

# COHOUSING IN AMERICA

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ADAPTING THE PRINCIPLES OF DANISH  
COHOUSING TO URBAN INDIANAPOLIS

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Bachelor of Architecture Thesis  
Ball State University  
April 2002

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## ACKNOWLEDGEMENTS

I would like to thank several people for their support throughout my thesis year. First I would like to thank my family for all of their encouragement, support, and love. Without them, my experiences here at Ball State would never have come into existence.

I would like to thank all of my friends both in and out of architecture. A special thank you to the girls, Kari, Meg, Sarah, Jess, Liz, and Ginger, for being incredible through all of the ups and downs in the past year. You have made the late nights and long weekends enjoyable.

A special thank you needs to be said to all those sitting near me in studio: Chad, Paully, Jess, Christy, Mike, Bill, and Meg. The laughing, bickering, yelling, and working would not have been the same without all of you.

Thank you to Jim Segedy, Brian Hollars, Tony Costello, Rod Underwood, and Jeff Culp for being mentors to me. I appreciate all the help you have given me.

Lohren Deeg, thank you so much for your invaluable input on this project. You have been an incredible support and advisor throughout this process. I cannot thank you enough.

And finally, I would like to thank Bob Fisher. You have been a wonderful professor to have this year. Thank you for always believing in me and my thesis.

C O N T E N T S 03

I N T R O D U C T I O N 04

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# INTRODUCTION

"For me this (cohousing) is a real way of living. It is not a matter of partitioning off a part of myself but living in a whole way, both giving and taking." — resident of one (sunlight) Cohousing Community, in Oregon

Fast paced lives including long days of working, a quick run to the grocery store, dinner over the sink, exercise at the local fitness center, night meetings, and finally sleep...for a few of hours, seem to be the norm for many in the United States. The only interaction with their surroundings is perhaps the coworkers seen in a meeting, a wave at a friend while passing by, and a grunt to a neighbor at the gym. In Denmark, many were following the same type of fast paced routine and found themselves exhausted with life and with their lack of interaction with others, specifically those living just next door. In response to these feelings, a group of Danes met to begin organizing a new type of living arrangement, one which would encourage interaction and interdependence with their neighbors. They found themselves developing a community based on trusting each other, working with each other, and sharing their family and household tasks. This new lifestyle introduced a new form of housing called cohousing. Cohousing has since spread to other parts of Europe including Finland, Sweden, Holland, Germany, France, and more. Cohousing has reached the United States, but it is still not as widely accepted as it is in Europe.

Cohousing is defined as a form of collaborative housing which offers residents a traditional sense of neighborhood. Each cohousing community has private, fully equipped homes and common amenities, which includes the common house. Each cohousing community is designed and run by those who have chosen to live in the neighborhood.

For a community to be defined as cohousing, six characteristics must be met.

**Participatory Process.** The future residents of the community must participate in the design process, so that it becomes the type of place they want to live.

**Neighborhood Design.** The site plan for the community must encourage a sense of community. The private residences are usually either on a pedestrian street with the common house at the end with parking on the periphery, or they are on a courtyard with the



Sunward Cohousing Community  
photo from [www.sunward.org](http://www.sunward.org)

common house visible from the home. The most important part is creating a strong sense of community using the design as an aid.

**Common Facilities.** These facilities are to be used daily and are a supplement to the private residences. Most of the residences are smaller than the typical residence, so the common facilities provide more space for the residents. The common house usually will include a dining area, kitchen, living room, children's playroom, laundry room, workshop, exercise room, and one or two guest rooms. Usually recreational areas are also found including playground equipment, lawns, and gardens, except in some urban spaces.

**Resident Management.** Cohousing communities are managed by those that live in them. The residents try to do as much of the work to maintain the property, and they participate in the preparation of shared meals. The residents also meet to develop policies and to do problem solving for the community.

**Non-hierarchical Structure and Decision-Making.** Leadership roles do exist in cohousing, however no one person has authority over another. Most cohousing groups make decisions by consensus, and as a last resort they usually have a voting policy.

**No Shared Community Economy.** The cohousing community rarely pays a resident to do work within the community. It is not to be a source of income. On occasion, the community may pay a resident to do something, but usually the task is just considered part of that resident's contribution.

This thesis is based on the principles of Danish cohousing design including: the master plan, shared space, attached housing, and the common house. I have chosen to design a cohousing community located in historic downtown Indianapolis, which will adapt the design ideas of Danish cohousing to be applicable to urban Indianapolis.

"...our individualism has become so unbalanced, creating a culture of reputation that unchecked will collapse of its incoherence." -Robert Bellah

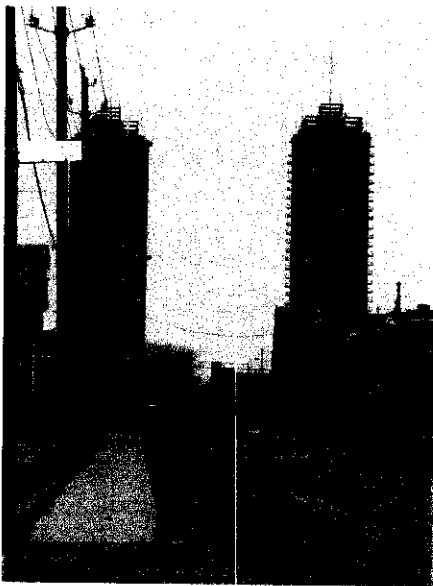
# BACKGROUND

## ISSUES

Cohousing is a well-accepted form of housing in Denmark, Holland, Germany, and several other European countries. It is currently making an appearance here in the United States, however, due to cultural differences, challenges await the residents and architects of these developments.

This thesis addresses:

- The creation of a cohousing environment in an urban setting that provides amenities comparable to the cohousing environments of suburban European settings
- The enabling of this transition of European cohousing to the American milieu by examining an identity for cohousing that will be compatible with the surrounding context
- The development of an image for housing that is different from the conventions of medium density apartment developments.



Riley Towers down the street from the site

## CONTEXT

Cohousing is generally considered a new form of housing to most in the United States. Despite cohousing's newness in the United States and its unique lifestyle, it is possible to make the transition and create an acceptable development both architecturally and socially for the community in which it will exist.



St. Joseph's Church

According to the six characteristics that define cohousing, the community must be initiated by the future residents, and the future residents must participate in the design. In my case, the future residents of my cohousing community are those that have critiqued my thesis throughout the past months.

## BOUNDARY CONDITIONS

North Street on the north, College Avenue on the east, Michigan Street on the south, and East Street on the west are the borders of the site in historic downtown Indianapolis. St. Joseph's Church, located at the northeast corner of the site, will be incorporated into

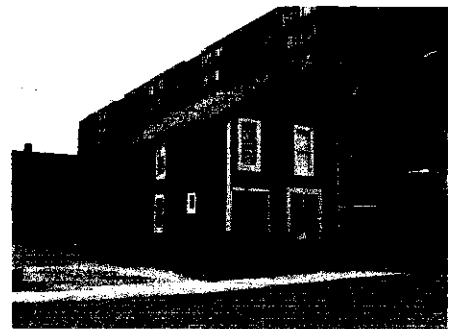
the design. Warehouses currently surround the area; some of which are still functioning and others are loft apartments. Just north of the site is Massachusetts Avenue, a commercial and residential area, and to the south lies Lockerbie neighborhood. The site sits in an interstitial space between the Lockerbie historic district and the Chatham Arch historic district.

### CULTURAL CONTEXT

The cultural influences on the site come from two directions both figuratively and literally. From the north, the artistic side of downtown reigns in the Massachusetts Avenue Area. This area provides a wealth of galleries, trinket shops, cozy restaurants, offices, and loft apartments. Massachusetts Avenue has been on a growth trajectory in the past few years and only seems to be getting better at this point. To the south of the site rests downtown Indianapolis's well known urban neighborhood, Lockerbie. This is the ideal neighborhood for those wishing to move into a place where neighbors know each other. However, it is also one of the wealthier neighborhoods in the city. With the site located in between these two influential districts the project is presented with several opportunities to respond.



Aerial photograph of the site  
Photo compliments of Ratio Architects



Home in the area



Home in the area



A view of Massachusetts Avenue from the site

## DESIGN OBJECTIVES AND METHODOLOGIES

When the initiators of the first cohousing community originally met, they were striving for more interaction between themselves and their neighbors. They were seeking a place that would promote this type of lifestyle. This design focuses on that goal by designing spaces which encourage interaction.

The site for this thesis project is in between two very distinctive areas of historic downtown Indianapolis, Lockerbie and Chatham Arch. Chatham Arch includes the Massachusetts Avenue area known for its artistic influence. The site is currently dilapidated and underused. This project will attempt to bring identity to an area that is currently lacking distinction, by creating a masterplan that responds to the housing typology of Lockerbie and the artistic nature of Massachusetts Avenue.

## PROGRAM OUTLINE

|                              |           |
|------------------------------|-----------|
| COMMON HOUSE                 | 7515 SF   |
| ▪ Entry                      | 50 s.f.   |
| ▪ Kitchen                    | 350 s.f.  |
| ▪ Dining Room                | 900 s.f.  |
| ▪ Entertainment Room         | 800 s.f.  |
| ▪ Children's Room            | 150 s.f.  |
| ▪ Fitness Room               | 150 s.f.  |
| ▪ Workshop                   | 150 s.f.  |
| ▪ Home Office Room           | 250 s.f.  |
| ▪ Art Studio/ Gallery        | 800 s.f.  |
| ▪ Dark Room                  | 400 s.f.  |
| ▪ Guest Rooms 2 @ 200 s.f.   | 400 s.f.  |
| ▪ Laundry Facilities         | 200 s.f.  |
| ▪ Bathrooms 4 @ 40 s.f.      | 160 s.f.  |
| ▪ Storage Space              | 150 s.f.  |
| Net Area                     | 4910 s.f. |
| Unassigned Area (50% of net) | 2455 s.f. |
| Mechanical Room              | 150 s.f.  |
| Gross Area                   | 7515 s.f. |

|                      |          |
|----------------------|----------|
| STUDIO UNIT          | 600 SF   |
| ▪ Entry              | 25 s.f.  |
| ▪ Kitchen            | 65 s.f.  |
| ▪ Multi-Use Room     | 400 s.f. |
| ▪ Bathroom           | 50 s.f.  |
| ▪ Storage/Mechanical | 60 s.f.  |

|                         |          |
|-------------------------|----------|
| TWO BEDROOM UNIT (8)    | 860 SF   |
| ▪ Entry                 | 25 s.f.  |
| ▪ Kitchen               | 75 s.f.  |
| ▪ Dining Room           | 125 s.f. |
| ▪ Great Room            | 200 s.f. |
| ▪ Bathroom              | 60 s.f.  |
| ▪ Half Bath             | 25 s.f.  |
| ▪ Bedrooms 2 @ 150 s.f. | 300 s.f. |
| ▪ Storage/Mechanical    | 50 s.f.  |

|                                   |          |
|-----------------------------------|----------|
| THREE BEDROOM UNIT (4)            | 1080 SF  |
| ▪ Entry                           | 25 s.f.  |
| ▪ Kitchen                         | 85 s.f.  |
| ▪ Dining Room                     | 125 s.f. |
| ▪ Great Room                      | 200 s.f. |
| ▪ Bathrooms 2 @ 60 s.f.           | 120 s.f. |
| ▪ Bedrooms 3 @ 150 s.f.           | 450 s.f. |
| ▪ Storage/Mechanical/Utility Room | 75 s.f.  |

|                                   |          |
|-----------------------------------|----------|
| FOUR BEDROOM UNIT                 | 1245 SF  |
| ▪ Entry                           | 25 s.f.  |
| ▪ Kitchen                         | 85 s.f.  |
| ▪ Dining Room                     | 140 s.f. |
| ▪ Great Room                      | 200 s.f. |
| ▪ Bathrooms 2 @ 60 s.f.           | 120 s.f. |
| ▪ Bedrooms 4 @ 150 s.f.           | 600 s.f. |
| ▪ Storage/Mechanical/Utility Room | 75 s.f.  |

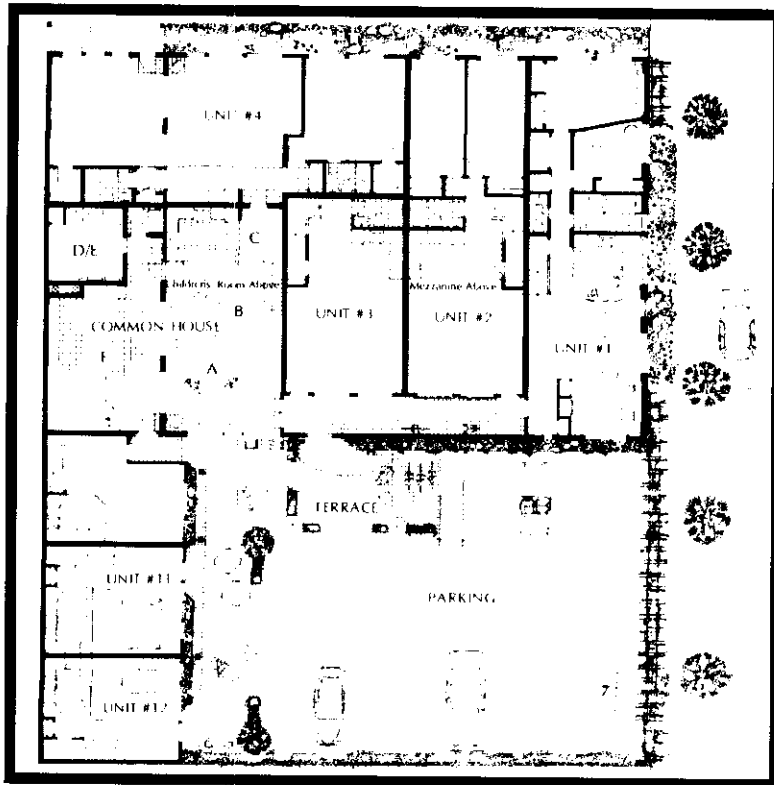
#### RECAP. OF TOTAL SQUARE FOOTAGES

|                               |           |
|-------------------------------|-----------|
| Common house                  | 7515 s.f. |
| Studio Unit - 6 @ 600         | 3600 s.f. |
| Two Bedroom Unit - 8 @ 860    | 6880 s.f. |
| Three Bedroom Unit - 4 @ 1080 | 4320 s.f. |
| Four Bedroom Unit - 4 @ 1245  | 4980 s.f. |

# RESEARCH

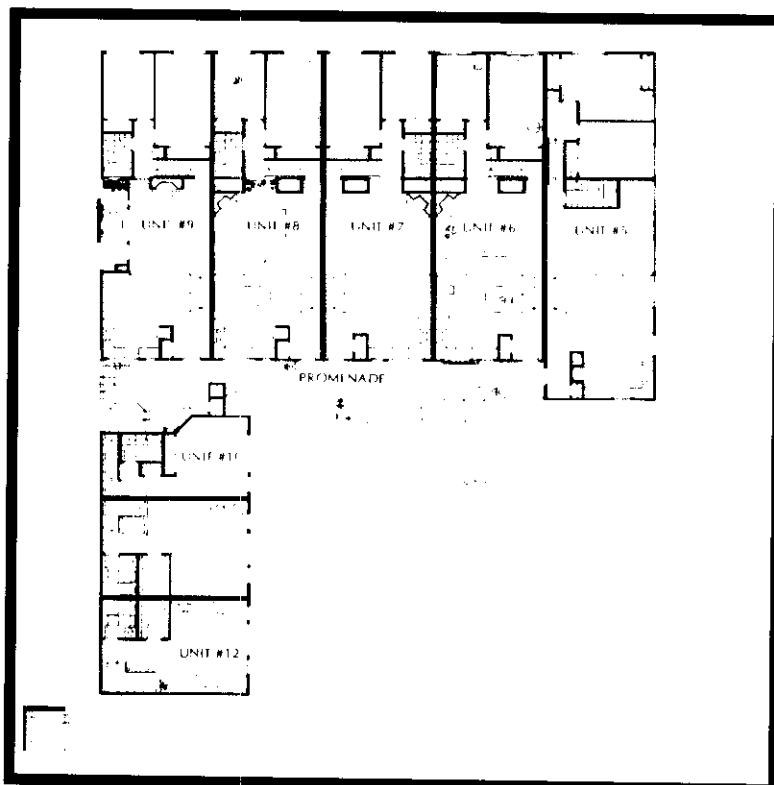
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In the spring of 2001, I spent a semester studying in Copenhagen. One of the courses I took focused on the history of Danish housing. Several different styles and types were discussed in the class including Danish cohousing. Socially, the idea seemed a little unrealistic to me at first, but after a couple of lectures I was interested in visiting one. Fortunately a field study trip had been scheduled for my class to visit several of the housing types we had studied, including a couple of cohousing neighborhoods. While visiting them, I was impressed with how much the neighbors seemed to interact. Both of the ones I saw were planned with pedestrian streets. One of them had the pedestrian street enclosed to allow interaction despite the weather. I did not fully realize how much cohousing would impact me until I returned to the United States. Once back, I decided that cohousing would be a great thesis topic for me to explore. The following are a few cohousing developments in the United States that I studied in preparation for design.



Doyle Street Cohousing  
Development  
Emeryville California

This particular cohousing development contains only 12 units and was designed as a rehab/reuse of an old warehouse. A second level was added to the existing structure to allow for more units. Each unit was treated as a condominium with front doors that open to a common terrace. Each unit also had custom options to give the residents an opportunity to make their space unique. These options did raise the cost.



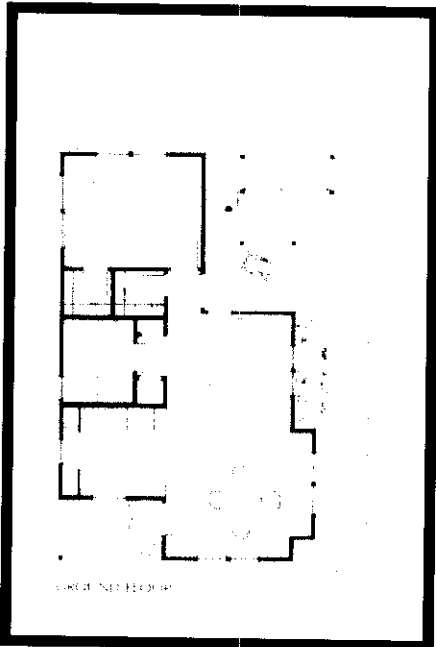
(Left) Plans of Doyle Street Cohousing Development  
(Above) Photo inside common house  
Plans and Photo from *Cohousing: A Contemporary Approach to Housing Ourselves*

Southside Park Cohousing  
Development  
Sacramento, California

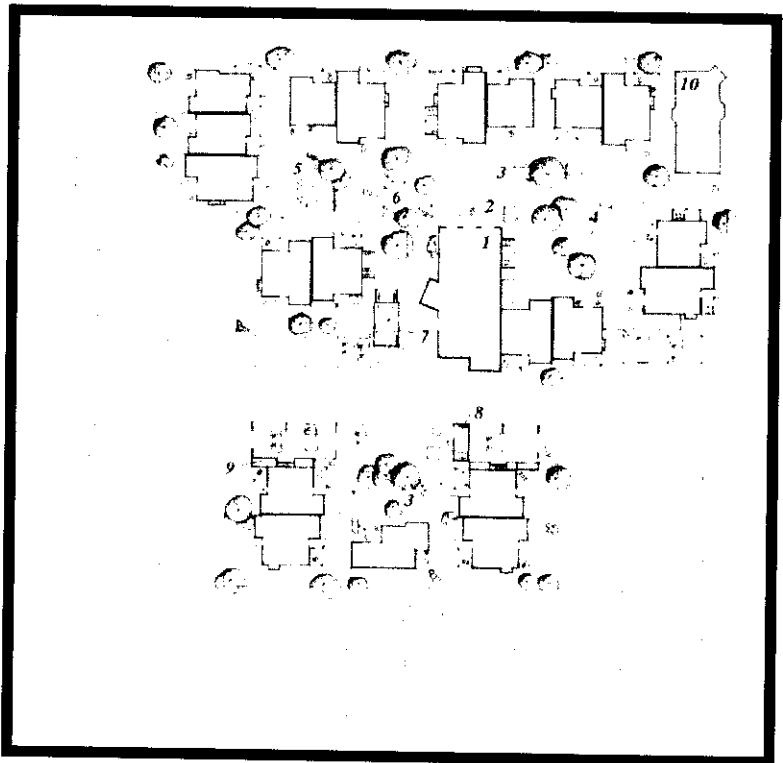
Southside Park is a revitalization cohousing neighborhood in the center of Sacramento. The architectural challenge was redesigning flats in old Victorian homes. This cohousing development includes several different private home sizes as well as affordable homes. The design of the development is sensitive to the neighborhood that the development exists within and still has maintained its own sense of community.



(Above) Photo of a meeting for Southside Park Cohousing Development. Photo from *Cohousing: A Contemporary Approach to Housing Ourselves*



(Above) Plan of one bedroom flats at Southside Park Cohousing Development. Photo and plan from *Cohousing: A Contemporary Approach to Housing Ourselves*



(Above) Site Plan of Southside Park Cohousing Development. 1. common house, 2. terrace, 3. gathering node, 4. green space, 5. garden, 6. playground, 7. workshop, 8. bicycle storage, 9. storage, 10. existing. Site Plan from *Cohousing: A Contemporary Approach to Housing Ourselves*

This image is a design solution for adapting European cohousing into an existing American structure. A cohousing development has been designed as a single building in an urban area to house apartments on each level. The link between these spaces is the atrium, and the stairwell and halls.



All information from *Collaborative Communities: Cohousing, Central Living, and Other New Forms of Housing with Shared Facilities*

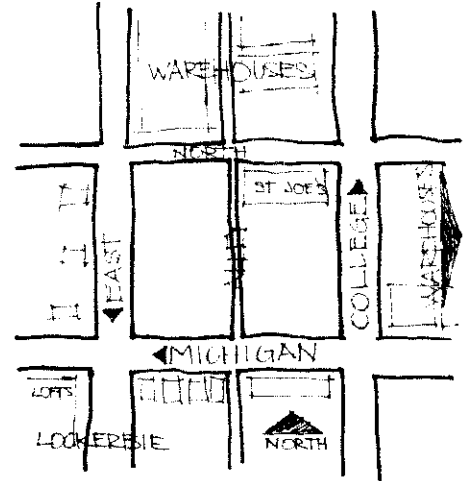
In addition to studying existing cohousing neighborhoods, I also had to study the site.



## SITE ANALYSIS

### ENTRIES

- The alley could serve as a possible service entry.
- College Avenue is one-way north. Michigan is one-way west, and East Street is one-way south. These streets must consider entries and exits carefully and the directions in which the building will be seen.
- North Street is a two-way street and is less busy than the other streets. It could be a private entry and a good place for parking.



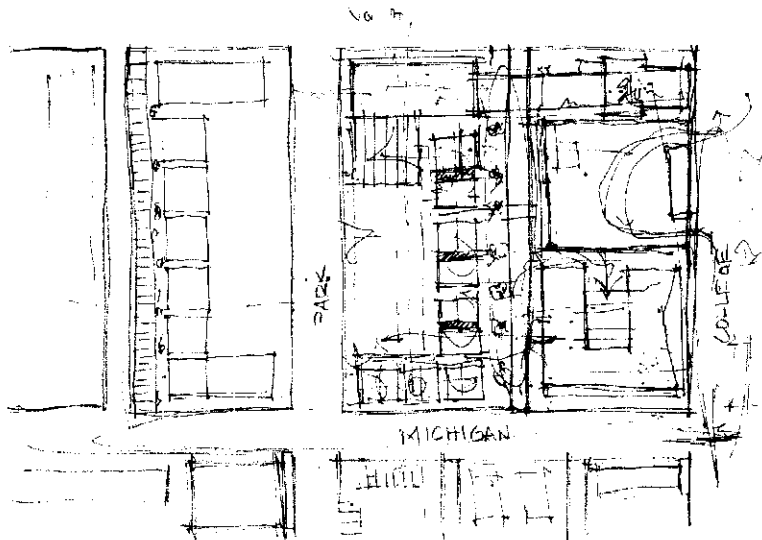
### CLIMATE

- Placement of structures and their spaces in reference to the daylight should be considered.
- Blocking winds from the northwest during the winter should be considered in the parking areas, outdoor areas, and other appropriate spaces.
- Southwestern breezes during the spring and summer months should be considered in the play areas and open spaces.

### CONTEXT

- The industrial atmosphere surrounding the northern and eastern perimeters of the site should be considered throughout design.
- The southern border consists of the homes of Lockerbie, mostly single-family detached homes and the loft apartments within the old warehouse. These contextual influences should also be considered in the design.

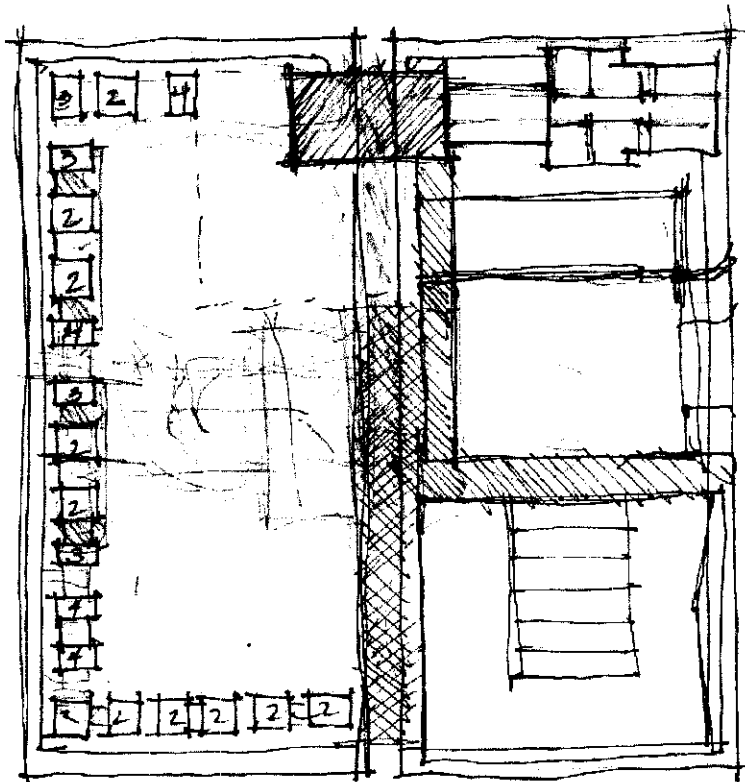
# PROCESS



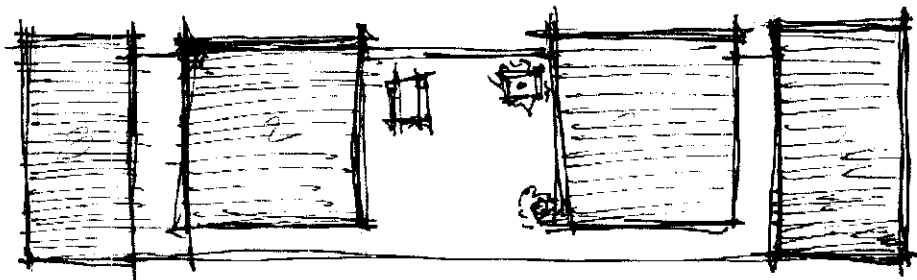
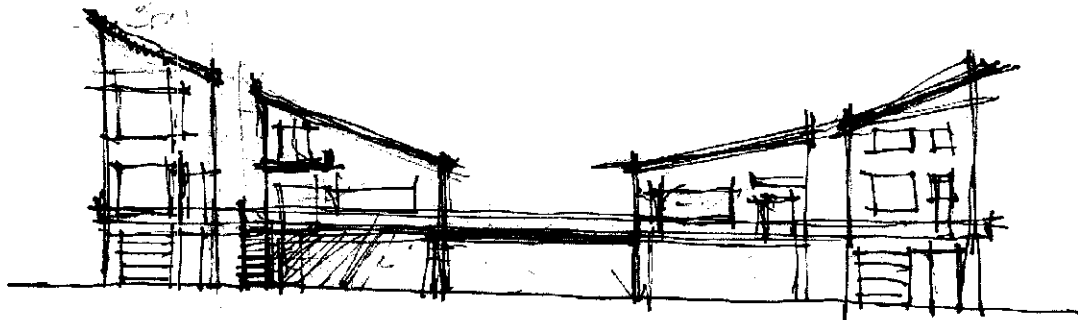
## MASTER PLAN

With so many design elements within the cohousing neighborhood, I chose to start designing by creating a master plan for the area. This area included my site, and a half a block on either side of it.

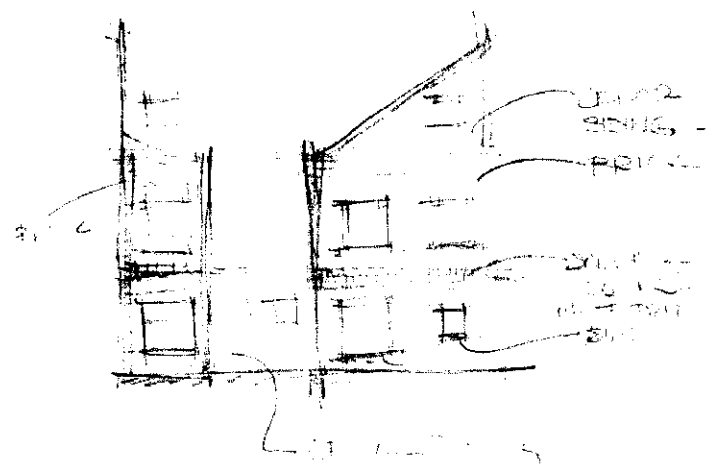
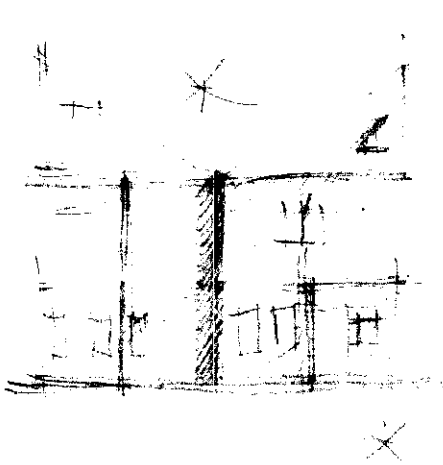
Masterplan Scheme - November 2001



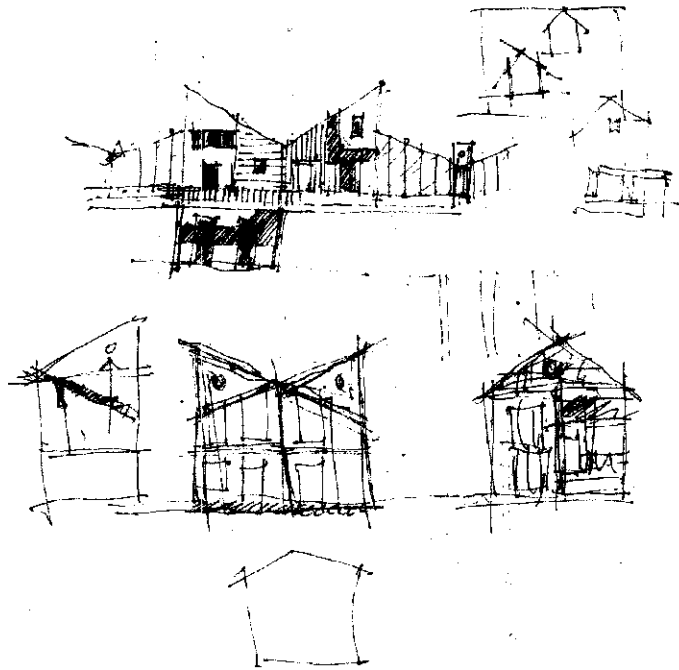
Masterplan Scheme - November 2001



Private homes schematic design - December 2001

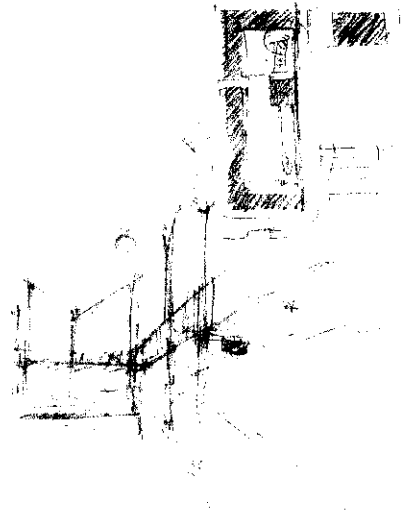
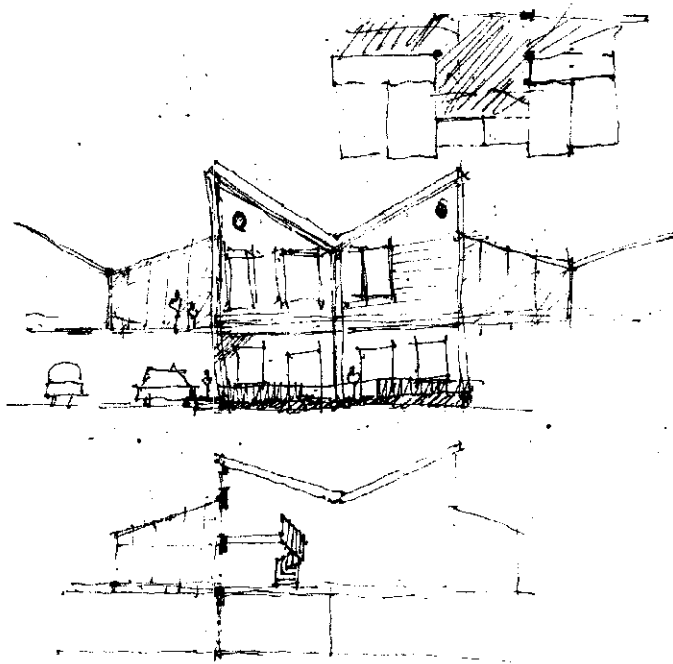


Elevation studies - March 2002



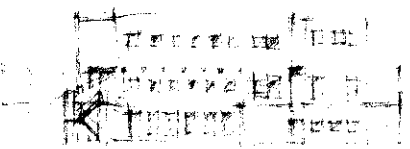
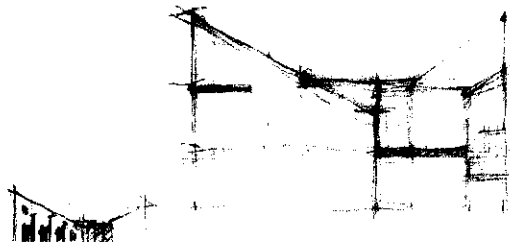
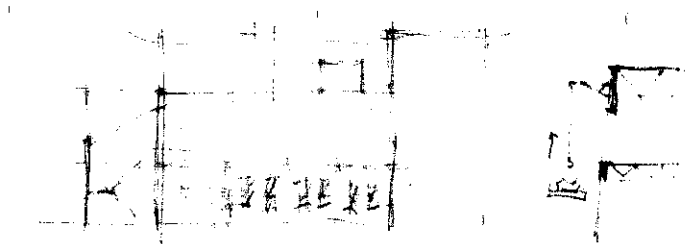
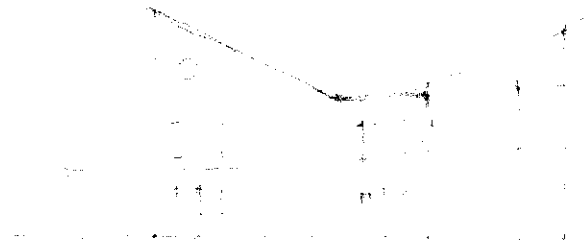
## THE PRIVATE HOMES

One challenge in designing the homes was the plan, I had to make them all attach in some way. Greenhouses became the common link for each home, as well as the pathway that connected them. I also needed to devise a scheme for the elevations that would define each home but be appropriate for the surroundings.



## THE COMMON HOUSE

The common house design needed to capture pieces from the private houses to unite the neighborhood. It also would serve as the focal point in the courtyard plan.

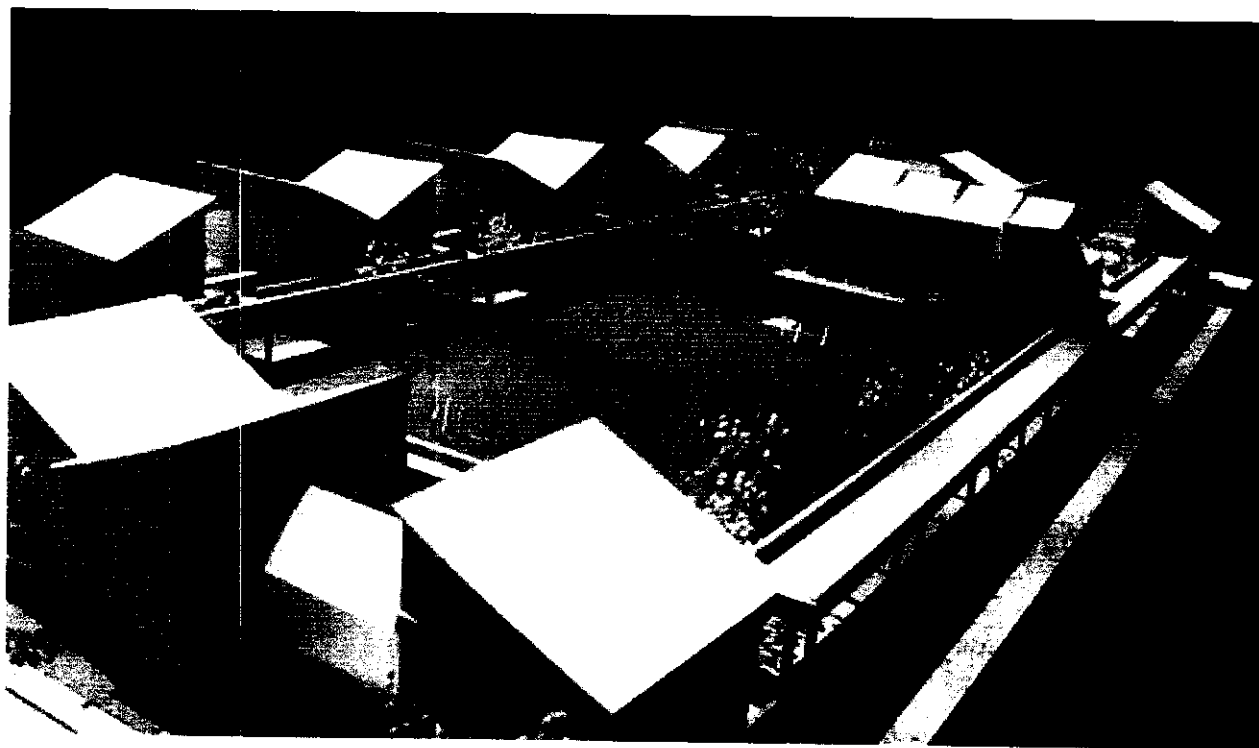


Elevation Studies - March 2002

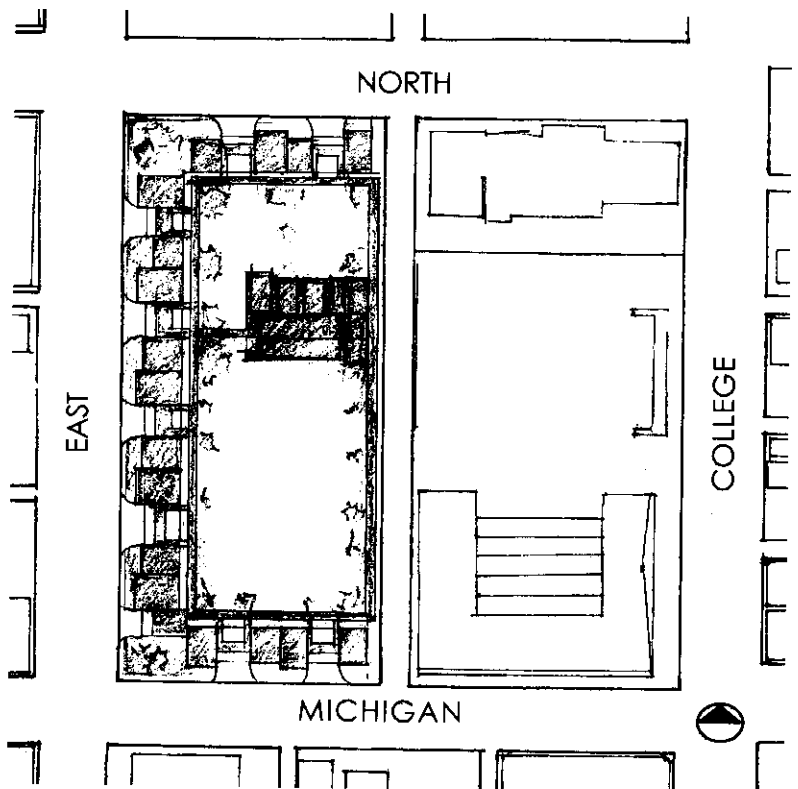
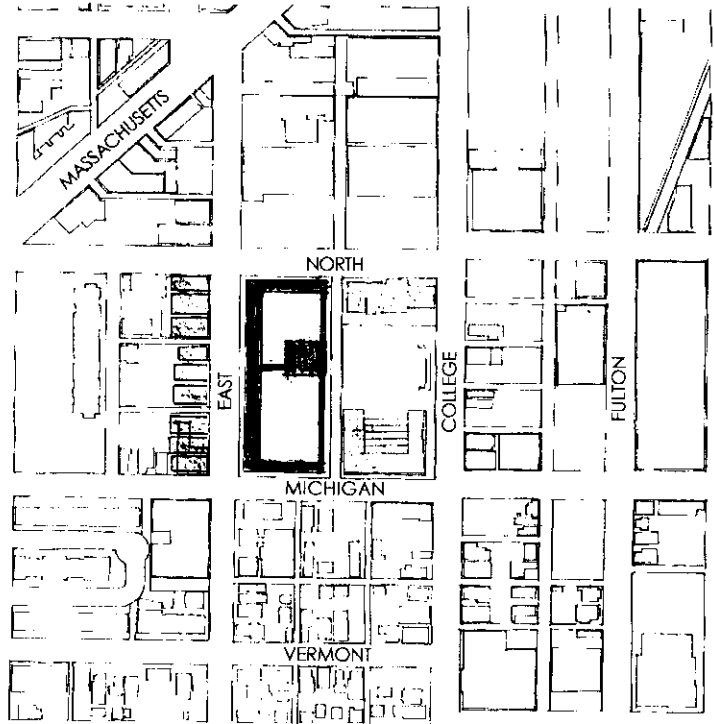
Elevation/Section Studies - February 2002

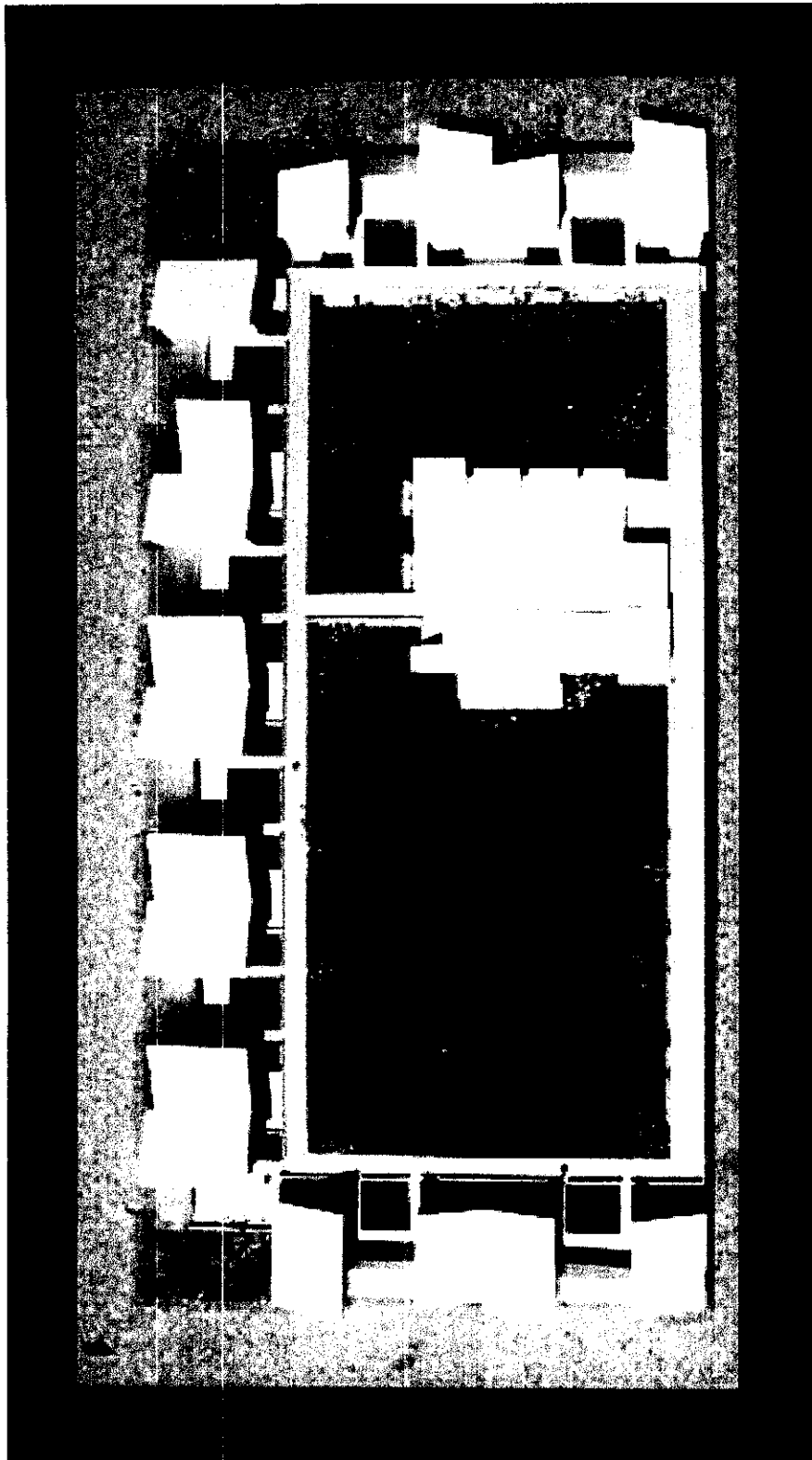
# RESOLUTION

RESOLUTION

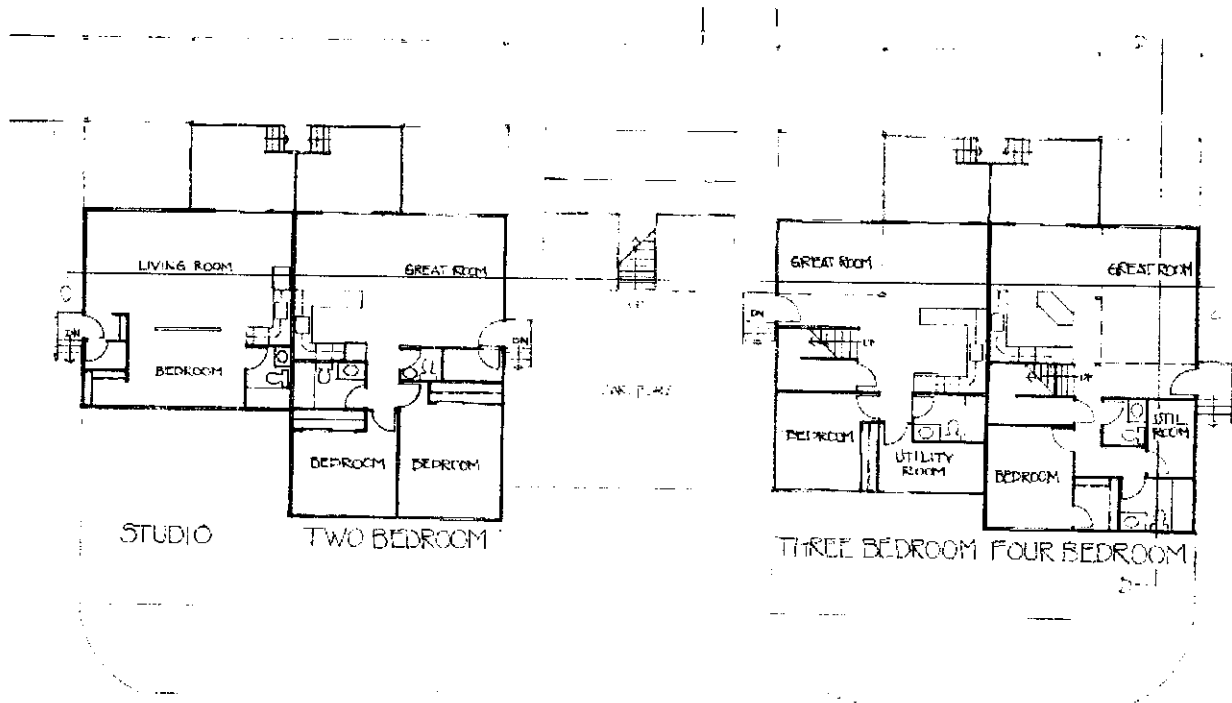


# THE MASTER PLAN

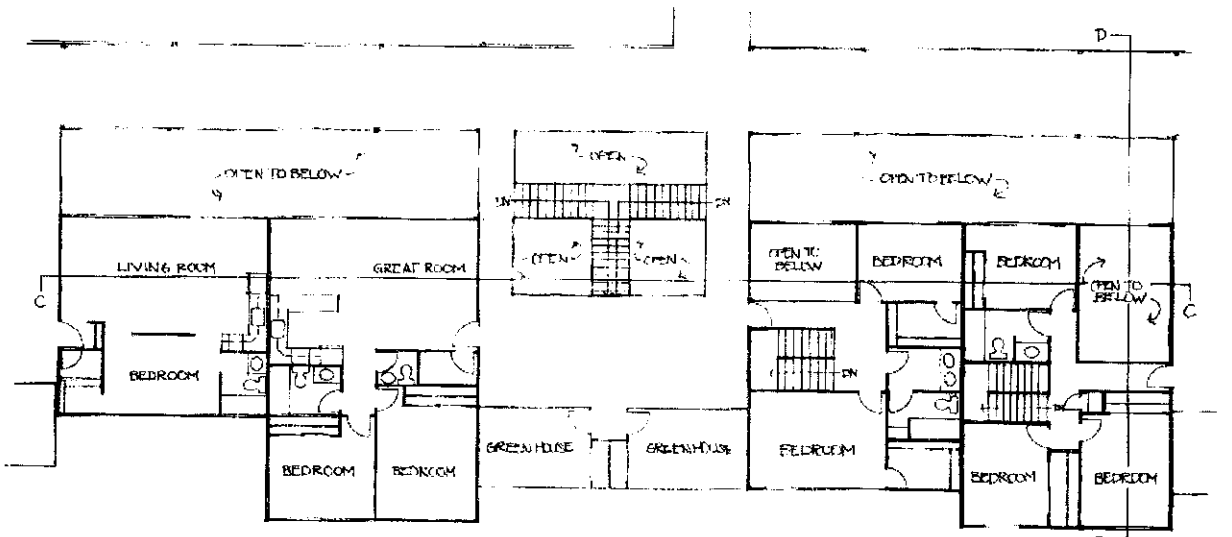




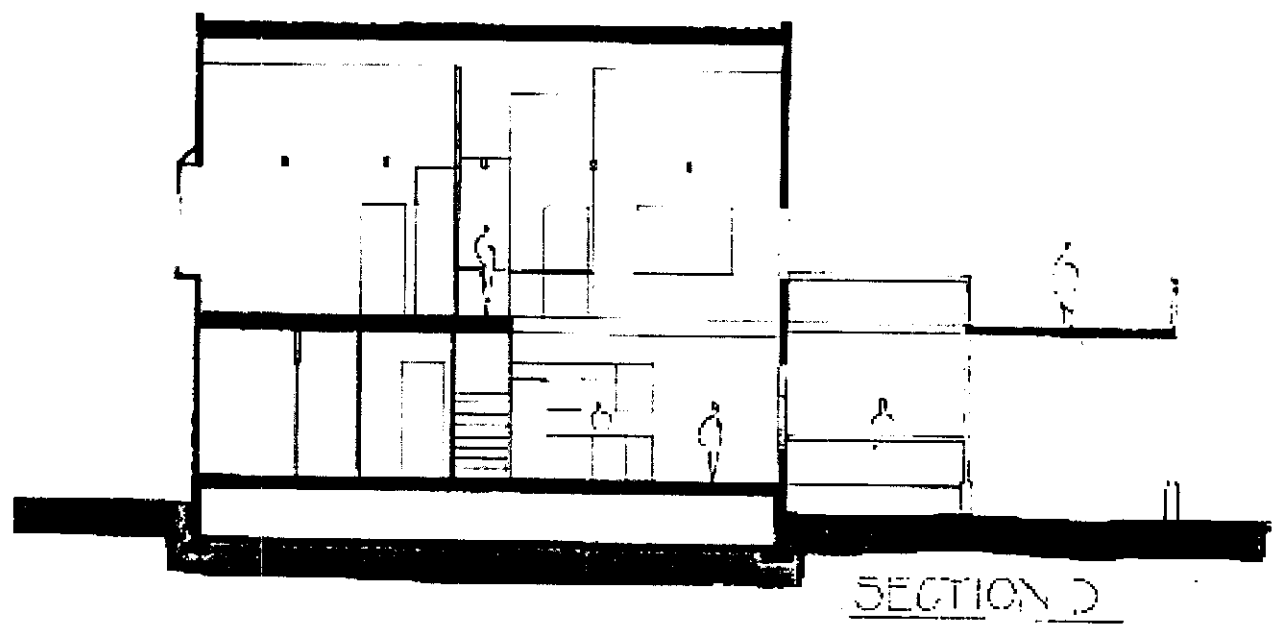
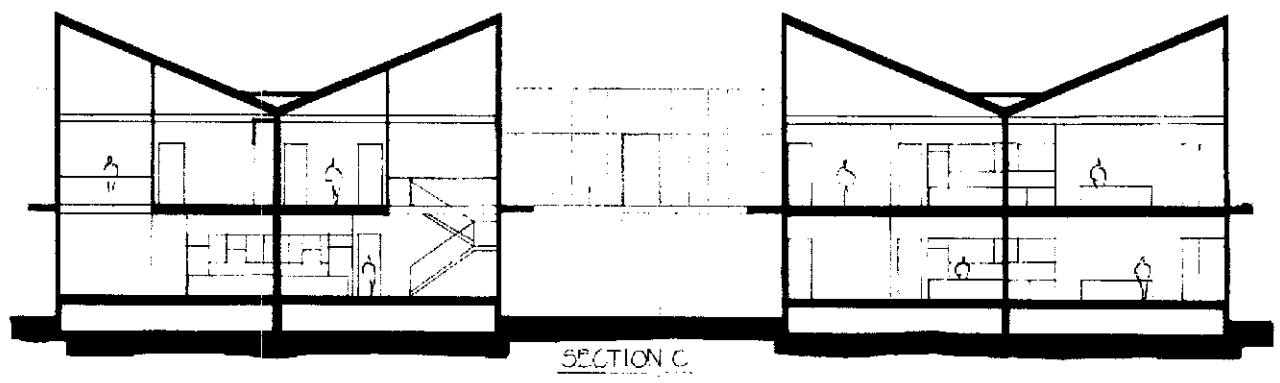
# THE PRIVATE HOMES

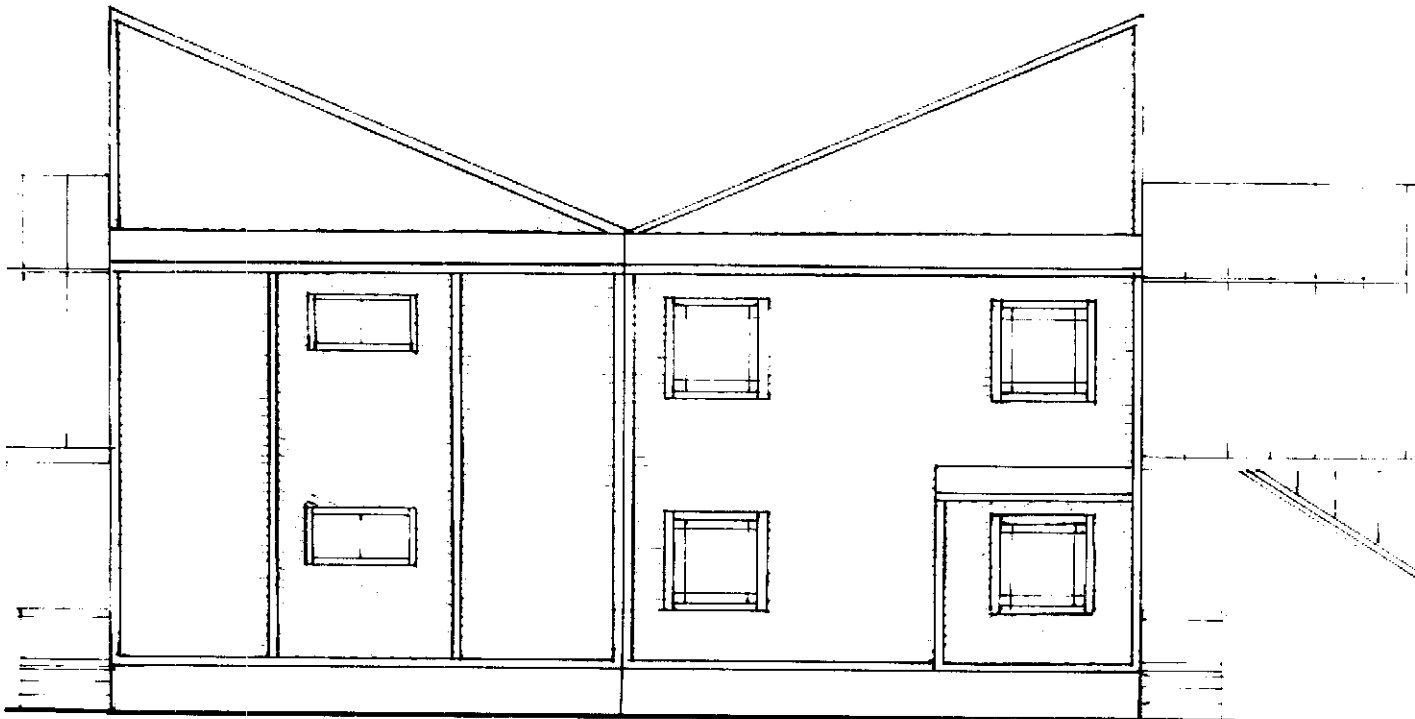


FIRST LEVEL



SECOND LEVEL

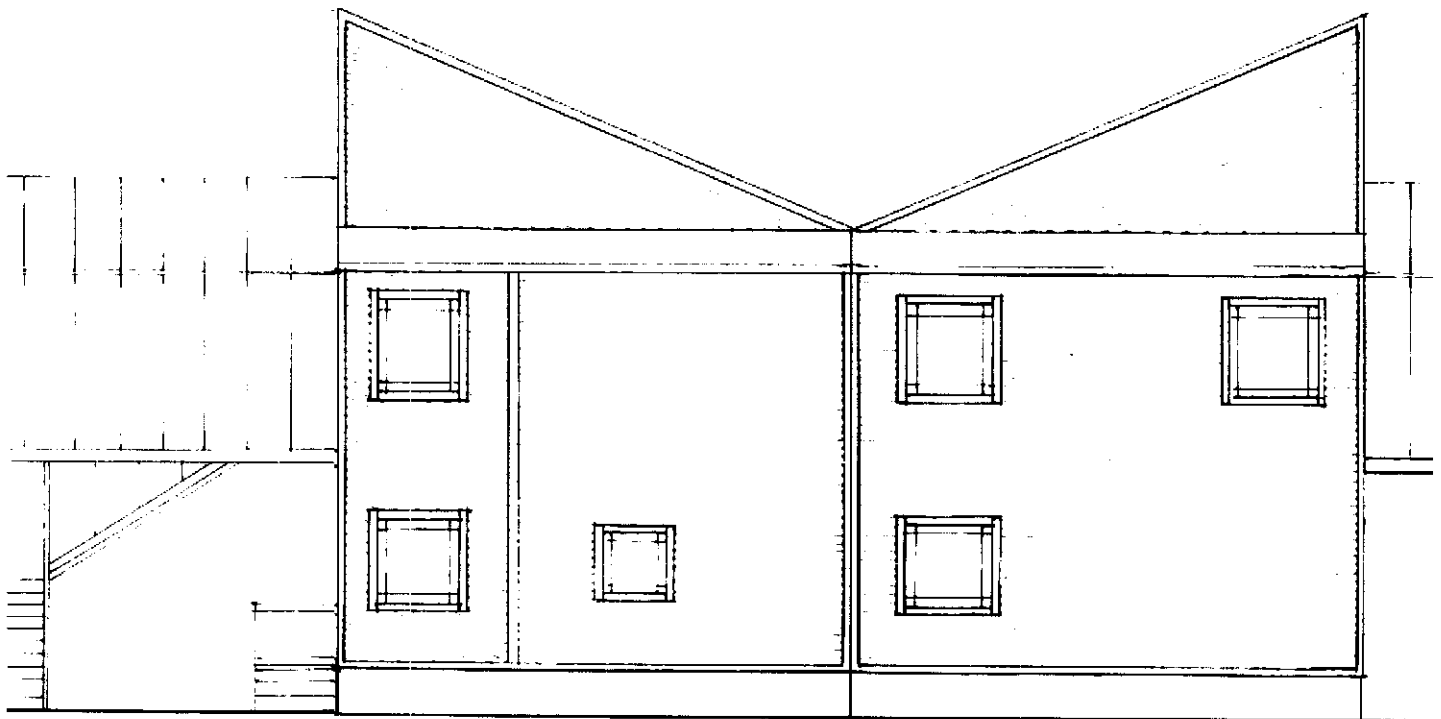




STUDIO

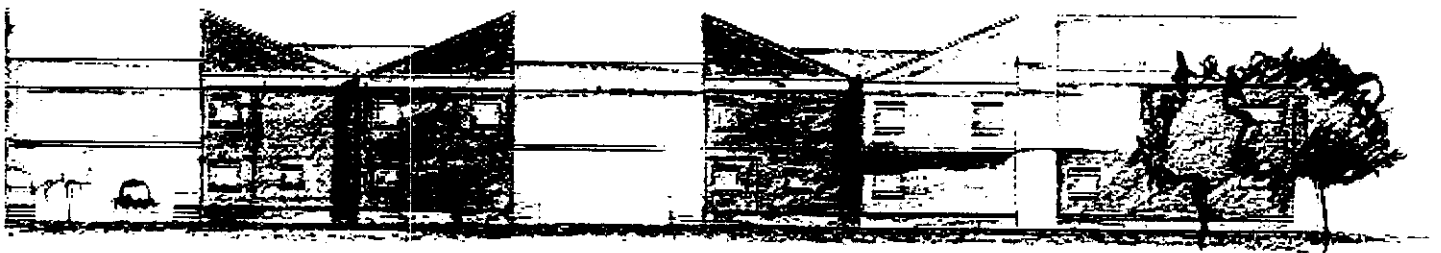
TWO BEDROOM



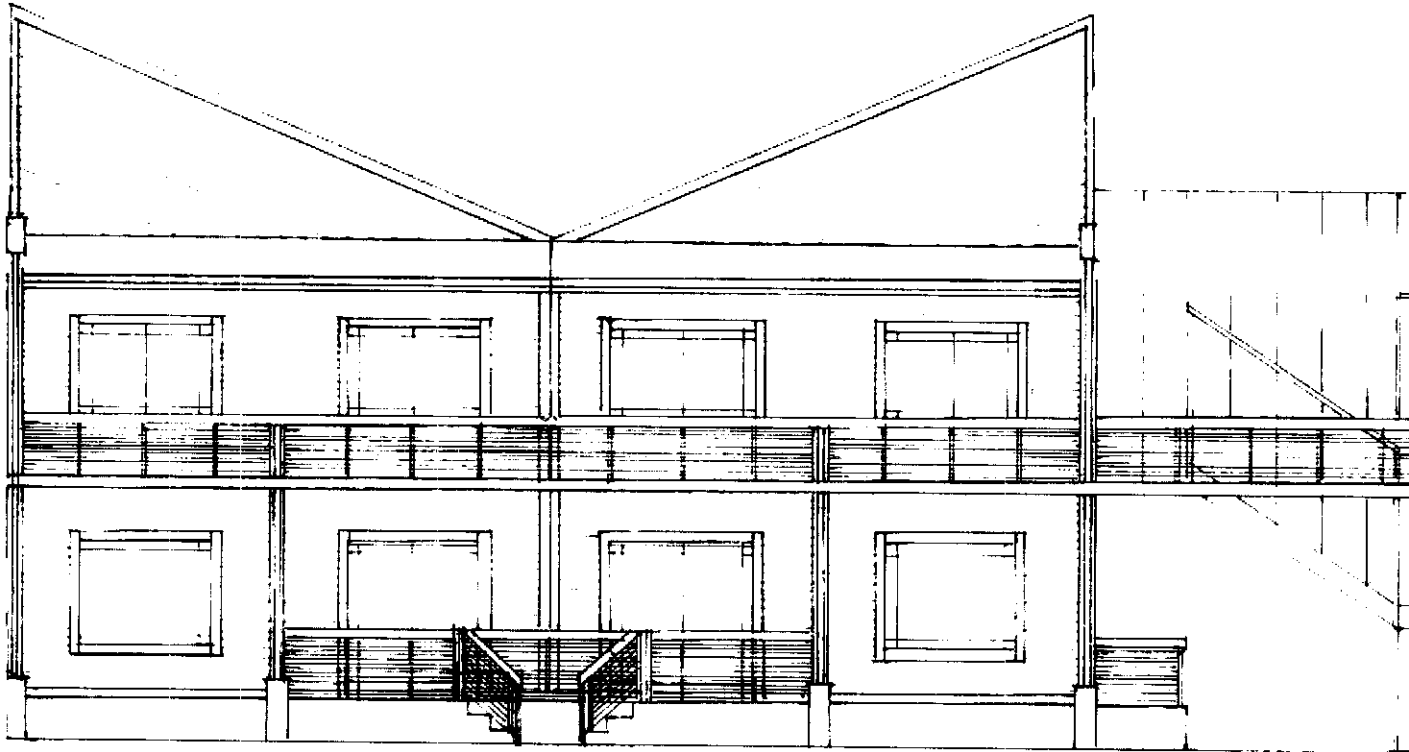


THREE BEDROOM

FOUR BEDROOM

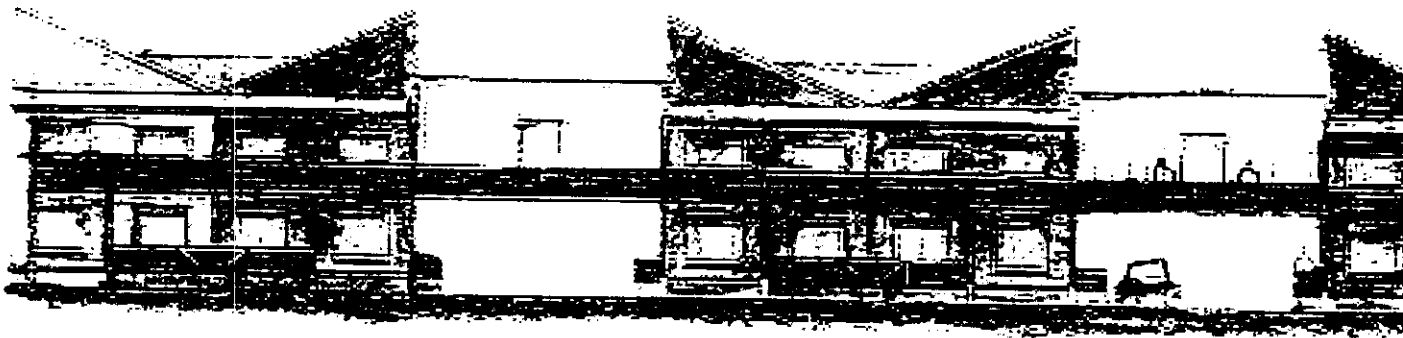


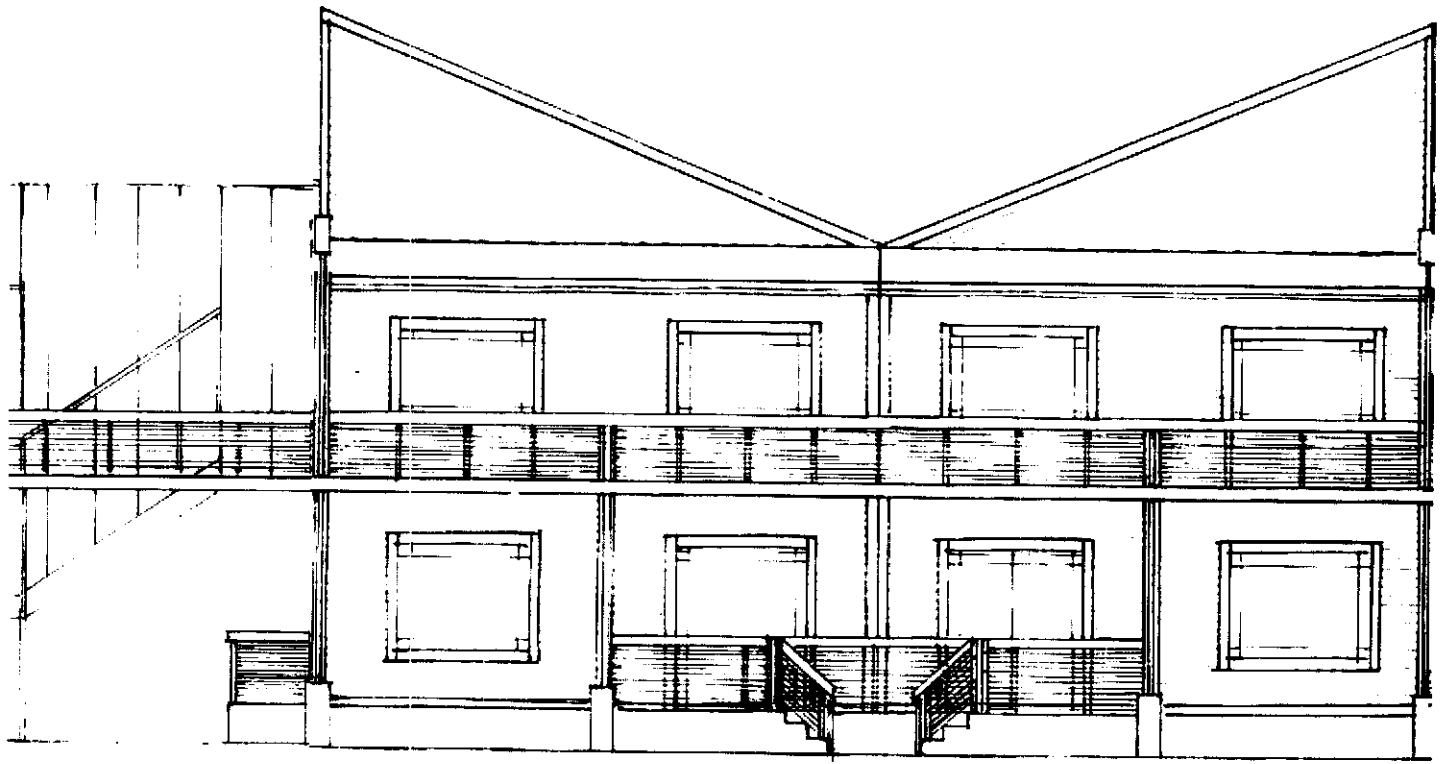
STREET ELEVATIONS



FOUR BEDROOM

THREE BEDROOM





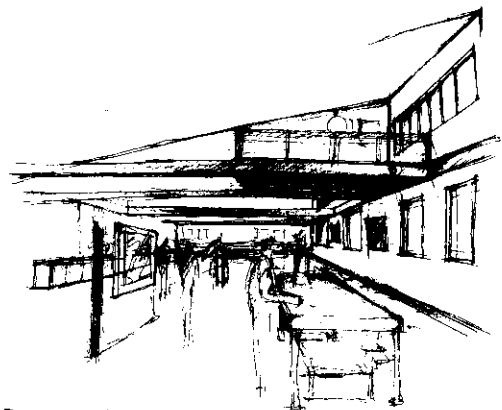
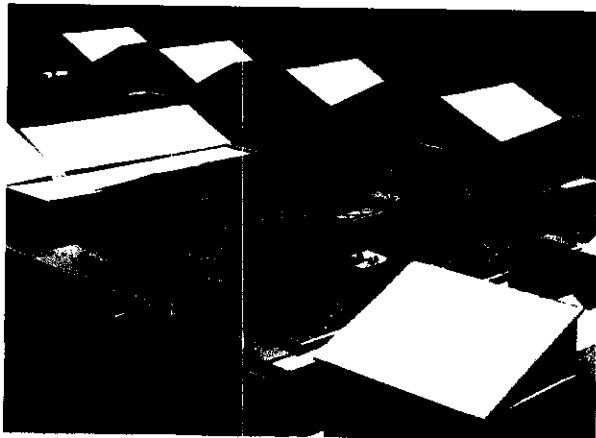
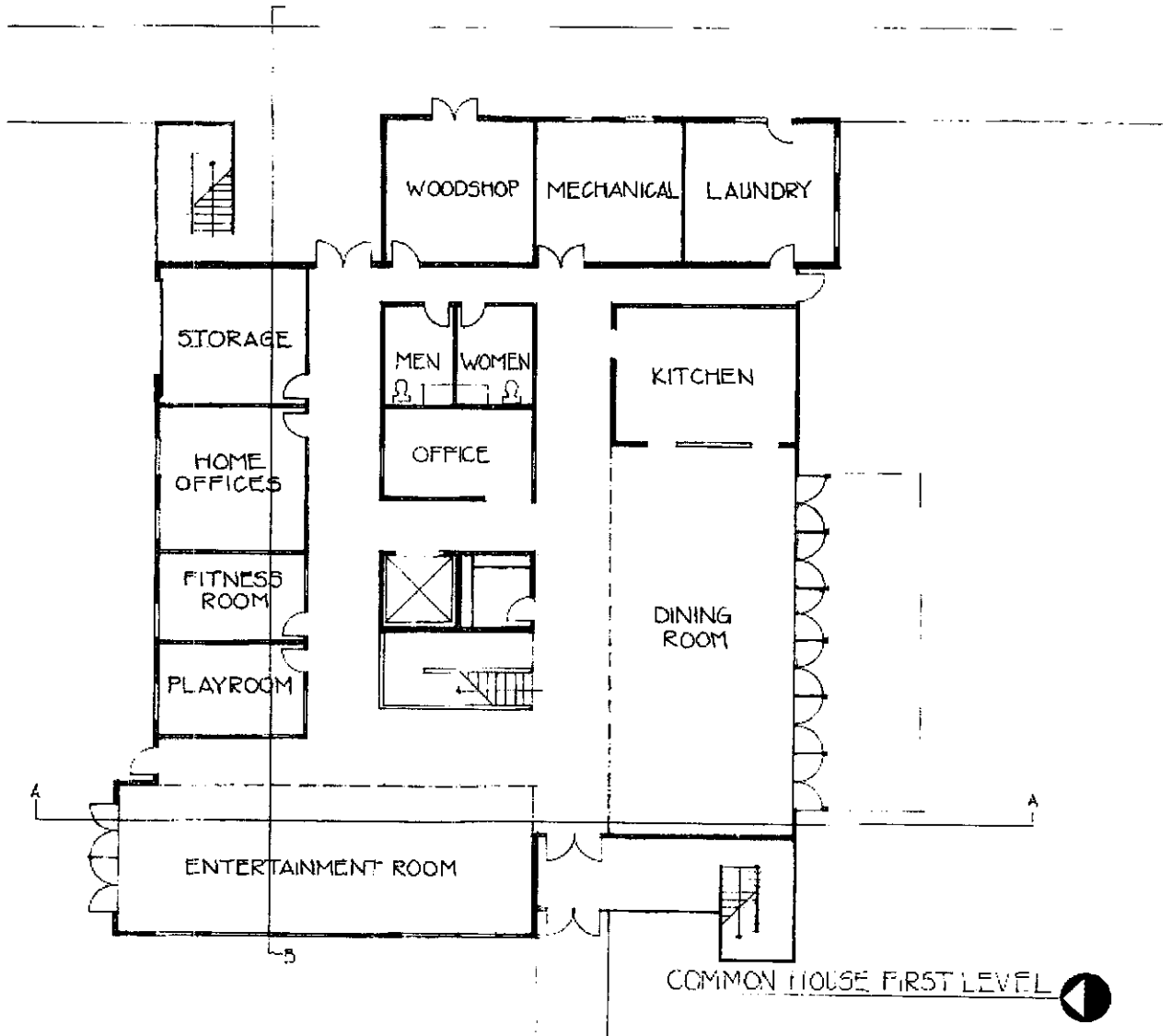
TWO BEDROOM

STUDIO

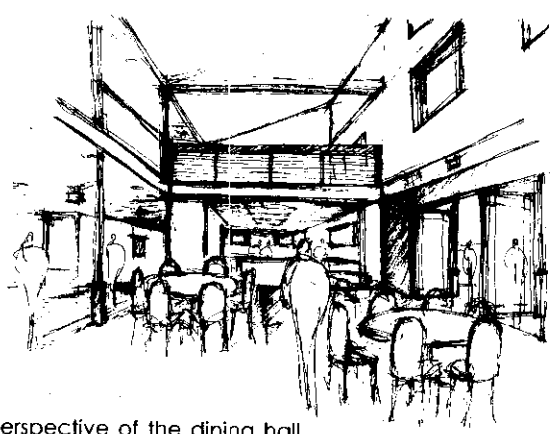
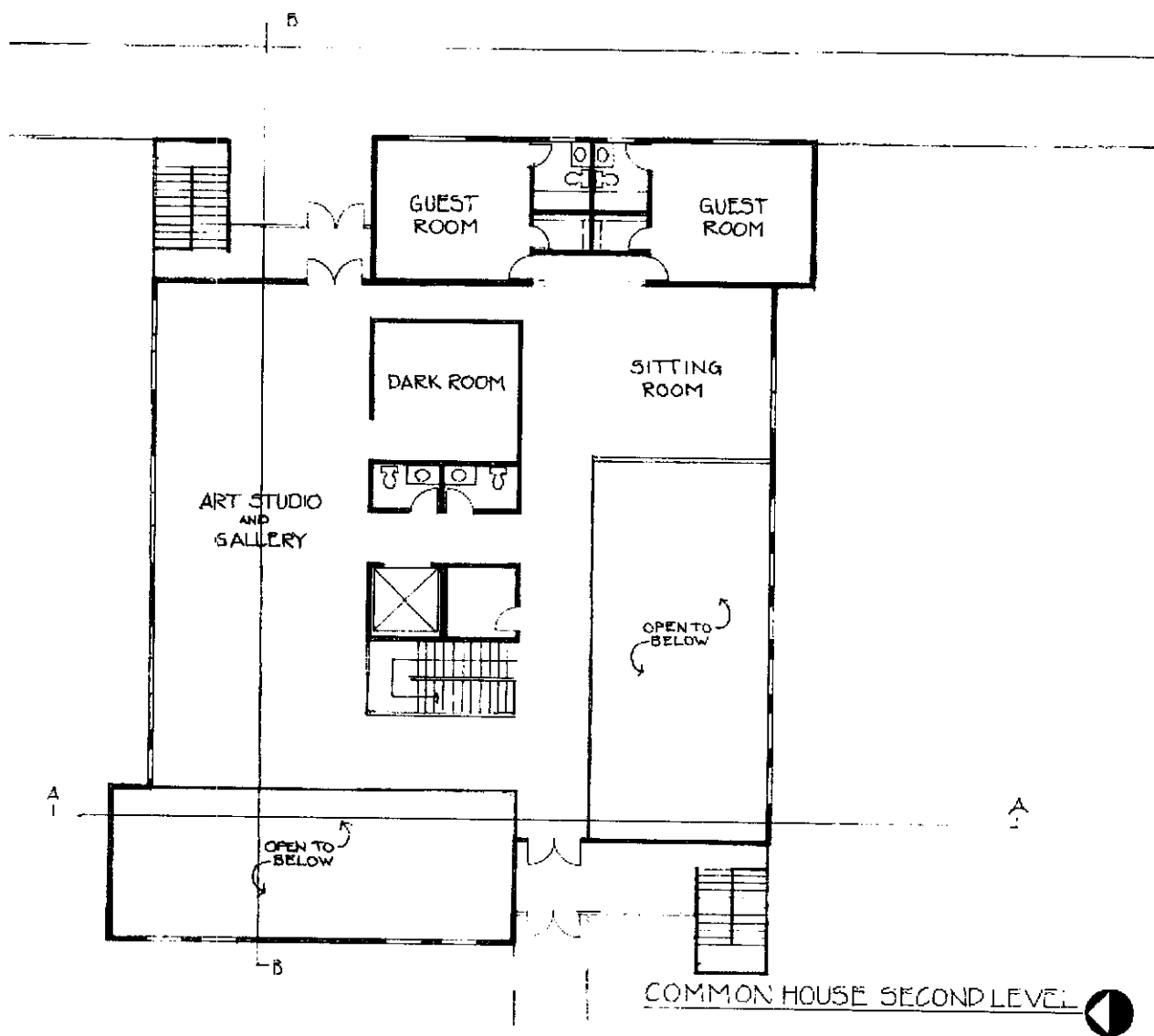


COURT ELEVATIONS

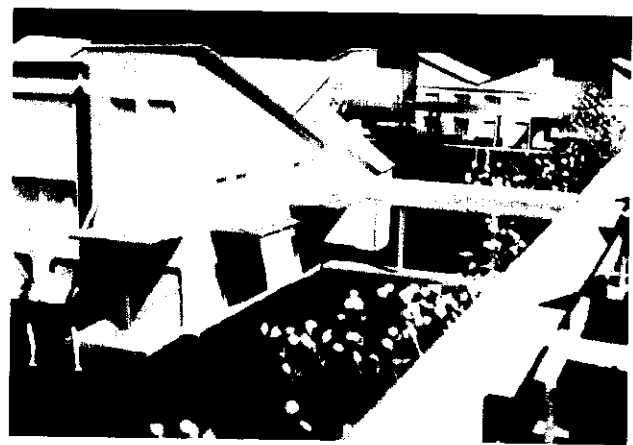
# THE COMMON HOUSE

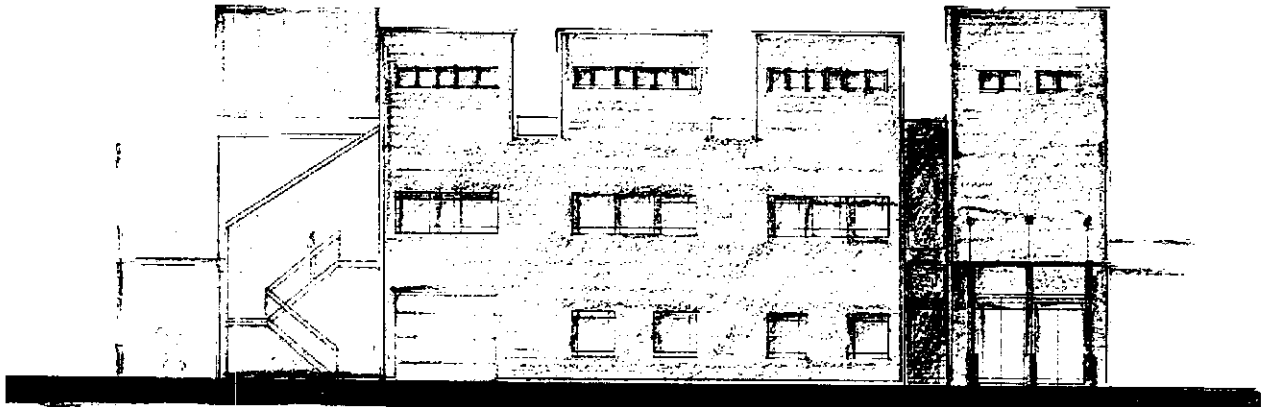


Perspective of the art studio and gallery

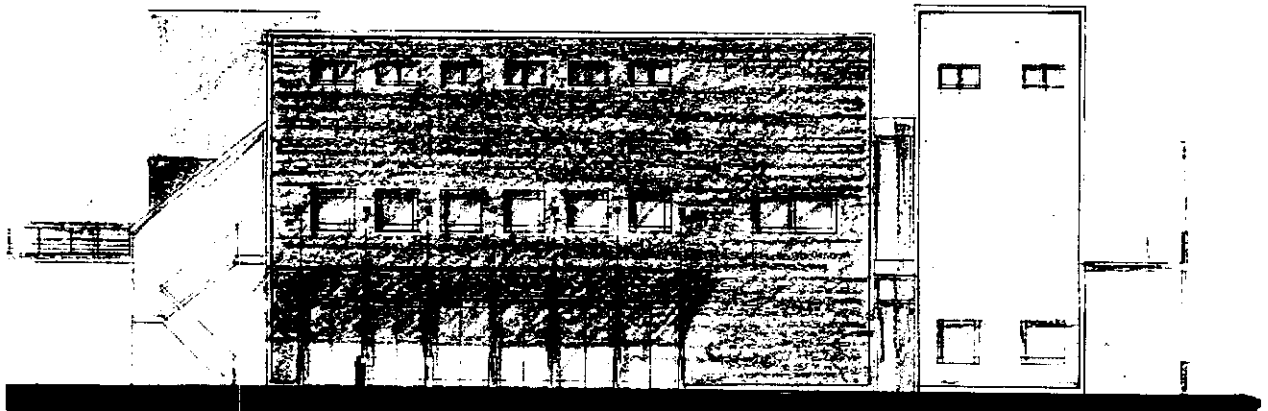


Perspective of the dining hall





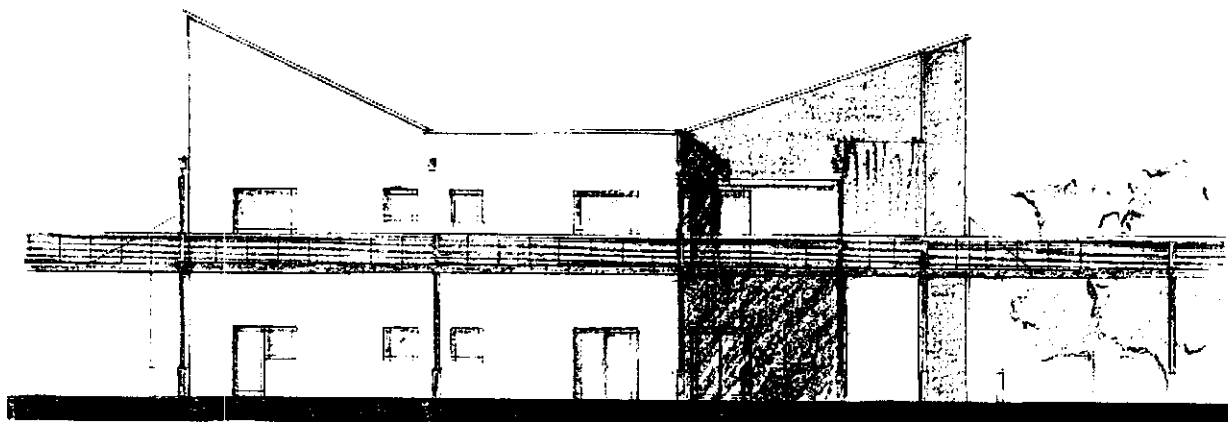
NORTH ELEVATION



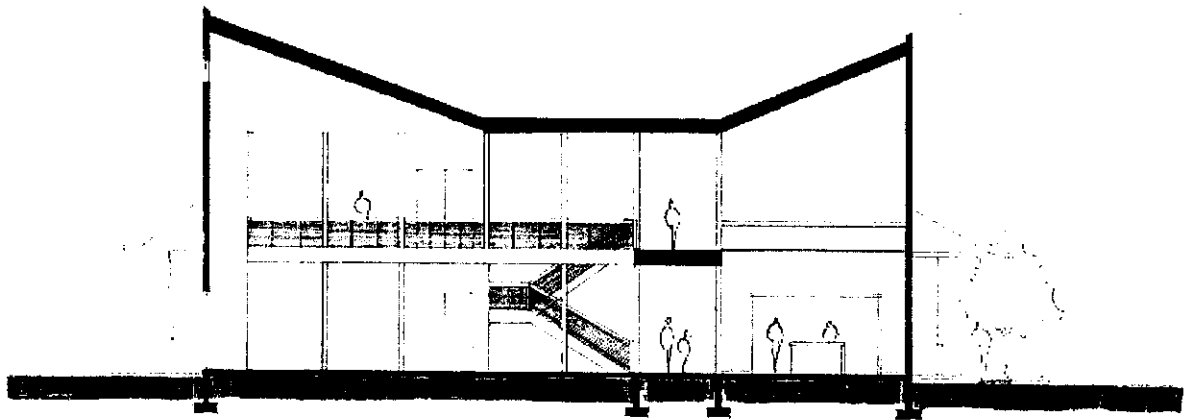
SOUTH ELEVATION



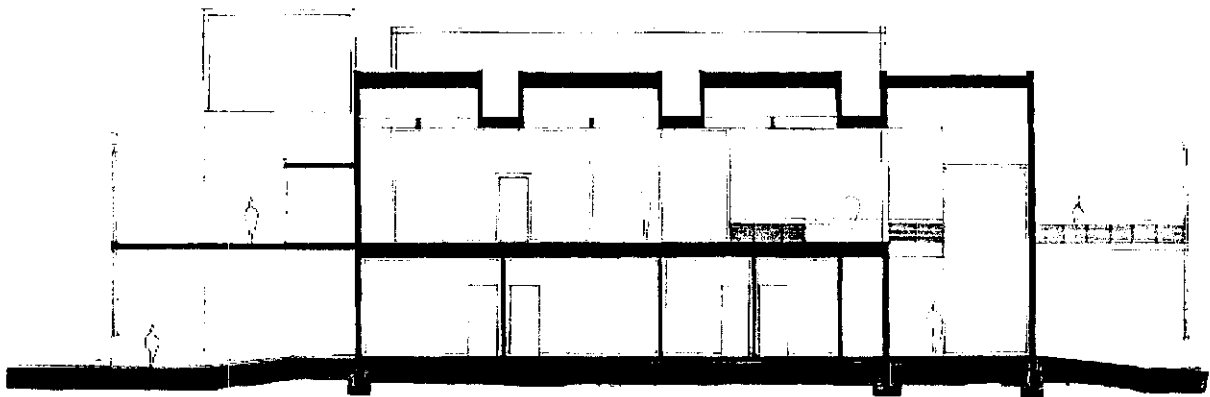
WEST ELEVATION



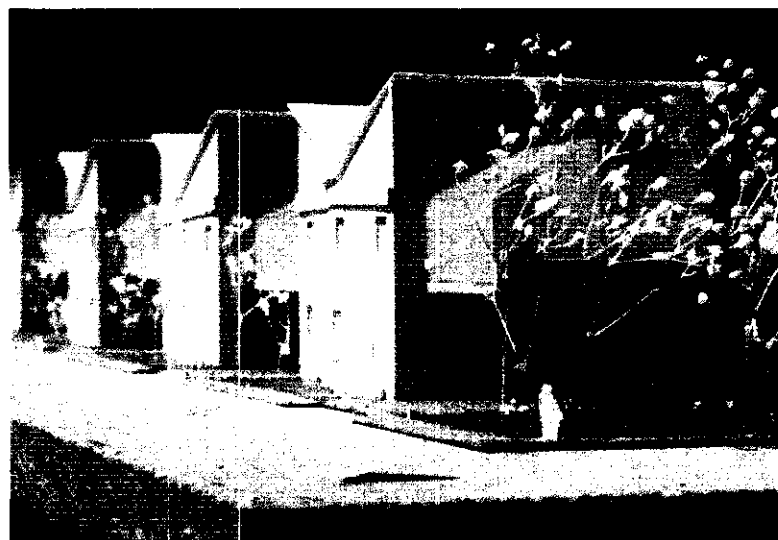
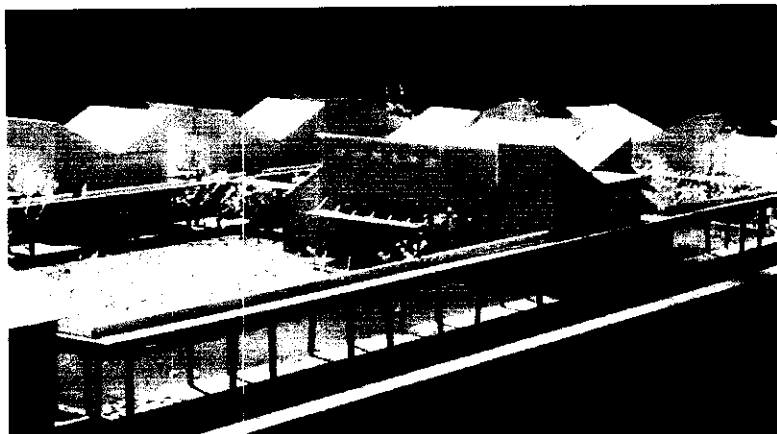
EAST ELEVATION



SECTION A



SECTION 5



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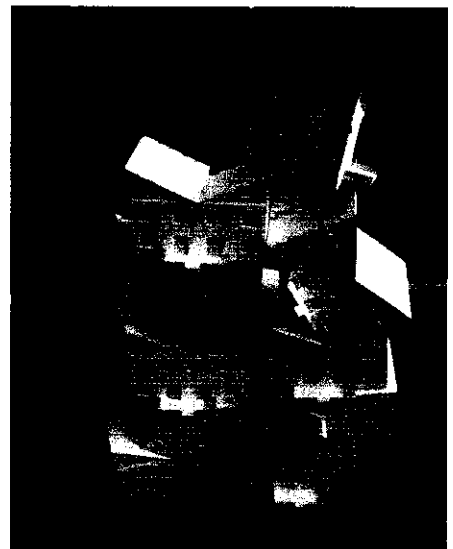
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[www.cohousing.org](http://www.cohousing.org)

[www.sunward.org](http://www.sunward.org)

THESIS. For five years I have been terrified of the word and all that it would entail. Now that I am nearing the end, I can take a look back and assess the process. My thesis has definitely been a challenge for me. When I started this program, I would have never guessed that housing would have anything to do with my thesis. Fortunately, I was inspired while studying in Denmark and discovered that cohousing was a topic that I wanted to investigate further. Since the beginning of this year I have kept the same thesis topic and project. Designing this neighborhood has been exciting for me. My site is in an area that I adore, and the cohousing neighborhood is a place I would like to live. I certainly had my difficulties with the design, particularly with the elevations of the homes and the common house. I also had a lot of trouble staying continually focused for five months, but that is not too unusual for me. Overall, I am extremely pleased with my results. This process has definitely benefited my ability to design, to write, and to focus.



A late night in studio causes a new creation out of the private homes.