

LANDSCAPE AND FORM: Observation and Transformation of Farm Form

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February 1988

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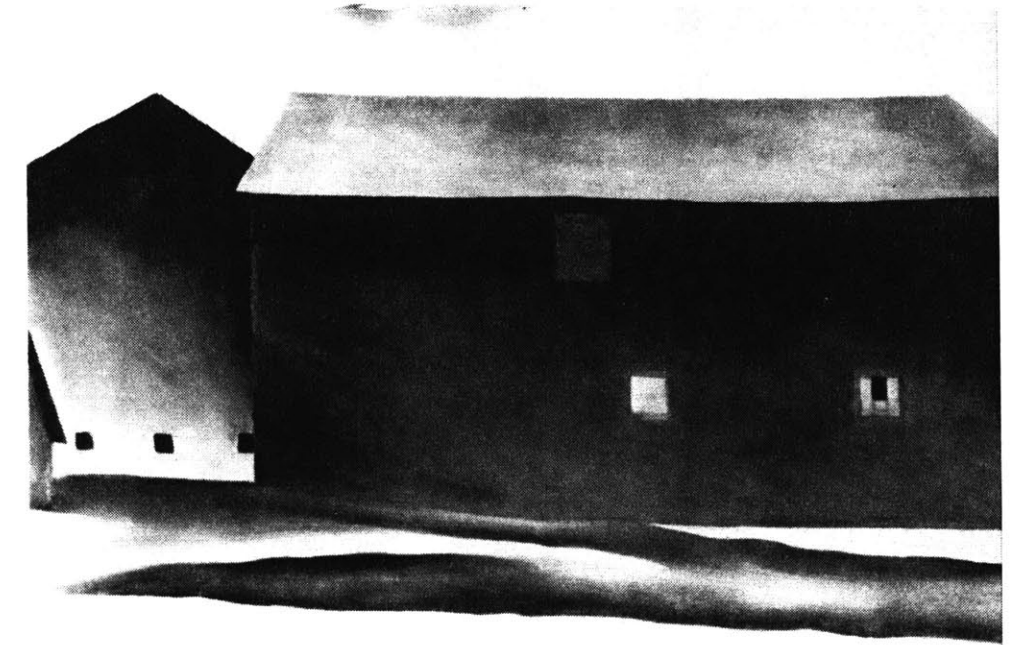
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ABSTRACT

LANDSCAPE AND FORM: Observation and Transformation of Farm Form

by Denise K. Henrich

DENISE'S THESIS ON FARM FORM/FARM ...
Submitted to the Department of Architecture on January 15, 1988 in partial fulfillment of the requirements of the degree Master of Architecture.

This thesis is an exploration of the collective, that of farm form. The form of a collective organization is of a multiplicity of relationships, rich in information and understandable. It is an interactive coming together of elements, creating something shared by the individual and the whole, a unity made up by a diversity.

The exploration puts forth principles which explain the formal and spatial characteristics of the farms. I contend that it is possible to introduce new architecture which respects formal and spatial continuities but allows for a departure in design.

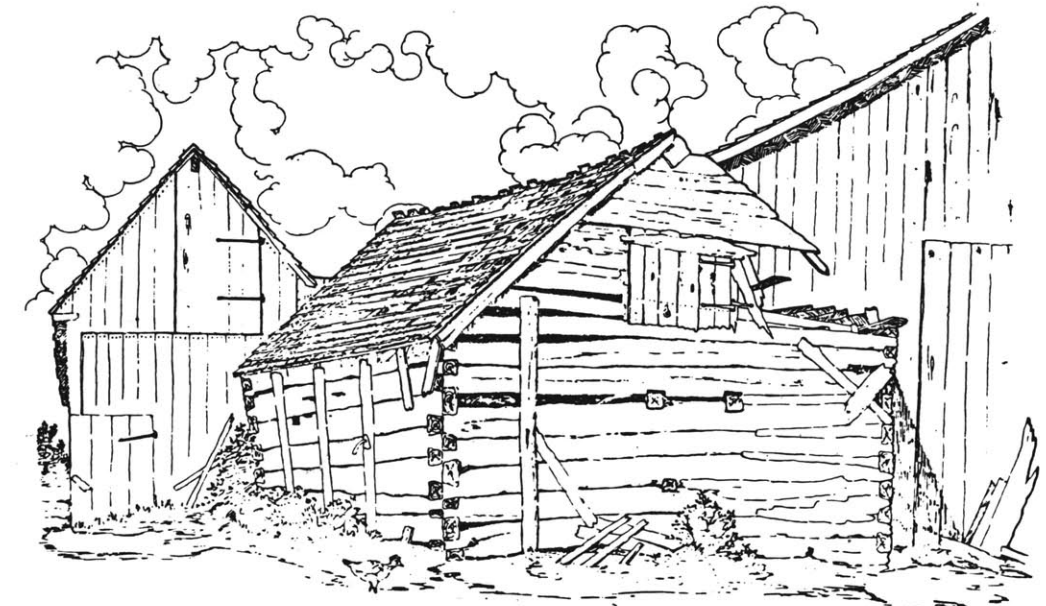
In order to make these continuities, and in order for there to be any understanding of the reference used, the observer must be able to look beyond the image and be able to identify the underlying spatial and formal characteristics and principles inherent in the reference.

By understanding these underlying principles it is possible to reinforce, in new architecture, the same positive associations found in the form of farms.

This thesis exploration has four parts:

- Part I: A Description of Form
This is a discussion about form and how the formal references will be described.
- Part II: Cordoba: An Illustration
A street in Cordoba, Spain is used as an illustration of how the observation studies will be documented and diagrammed.
- Part III: Observation Studies
Five farms are documented and their formal structure analyzed.
- Part IV: Design Exploration
Windom, Minnesota is the site selected to explore the principles of formal structure found in the observations studies, using a Research and Educational complex as the vehicle for exploration.

Thesis Supervisor: Jan Wampler
Title: Associate Professor of Architecture



ACKNOWLEDGEMENTS

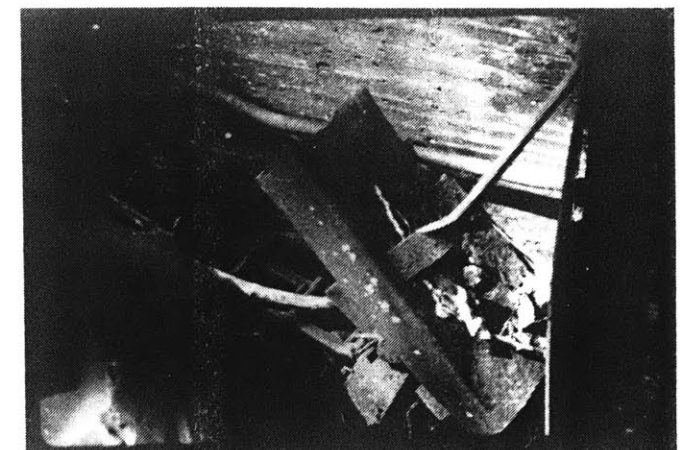
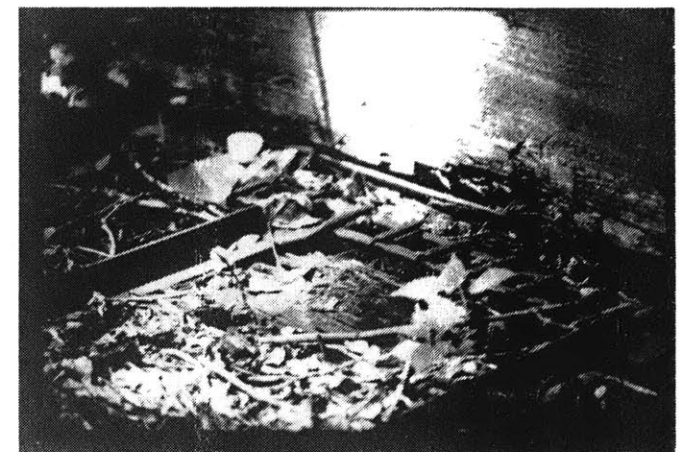
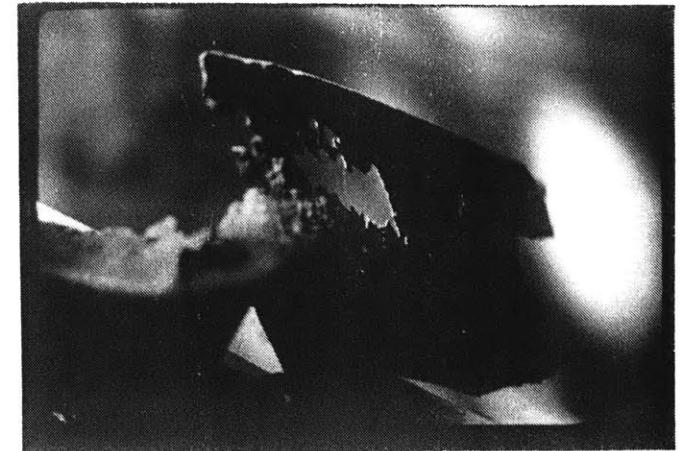


. . . to Ben, for his endless patience, understanding, and support throughout this endeavor.

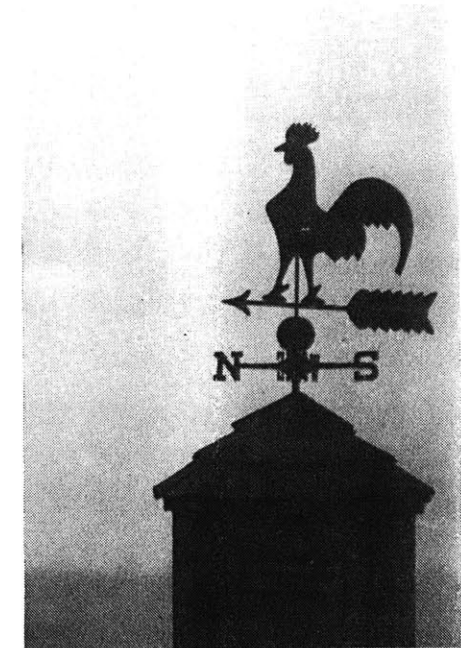


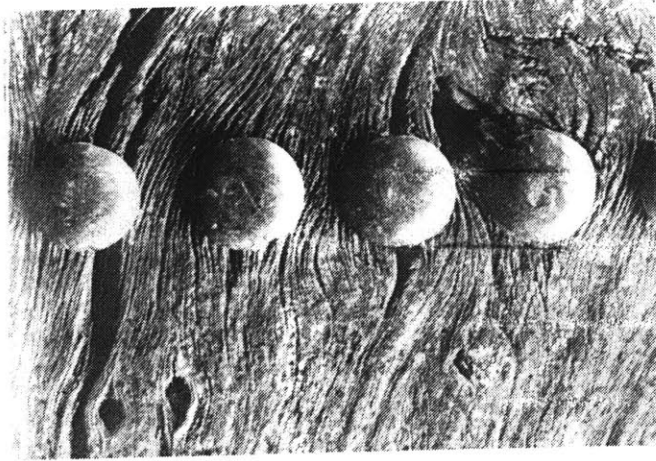
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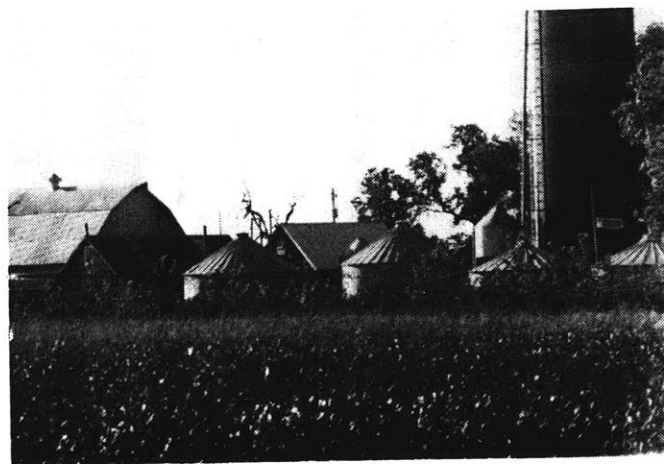
INTRODUCTION





Collective form is not necessarily singular . . . the 'Spanish Step' has a very collective presence but even a few scattered citizens, let alone several varying groups adding up to many people populate the place. It is never empty because it is 'built.' Nor is Sainte Chapelle or chambord, or Sperlonga or Banalbufar; nor the abandoned granite quarries and pretty marsh on Mt. Desert Because these are built additively.

*Maurice Smith
Plan 1980*



This thesis is an exploration of collective form. Specifically, it uses farm form as a reference for design. This study is not concerned with preservation, duplication, or repetition of existing farms, but rather with the transformation of the positive formal and spatial principles and characteristics found in the farms and their relationship to the landscape.

In order to understand these principles and characteristics, there must be an explicit working method, i.e., a consistent way of looking at and documenting the references used. The working method will not explain historical or cultural implications, although important to the place as it exists, but will instead look at the physical form of a place and explain it in a consistent, and understandable way that can be shared, as an objective approach. It does not describe the forms image (the way it looks) or reason for being, but instead looks at the existing forms in relationship to one another and the landscape and through these relationships there will be sharing, exchange, reciprocity, and thus the definition of space.

The method used, as Christian Norberg-Schulz

describes, is an understanding of the built environment through cognitive knowledge, or learning about the world by the isolation of elements and their relationship to the environment.² The language used and method of diagramming these relationships is an extension of a class taken previously at M.I.T. and will be explicated in the first part of this thesis.

This thesis is comprised of four parts:

Part I: A Description of Form

This is a discussion about references and how they will be used in this thesis.

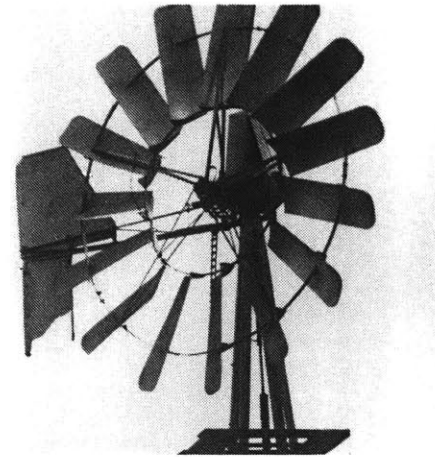
It suggests a vocabulary of terms which will be used during analysis to provide a common understanding of the references throughout this exploration.

Part II: Cordoba: An Illustration

As a preface to the references used in this thesis, a street in Cordoba, Spain is used as an example of how the observation studies will be documented, described, and diagrammed.

Part III: Observation Studies

In this section I will analyze five farms. Through actual drawings of the farms, diagrams, photographs, sketches, etc., I will explain the inherent formal and spatial characteristics which I feel are important to the work at hand.



Part IV: Design Exploration

Windom, Minnesota has been chosen as the site for the design study. The purpose of the study is to explore the principles delineated in the preceding observation studies.

Similarly to the observation studies, I will conclude with an analytical discussion of the formal and spatial characteristics of the final design through diagrams and text.

The program used for the exploration is a small agricultural research and educational center where people will come to learn, study and participate in the day to day activities of the farm.

The center houses a variety of inhabitants which include resident farmers, instructors, and their families, as well as students who stay for varying periods of time.

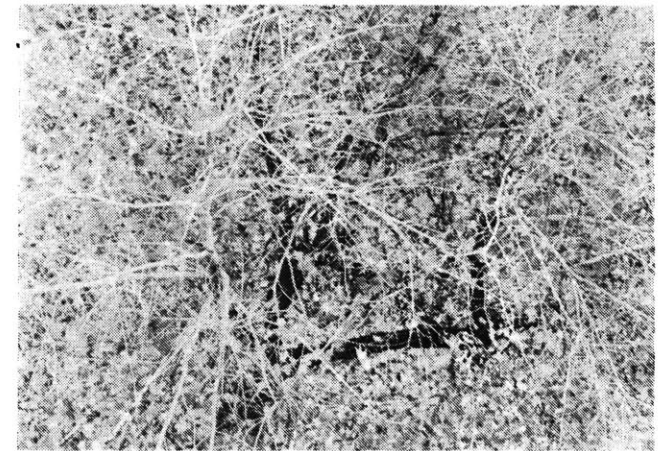
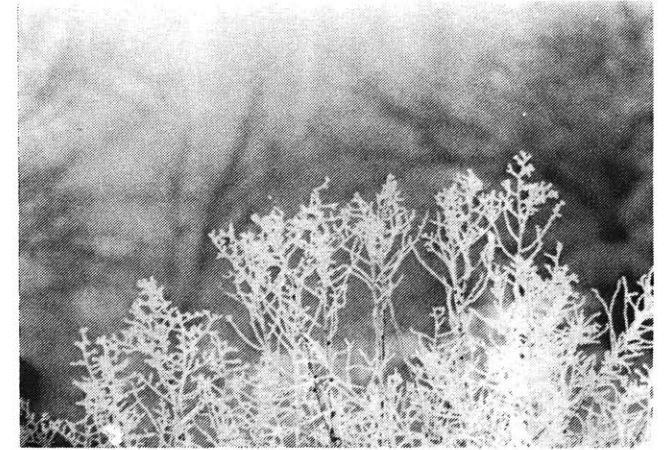


What must we do in order to look at things clearly without trying to find in them whatever people have told us ought to be there, but rather simply what is there? Look. Look thoroughly. And let yourself be carried everywhere by whatever offers itself to your regard and echoes in you. I invite you to play, to look attentively. I invite you to think. (p.3)³

*Antoni Tapies
The Game of Looking*



A Description of FORM



Seasonal change and related agrarian activity give purpose to the place and a connection to its physical and temporal being. You can work on the land, harvest it, pick it up, carry it, eat from it, sell it.

The cluster of farm buildings suggests family units that have endured. Much caring work has been done over generations to make the land and buildings what they are.

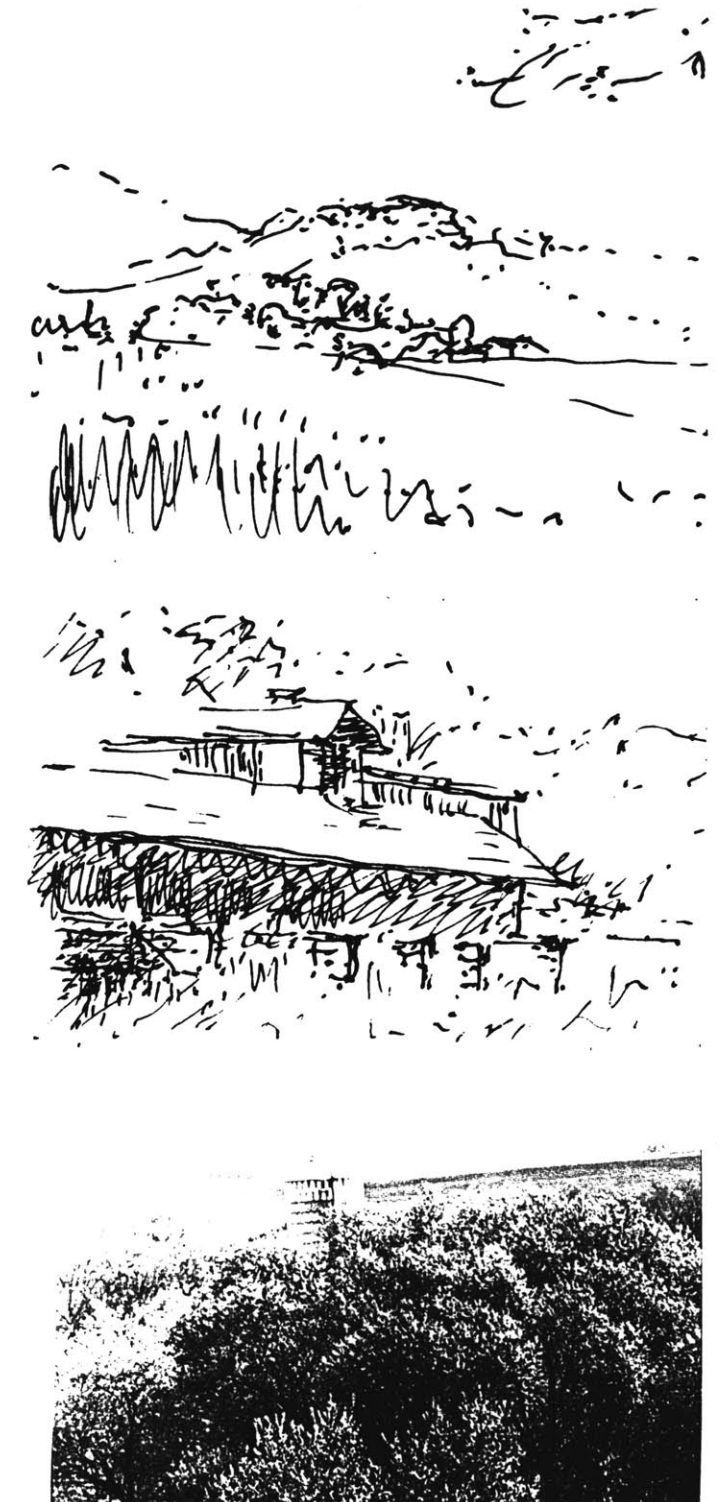
They do not stand stark against the land but are nestled into it, made from the wood that surrounds the fields and in that way becoming part of the landscape. They are multiple in use, giving shelter and places for work and storage, connected, and interdependent, all parts can be seen and understood. There are high buildings and low ones of the same form like the hills about them, and the silos stand as single trees in the landscape.

The barn lies with and in the concavity of the hill, horizontal and rectangular, sheltering life close to the earth. It and its surroundings offer light and dark, coolness and heat, soft and hard, looking in and looking out, holes and towers, old and just not growing, a generosity in its great volume, and an intimacy in what is near.⁴

From the above manuscript Patterns of Association Jack and Marty Myer portray a picturesque setting of the farm buildings at Taliesin East, in Spring Green, Wisconsin. This description is a strong emotional and sensual response to the place, encompassing a range of experiences and architectural images. We would

all visualize this place differently and would draw upon different aspects of the place which each one of us finds most interesting. But, in trying to understand and use this collective form as a reference for design, there must be a sharing in the understanding of the place and a consistent way of looking at and describing the reference used. The use of references cannot be merely a gathering of images which we like, but rather, there must be an explanation stating what it is about the reference which makes it important - - how is the form behaving and how does it define space, the elements and their relationships.

In the Form Reference Workshop, instructed by James Anderson and Tom Chastain, we spent a semester trying to describe form in the manner stated above. We were externalizing and establishing a way of describing form which could be shared and understood by others vs. the typical *gathering of references which is haphazard and depends on the knowledge of sources and the ability to 'see' into the specific reference the generalized principles or conditions for which the reference was sought.*⁵

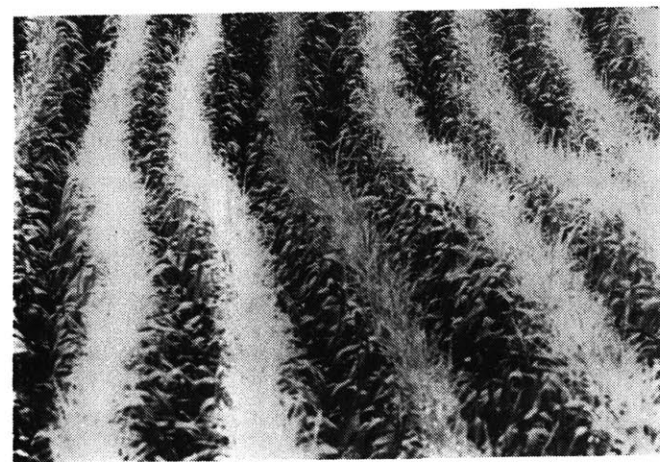




- a packing of sheep

Architectural design relies on the knowledge of form based in the physical tradition of the world. As such, the quality of the architecture depends directly on understanding the world as form. One way of expanding the designers' knowledge of form is through the use of physical references from which specific and general lessons of form can be inferred.⁶

James Anderson



- a directional field

In externalizing this description of form, a language or vocabulary needed to be established. As I see it, this vocabulary is similar to an idea expressed by Aldo van Eyck - - the twinphenomena. This twinphenomena sees the environment as a pairing of definitions where one is achieved in relationship to the other; a mutual definition; a part of the same range of definitions.

I am concerned with the twinphenomena, with unity and diversity, part and whole, small and large, many and few, simplicity and complexity, change and constancy, order and chaos, individual and collective, . . . What has right size is at the same time both large and small, few and many, near and far, simple and complex, open and closed; will furthermore always be both part and whole and embrace both unity and diversity. No, as conflicting polarities or false alternatives these abstract antonyms all carry the same evil: loss of identity and its attribute, monotony.

. . . to set the stage as it were - for the twinphenomenon of the individual and the collective without resorting to arbitrary accentuation of either one at the expense of the other, i.e., without warping the meaning of either, since no basic twinphenomenon can be split into incompatible polarities without the halves forfeiting whatever they stand for.⁷

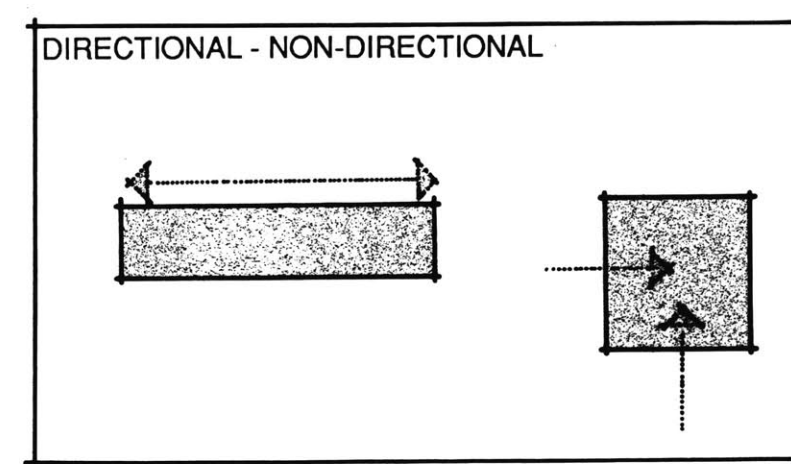
There is a mutual definition at work, one cannot be understood without the other. To understand discontinuity or "stopping", there must be

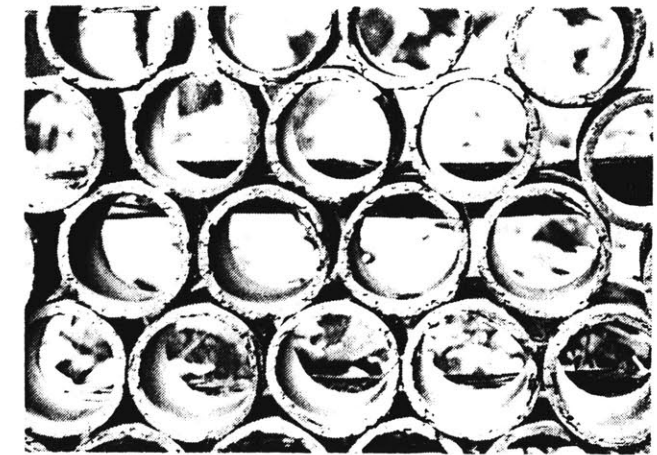
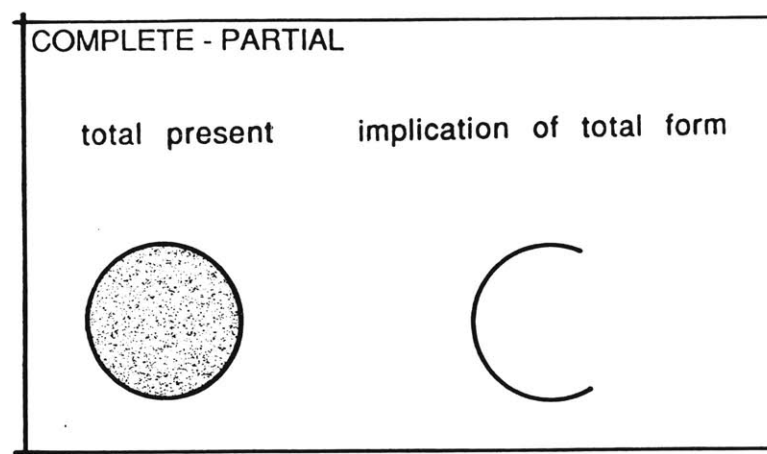
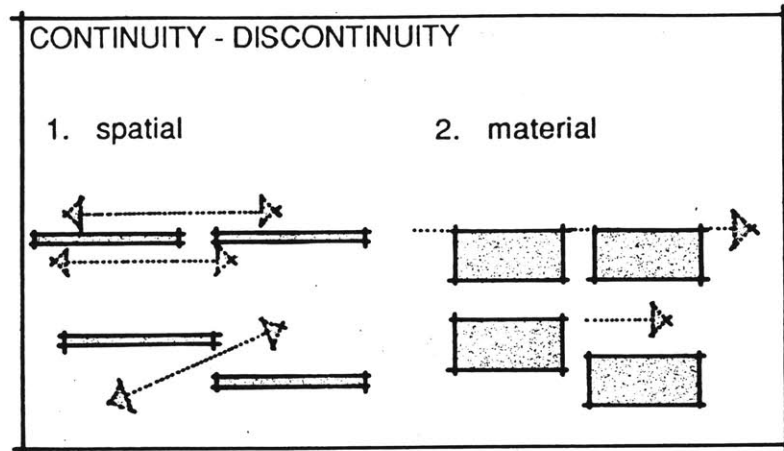
continuity, or "going." To understand sound, there must be silence, as stated by Paul Hajian in The Essence of Space:

. . . sound is certainly bound by silence. Even the silence acknowledges ourselves - John Cage upon entering an anechoic chamber heard two sounds - one high and one low. The high one was the nervous system in operation, the low one, his blood in circulation. WE ARE NEVER ALONE. Cage's writings and compositions explore ranges of/in sounds and silences.⁸

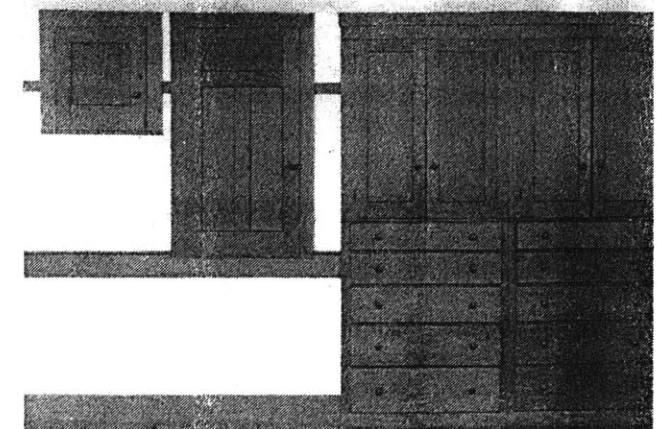
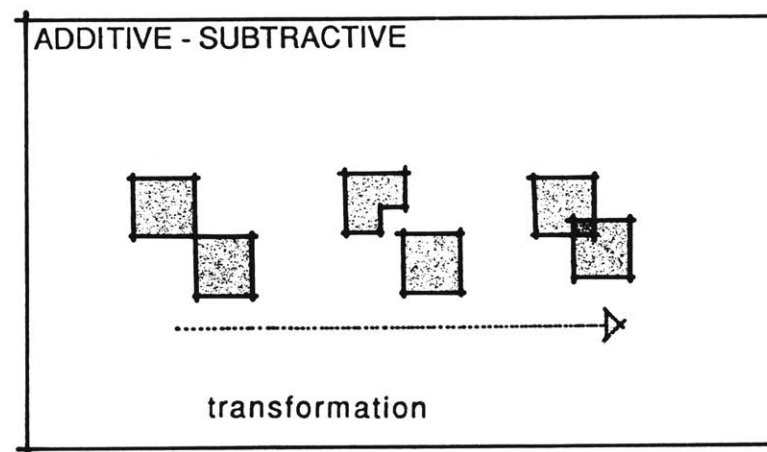
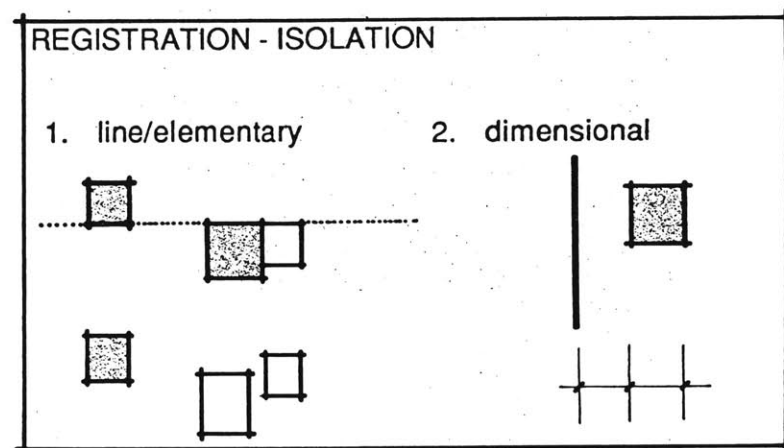
This understanding of the twinphenomena has led me to a greater understanding of a vocabulary in which the terms mutually define one another.

And with this vocabulary, as an example of how the form will be described, I will begin to show through diagrams and text, the formal attributes of the street in Cordoba.

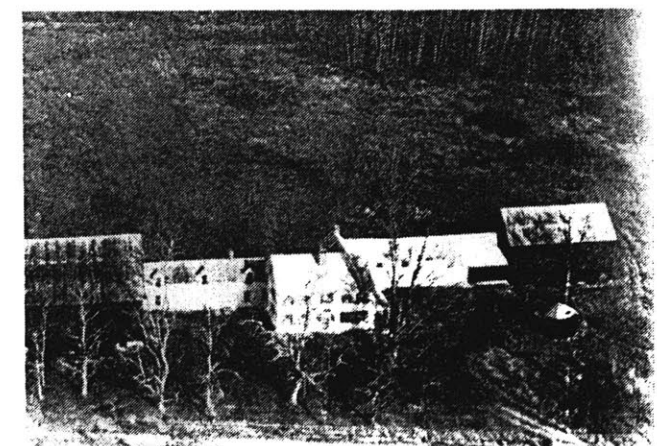
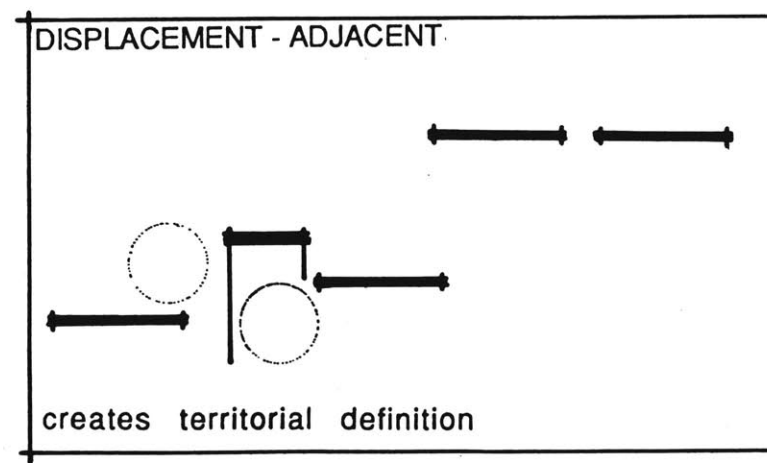
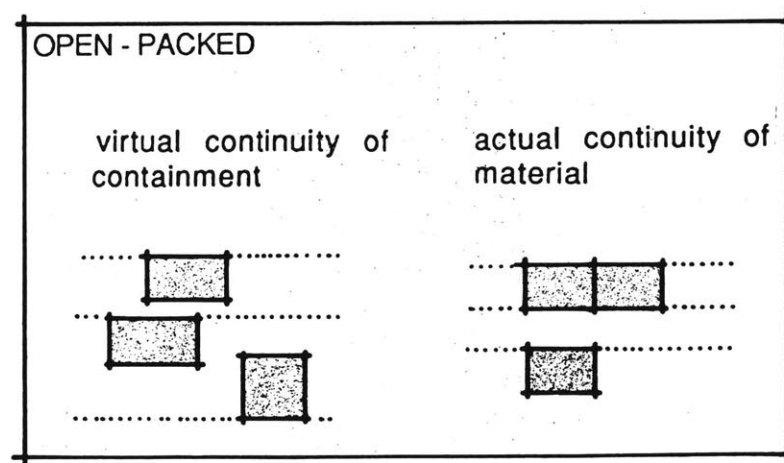




- total present

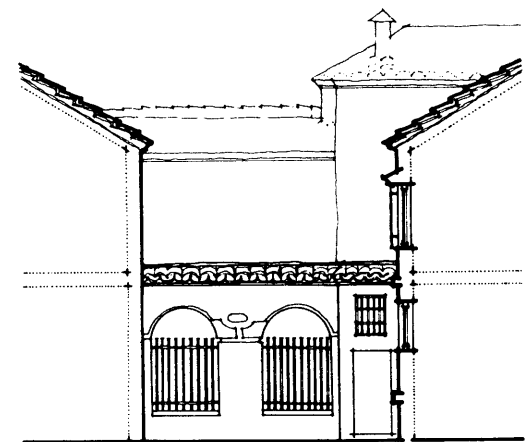
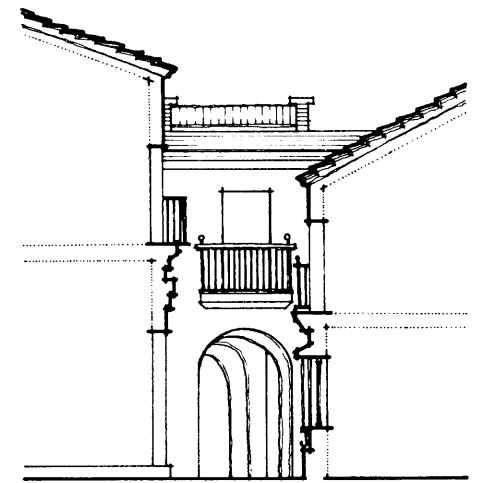
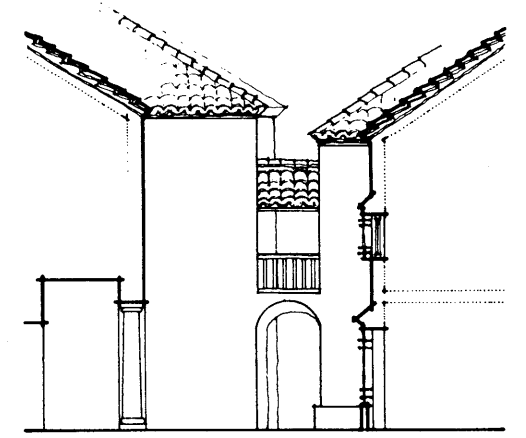
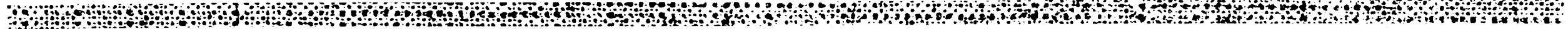


- registration



- building displacement

Cordoba: AN ILLUSTRATION



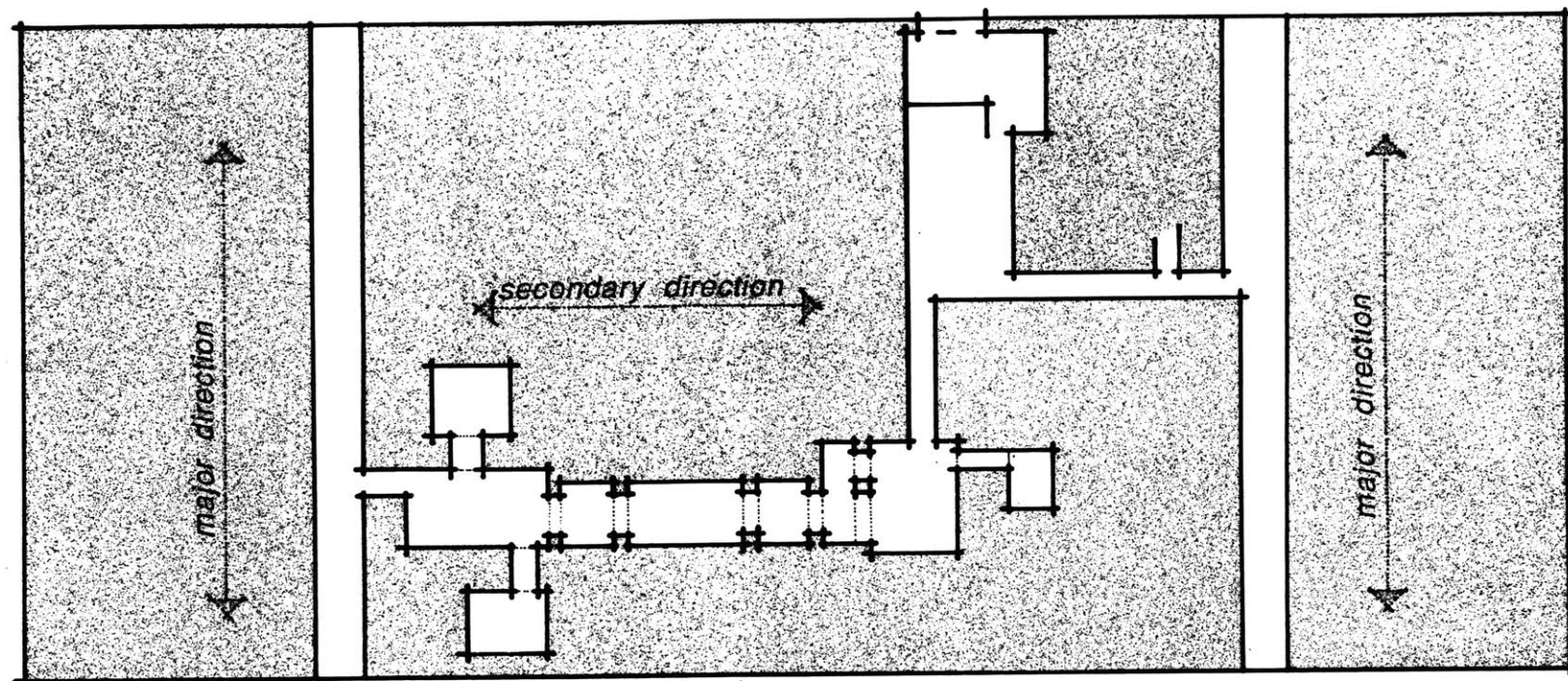


Diagram #1
- landscape association

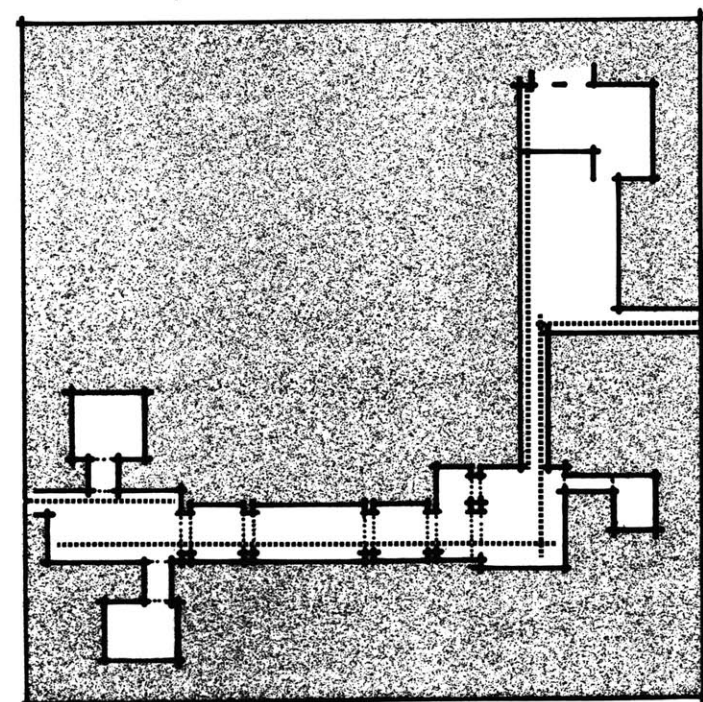


Diagram #2
- edge continuity

As an illustration of how the farm references will be observed and analyzed, a street in Cordoba, Spain is used to explicate a way of looking at and describing the built environment.

The first drawing and overlay is a study of the actual dimensions found in the place and how they relate to one another. There is a strong relationship between dimension and use. One begins to understand that a certain dimension denotes access, dwelling, room, open space, etc. There is a unity made up of a diversity . . . it is not uniform. Whether the people building this place

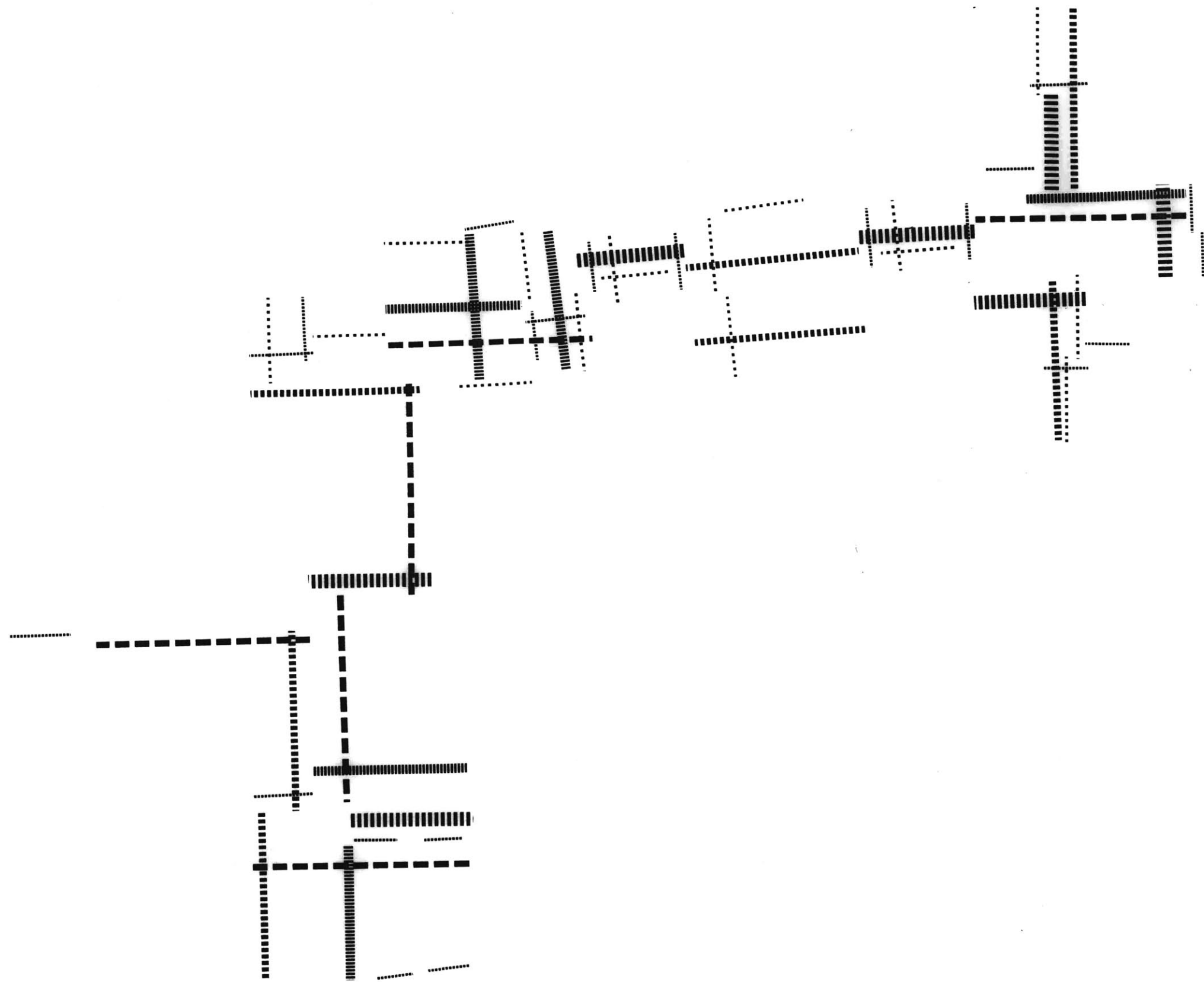
were conscious of the dimensional structure, I do not know, but what is important is that this study provides a coherent way of understanding the built dimensions/uses of the place. There is a coherent understandable system at work.

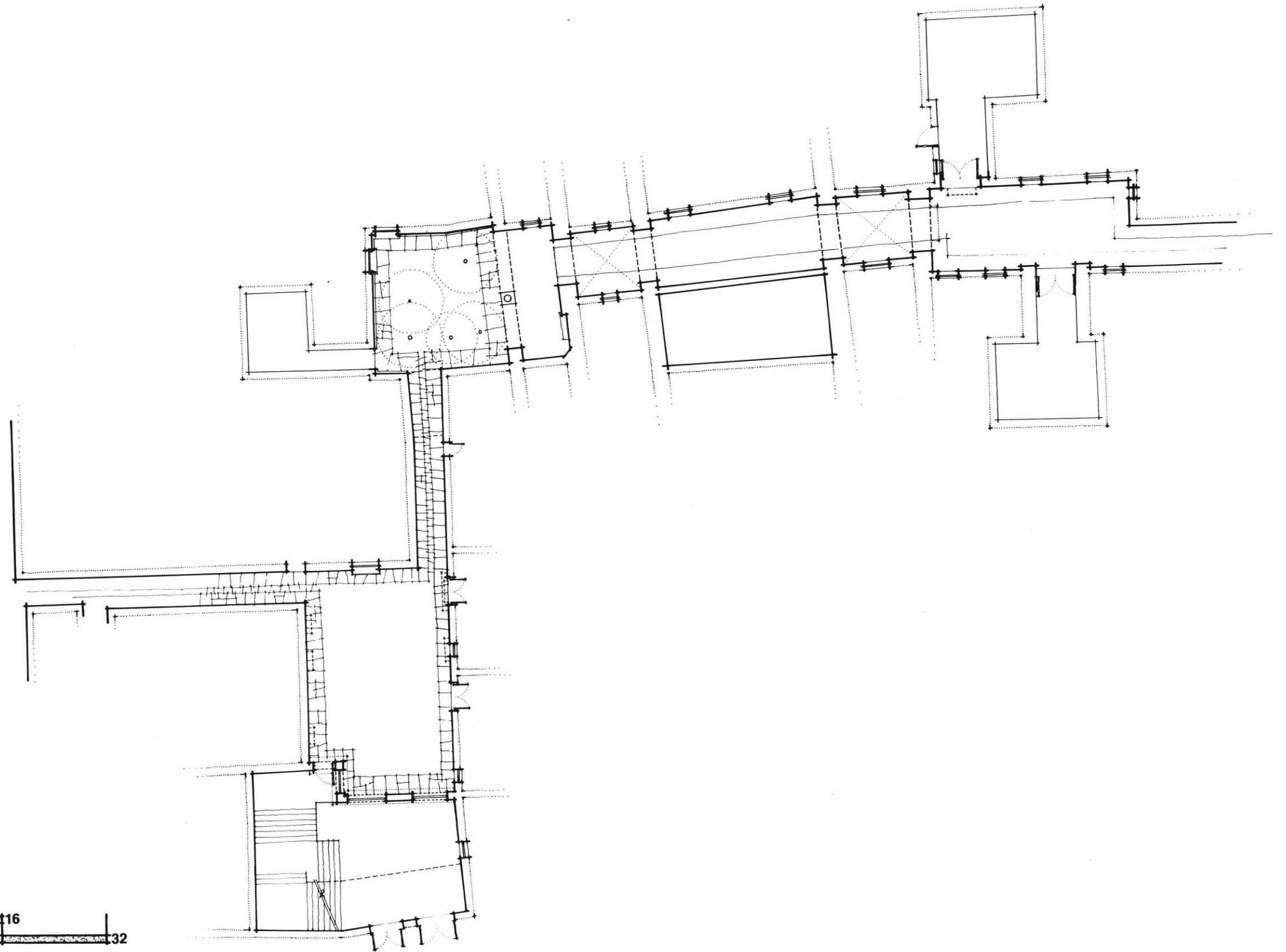
Diagram #1

The street observed is a secondary or minor street which connects, or runs perpendicular to two major streets. In terms of the overall landscape, this particular street is a discontinuity since it is perpendicular to the major direction. This discontinuity also tells us that this street is more private because of its relationship to the major direction of the landscape.

Diagram #2

Throughout the street there is a continuous edge in which one associates with. The material may actually be continuous (material registration) or edges of association may overlap and allow one to alternate the edge of registration. Edges overlap at a point when there is a shift in direction, but there is always an edge to associate with, leading one through the place.





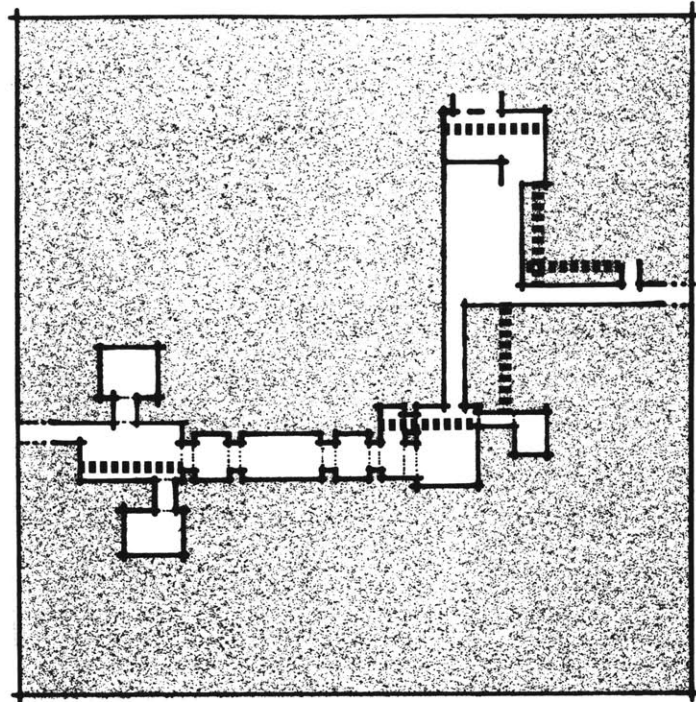


Diagram #3
- dimensional ordering of street

Diagram #3

Within the complex understanding of the dimensional tape drawing, there is a dimension which occurs consistently when there is a change in direction. It is one of the largest sizes found in the street.

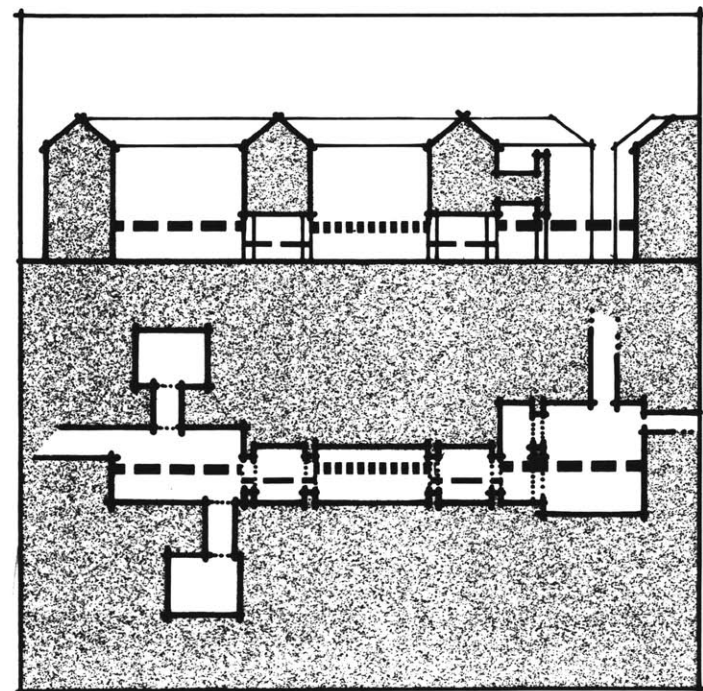


Diagram #4
- directional continuity

Diagram #4

When walking along the street, one moves under an overpass then into a space that is open to above, and then under and open again. One begins to understand a system . . . a rhythm working, that builds the continuity. The dark/light, built/open and consistent dimensional alternations establish a continuous movement through the place. It is not a mere repetition of spaces, they are sequentially altered so that it is not monotonous but understood as a unity made up of a diversity.

Diagram #5

At both points where there is a change in direction, an open space exists. An edge has been displaced to set up these spaces, thus allowing the change in direction to occur.

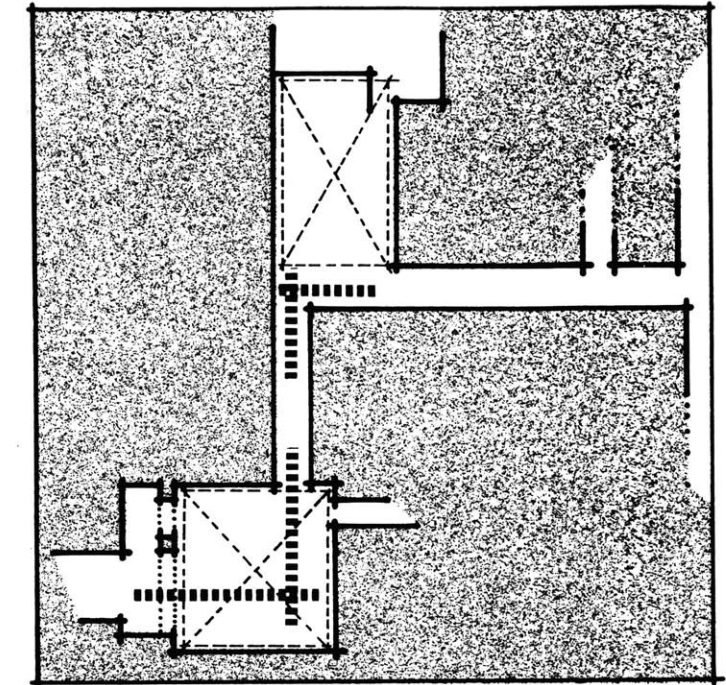


Diagram #5
- access alternation

Diagram #6

Because the path has shifted, or been displaced, a discontinuity in the circulation or access system is established. At the points where this shift takes place, new territories are set up.

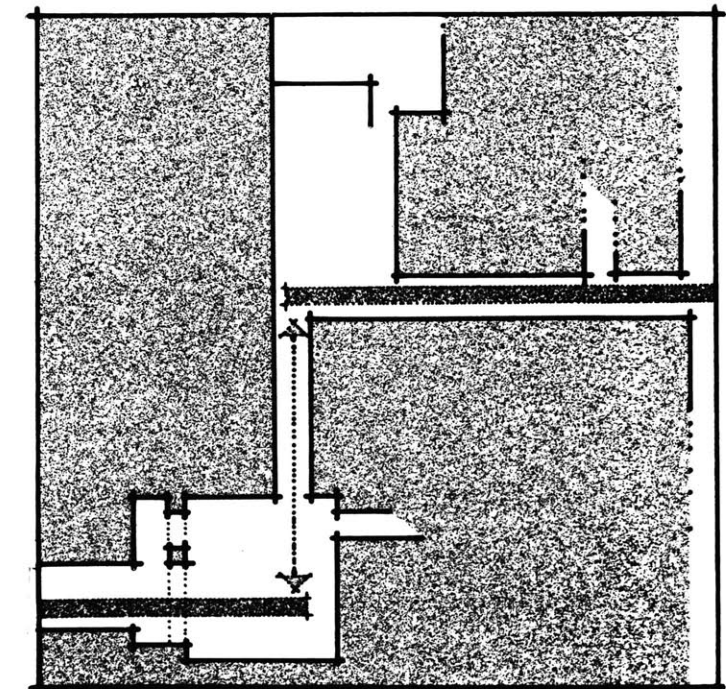


Diagram #6
- access discontinuity

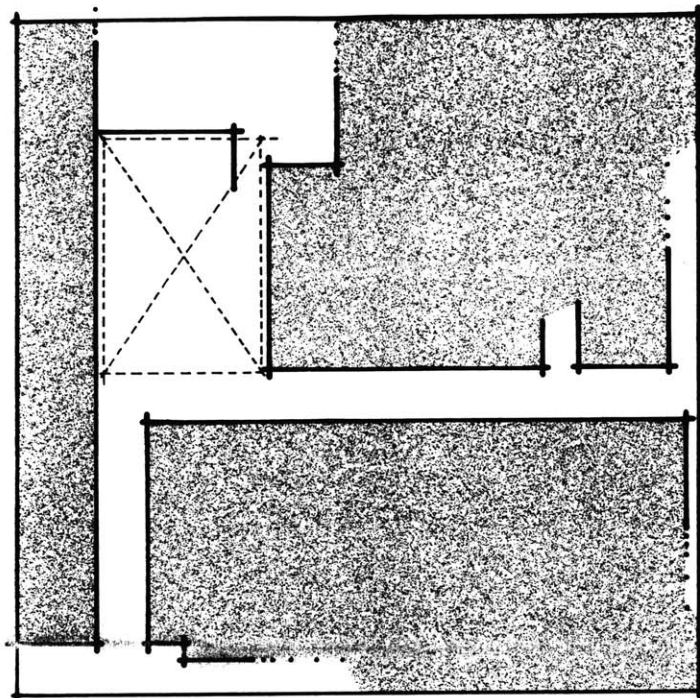


Diagram #7
- containment

Diagram #7

In this case, the major access moves along the edge of the courtyard (containment). The edge along the street is moved back, thus making or setting up the open space.

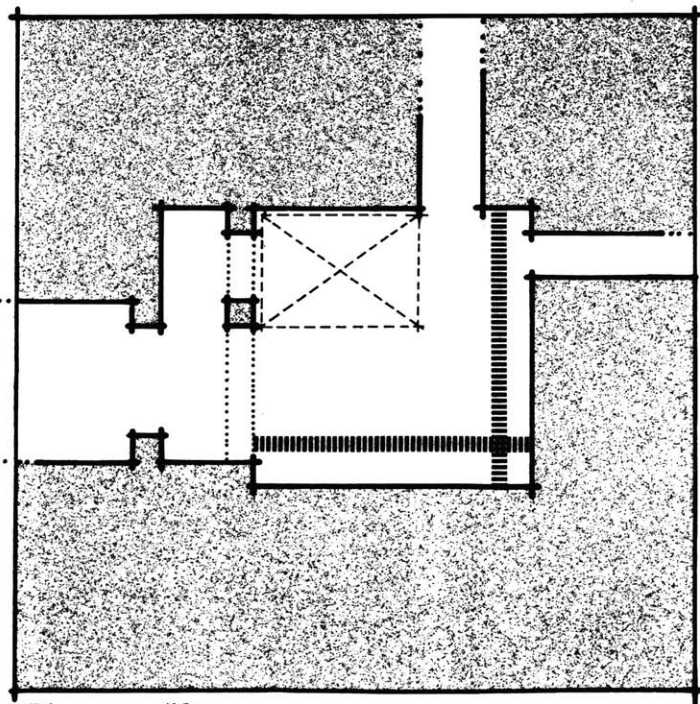


Diagram #8
- dimensional stability/containment

Diagram #8

At this point along the path, one changes direction within the courtyard (containment) rather than along the edge of it. It defines this as more public than the previous one because you move through it rather than along it. There is also a dimensional correspondence (stability) as one changes direction.

Diagram #9

This particular diagram focuses on how one enters the private areas along the street. Once again this movement becomes a discontinuity because it is a movement which is perpendicular to the major direction. But, what is important, is that it reinforces the direction of the landscape. So although it is discontinuous in relationship to this street, it reinforces the direction of the major streets. This is a public movement into a private zone (housing courtyards). The openings to the private courtyards off of the street are dimensionally displaced from one another, allowing privacy between the two units. If they were aligned with each other, they would not have as much privacy. And, that they are dimensionally displaced, shows that there is a coherent system at work.

Diagram #10

There is a dimensional relationship between the open courtyard, street, and overpass one walks under. The dimension remains the same, but the light alternates. If this were open to above and no overpass, one would understand the dimensional attributes, but it would not be as clear as with the overpass.

What also occurs here is that the direction of the interior courtyard reinforces the direction of the street being observed. This establishes the movement into the actual houses as a private move, since the street observed is a private move off of the major public street and the entrance into the courtyard is private to the street observed but public to the interior courtyard, it follows that the movement into the courtyard would reinforce the direction of the major public street.

This analysis begins to explain the underlying formal and spatial principles and characteristics which make up the place and define how one moves through it. It is a way of understanding the built environment.

In the following chapter I will be looking at farms and diagramming similar formal attributes which can be understood cross-culturally . . . through space and time.

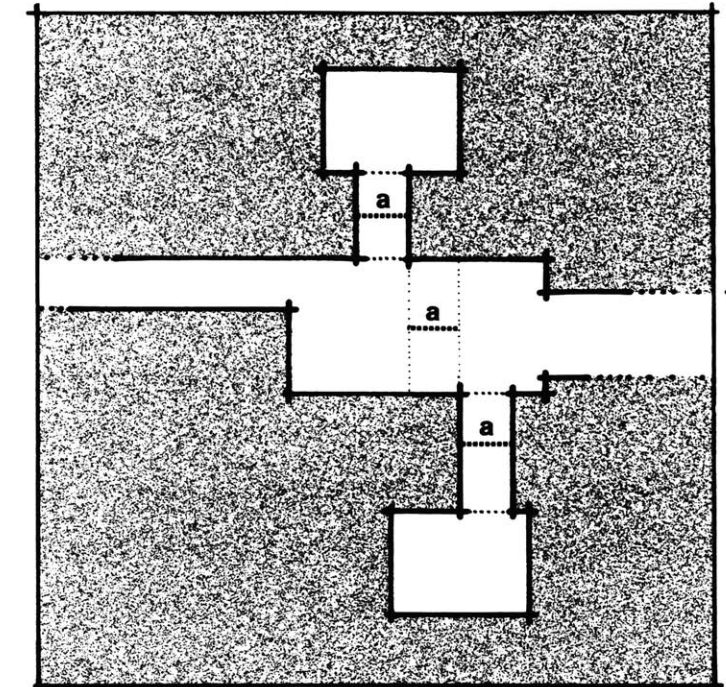


Diagram #9
- access discontinuity

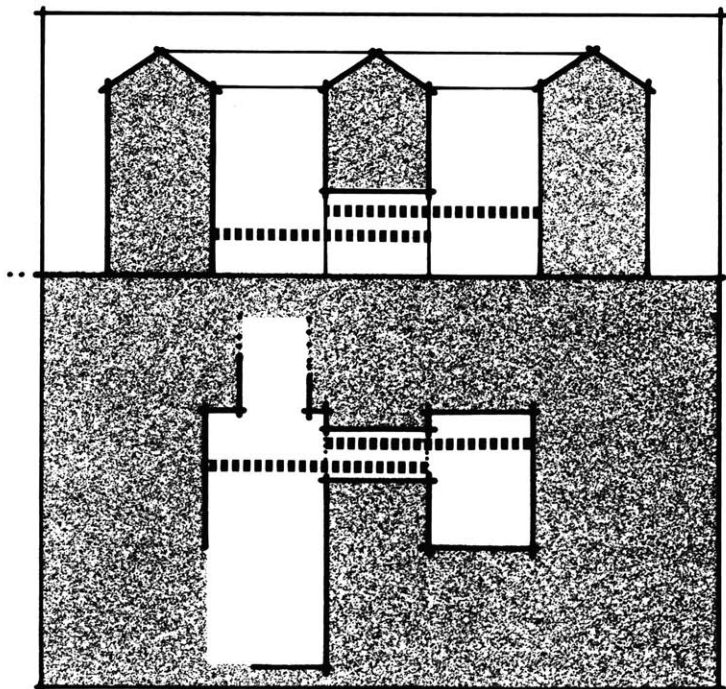


Diagram #10
- directional continuity

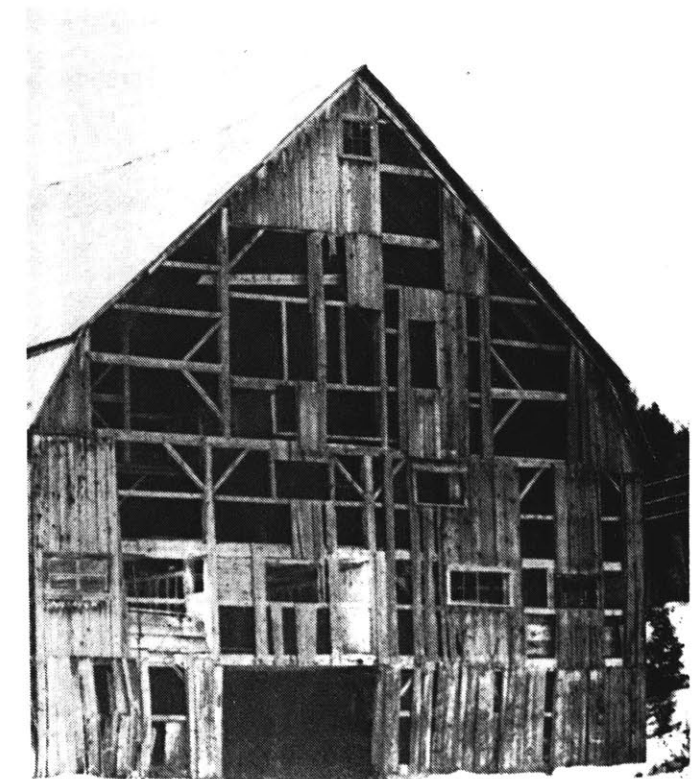
OBSERVATION STUDIES

The collective form of farms are observed in five different cases. The observations progress from a very contained organization to a relatively open organization. It is important to show these different types of organizations in order to understand the range along a continuum.

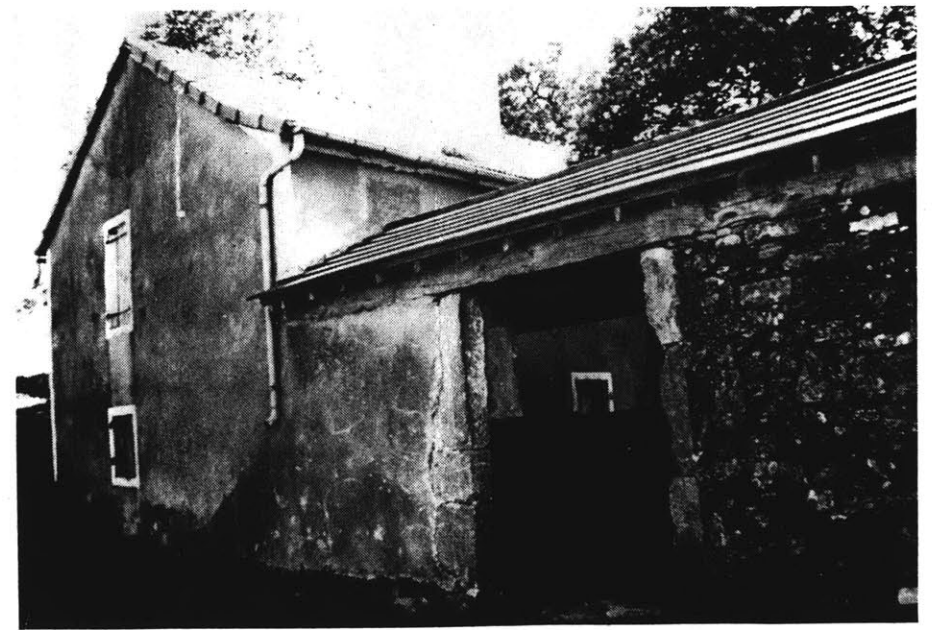
The five farms observed include:

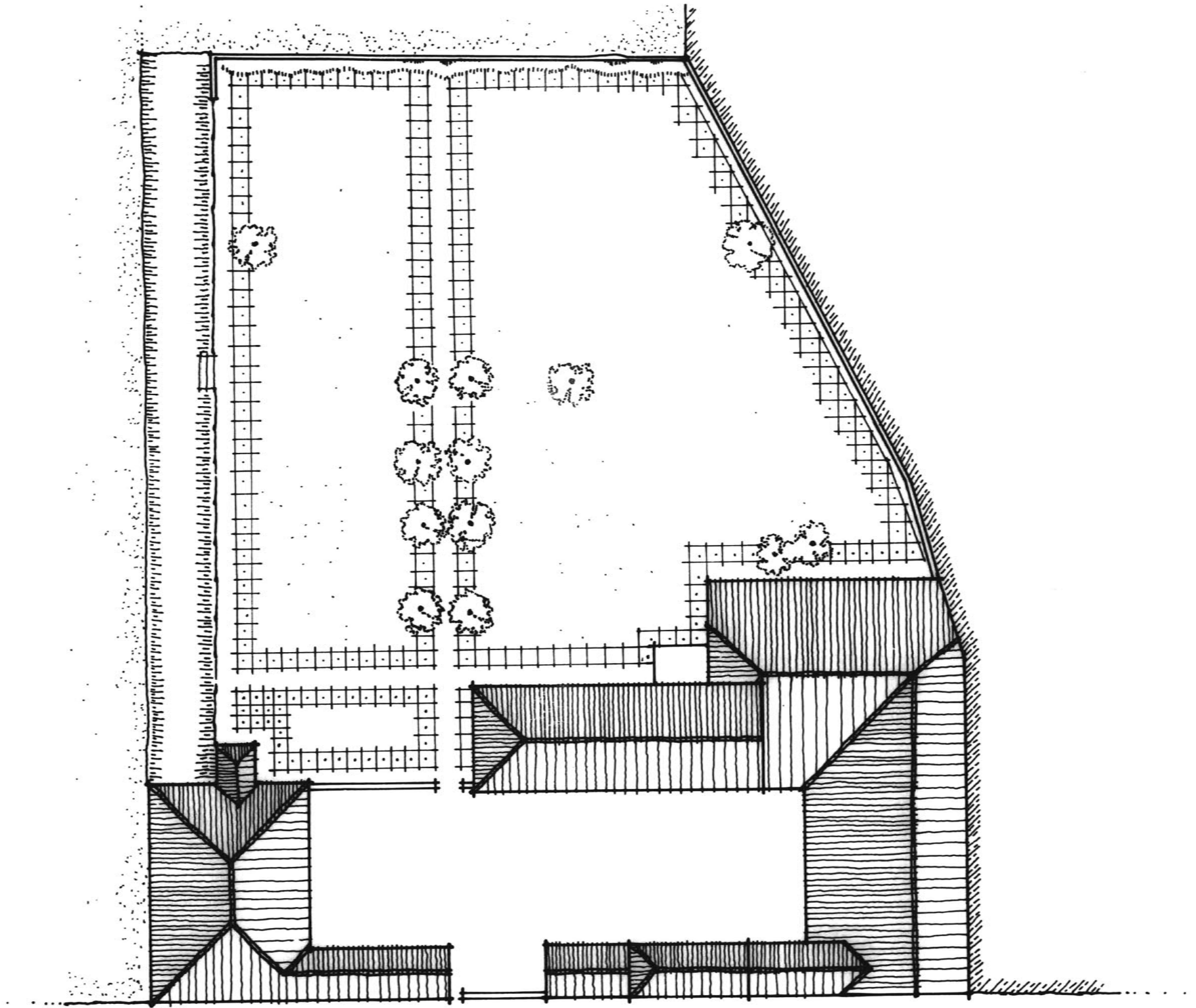
1. A French Farm
2. An Italian Farm
3. A New England Connected Farm
4. A Shaker Farm
5. A Minnesota Farm

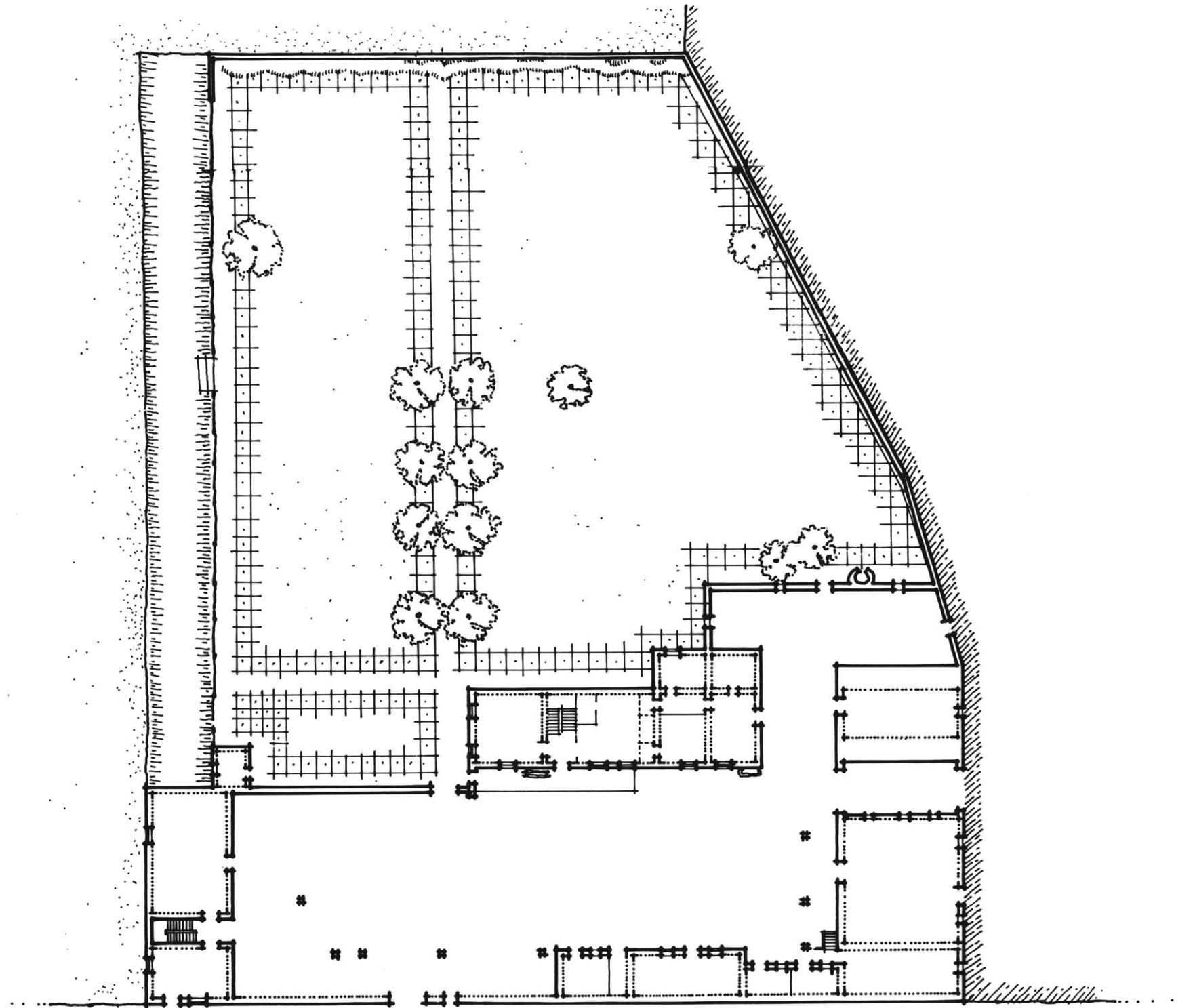
The farms will be analyzed similarly to the street in Cordoba.

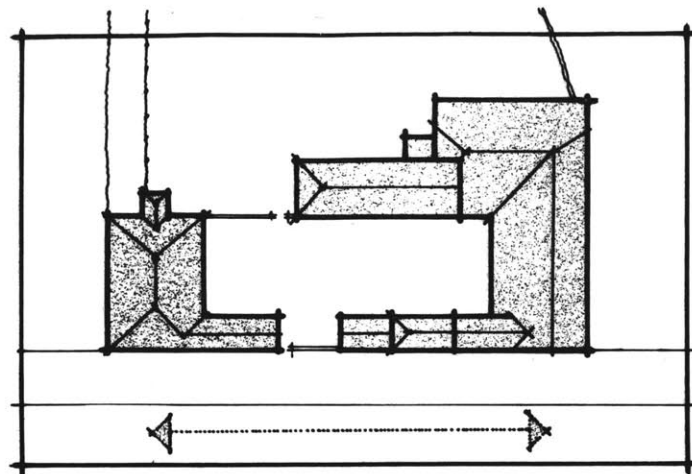


A French Farm

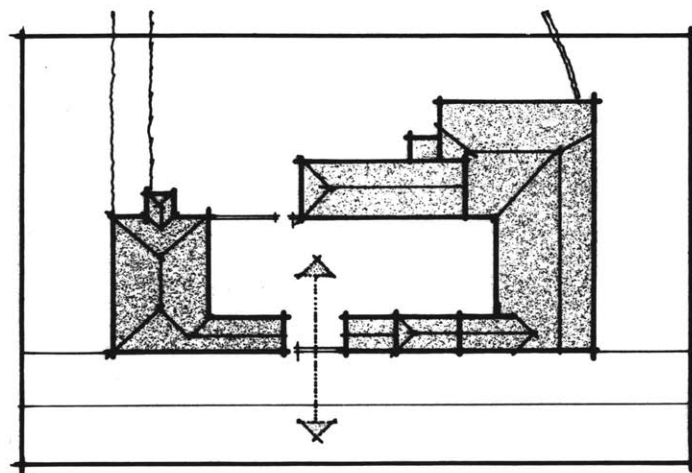




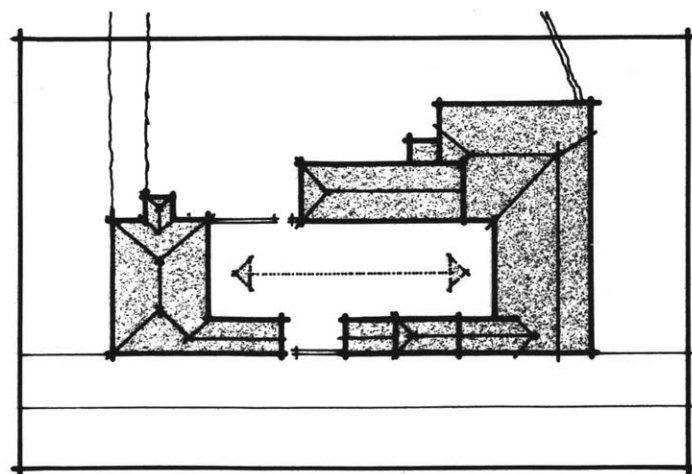




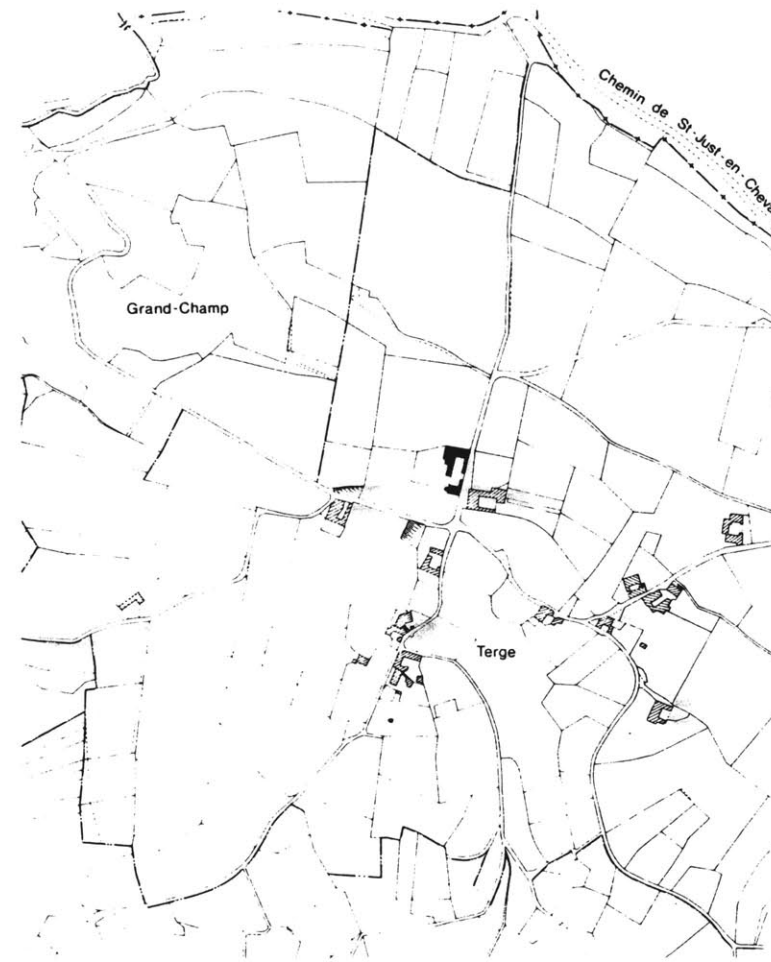
- major direction of the landscape



- discontinuity of access into farm complex



- major direction re-established



The first farm observed is a French Farm. It is located in the Lyonnais region of France. The map of this particular area within the region shows a somewhat radial organization of the landscape. The roads come together at an intersection and move out from that point.

The farm highlighted on the map is the farm

analyzed. Its overall form reinforces the direction of the landscape.

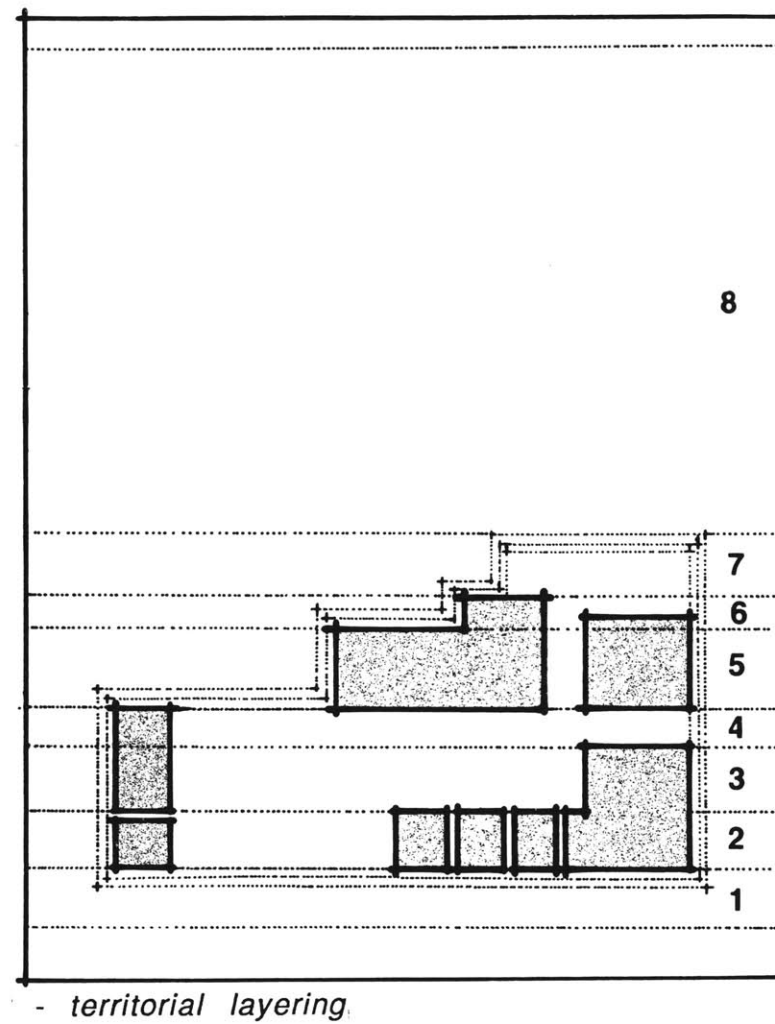
The access into the farm, is discontinuous with the major direction of movement. Once inside the courtyard, the public area within the farm complex, the major direction is re-established in the form of the courtyard and the public movement within.

The organizing element of the complex is the courtyard space. It provides access within the place. In order to move from one building to another, one must move into the courtyard. There is no sharing, or transitional space. (access/use . . . 1:1 association/ non-territorial).

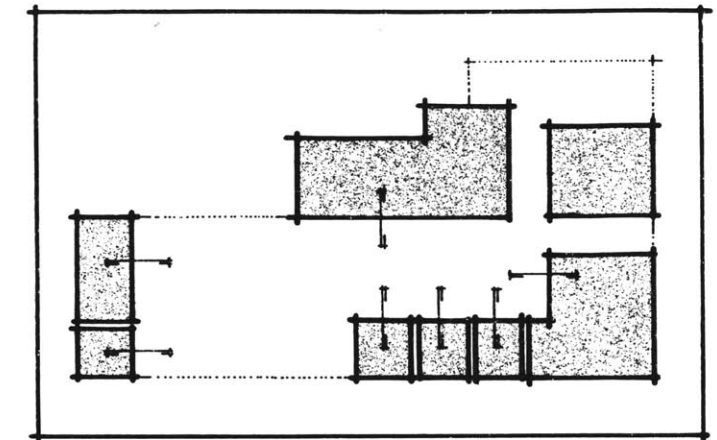
The courtyard is defined by an "L" and a "U" shaped building form. The buildings themselves are a thickening of the wall defining the courtyard. In some cases the wall has been thickened to a large room size dimension, in others, the dimension remains the definition of the wall thickness. The building form is a layering of the wall which defines the courtyard space, and is quite contained.

The buildings begin to set up layers in the landscape which build a range in size of territorial zones in the major direction of the landscape.

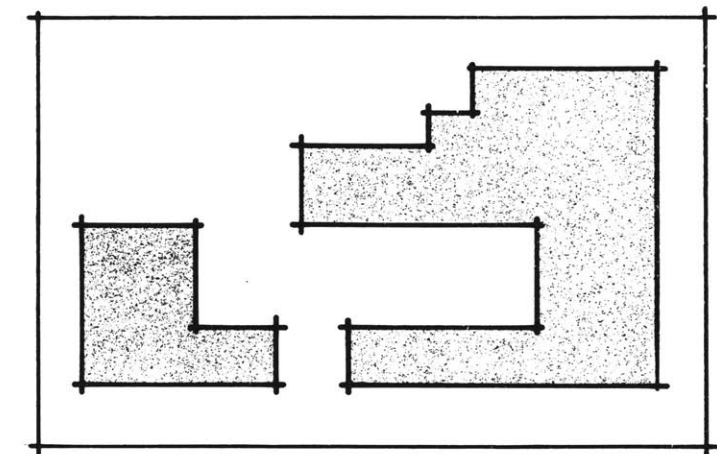
The house within the farm complex begins to act spatially between the courtyard and the fields. The house acts as enclosure along the courtyard and begins to define different territories as it opens into the fields. The other buildings do not make these definitions.



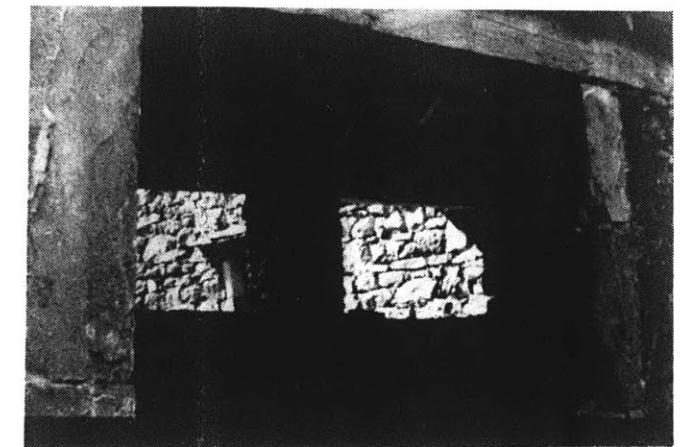
- territorial layering



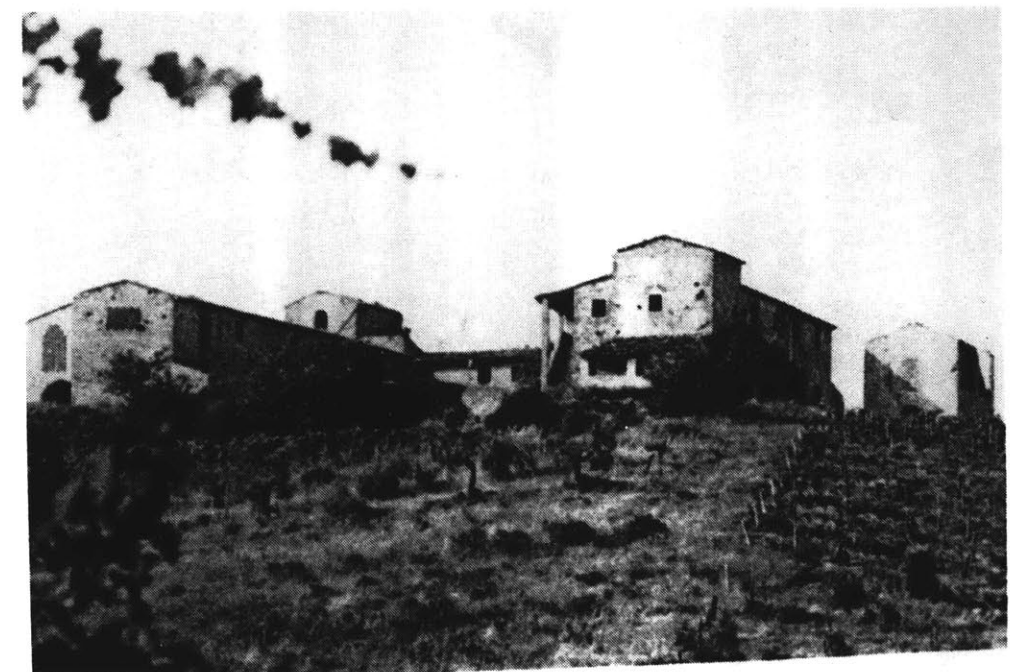
- access/use . . . 1/1 association

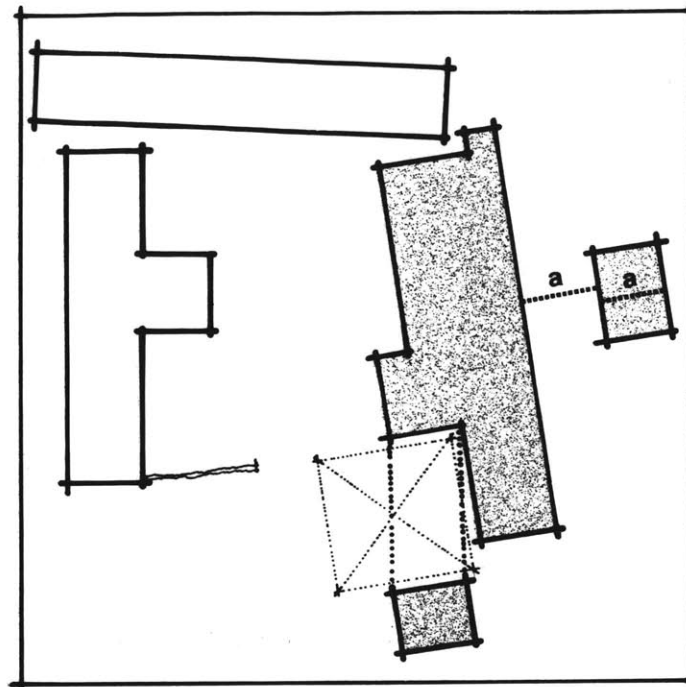


- "L" and "U" shaped building definition

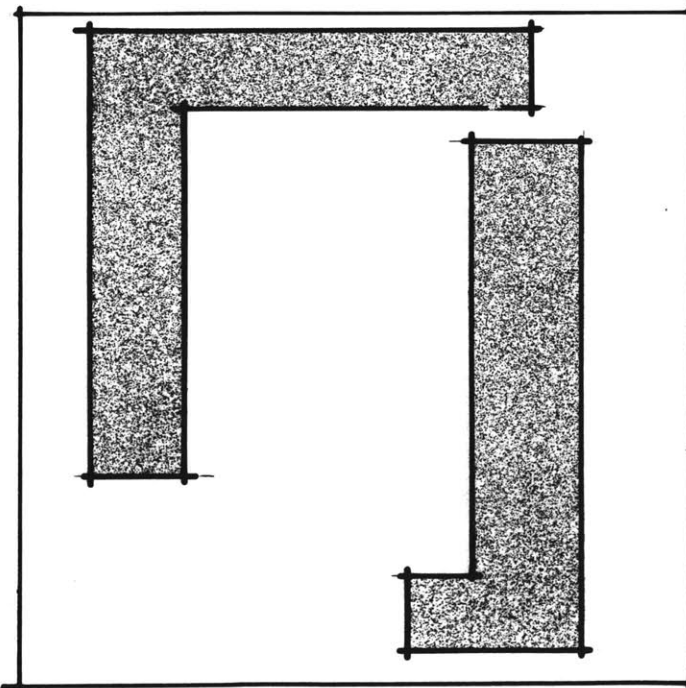


An Italian Farm





- dimensional displacement



- "L" shaped building definitions

The second farm observed is an Italian Farm. It is located in the Toscana region of Italy, just outside of Firenze. This collection of buildings is less contained than the French Farm, allowing the landscape to move into the major space.

The first drawing and overlay depicts the dimensional structure of the place. It becomes immediately clear that a coherent system is at work. By making smaller definitions with building elements, a range in sizes of open spaces is established. It can still be read as one large open space, but smaller places can be understood simultaneously.

What is important in the dimensional drawing also, is that when understanding a dimension, it is not necessarily only a single building definition. The dimensional understanding may be a combination of elements that "add up" to the total dimension being defined.

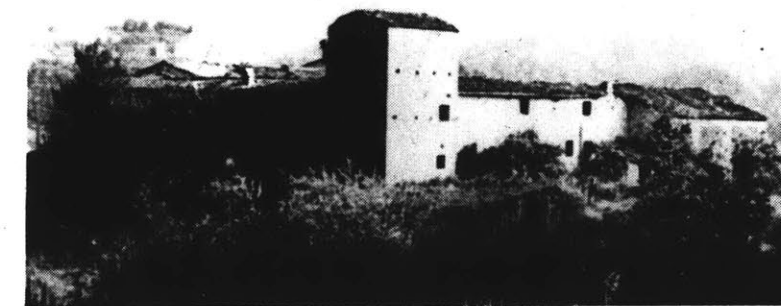
The building on the right is dimensionally displaced from the larger building. It is displaced its own dimension. Because of this, one understands the space defined as being as

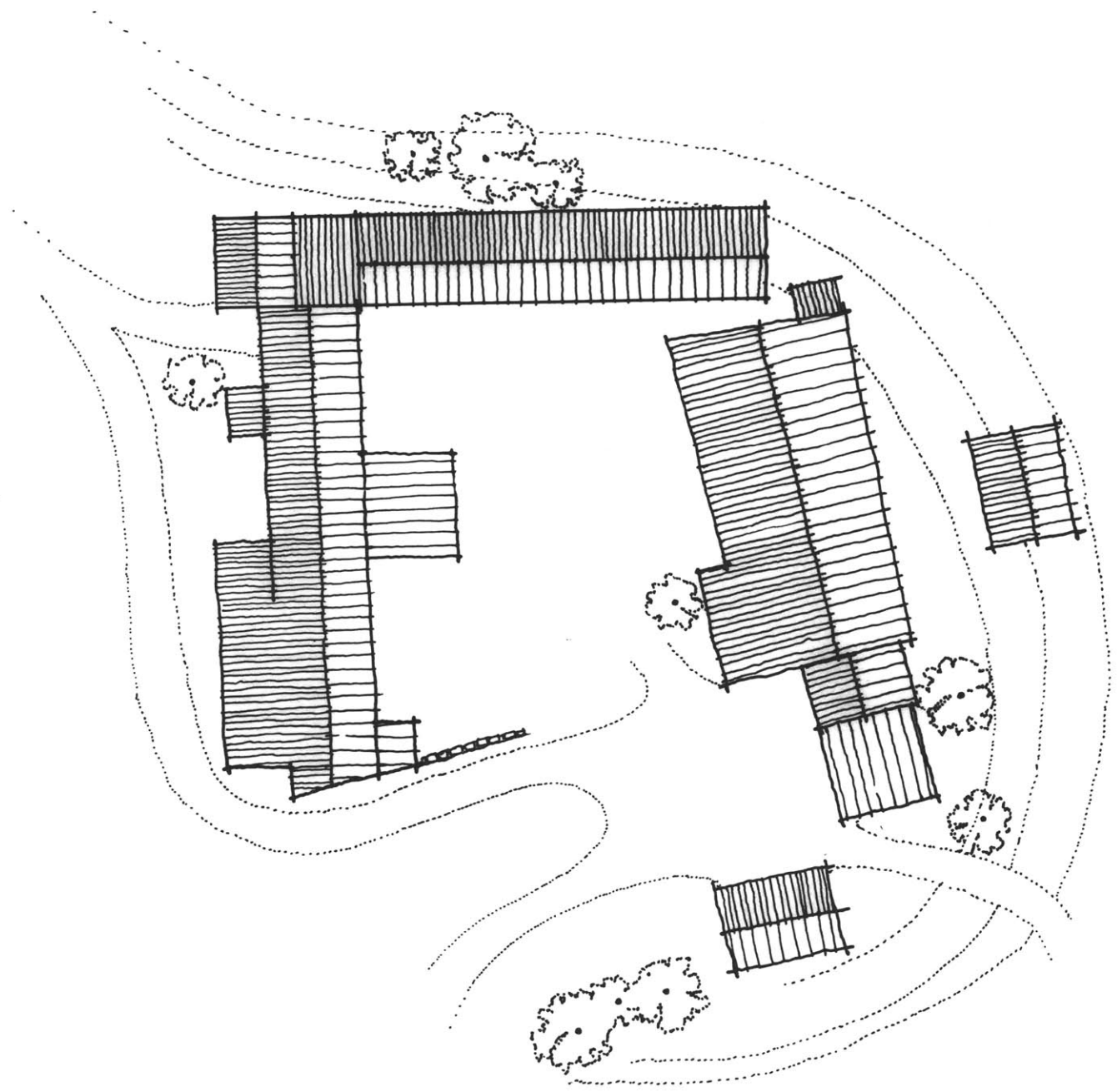
important as the building defined. If it were moved further than its own dimension away, it would not be as understandable in these terms.

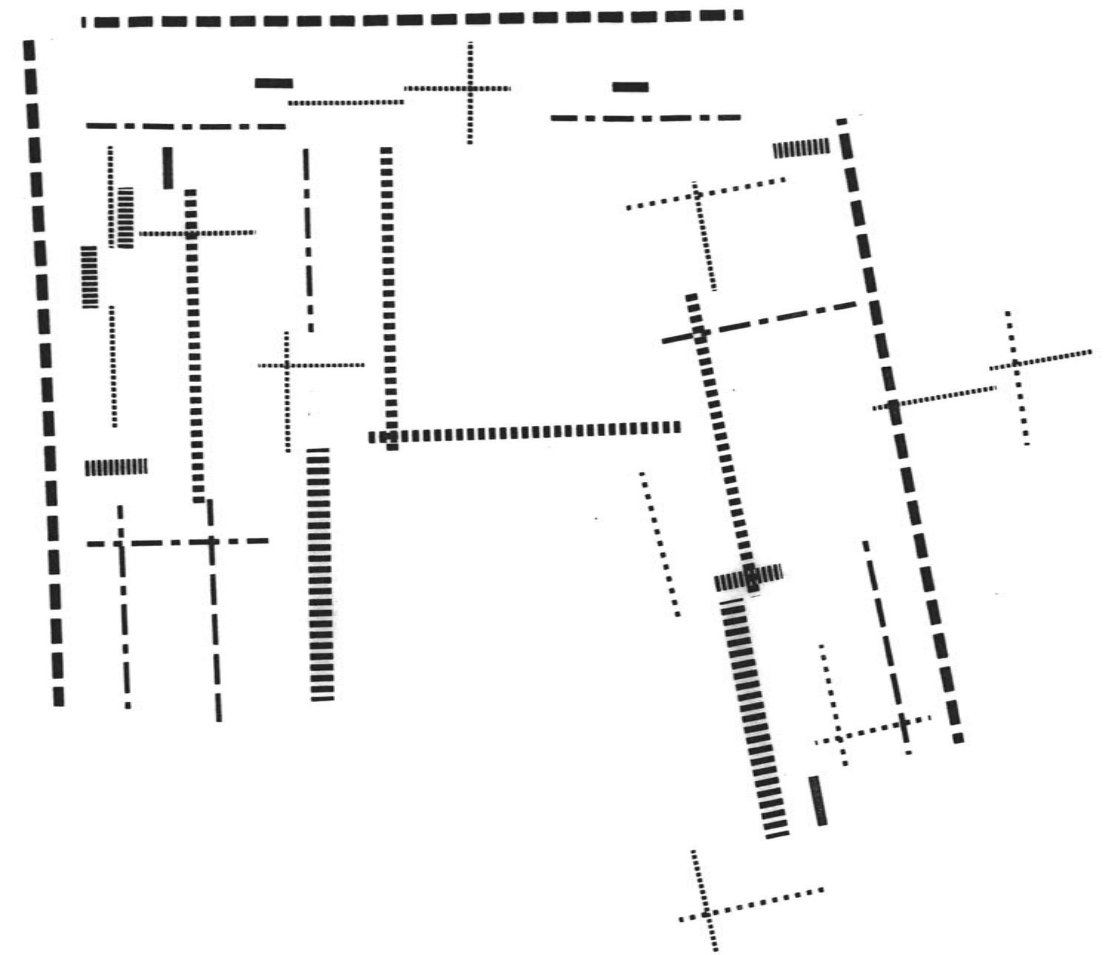
The building in front is dimensionally displaced, pulled out and acts as a "stop". It extends the complex past the other side, allowing an exchange with the landscape. If it were not passing, it would be much more contained and make little exchange with the landscape.

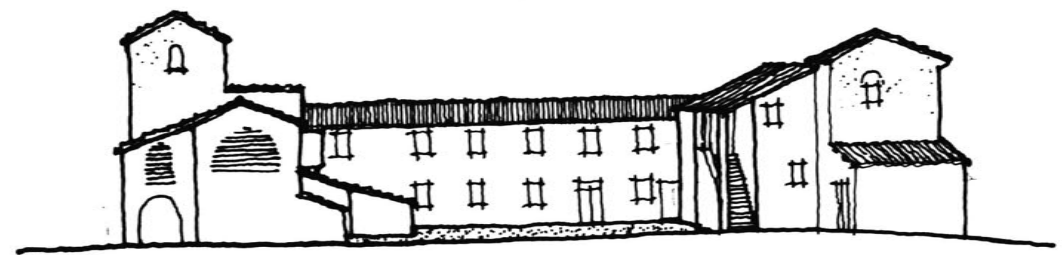
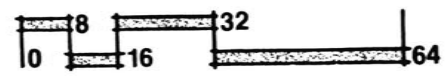
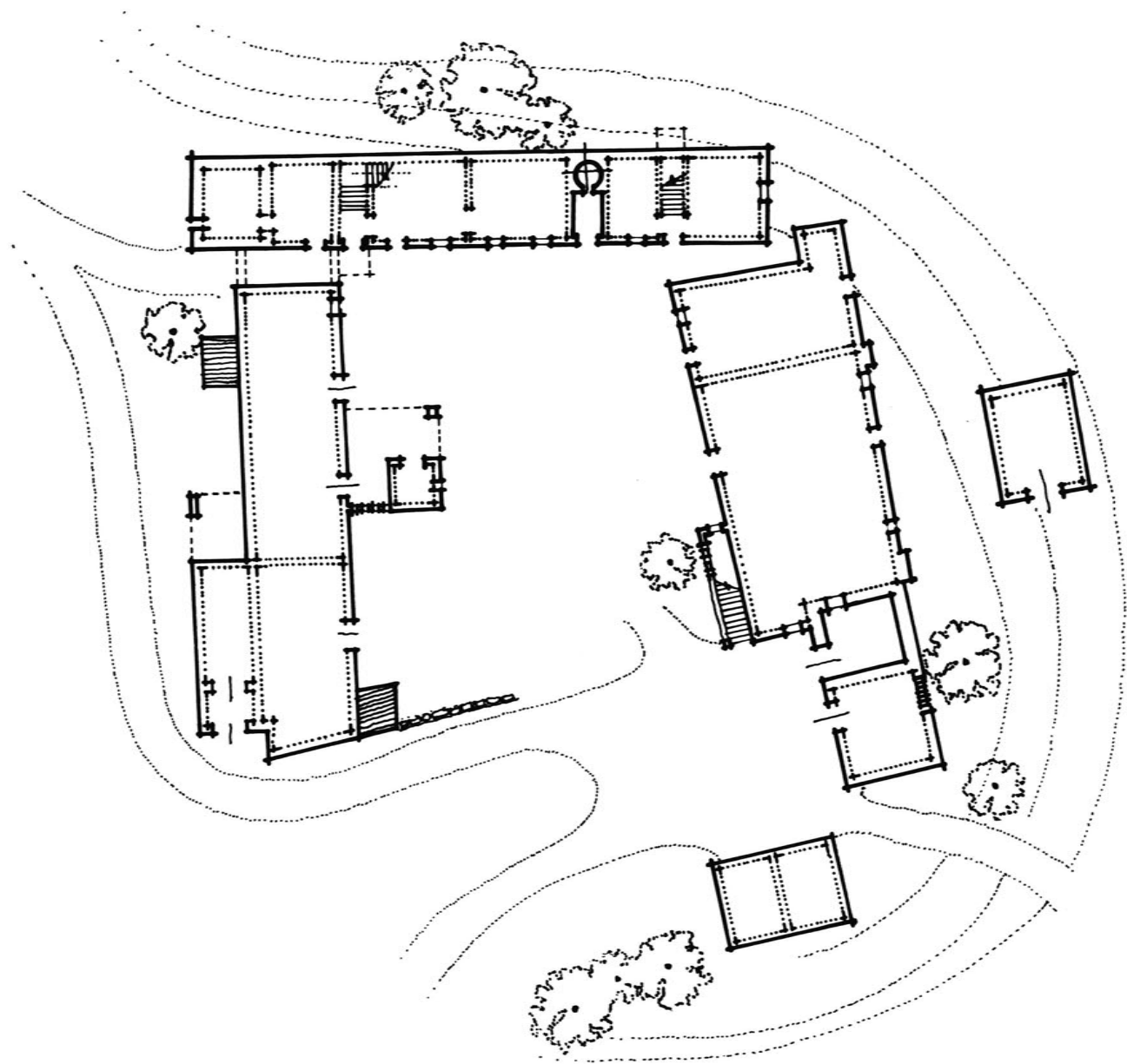
Within the building complex there are areas which are more contained than others, thus defining "open" and "closed" corners, and a range in associations with the landscape.

The overall building definition is of two "L's" that extend by one another. This extension provides a greater association with the landscape than was seen in the French Farm.

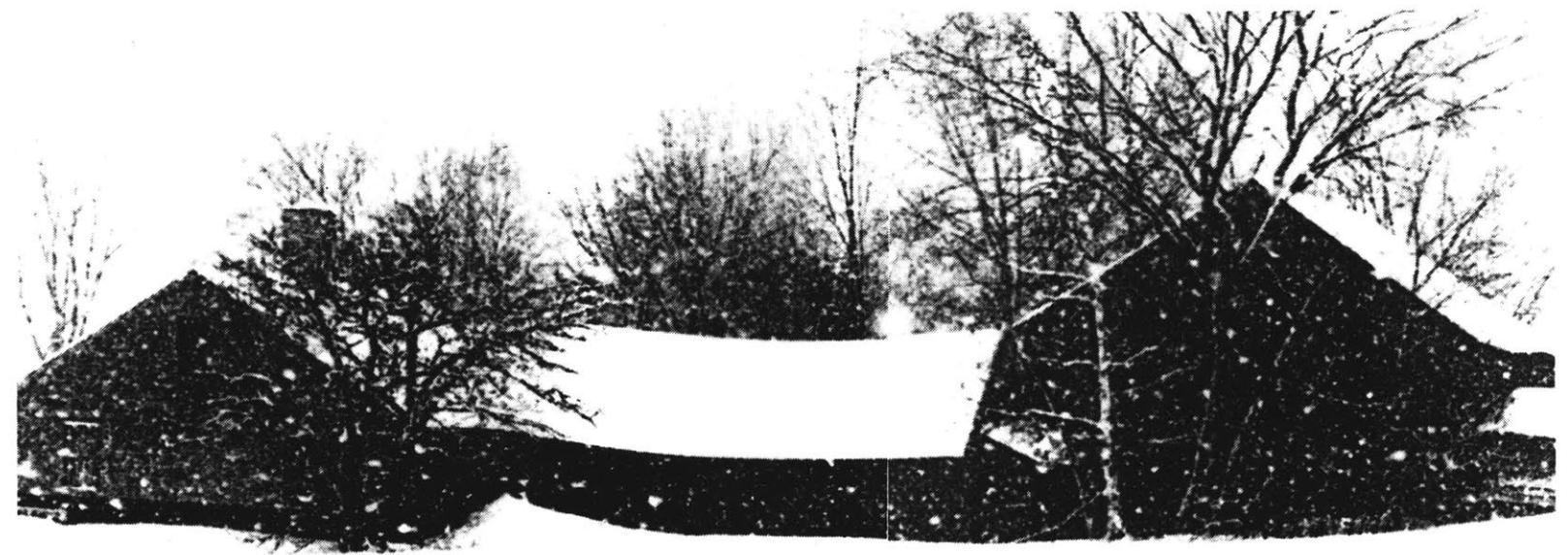


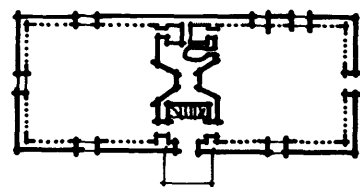




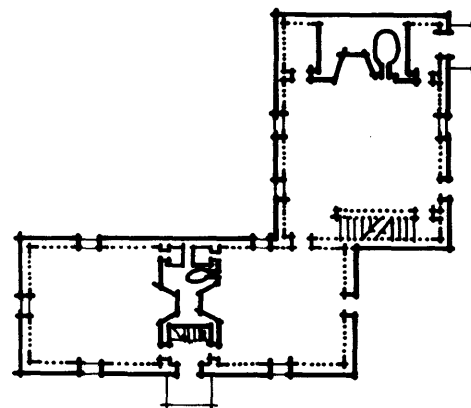


A New England Connected Farm

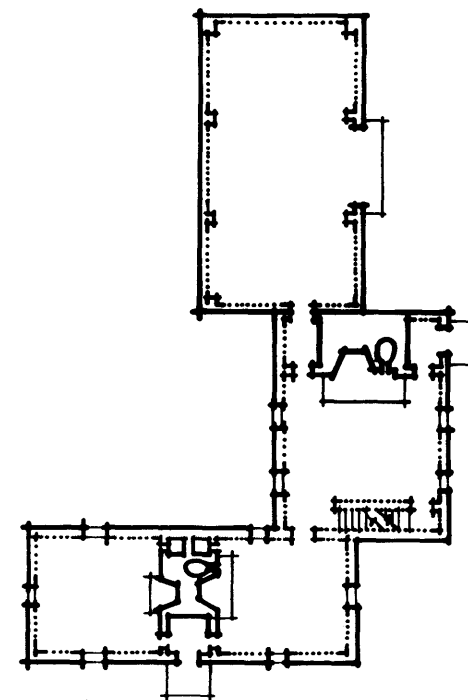




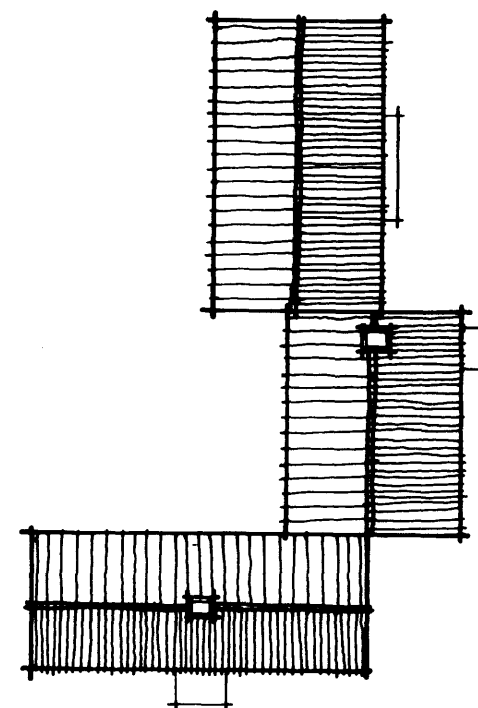
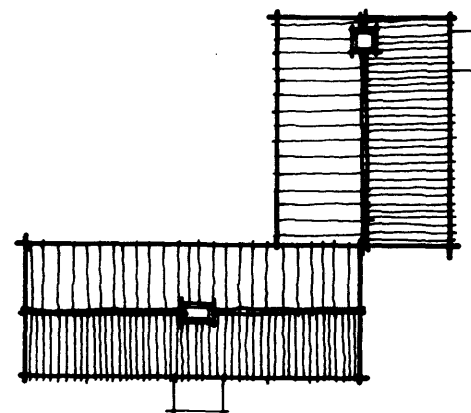
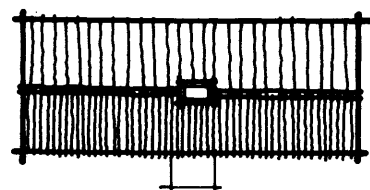
Room arrangement, 1780.

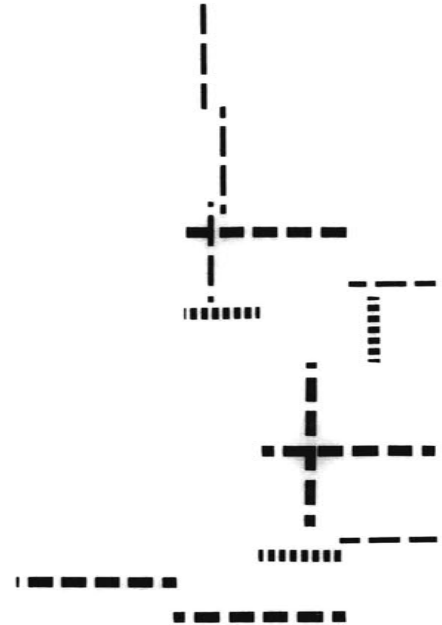
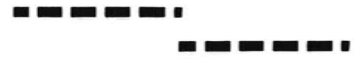


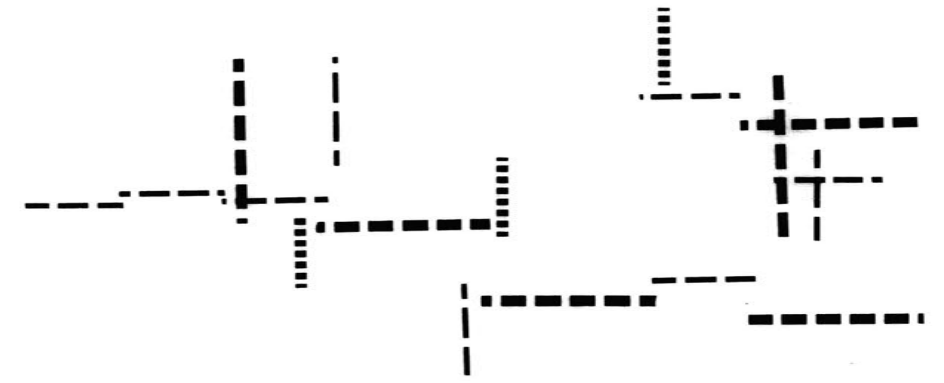
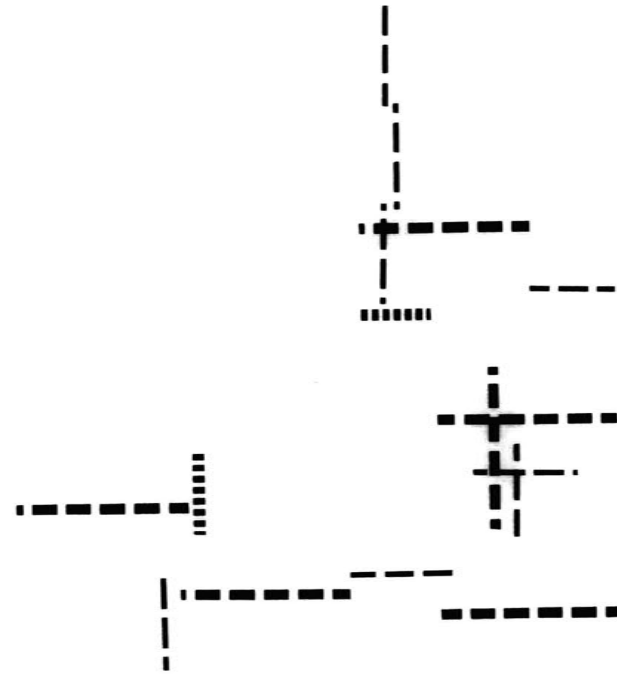
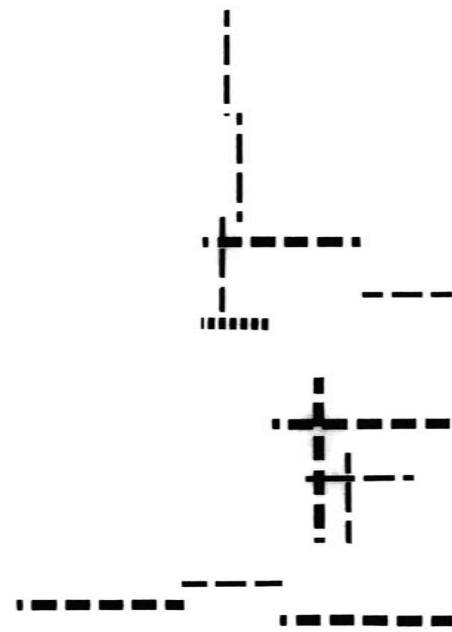
Room arrangement, 1825.

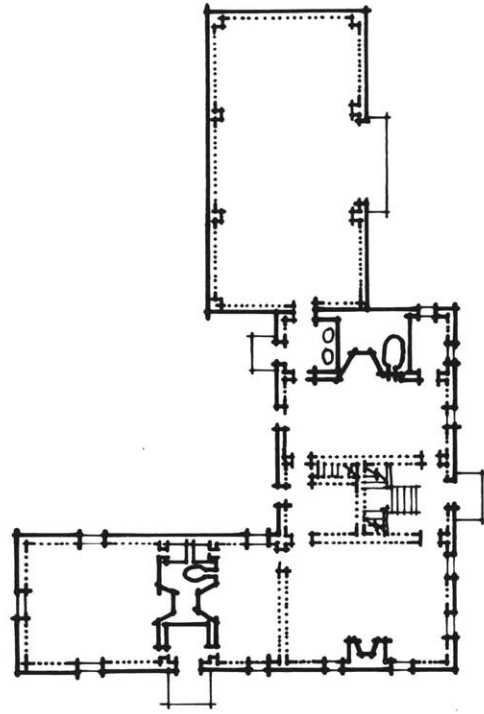


Room arrangement, 1835.

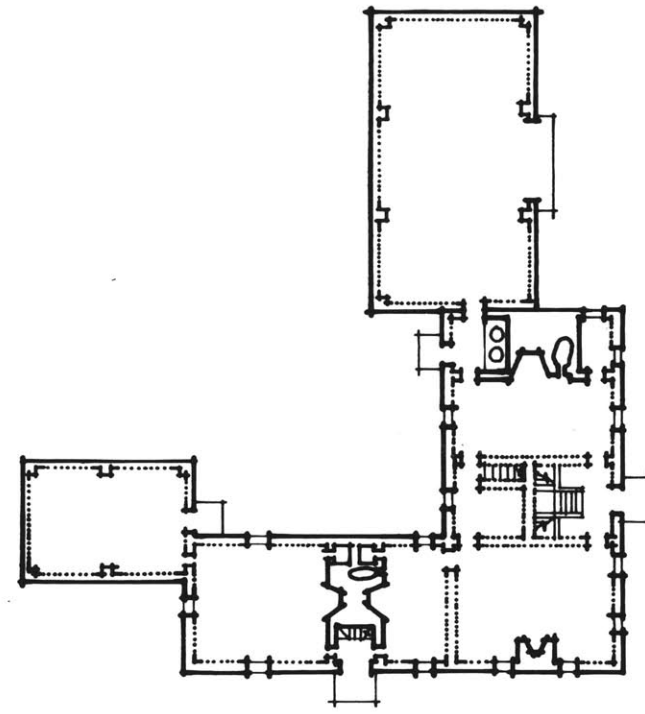




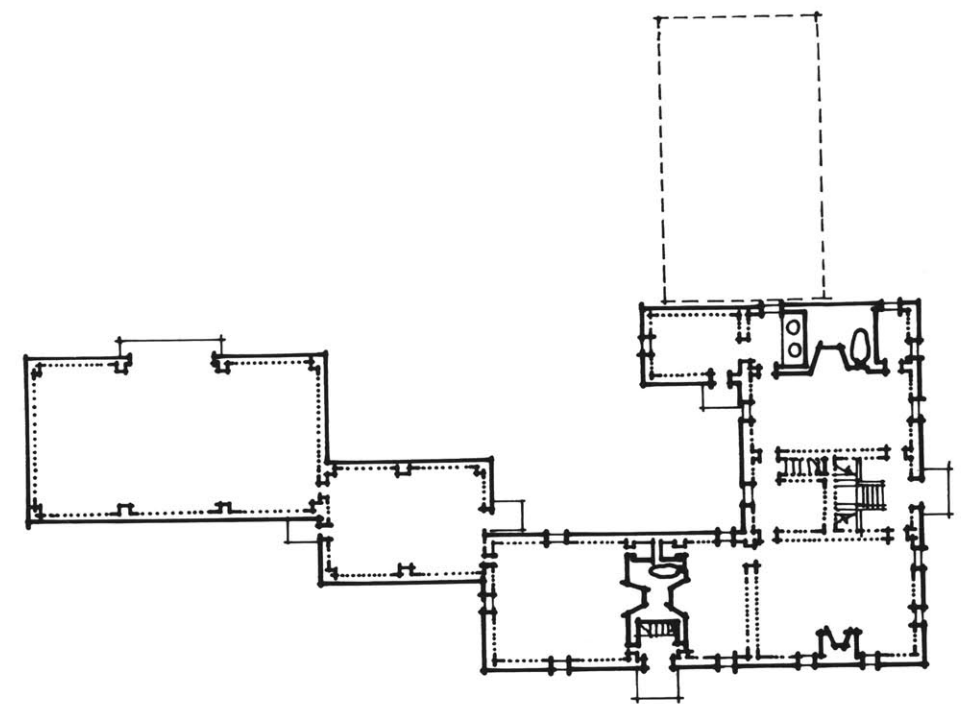




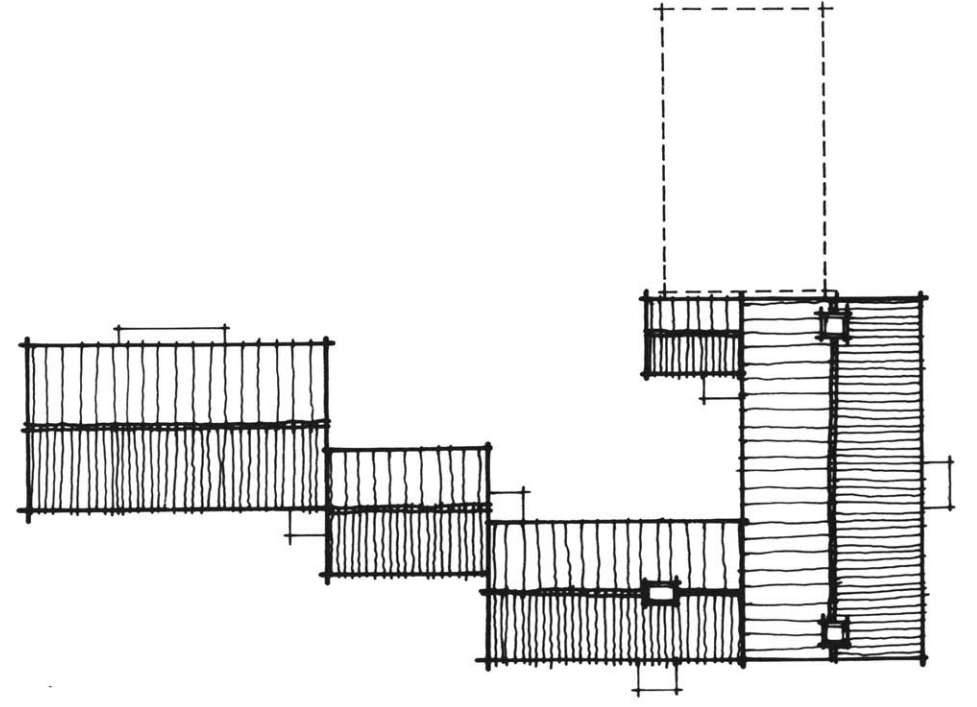
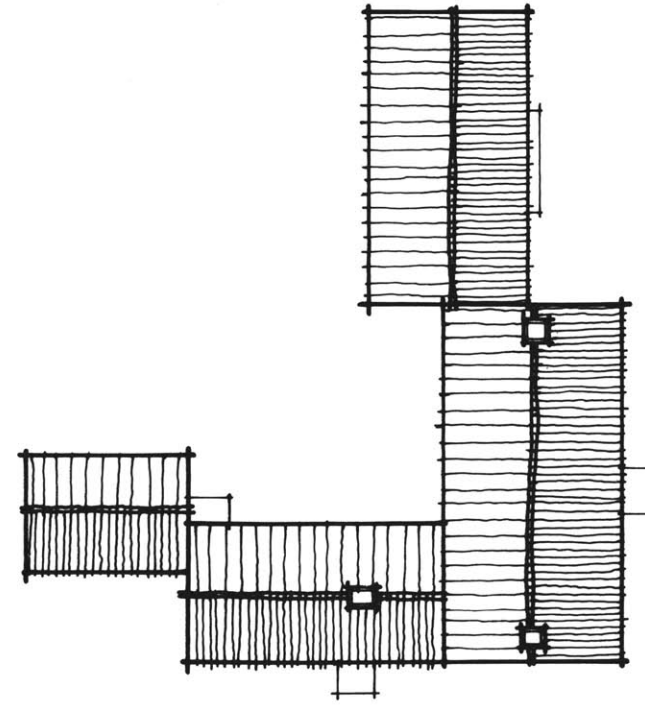
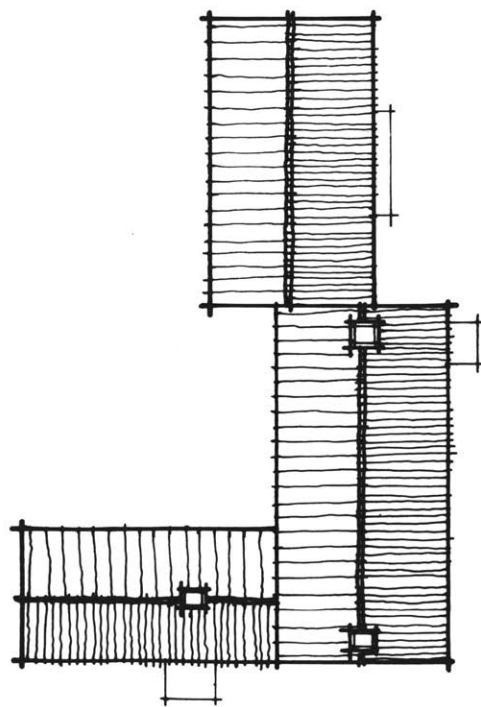
Room arrangement, 1845.

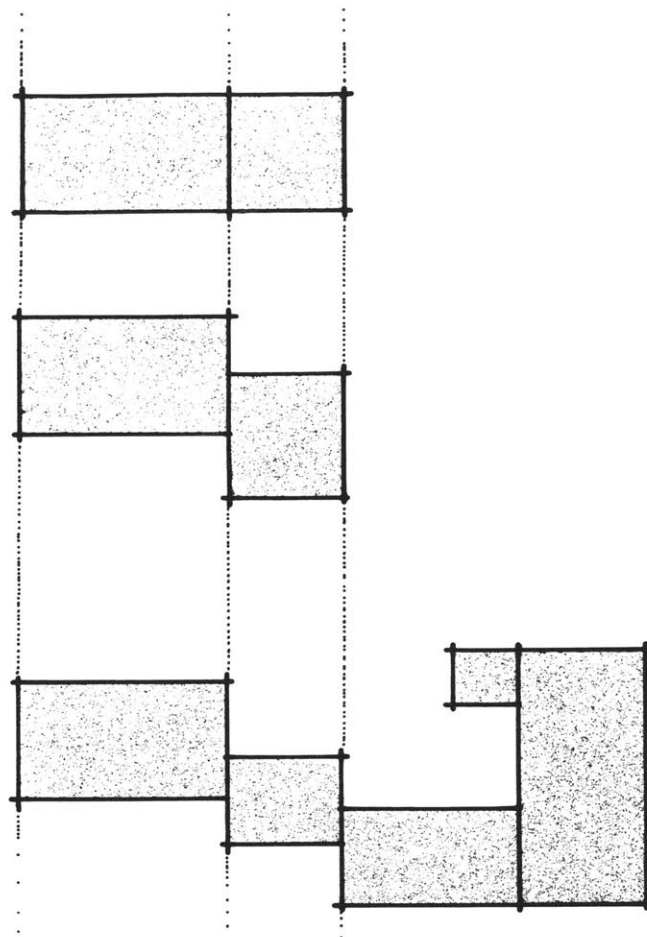


Room arrangement, 1850.

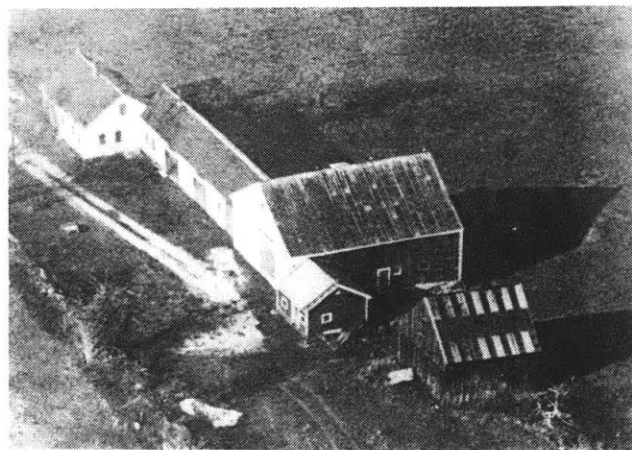


Room arrangement, 1855.





- building displacement

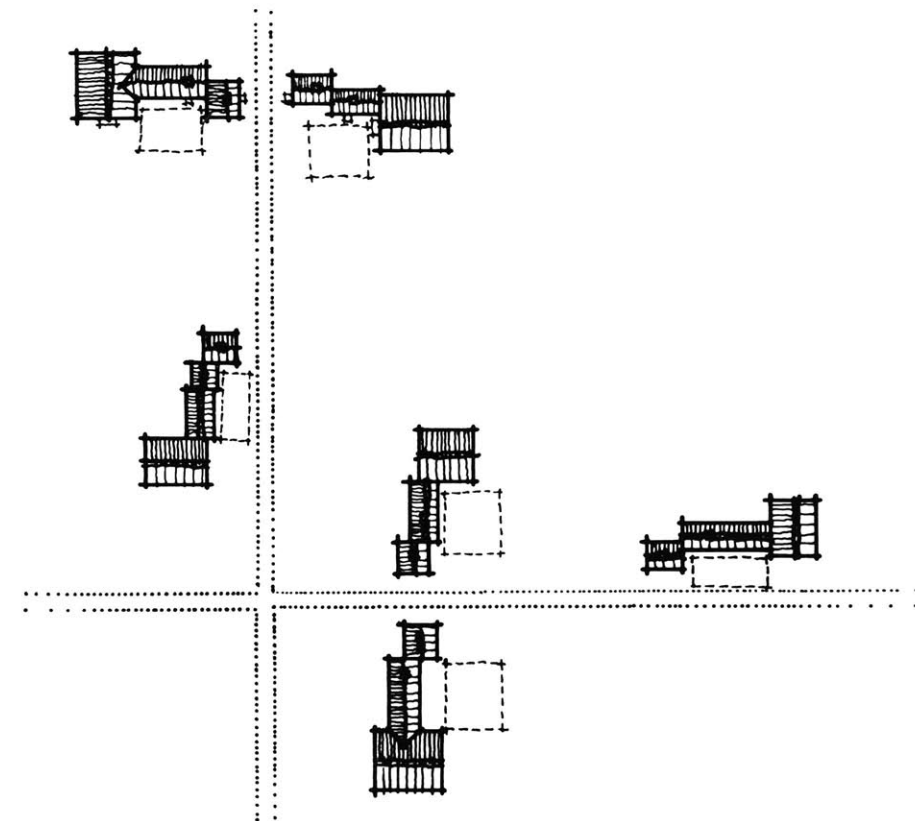


Third farm observed is a New England Connected Farm. It is located in Kennebunk, Maine. These particular types of farms are built additively. It is in the way in which they are connected that one begins to understand the definitions being made, both inside and outside.

The first set of drawings and overlays show the growth over time. At the moment, I am not concerned with why they are connected the way they are, but what I am interested in is the consistency in which they are built. A 28' dimension is the most prevalent one. The dimensions in which the buildings are offset, is either 16' or 12', which adds up to 28'. Those two dimensions are consistent at each connection. Within the complex, these three dimensions begin to define different uses. This system of building is very clear and understandable.

The connection between buildings is established by a displacement of the individual buildings, rather than a continuous alignment. This offset establishes a lateral shift, which allows the option of moving into the building while associating with one of its edges. So rather than

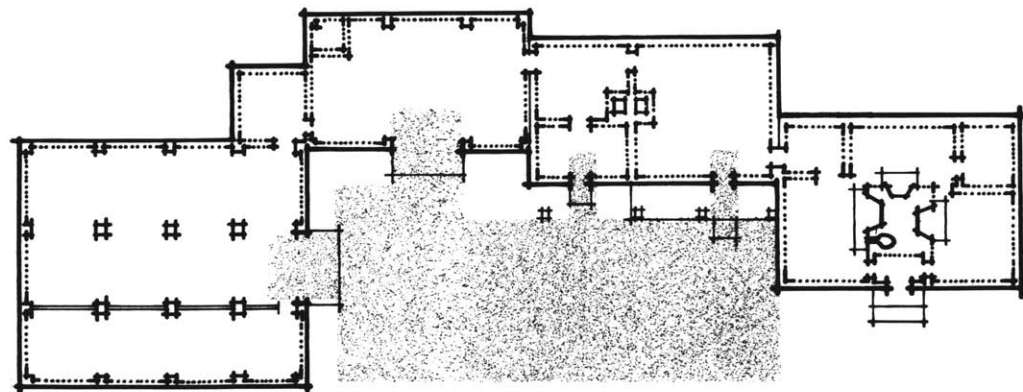
moving frontally into the building, one enters into a spatial territory of the building before entering. This is a more associative way of entering the building. This offset also begins to define a range in sizes of collective open space. Whereas, if the buildings were arranged lineally, there would be no exterior definition, and no exchange with the landscape.



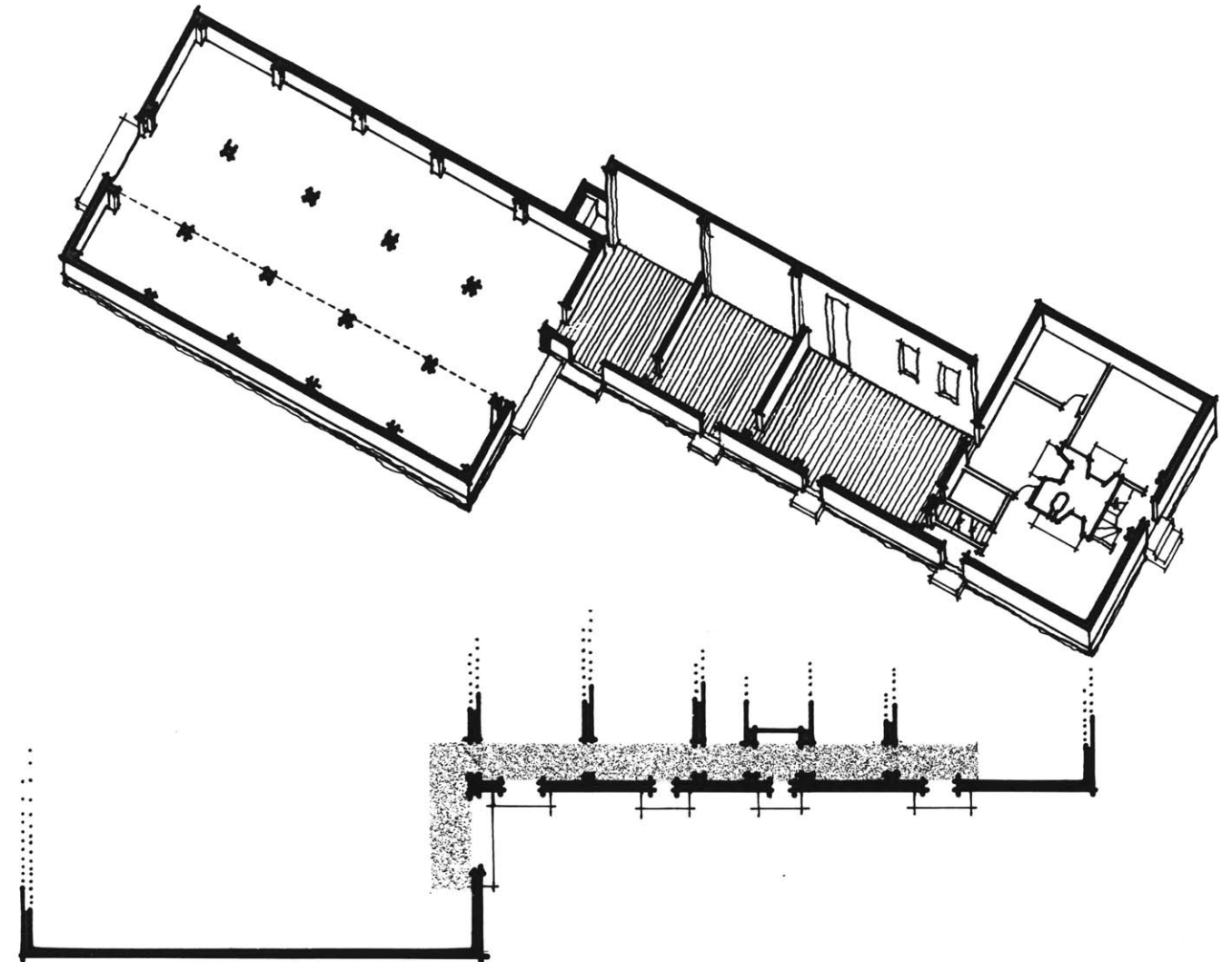
Six common arrangements of connected farmsteads in relation to compass and road orientation.

This connected way of building defines two systems of movement through (access). There is a continuous system within the overall complex as well as a system such that one can exit each building individually into the collective exterior space.

In one of the examples, the continuous interior access moves along the "light edge" (southern exposure). As one moves along, there is an alternation (dimensionally) of light and dark, open and closed. Because of this relationship one begins to associate with the landscape from within.



- individual access to collective exterior space



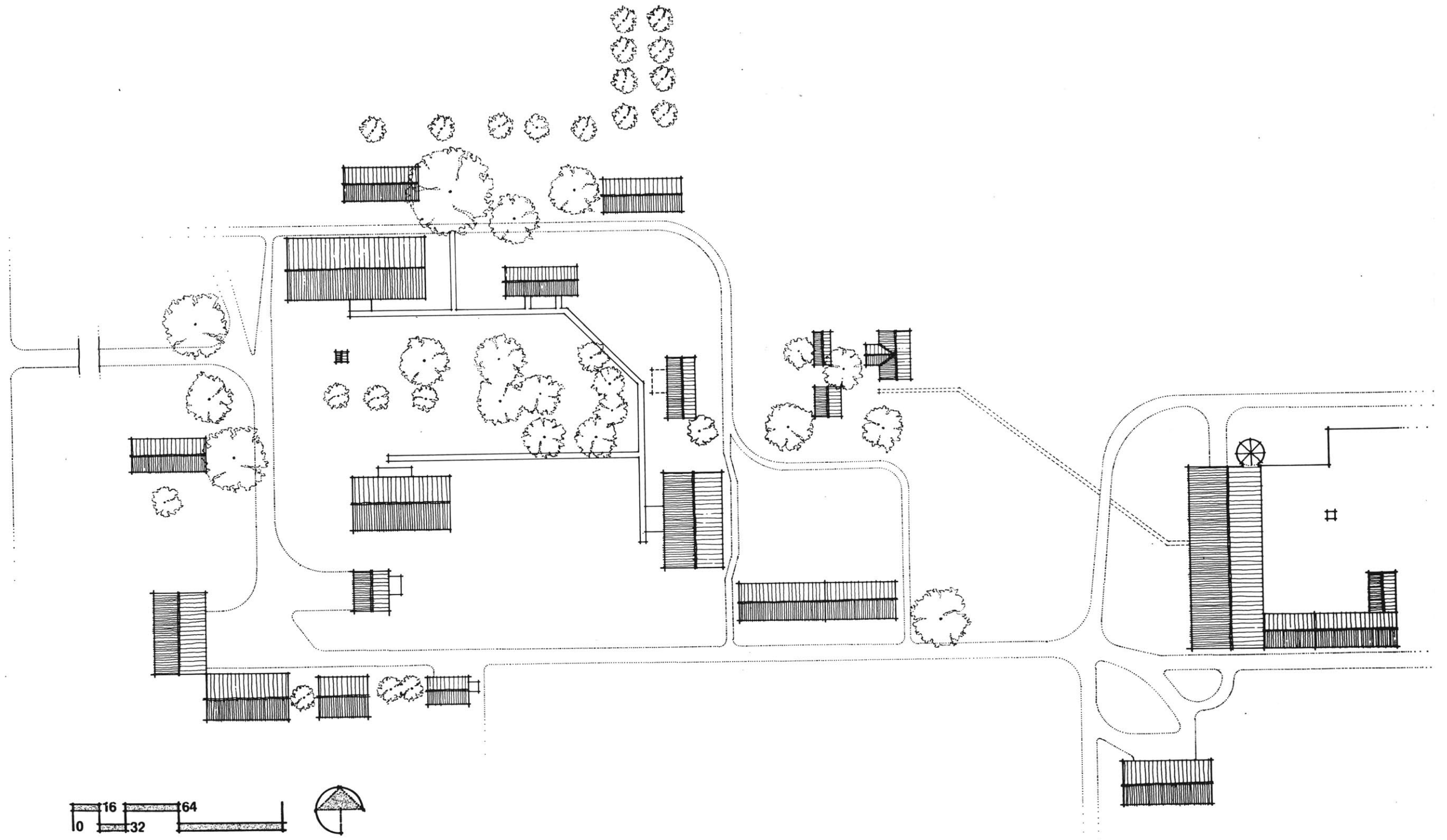
- light/dark, built/open alternation along the "light edge"

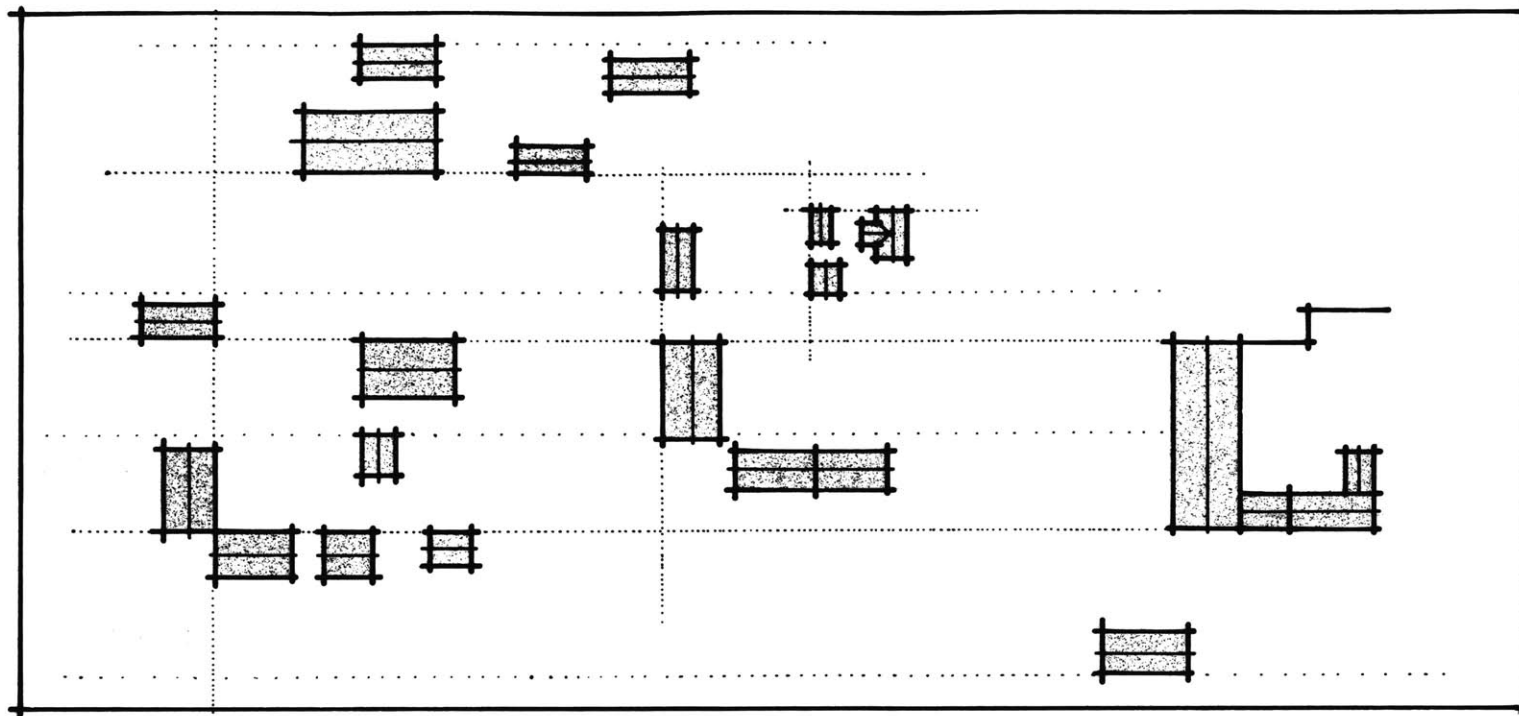
... to find a built environment which has been generated incrementally and periodically, as needed, through deploying the locally made piece of dimension lumber, gives one the understanding of how it got generated, and even the sense of having generated it oneself or with a small group of others.⁹

Jack and Marty Myer
Patterns of Association

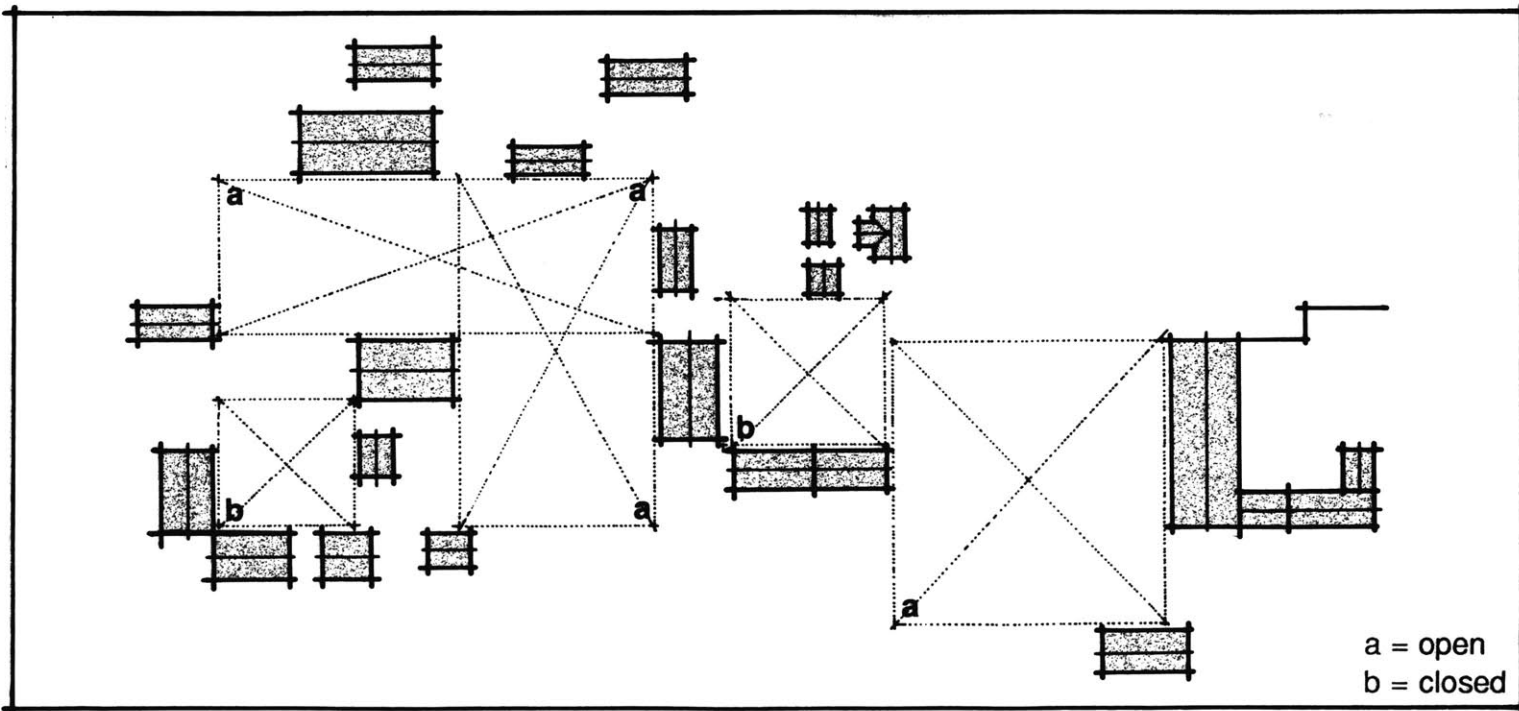
A Shaker Farm







- lineal registration / territorial layering



- a range in size of collective open spaces

- "open" and "closed" corners

The fourth farm observed is a Shaker Farm. It is located in Watervliet, New York. The organization of this farm, is a collection of individual buildings placed in relationship to one another to define space.

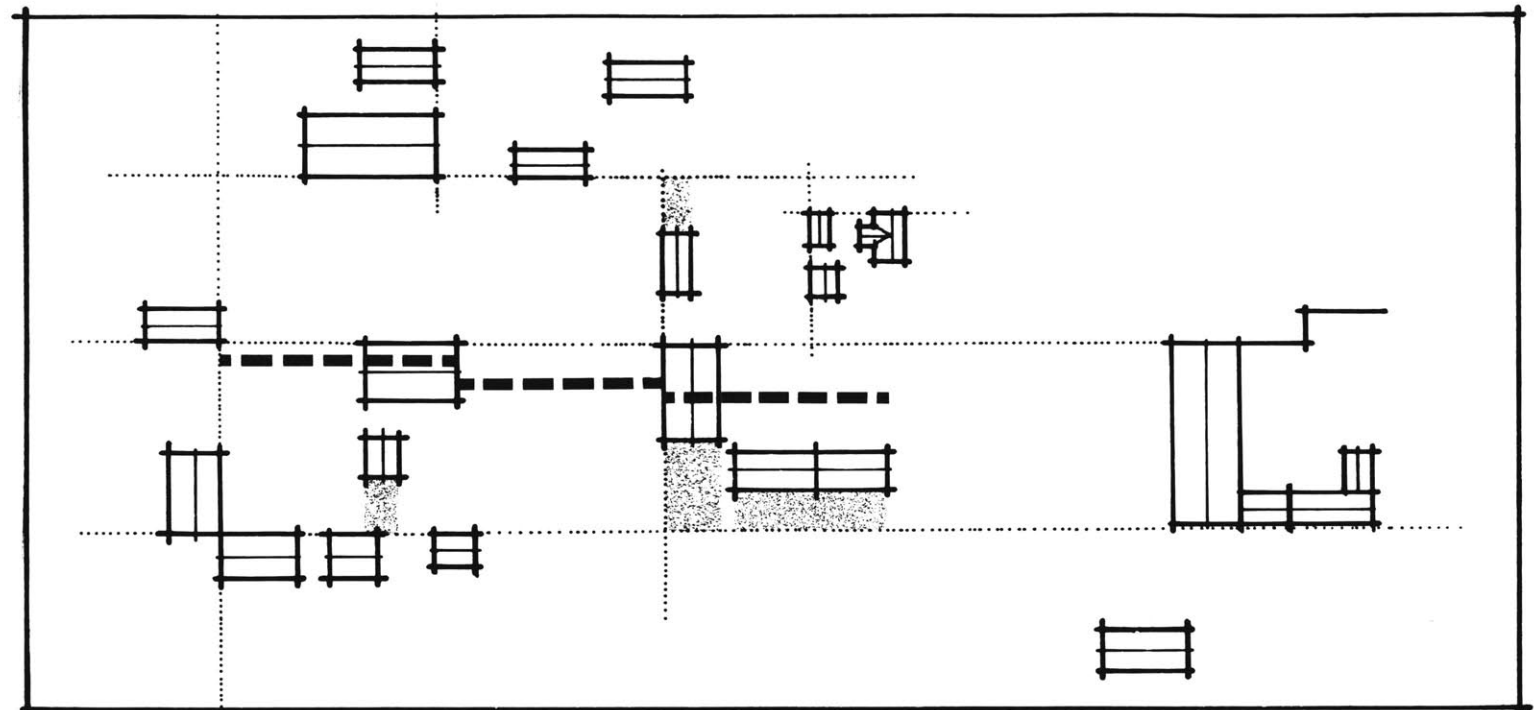
The overall organization is understood through a linearly registered system. Layers of territorial zones are set up within this registered system. From the registration, buildings are displaced, defining access. There are also definitions of "open" and "closed" corners, establishing ranges of associations with the landscape.

The buildings and their relationships to one another establish a range of collective sizes, some relating to the larger landscape as well as more inward, private places.

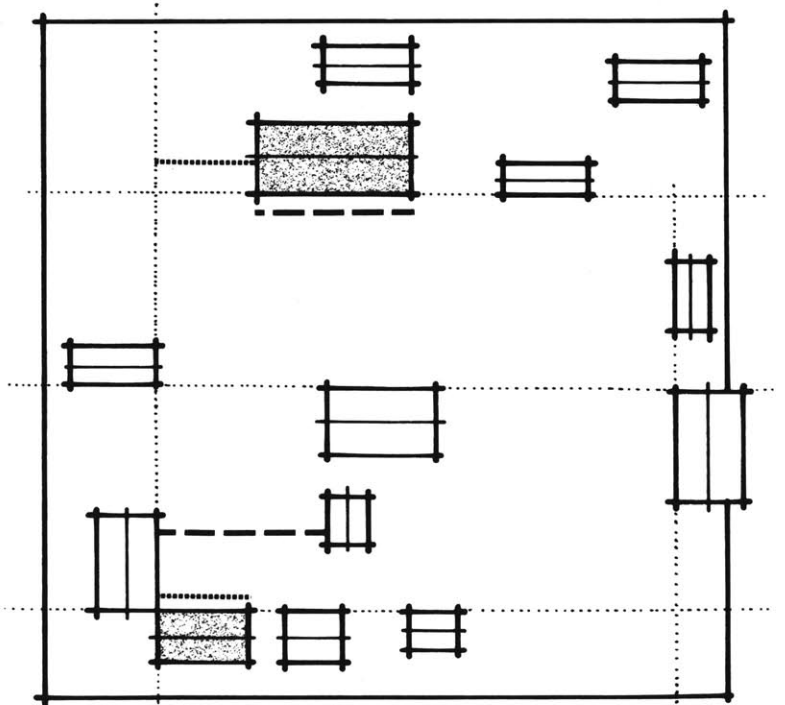
The direction of the buildings, shape and roof, reinforce the direction of movement, thus providing continuity.

Looking closer into the system, there is an dimensional alternation of built and open space, which also adds to the continuity of access and direction.

The last diagram shows a dimensional relationship between a "closed corner" and an "open corner." The dimension of the building at the corner is the same dimension as the open space at the opposite corner and the open space in front of the closed corner is the dimension of the building which defines the "open corner" above.

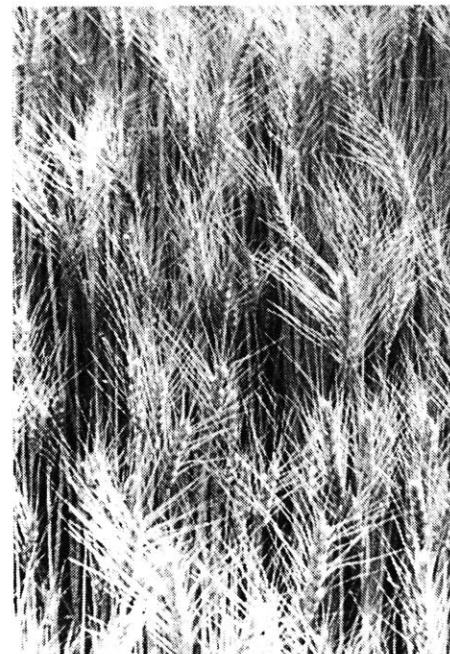


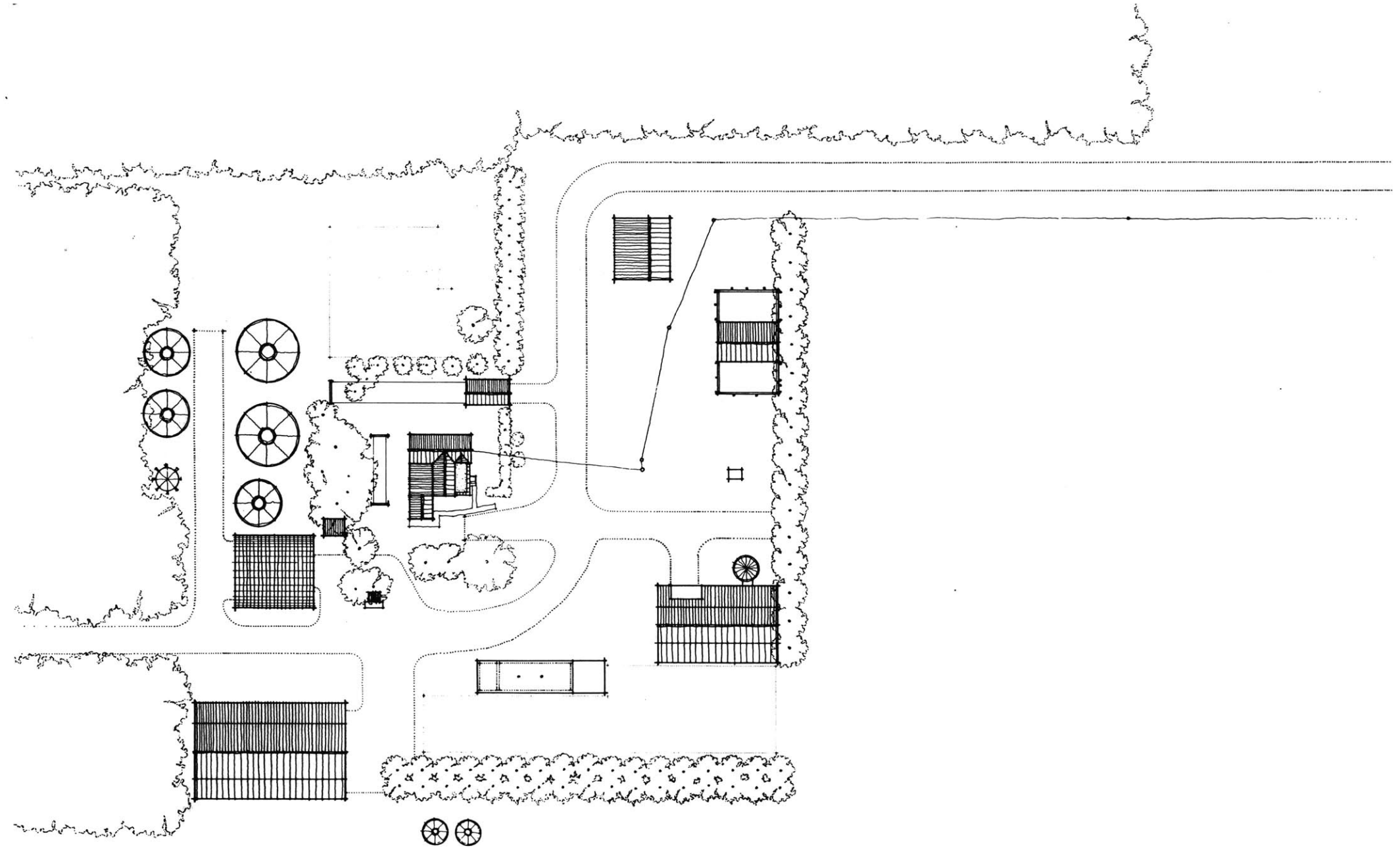
- building displacement defining access / alternation

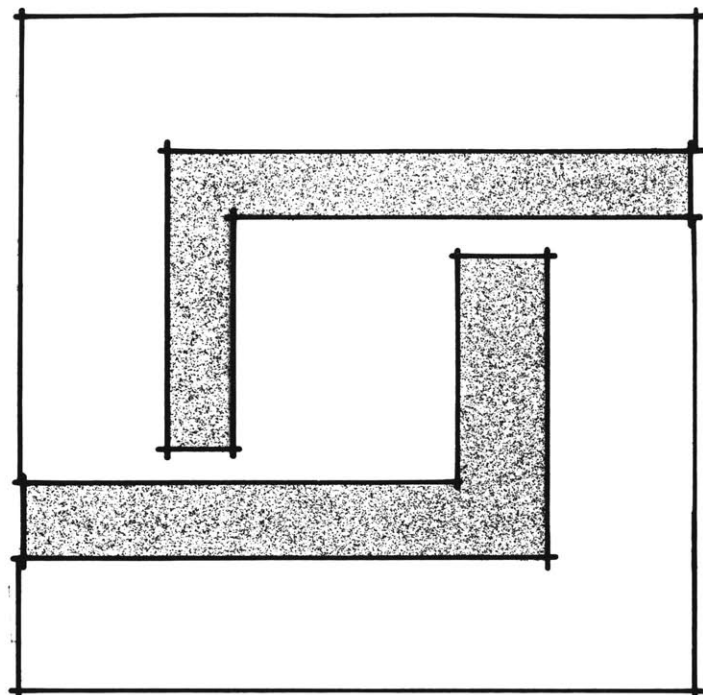


- dimensional displacement

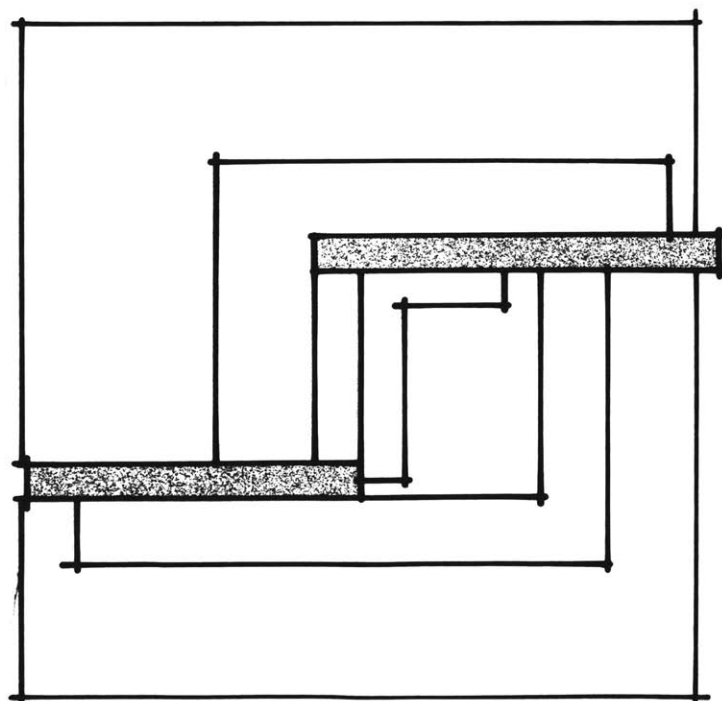
A Minnesota Farm







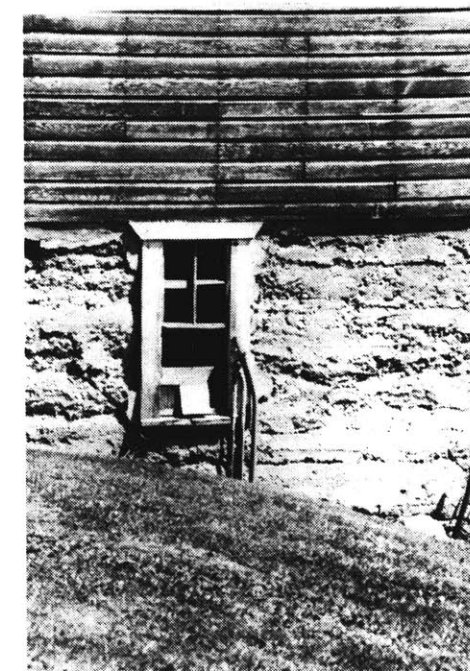
- "L" shaped landscape definition



- displacement of access

The fifth and final farm observed is located in Bird Island, Minnesota. This region of the country is defined by one mile square, called sections. A rigid grid network of roads is laid over the landscape. It is also a very flat region, so association with the landscape (direction) is defined by the division of the pieces of land. Even though it is divided in one mile squares, within each square (640 acres) many people may own pieces of that land. The shapes defined within that square, establish a direction.

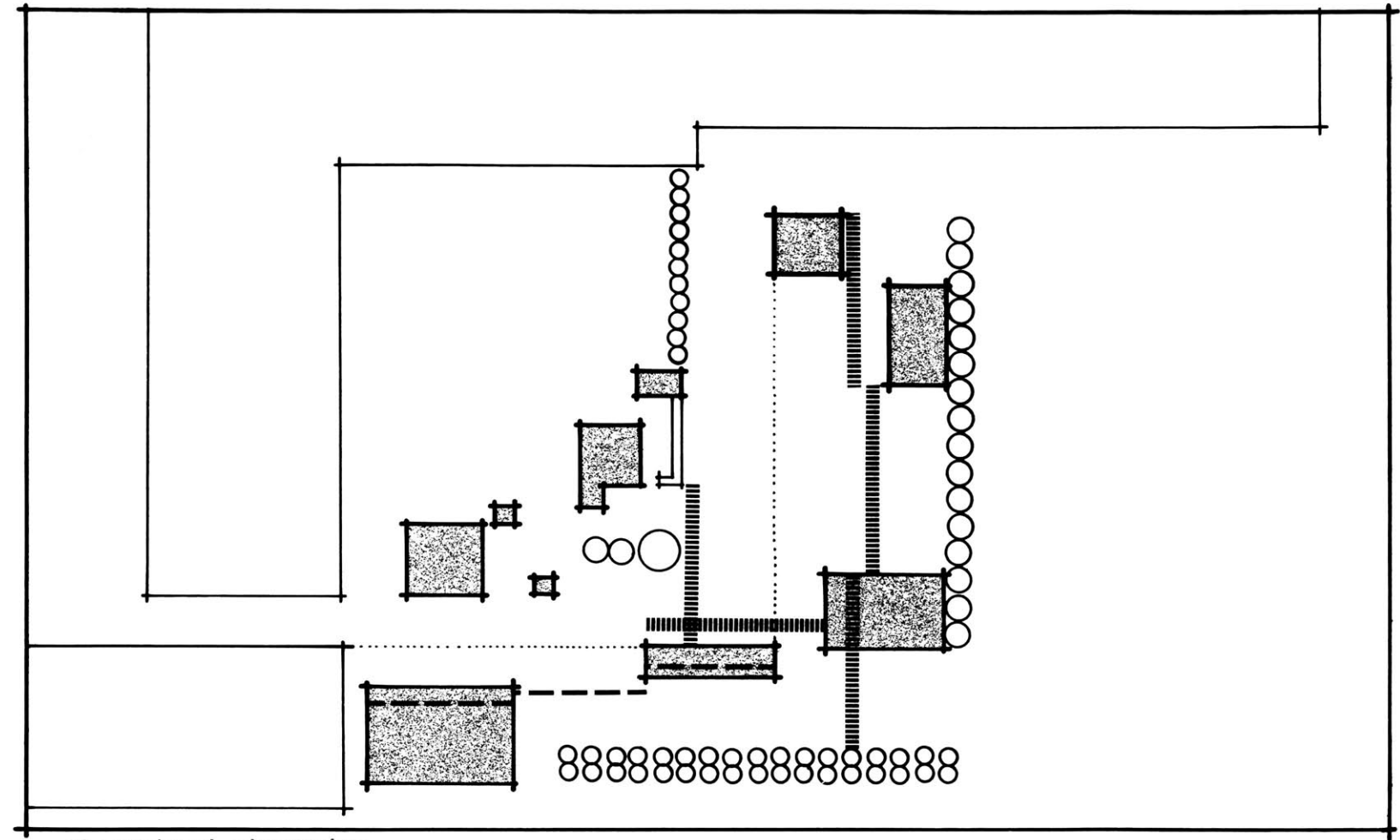
The overall organization of this farm is defined by two "L" shapes. These "L's" are comprised of the direction of the fields to the east and south and the large grove to the north and west. The arrangement of the "L's" define the open space (yard) as well as displace the major access through it.



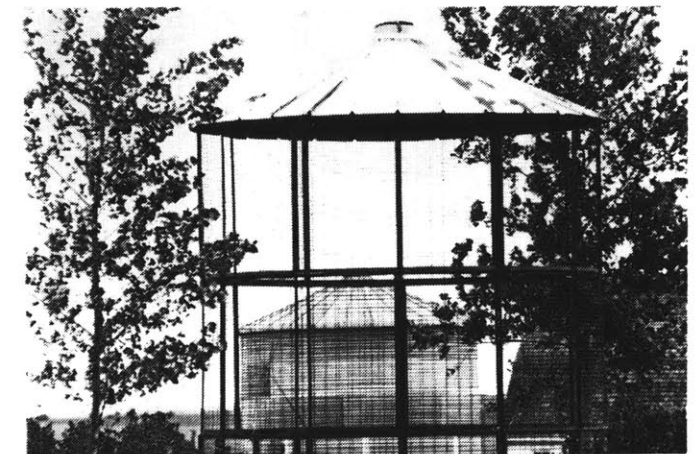
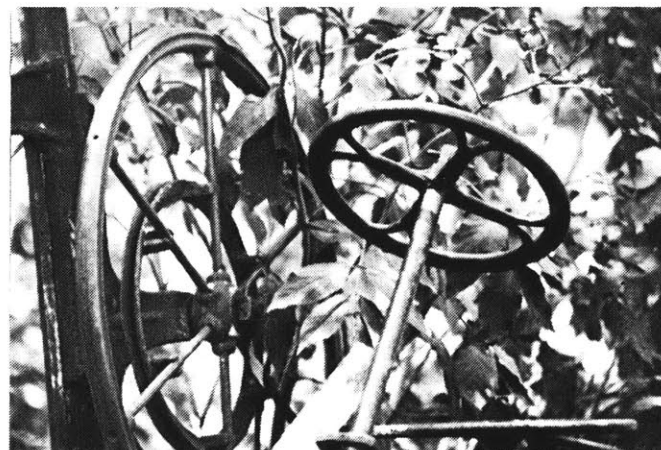
In this case the landscape defines the space and the buildings reinforce the large landscape move. This diagram can be compared to the "L-shaped" diagram of the Italian Farm. In the Italian Farm, the open space is defined by the "L-shaped" buildings, rather than the "L" shapes being built by the landscape. Similar diagrams, built differently.

While moving through the yard, an alternation of built/open, dark/light is established in two directions, reinforcing the continuity of access.

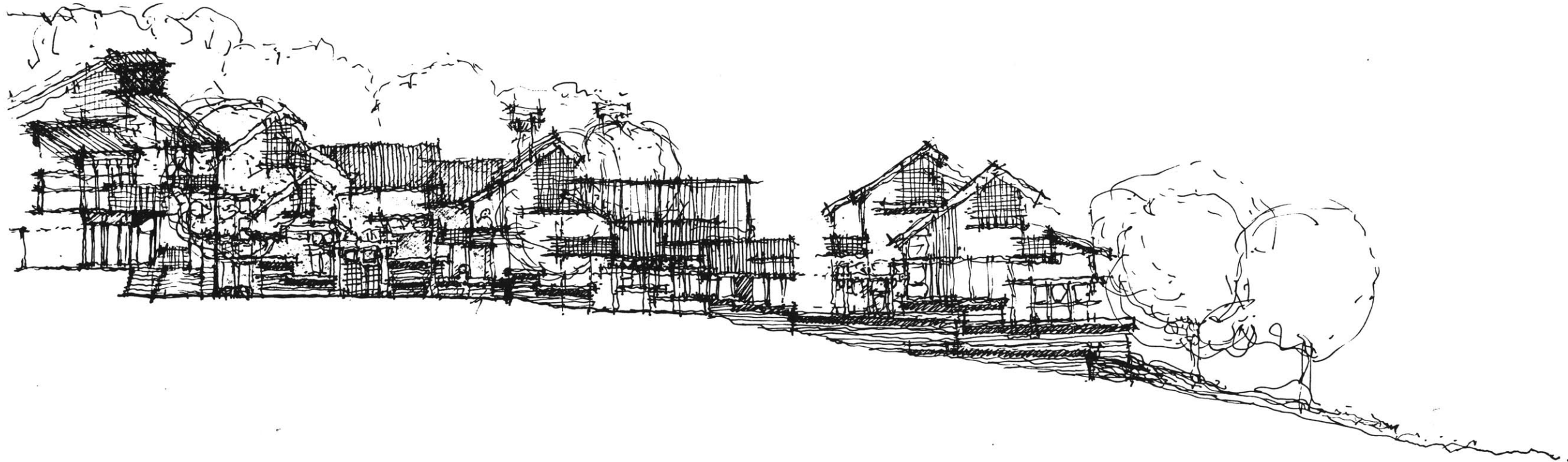
As stated above, the buildings reinforce the larger landscape definition and within the yard, there are layering configurations of "L's" establishing a range in size of open space.



- dimensional alternation



DESIGN EXPLORATION

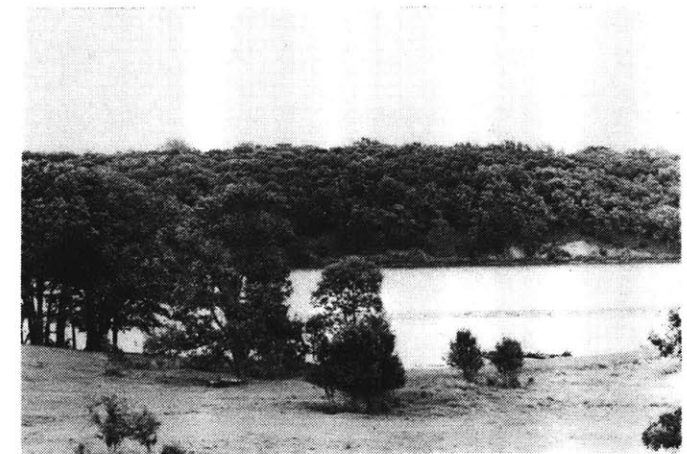


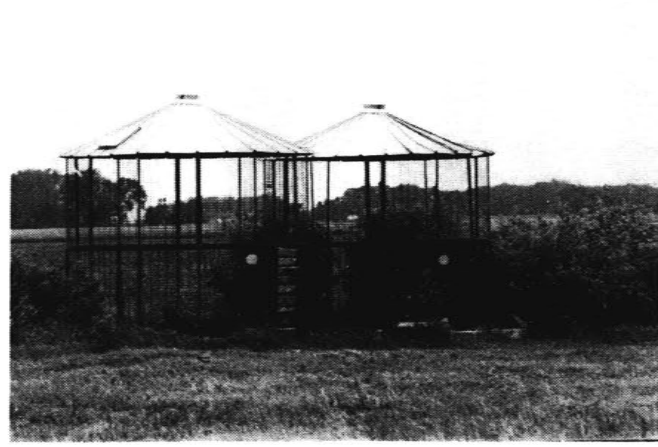
The Site

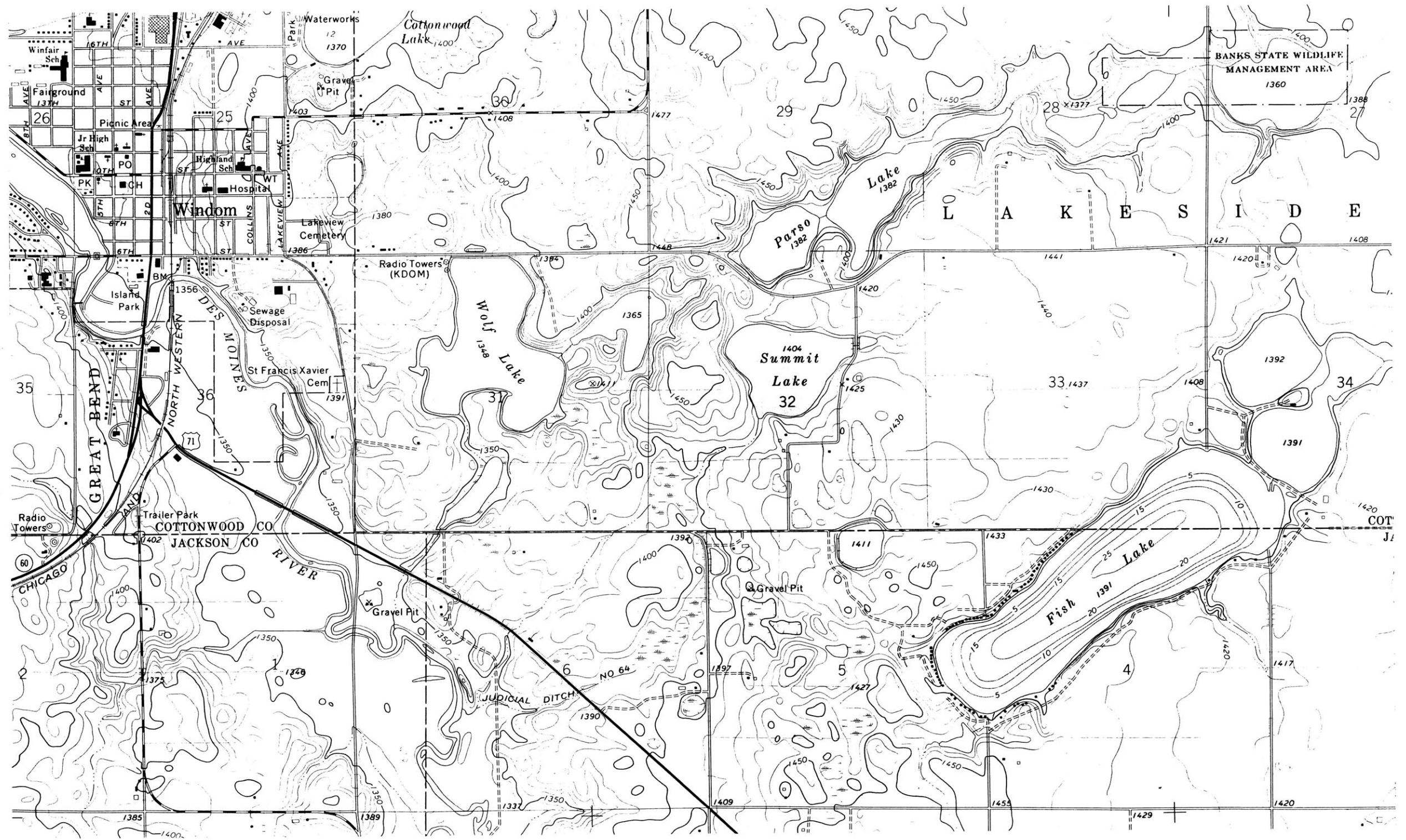
The site is in Windom, Minnesota, located in the southwest corner of the state. Visually, this region abounds in rolling pastoral hills and glacier lakes. The areas' primary source of income is agriculture.

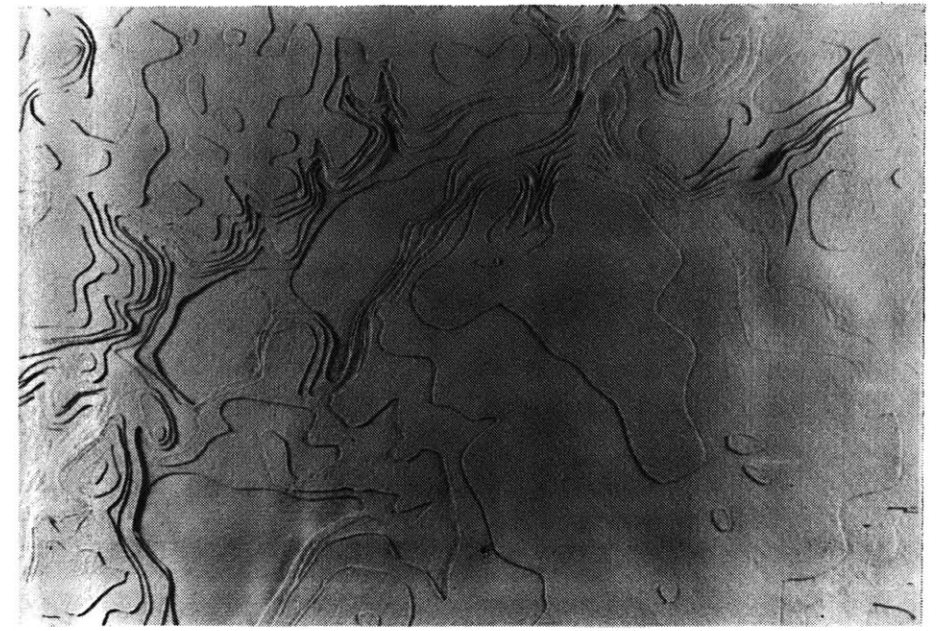
The site is atop a hill overlooking one of these many lakes. The topography rises sixty feet from the shoreline to the crest of the hill. Woods surround the site, and animals run freely through it. It is an environment which is a natural habitat for game and wildlife.

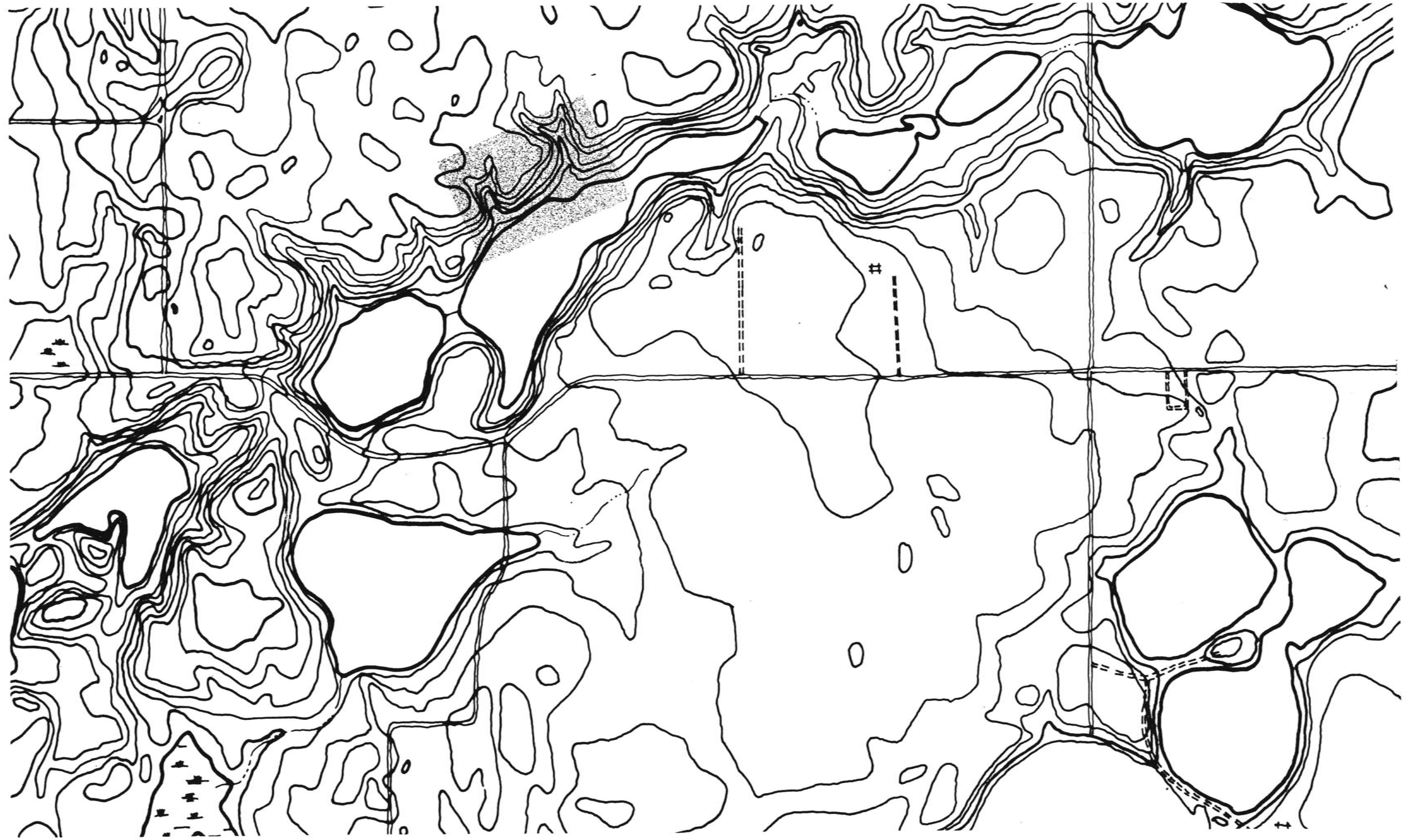
This setting is a tranquil and nurturing place for individuals and families to partake in the day to day workings of an agricultural community.











The Design

Such things cannot be thought of but grow again from forgotten parts.¹⁰

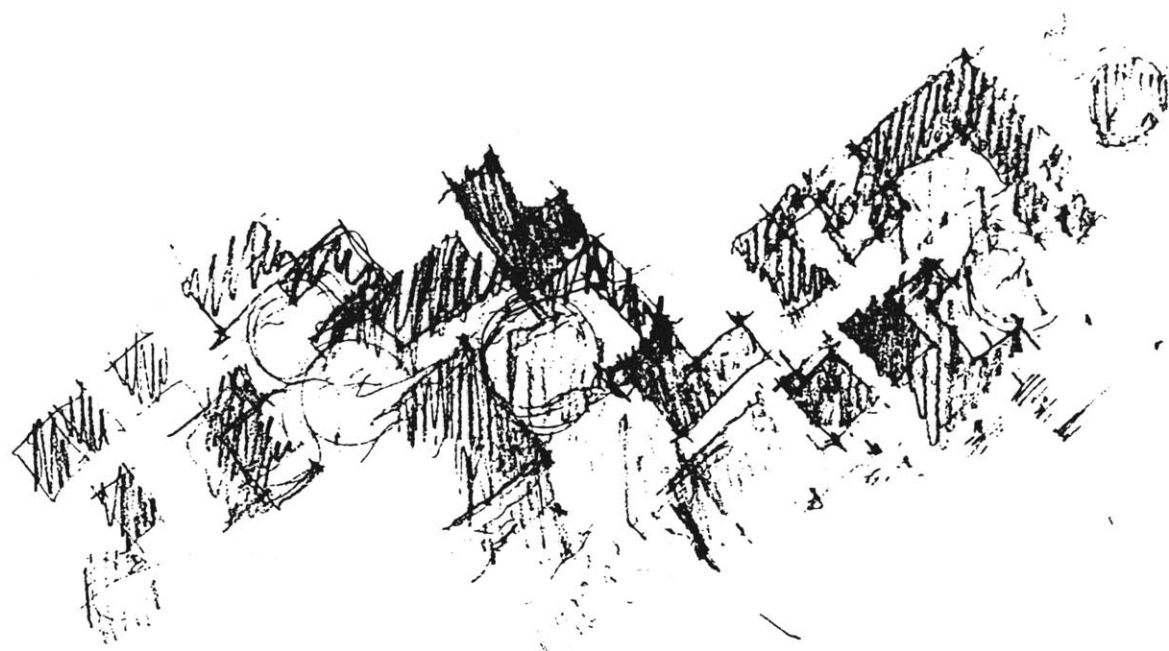
Carl Jung

An "Agricultural Research and Educational Center" is the vehicle for exploring the formal and spatial principles and characteristics delineated in the observation studies.

The Center houses a variety of inhabitants which include resident farmers, instructors, and their families, as well as students who stay for varying degrees of time.

The intent is to establish a range of associations and experiences with the landscape while reinforcing the formal associations gained in the farm references.





- plan sketch

A mist covers the landscape as the sun begins to rise. The light from the early morning sun reflects off of the dewdrops on the trees. A tower can be seen in the distance.

Moving along the path towards the tower, there is an awareness of the landscape. Large openings between individual houses allow views of the lake below. Gardens ripe with fresh flowers and vegetables can be seen on the right, while the wooded area on the left forms an enclosure and lends protection from cold winter winds.

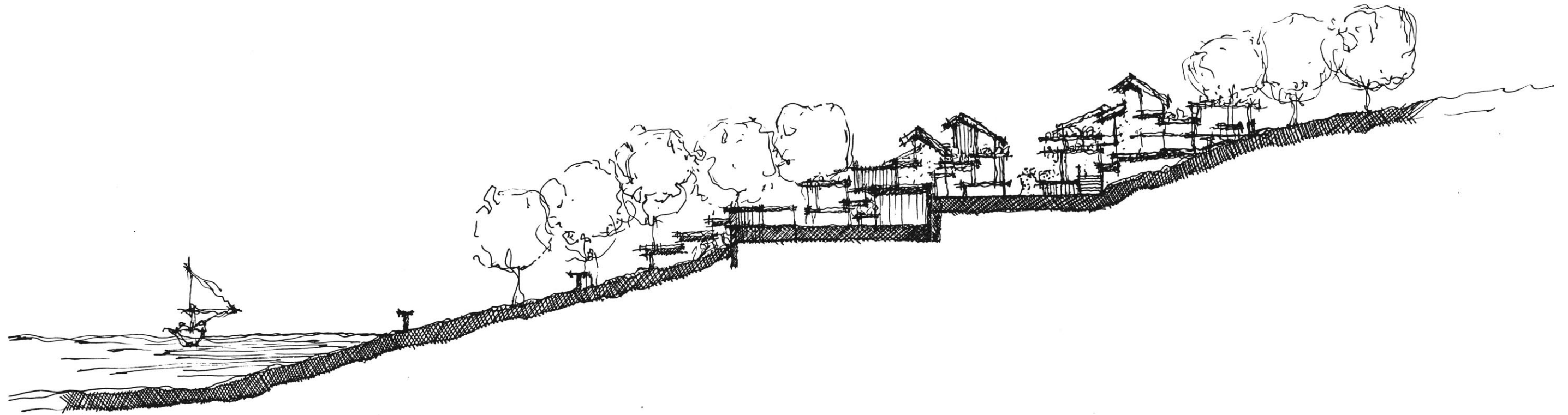
Moving further along, people can be seen high above on the tower looking out over the lush green countryside, admiring the geometrical patterns of the fields; watching farmers in their tractors tilling the rich black soil.

Rays of light cast between buildings become smaller when nearing the plaza . . . an open space nestled into the hill. To the left trees filter in from the grove while to the right, is the lookout point. And below, the lake is smooth, adding clarity to reflections of the sun and trees beyond.

From the plaza, down inbetween the houses, following after dancing rays of light, is an ivy covered trellis. Here, from the terrace, the lake is in full view.

Below, people are stepping down to the waters' edge. A cow grazes. A loon swims quietly on the water, calling out in a methodical rhythm.

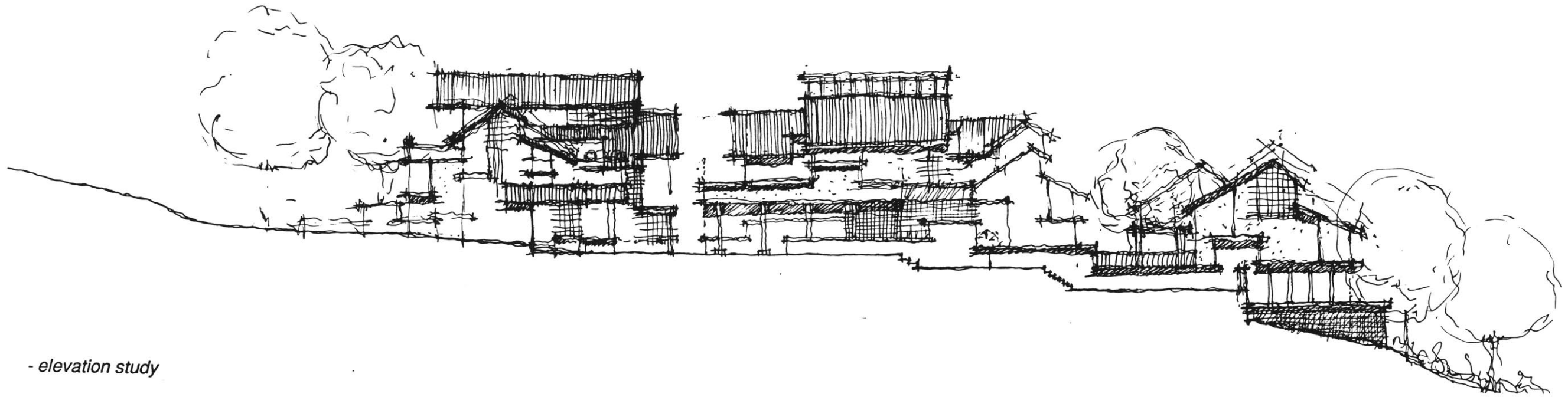
Denise Henrich



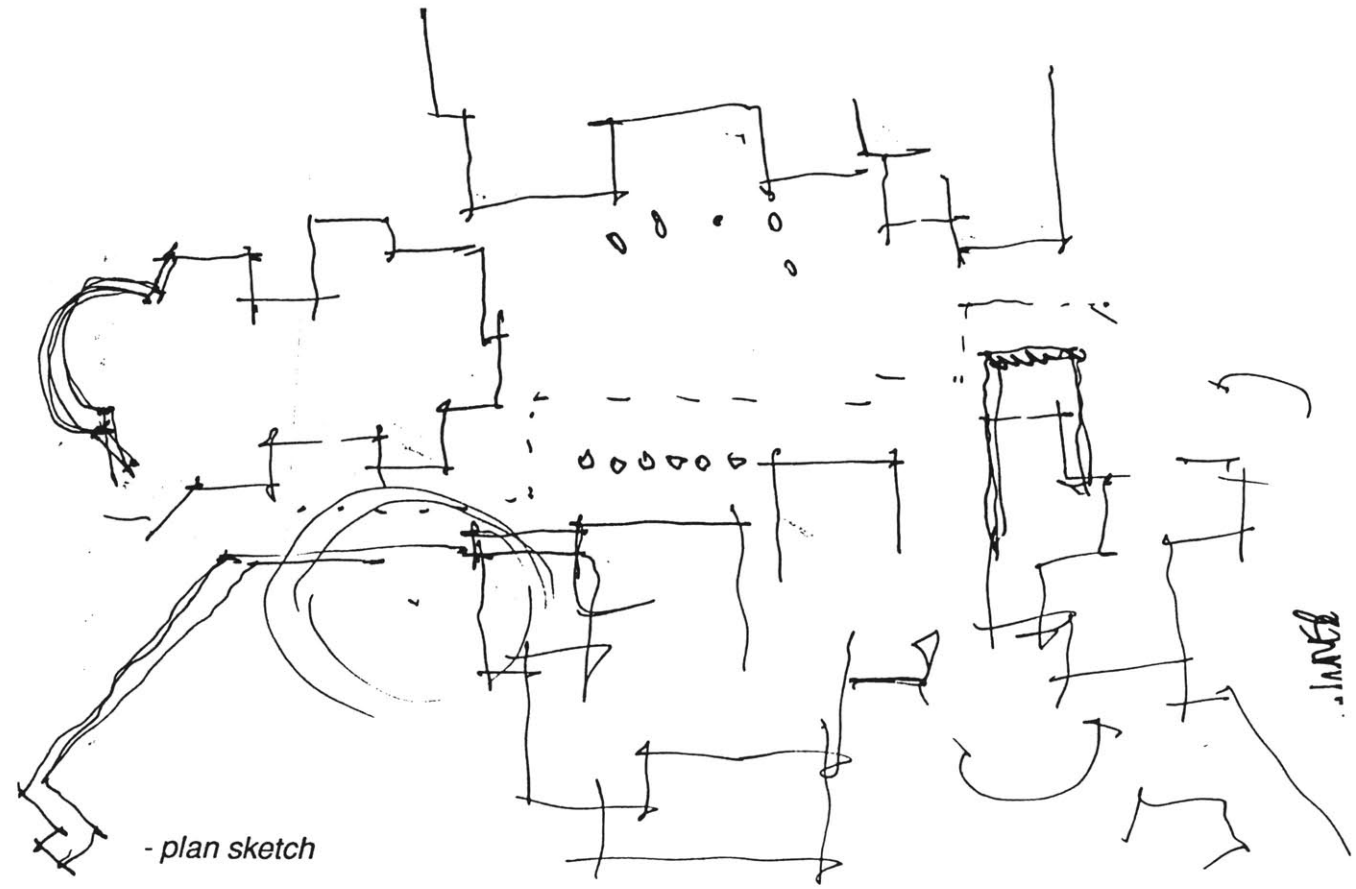
- elevation study



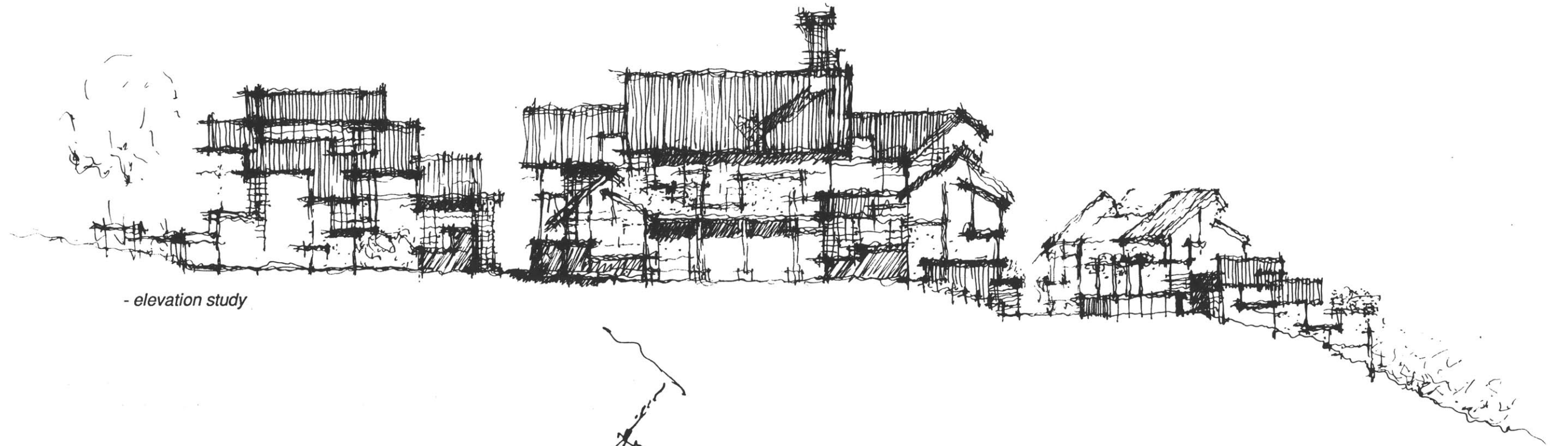
- elevation study



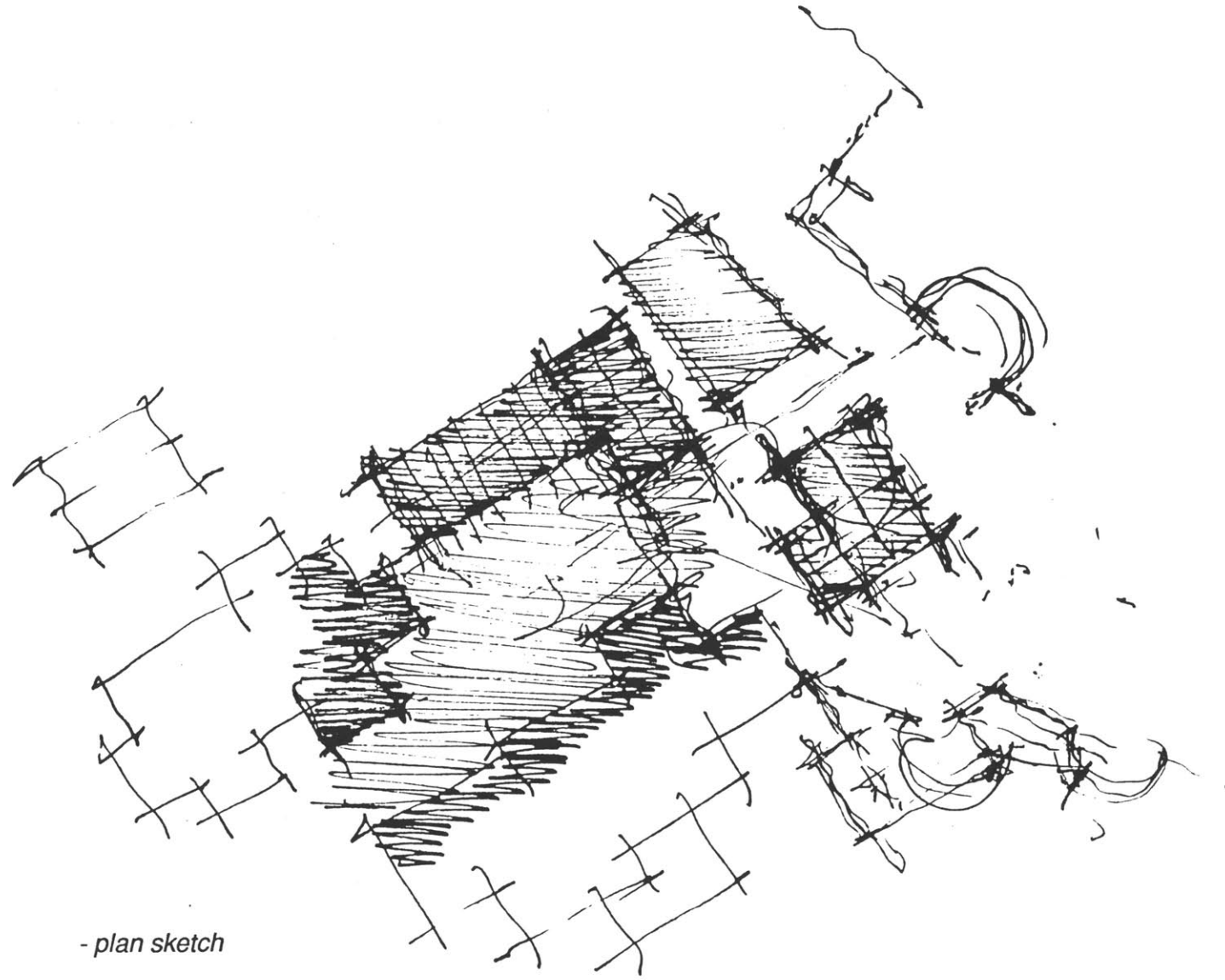
- elevation study



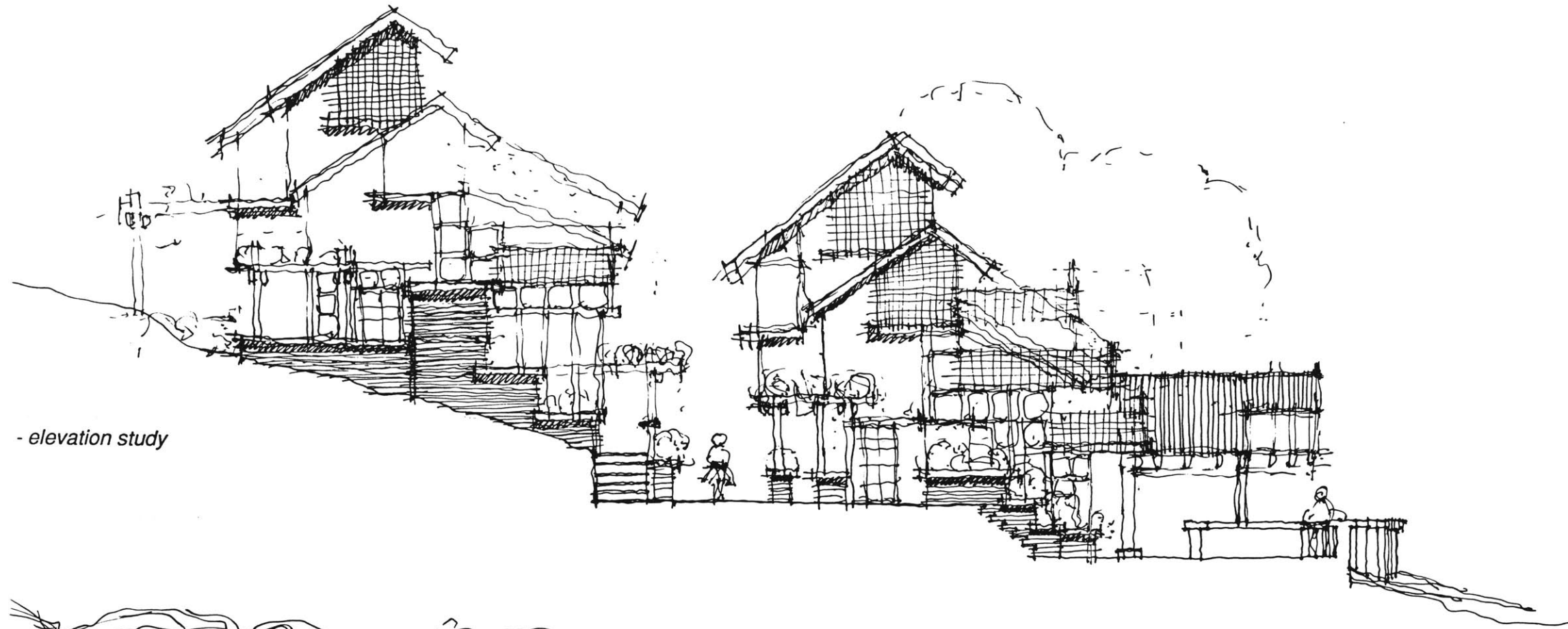
- plan sketch



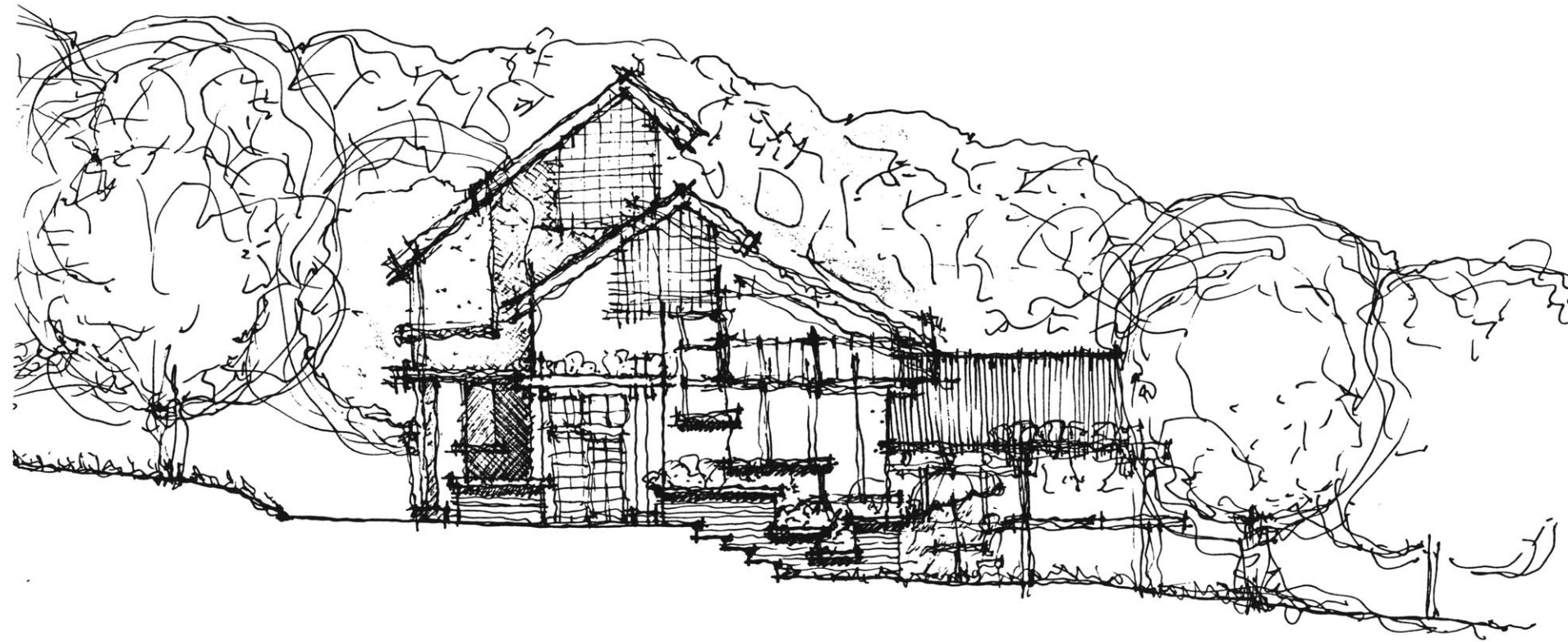
- elevation study



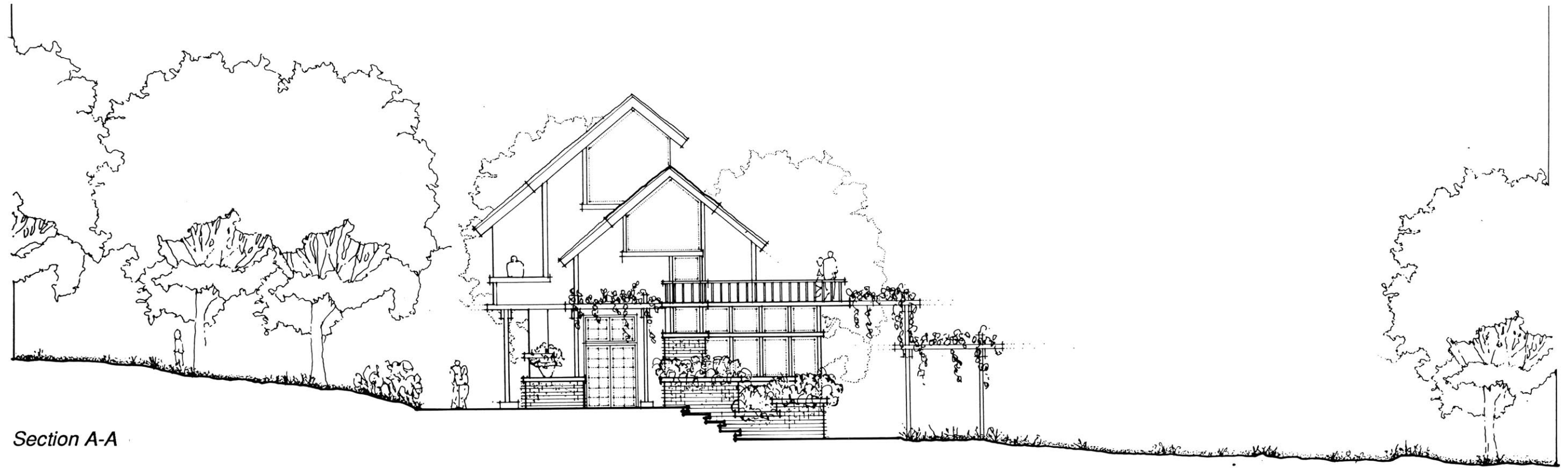
- plan sketch



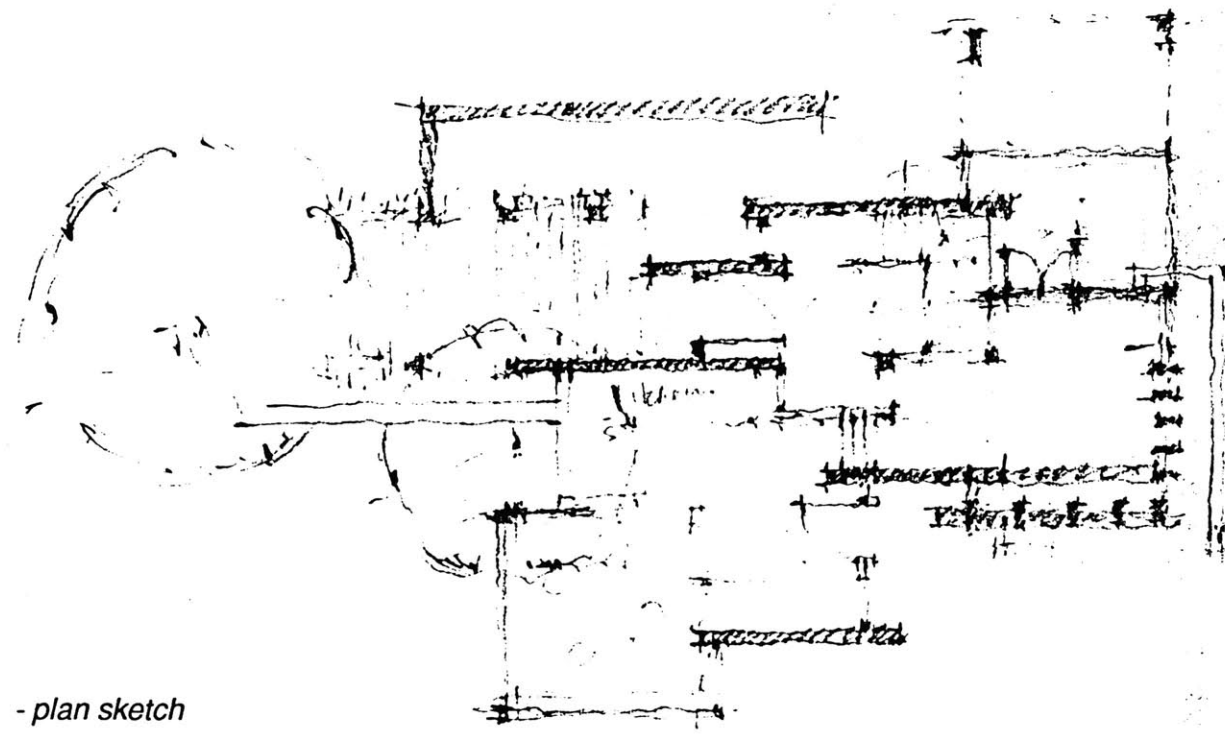
- elevation study



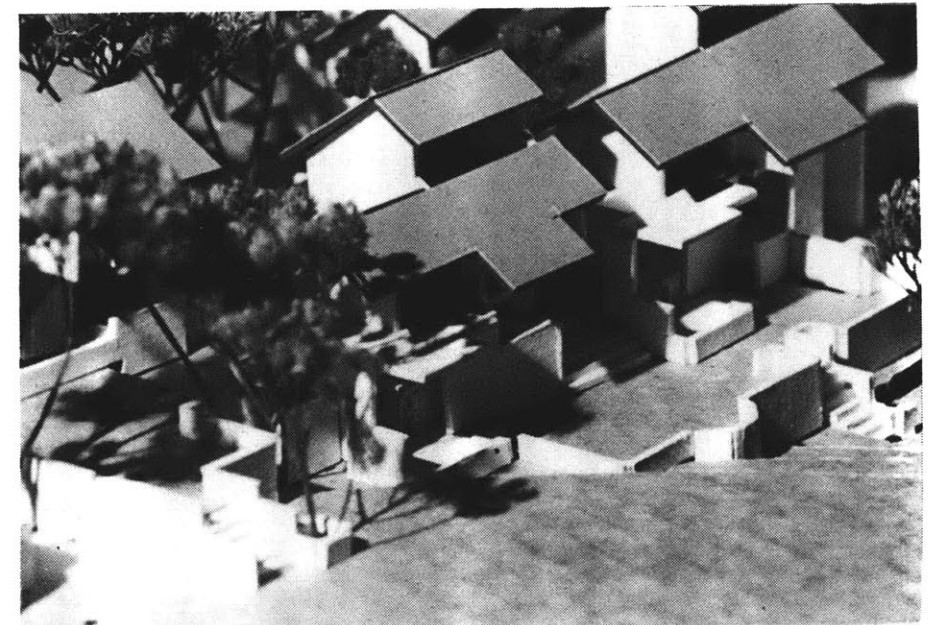
- elevation study



Section A-A

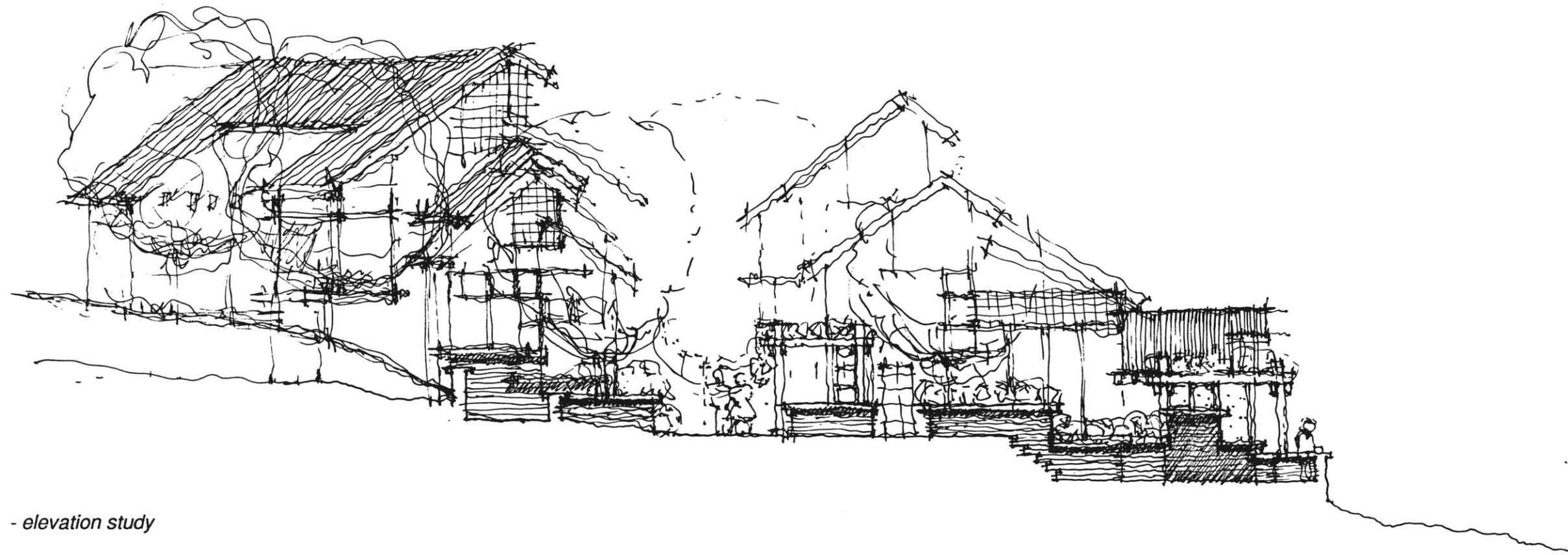


- plan sketch

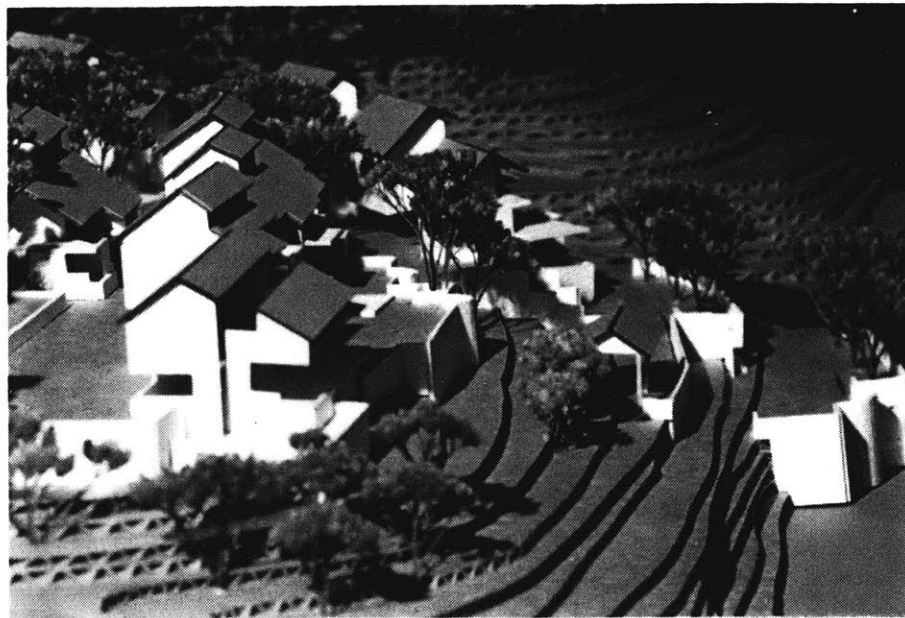




Section C-C

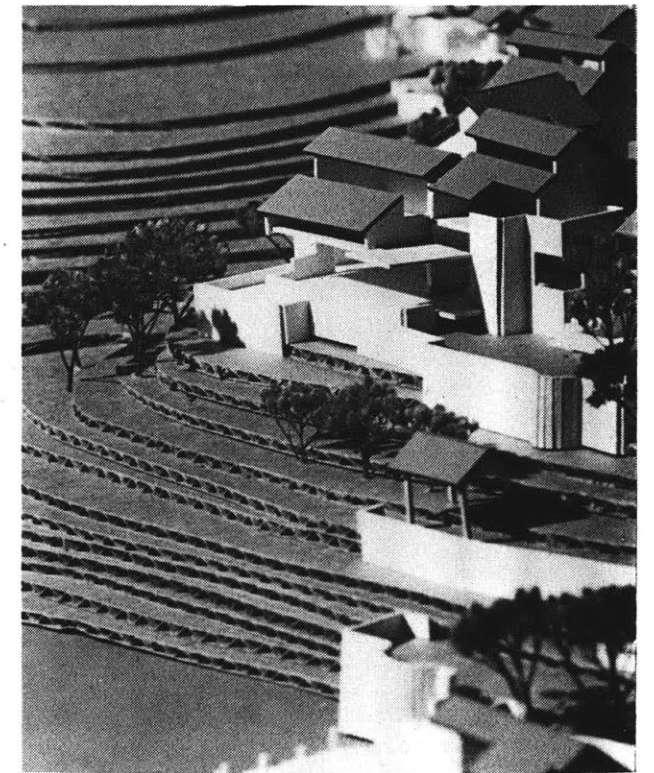


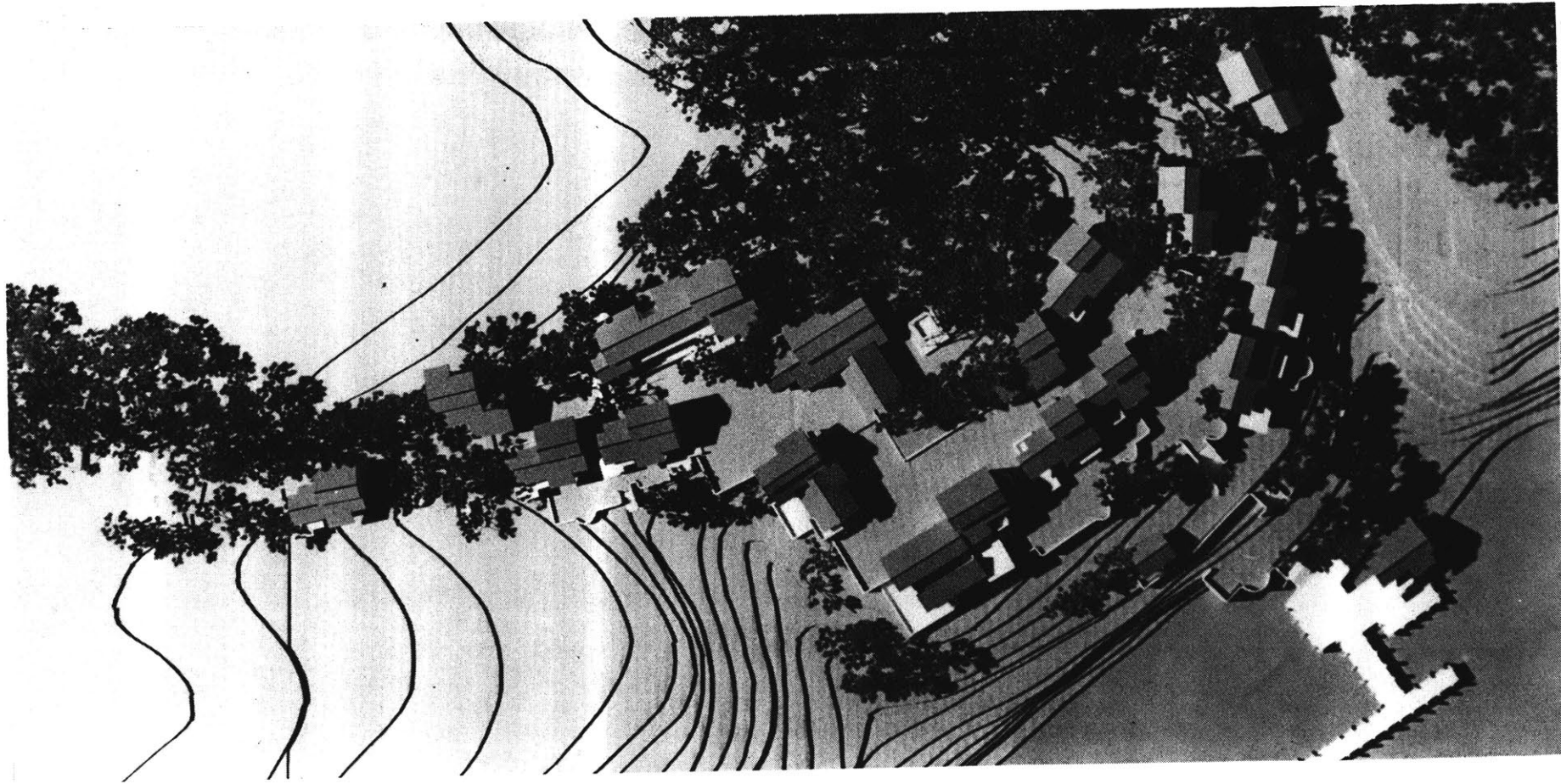
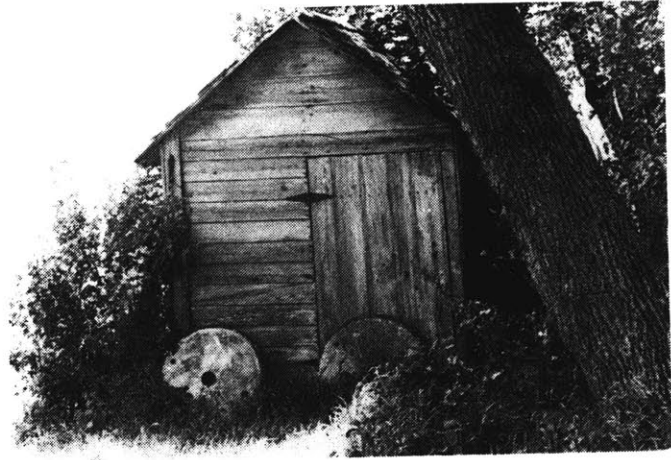
- elevation study



Section B-B







Roof Plan

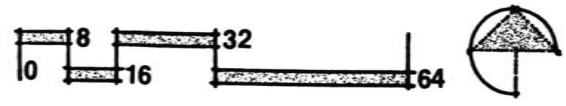






Site Plan









Plan Detail

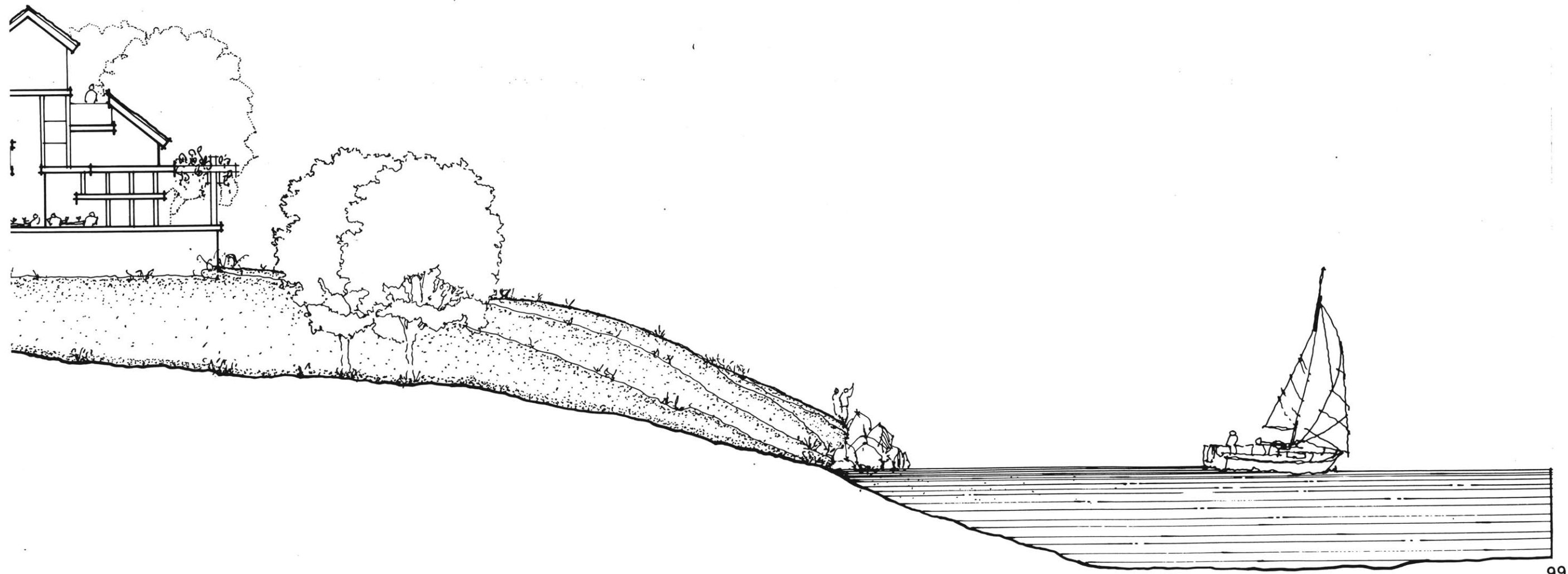


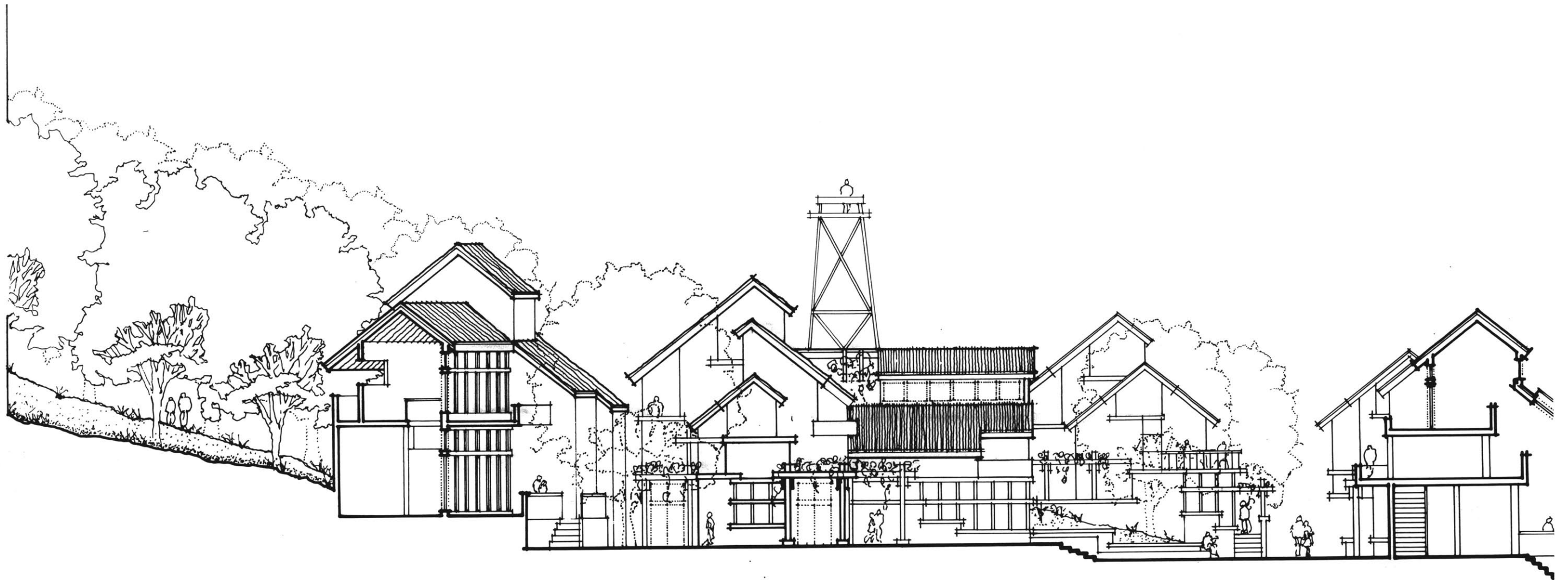




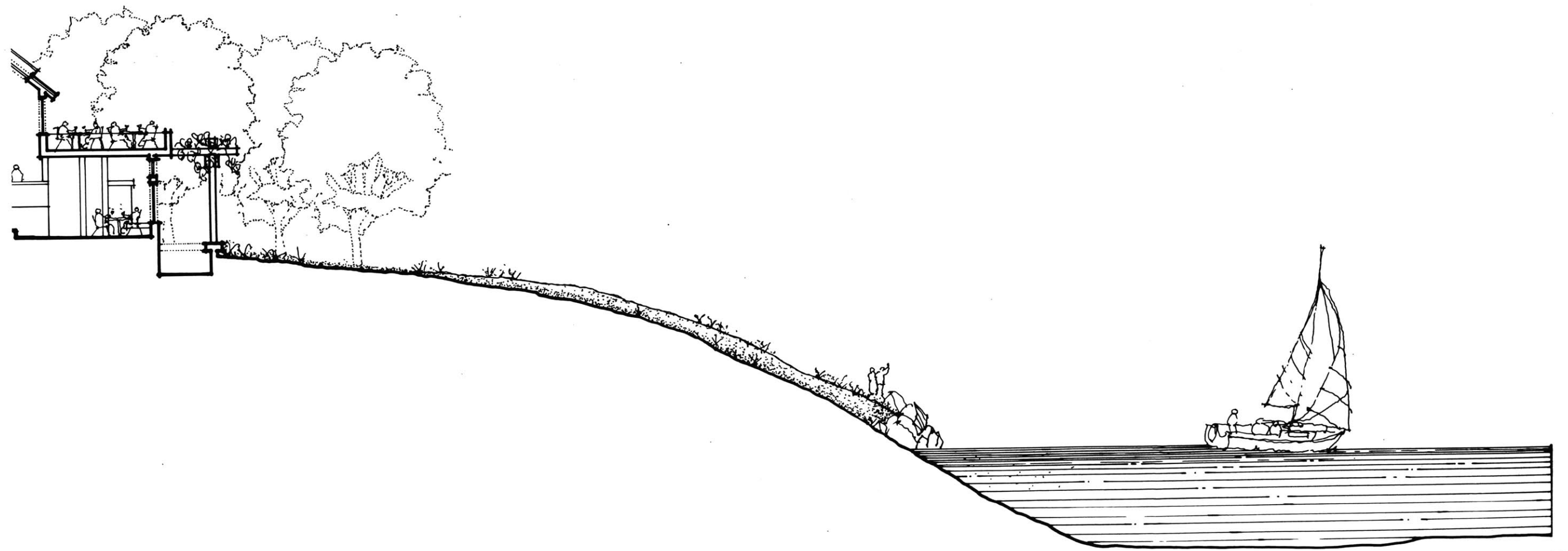


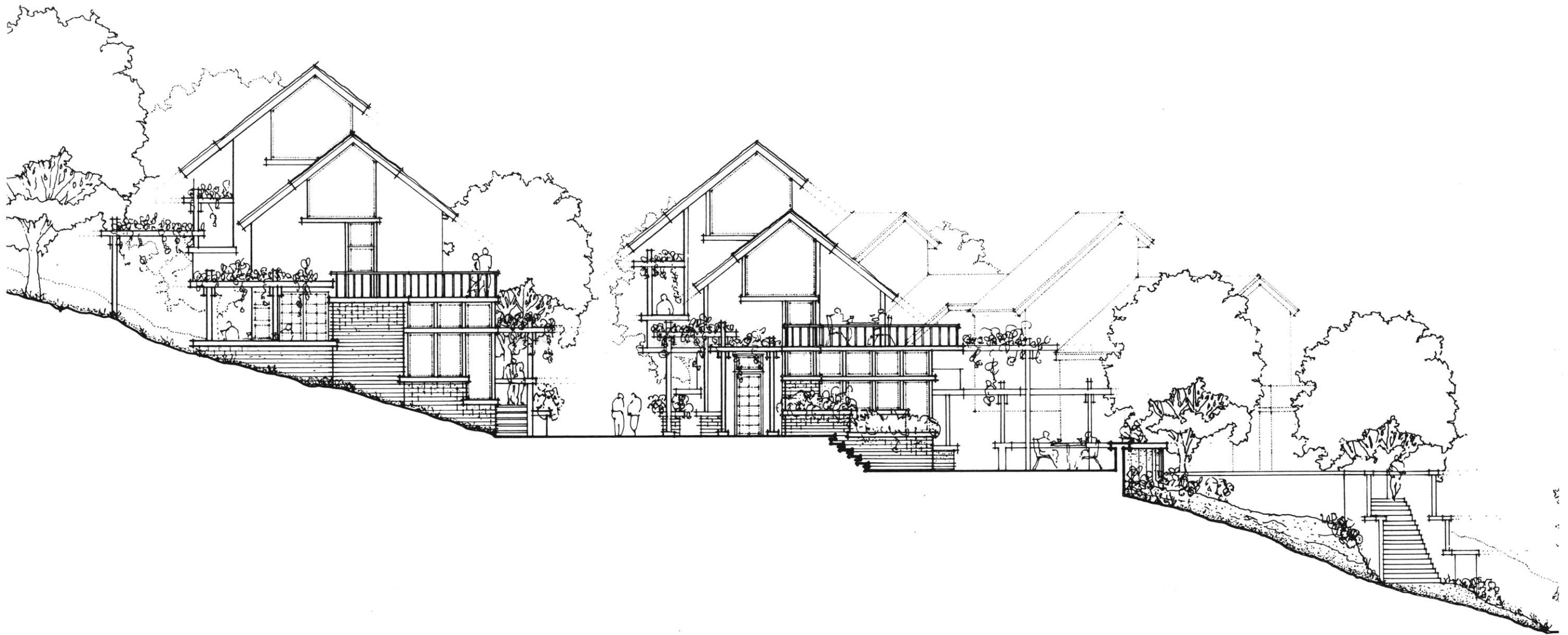
Section C-C



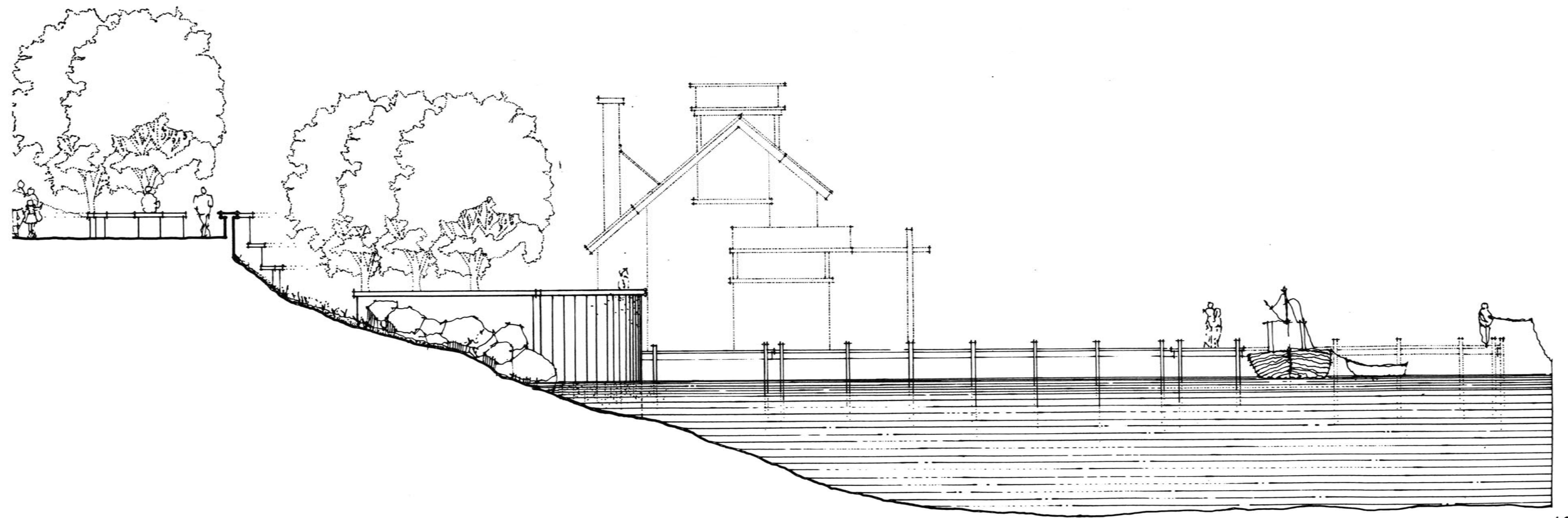


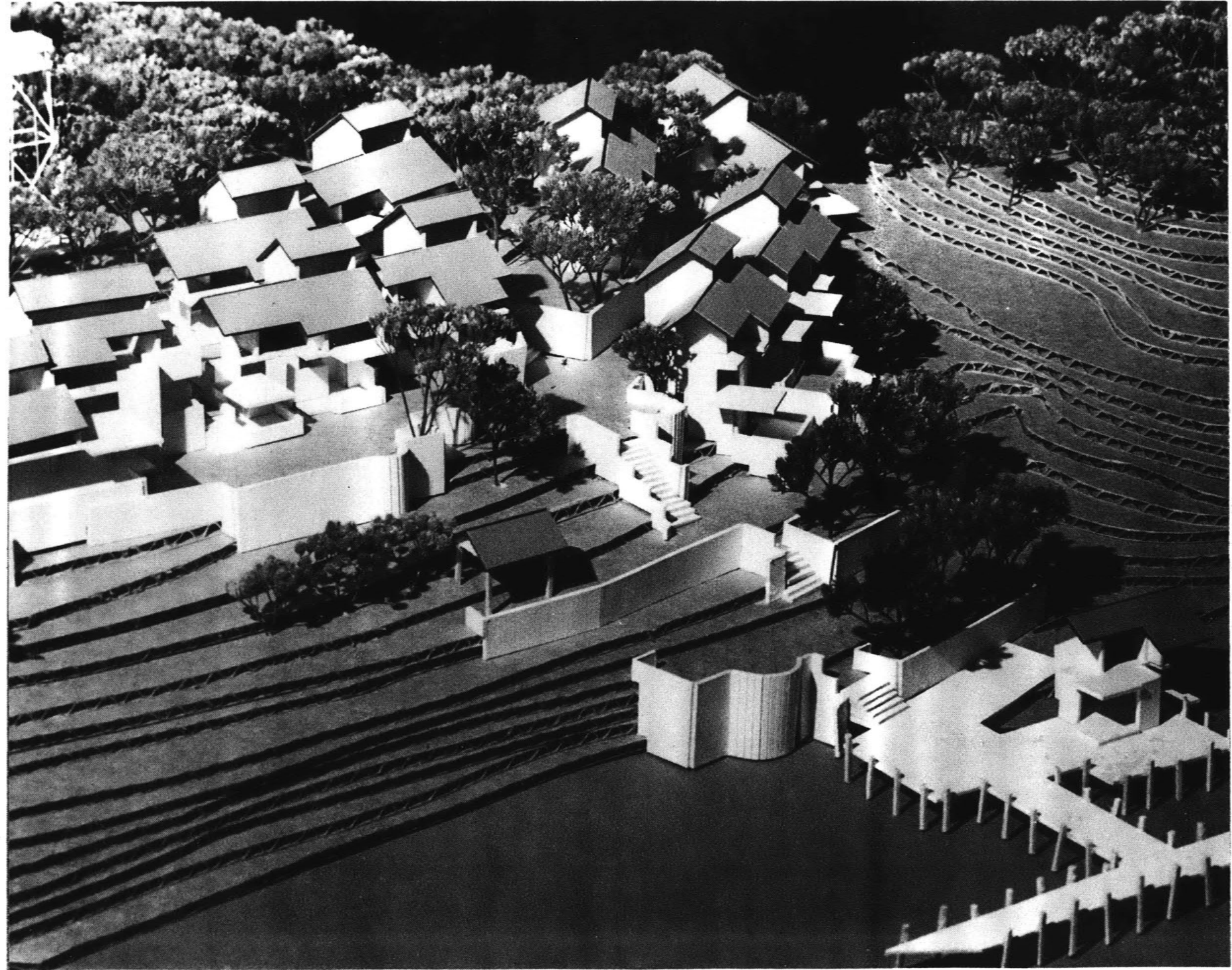
Section D-D

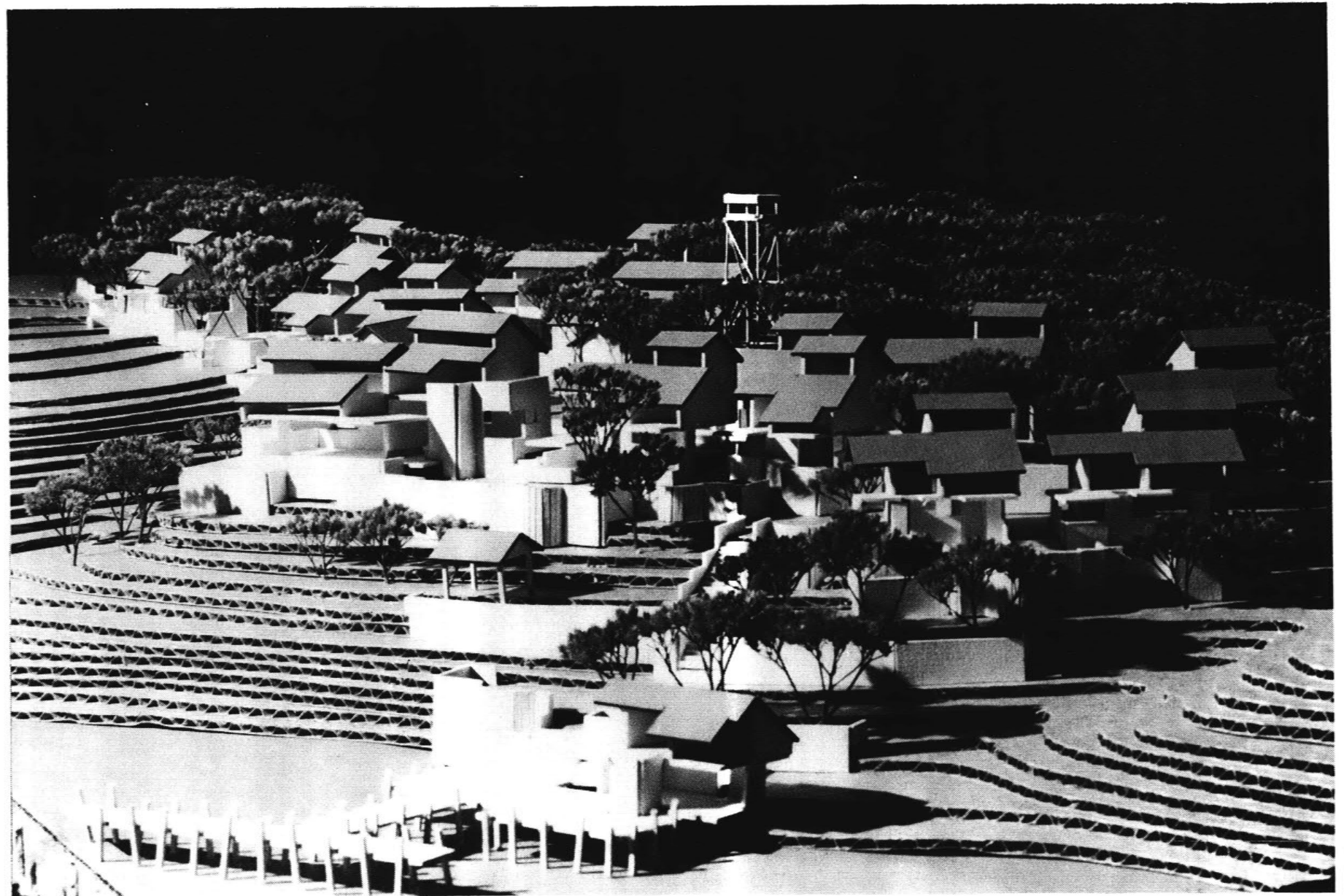




Section E-E







The Analysis

The intent of the analysis is to show, through diagrams and text, the correlation between the final design and the principles discussed in the preceding observation studies.

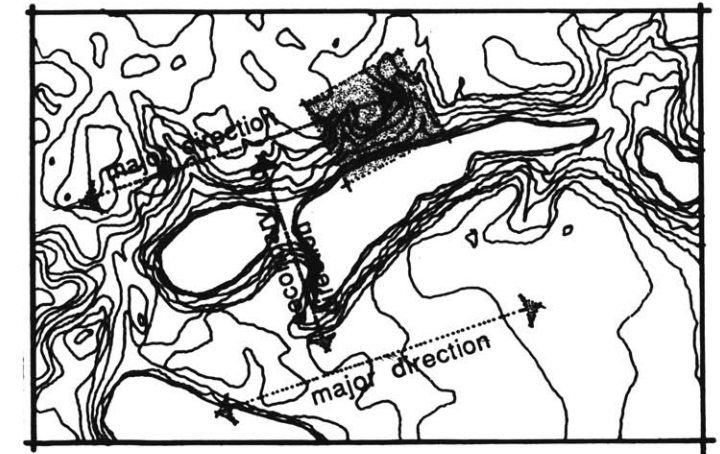
The analysis does not explain all of the formal and spatial principles and characteristics in the design, but is a beginning in the understanding of the relationships between the farm references and the design.



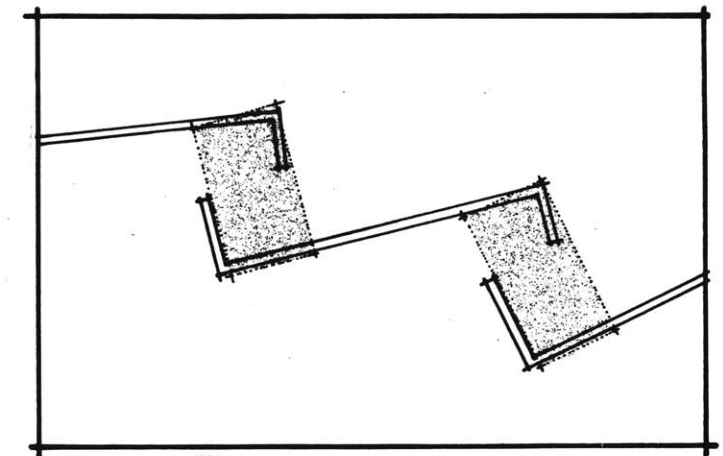


The overall organization of the site reflects the direction of the landscape. The access into the site is discontinuous with the major direction of movement. One must move perpendicularly to the major direction of the landscape, passing between two bodies of water. On the other side of the water the major direction is re-established by the contours of the land and the form of the lakes.

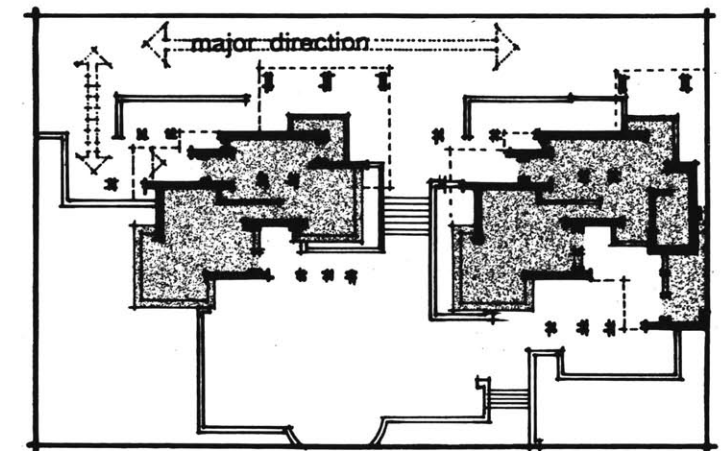
Access into the center is continuous with the major direction of the landscape. As with the Minnesota farm, the displacement of access and the "L-shaped" configurations define an open space. At the places where the access is displaced in the design study, an open space exists.



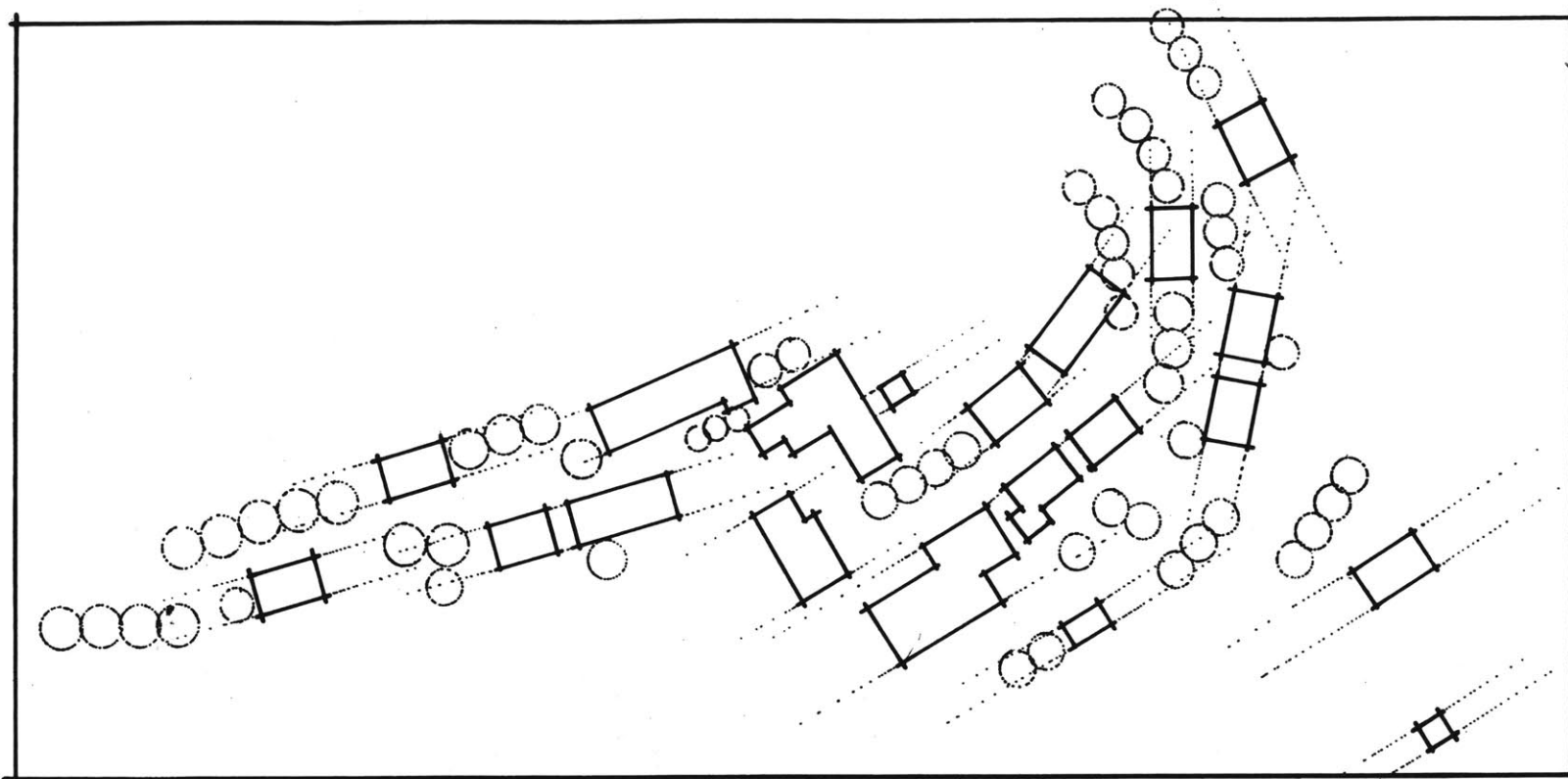
- landscape association



- access diagram



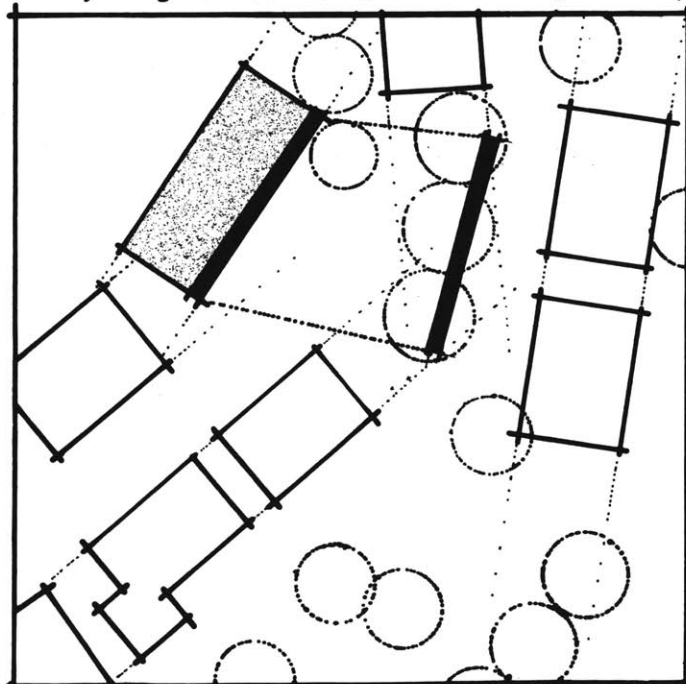
- dwelling access



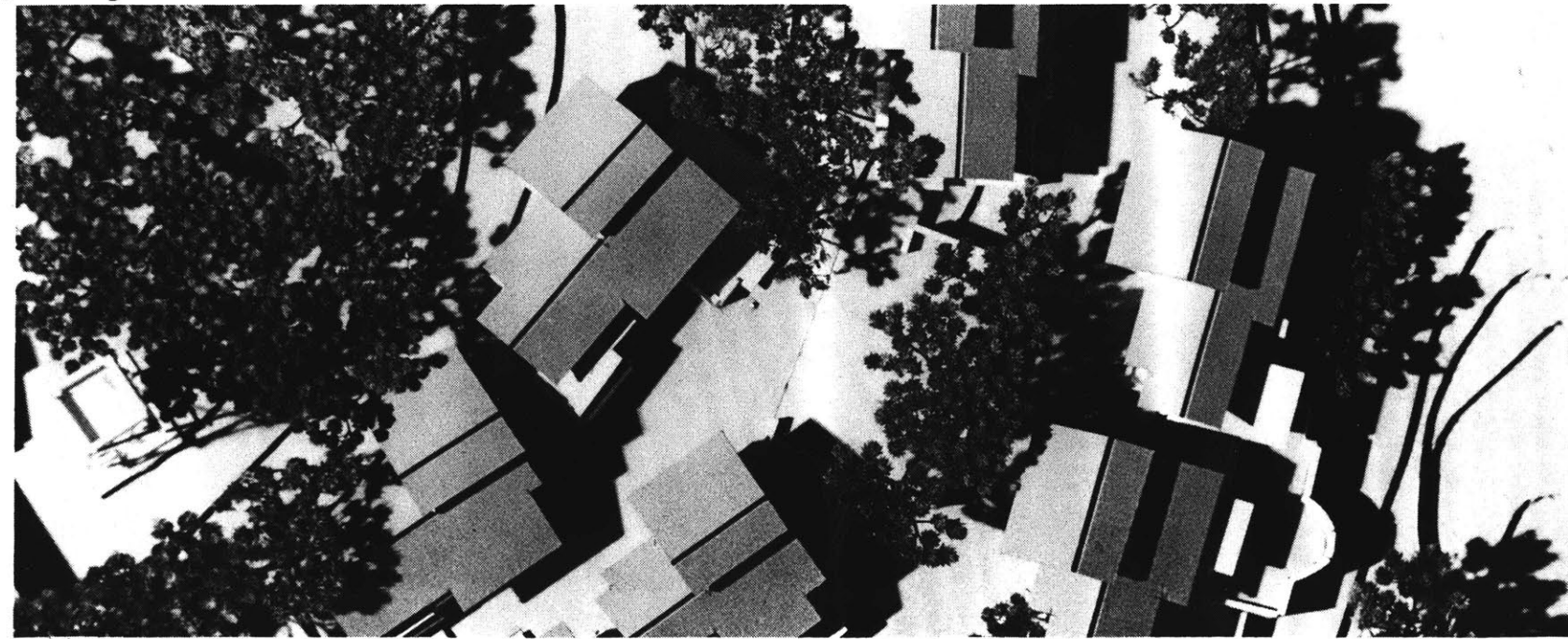
- layering of territorial definitions, built/open, dark/light alternations

Territorial layers define the access into the dwellings. The shape of the building and roof direction reinforce the major movement. One must move laterally off of the major access to enter the dwellings. There is an edge of association as one enters.

The buildings set up layers in the landscape, which build a range in size of territorial zones in the major direction of movement. The major open collective spaces exist at the junctures of these layers.



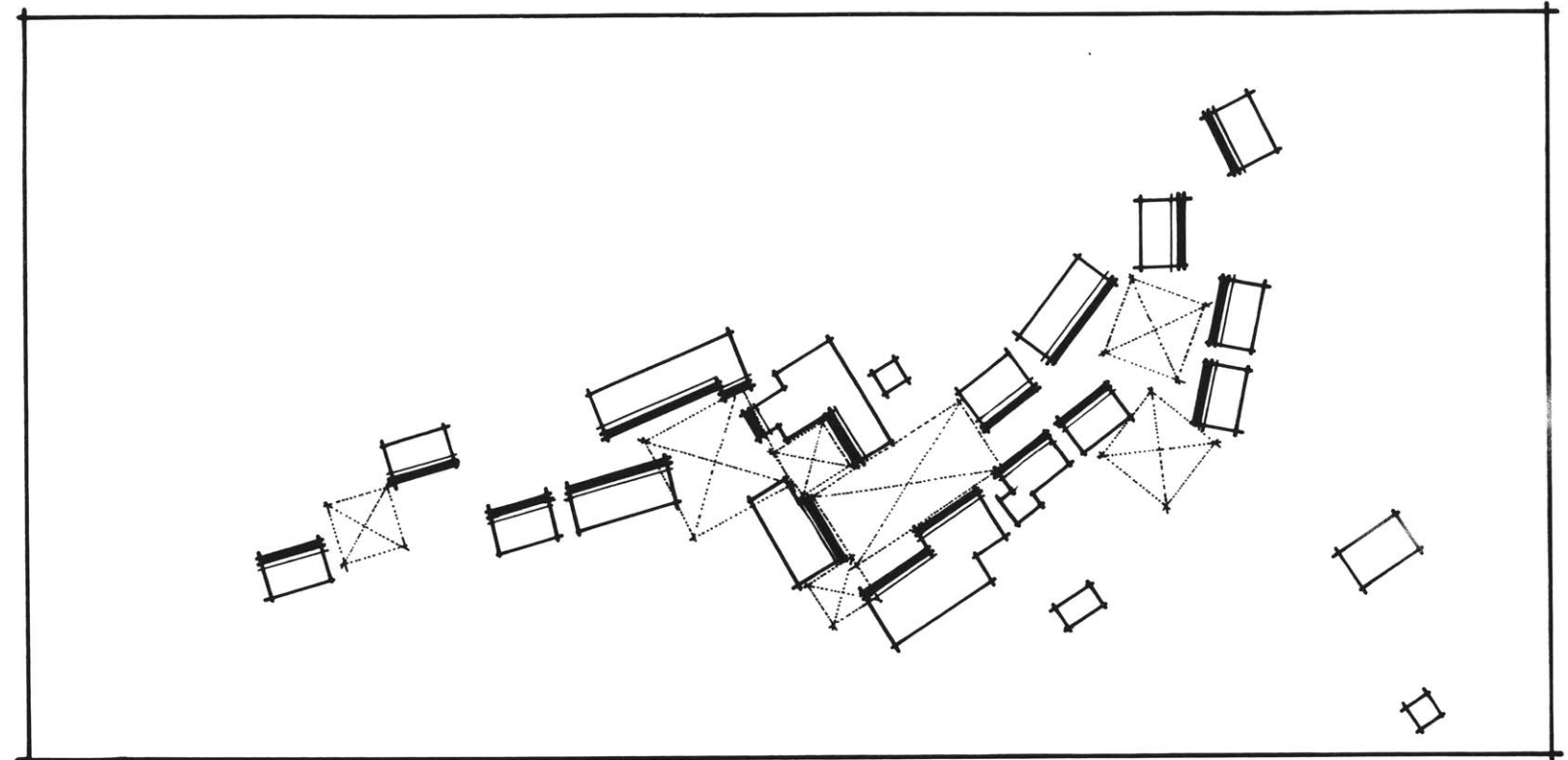
- building displacement



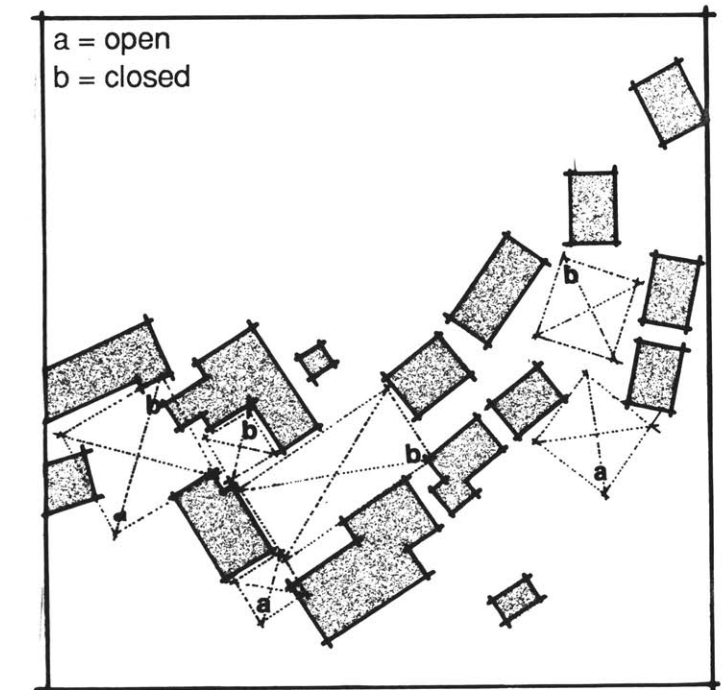
There is also a layering of the access system which is more packed or urban and becomes much more open as one moves further into the landscape. These directional layers are built by small dark/light, built/open alternations in the direction of the landscape, providing directional and access continuity.

At one of the open spaces, a building is pulled out, or displaced. This displacement sets up the open space, and also allows for a shift in access.

There is also a range in size of open collective spaces. Displaced edges from the registration zones set up containment territories. These containment territories bring with them varying degrees of enclosure, or containment. Some are very "closed" and others are more "open", allowing a range of associations with the larger landscape.



- range in sizes of collective open spaces



- "open" and "closed" corners

CONCLUSION

I have mentioned elements which should be visible in the work, this should not be taken to mean that the work should consist solely of elements.¹¹

*Paul Klee
The Thinking Eye*



ENDNOTES

¹Smith, Maurice, "Discussion" Plan 1980. Perspective on Two Decades. (Cambridge: M.I.T. School of Architecture and Planning), p. 43.

²Norberg-Schulz, Christian, Intentions in Architecture. (Cambridge: M.I.T. Press, 1965), p. 65.

³Antoni Tapies, Opere 1946-1970. (Roma: Il Collezionista D'Arte Contemporanea, 1971), p. 3.

⁴Myer, Jack and Marty, Patterns of Association. (Cambridge: 1978), pp. 10-11.

⁵Anderson, James, Form Reference Workshop Syllabus, 1987.

⁶Ibid.

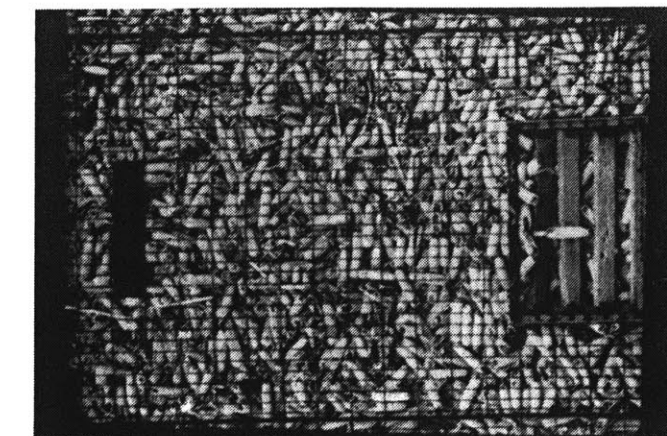
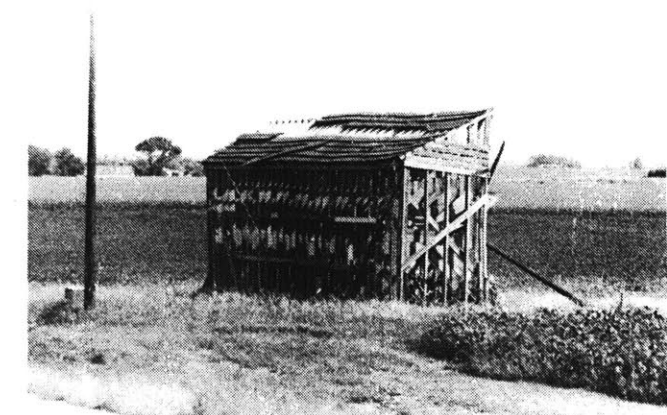
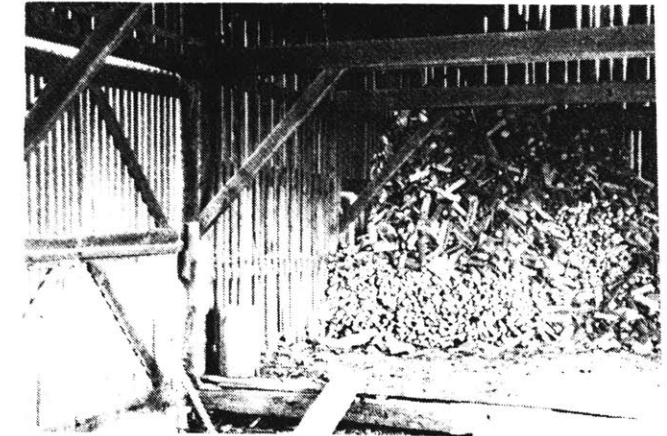
⁷Team Ten Primer, edited by Allison Smithson, (Door Step, 1963), p. 27.

⁸Haijian, Paul, The Essence of Space. (Master of Architecture Thesis, M.I.T. Department of Architecture, 1982), p. 24.

⁹Myer, Jack and Marty, Patterns of Association.

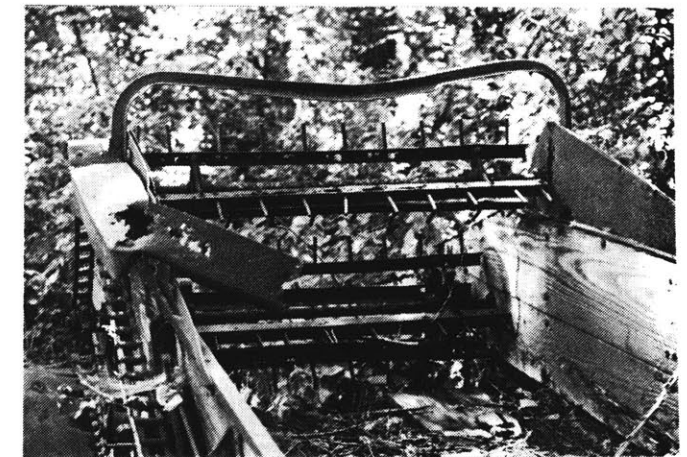
¹⁰Jung, Carl, Lecture given by Tom Chastain, Fall 1987.

¹¹Paul Klee Notebooks: Volume 1. The Thinking Eye. edited by Spiller Jurg, (London: Lund Humphries, 1961).



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