.00 am to about 40% at 6.00 pm.

WIND

The prevailing winds are southwesterly from November to April, and southerly May to October. The wind speed averages about 13 mph, but may rise to as high as 300 mph during tornadoes. Frequent sand storms in the spring and early summer make visibility difficult.

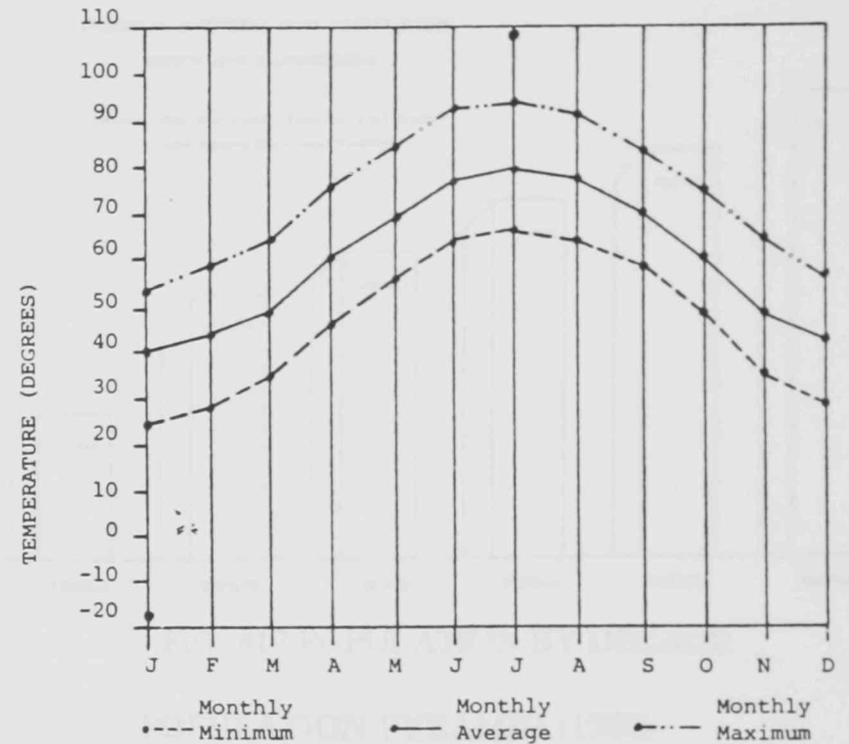


FIG. #15 TEMPERATURE

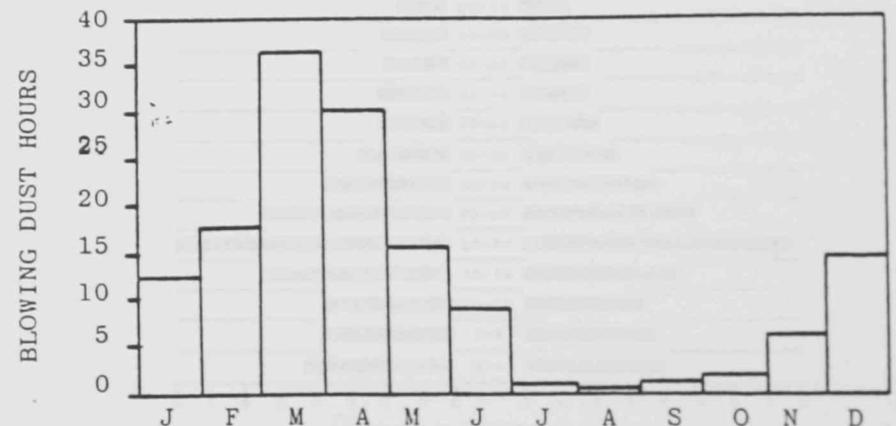


FIG. #16 DUST STORM HOURS

contextual study

**population - economy*

POPULATION

According to census data, Lubbock's population is expected to increase steadily until the year 2005, at the annual rate of 1.2 %. It is estimated that the Lubbock population is approaching 190,000 people. Therefore, it is projected that there will be an additional 50,000 residents over the next 20 years. The northwestern, western, and southwestern sectors will have the greatest increase in population. As the figure indicates, Lubbock is one the fastest growing cities in the United States. Lubbock's metropolitan statistical data makes it the largest in West Texas, and the eighth in the state of Texas.

Lubbock has a youthful age distribution. Of of the population, 64% are working people aged between 18 and 64, while 27% are 18 or younger. Compared with the Texas median age of 30.8 and the national average of 32.9, Lubbock's 28.4 is fairly young. However, it is projected that there will be an increase of 9.9% of people over 65 and 5% of those over 75. The Hispanic population is the fastest growing minority group. By the year 2000, Hispanics are expected to comprise 25.4% of Lubbock's population, an increase of 35% over the 1980 population. Lubbock's population mirrors the national trend of the distribution of sexes with 51% female and 49% male.

Texas Tech University students make up 13% of Lubbock's population.

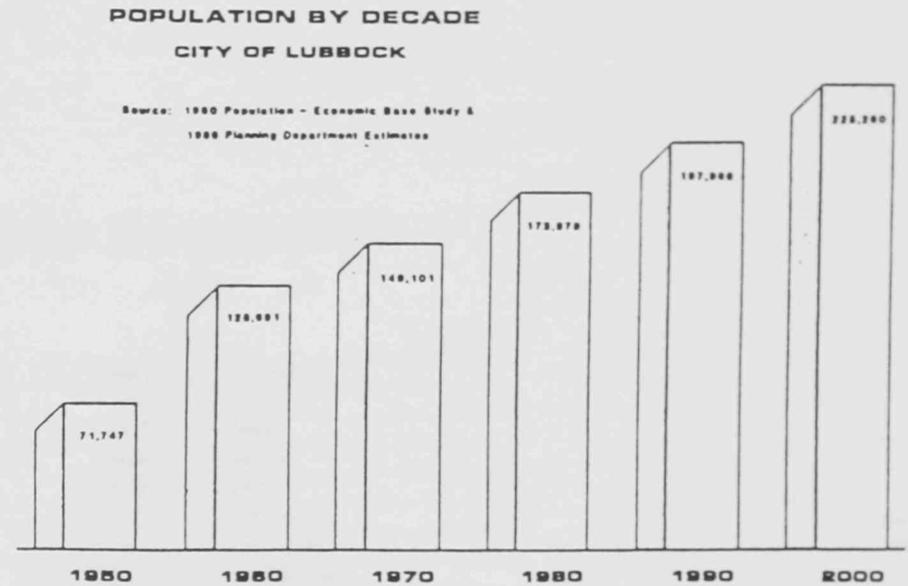


FIG. #17 POPULATION BY DECADE

POPULATION PYRAMID (1980)

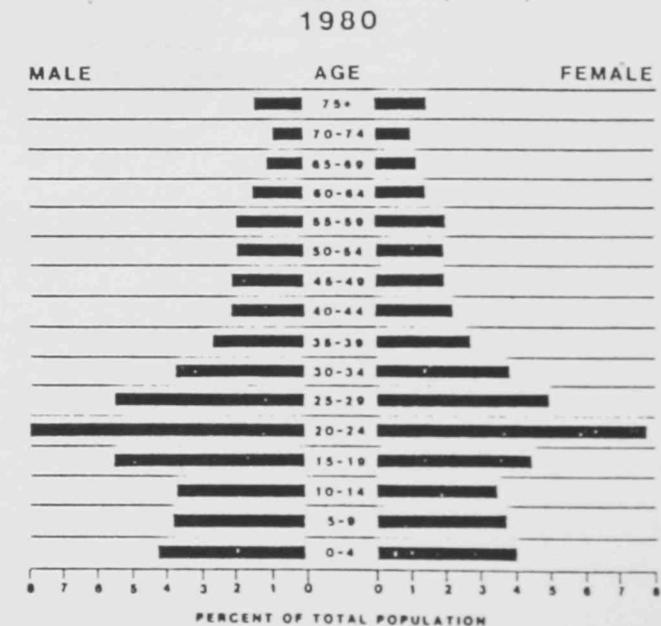


FIG.#18

contextual study

*population - economy

POPULATION PYRAMID (1990)

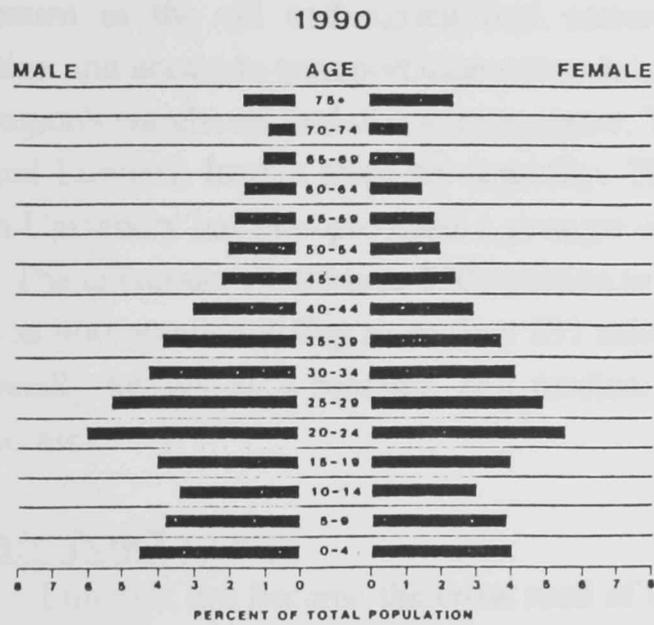


FIG. #19

POPULATION PYRAMID (2000)

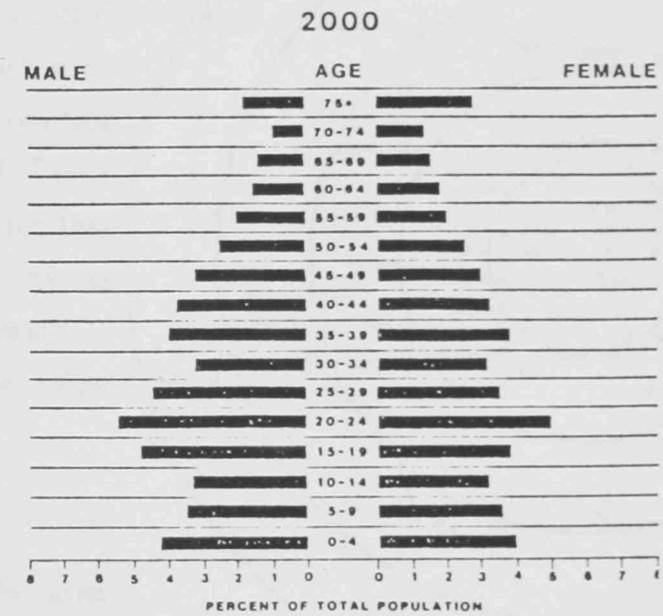


FIG. #20

ECONOMY

Lubbock is one of many cities in the nation that has a strong and diverse economy. This city's economy is supported by strong manufacturing, retail trading, service and government sectors. The manufacturing industry provides Lubbock with approximately 6,800 jobs. The diverse economy helps to stabilize Lubbock even during the downturn in the oil and agricultural sectors. The city's central location and access to transportation network helped to establish it as the region's warehouse and distribution center. Therefore, 26 counties around Lubbock benefit from its centrality. The founding of Texas Tech University has also provided a stronger economic base for this city. The university contributes \$500 million to the local economy, as well as 400 grants totaling more than \$31 million. The university is nationally known as a research and medical center for the West Texas area.

TRANSPORTATION

Lubbock has become the cross road of the southwest because of its centrality. I-27 connects the city with I-20 and I-40, the two major east-west interstates. There are also Texas 114, US 82, and US 62 that connect Lubbock with several major cities, such as Dallas-Fort Worth and Oklahoma City. US 84 and US 87, which form a north-south highway, link the city to Albuquerque, Amarillo, Austin, Houston, and several other major cities.

The Santa Fe and Burlington Northern railroads, connect Lubbock with major points in the West and Midwest, as well as other

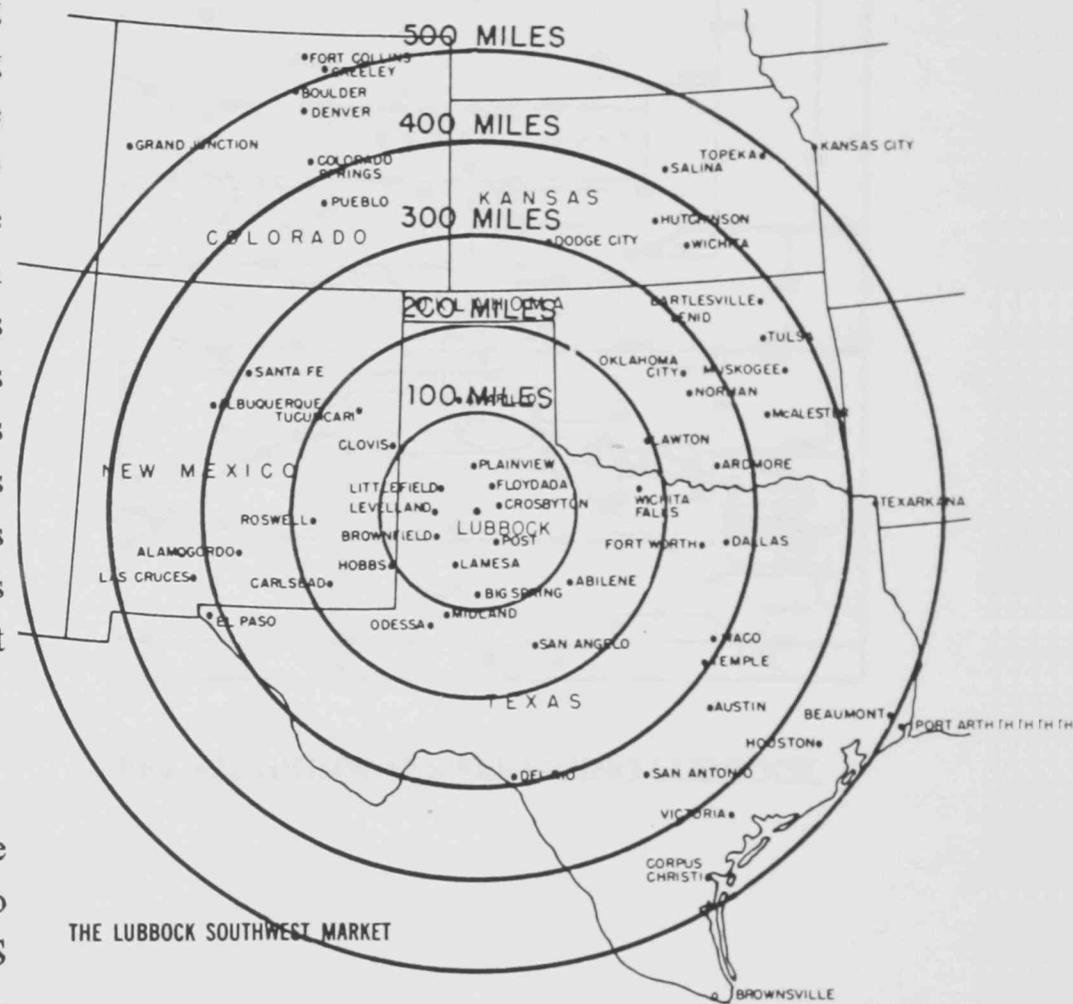


FIG. #21 LUBBOCK'S SOUTHWEST MARKET

contextual study

**transportation*

metropolitan cities in Texas. Lubbock International Airport links Lubbock to the rest of the world. Five major major commercial carriers serve Lubbock. This airport has all the facilities to be a port of entry, allowing Lubbock to offer a foreign trade zone to outside companies. In addition, the TNM&O bus line links Lubbock to over 64 major cities by surface.

The transportation network expands the market area of the Southwest to Phoenix on the west, Denver to the north, Oklahoma City and Dallas on the east, and San Antonio to the south.

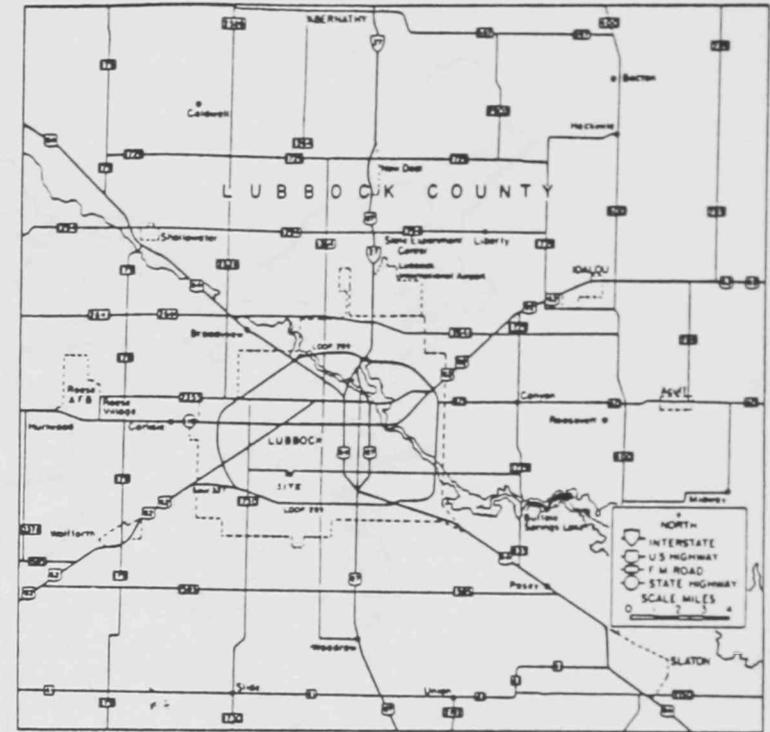


FIG. #22 HIGHWAYS SERVICING LUBBOCK



FIG. #23 LUBBOCK'S BUS SERVICE



FIG. #24 LUBBOCK'S RAIL SERVICE



FIG. #25 LUBBOCK'S AIR SERVICE

contextual study

**transportation*

Sources:

1. Lubbock Community Data, Lubbock Board City Development, Lubbock, Texas, 1987

2. City Planning Department, Lubbock Land Use Plan and Fact Sheet, City of Lubbock, 1983

3. Local Climatological Data Annual Summary with Comparative Data for Lubbock Texas, Asherville, North Carolina, Environmental Data Service National Oceanic and Atmosphere Administration, 1975.

4. U.S Department of Agriculture, soil survey of Lubbock County Texas

5. U.S Department of Commerce, Statistical Abstract of the United States, 1982.

6. Lubbock Chamber of Commerce, Economic Facts and Figures About Lubbock, Texas, Lubbock, Texas, 1985.

7. City of Lubbock, Community Profile, Lubbock, Texas, 1991



ISSUES TO BE ADDRESSED

ISSUES TO BE ADDRESSED

1. Privacy

Privacy is a primary need of every human being. However, it is interpreted differently by different people and the degree of privacy varies from one occasion to another. This issue has a significant impact on the success of the student housing. Certain levels of privacy should be provided within the student housing. There are five levels of privacy in a student housing project - private, semi-private, operative (working area), semi-public, and public.

2. Convenience.

Convenience is the degree of physical ease in doing a task. The design of the facility should provide an ease of circulation from one place to another. The site work throughout the building should not hinder any activities or circulation. This is especially important to provide easy access for the disabled and elderly people. In addition, the floor plan of the interior of the housing should provide optimum access to all of the important spaces and functions.

3. Safety

The sense of security within a housing facility is very difficult to achieve. However, the design of the facility should protect the inhabitants from a threat to themselves or their property. In addition, the facility should provide adequate protection against climatic disturbances such as tornadoes. More importantly, the facility should

instill a sense of security in the minds of its inhabitants. The facility should have fire exits free of hazards and well illuminated. The building should have at least two fire escapes.

4. Circulation

The building should be designed to provide convenient and pleasant residential atmosphere. Therefore, to provide maximum building efficiency, the circulation corridor should be as short as possible. The greater the proportion of useful floor space the higher the efficiency of the building.

5. Noise Control

In order to provide an optimum study environment, distracting noise should be controlled. Therefore, the design of the building should eliminate or isolate the sources of distracting noise. The careful of selection finishing material can achieve this intention. There are several ways to absorb the noise such as massive, solid construction, double plastered wall, precisely fitted factory assemble components, built - in closet, carpeting, and surface materials. In addition, trees, shrubs, and grass can help to absorb some of the exterior noise around the building.

6. Lighting

In providing comfortable living environment, lighting plays a significant role. Therefore, proper selection of lighting fixtures determines the quality of living environment. High - intensity

lighting should be provided for study areas. However, in some areas such as living spaces, the glare should be controlled at all time. The selection of lighting can also promote some different moods in the living area. Day lighting should also be given significant consideration because of its positive psychological effect on humans and its energy saving potential..

7. Materials.

Selection of materials should be based on their acoustical quality and lighting reflectance. The selection of the materials should also be based on their durability and appropriateness to spaces for which they are intended. For example, for the bathroom the material should be waterproof and easy to maintain. The ceiling area should be acoustically absorbent and light reflective so that the interior space become pleasant. The plaster wall, carpeting, draperies, and well - designed furniture can hold up very well and less expensive to maintain. The exterior construction should be durable enough to withstand weather and time.

8. Mechanical system

The inhabitants of the housing should have some degree of control over the environmental condition. Individual comfort can be assured by allowing control over the ventilation, air movement, and humidity in their living space. In addition, energy should be considered when choosing a mechanical system for the building.

issues to be addressed

Solar and wind energy can be used to provide for some of the energy need.

9. Parking

Parking should be provided for the residents of the student housing. In addition, a visitor parking space should be provided for every four units. The housing facility should also provide some area for parking bicycle.



BACKGROUND ANALYSIS

BACKGROUND ANALYSIS

Lubbock County was not inhabited until late in the 19th century. At that time, people had started to migrate out of the Eastern Seaboard. These Europeans were moving toward the West to find lands for cattle ranching or farming. It was the Quakers who first discovered that the South Plain land was fertile. They named it the "Land of Beginning Again" because the people who had moved here were building new lives.

From these few settlers the county of Lubbock developed, until the need for a new town arose. At that time, two different cities began to develop in Lubbock County. One of them, to the north, known as old Lubbock, was developed by J.T. Loftin, J. Harrison, and W.D. Crump. To the south, a city, known as Monterey, was born from the effort of W.E. Rayner. These two cities were consolidated on December 19, 1890, and a new site was selected. It became present day Lubbock. From this point in history, Lubbock started to grow at a steady pace so that its population is approaching the 190,000 mark. From only one building - the Nicolett Hotel, this city has grown to have a first class university.

The Overton Addition, or Overton, was founded by Dr. M.C. Overton in 1907. It was the first new neighborhood established in the city of Lubbock. Since that time in history, Overton has always been a vital part of this city because of the centrality of the site. However, through out its 85-year history, Overton has faced problems of demographic stability, social variety, and physical vitality.

background analysis

** Overton Addition*

Although the area is labeled as R-2 zoning, there is a lot multifamily and mixed land use. There are six categories of land ownership with 64.5% privately owned and 28.6% of the land owned by individuals who possess more than five pieces of property in the area. Altogether, there are 1787 pieces of property in Overton valued from \$20,000 to \$100,000 or more.

In 1980, the total population in the Overton was 7,943, or approximately 5% of Lubbock population. Geographically, the distribution of the population is very uneven. North Overton has a population of 5,341 and south Overton 2,602, while east and west Overton 3,804 and 4,859 respectively. Therefore, almost half (44%) of the total population resided in the northwest sector of Overton. However, the northeast sector showed a higher proportion of minority population - 42% of the whole Overton Addition. On the other hand, 83% of the white anglo lived in the southwest area. A survey in 1980 indicated that approximately one-third of Overton's population lived under the poverty line. The median household income was far below the city average of \$19,185.00. Demographically, the percentage of young residents in Overton also fell below the city average of 7.6%. The proportion the elderly 65 years and over, was also below the city's average of 7.7%. Among single residents, the ratio of males to females was lopsided - 2 : 1.

The Overton Addition provided 15% of the duplexes in Lubbock. There are 2,233 square feet per unit of duplex in the north, and 4,690 in the south. However, this area had the highest rate of apartment vacancy, with the area near the university peaking at

background analysis

** Overton Addition*

around 34%. Although the number of apartments was high, the condition of these facilities was not satisfactory. The survey also indicated a large number of housing units (101) did not have adequate plumbing facilities. However, the area was not without amenities. Within a one mile radius of Overton, there were two fire stations, three parks, a hospital, three libraries, a state university, a junior college, three city's offices, a shopping center, a civic center, a municipal auditorium, and a football stadium.

The Overton Addition has a very high number of crimes. In 1982, there were 19,270 crimes were reported in this area, which accounted in 15% of the total for the city of Lubbock.

Although the Overton Addition has an 85-year history, the area is facing a lot of problems. As the vital center of the city of Lubbock, the area has provided the city with images of Lubbock's heritage and growth. However, the area is showing urban blight and environmental deterioration. In addition, a study by Institute of Urban Studies International showed that the area was also in need of a comprehensive study on land use and zoning. There is problem with infrastructure in this area. Therefore, in January of 1985, an organized group of local bankers, business leaders, and interested citizens established the Lubbock Redevelopment Association (LRA). LRA, with the helped of Institute of Urban Studies International (IUSI) has developed a revitalization plan for the Overton area. The revitalization plan will help to guide the Overton Addition's development until the year 2005.

background analysis

* *Overton Addition*

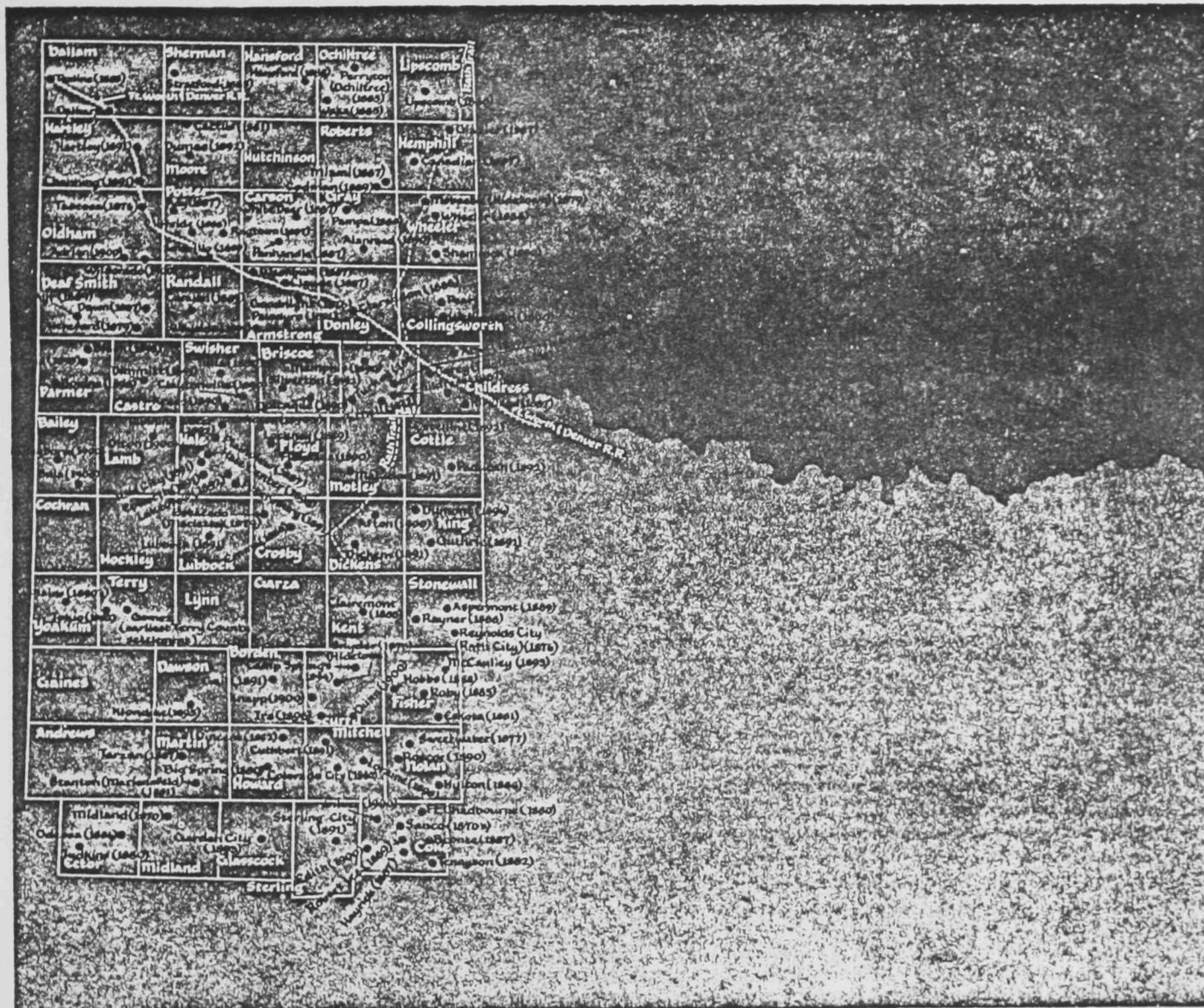


FIG. #26 THE PANHANDLE AND TE SOUTH PLAINS 1870 - 1900

background analysis

** Overton Addition*

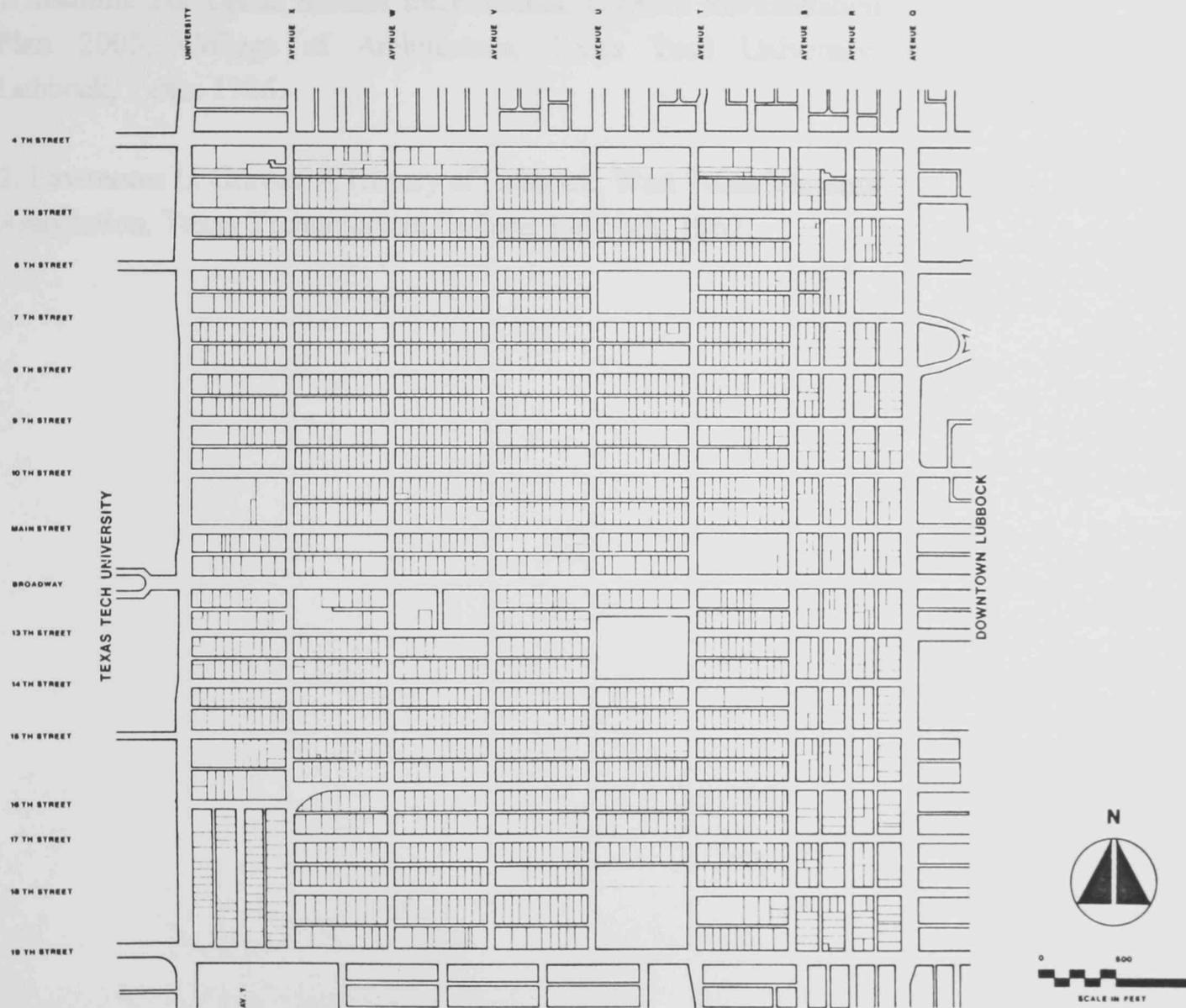


FIG. #27 OVERTON AREA, CITY OF LUBBOCK, TEXAS

background analysis

**sources*

SOURCES

1. Institute For Urban Studies International, Overton Revitalization Plan 2005, College of Architecture, Texas Tech University, Lubbock, Texas 1986.
2. Lawrence L. Graves, A History of Lubbock, West Texas Museum Association, Texas Technological College, Lubbock, 1962.



CASE STUDIES SUMMARIES

TABLE OF CONTENTS

1. AUSTIN CONVENTION CENTER, AUSTIN, TEXAS

2. Hotel du Departement des Bouches-du-Rhone, MARSEILLES,
FRANCE

3. HARVARD STUDENT HOUSING, CAMBRIDGE,
MASSACHUSETTS.

4. CENTENNIAL HALL, BARNARD COLLEGE, NEW YORK
CITY, NEW YORK.

5. FLORIDA STATE UNIVERSITY STUDENT HOUSING,
TALLAHASSEE, FLORIDA

6. QUINNIPIAC COLLEGE STUDENT HOUSING, HAMDEN,
CONNECTICUT

7. EUGENIO MARIO de HOSTOS COMMUNITY COLLEGE
LIBRARY, BRONX, NEW YORK

SOURCES

1. Austin Convention Center.

Austin, Texas

The Austin Collaborative Venture

Cost : \$50.4 million - \$123 persquare foot

When encountering this center for the first time, one may observe several important concepts used by the architects. The concepts of energy - saving mechanical systems, shading devices, solar collectors, and daylighting seem to be the major principles guiding the architects. The 400,000 square-foot convention center is also an example of regionalism at work in an urban context. The new center is a continuation Austin's effort to revitalize the downtown area. The city authorities are replacing prewar light industrial warehouses in the vicinity with hotels and office buildings.

Contextually, each of the four facades responds to the existing character of the site. The south and west facades respond to the newer and more modern buildings, while the windowless north facade responds to the existing warehouses that are in front of it. The east facade is a response to the meandering Waller Creek. These facades are held together by the use of shading devices, solar porches, and colonnades derived from local Texas architecture.

The materials selected are also related to the idea of regionalism. The architect in charge, Lawrence W. Speck, decided to use local limestone, brick, metal panels and steel. All of these materials are traditionally used in the area. The limestone gives thickness, massiveness, and solidity, while the use of standing-seam metal roof reflects the area's farmhouses and early commercial



1. SHADED PORCH AND CANOPY AT MAIN (SOUTH) ENTRY

The wire and steel grill work blocks sunlight and maintains visual transparency. The rotunda clerestory bring in daylight into the interior of the center.

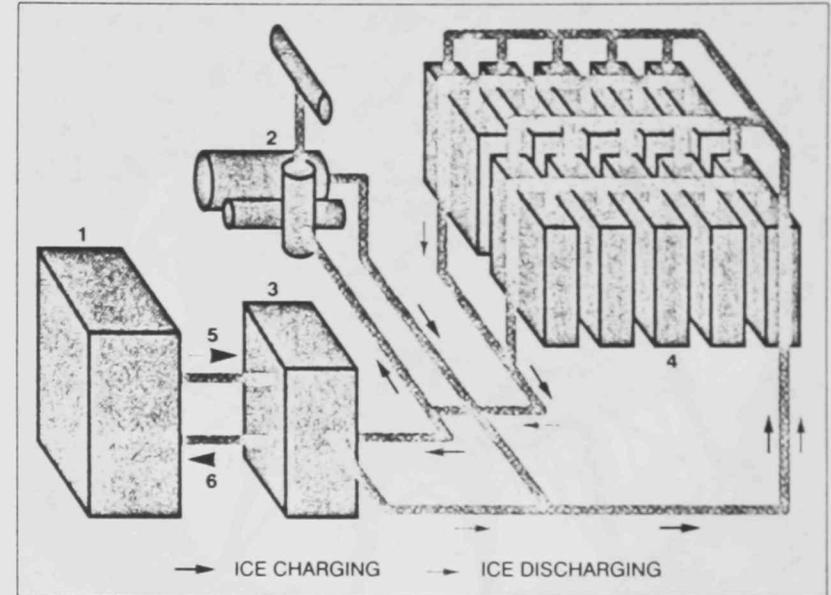
case studies summaries

**Austin Convention Center*

buildings. Grided wire and steel grills are used as a veranda to block the sun's ray during the hottest period of a day without casting deep shadows. The result is large porches that create the ambience of a comfortable human - scale outdoor area. With the use of these sun porches, Speck successfully controls sun light penetration into the interior. These wrapped - around porches provide an intermediate zone around the center that acts like insulation, making the interior less difficult to cool. Therefore, the mechanical system has a lighter cooling load with a smaller temperature different 90 F to 78 F instead of 105 F to 78 F.

The solar collector does not contribute significantly to the energy saving of the convention center, since it only provides 10% of the electrical power needs. While, the linear solar collector panels track the east-west path of the sun, the electricity collected is fed to the center's central plant. However, politically the useage of the solar collector helps to promote the concept of alternative energy to power up a big building like a convention center.

The greatest energy saving , however, comes from the imaginative design of the mechanical system. An ice storage system, in which water is frozen and thawed with high-tech efficiency, shifts the timing of the building's peak energy consumption to less expensive night - time hours. The system freezes water in a series of closed-loop pressure vessels that are immersed in water; this ice then cools water circulating through a conventional chiller, which handles each morning's air-conditioning load. As the ice is exhausted, the conventional cooling system gradually takes over and carries on



SCHEMATIC DIAGRAM OF ICE STORAGE SYSTEM

- | | |
|----------------------------------|------------------------|
| 1 COOLING LOAD | 5 CHILLED WATER RETURN |
| 2 CHILLER | 6 CHILLED WATER SUPPLY |
| 3 PLATE AND FRAME HEAT EXCHANGER | |
| 4 ICE STORAGE HEAT EXCHANGER | |

The most creative solution in the center is the ice storage system. It shifts the timing of the building's peak energy consumption to less expensive night time period.

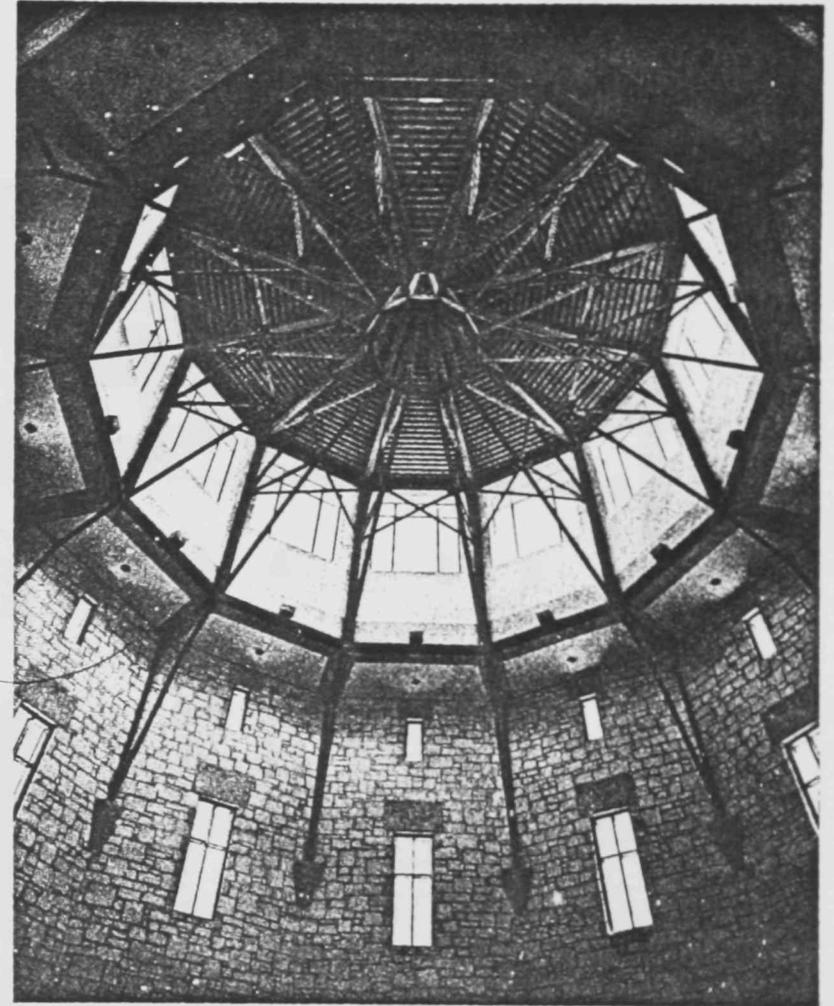
case studies summaries

**Austin Convention Center*

through the day, until the water can be frozen again. Although the ice-storage system consumes more power than a conventional chiller, it is both more cost-effective and more energy efficient.

Daylighting contributes significantly in illuminating the public spaces at the center's perimeter. This is done by the use of low E glass and shading devices so that the daylight can be used as primary lighting without the heat gain. In the morning, sun light enters the building through the east window-wall and again in the evening through the west-facing glass curtain wall. On the other hand, only indirect light bouncing off concrete pavers and limestone walls is allowed to enter the building during the more intense mid-day. Daylight is also used to illuminate the interior after it has been filtered by the the high clerestory window. The rotunda and roof structure are animated in the bright daylight. In addition, the bright daylighted interior spaces are reference point for many visitors who are familiar with the big facility.

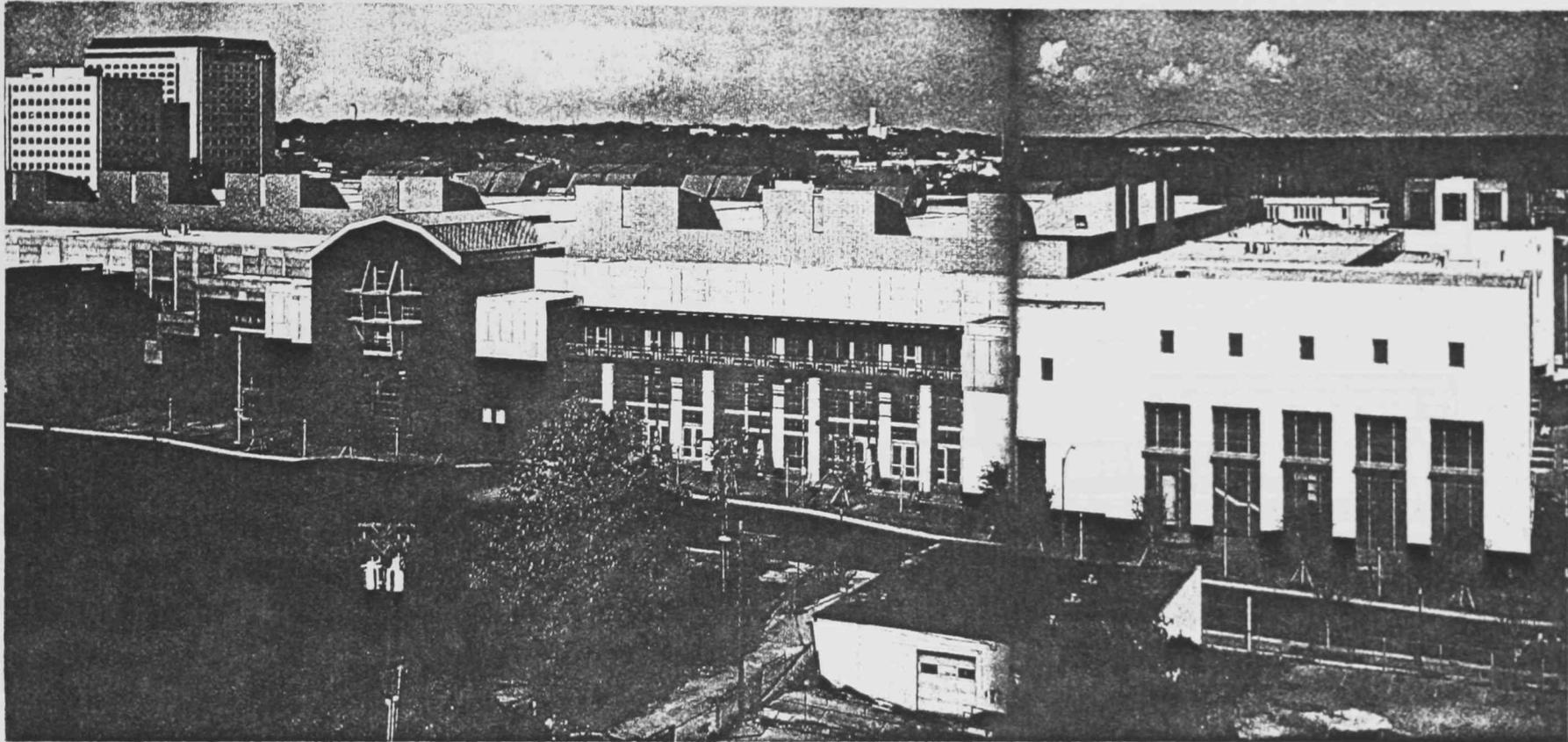
Lawrence Speck has succeeded in proving that "dumb-barn" regionalism can be implemented successfully in a large building like the convention center. The use of daylight and sun control help to make both the exterior and the interior spaces into exciting architecture. The center also gets its strength from the creative energy - saving mechanical system.



From clerestory window atop limestone clad rotunda, sunlight is filtered through a 42-foot diameter steel radial truss.

case studies summaries

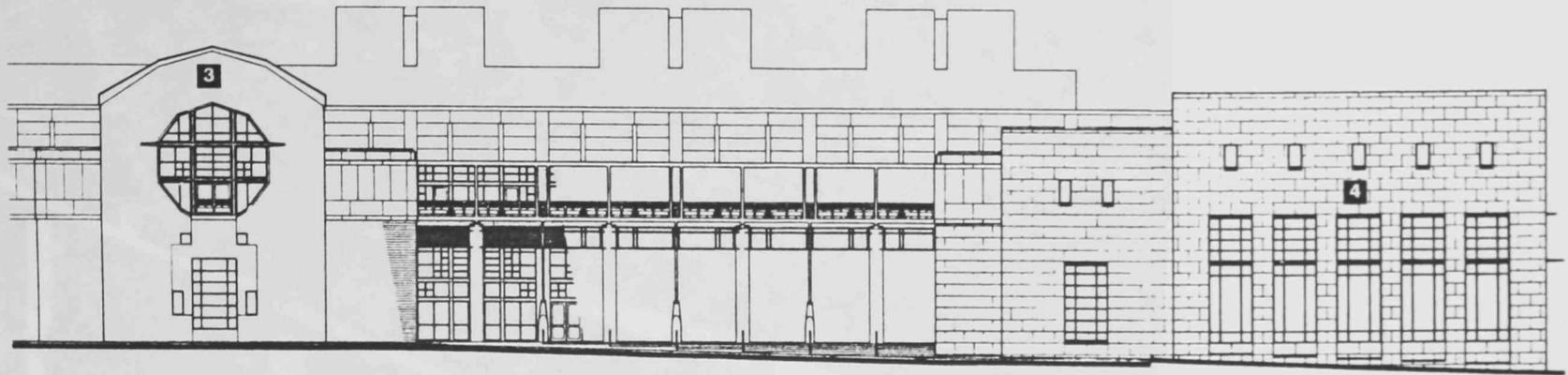
**Austin Convention Center*



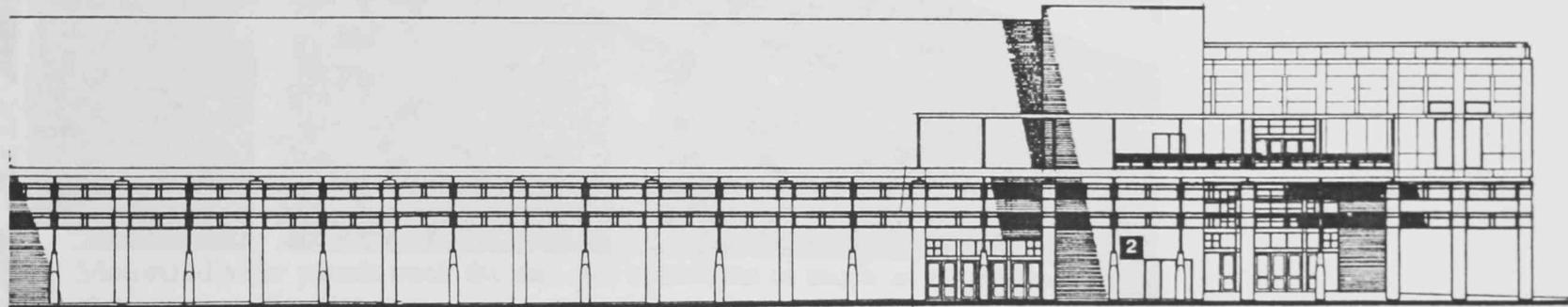
The new Austin Convention Center was designed to respond to its surrounding. Therefore, the exterior facades of the center show relationship with each side of the building. In addition, the facades also give new meaning to Texas regionalism. The idea was brought about by the use of local limestone, brick, metal panels and steel.

case studies summaries

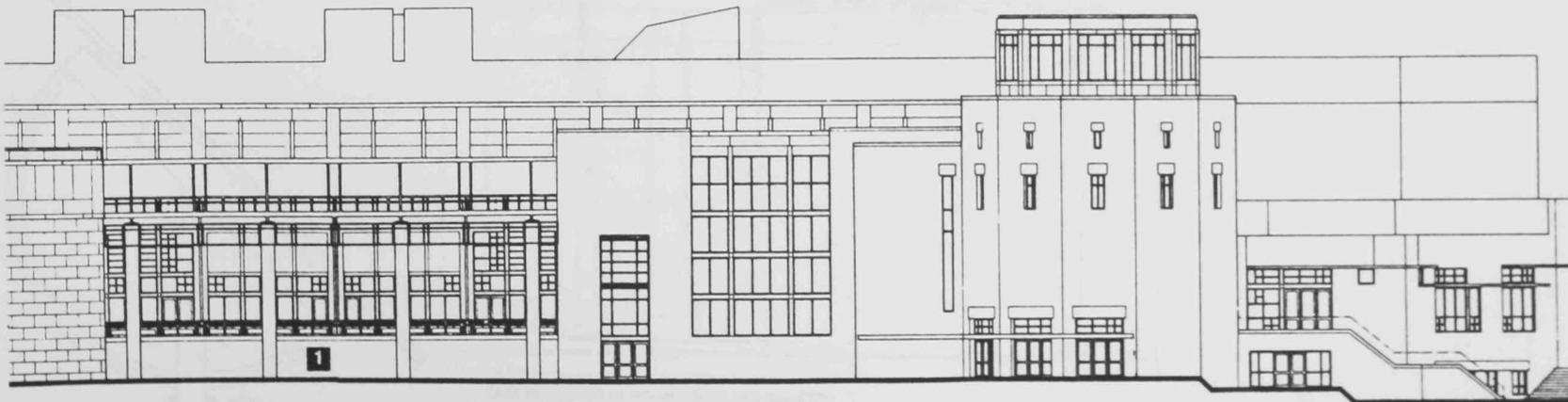
**Austin Convention Center*



WEST ELEVATION



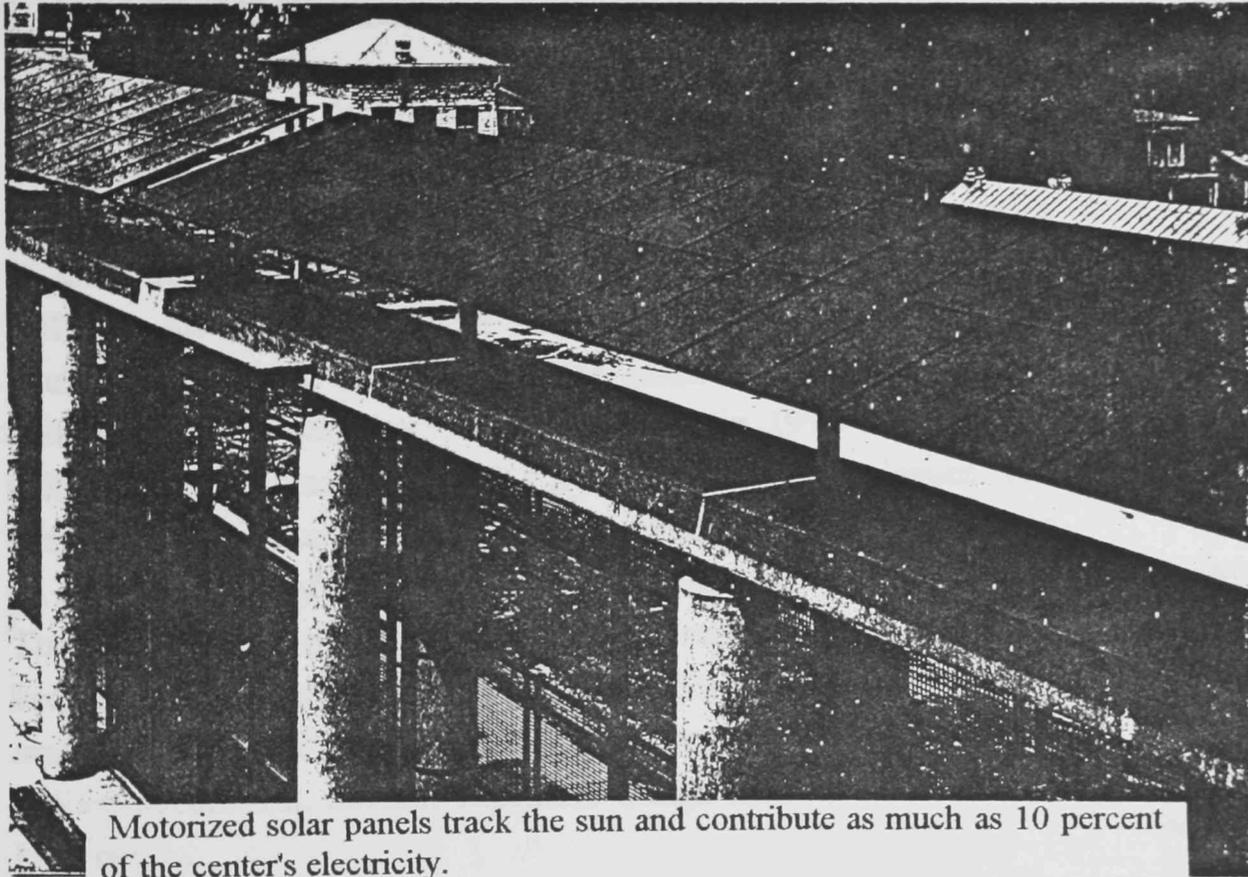
NORTH ELEVATION



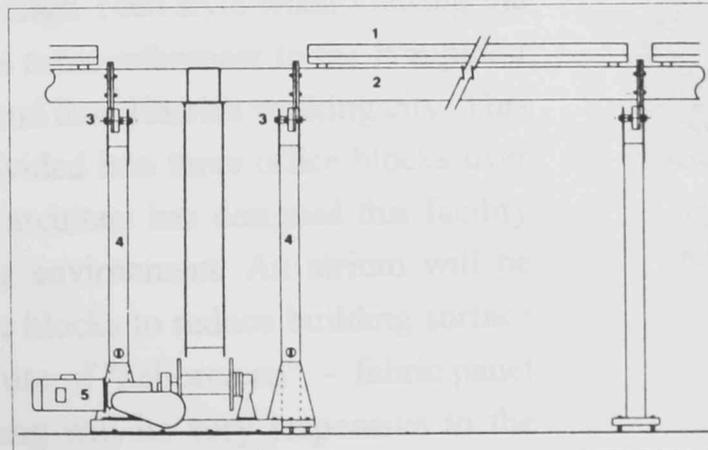
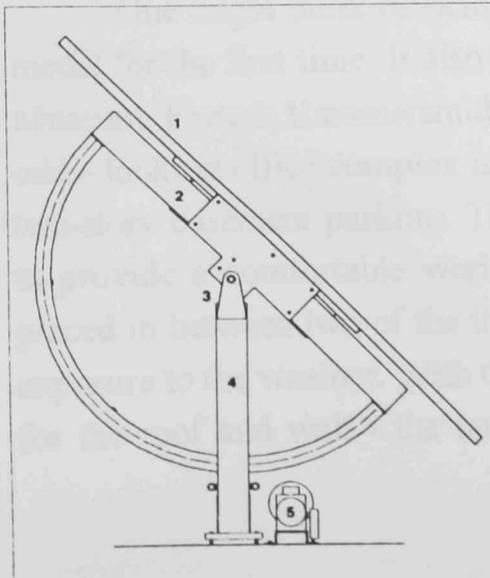
SOUTH ELEVATION

case studies summaries

*Austin Convention Center



Motorized solar panels track the sun and contribute as much as 10 percent of the center's electricity.



EAST ELEVATION AT SOLAR PANEL INSTALLATION

- 1 SOLAR PANEL
- 2 GALVANIZED STEEL BEAM
- 3 PIVOTING ARM
- 4 GALVANIZED TUBE-STEEL PEDESTAL
- 5 TILT CONTROL MOTOR

2. Hotel du Departement des Bouches-du-Rhone.

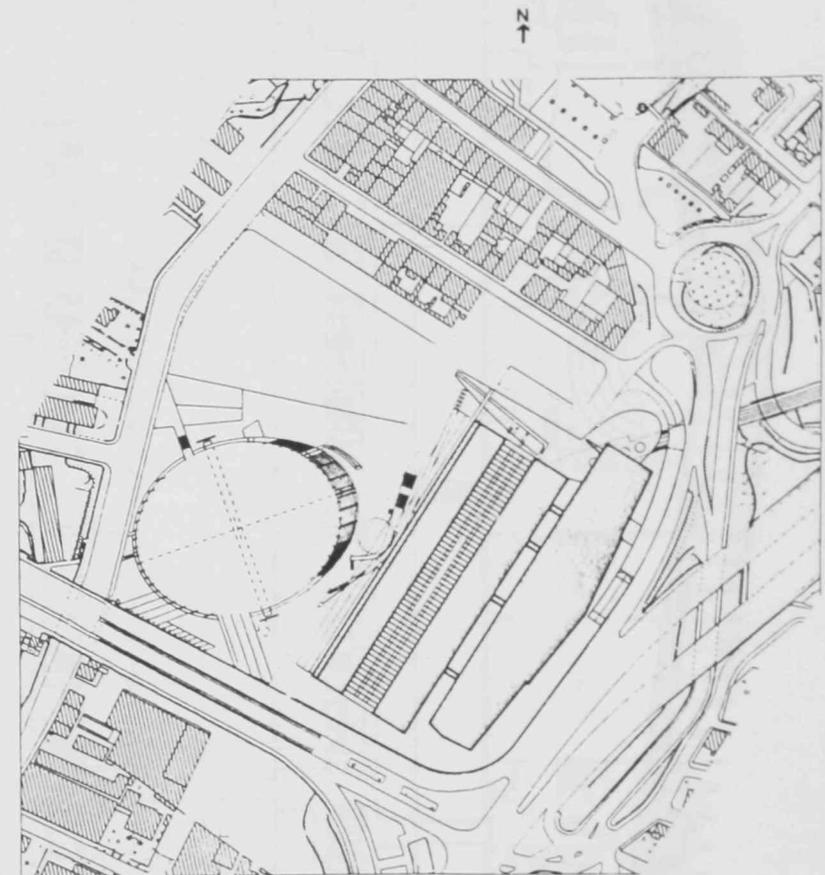
Marseilles, France

Alsop and Stormer Architects

Cost : \$150 million

For many, this building not only has a unique name, but also an exceptionally unique shape for a government office building. William Alsop, the principal architect at Alsop and Stormer Architects, proposed this design to the juries of the competition to design this office complex. When completed in 1994 this building will be the work place for 1,700 City of Marseilles' employees. The complex will be located in a run-down neighborhood of Marseilles in an effort by the city's government to rejuvenate that part of the city. The project was trimmed down from \$240 millions to \$150 million because of financial difficulties facing the city. Therefore, the whole area of the original design proposal has been trimmed down to 1.2 million square-feet. Several expensive design innovations have also been cut.

One might think of British High Tech style when viewing the model for the first time. It also has some references to the Pompidou Museum, Forter's Hammersmith, and Ron Harris's walking city. This odd - looking office complex is divided into three office blocks over two-story basement parking. The architect has designed this facility to provide a comfortable working environment. An atrium will be placed in between two of the three blocks to reduce building surface exposure to the weather. With the use of "helioscreen" - fabric panel for the roof and wall - the building will be very responsive to the



The site plan of the facility in relation with its context.

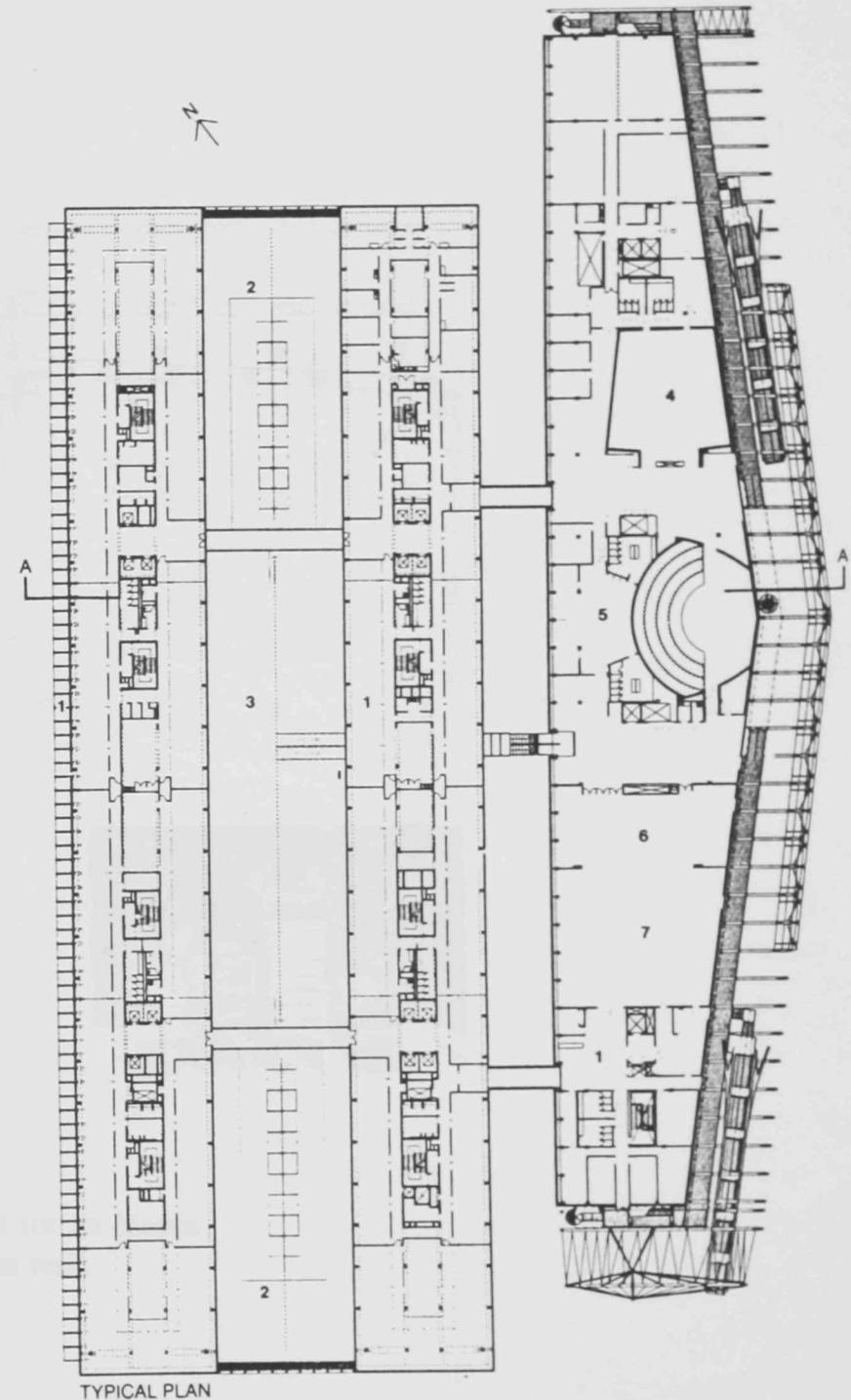
case studies summaries

**Hotel du Departement des Bouches-du-Rhone*

Mediterranean climate. A giant pivoting paddle with blades of glass-reinforced plastic (GRP) film is suspended from the atrium's space-frame roof structure. With the help of a programmed timer, the blade deflects the harshest summer sun and admits light in the winter. In order to effectively resist the salty air, the architect has designed the form of the buildings to resemble the Mistral Wind. This air foil shape also assures negative pressure in the atrium so that there is air movement within the working spaces. The air foil form is complemented by asymmetrical rooftop ovoids on each block.

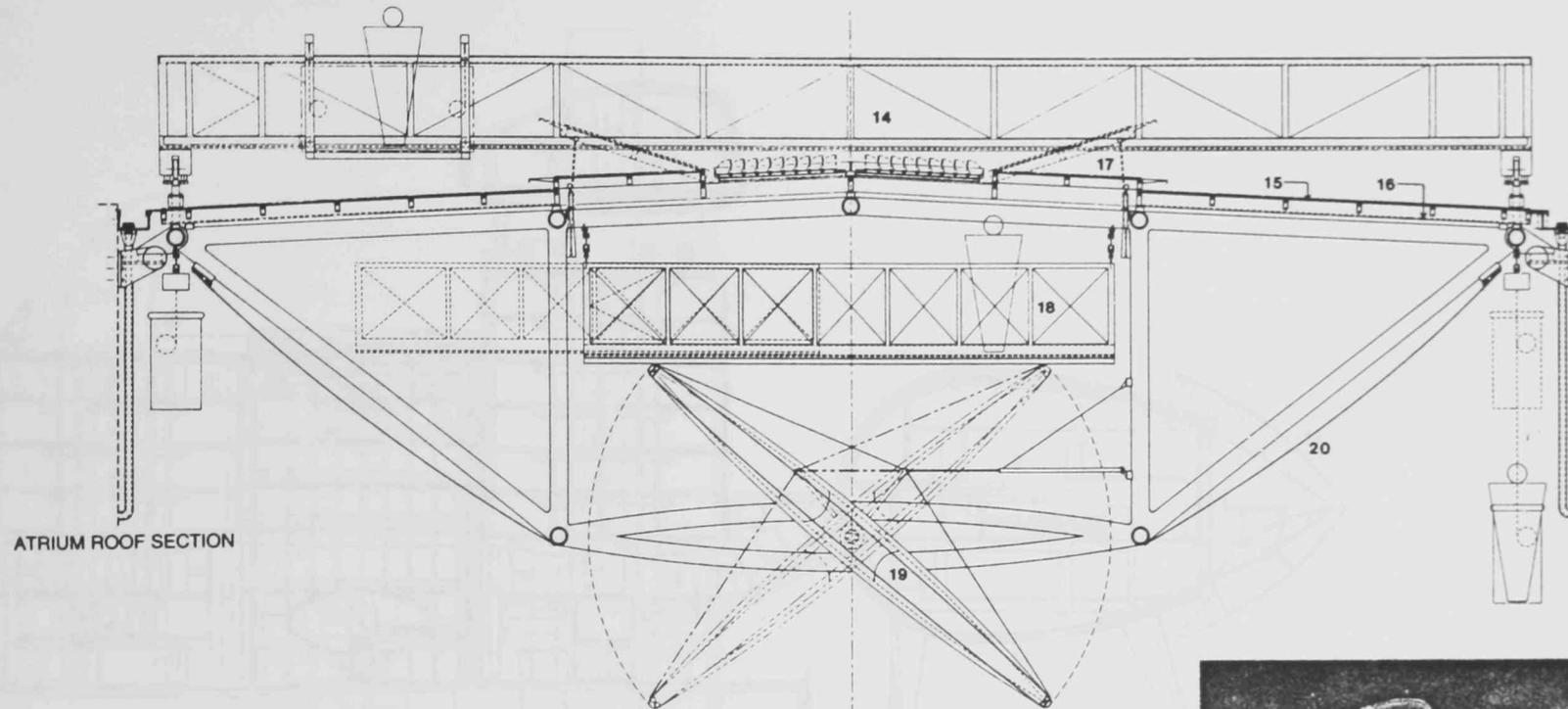
The office blocks were designed linearly, with two of the blocks housing the administrative offices. The public record offices are located on each side of the atrium. The deliberatif houses several meeting rooms and council chambers. It is raised on pilotis and linked by ship - liked staircase to the rest of the complex.

This office complex is an attempt by creative architects to introduce new meaning into the office design. As it was designed, the office building will provide a pleasant and exciting working environment. The sculpture like - form of the building will add a new vocabulary, to the office design. Architecturally it provides an alternative to the box - like Modern office building. Moreover, the architects should be applauded for their creative idea of an active naturally serviced interior. However, some of the architectural innovations will not be implemented because of economical pressure.

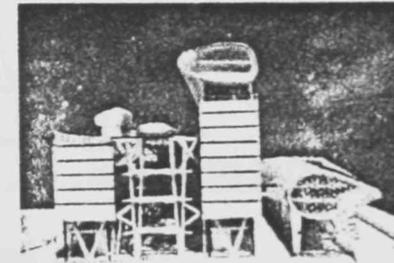


case studies summaries

**Hotel du Departement des Bouches-du-Rhone*



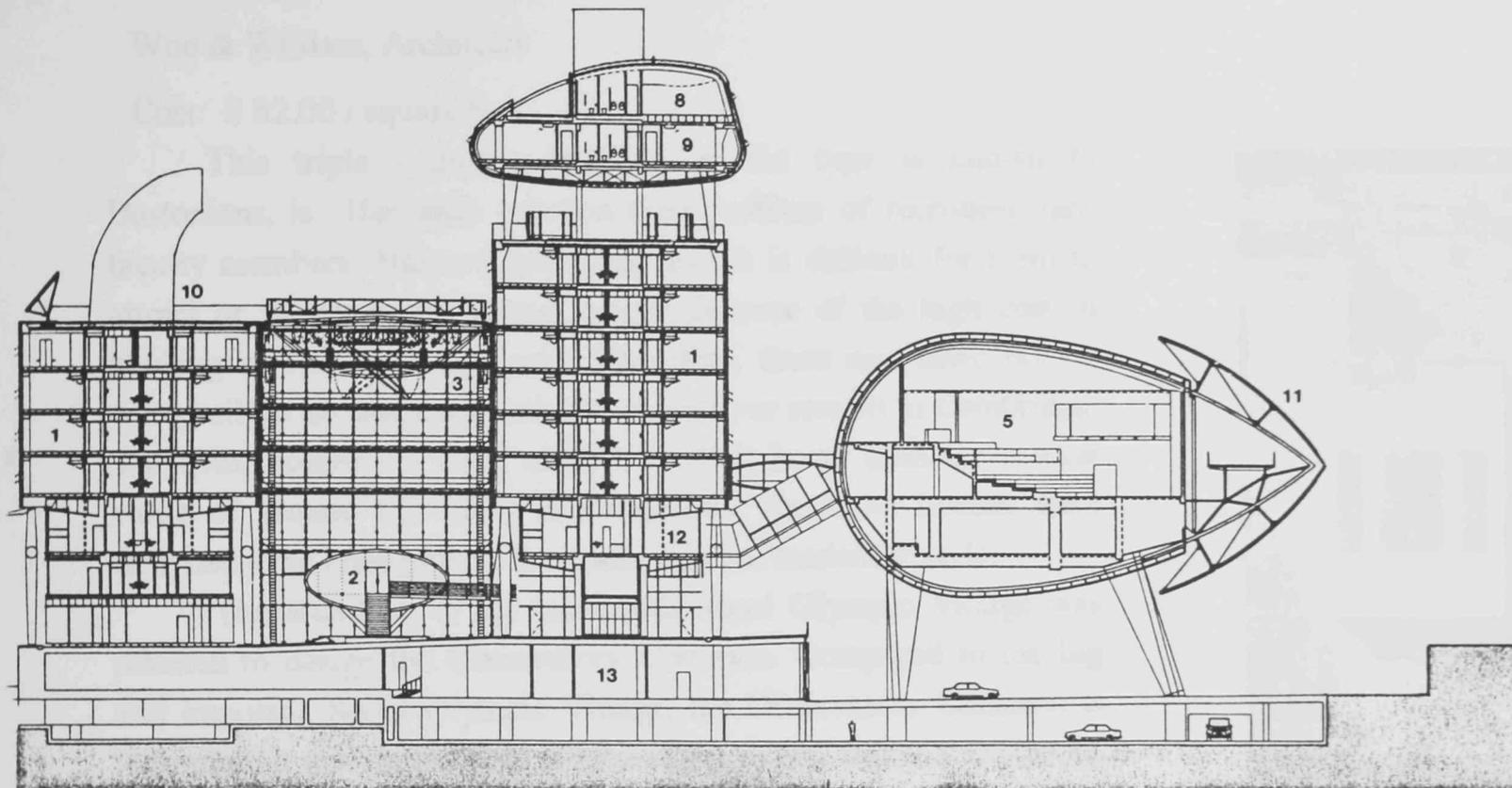
- | | | | |
|------------|-----------------|-------------------|---------------------------|
| 1. Offices | 6. Meeting | 10. Running track | 15. Roof glazing |
| 2. Ovoid | 7. Salon | and terrace | 16. Tensile fabric screen |
| 3. Atrium | 8. Salon | d'honneur | 17. Hydraulic roof vents |
| 4. Plenary | 9. Presidential | suite | 18. Cleaning cradle |
| chambers | 10. Restaurant | | 19. Solar paddle |
| 5. Council | 11. Restaurant | | 20. Roof truss |
| chambers | 12. Cleaning | gantry | |



The roof truss supports a "solar Paddle", GRP fabric is used for its blades and as "helioscreen" to limit solar gain on the atrium's southern wall.

case studies summaries

*Hotel du Departement des Bouches-du-Rhone



SECTION A-A

The linear configuration of the office block provides daylighting and an operable window for each occupant. The blocks are connected by an atrium that also acts as a climatic buffer.

3. Harvard Faculty Housing

Cambridge, Massachusetts,

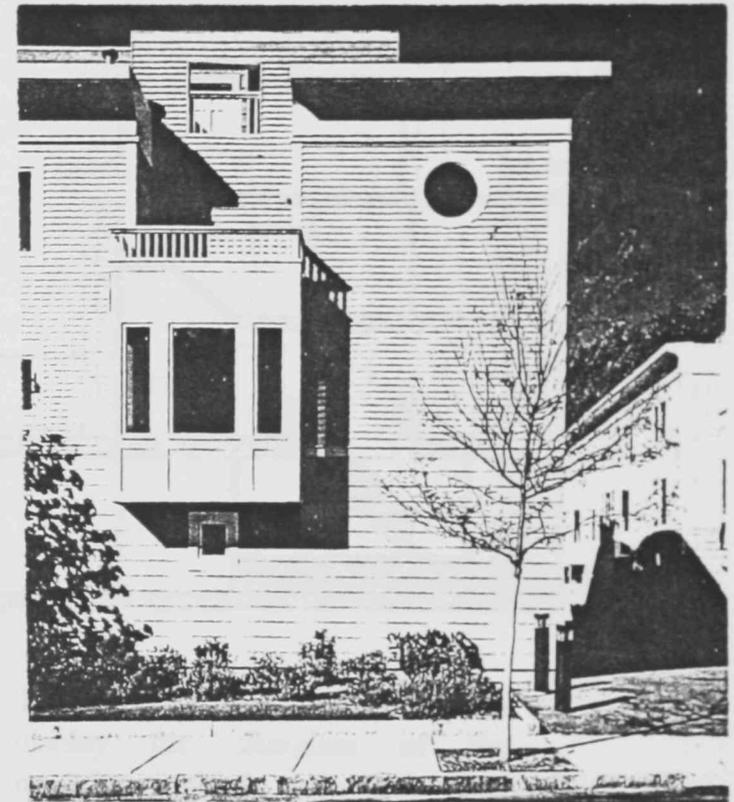
Woo & William, Architects

Cost: \$ 82.00 / square foot

This triple - decker building as the type is known to Bostonians, is Harvard's solution their problem of recruiting new faculty members. Harvard has found that it is difficult for them to attract or maintain top young faculty because of the high cost of housing in the Cambridge area. Therefore, these new town houses were built as an added attraction to move to or remain in Cambridge. The town houses are sold at 25% to 40% lower than the market value of around \$200,000. Consequently, the town houses were designed to be conservative in appearance but modern in style.

The architects of the mammoth Seoul Olympic Village was selected to design the Observatory Common. Compared to the big and imposing Seoul Olympic Village, the Observatory Common is rather small and delicate. It is interesting to see that the architects, Woo & Williams have succeeded in breaking Harvard tradition of being out of context with architectural surroundings. The architects have succeeded in blending the building with its neighbors, while at the same time asserting its independence from the cliché of the Bostonians' double decker.

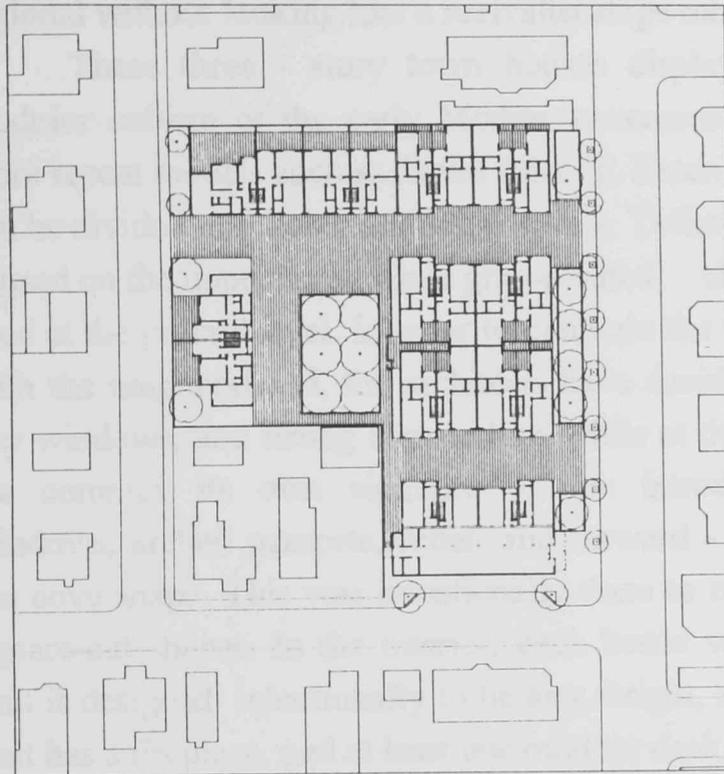
As Robert Campbell stated, this cluster of housing is an adaptation to the recent call for an architecture that is both local and



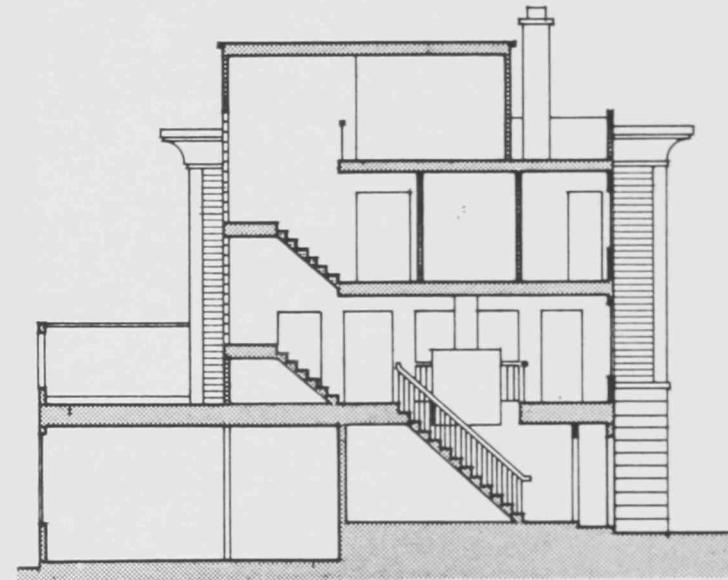
Although the houses fit into the neighborhood, the circular window makes these houses unique from the neighbors.

case studies summaries

*** Harvard Faculty Housing**



The site of the new Harvard Faculty Housing.



The three - story town houses display the character of the modular cubism of the early Modern movement. The flat roof, strong cornice, and forward curving roofline make the houses stand out from the neighbors.

global. It is an architecture that respects the continuity of local place and history but remains a part of the global culture that dominates today's world. As Campbell stated, it is an architecture that is regional without looking like a revivalist stage set.

These three - story town houses display the character of modular cubism of the early Modern movement, with a glance at more recent models such as James Stirling. Exteriorally the buildings can be divided into upper and lower levels. Yellow-painted clapboard is used on the upper level, while gray-painted shiplap siding is used at the ground level. In order to maintain the appearance of unity with the neighborhood, the architects have decided to use flat roof, bay windows, and strong cornice line, while at the same time giving the complex its own signiture by the introduction of circular windows, arched parapets, relief, and forward - curving roofline in the cove shape. This was intentionally done to relieve the generally square-cut shapes. In the interior, each house varies slightly. Each unit is designed intentionally to be airy, bright, and delightful. Each unit has a fireplace, and at least one outdoor deck, and most have two bedrooms and a small study room. By using glass blocks and skylights, the architect has succeeded to bring daylight into the house while still maintaining privacy.

Since the architects also designed the landscape, it has complemented the overall design of the house by preservation of old trees and brick paved courtyard for visitor parking.

In conclusion, the architects have succeeded bringing new life to the old tradition of the Bostonian house design. By harmonizing

case studies summaries

** Harvard Faculty Housing*

the old with the new, the Observatory Commons attracts the attention of both the layman and the sophisticated.



The new housing facility fits perfectly into the triple - decker neighborhood.

4. Centennial Hall, Barnard College

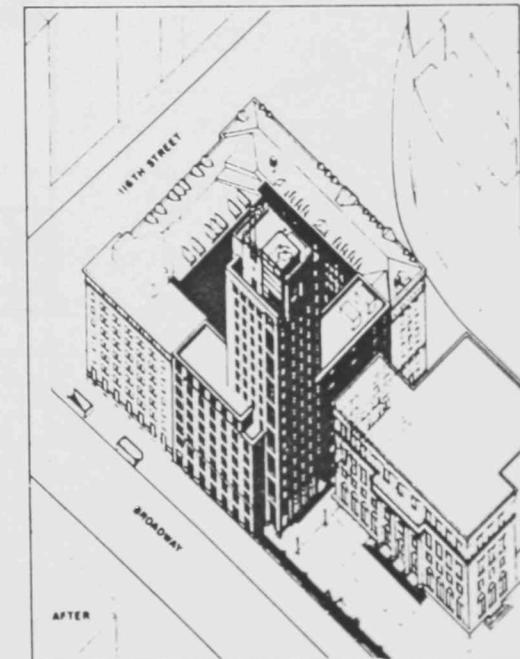
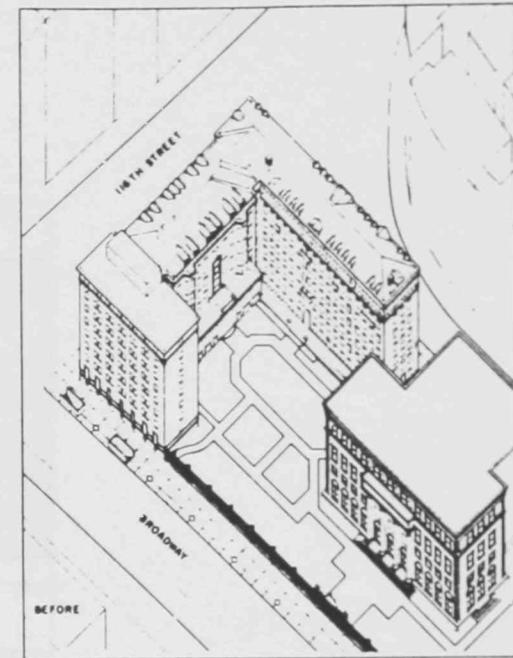
New York City, New York

James Stewart Polshek and Partners, Architects

Centennial Hall was built in conjunction with the 100th anniversary of Barnard College. This dormitory complex was designed to fit with the existing Morningside Heights surroundings and also to respond to the larger campus of Columbia University across the street. Therefore, it contributes to the urban development of New York City, although New York City's urban context is rather difficult to follow because of its mix of styles ranging from the stately Renaissance Revival to the insipid Modern box.

The architects' first task was to insert the 400-bed dormitory complex into an open area at the end of the school's major outdoor space. The task has to be done carefully so that the new dorm will complement the existing character of that part of the campus. In addition, the new dorm will have the advantage of a beautiful lawn (Lehman Lawn), while the mass of the dormitory building filters out noise from the nearby Broadway.

Architecturally, the complex is divided into a mass of buildings and a tower to be both the signature of the new complex and the mark of Barnard College's 100th-birthday. Both of the new buildings use Flemish bond brick work to conform to the existing style on the campus and also to that of Columbia University. By slightly stepping back the eighth floor from the rest of the facade, the new complex respects the existing street facade. The placement of the

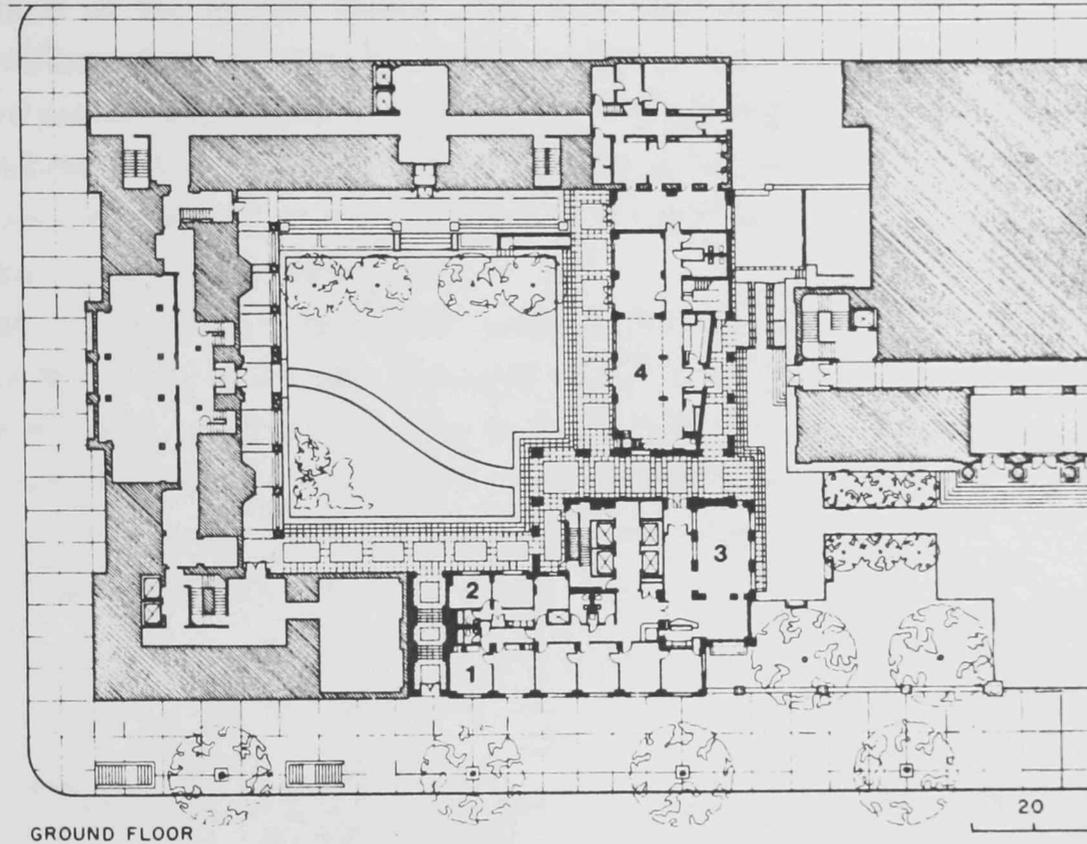


The new building is fitted into the existing land and context. The architect insert the 400 - bed dorm into the open area at the 116th Street end of the school's major outdoor space, Lehman Lawn.

case studies summaries

** Centennial Hall, Barnard College*

1. Office
2. Guest
3. Lobby
4. Café
5. Dorm room
6. Lounge
7. Bathroom



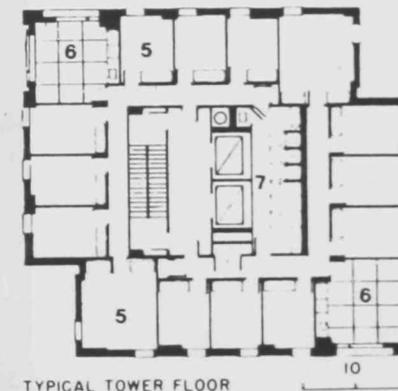
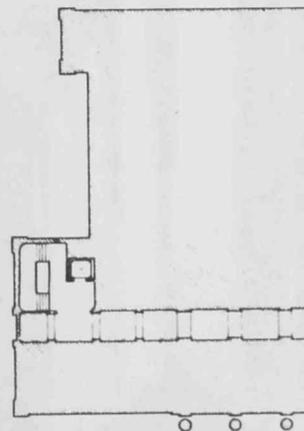
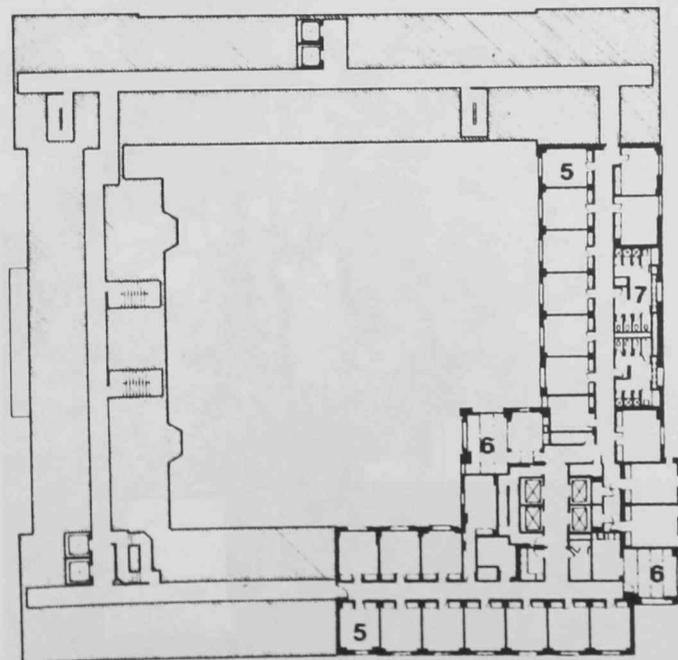
case studies summaries

** Centennial Hall, Barnard College*

tower helps to preserve the brightness of the courtyard while giving it a vertical element in contrast to the horizontal surrounding.

On the facade of the new dormitory complex, the architects have given out hints of the interior spaces. The brick wall is a composition of various sizes of opening with standard - sized windows for dorm rooms and two-story windows for lounges and dining halls. From Lehman Lawn, however, the building turns into an essay of layers; slices of masonry, separated by a shaft of metal and glass, help to express the verticality of the tower.

In short, the architects have succeeded in distinguishing the public spaces from the private area. Each dorm room in the complex has at least a view of either to the lawn, or of the courtyard. The two - story dining hall on the ground floor overlooks the courtyard while at the top floor of the tower, two different meeting rooms offer a spectacular view of the city and beyond.



TYPICAL TOWER FLOOR

This floor plan shows that several students share bedroom and lounges. This method helps to maximize space and student ratio.

case studies summaries

* *Centennial Hall, Barnard College*

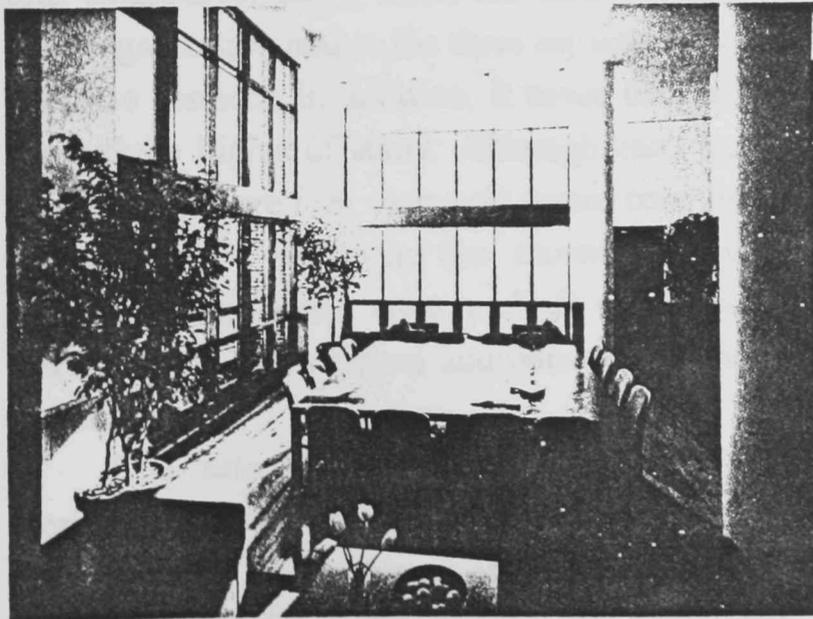
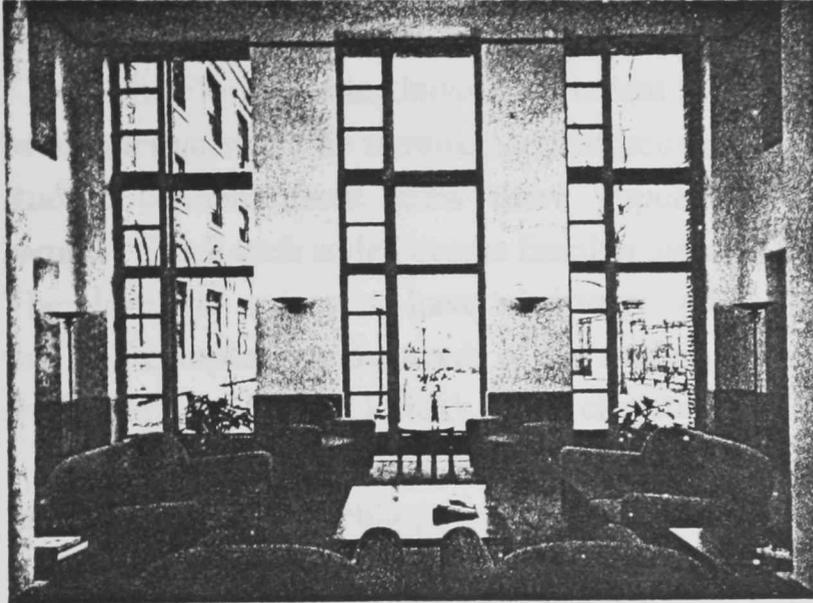


The 17 -- story tower breaks from its surrounding and the symbol of the college 100th anniversary. It was carefully placed at the corner of the complex to minimize shadow on the courtyard and maximizing its impact as the campanile on the lawn.

case studies summaries

* *Centennial Hall, Barnard College*

The interior of the lounges with a view to the Lehman Lawn.



The meeting room on the 17th floor with a view to the city skyline.



The spacious space of the cafe provides the feeling of cleanliness and friendly into the space. The floor plan of the facility

5. Florida State University Student Housing

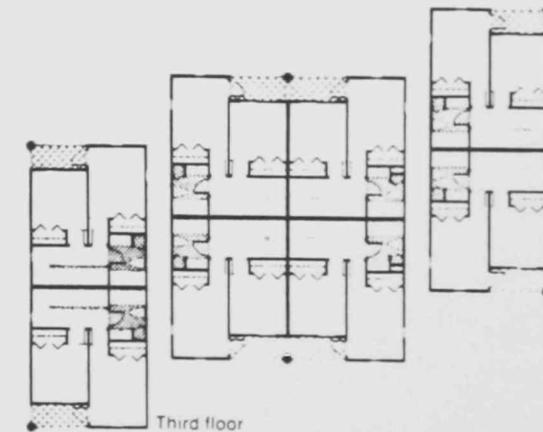
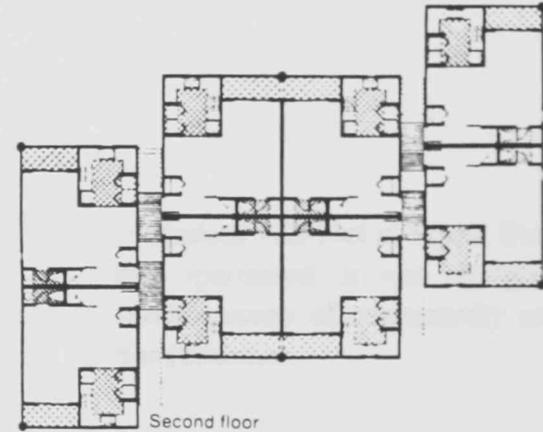
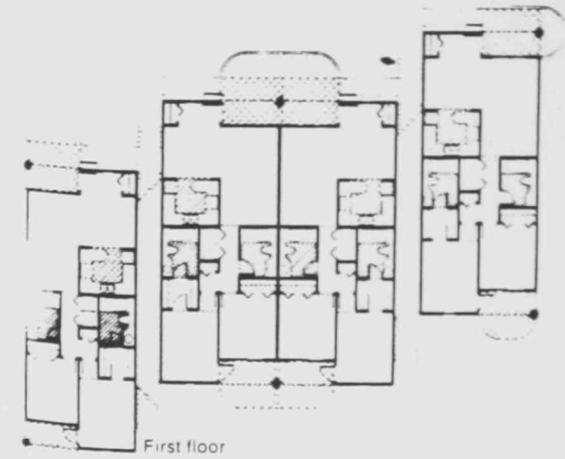
Tallahassee, Florida

Johnson Peterson Holiday Architects.

The Florida State University Student Housing was designed to be an alternative to the familiar student housing style on campus. As student condominiums grew more popular on the Tallahassee campus, Sea Ranch style become familiar sight on the housing scene. Therefore, the architects have tried to provide a new housing style that will complement the needs of the student so that they can both study and have fun in Florida's sunny climate.

The homey - looking apartment complex is actually made up of three separate buildings connected by hidden staircases. The slightly staggered complex has twelve units in all. The first level has four single-level units, while the second level has two-story units. This organization makes the three separate levels closer together and easier to connect. In addition, it saves the students from having to climb three flights of stairs. Although each unit's gross area is less than 1,000 square feet, each unit comes complete with two baths and two bedrooms. However, the second-level units have balconies accessible from living areas and all of the bedrooms. In addition, there is also a private pool and patio where the students may enjoy the sun.

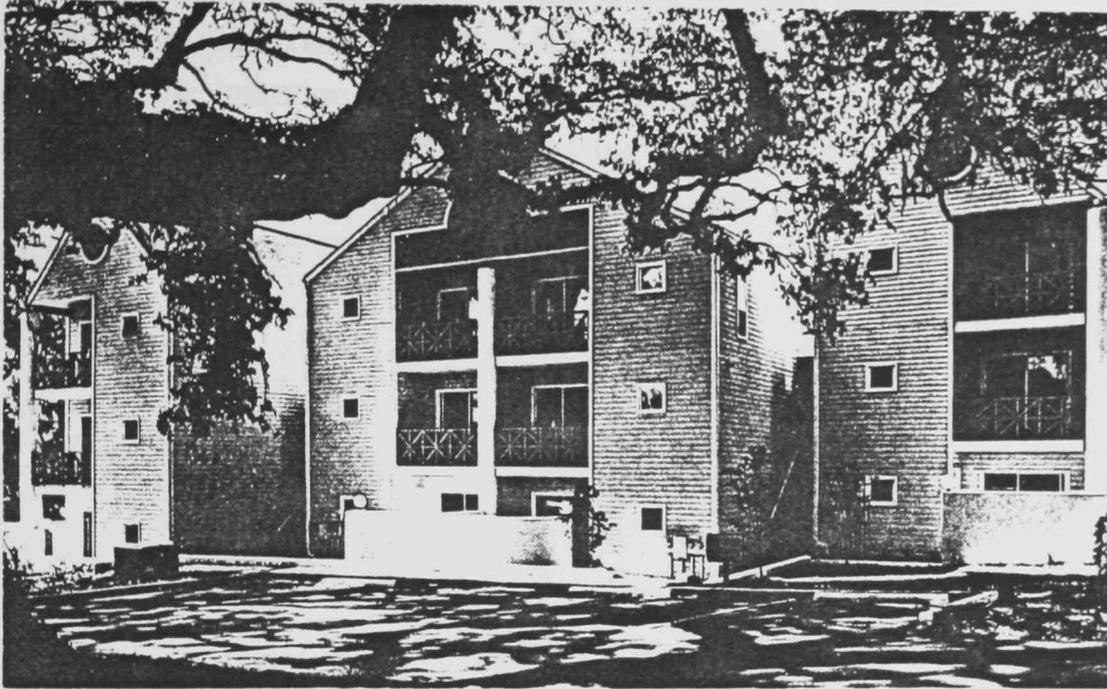
The selection of materials reflect Floridian architecture. Horizontal siding, trim, and open balconies with gabled roof reinforce the regional architecture. Although structurally, 4x4 girth is sufficient, the architects decided to exaggerate it to give the



FLOOR PLANS

case studies summaries

* *Florida State University Student Housing*



A student will feel at home living in this apartment. It was designed to instill a sense of community among the residents.



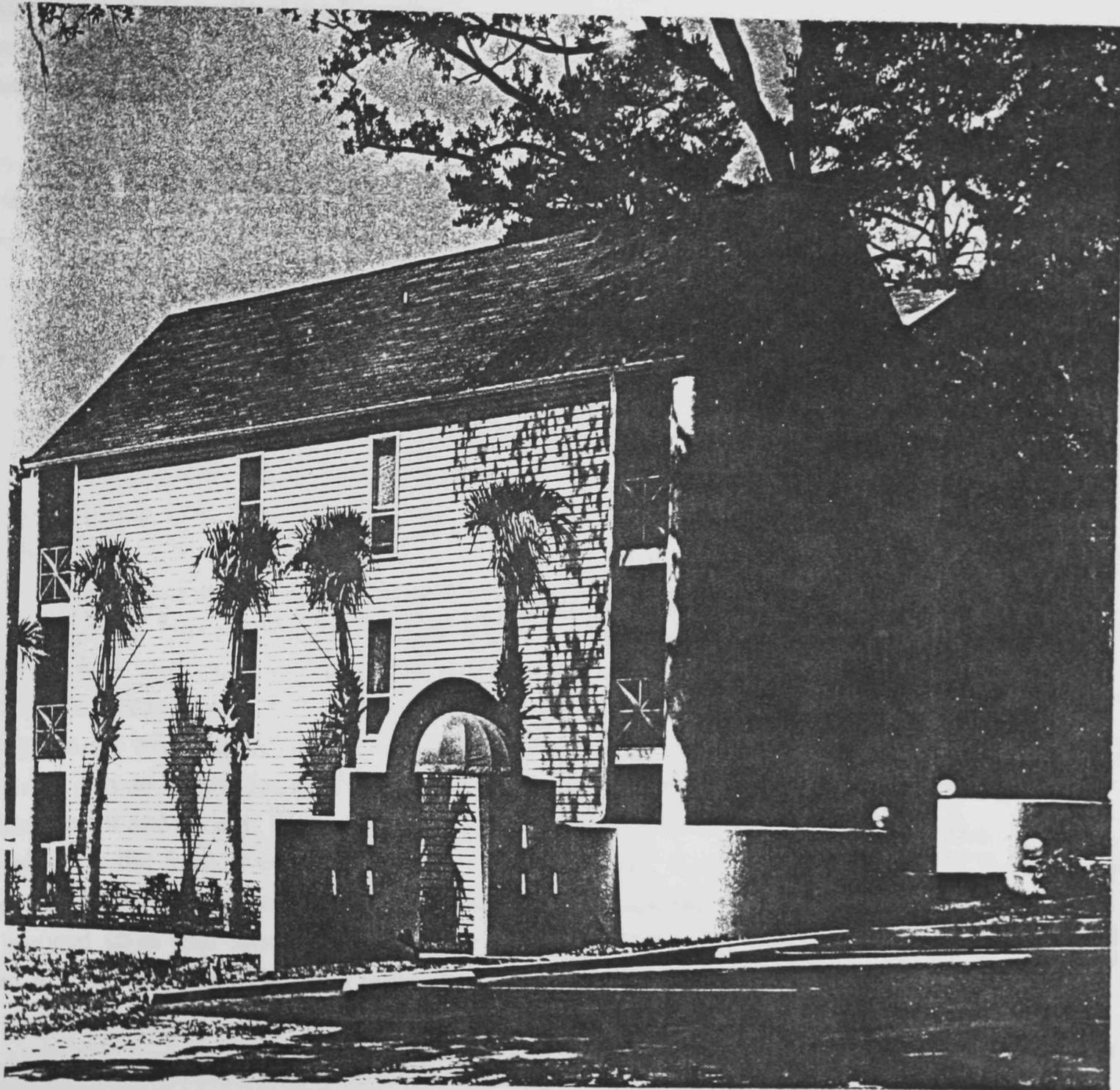
case studies summarries

** Florida State University Student Housing*

impression of structural assurance. Therefore, the concrete columns also have to be heavier to carry the extra load. The selection of colors also reinforces the intention of fitting the housing complex to the context. Painting the column pink lightens the building a bit and , combined with the light grays and aqua railings and gable panel, completes the objective.

case studies summarries

* *Florida State University Student Housing*



6. Quinnipiac College Student Housing.

Hamden, Connecticut

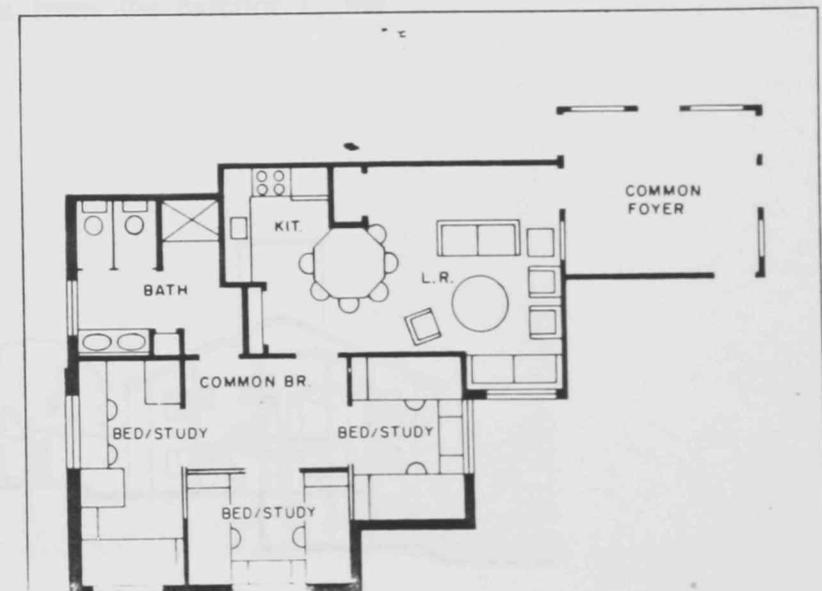
Moore Grover Harper

This apartment-style suite complex was designed to be both roomy and cozy. Six students will share an apartment with four apartments on a floor. In each apartment, the students will share a kitchen, dining area, and living room, while in each suite two students will have bed-study alcoves that are the private area for each student. By layering the alcoves, using "air right" over desk and closets for the beds, the architects have successfully designed a livable space from only 166 square feet. Each student gets a 7' X 11' alcoves. The success of the apartment style suite is achieved when the broad sliding doors to the alcoves are opened, effectively expanding the apparent space from cozy to roomy. On the whole, the complex can accommodate 150 students.

One important element of the complex is the paved two-level plaza or forecourt. This plaza is an important addition to the campus, since the college lacks another such central meeting place. The plaza is enclosed on three sides by the residential complex. The inner walls of the plaza are white stucco washed with panels of off-white, ecru, beige, and gray to emphasize the planar shift and create a sense of both movement and variety. The architects characterized the lower - level plaza as the front stoop of the whole complex because, it is approached from the street and rimmed by sitting walls. It culminates in a stepped stage that sets an axis with the symmetrical facade behind it. The sculptured zig - zag ramps for the disabled make a



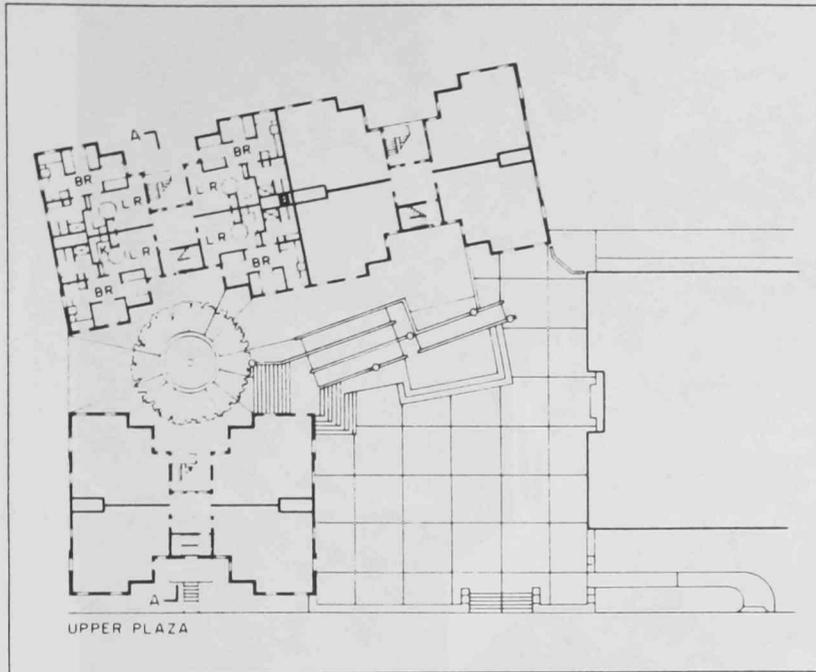
The two - level plaza



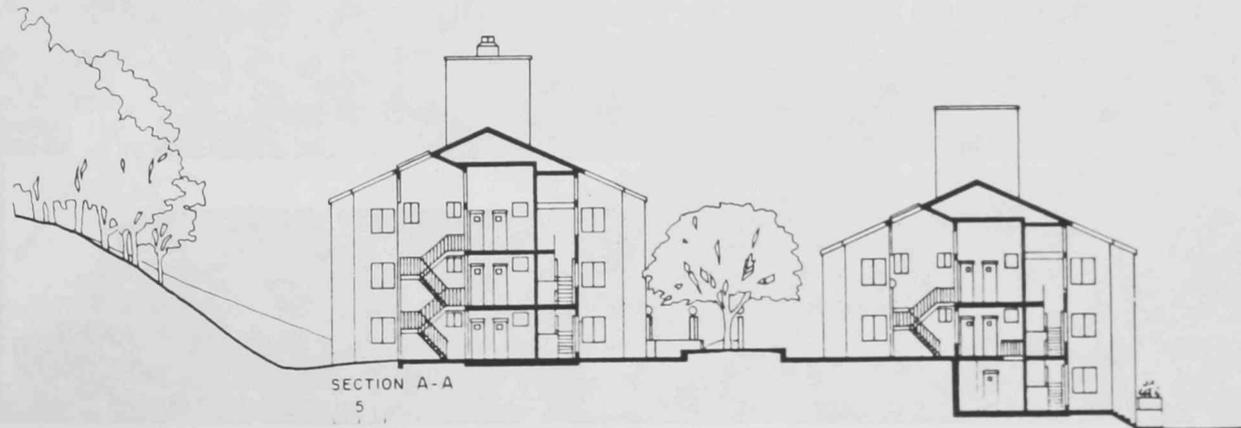
Typical floor plan

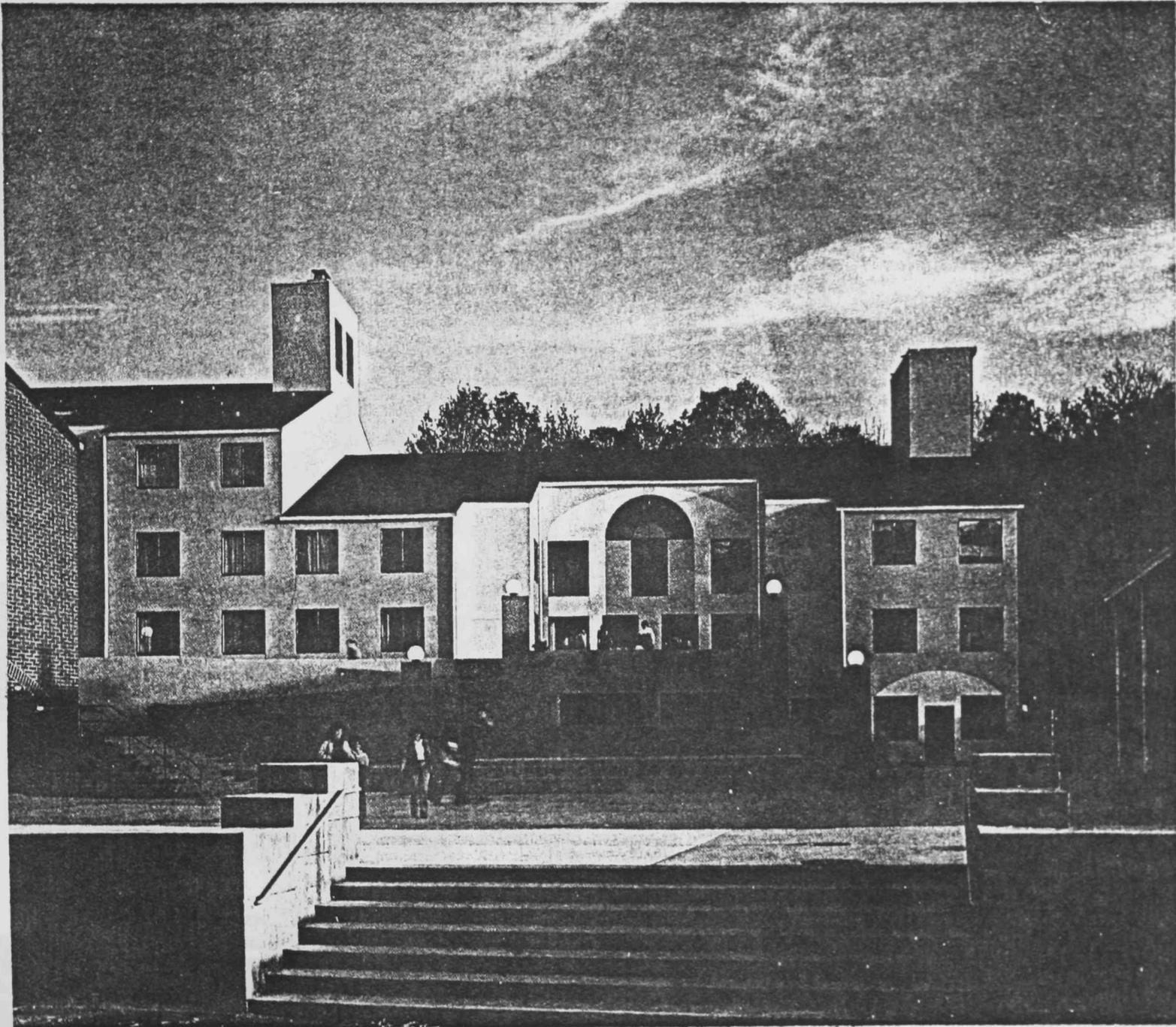
case studies summaries

* *Quinnipiac College Student Housing*

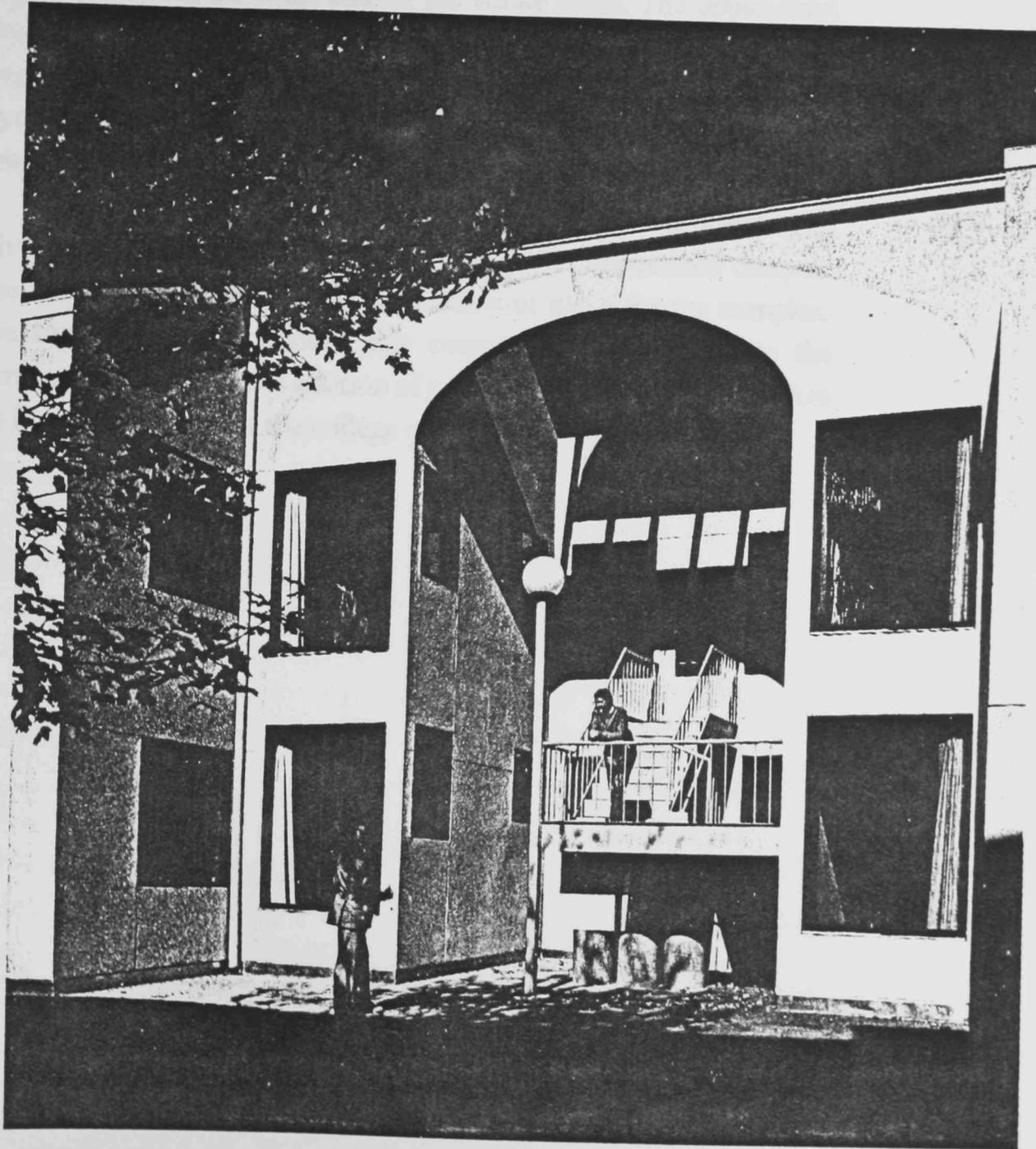


The plan showing the two - level plaza and its relation with the rest of the complex. The architects have successfully designed for the interior and the exterior to connect. We can see the transition from the exterior to the interior.





The plaza not only work as the meeting placca for the students and the
ents, but also as the entrance into the whole housing complex.



The transition area where the interior meets the exterior. This is where the public area ends and the students realm begins.

case studies summaries

** Quinnipiac College Student Housing*

backdrop for both the stage and for the whole plaza. The upper court serves the whole complex as the entry foyer. From the plaza, the progression moves into the stair halls where a sun filled common foyer links the four apartments. Beyond the foyer is each apartment's living room - the semi-public realm of the six residents.

In conclusion, the architects have succeeded in creating a private world for the students within a large and impersonal campus. The use of brick also reinforces the sense of place for the complex. The two-level plaza connects this complex to the campus to the campus physically. The transition of public to the most private makes the living area a part of the college community.

7. Eugenio Mario de Hostos Community College Library

Bronx, New York

Voorsanger & Associates.

Associates Architect : Hirsch / Danois

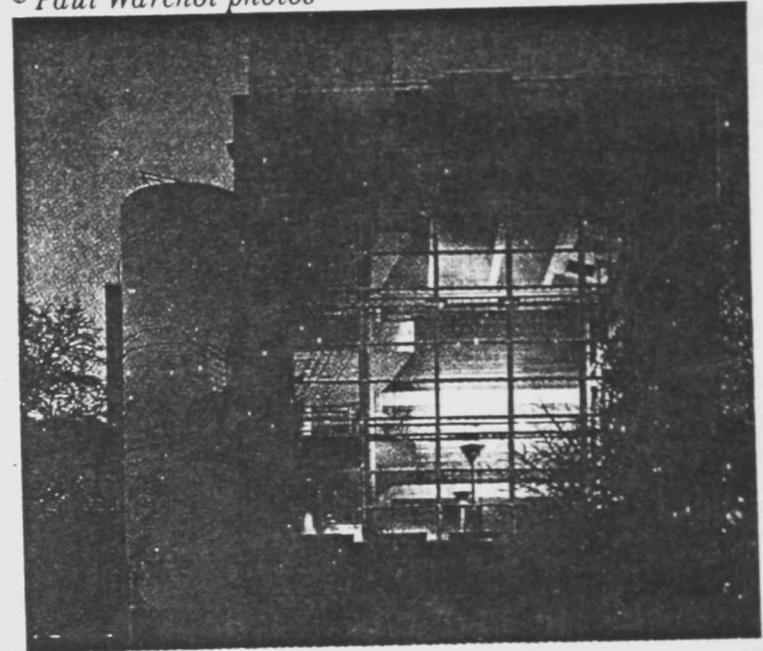
Lighting Design : H.M. Brandston & Partners, Inc.

" A welcoming glow tells students that school is not just an endurance test - it's an experience to be enjoyed to its fullest."

The lighting designers for the library decided to make the lighting of the library a message to be conveyed to the run-down neighborhood. The designers try to tell parents that "you are entitled to a good place for your kids. This is not a place that one has to endure but that one can enjoy". However, because of financial constraint facing the New York City Public University System, the lighting design at the library has to be top-of-the-line quality without being expensive. Therefore, the designers have to be inventive and skillful in putting together standard lighting fixtures so that the fixtures will work with the interior spaces of the library. As Howard Brandston stated "light is not light until it interacts with space".

The sense of grandeur of the central space is achieved by the use of ceremonial-scale stairways, a gracious atrium, generous balconies, and floods of natural lighting. The interior finishes include serviceable block walls, brickwork, acoustical ceiling tile, terrazo floor tile, and pipe railing. Brandston believes that, psychologically, people are more comfortable knowing the sources of lighting in a space. The designers have also designed a dramatic twelve-foot pendant of fluorescent tubes surrounded by perforated metal blades

© Paul Warchol photos



The lighting that appears to be almost candle - in - the - window to convey the message of education for the young.

case studies summaries

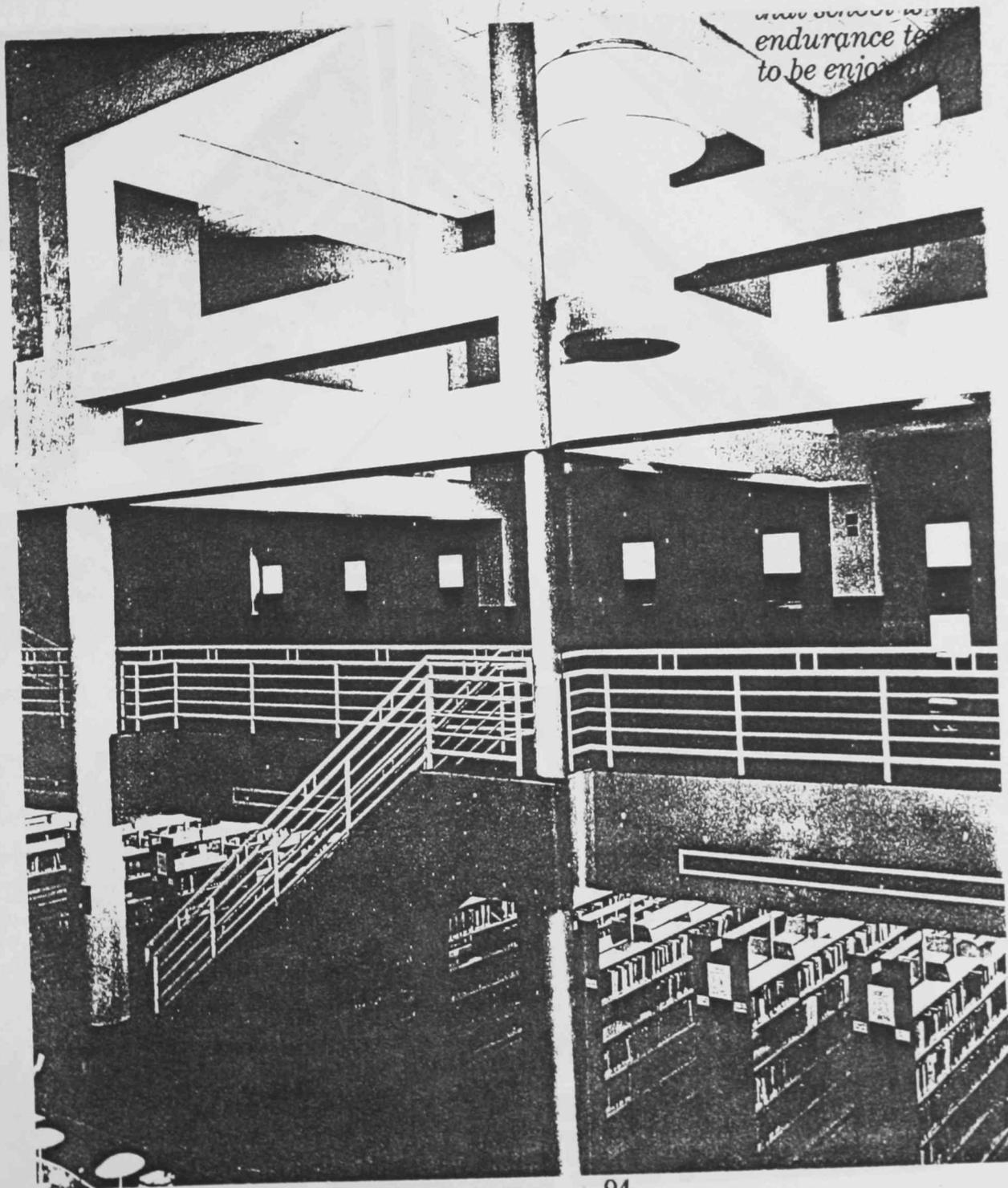
** Eugenio Mario de Hostos Community College Library*

and smaller versions to match. This lighting fixture is used for ambient lighting in addition to the direct table lamp or daylight. Daylight enters the building through the use of series of windows and through glass walls and a glass stairwell. The stairwell marks the southern entrance to the library and also provides enough brightness to each level of the library to welcome visitors. Creative lighting is also used in the corridor by tilting the acoustical panels at an angle and inserting shielded fluorescent tubes to achieve skylight effects in the corridor. The use of prism-lensed fluorescent tubes along the interior balconies, and oversized torcheres makes the atrium appear to be almost candle-in-the window.

In conclusion, by creatively designing the lighting in the interior, the lighting designer has succeeded in enhancing the architecture while providing variety and interesting spaces in the interior.

case studies summaries

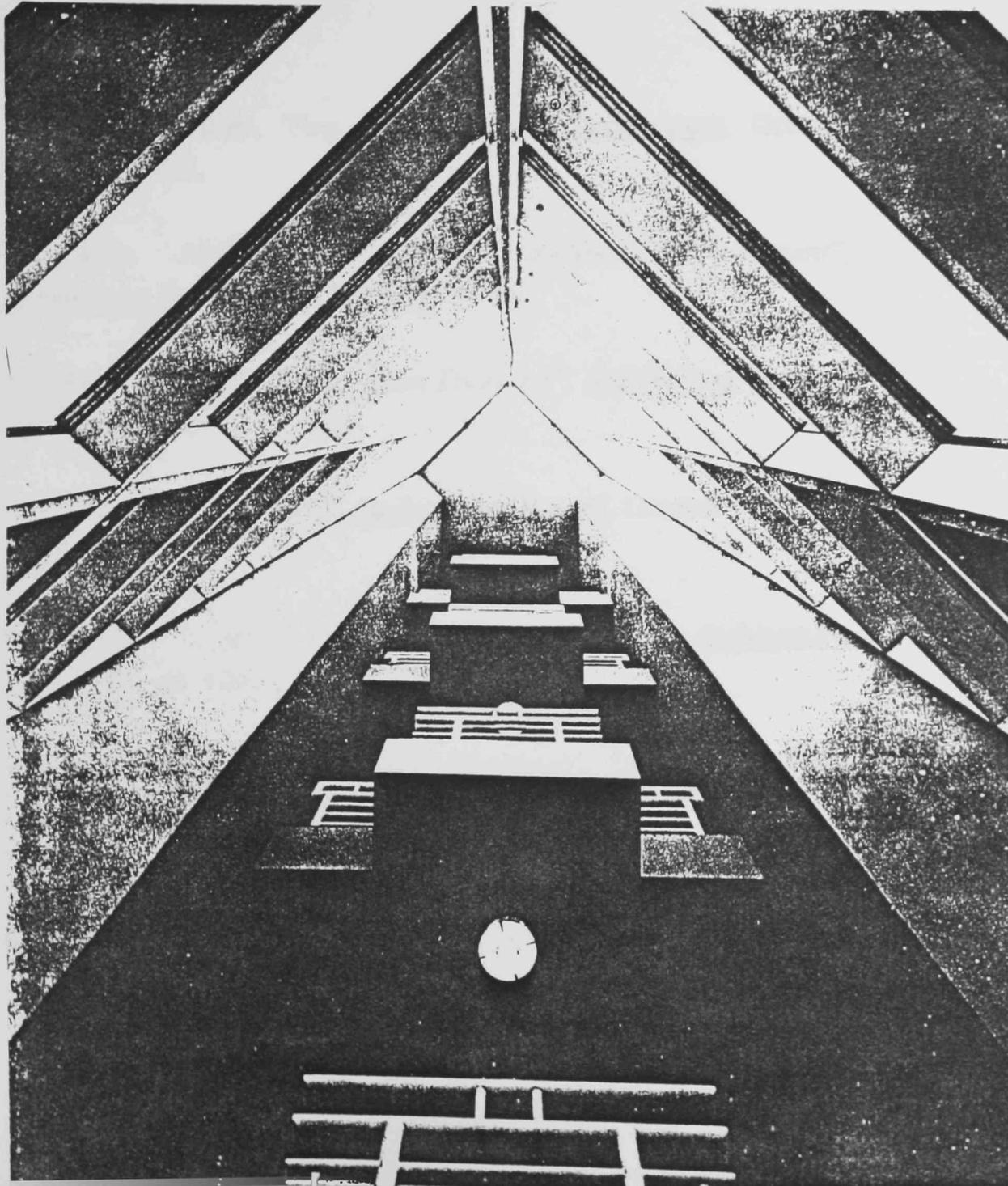
* *Eugenio Mario de Hostos Community College Library*



The main atrium is flooded with natural lighting through the use of clerestory windows. Daylight with the help of specially designed lighting fixtures makes the atrium an exciting space to be in.

case studies summaries

* *Eugenio Mario de Hostos Community College Library*



The daylight illuminating the stairwell helps to make it an exciting feature to the library because it gives out the feeling of friendly and welcome to the visitors.

case studies summaries

* *sources*

SOURCES.

1. Ray Don Tilley, "*Regionalist Power*", Architecture, October 1992, pp. 76-83.
2. Hugh Aldersey-Williams, "*Streamlined Government*", Architecture Record, June 1992, pp. 96-99.
3. Robert Campbell, "*Uncommon Dwelling*", Architecture, January 1990, pp. 78-81.
4. C.A.P, "*Holding Court*", Architecture Record, October 1989, pp. 112-115.
5. Michael J. Crosbie, "*Cooled Student Housing*", Architecture, April 1987, pp. 68-69.
6. Walter F. Wagner, "*Meet You At The Plaza*", Architecture Record, October 1982, pp. 92-95.
7. Judith Davidsen, "*A Touch of Class*", Architecture Record Lighting, May 1992, pp.48-51.



SITE ANALYSIS

SITE ANALYSIS

The location of the housing complex will be a part of the Overton Revitalization 2005. Therefore, the selected site is an appropriate section since the plan has allotted it as a residential area. The plan also suggested that area along University Avenue should be commercially zoned. Behind the commercial zone, is residential and multi-family housing that includes this student housing complex. The plan divided the block between University Avenue and Avenue X into two different categories that are multi-family residential and commercial. The site, bordered by 9th Street on the North, 10th Street on the South, and Avenue X on the East, will help to enforce the vision of Lubbock Redevelopment Association. Presently, the site is occupied by three apartment complexes, several houses, and an old church. In order to build the housing complex, these buildings will need to be demolished. Because of the Revitalization Plan, there will be no particular style on the site; however, the new housing complex will be designed to relate to the present architectural styles on both the Texas Tech University campus and the city of Lubbock. Some of the buildings around the site will also need to be demolished to provide support facilities for the housing complex such as a parking complex. Around the site there are several residential houses located along 9th Street and Avenue X. Several multi-families reside in the in these houses. The area also has several other low-rise apartment complexes. The residents of these apartment complexes are mostly students attending Texas Tech University.

The site has adequate infrastructure for the housing complex. It has an electrical grid, sewer drainage, telephone lines, water plumbing, and gas line. Since the area has been inhabited for some extended time, the vegetation for the site on mostly grass Grama and Threeawn grasses. The general soil description on the site is similar to that of Lubbocks that is Amarillo-Acuff. The area has a fairly level land with the topographic variation from 3210-feet to 3213-feet. During stormy weather, some soil blowing and water run-off occurs on the site; however, there is sewer drainage on the site to collect and channel run-off water on the site. Like Lubbock's climate, the area semi-arid and mild, that is transitional weather between temperate conditions to the West and the humid condition to the East. The area experiences a fairly low relative humidity. The prevailing winds are Southwesterly from November to April, and Southerly from May to October. The average wind speed is about 13-miles per hour with the ability to increase to as high as 300-mile-per hour during tornadic activities. On the whole, the area experiences mild conditions throughout the year.

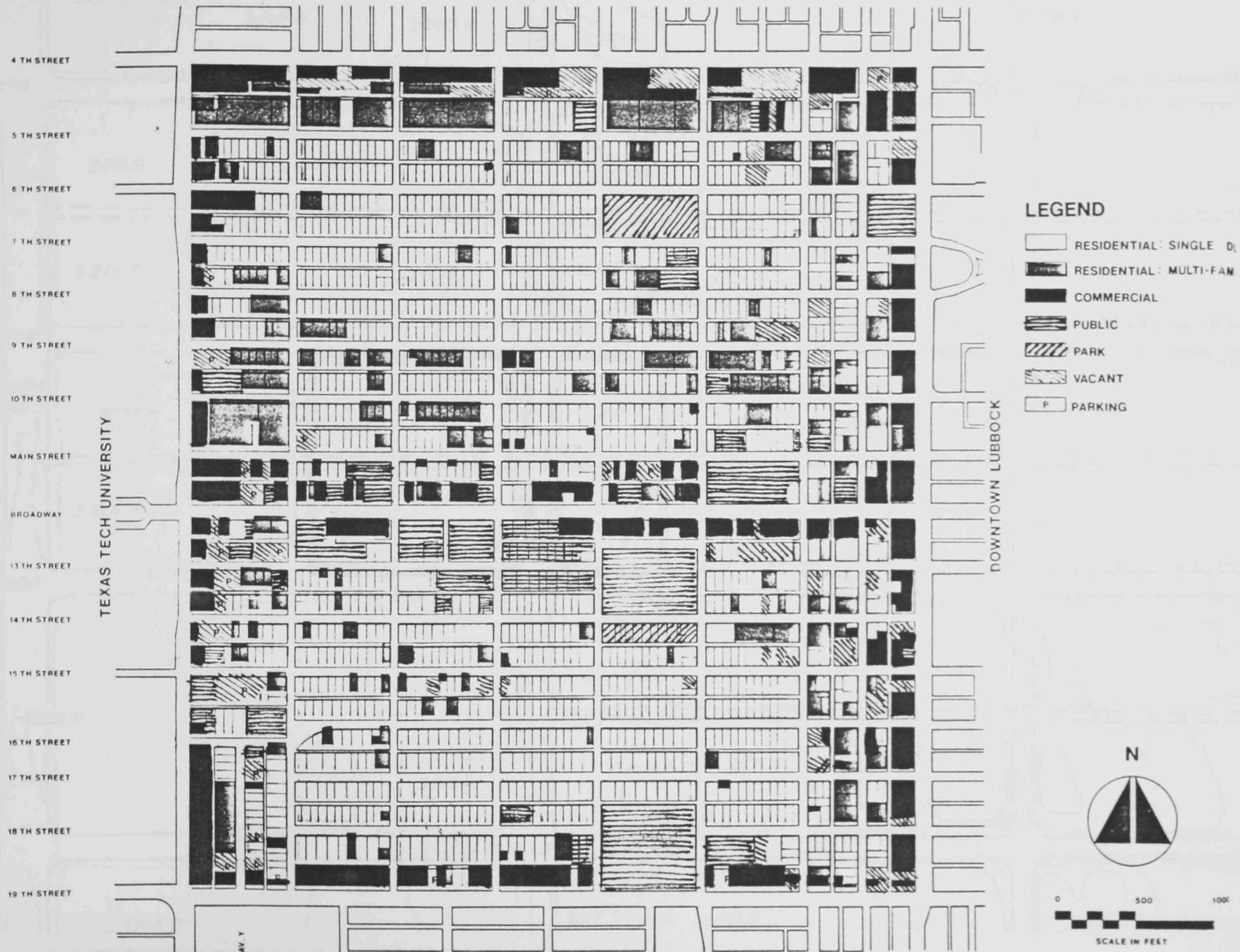


FIG. #28 OVERTON AREA, CITY OF LUBBOCK, TEXAS
LAND USE MAP 1985

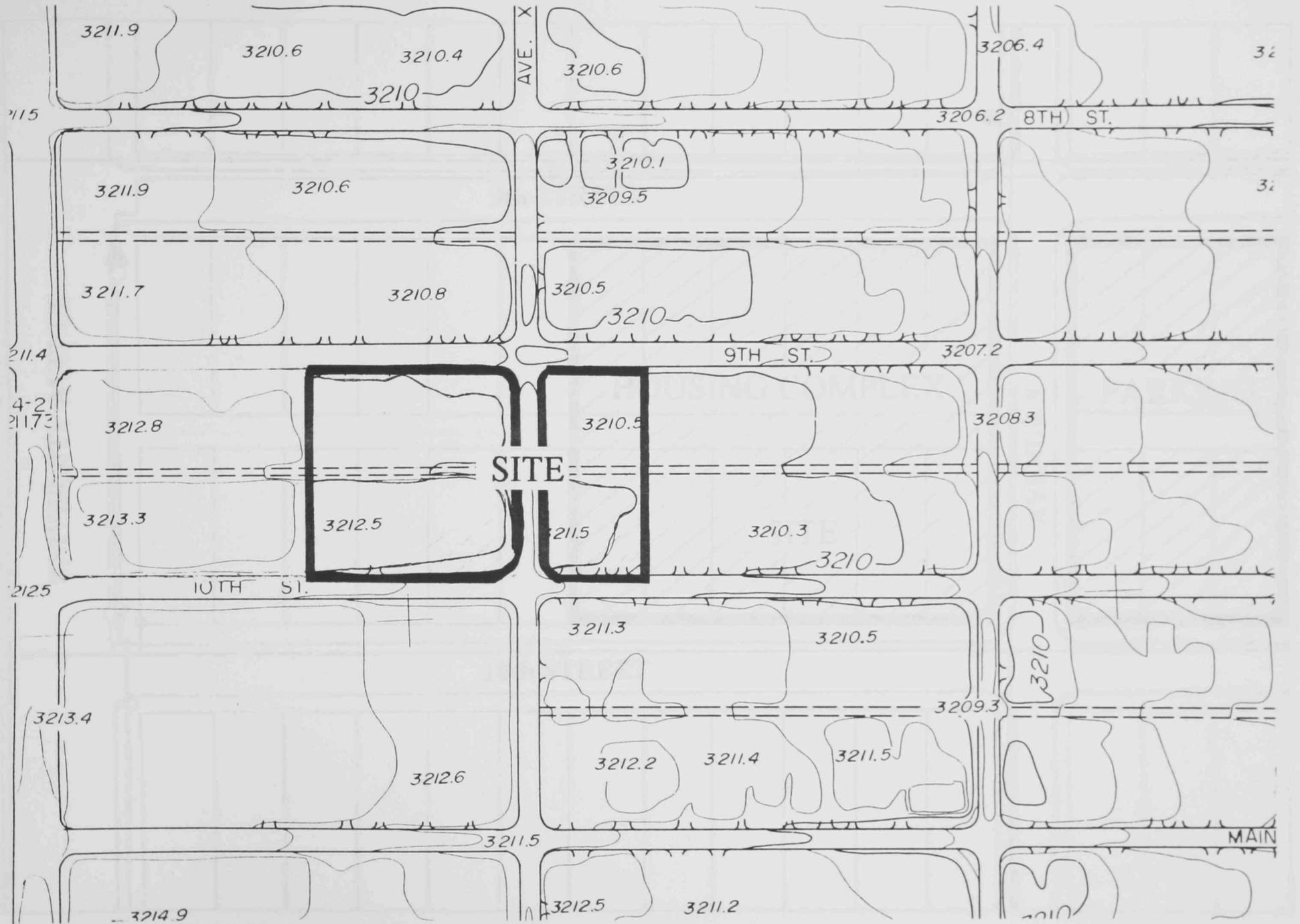


FIG. #29 TOPOGRAPHIC MAP



FIG. #30 WATER LINE



FIG. #31 SEWER LINE

site analysis

Presently, the site is filled with three different apartment complexes. These complexes are packed together filling a small space that leave very little for open area. Brick is the major material on these apartment complexes. Two of these complexes, shown by the photographs, will be demolished for the construction of the student housing facility.

Photograph #1 : The apartment complexes along 10th Street.

Photograph #2 : The apartment complexes taken from 10th Street and Avenue X.

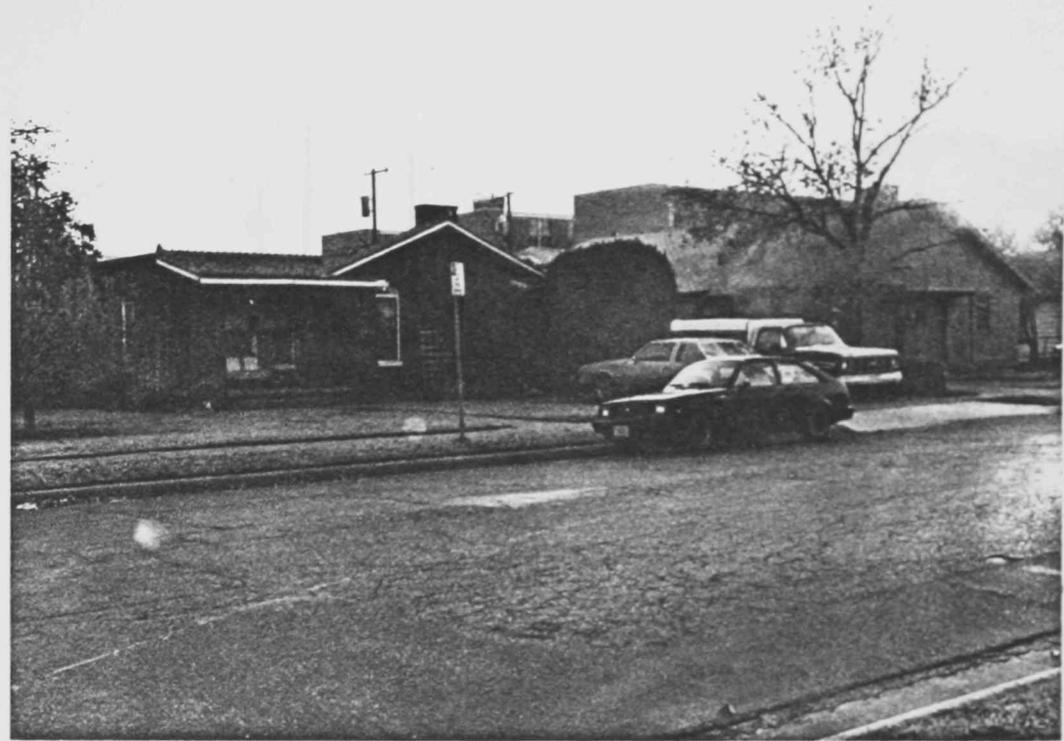


site analysis

There are several houses behind the apartment complexes. Like the apartment complexes, the houses were built closed together on a small space. Some of the houses are in need of repair especially exterior finishes. However, the construction of the student housing facility will give a new image on the site. The bottom photograph is showing the site for the parking facility for the housing facility. Presently, the white building is vacant and in need of repair.

Photograph #3 : The site for the student housing taken from 9th Street and Avenue X.

Photograph #4 : The site for the parking complex taken from 9th Street and Avenue X.



site analysis

Although the church is not a part of the site, it might be demolished because the area will be under a new zoning code which is commercial as stated in the Lubbock Revitaliation Plan. However, the church can be a great service to the population of the student housing.

Photograph #5 : The University Baptist Church.



This photograph is showing the present context of the area. There is a mix of architectural styles of the houses adjacent to the site. The area is populated with multi-families which explains the sizes of several of the houses. The area is also in need of more vegetation to provide a greener scenery.

Photograph #6 : Several houses along 9th Street.



site analysis

The University Plaza is a very important feature on the area around the site. Because of its size, the University Plaza should have a significant impact on the design of the new student housing facility. The brick work on the exterior of this facility is a response to the style of the campus of Texas Tech University. The character of the facility has set a precedent for the new student housing to respond.

Photograph #7 : The University Plaza taken from 10th Street and Avenue X.

Photograph #8 : The University Plaza.



site analysis

The site is also within walking distance from the football stadium, coliseum, and several athletic facilities. There are also tennis courts which are opened to the students of Texas Tech University. The residents of the new housing facility can also use several playing fields adjacent to the site.

Photograph #9 : Several facilities located within walking distances from the student housing facility.





ACTIVITY ANALYSIS

ACTIVITY ANALYSIS.

1. Activity: Entering / Visiting

This activity does not really take place at a specific time to take place. The space for this activity should be accessible and spacious to provide the a of welcome into each unit in the complex. This activity can also be very noisy since the participants might be talking as the activity occurs. Therefore, the space might require some noise control. However, this activity can be located near an open space within the unit, such as a living room.

Activity Analysis:

This participants in this activity can be divided into two groups - inhabitants and visitors. Therefore, there is no specific number of participants doing the activity. This activity does require that there should be identification of the inhabitants where the activity takes place. The activity takes place where the entrance into each unit is located.

Activity Sets

This activity can be divided into two; entering the complex and entering individual rooms. The first activity involves students and visitors, while the latter activity involves only the residents of individual rooms.

2. Activity: Washing Clothes / Laundry

This activity usually occurs during the weekend or the evening. It will also occur as the students find that they have extra time to do the activity. The activity is usually very noisy, because of the machines involved with the activity and because the students tend to socialize among themselves as they are doing the activity. The activity does require that the space should be accessible and secured from strangers. This activity can be a routine for most of the students.

Activity Analysis

The participants of this activity are students, visitors, and maintenance people. There is no specific number of participants involve because of the variation in the students' routine. However, during weekend the number of students involved is very high, as many as 20-30 students at a time. This activity takes place in a special room designed to accommodate the activity. The objective of the participants in this activity is to obtain clean clothes for themselves.

Activity Set

There are three activities involve in cleaning one's clothes. The activities are -- washing, drying, and storing clothes. Usually, these activities occur one follows another. For this facility, the main participants of the activity are the students.

3. Activity: Room Maintainance

In this activity, the students maintain the cleanliness of their own rooms. Usually it takes place during the weekend and holidays. Since the students might use some machine, the activity can be very noisy. In addition, the activity does require a space to store the equipment involved in the activity.

Activity Analysis

The activity involves the students in each room, the number of participants should not be more than two while the activity occurs. This activity occurs when the student feels a loss of the sense of comfort in the room. The objective of doing this activity is to restore a clean and comfortable room.

Activity Set

Generally, there are three activities involve room maintenance -- cleaning, drying, storing personal belonging. These activities can

occur at the same time or separate. The participants of the activities are the student residents.

4. Activity: Body / Appearance Maintenance - Grooming:

Usually, this activity occurs during the morning or after the student takes a bath or shower. However, the student might also do this activity as the need arises because of a special occasion such as going to a dance or a formal activity. Such preparations are classified as a private activity for most students and are a routine after the shower or bath.

Activity Analysis:

The participant involved is the student. The activity requires a space that can provide a sense of identity and privacy for the student. The frequency of this activity depends on the character of the student. However, it can be assumed that the activity will occur as many as four to five times a day. This activity usually occurs either in the bathroom or the bedroom.

Activity Set

This activity can take place at two different places that are the bathrooms or the student's bedrooms. It involves the activities cleaning oneself and preparing to do other activities. The set of activities is shower, bath, grooming, and dressing.

5. Activity: Sleeping

This activity usually occurs at night but may occur as the need arises. This is because the student does not have fixed working hours, since graduate students have a lot of work to do. This activity is very quiet it requires that the space for this activity have a very good noise

control. In addition, the space should provide some identification with each student.

Activity Analysis:

The student is the only person involved in this facility. Therefore, the number of the participants should not exceed one at a time. Although this activity is very important for each of the students, the activity is very passive. This activity almost always happens at night and the frequency is everyday for about 6 - 8 hours. Usually, this activity takes place in the bedroom and on the bed. Therefore, a sense of privacy is very important for this activity along with a sense of belonging in the space. The students anticipate feeling refreshed after doing this activity.

6. Activity: Study / Work

For most students this activity happen throughtout the day and night, since they are students who immerse their lives in books and schoolwork. Although this activity can happen at the school or the library, most students feel comfortable doing their study or work in their rooms. Therefore, this activity does require some noise control so that the student can do this activity comfortably. This activity is very important for every student because it can affect their future. Therefore, this activity requires psychological and mental stability on the part of the students. Through this activity, the students are aiming for better lives for themselves in the future.

Activity Analysis

This activity can be done alone or in a group. Therefore, the number of people involved can be one or many as five or six. This activity can be as simple as reading a book or involve creating a model or a presentation. Practicing a speech is also a part of this activity since it a part of their schoolwork. Therefore, this activity does require some space so that the students can move around comfortably while doing their projects. The frequency of this activity is very high because it occurs every day in the student's life.

Activity Set

This activity is one of the most important activity in the life of a student. This activity can involve study, working on projects, or discussion with a group of students. There is no hierarchy of importance in these activities since they occur as the need arises.

7. Activity: Administration

This activity is responsible for assuring that the facility runs smoothly. It includes public relations, counselling, accounting, record - keeping, and some word processing. Therefore, this activity usually occurs during the day time in a semi-public office. This activity is not especially noisy, because it does not require extensive talking. However, it does require easy access to the work area. In order for the participant to be productive the work area will need to be spacious and uncluttered.

Activity Analysis

There are several people who are involved in this activity. There are the director of the complex, the assistant director, clerical personnel, the general public, and the students. The number of people doing this activity is usually about ten. The office's work also involves some typing , filing, and copying. This activity also deals with the public, along with the students.

Activity Set

As explained above, this activity involves clerical works, counseling for the students, and administrating the complex. Of these three activities, administrating is the most important because it runs the complex and clerical work supports it. Since this facility is not very big, the director should be able to help the residents of the facility.

8. Activity: Dining

This activity involve eating breakfast, lunch, and dinner. Therefore, this activity occurs three times a day during morning, afternoon, and evening. It requires a special space designated for this function. Commodious and easy access to the space is required. Usually, during this activity there are opportunities for the students to socialized among themselves.

Activity Analysis

There are two groups of people involved in this activity : the students and the servers. The number of people involved in this activity can be as high as the number of inhabitants of the complex

activity analysis

(150 students) and the servers. There will also some activities in selecting the food and drinks. As this activity progresses, some opportunities should be provided for interaction. This activity requires some accesblity in getting to the food and also to the dining area. Dining activity requires some privacy as it progresses. The objective of this activity is to provide the body with nutrients and interaction among the residents.

9. Activity: Dining Services

This activity involves providing food for the above activity (dining). Since it is a complete dining service for the complex, there should be adequate space provided for the activity to take place. The activity occurs during a few hours before the dining area is opened to prepare the food. This activity requires some open area for food' preparation and some consideration for the cleanliness of the area. This activity also requires some equipments to handle the tasks. It also needs some consideration of the workers' safety. There must also be some area for food storage and maintainance of the facility.

Activity Analysis

This activity involves food preparation for the students. Therefore, the people involve in this activity are a few cooks, as many as five to six people. Since this activity requires some cooking, several equipments will be needed to help the cooks, such as a ovens, several pots, and some appliances. There will also be some smoke that requires some ventilation from the kitchen area. In order to provide healthy food, the area should be kept clean which calls for

some maintenance work. The intention of this activity is to provide a good and healthy meal for the students.

Activity Set

Several activities involve in preparing food for the students. These activities are receiving, preparing, cooking, and serving food and cleaning the kitchen. These activities usually occur in a particular order starting from receiving food to serving the food. However, to maintain the quality of the food, the kitchen area needs to be cleaned every time a meal is over.

10. Activity: Games

This activity usually occurs when the student has some free time, or in the evening if it is a routine. This activity can last well into late in the night, depending on the game that they play. The activity can be a noisy one if it involves communication among more than two people. In addition, this activity nearly always takes place in a public space, such as a games room.

Activity Analysis

The participants in this activity are the students themselves although some visitors might join the students. It is a form social activity among the student residents. The number of participants varies depending on the games that the students play and the size of the room. The activity usually involves some talking and body movements. The frequency of the activity can be expected very high in the evening when the residents have finished their classes. The

activity analysis

main objectives of this activity is to promote a sense of community among the students and provide a way of relaxation.

11. Activity: Outdoor Recreation

This activity usually occurs during the morning or evening. It involves some activities that require facilities for the activities, such as courts, trails, and fields. Although the activity requires access to these facilities, it should provide some privacy and security for the residents. Therefore, the activity can be classified as semi-public activity.

Activity Analysis

Generally, the participants of the activity are the residents of the complex, although some visitors might use the available facilities. In addition, some outsiders might also take advantage of the semi-open jogging trail. The activity will require capacious and open space. The main objective of the activity is to provide a healthy lifestyle for the students and also to promote a sense of community among the students.

12. Activity : Gathering / Meeting / Social Activity

This activity can be expected to occur as much as once a week among the residents of the complex. Therefore, the activity requires a space to hold it and some noise control. It should not be opened to the public since it is an internal affair of the residents. However, the activity can also be a part of other activities that are opened to the public.

Activity Analysis

Generally, the participants of the activity are the residents, while sometimes they may be joined by the administrators, or the public. The number of the participants can be as high as 200 at a time. The activity might include some speeches, activities, games, and dancing. Usually, the activity starts in the evening and may last well into the night, possibly even for several days. Therefore, this activity does require a special space designated for this activity. The objective of the activity is to promote a sense of community, and also to serve as a link to the community around the complex.

13. Activity: Mail Receiving and Distribution

The activity occur when the mail - carrier delivers mail to the complex. Usually this activity occurs in the morning, but it depends largely on the mail - carrier. For the students, when the activity occurs varies depending on the individual. Although the activity requires accesibility, the holding area does require some security. Therefore, both the residents and the mail - carrier should have some control over access. The space for this activity can be classified as a public area.

Activity Analysis

There are three different participants in the activity: the residents, the administrators, and the mail - carrier. The number of participants includes all the residents (150), the administrators (10) and the mail - carrier. This activity occurs when the participants

collect their mail. The activity requires a space for this activity to take place that is accessible in varying degree to the three groups.

Activity Set

There are two activities involve which are receiving and mailing mails. There is no hierachy of activity since the depends on the mails to be mailed or received.

14. Activity: Maintenance

This activity usually occurs during daytime. It involves both the interior and the exterior of the facility. The activity does not generally produce undesirable noise while it is progressing in the interior. However, the activity can produce a noisy environment, because of the use of some equipment especially if it involves large machines. This activity also requires a storage space for the equipment. Therefore, some consideration should be given to the size of this space and access to it.

Activity Analysis

Generally the participants in this activity are the maintenance people and janitors. The number of the participants depends on the needs of the complex, possibly five to seven people. In the interior, the activity involves maintaining cleanliness and comfort. Since the residents will take care of their own rooms, the janitors and clean workers clean onlythe common rooms and offices. Therefore, this activity should not inhibit other activities. The activity involves cleaning, vacuuming, mopping, trash removal, changing lights, filters, general repairs, and maintaining the mechanical system. The

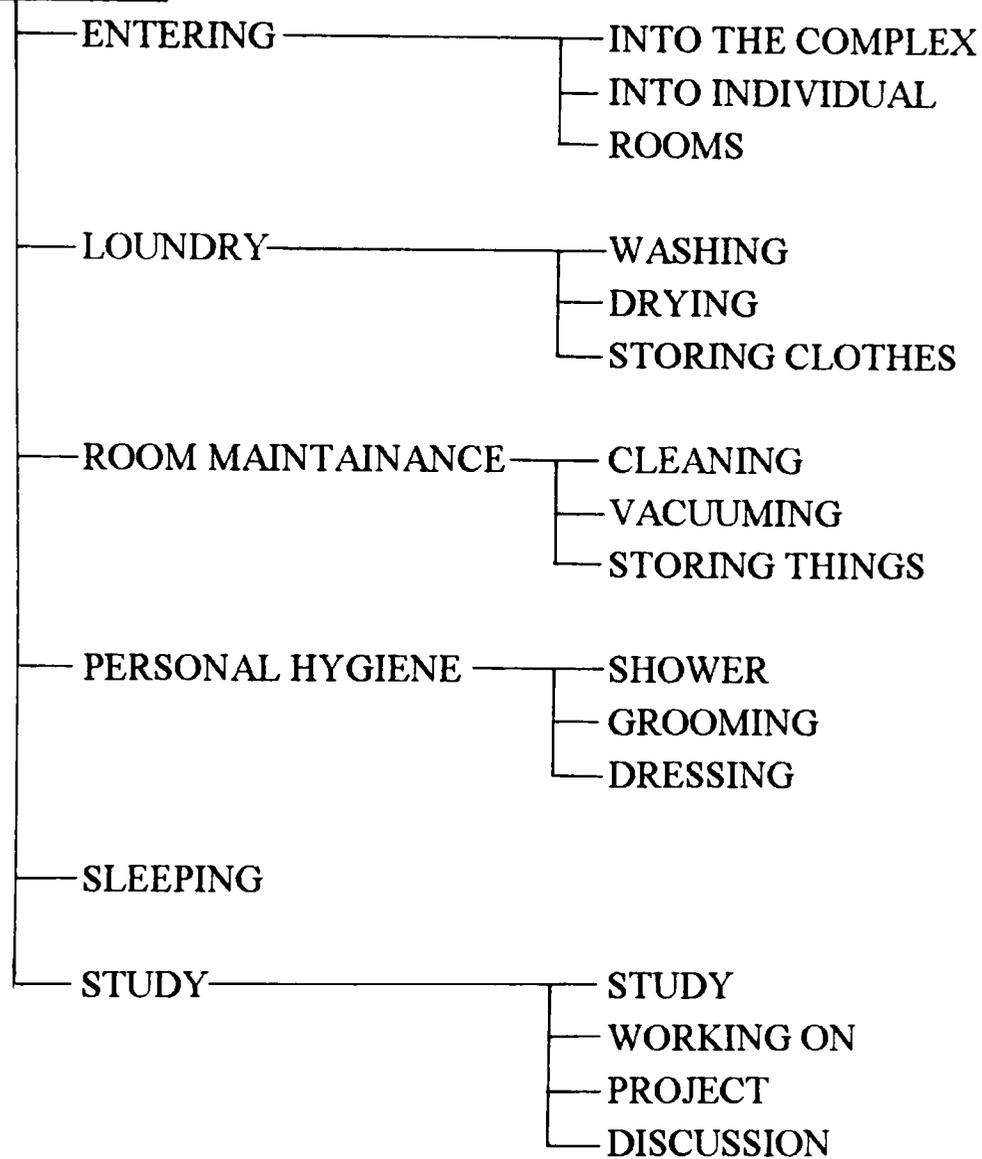
activity analysis

activity occurs five times a week so that the the complex can be a comfortable environment.

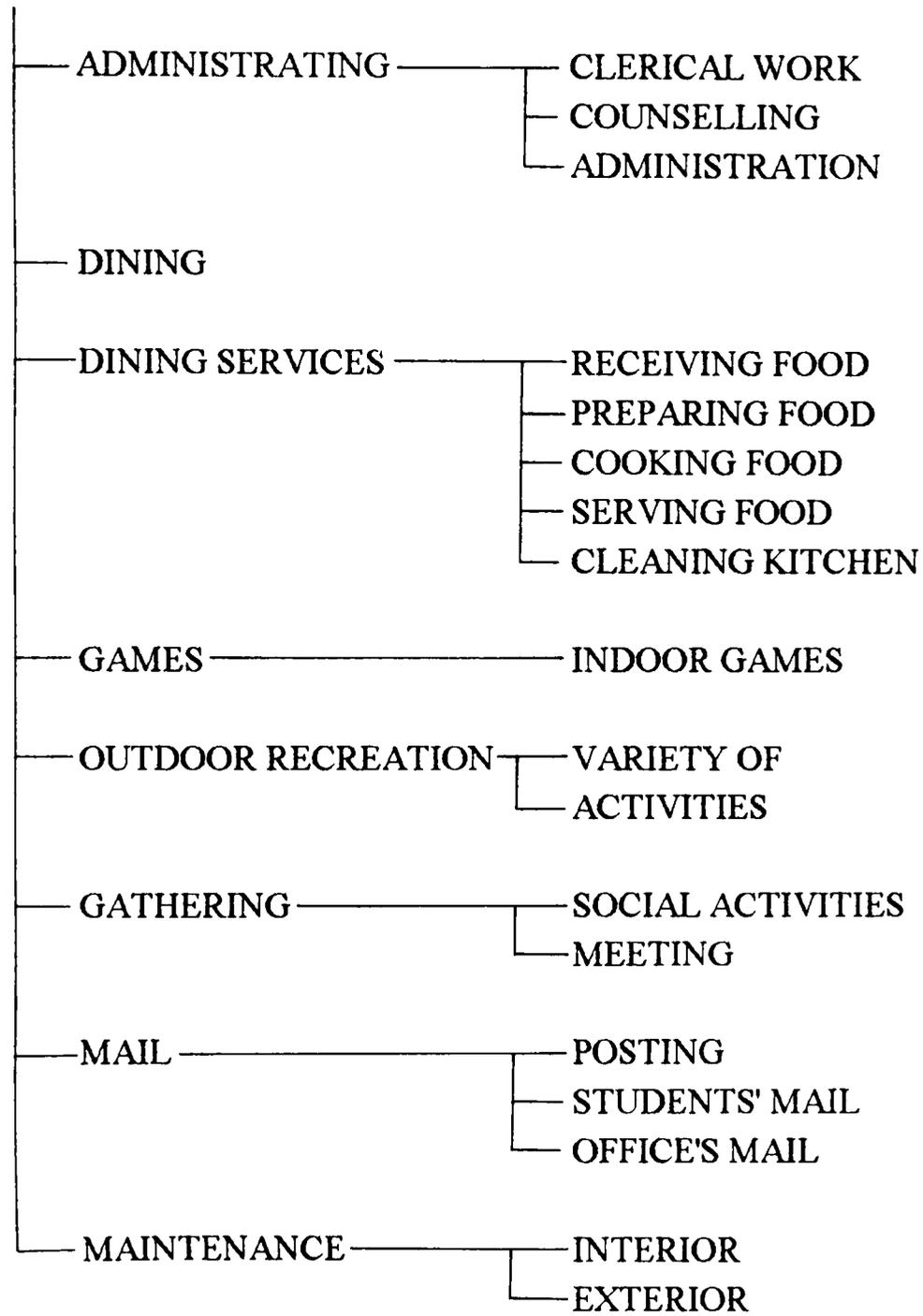
Activity Set

This activity can be divided into two groups : those who maintain the interior and those who maintain the exterior. Maintaining the interior involves janitorial and maintenance activities. The exterior maintenance involves caring for the garden and the yard.

ACTIVITY.



activity analysis



ACTIVITY MATRIX RELATION

- MOST RELATED
- ◐ RELATED
- NOT RELATED

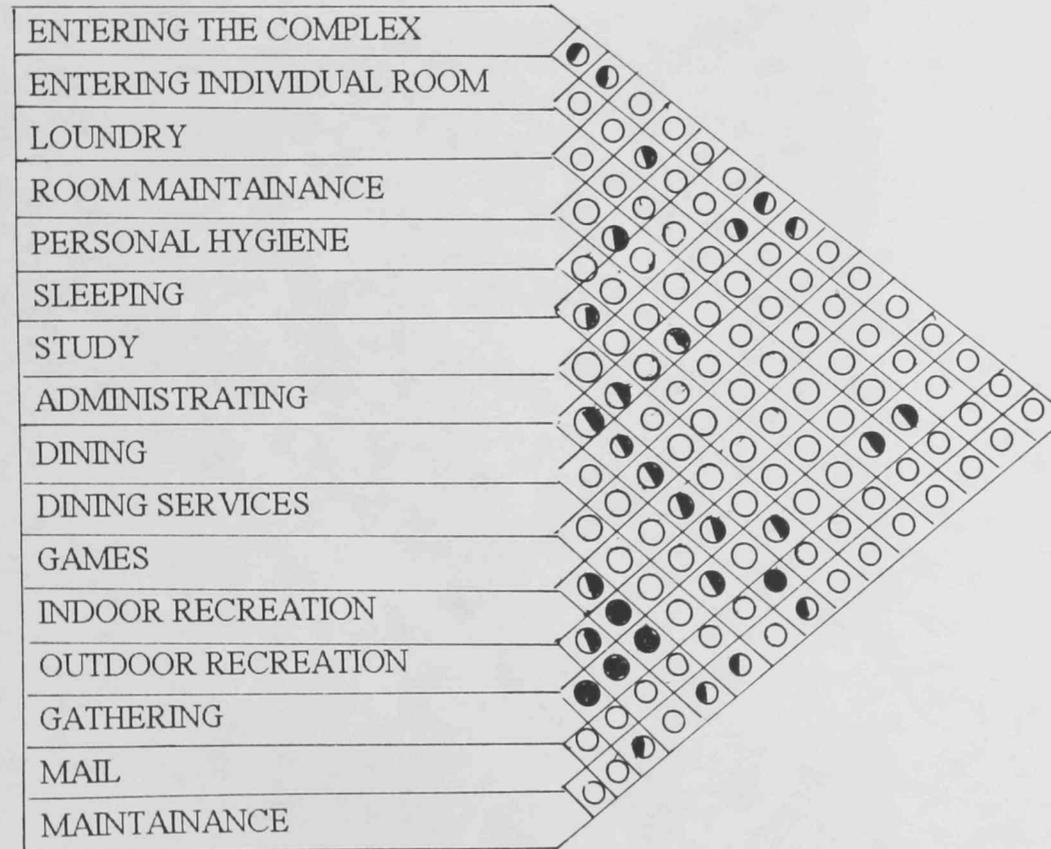


FIG. #32 ACTIVITY MATRIX RELATION



SPATIAL REQUIREMENT

SPATIAL REQUIREMENT			
ACTIVITY	SPACE NAME	SPACE (SQ.FT)	ENVIRONMENTAL REQUIREMENTS
Entering the complex	Lobby / Entrance	300	The space will need a high ceiling to provide a feeling of spacious and openness along with a feeling of welcome. 300 sq.ft. lobby with 15 foot - high ceiling will achieve this intention. In addition, the space will need heating and cooling to provide comfort to the users. The space will also act as a climatic buffer between the interior and the exterior.
Entering individual rooms	Student rooms	30	This will be part of a larger space that forms a living area. Since this space is in the complex, the climatic requirement will be a part of the living area. However, the 30 sq.ft should provide enough space to accommodate multiple users. In addition, the space require at least an 8-foot ceiling height.
Washing Clothes	Laundry room	250	This space will be designed to accommodate 20 residents at a time. It should provide ample space during peak periods of the activity. This room requires ventilation for the hot air generated by the dryer machines and hot and cold water plumbing for the washing machines. In order to provide a spacious environment relative to human scale, the ceiling height should be at least seven - feet.

spatial requirement

Room maintenance / housekeeping	Storage area for each individual rooms	20	The area is meant to store each individual resident's maintenance equipment. This space is also used by the residents to store their other belongings and excess books. The 20 sq.ft. area should be enough. There is no environmental requirement for this space except that it should be accessible and the ceiling height at least seven - feet.
Personal hygiene	Bathroom	300	This space is designed to accommodate 25 residents. It contains both a toilet and a bathing area. The large space should be spacious enough for the residents. It requires hot and cold water plumbing, electric sockets, and climatic control.
Body maintainance / dressing	Closet area	50	This space is a part of the sleeping area. It is a personal area for each resident. It requires good lighting and mirror. The 50 sq. ft. area is designated for closet space. The closet requires at least a 7-foot ceiling height. The space should be designed to be both personal and spacious for the resident.
Sleeping	Bed area	75	This space should be designed to be very personal and relative to the human scale. The 75 sq.ft. area is designed for one person to live in comfortably. Therefore, the space should be airy and have a good ventilation. In addition, the resident in each room can control the climatic need of each room. The ceiling height of this space should be at least seven to eight feet high for the residents to be comfortable.

spatial requirement

<p>Relaxing / Socializing Between Residents</p>	<p>Living & kitchenette area</p>	<p>200</p>	<p>This space will be a common space for a group of 25 residents. In this area, some of the residents can prepare some food for themselves. They can also get some beverages and food. Therefore, this space will need electrical outlets, plumbing, and good lighting. As much as possible this area should be provided with daylighting. In addition, the space should have an 8 to 10 feet ceiling height.</p>
<p>Study / working</p>	<p>Study / reading lounges Computer terminal room</p> <hr/> <p>Total</p>	<p>1000 x 3 = 3000 200</p> <hr/> <p>3200</p>	<p>The study area is designed to be used as a common working area for a group for students; therefore, the space is to accommodate about 50 students at a time. In the space, a student, a group or several groups of students can study or works at the same thing. The space should be designed to be both quiet and comfortable for the students to study. Therefore, it requires acoustical and climatic control. Because of the number of people in the space, the ceiling height should be elevated to at least 9 or 10 foot. This is to provide a feeling of spacious and openness.</p>

spatial requirement

<p>Administion</p>	<p>Office / Administration Records / clerical Directors office Conference room Storage Waiting lounge</p> <hr/> <p>Total</p>	<p>150 150 300 15 30</p> <hr/> <p>645</p>	<p>This space will accommode 10 people. Because the activity involves office works, 645 sq.ft should be spacious enough for the users to be comfortable while working. The space should give the users access to their working area and working materials. In order for the users to be comfortable, the space should have a ceiling height about 8 to 9-foot. The space also needs climatic control so that the users can work comfortably. It should also be located so that the residents and visitors can have easy access.</p>
<p>Dining</p>	<p>Dining room Men's restroom Women restroom</p> <hr/> <p>Total</p>	<p>500 80 65</p> <hr/> <p>645</p>	<p>This space will accomodate about 100 students at a time. Therefore, this space will be designed to contain 100 seats and a large serving area. In addition, it should be located next to the dining services area where the food is prepared. In this space the feeling of cleanliness and openness is important. In order to be comfortable, this space should have climatic control. The ceiling height can be varied between 8 to 10-foot.</p>

spatial requirement

<p>Food preparation</p>	<p>Kitchen / dining services Men's restroom Women's restroom</p> <hr/> <p>Total</p>	<p>500 80 65</p> <hr/> <p>645</p>	<p>This space is designed as an area to prepare food for the dining services. Since the space will be operating from 5 a.m, the space should have access for the workers. Because the activities involve in space, it requires ventilation and plumbing both for water and gas. The kitchen area also requires storage space for food and other supplies. The space should also have access to the dumpster area. The ceiling should be at least 7-foot high.</p>
<p>Games</p>	<p>Games room</p>	<p>600</p>	<p>This space should be designed so that it can be easily operated without need of maintenance. It should have noise control so that noise generated in this room will not disturb adjacent space. This room also requires ventilation so that users can be comfortable in it. The space should accommodate about 20 people. The ceiling height should be about 9-10 foot. In addition, the space requires climatic control.</p>

spatial requirement

Gathering / Meeting / Social Activity / Discussion / Exhibition	Meeting / discussion	300	<p>These spaces are designed to provide the students with space for social interaction among themselves with the community. Because they will be used by a large number of students, the space should be very big. The multi - purpose hall / exhibition space will have a seating area for 150 seats. All of these spaces will need acoustic and lighting control. These spaces will also need climatic control and electrical outlets. In order to provide the feeling of a big and spacious area, the ceiling height should be exaggerated.</p>
	Multi-purpose hall	150	
	Exhibition space		
	Conference room	150	
	Conversation lounge	100	
	Television lounge	200	
	Refreshment room	150	
	Men's restroom	80	
Women's restroom	65		
	<hr/>	<hr/>	
	Total	1000	
Mail receiving & distribution	Mail room	100	<p>This space should be designed to accommodate about 30-40 people at a time, along with the mail boxes. The space should be accessible to both the residents and the administrator. The space requires good lighting along with climatic control. The ceiling height should be about 7 to 8 foot to provide a sense of scale for the users.</p>
Maintenance	Office	150	<p>This space will be used by the janitors and maintenance people. The space will be used mainly to store and maintain equipment, as well as the workers' lockers. Therefore, it too requires climatic control and good lighting.</p>
	Shop	250	
	Delivery & trash pickup	200	
	Storage	100	
		<hr/>	
	Total	700	

SPACE SUMMARIES

Graduate Students Living Area 200 students single units.

Space	Units	Each in sq.ft	Total in sq.ft
Lounge / Small Kitchen	8	200	16000
Bedroom	200	100	20000
Bathroom	8	300	2400
Storage	200	20	4000
Total	608	570	42400

Complex - Space Summaries

Space	Units	Each in sq.ft	Total in sq.ft
Administration	1	660	645
Lobby	1	300	300
Loungery Room	1	250	250
Study / Reading Lounge	1	3200	3200
Dining	1	645	645
Kitchen / Dining Services	1	645	645
Games	1	600	600
Gathering Area	1	1000	1000
Mail Room	1	100	100
Maintainance	1	700	700
Students' Living Area	1	42400	42400
Total	11		50485
Circulation	20% of 50485		10097
Mechanical Room	10% of 50485		5059
Outdoor Areas	As required		NA
Total Complex			65641

FIG. #33. SPACE SUMMARIES



COST ANALYSIS

COST ANALYSIS

1. Total Building Cost

The 1986 Dodge Construction System Cost suggested for hotel (applied for this facility) of 100,00 square-feet

Facility Type - High Average (hotel)	Gross square feet	Gross total cost
\$64.05 Sq/ft	65,641	\$4,204,306.00

2. Site Work

Extensive site works are required which cost approximately 15% of gross construction cost : $15\% \times \$4,204,306.00 = \$630,645.90$

3. Construction Loan Cost

The interest rate for the loan varies from one bank to another. However, 11% of the construction cost is sufficient to cover the cost. Therefore, the cost for the loan is $(11\% \times 4,204,306.0) = \$462,473.66$.

4. Land Value

According to Mr. James Doss of Century 21 of Lubbock, the land value in Lubbock is about \$5000.00 per acre. Since the site is about 3 acres, the total cost for land acquisition is \$ 15,000.00.

5. Contingencies Cost.

This cost is used for cost that are not included in the gross construction cost. This will involve moving and clearing the land. Since there are a lot of moving and demolition work involve, 10% of total construction cost will be adequate. Therefore, 10% of 4,204,306.00 is \$ 420,430.60.

6. Project Income.

The income for this project will come mainly from the residents of the housing complex. The living area for the students is 42,400 sq.ft which will generate \$508,800 per year at \$12.00 persq/ft/year.

**The total cost of the construction is (1+2+3+4+5) =
\$4,204,306.00 + \$630,645.90 + \$462,473.66 + \$15,000.00 +
\$420,430.60 = \$5,732,856.10**

Payback

The facility will receive its income through the residents. Since this is a graduate students housing facility, the facility is opened throughout the year with \$450.00 per month (including meals)

The total cost	: \$5,732,856.10
Income	: \$450.00 x 12 months x 200 units = \$1,080,000.00
Payback	: cost / income = 5.3 years.



BIBLIOGRAPHY

BIBLIOGRAPHY

1. Lynch, Kevin, *Managing The Sense Of A Region*, The MIT Press, Cambridge and London, 1976.
2. Colbert, Charles. *Idea: The Shaping Force*, Pendaya Publication Inc, Metairie, Louisiana, 1987.
3. Rudofsky, Bernard. *The Prodigious Builders*, Harcourt Bruce Jovanovich, New York, New York, 1977.
4. Hoffman, David. *Frank Lloyd Wright, Architecture and Nature*, Dover Publications Inc, New York, New York, 1986.
5. Wells, Camille. *Perspective in Vernacular Architecture*, University of Missouri Press, Columbia, Missouri, 1987.
6. Bourgeois, Jean-Louis. *Spectacular Vernacular : The Adobe Tradition*, Aperture Foundation Inc, New York, New York. 1989.
7. Clark, Kenneth N, and Paylore, Patricia. *Desert Housing*, Arid Land Natural Resources Commitee, The University of Arizona, Tucson, 1980.
8. Graves, Lawrence L. *A History of Lubbock*, West Texas Museum Association, Texas Technological College, Lubbock, Texas, 1962.

bibliography

9. Coleman, Max M. *From Mustanger to Lawyer*. Lubbock, Texas, 1960.
10. Givoni, B. *Man, Climate, and Architecture*, Elsevier Publishing Company, New York, New York. 1973.
11. Myers, John D. *Solar Application in Industry and Commerce*, Prentice-Hall Inc, Englewood Cliff, New Jersey, 1984.
12. Trost, J. *Efficient Buildings 2*, Crisp Publication, Los Altos, California, 1990.
13. *Domestic Potential of Solar and Other Renewable Energy Sources*, National Academy of Science, Washington D.C, 1979.
14. Landa, Henry Clyde. *The Solar Energy Handbook*, Milwaukee, Wisconsin, 1977.
15. Olgyay, Victor. *Design with Climate*, Princeton, New Jersey, 1973.
16. Aronin, Jeffrey Ellis, *Climate and Architecture*, Reinhold Publishing Corporation, New York, New York, 1953.
17. Heschong, Lisa. *Thermal Delight in Architecture*, The MIT Press, Cambridge, Massachusetts, 1979.

bibliography

18. Markus, TA, EN. *Building, Climate, and Energy*, Pitman Publishing Limited, London, England, 1980.
19. Bland, John. & Schoenauer, Norbert. *University Housing in Canada*, McGill University Press, Montreal, Canada, 1966.
20. Hayes, Harriet, *Residence Halls for Women Students*, National Association of Deans of Women, Washington D.C, 1947.
21. Hayes, Harriet. *Planning Residence Halls*, Bereau of Publications, Teachers College, Columbia University, New York, New York, 1932.
22. Strozier, Robert M. *Housing of Students*, American Council on Education, Washington D.C, 1950.
23. Riker, Harold C. & Lopez, Frank G. *College Students Live Here*, Educational Facilities Laboratories Inc, New York, New York, 1961.
24. *Overton Revitalization Plan 2005*, Institute for Urban Studies International, Texas Tech University, Lubbock, Texas, 1986.

KHIRUDIN MISBA
OVERTON ADDITION STUDENT HOUSING
THESIS SPRING 93
PROF. JIM WHITE
ADVISORS:
PROF. ARANHA
PROF. YORK

SYNOPSIS

In designing the student housing, there are several ideas that needs to be considered. In order for the students to accept this facility as a living environment, it should be designed ergonomically dimensioned for the students' comfort. This is to provide an architecture that the students feel comfortable to adopt and manipulate. Therefore, the housing facility should allow the students to express their individuality. By giving some controls of the interior spaces, the spaces should be able to enhance the students' productivity in their studies. However, the facility will be utilizing energy conserving technologies and natural environmental adaptation so that the facility is economical to operate. In addition, the facility should be designed to promote the images of context and setting.

The new student housing will provide a unique off-campus housing for 200 graduates students of Texas Tech University. The facility will provide the students with their needs of identity, orientation, convenience, accessibility, and safety. Therefore, the students should be allowed some control of their individuals spaces. The control will give the students some privacy, identity, and facilitate growth. In short, the facility will be flexible enough that it should be able to accommodate the diverse requirements of different groups of students. In addition to students living area, there will be other spaces for study, social gathering, and entertainment along with the service area. The building configuration will respond to the climatic conditions of Lubbock.

The location of the new students housing is on the Overton Addition area. Therefore, the facility will be a part of the Overton Revitalization Plan to redevelop the neighborhood. The area is located between downtown Lubbock and Texas Tech University. Because of its location, the area has potential to be the center city for Lubbock. Overton Addition covered one square mile of area and bordered by four arterial streets: north by 4th Street, east by Avenue Q, west by University Avenue, and south by 19th Street. The site of the students housing is bordered by 9th Street on the north, Avenue X on the east, University Avenue on west, and 10th Street on the south.

Several important issues that will be addressed in the design of the students housing are privacy, convenience, safety, circulation, noise control, lighting, materials, mechanical system, and parking.

Total Complex 65641 sq.ft

SPATIAL CONCEPT

PUBLIC → PRIVATE SEPARATION

SITE

PUBLIC	SEMI PUBLIC	PRIVATE
PARKING/ ACCESS TO THE SITE	ADMIN BUILDING	STUDENT'S LIVING AREA

STUDENT LIVING AREA

PUBLIC	SEMI PUBLIC	PRIVATE
ADMIN BLDG BLDG	PLAZA STUDENT CENTER BLDG	HOUSE

TRANSITION

PUBLIC	SEMI-PUBLIC	PRIVATE
PLAZA	LIVING ROOM	INDIVIDUAL BEDROOM

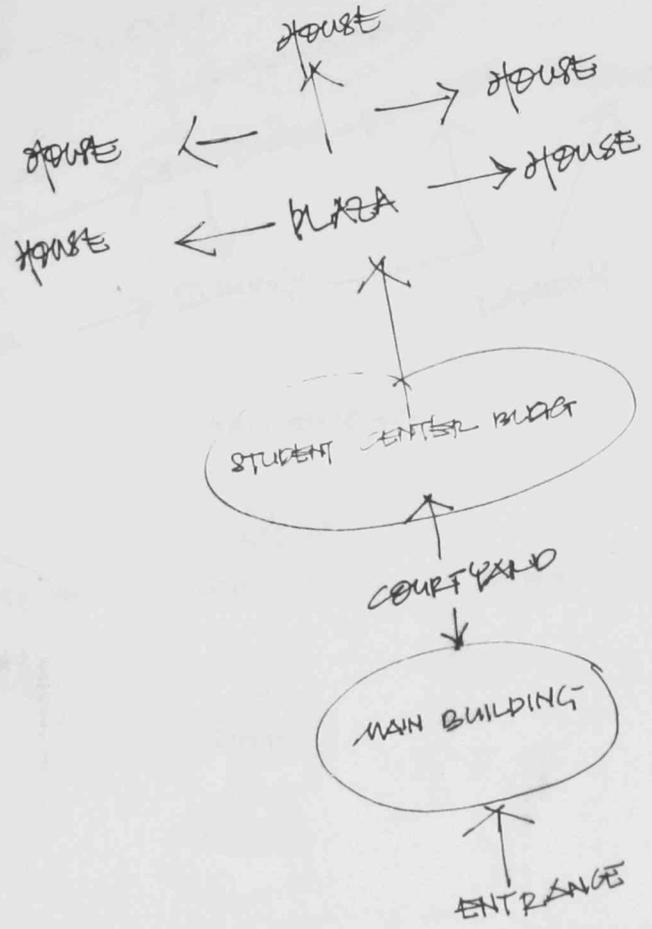
- GAME ROOM - 600
- KITCHEN - 645
- LAUNDRY ROOM - 250
- WORKING ROOM
- HALL ROOM - 100
- LOBBY - 300
- COMMON - 645

DINING - 645
STUDY/READING - 3200

- GATHERING ROOM
- MEETING - 300
- MULTI PURPOSE HALL - 150
- CONFERENCE - 150
- LOUNGE - 150
- RESTROOM - 150

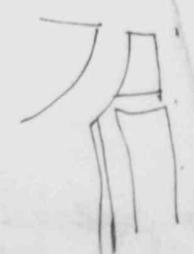
MAINTENANCE AREA - 150
→ OFFICE ~ 150 sq ft

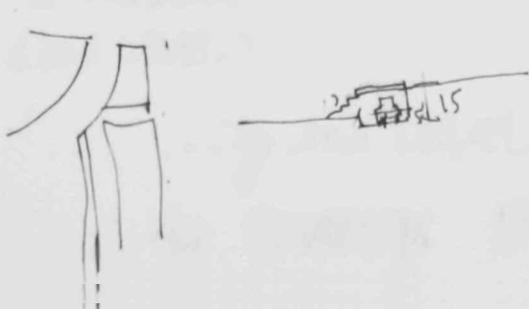
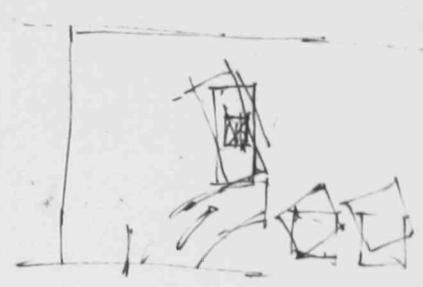
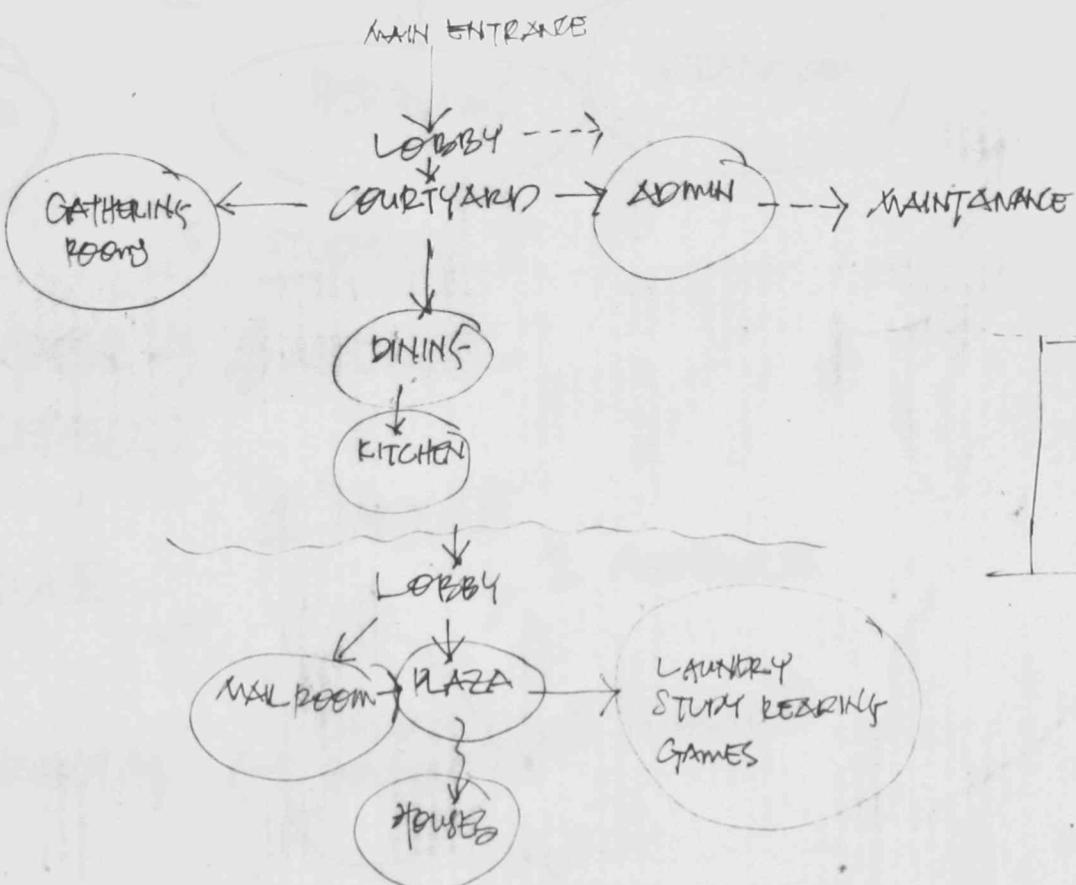
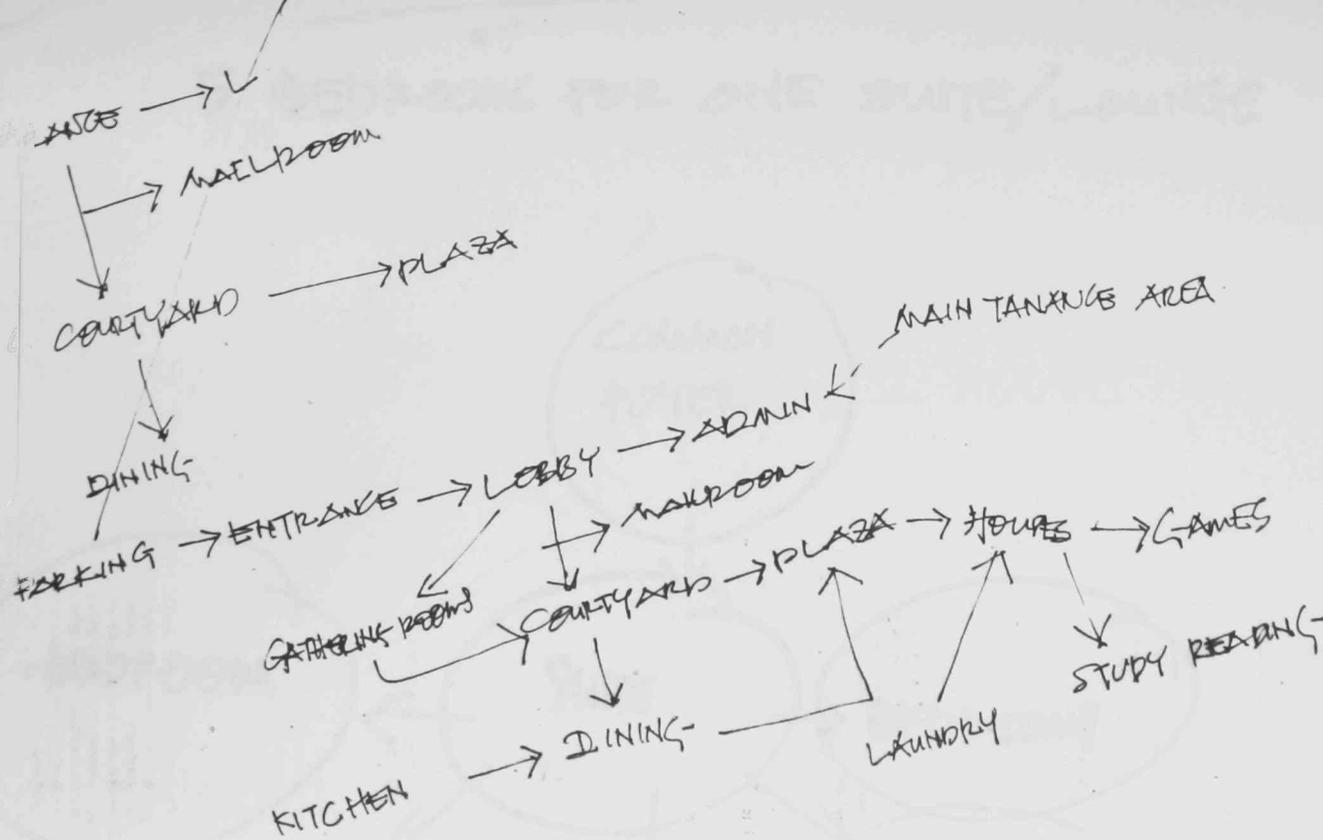
PARKING -



PUBLIC	SEMI-PRIVATE	PRIVATE
STUDENT CENTER MAIN BUILDING	PLAZA	HOUSES
COMMON HALL	LIVING ROOM	INDIVIDUALS RESTROOM

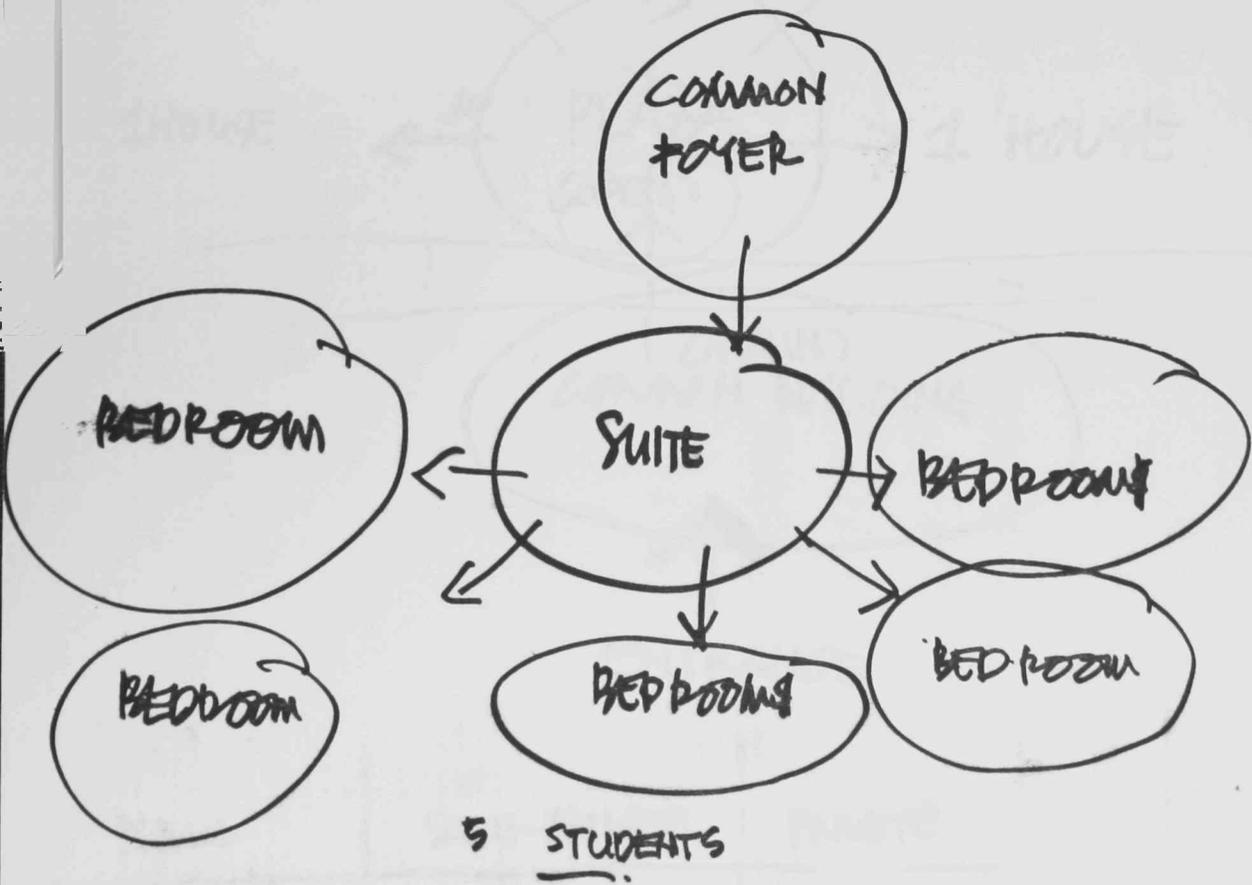
150
250



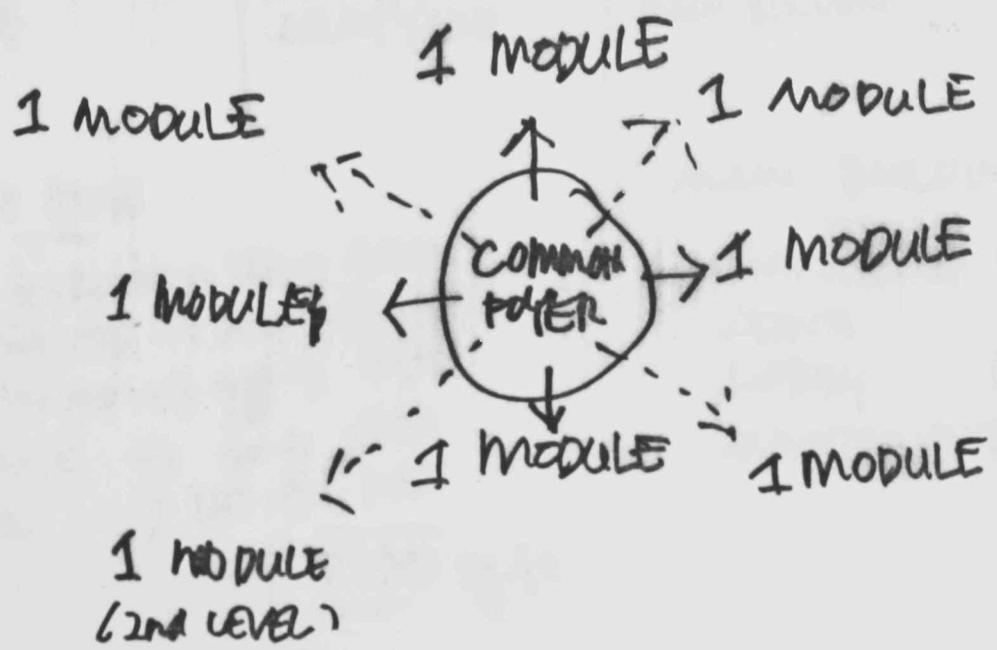


2. APARTMENT-STYLE SUITE COMPLEX

5 BEDROOMS FOR ONE SUITE/LOUNGE

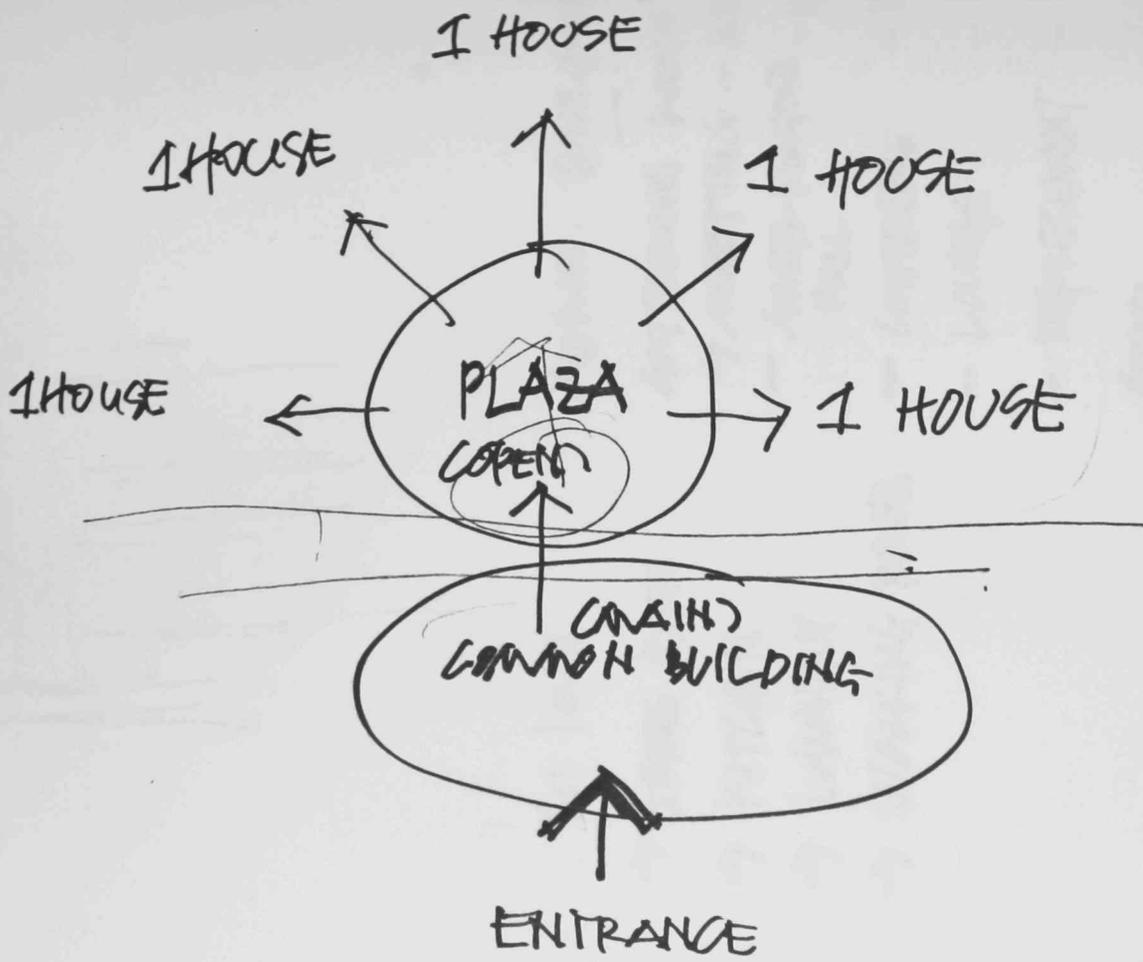


1 HOUSE → 4 MODULES
(2 LEVELS)



... → 2ND LEVEL

∴ 40 STUDENTS IN ONE HOUSE



PUBLIC	SEMI-PRIVATE	PRIVATE
MAIN BUILDING	PLAZA	HOUSES
COMMON FOYER	SUITE	BEDROOM
PARKING	COURTYARD	MAIN BUILDING

THE HOUSE

40 BEDROOMS → 100 → 4000
 8 SUITES → 200 → 1600
 8 BATHROOMS → ~~100~~ → 640
 STORAGE → 20 → 800
 FOYER → 100 → 100
 ± 7140 sq. ft

MAIN BUILDING

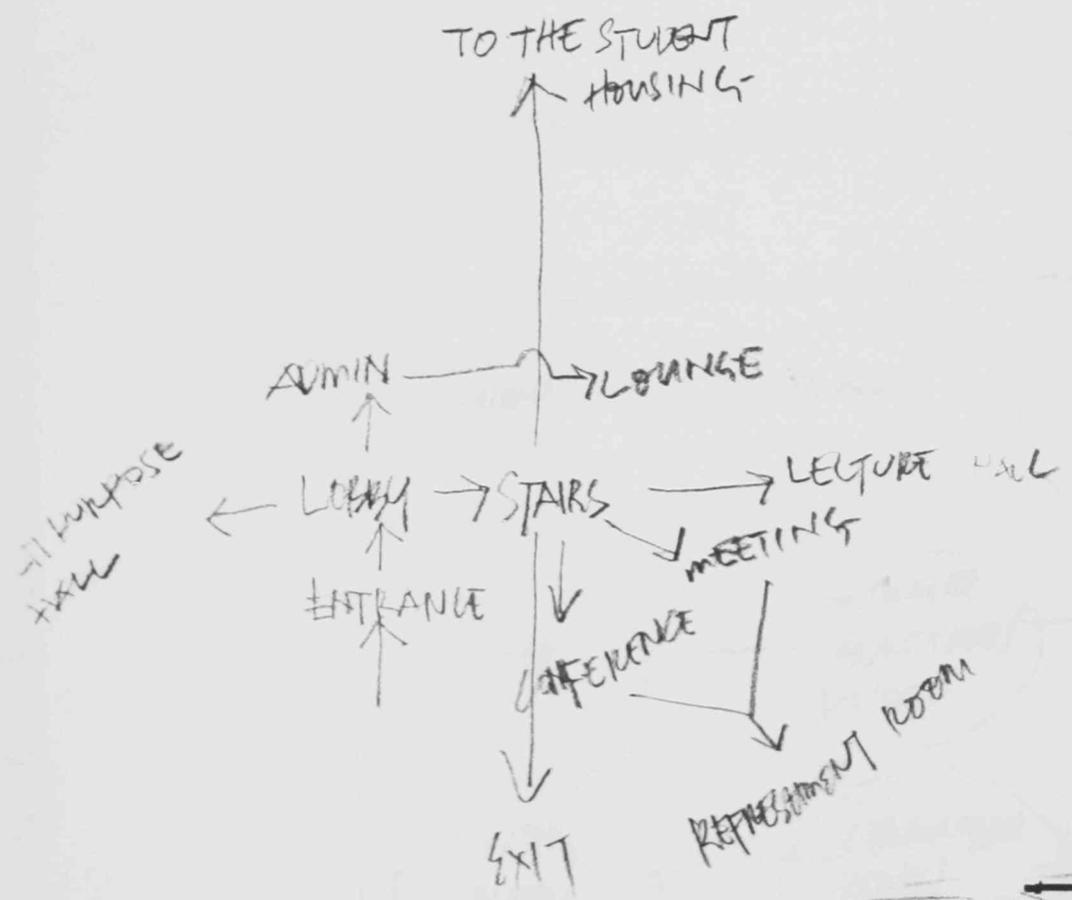
GATHERING ROOMS → 1000
 ADMIN → 645
 LOBBY → 300
 MAINTENANCE → 700
 ± 2645 sq. ft

STUDENTS

GAMEZ
 DINING
 STUDY/
 READING
 LAUNDRY
 MAIL &
 KITCHEN

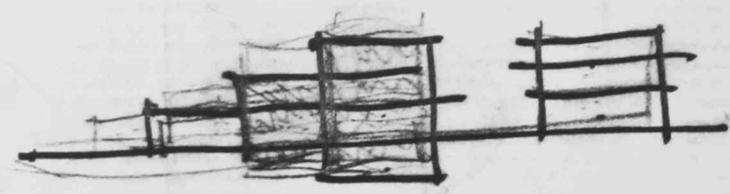
MECHANICAL ROOM?

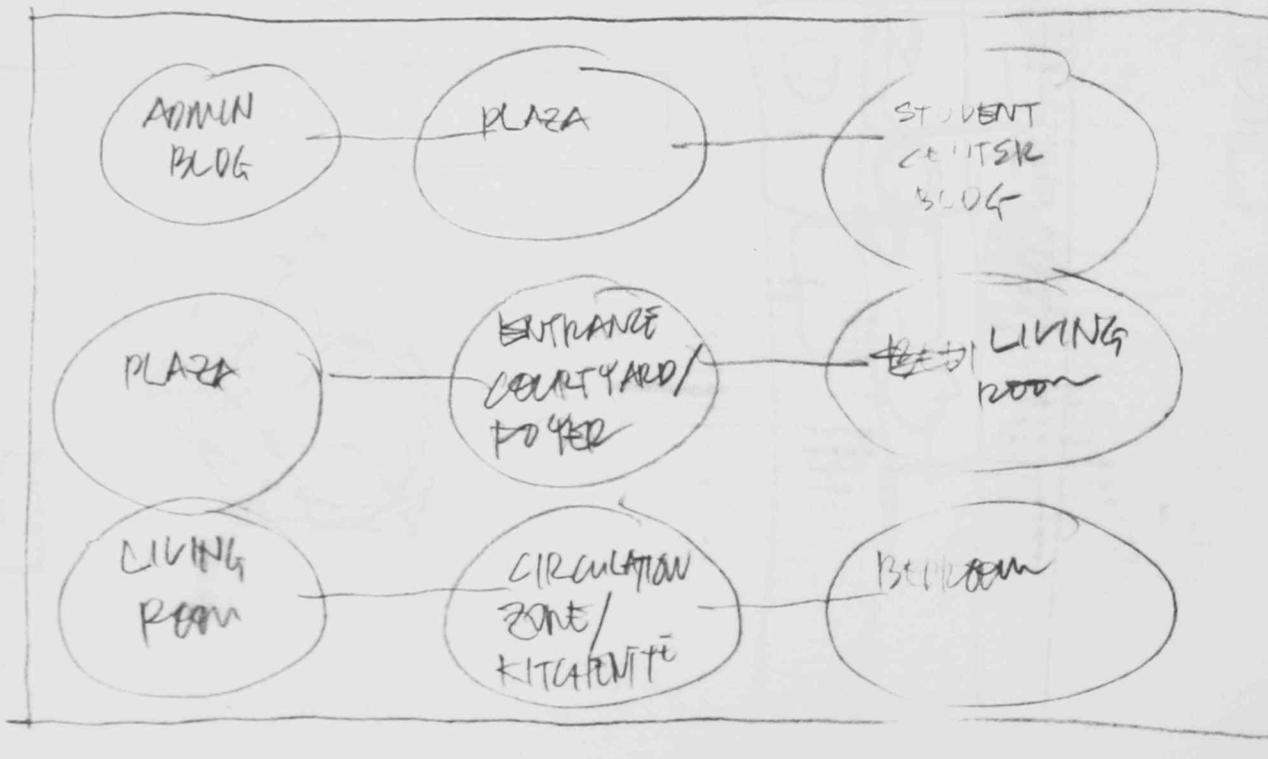
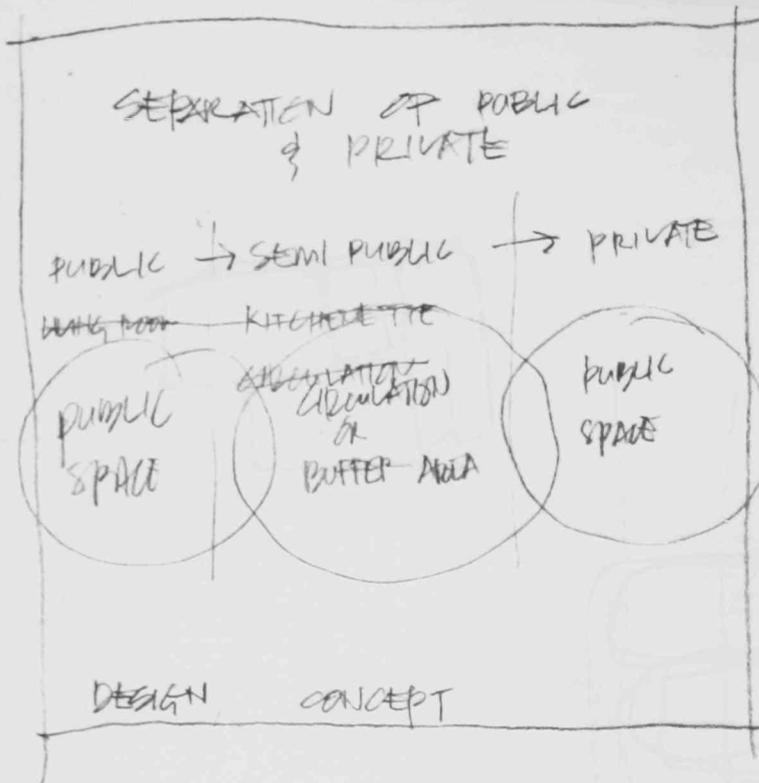
5 HOUSES → 40,000 sq. ft + 2645 + 5440 ⇒ 48085 sq. ft.



- 1st level
- GAMES ROOM
 - KITCHEN
 - LAUNDRY
 - WORKING ROOM

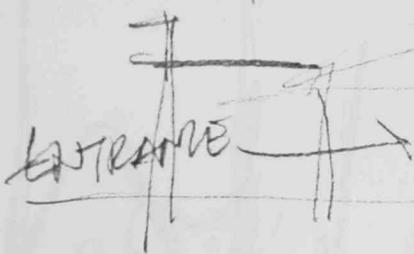
- ADMIN. BUILDING
- GATHERING ROOMS
- MEETING - 300
 - MULTI-PURPOSE - 150 HALL
 - CONFERENCE - 150
 - LOUNGE - 150
 - REFRESHMENT - 150
- ADMIN - 640
- LOBBY - 300
- MAINTENANCE
- OFFICE - 150



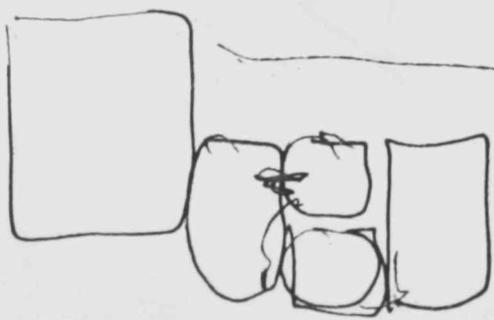
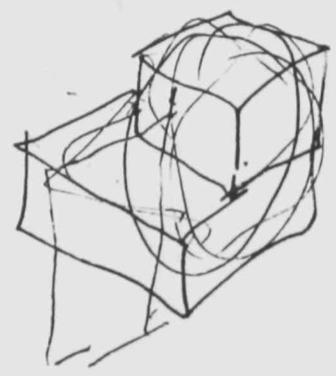
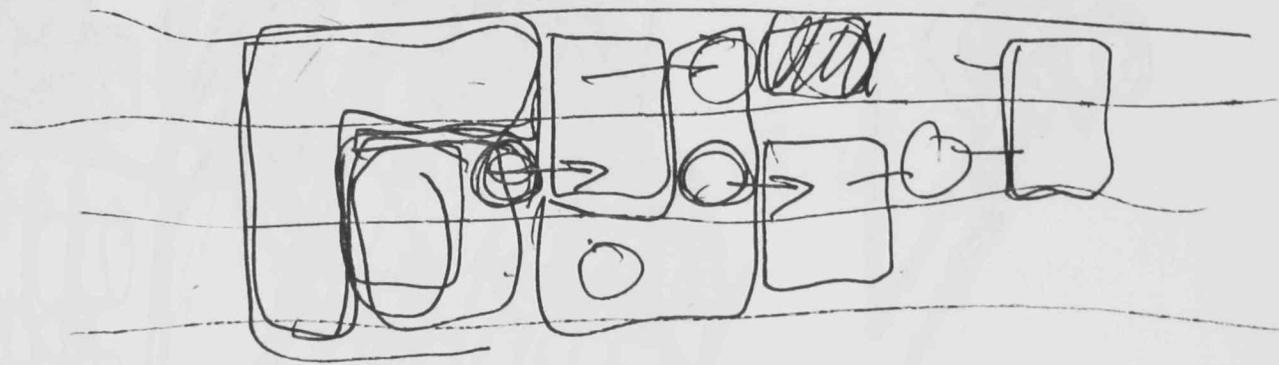
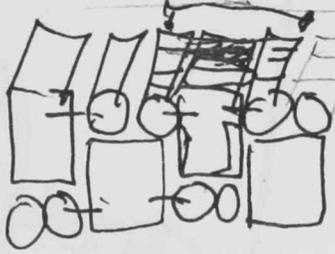


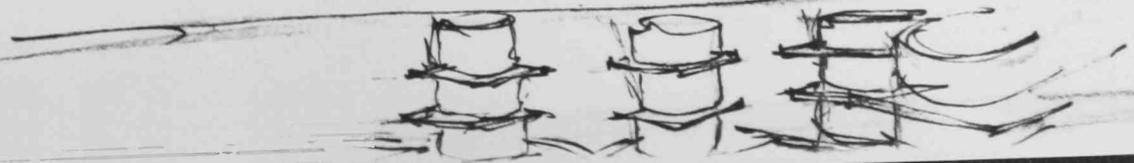
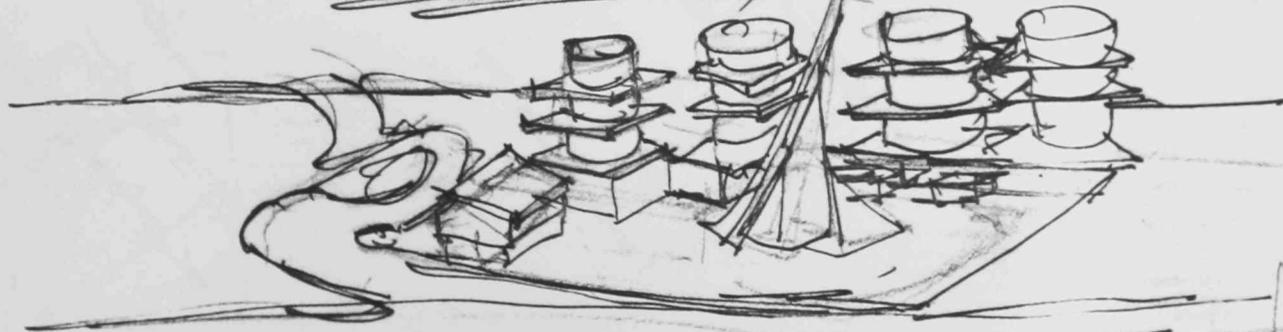
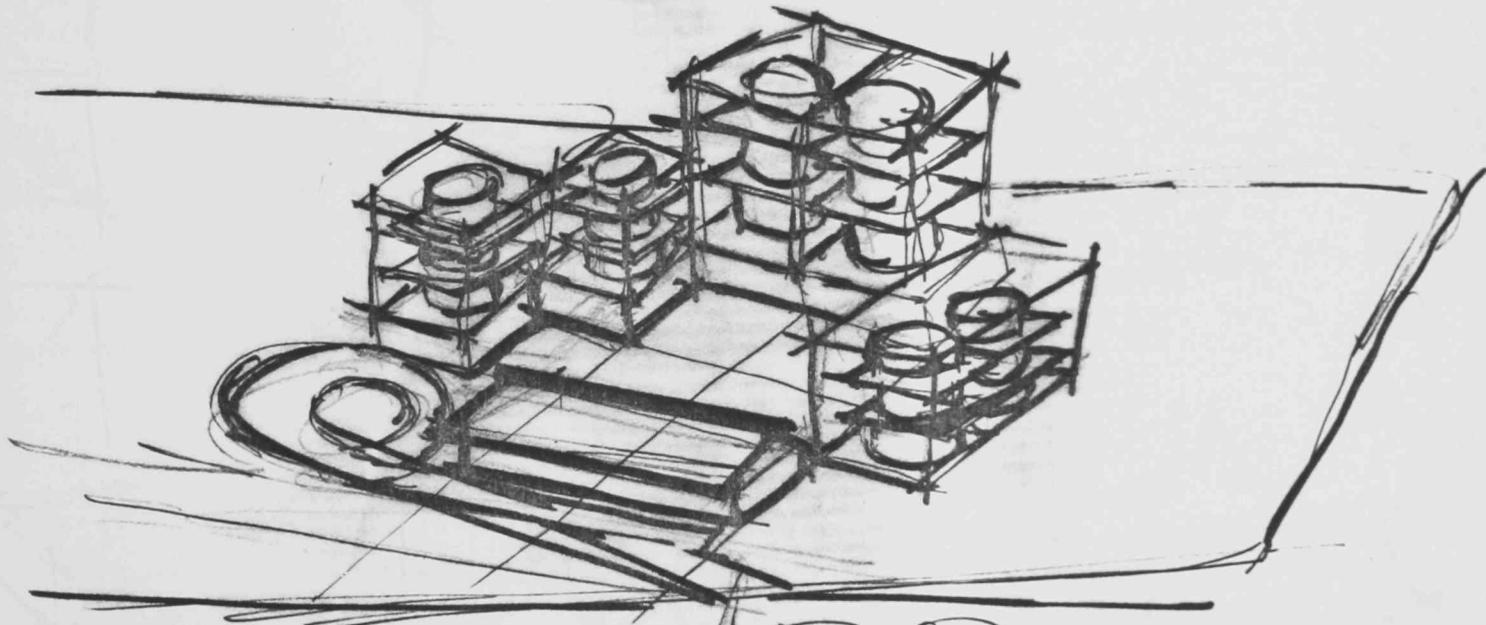
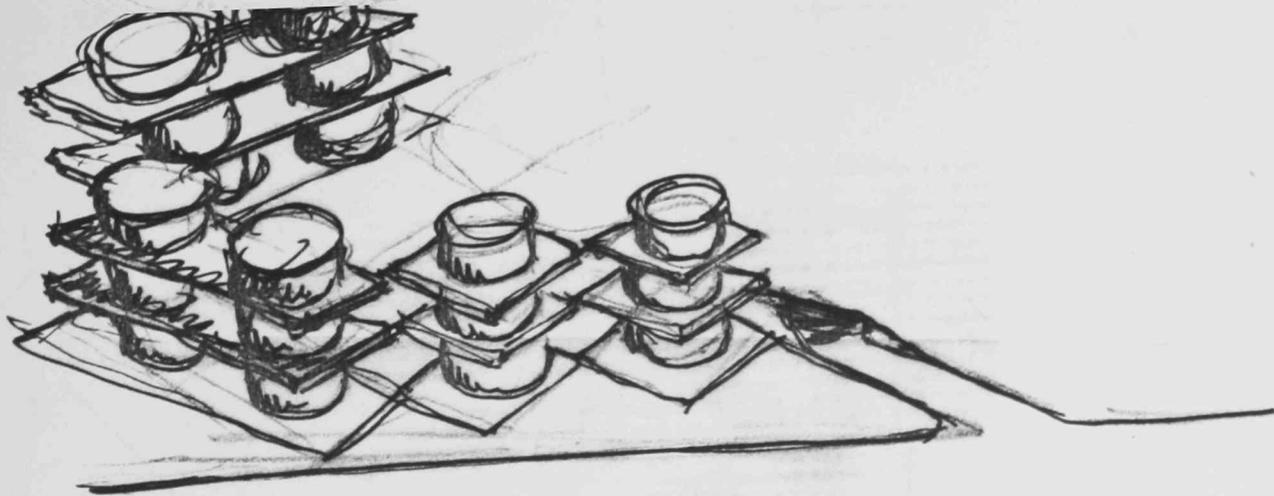
UNITÉ D'HABITATION

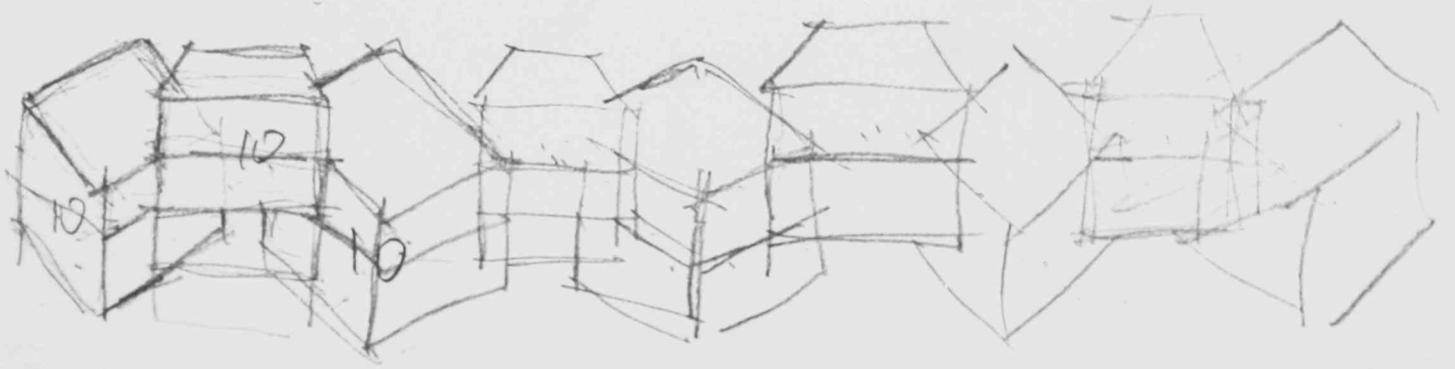
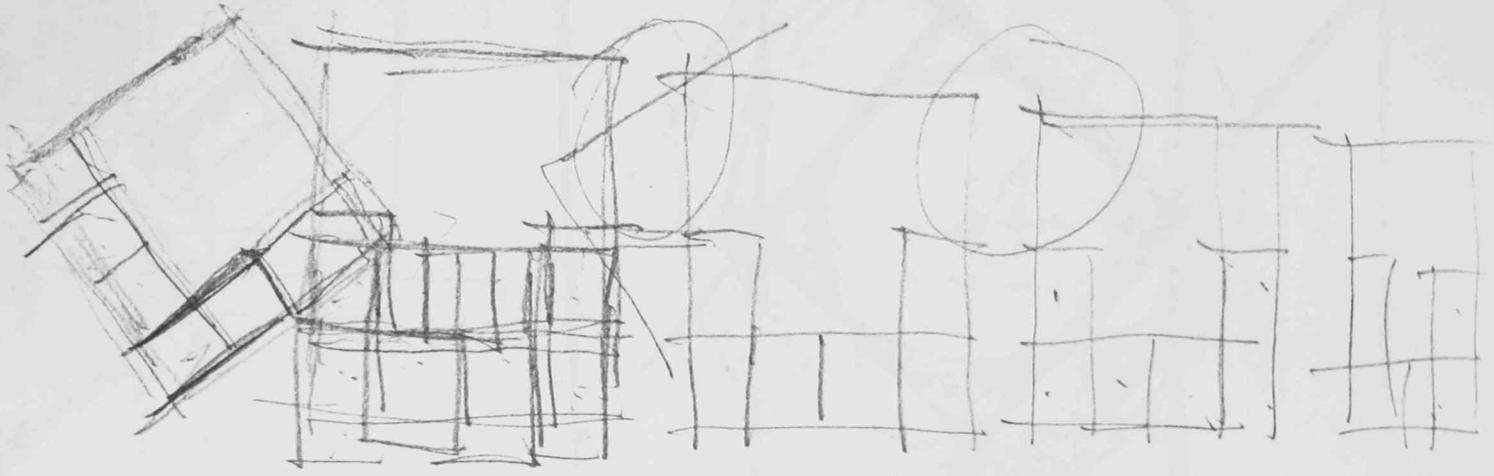
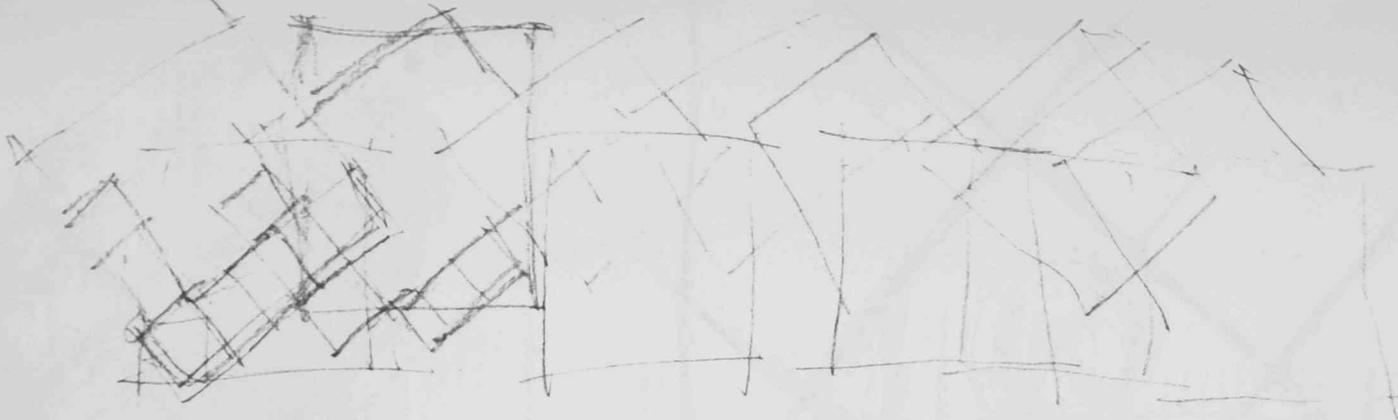
STUDY
WORKING

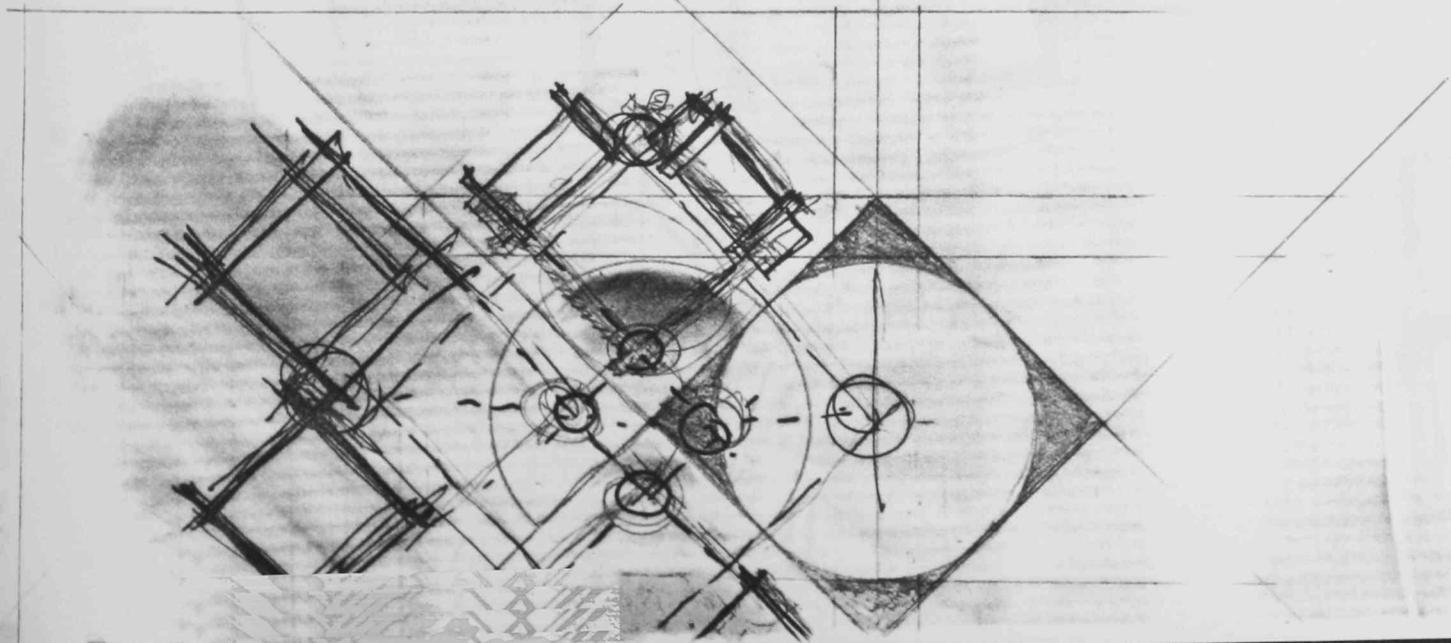
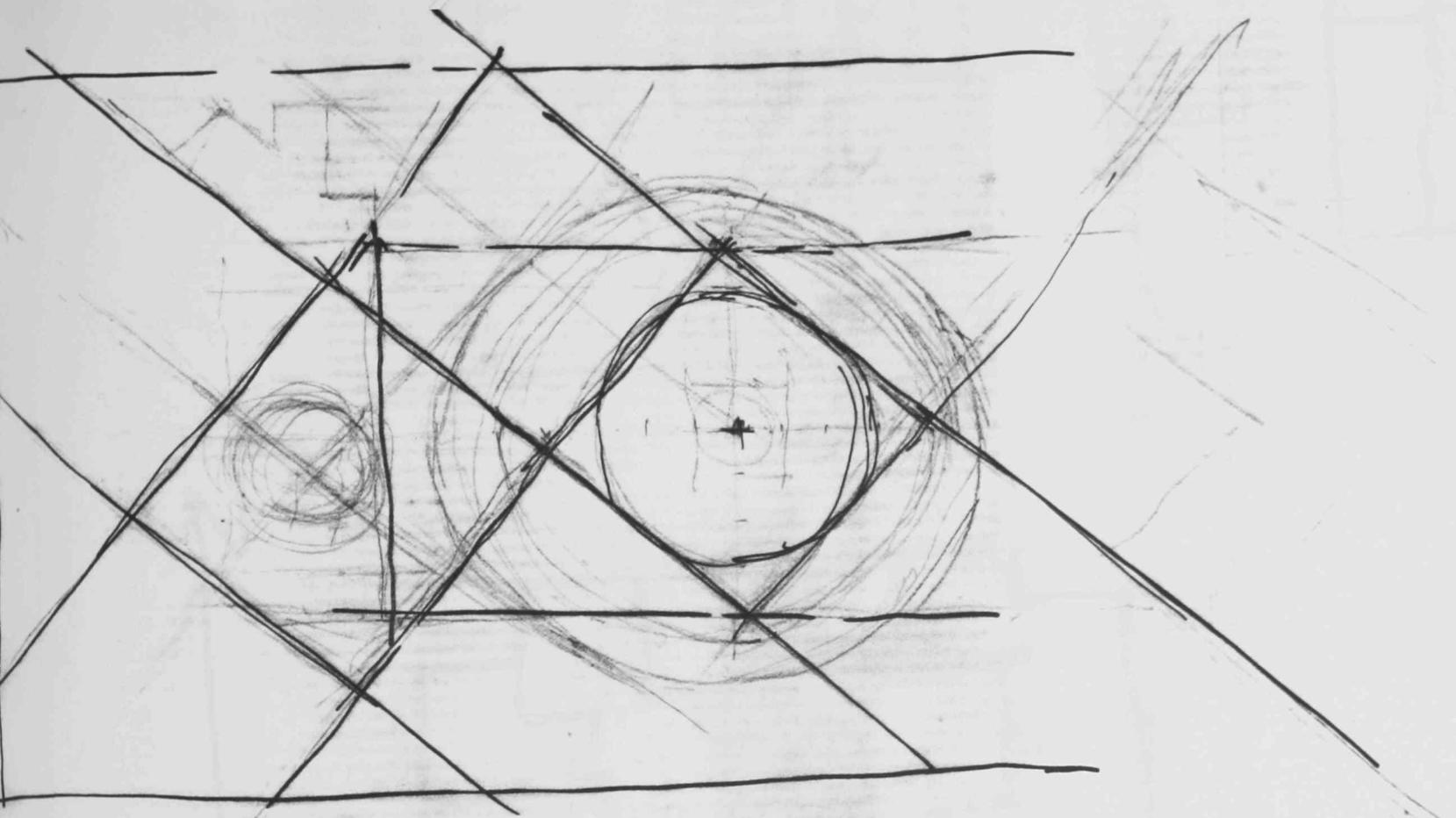


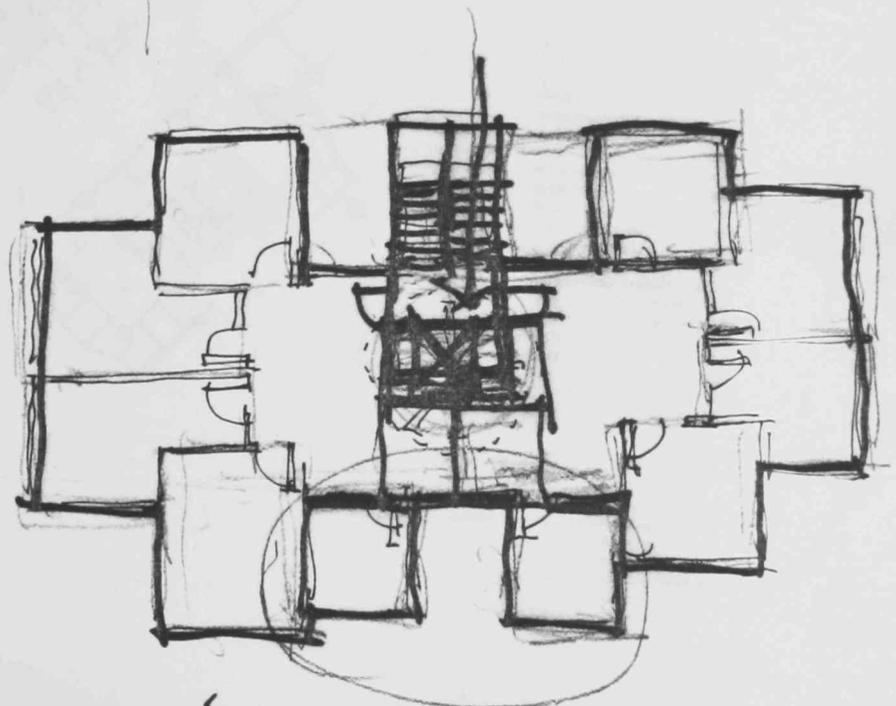
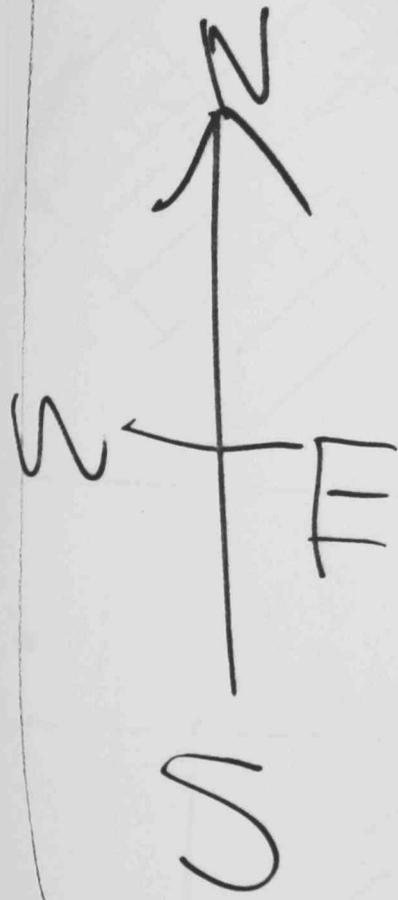
1ST LEVEL



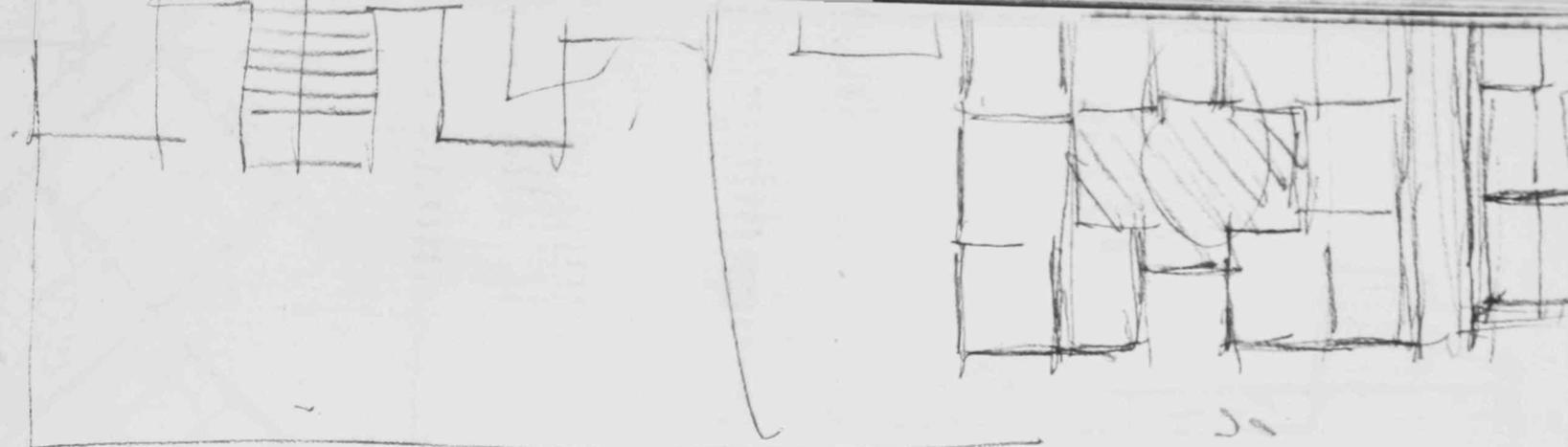
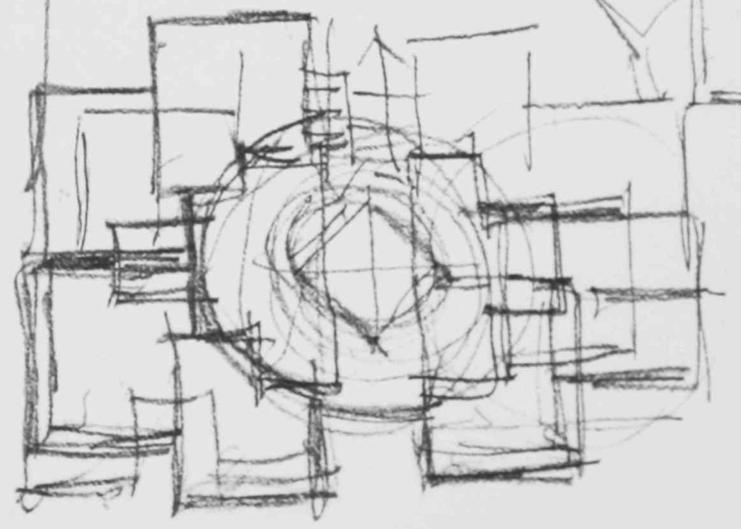




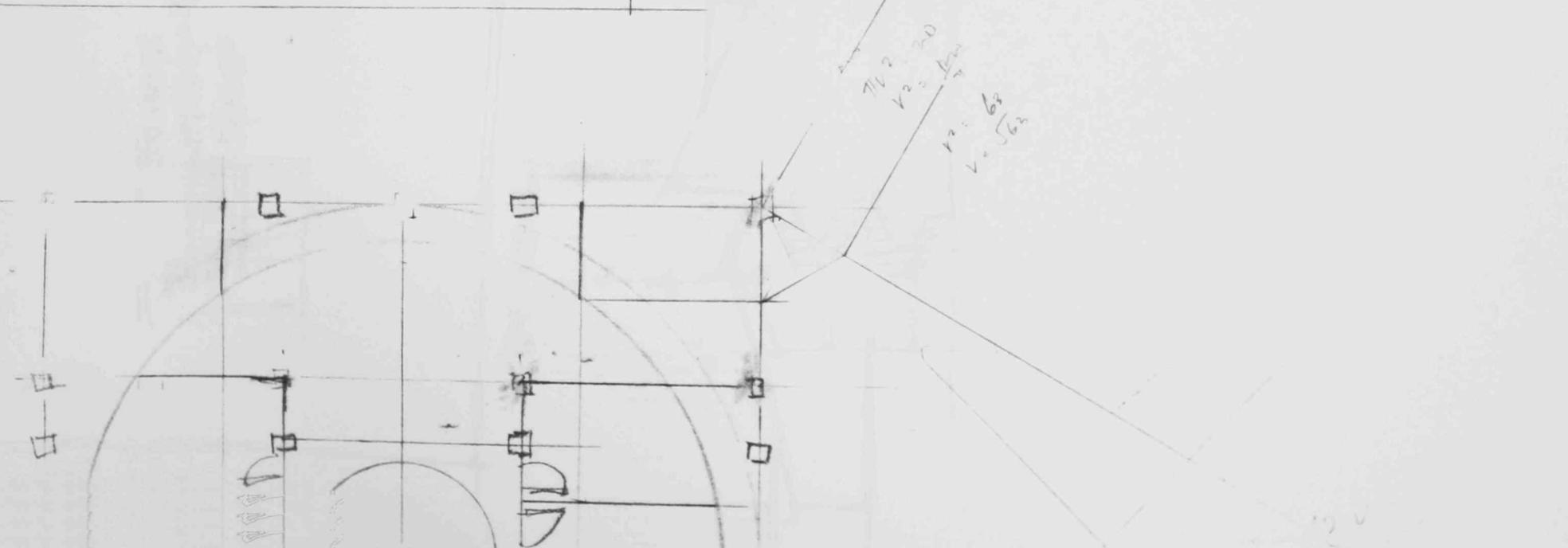
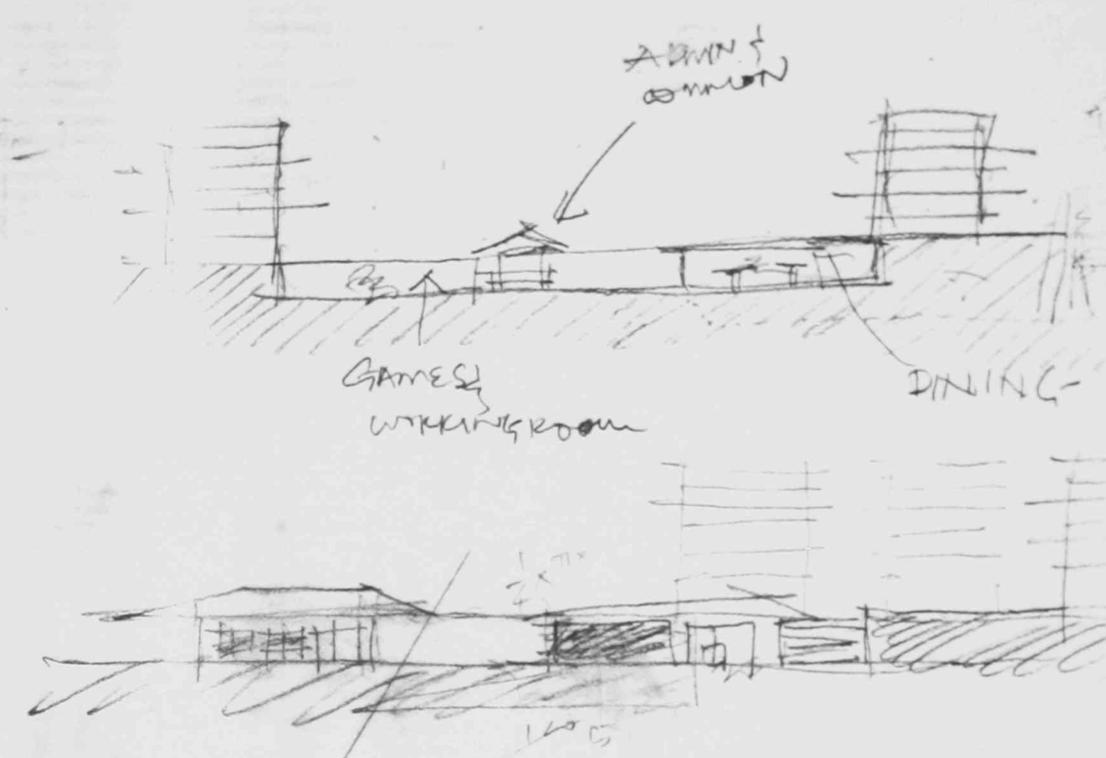
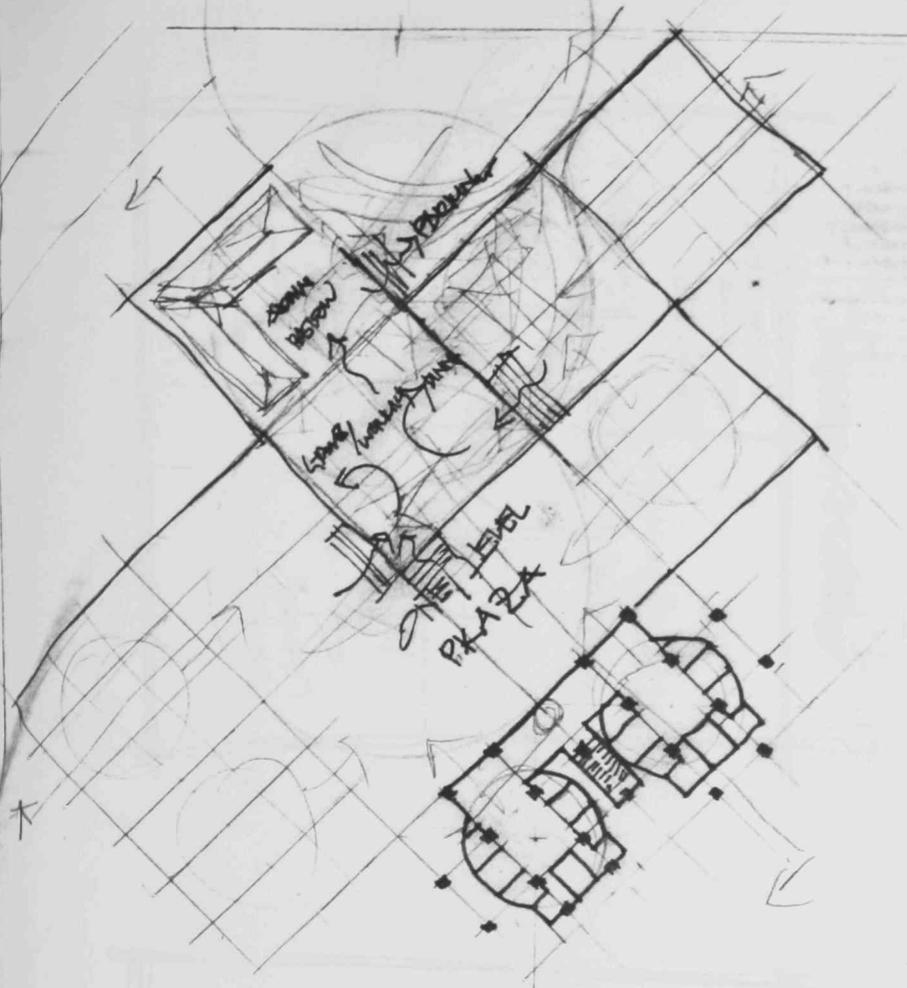




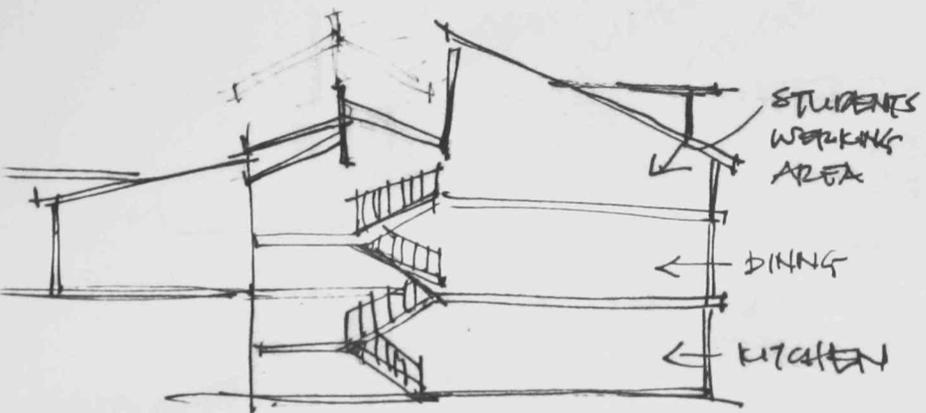
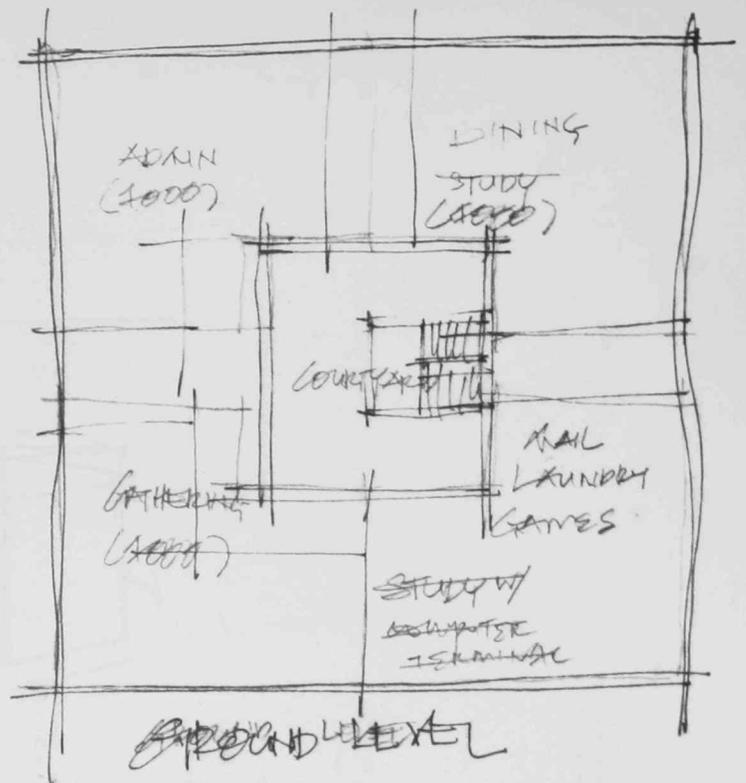
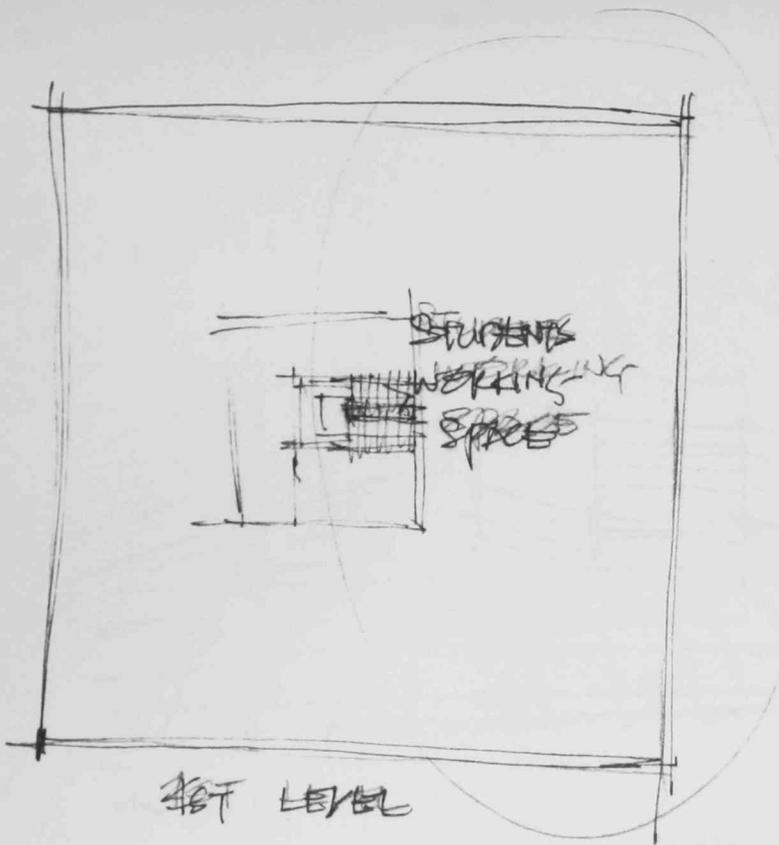
PLAN

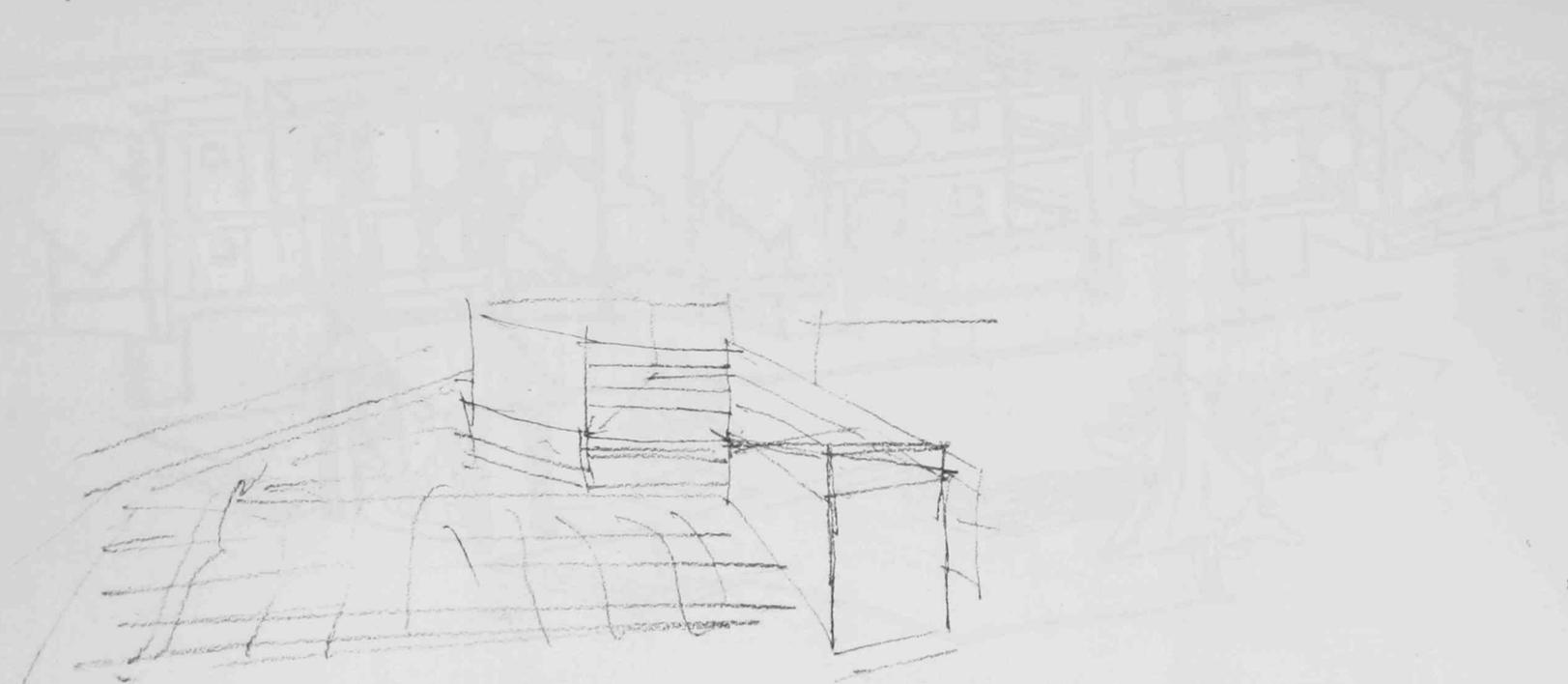


PLAN



74×20
 12×12
 12×12
 12×12





pg 448
c 154

~~SKY~~ ^{DOWN} WATER + STAGE

WATER-TERRACES
CASCADES DOWN
FROM THE FOUNTAIN

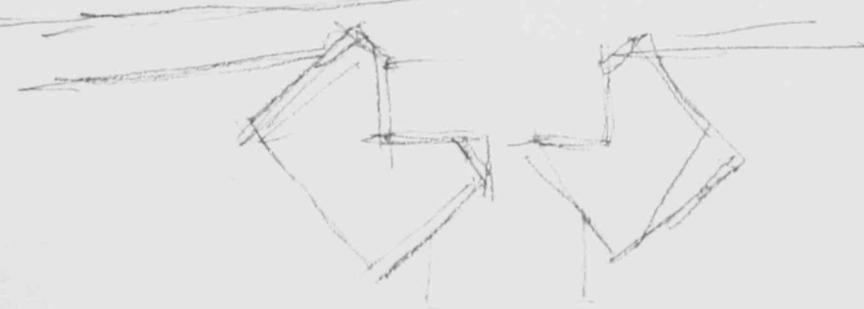
FOUNTAIN

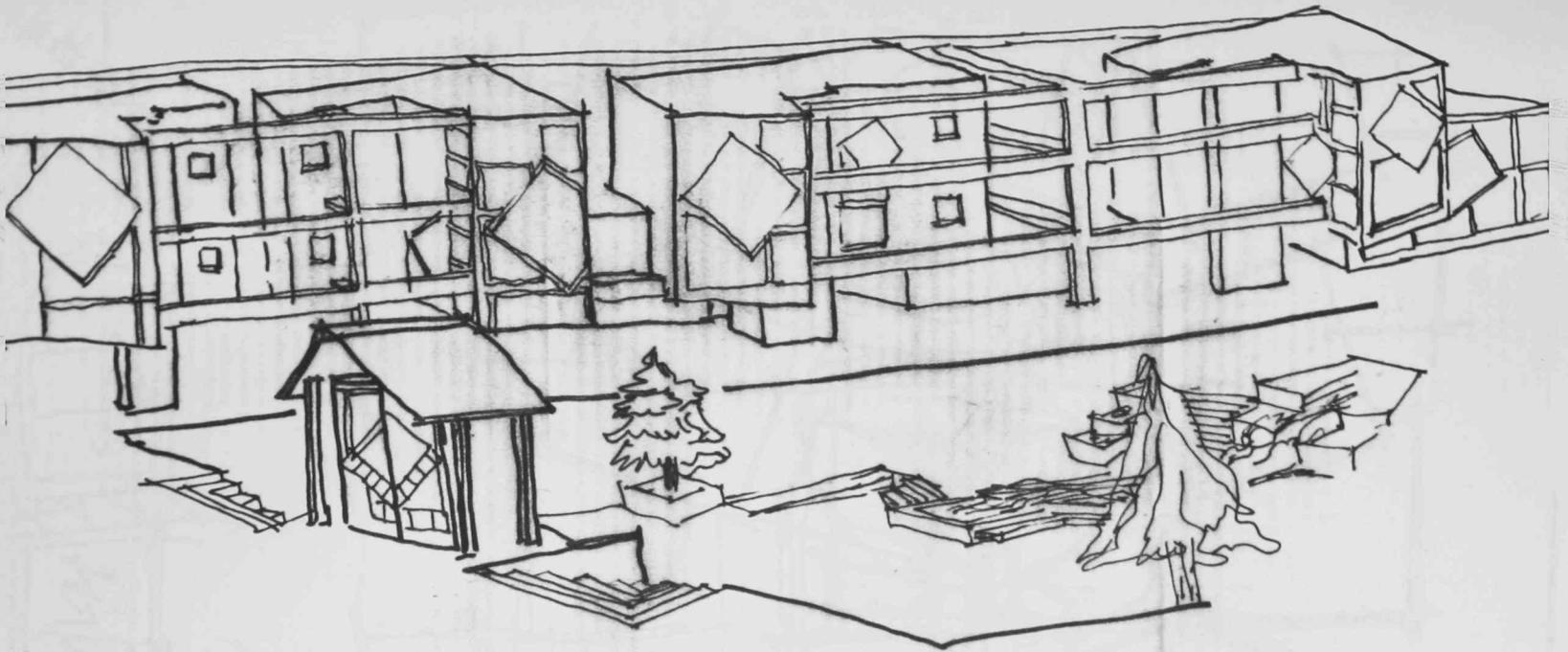
← WATER
CASCADES
LIKE A STAGE

ENTRANCES
→

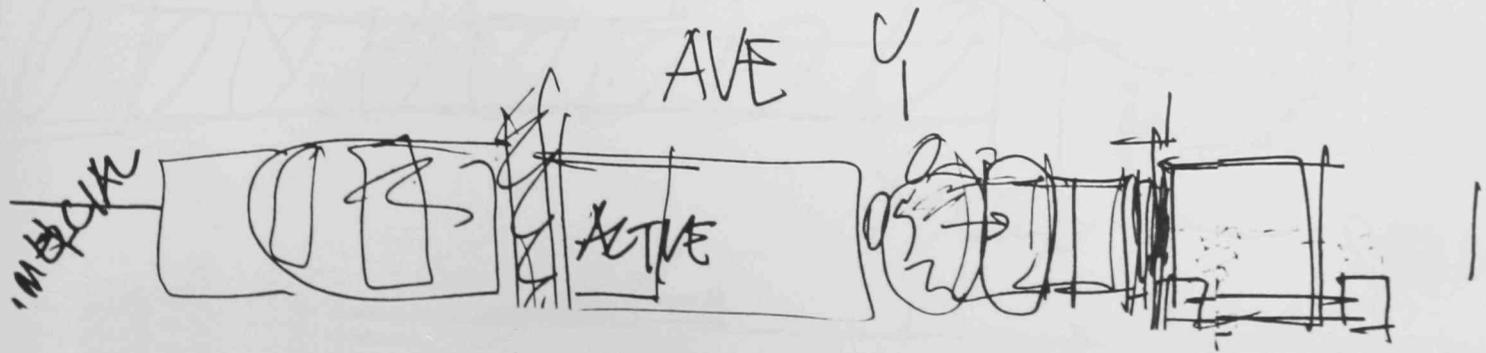
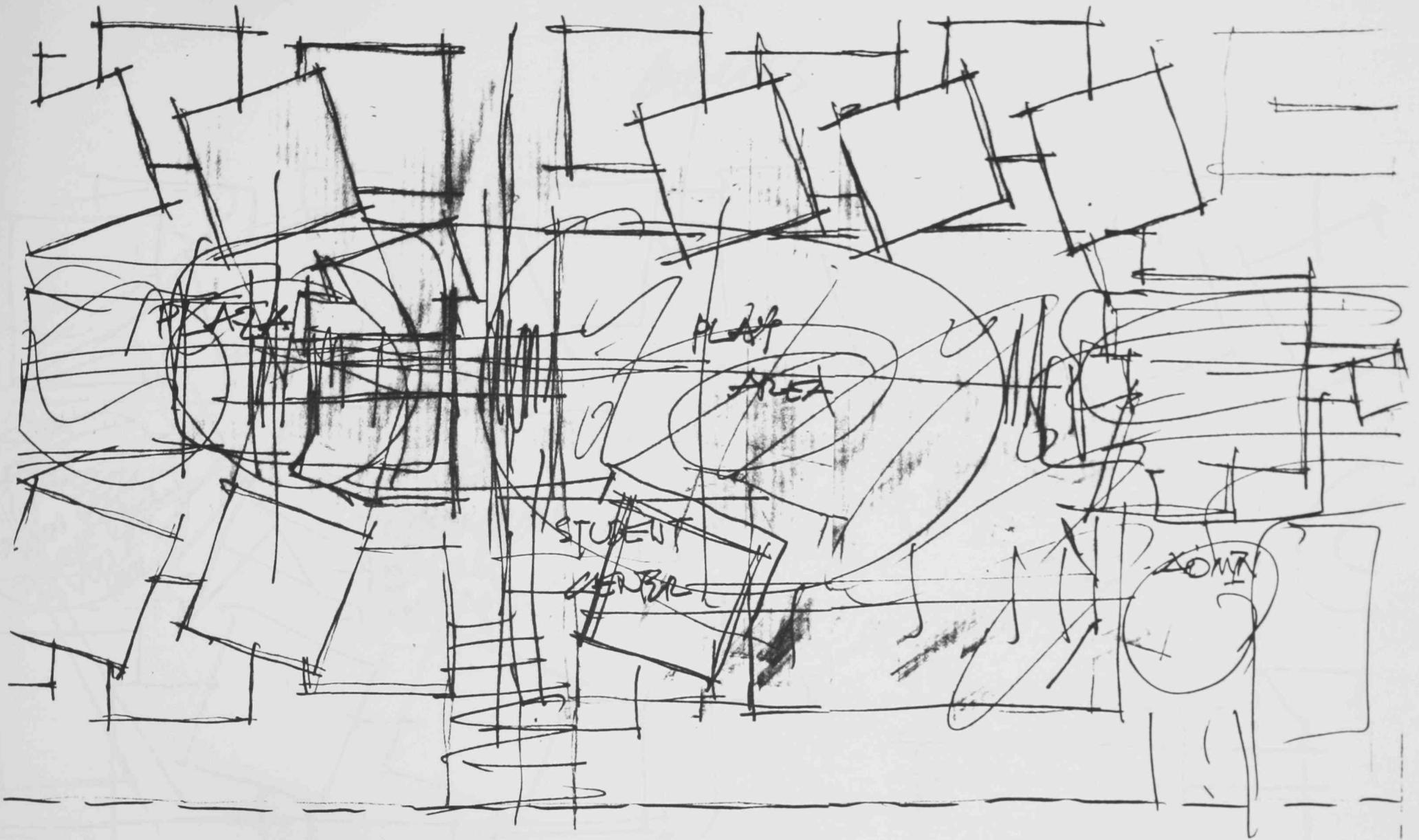
MIRAGE
←

STOP ⇒ SITTING

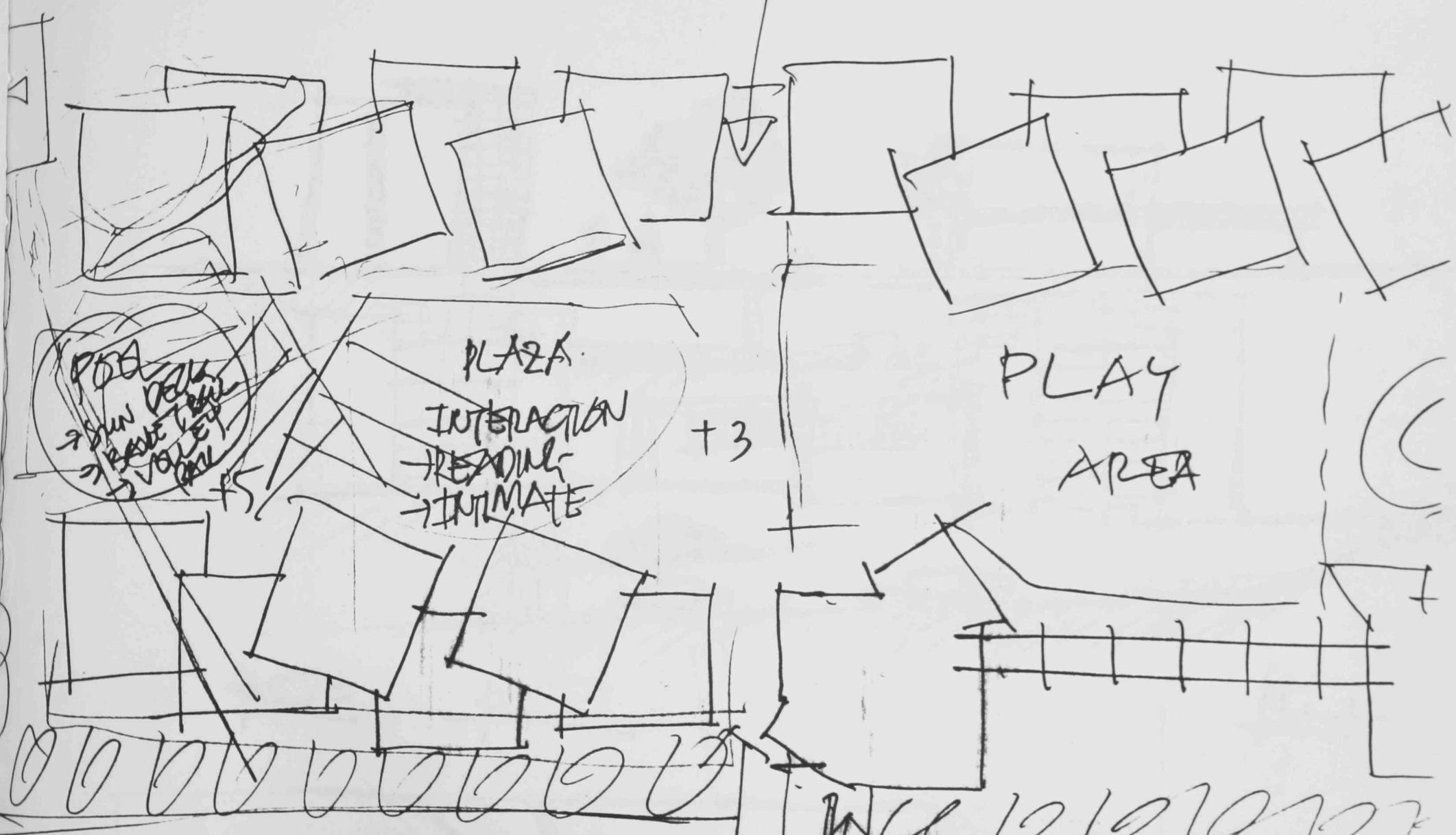




CONCEPTUAL EXTERIOR PERSPECTIVE
OF THE WESTSIDE BLDG



ACCESS



POB
 SUN DECK
 TABLE
 VOLLEY
 BALL

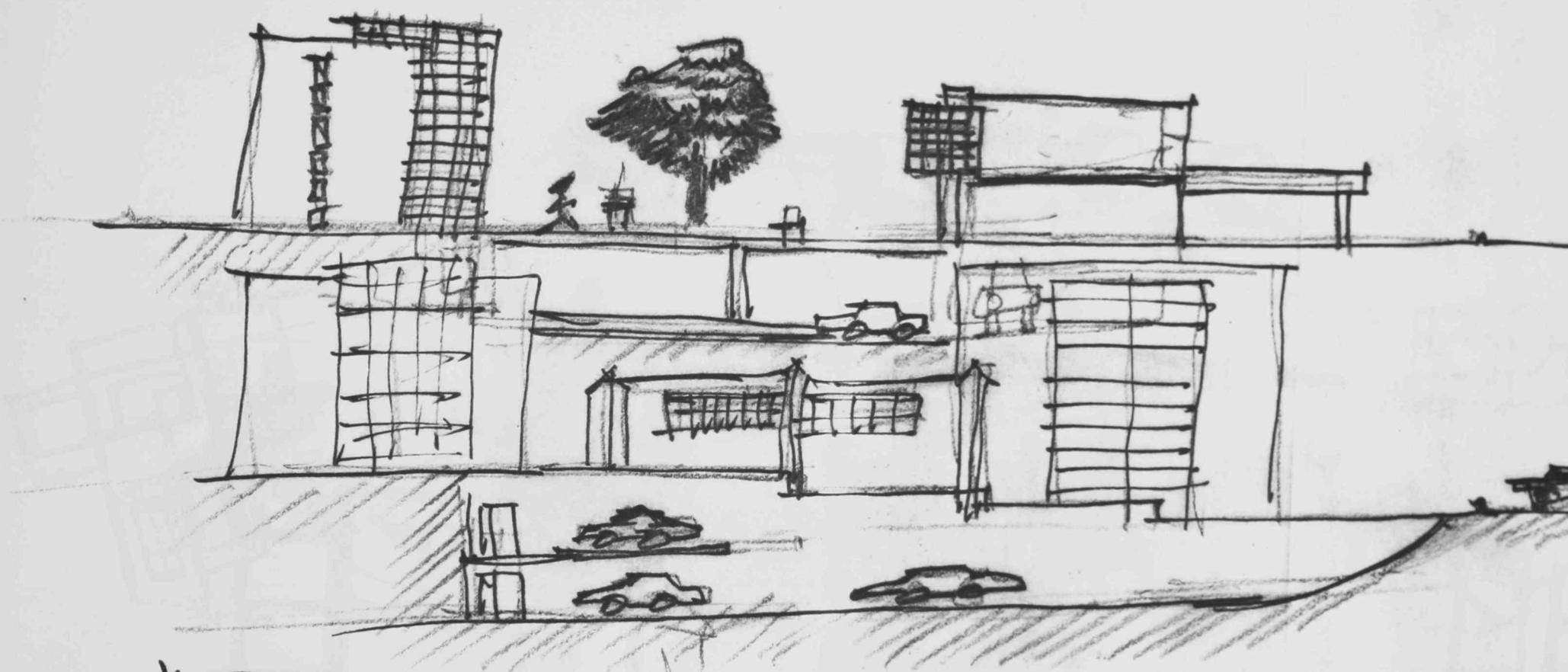
PLAZA
 INTERACTION
 READING
 INTIMATE

+3

PLAY
 AREA

ACCESS

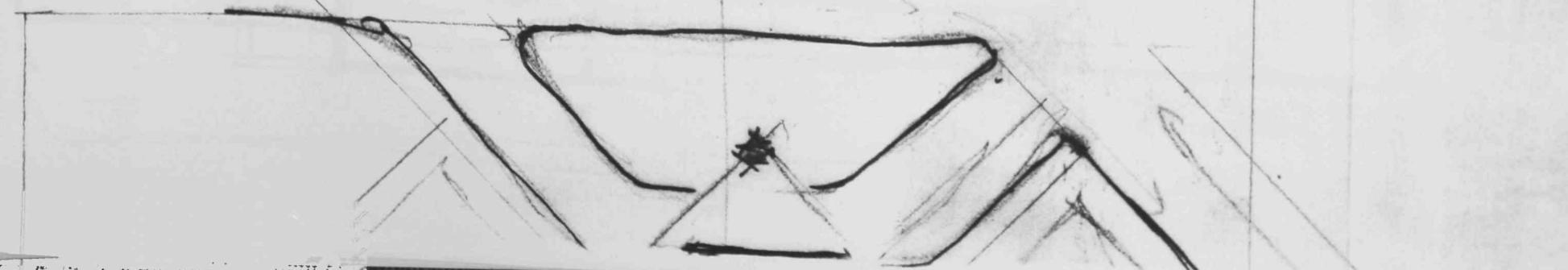
SERVICE

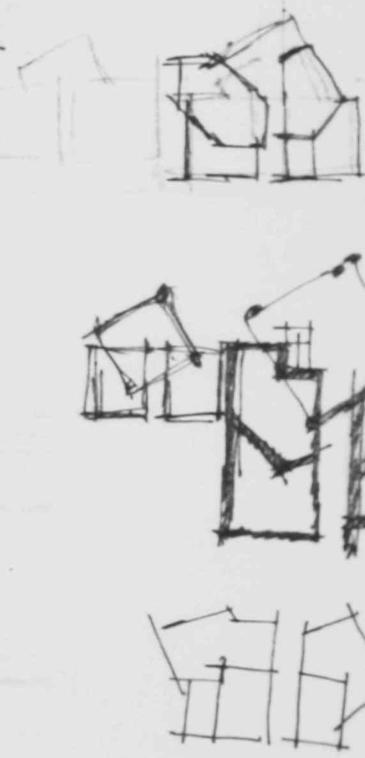
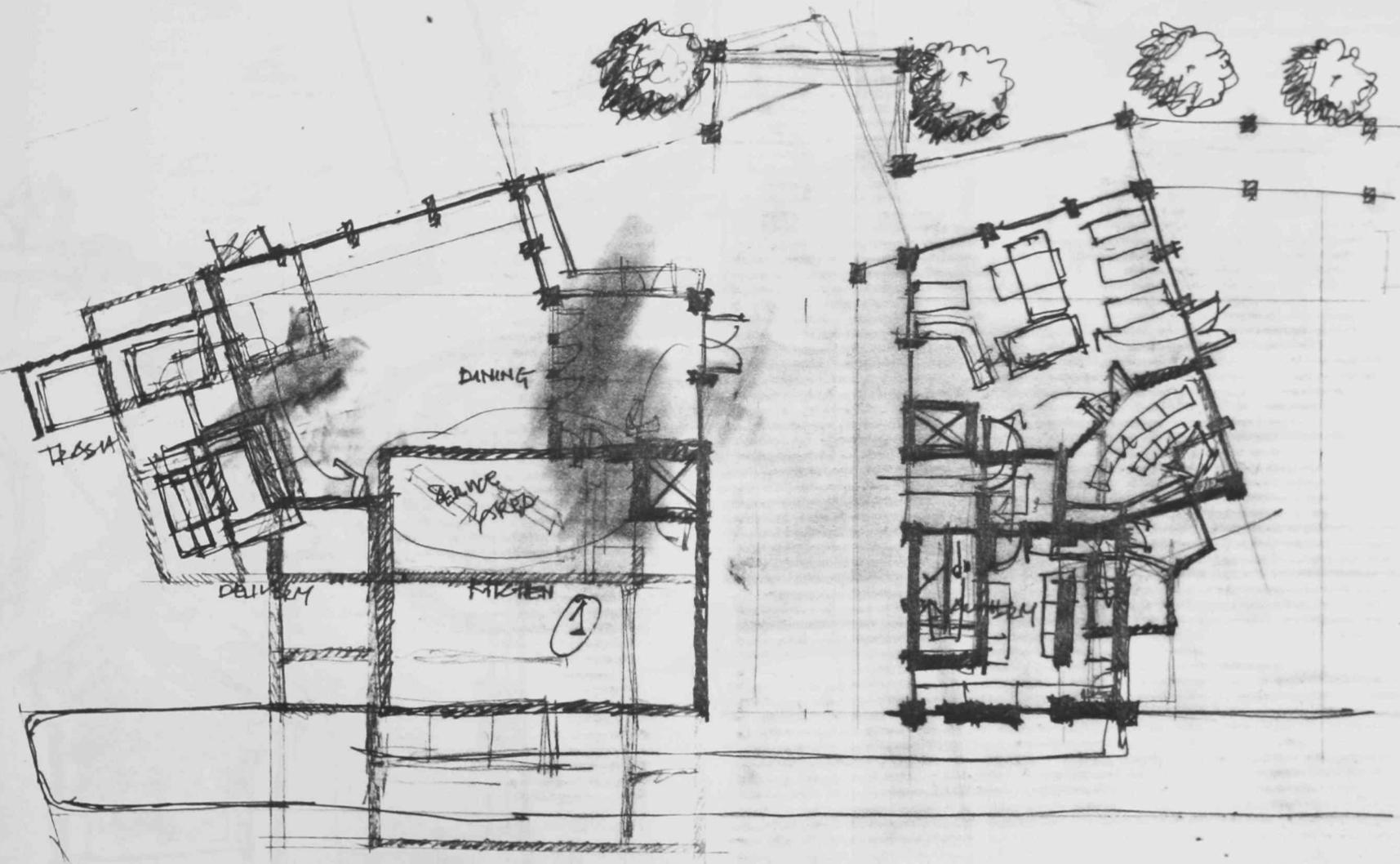


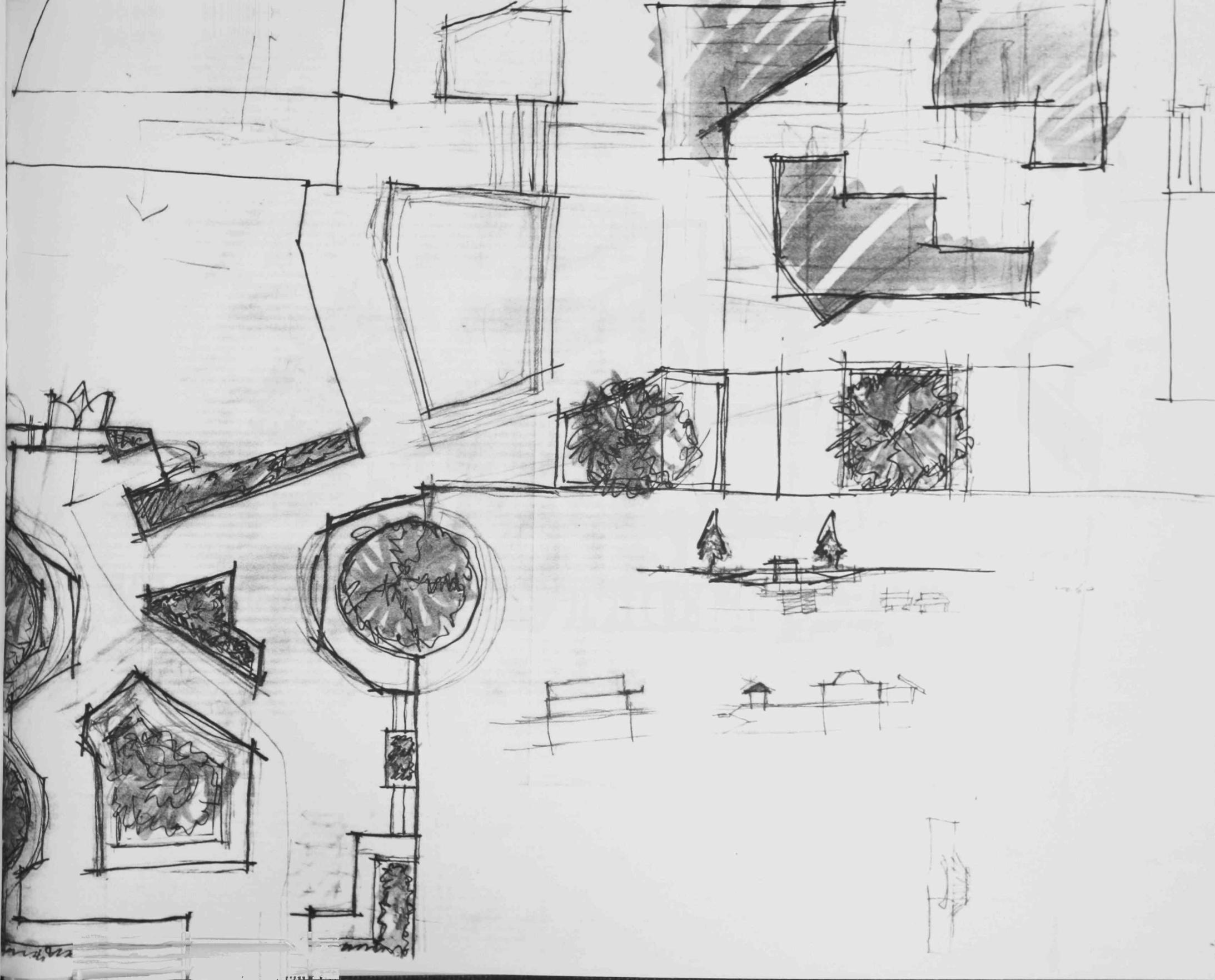
Hand-drawn

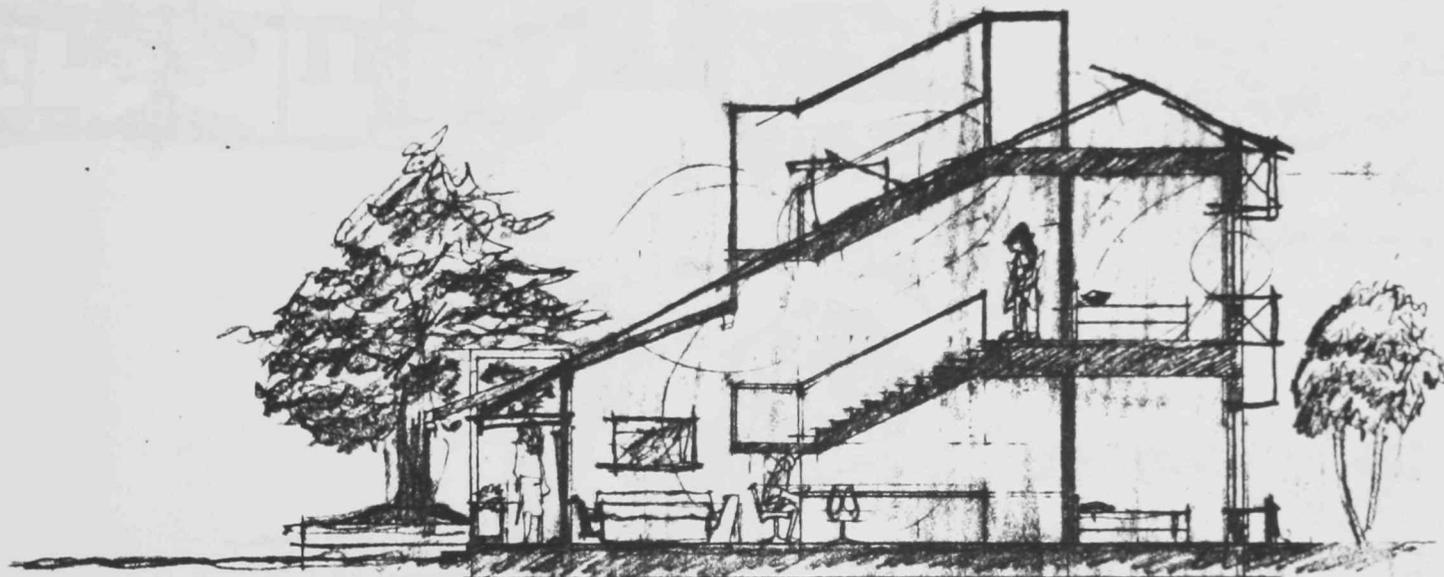
Hand-drawn

Hand-drawn







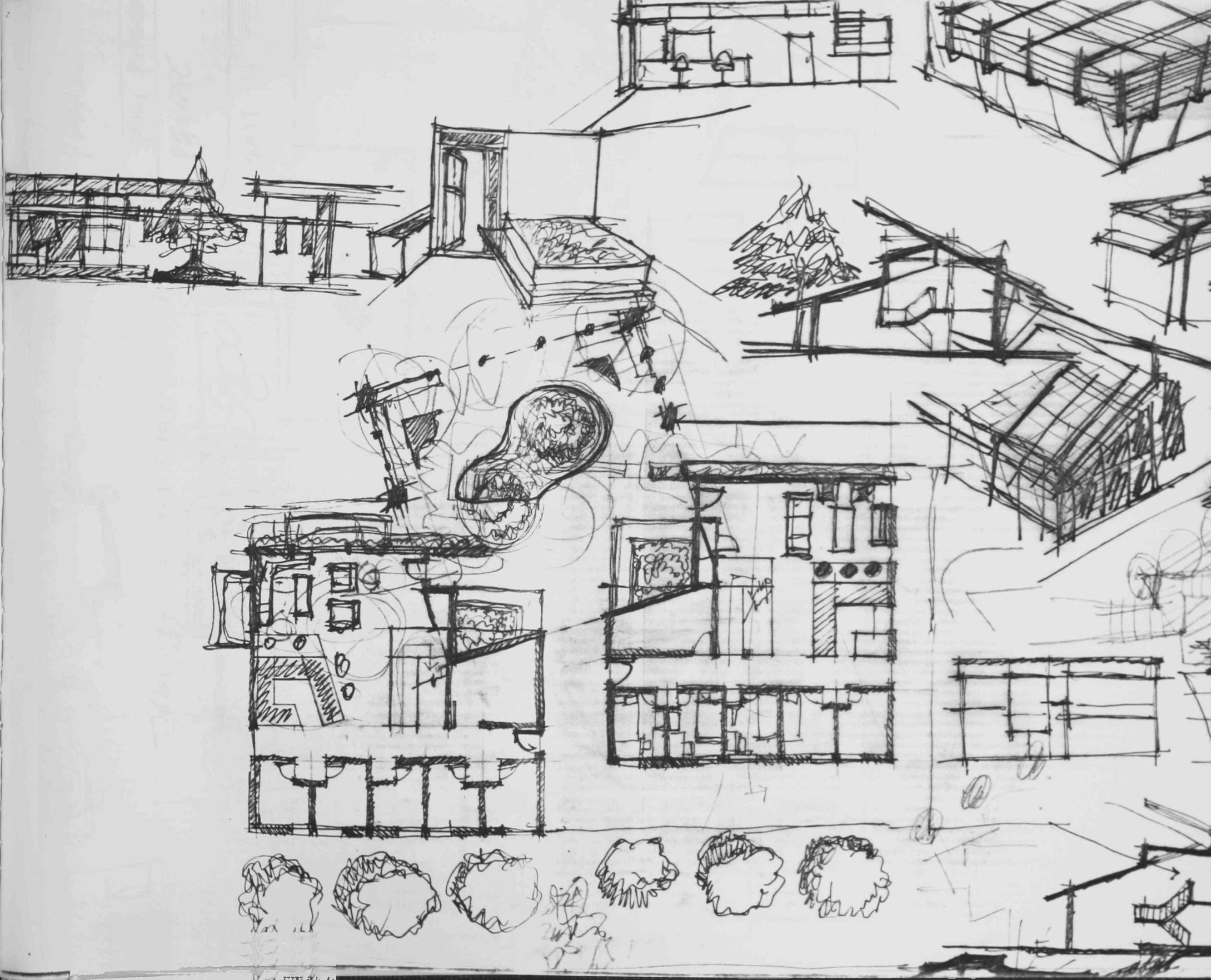


TWIN = 2' 3"

TYPICAL SECTION

SCALE - 1/8" = 1'-0"





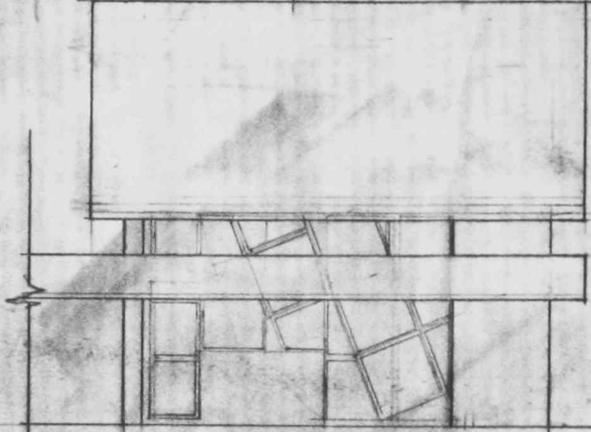
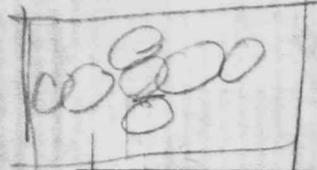
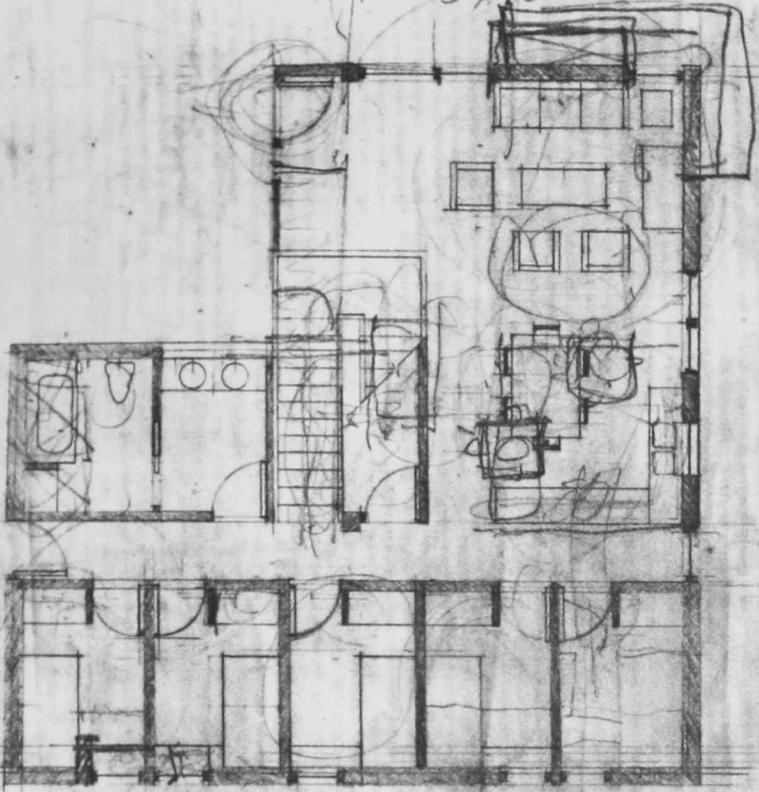
PUBLIC

SEMI PUB

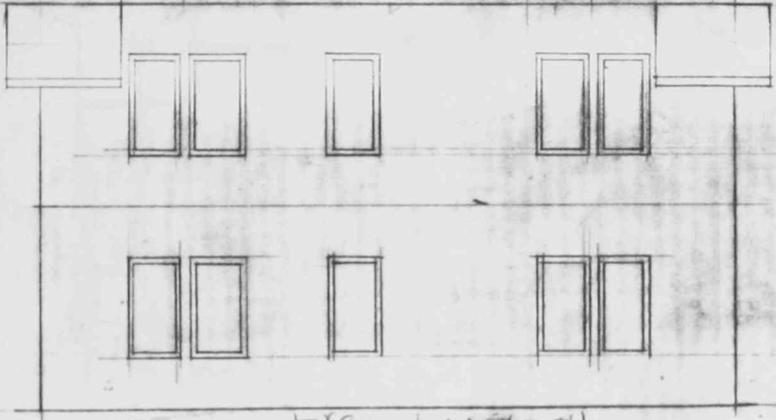
PRIVATE

UNIT

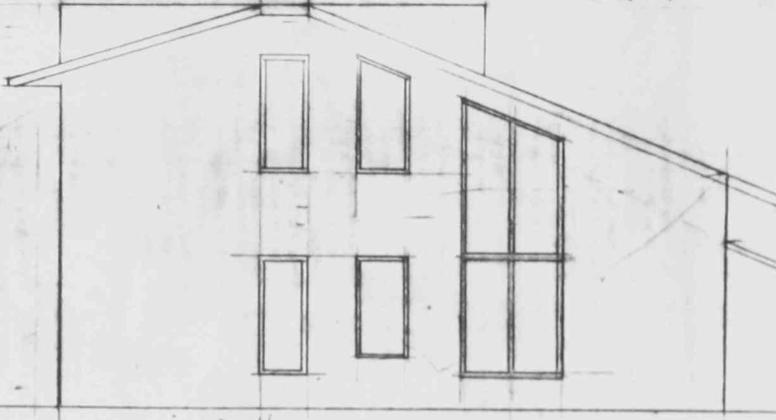
TYPICAL PLAN & ELEVATION



WEST ELEVATION

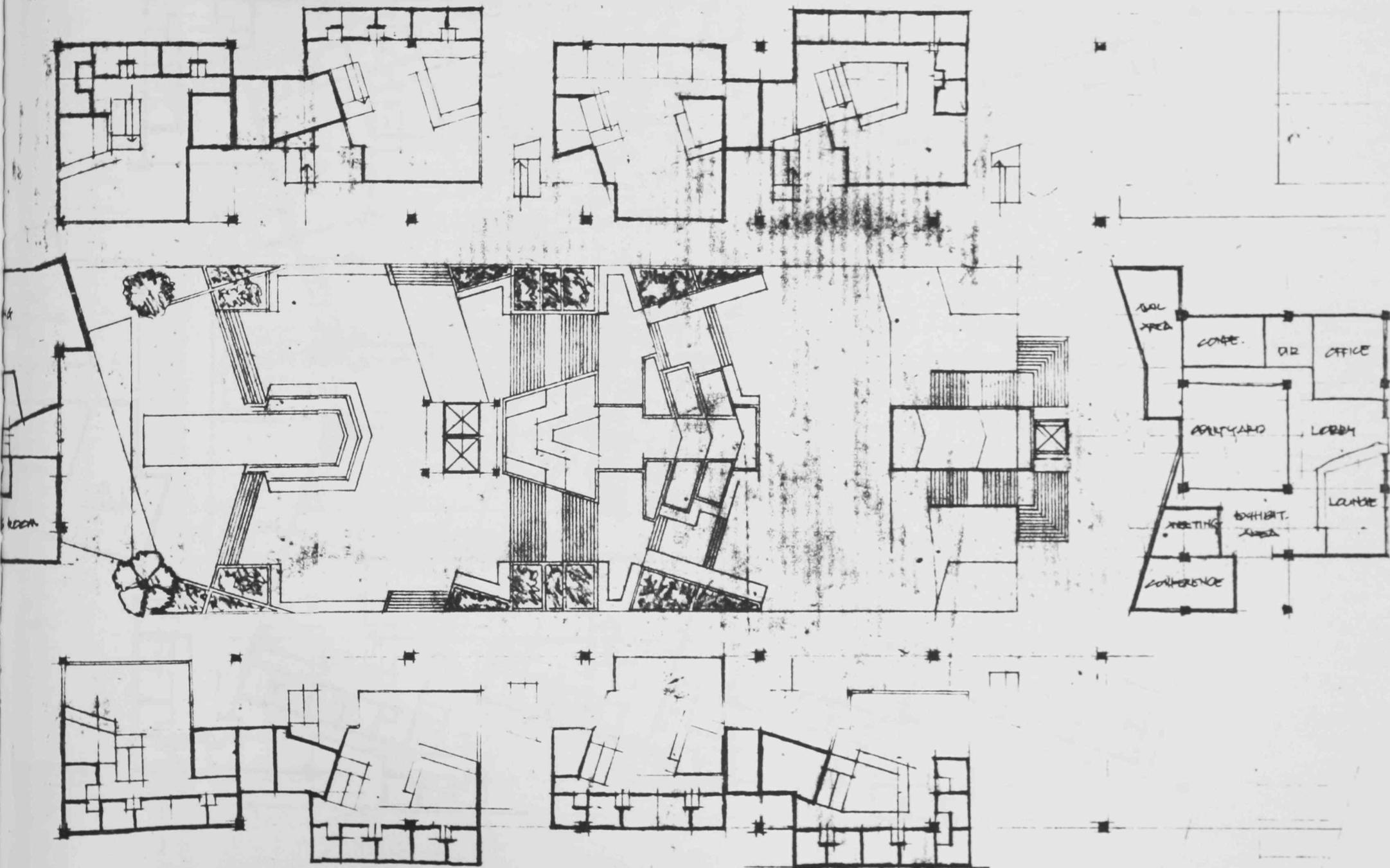


EAST ELEVATION

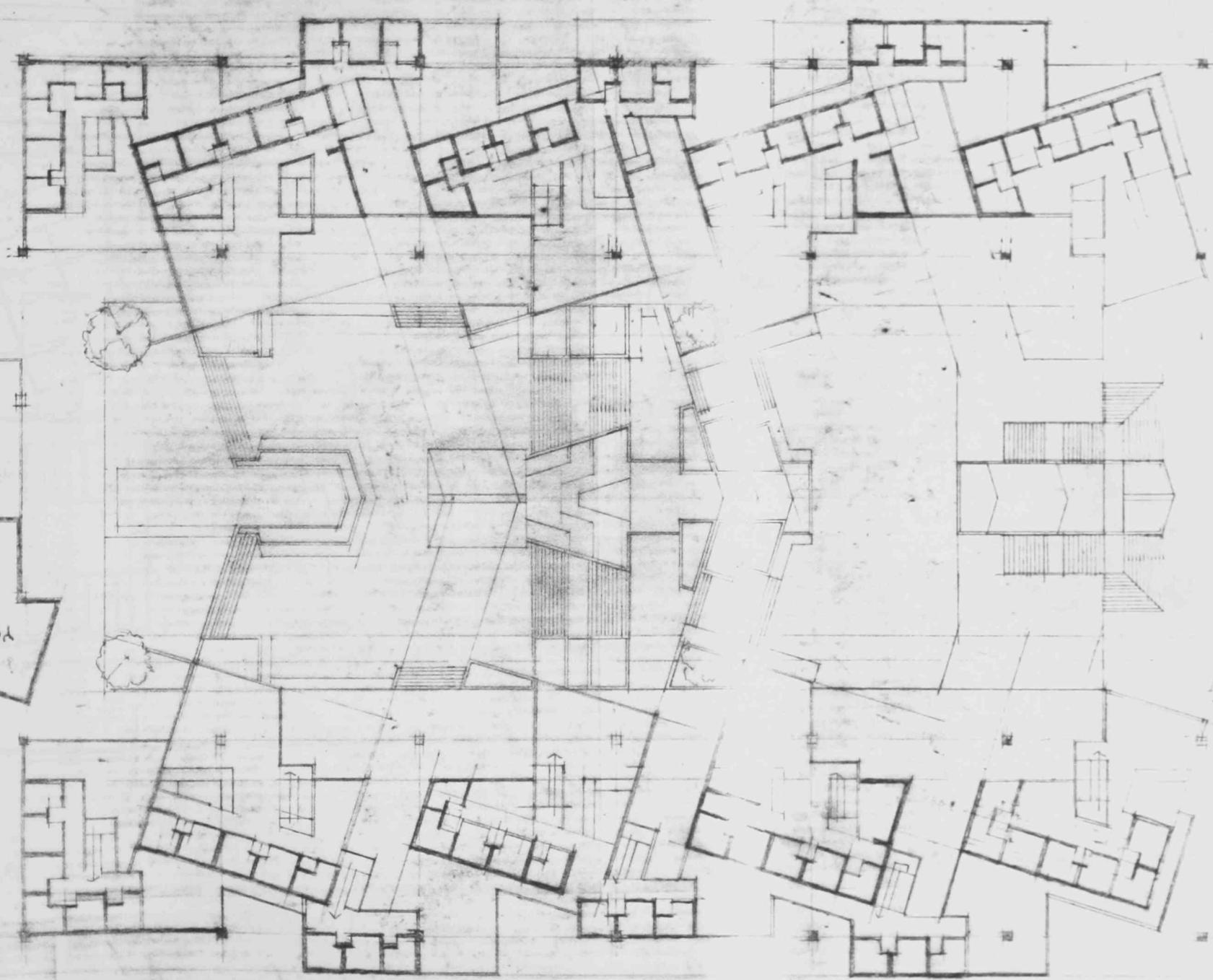


NORTH

AVENUE X

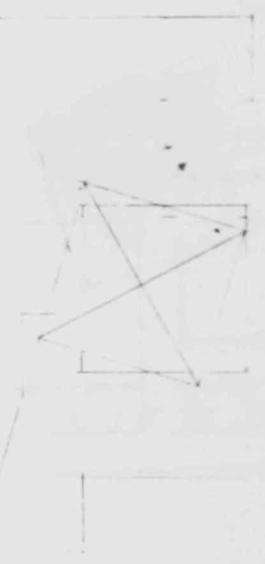


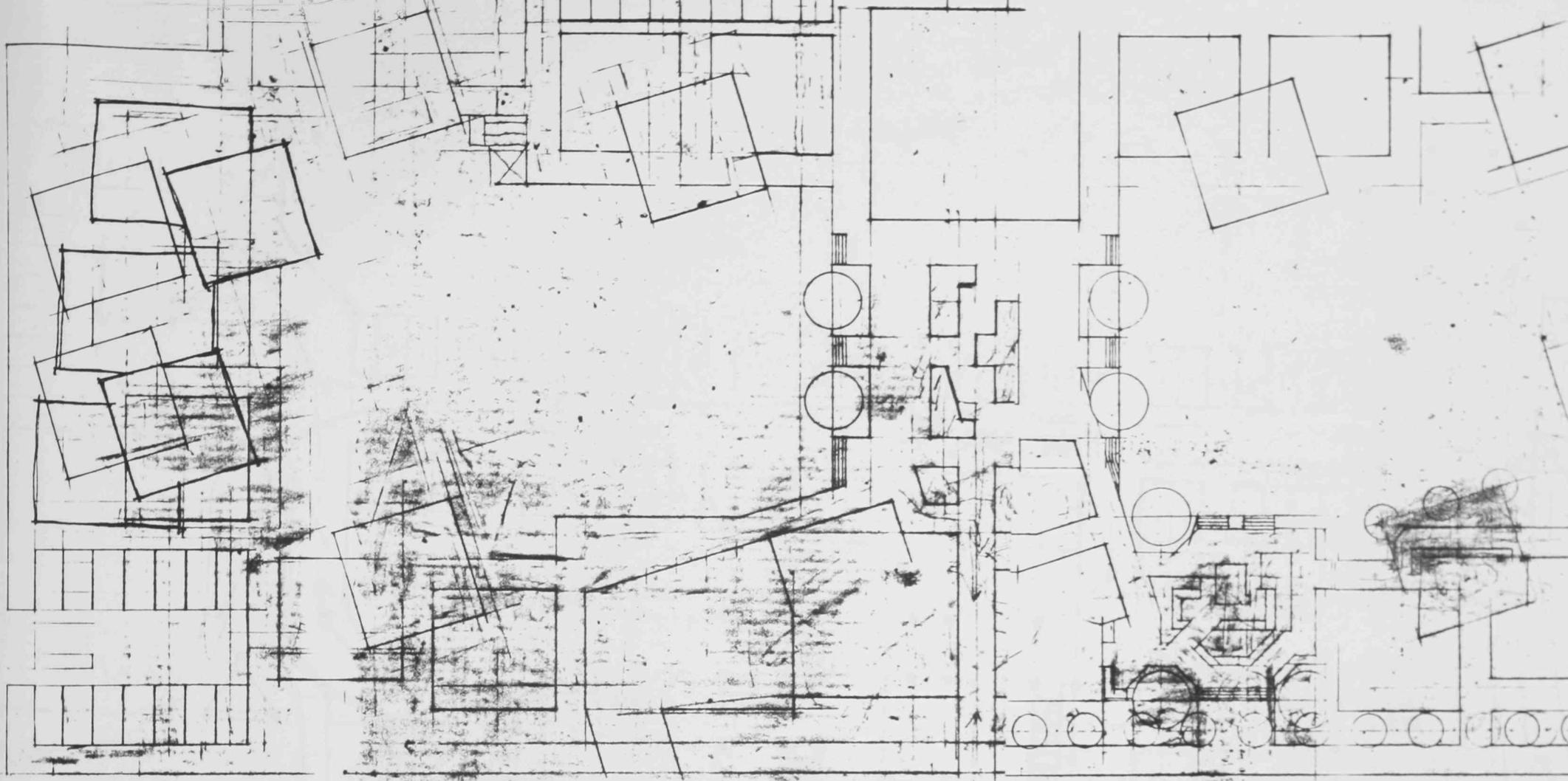
1ST FLOOR PLAN W/ PLAZA



ROOM
ROOM

ROUTE
ROUTE





AVENUE 4

#

13/6

140 PARKING

