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COTTONWOOD ACRES

BOZEMAN
MONTANA

COTTONWOOD ACRES:

Decent and affordable housing
for
Bozeman

By
Chong Jing Ong

A professional paper submitted in partial fulfillment of the requirements for the degree of

BACHELOR OF ARCHITECTURE

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Bozeman, Montana

March, 1987

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Chong Jing Ong

Acknowledgement

I wish to express special thanks to Robert T. Meeker, my thesis advisor, for his assistance and sincerity throughout the project. Furthermore, I wish to express my appreciation to all the honorary members of the DO-LITTLE CLUB who has made my stay here a memorable and tolerable one.

ACADEMIC PURPOSE

Multi-family housing is a common building type that many architects will work on during their careers. Architects who specialize in this buildng type are trying to do a more comprehensive research in order to further their understanding of the changing forces acting on all the different forms of multi-family housing.

In school, most architecture students are exposed to some form of multi-family housing but many areas of this problem type are not considered. Instead, a design solution is often achieved without full understanding or awareness of the market forces, the users, social and economic issues, etc., which will influence the outcome of the project.

The purpose of choosing a multi-family housing project as my architectural thesis is to have a better understanding and awareness of the forces acting on this problem type. This project is only one form of housing within this building type but will be a starting point for better understanding of other forms of multi-family housing in the future.

INTRODUCTION

> "No longer does the architect view himself as Master Builder, no longer is the engineer concerned with inanimate technology, and too, no longer do those of us in the behavioral sciences believe that we alone can usher in a brighter tomorrow."
>
> James E. Montgomery

Housing has not been adequately provided in many parts of this country; that is , housing where people in any income level can afford and appreciate for what they are paying. Many affordable homes have not been well received by buyers because of poor design and workmanship, and lack of amenities.

For the present, Bozeman has enough housing to accomodate its population. In fact, the housing market would discourage any developer from investing in this area, because any new housing project in Bozeman may not be feasible. However, I am doing this project for academic reasons, and market conditions are being suspended.

The purpose of this project is to provide housing that is affordable and decent in living standards, affordable to the middle-income resident who can't afford single-family or luxury townhouses, and yet who requires decent living standards, worth every dollar they are paying. In the process of this project, the understanding of the different areas of any housing project will be dealt with. These areas include the market situation, consumer preference, local conditions, etc., and will influence,

to an extent, the outcome of this project.

People who decide to live in multi-family housing do it for many reasons. Some are tired of paying rent without getting any equity, and townhouses are less expensive than single-family houses. Others are tired of maintenance and desire a better environment and recreation facilities. Some families view townhouse living as a temporary solution and dream of owning a single-family home. Whatever their reasons may be, if they are not satisfied, then that housing project will have been a failure. Many users (buyers) expect to get more than they have paid for. Many people are under the impression that multi-family housing does not offer ideal living conditions. They feel that their privacy will be lacking, and that they may experience a lack of identity due to the similarity of the units. These are the fears of many prospective users or buyers in regards to existing multi-family housing. Buyers look for and notice poor quality and tight spaces in the interiors of cheaper homes. These fears and impressions can be overcome with the proper approach to the design process.

Affordable and decent housing is partly lacking due to the fact that developers are not willing to invest in this area because of the lower profit margin, compared to luxury models. Buyers are not easily satisfied with cheaper homes, making such a market difficult. This is not the fault of buyers, but rather of the developers since many developers do not know who their prospective users will be and are only interested in making a

larger profit. It is the job of the developers to find this vital information and make full use of it to come up with an appropriate housing project for the users, if they want to achieve profitability. In the process, the other professionals, architects, site planners, social scientists, etc., will have to work together to come up with a housing project that meets the users' expectations.

In Bozeman, the majority of people who can afford a home are in the middle-income level. Single-family housing is out of their price range. Townhouses and condominiums are the next alternatives. Many prospective buyers are not from Bozeman and may have migrated from out of state. At the same time, some of these same people are not buyers at all, but prospective renters. At the present, about half of Bozeman's population uses rental housing, indicating a demand for better apartment housing to be provided in the market.

Many multi-family housing projects in the present market are lacking in quality (workmanship and materials), design (functional aspects of unit and site planning), and amenities (playgrounds, parks, daycare centers, etc., either within or near the housing project). These are major problems experienced by many housing projects.

This multi-family housing project will aim at providing more affordable units (appropriate size to cut cost without cutting space) and decent living standards that reflect the status of the residents, while also making sure that amenities are provided for

or within close distance, i.e., parks, day care centers, elementary schools, etc., which all multi-family housing projects should have in the vicinity.

TABLE OF CONTENTS

PROJECT STATEMENT

Chapters:

1. COTTONWOOD ACRES RESIDENTS
    - A. User-needs
    - B. Goals

2. BOZEMAN AREA
    - A. Contextual maps
    - B. Site analysis
    - C. Climatic analysis
    - D. Vicinity parks analysis
    - E. Master plan for residential development
    - F. Goals

3. PROGRAM
    - A. Organizational diagrams
    - B. Space requirements
    - C. Room requirements
    - D. Goals

4. CONSUMER AND HOUSING

5. SCHEMES

APPENDIX A: CODES

APPENDIX B: DESIGN SOLUTION

BIBLIOGRAPHY

PROJECT STATEMENT

The type of multi-family housing units proposed are apartments (rental units) and townhouses (selling units). Townhouse units are oriented toward family households and the apartment units are oriented toward young singles or couples without children. A homeowners association managed by the residents and developer will be responsible for all open spaces and the maintenance of the apartment units.

LOCATION OF PROJECT

The site is located within a R-3 zone, Residential Medium Density District. The site has no fronting to any public streets except access points of a few public streets. These streets terminate at the site boundaries. The streets are Dell Place, East Alderson Street and East College Street (currently blocked). The site is also located within a flood zone B, a 100 year frequency floodplain.

SIZE AND DENSITY OF PROJECT

The site covers an area of 4.9 acres. Proposal for this housing development will be for a maximum of 73 dwelling units of townhouses and apartments. This figure is based on the P. U. D. density of 15 units per acre. This would allow for a maximum of 73 dwelling units. A common building is also proposed for the common use of the residents.

DWELLING UNITS MIX

Proposal for the townhouse units will be for two and three-bedroom units, and for the apartment units will be for one and two-bedroom units. The distribution for the different types are:

One-bedroom apartments (net 500 sq. ft.) = 11 units

Two-bedroom apartments (net 640 sq. ft.) = 11 units

Two-bedroom townhouses (net 920 sq. ft.) = 31 units

Three-bedroom townhouses (net 1,126 sq. ft.) = 20 units.

The proposed size or floor area for the common building is a net total of 1,800 sq. ft.

FOCUS

Focus on site planning will deal with the layout of streets, pedestrian paths/circulation, landscaping of open space, location of services, parking and dwelling units. Site planning considerations will be for reducing the high density feeling of too much parking and the layout of the dwelling units cluster with respect to open spaces.

Focus on unit planning will deal with the design of both the exterior facades and interior spaces. Unit architecture will concentrate on exterior facade to create diversity and identity of different units in different clusters without changing the interior layout. Interior focus will be on the functional and psychological aspects of the spaces.

DESIGN PHILOSOPHY

The location of the site in an urban or suburban context will influence the shape of the development. However, the location of this site in its present situation will have a much stronger influence over the city context.

Every site has its problems. For this site it is the floodplain hazard. However, this can be handled with adequate fill and other measures.

This site also has a few positive features. Its location without any fronting to streets makes this site visually pleasant with minimum noise interference. This makes the site much more secluded. The site perimeter is filled with trees and a creek flowing along the south boundary, adding a nature-like environment.

Using and exploiting the site's natural features and working with site and unit planning issues, a natural and wooded-like atmosphere can be created within this development. This would help to reduce the feeling of higher density. The sound and feel of a natural environment filled with paths, open spaces, wooded areas, with minimal noise and increased privacy leads to a peaceful and healthy environment to live in. This seems to be the appropriate direction or aim this development should follow.

COTTONWOOD ACRES RESIDENTS

COTTONWOOD ACRES RESIDENTS

A. USER NEEDS

Who will be the user? For Multi-family housing there is no one single user but a greater number of users who may not share the same needs. How are the users to be found? One way to determine who the users will be is through a demographic analysis. This analysis will show possible users and how they are distributed among the social class. Significant differences may be expected if users differ in culture or in socio-economic class. Further differences may appear between people of different ages, sex, personal history, life style or ethnicity.

1. Demographic Analysis

The following was an analysis of the Bozeman demographic situation in 1977:

a. Population growth is approximately 4 1/2% per year which was comprised of 85% immigrants and 15% natives. However, this is not reflected on the current Bozeman population which has remained relatively the same since the early 1980's.

b. Average persons per household was 2.75 in 1977 and is expected to remain relatively the same for the 1980's.

c. The largest age group ranges from 0 - 34, reflcting a youthful population in 1977. Projection for the 1980's will be for an older population because of the declining birth rate and new

immigrants.

d. Distribution of male and female sex within the population is about the same in all age groups.

e. Household income for Bozeman makes it a predominantly middle income community.

f. Employment pattern is predominantly white collar in the city and blue collar in the county.

g. The average educational attainment of Bozeman residents reflect that almost one third of its population is enrolled in college.

h. Approximately half of Bozeman's population lived in their own homes. The rested in rental housing and group quarters.

With this information, possible users can be identified according to their socio-economic status. Education, occupation and income are the most frequently used indicators of socio-economic status. Higher education generally implies higher occupational status and higher income. In Bozeman, income becomes a crucial variable for permitting housing choice while education and occupation may influence housing preference. However, Bozeman is unusual since it is a university town, which implies a potential for relatively high occupational and

educational attainment with relatively lower income than otherwise might be expected.

2. Users

Bearing in mind that Bozeman is a university town, possible users would be:

a. People in age groups from 25 - 45
b. They are within the middle income bracket for Bozeman standards
c. An average of three persons per household
d. They probably have a higher educational attainment and may be employed by the university

These would seem to be the possible users. However, not all users seek home ownership if they recently moved to Bozeman or they are temporarily here for occupational reasons. Rental housing is a major part of all the housing in Bozeman. Therefore, planning should include both rental and selling units.

3.Household Types

The next step is to identify the possible household type. The description of each household type is based on the following determinants:

a. Identification of members who makeup a household--single, young couples, couples with young children, couples with teen-age children, couples with grown children, elderly couples, elderly singles

b. The socio-cultural and economic background of the members

c. The physical condition of the members

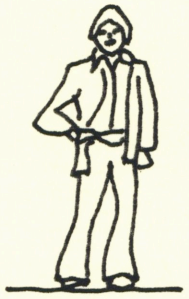
The family size follows the traditional life cycle, but its simplicity it excludes, for example, middle-age single, grandparents, other relatives, extended families, and the increasing single parent with children.

The following are user profiles of the individual household types: in its simplicity/it excludes, for example, middle-age single, grandparents, other relatives, extended families, and the increasing single parent with children.

The following are user profiles of the individual household types:

1) **Young singles**





-not too concerned with territory

-seek maximum social interaction with their peer group

-benefit less from orientation amenities, being away from unit during weekdays

-seek privacy mostly inside their unit

-identity is not a great concern since single people are fairly mobile

-inconvenience is generally acceptable; they tend to walk farther to their unit

-they require full safety measures from theft during their extended absence

Young singles best fit into efficiency or one-bedroom units in larger house types.

2) Young couples



-if both are working, the description of young single generally applies

-if one person remains at home, the amenities of a good orientation--daylighting, sunshine, view are essential

-privacy increases in importance

For most one-bedroom units will do. If they can afford a two bedroom for the option of having a guest room or study. A two-bedroom unit may have a full kitchen rather than a kitchenette. Housing type preferred small row house, townhouse, or apartments, probably with sleeping rooms upstairs.

3) Young couple with children



-children's territory must be limited and well defined with physical barriers such as fences, railing, doors, gates, etc.

-safety and territory become synonymous

-young children instinctively seek out good orientation

-children do not yet value view amenity or identity

-children require little privacy since they live in a "world of their own"

Couples with young children may find their personal privacy and territory severely encroached upon by the children and thus require a minimum amount of "adults only" space, at least during evening hours. Couples with young children should be provided with optimal ground orientation and private outdoor play area. Preferred housing type, medium-sized row houses or town houses with ground oriented amenities.

4) Middle age couple with teenage children



-a private bedroom for each grown child is desirable, allowing privacy for all members of the family

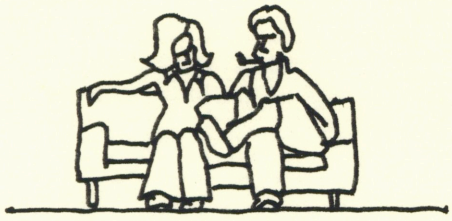
-other space requirements increase in proportion to the number and size of members

-in response to the demand for diversity of spaces for socializing, a new space, the play room or family room must be added

-units may require as many as four bedrooms, a separate dining room, a play or family room, a utility room, and possibly, a two car garage

Preferred housing type, row house, town house, and patio house. Since the family is at its largest size, more private outdoor space is necessary.

5) **Middle age couple, grown children**



-children are gone, housework and expenses are less, and free time is more plentiful; people are generally still physically active

-couples can have more privacy since territory does not have to be shared with children

-convenience is desirable so that leisure time can be enjoyed

-this is considered the best time of life

-less outdoor space is required with fewer family members

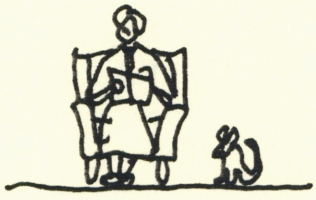
-two bedrooms are about right, one for sleeping and one for bedroom/study

-a separate dining room is important because people in this household group tend to entertain more frequently

Town house is the most efficient choice, but row or terrace would also be appropriate.

6) Elderly couple and elderly single





-this group is at a time of life when a more restful and passive lifestyle can be enjoyed

-privacy becomes more important, both visual and acoustical separation

-even orientation, even temperature, very little air movement, even daylighting such as north light are very important because they are less tolerant of extremes

-convenience is essential for the elderly because of their limited strength and stamina

-units should be planned for minimum maintenance

-elderly people require a greater sense of safety since they feel, and generally are, less able to protect themselves from harm

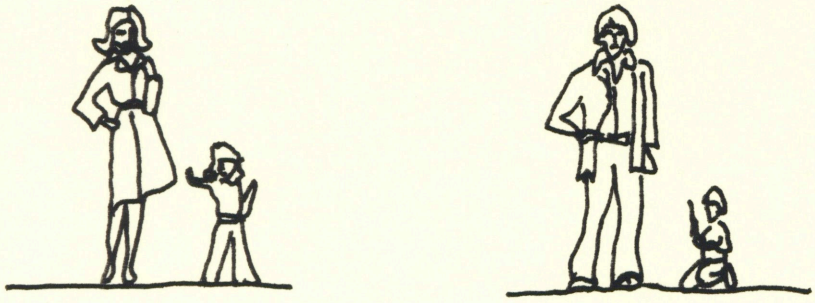
-the elderly require efficiently organized space but enough to hold cherished possessions

-they must be ground oriented

The elderly can cluster with their peers, but their units must be reasonably close to other household types, so they can enjoy the

experience of watching children at play, people passing by, or doing simple outdoor activities, etc. Many elderly people love to garden so enough daylight must be available. A smaller one or two-bedroom unit, ground oriented is much preferred.

7) **Single parent with children**



-this household types in on the rise from 1970 - 1985
-basically the same as household of young couple, with children with a few exceptions
-single parents tend to socialize away from home because of the children's presence
-type of housing preferred depends on the number of children and financial support, job and child support, and alimony

In Bozeman, single parents with children are not quite accepted socially within the community. This is based on an interview with a young female about 30 years old with a 9 year old child, and talking to people about this household type.

With the user profiles of the different household types stated and the demographic analysis of Bozeman to determine possible user, an assumption can now be made with greater reliability on who the users are and the type of housing

preferred. However, this is a shorthand approach and a much more thorough approach utilizing interviews and surveys would be the best approach to determine who the users are and their needs.

4. Possible users and the type of housing preferred:

   a. Single person in one-bedroom apartment

   b. Young couple with no children in a one or two-bedroom apartment, or two-bedroom townhouse

   c. Young couple with one or two children in two or three-bedroom townhouse

   d. Middle age couple with teenage children in three-bedroom townhouse

   e. Middle age couple with grown children that are gone, in two or three-bedroom townhouse

B. GOALS

1. This housing development is oriented more towards middle-income residents who have migrated to Bozeman for numerous reasons with intentions for staying in Bozeman for awhile.
2. Unit design should allow for storage spaces within every rooms if possible.
3. Exterior outdoor spaces both private and public should be provided for users with children.
4. Both interior and exterior private spaces should be design for safety especially for families with young children.
5. All units should be design with good orientation to views and daylighting.

BOZEMAN AREA



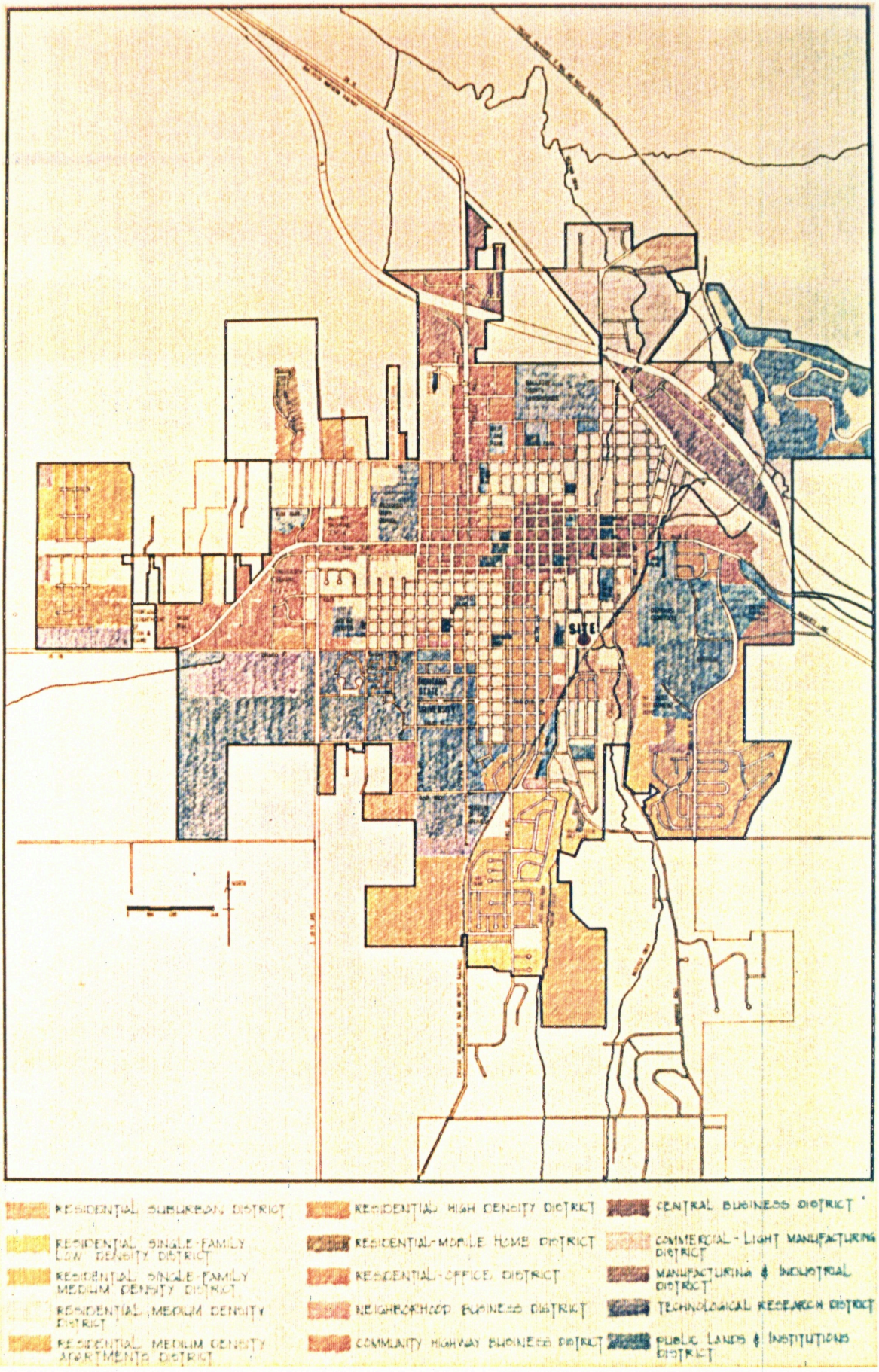




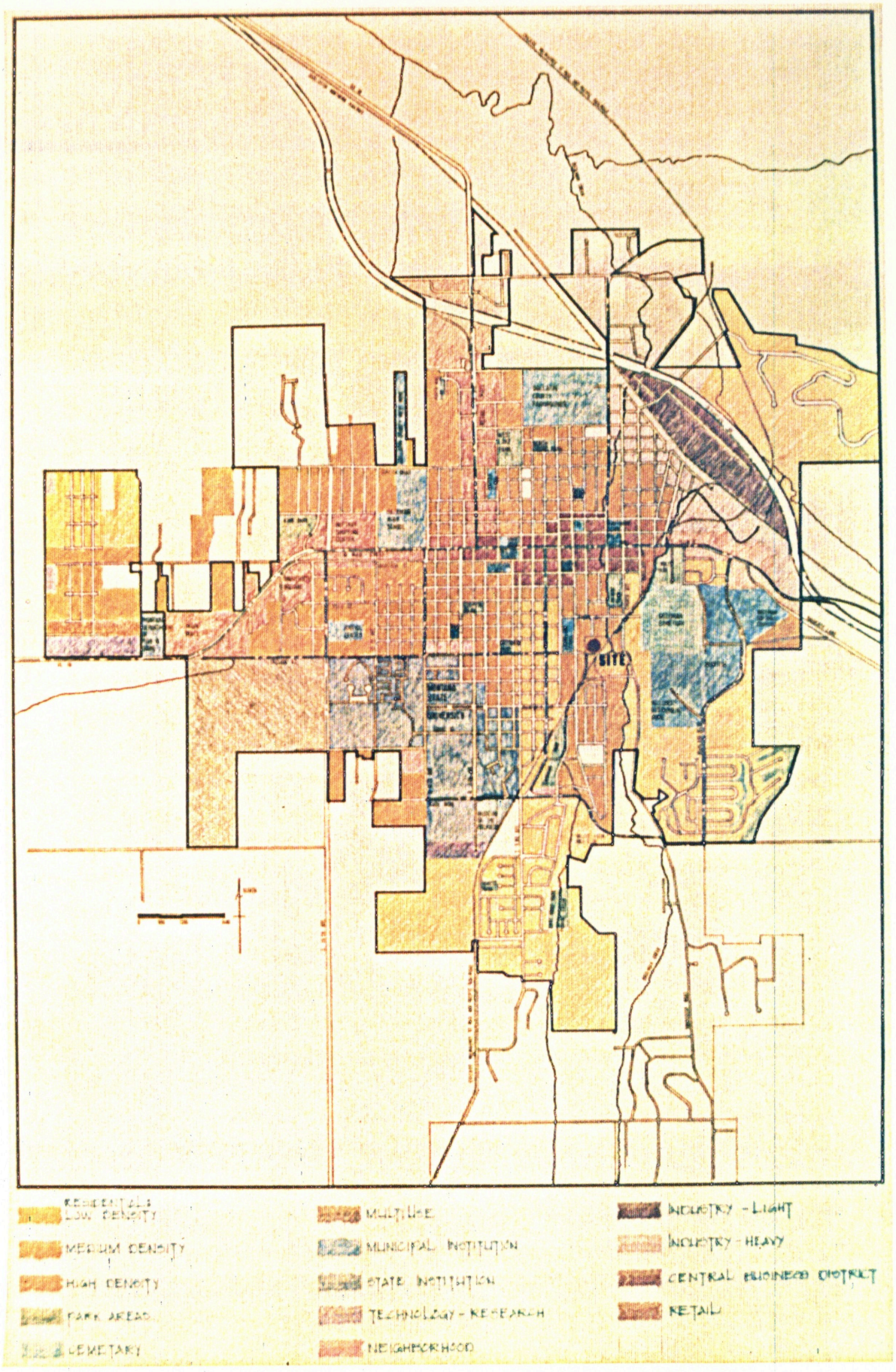




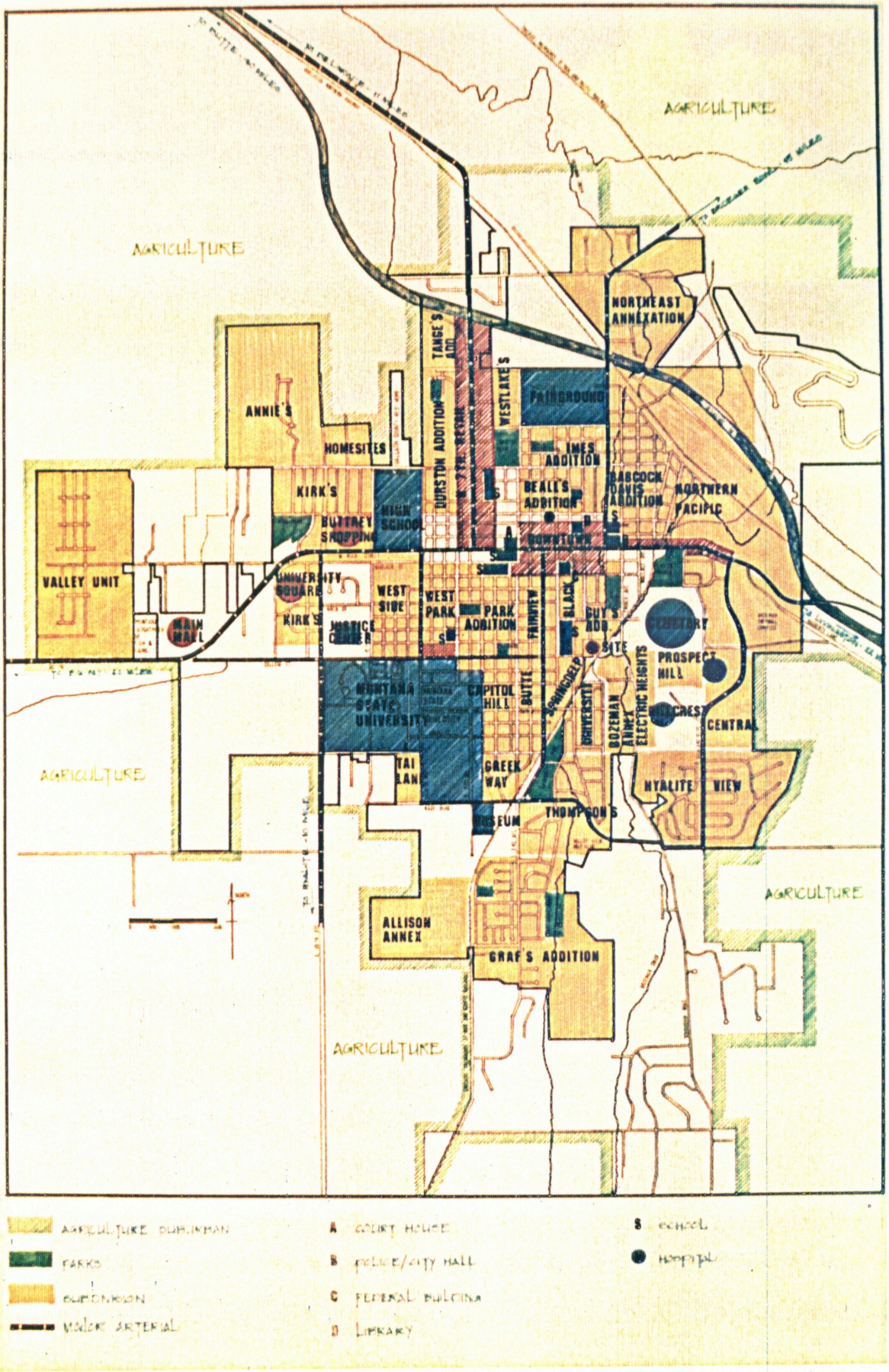



SITE
RESIDENTIAL SUBURBAN DISTRICT
RESIDENTIAL SINGLE-FAMILY LOW DENSITY DISTRICT
RESIDENTIAL SINGLE-FAMILY MEDIUM DENSITY DISTRICT
RESIDENTIAL MEDIUM DENSITY DISTRICT
RESIDENTIAL MEDIUM DENSITY APARTMENTS DISTRICT
RESIDENTIAL HIGH DENSITY DISTRICT
RESIDENTIAL-MOBILE HOME DISTRICT
RESIDENTIAL-OFFICE DISTRICT
NEIGHBORHOOD BUSINESS DISTRICT
COMMUNITY HIGHWAY BUSINESS DISTRICT
CENTRAL BUSINESS DISTRICT
COMMERCIAL-LIGHT MANUFACTURING DISTRICT
MANUFACTURING & INDUSTRIAL DISTRICT
TECHNOLOGICAL RESEARCH DISTRICT
PUBLIC LANDS & INSTITUTIONS DISTRICT

ZONING


SITE
RESIDENTIALS
LOW DENSITY
MEDIUM DENSITY
HIGH DENSITY
PARK AREAS
CEMETARY
MULTI-USE
MUNICIPAL INSTITUTION
STATE INSTITUTION
TECHNOLOGY - RESEARCH
NEIGHBORHOOD
INDUSTRY - LIGHT
INDUSTRY - HEAVY
CENTRAL BUSINESS DISTRICT
RETAIL

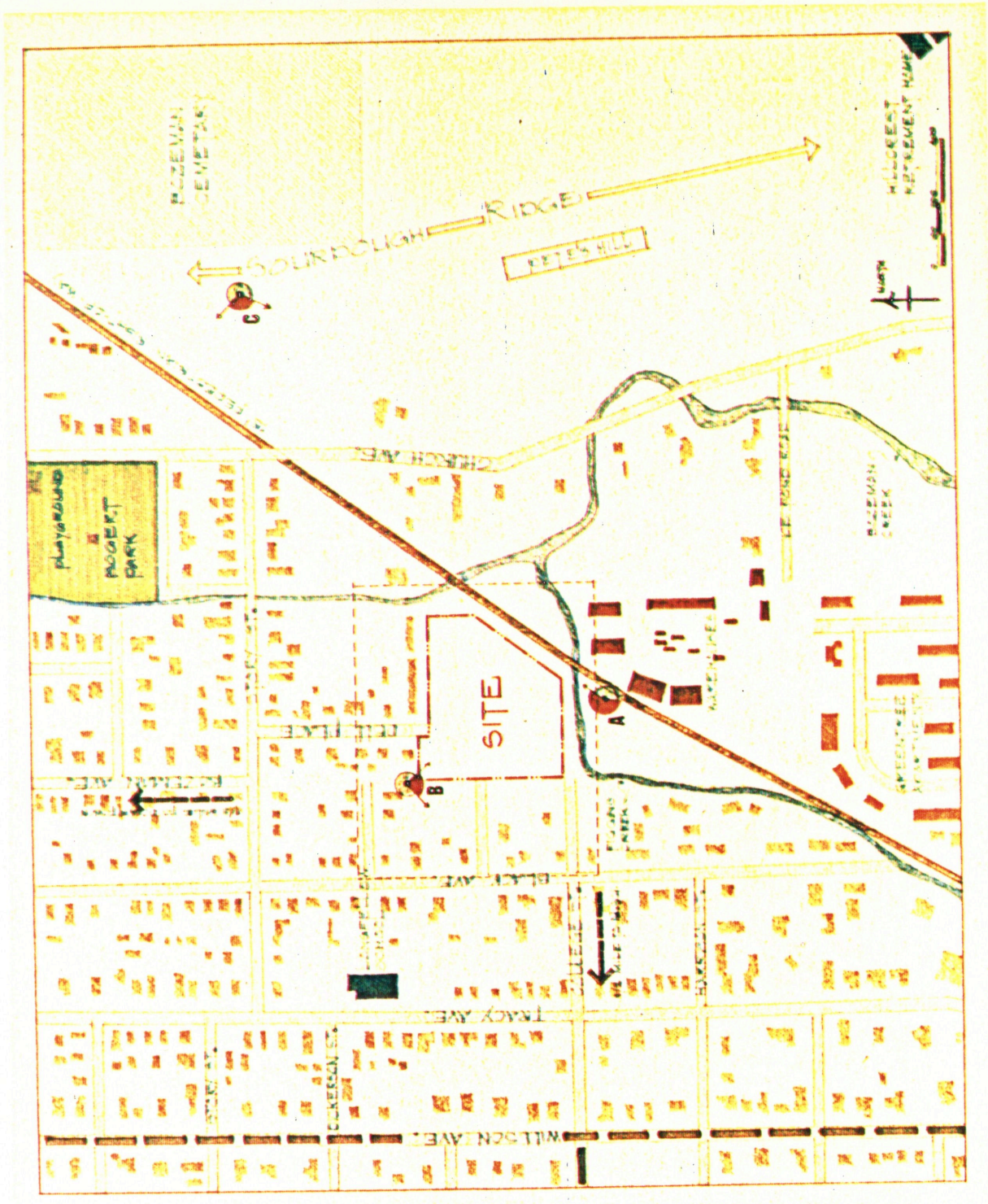
LANDUSE



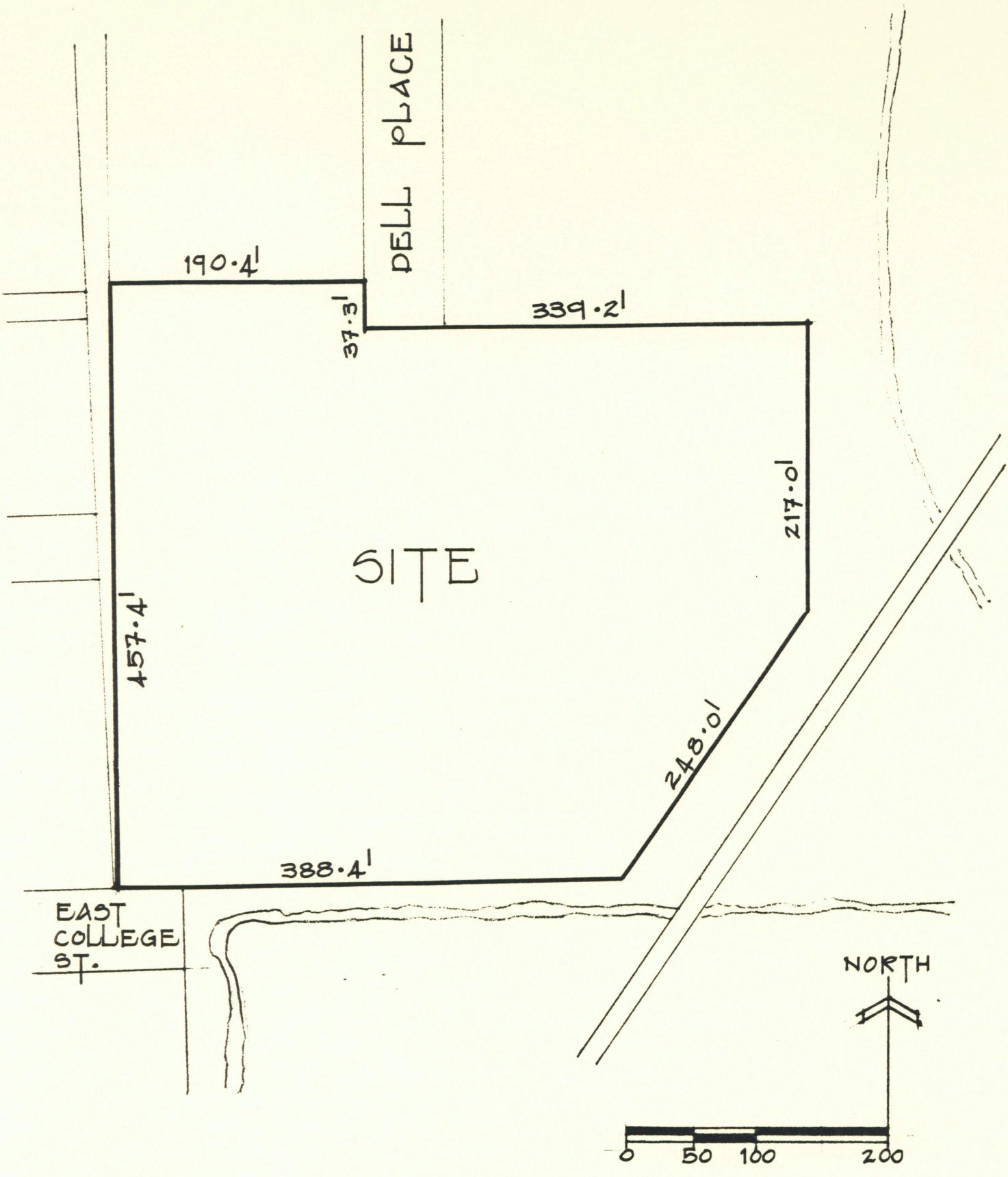
LANDUSE CONCEPT

NORTH
BOZEMAN CREEK
100 YR. FLOOD PLAIN
RIGHT-OF-WAY
RAILROAD
WAREHOUSES
PLAINS CREEK
DELL PLACE
ALTITUDE
AZIMUTH
JUNE 21
DEC 21
E
S
W
N
VIEWS
E. OLIVE ST.
E. ALDERSON ST.
MANOR ACCESS
(CLOSED)

SITE


SOURDOUGH RIDGE
BOZEMAN CEMETERY
PLAYGROUND & PROJECT PARK
SITE
TRACY AVE.
WILSON AVE.
BOZEMAN CREEK

VICINITY



LEGAL BOUNDARIES

B. SITE ANALYSIS

1. Solar, Wind and Vegetation

a. Wind:

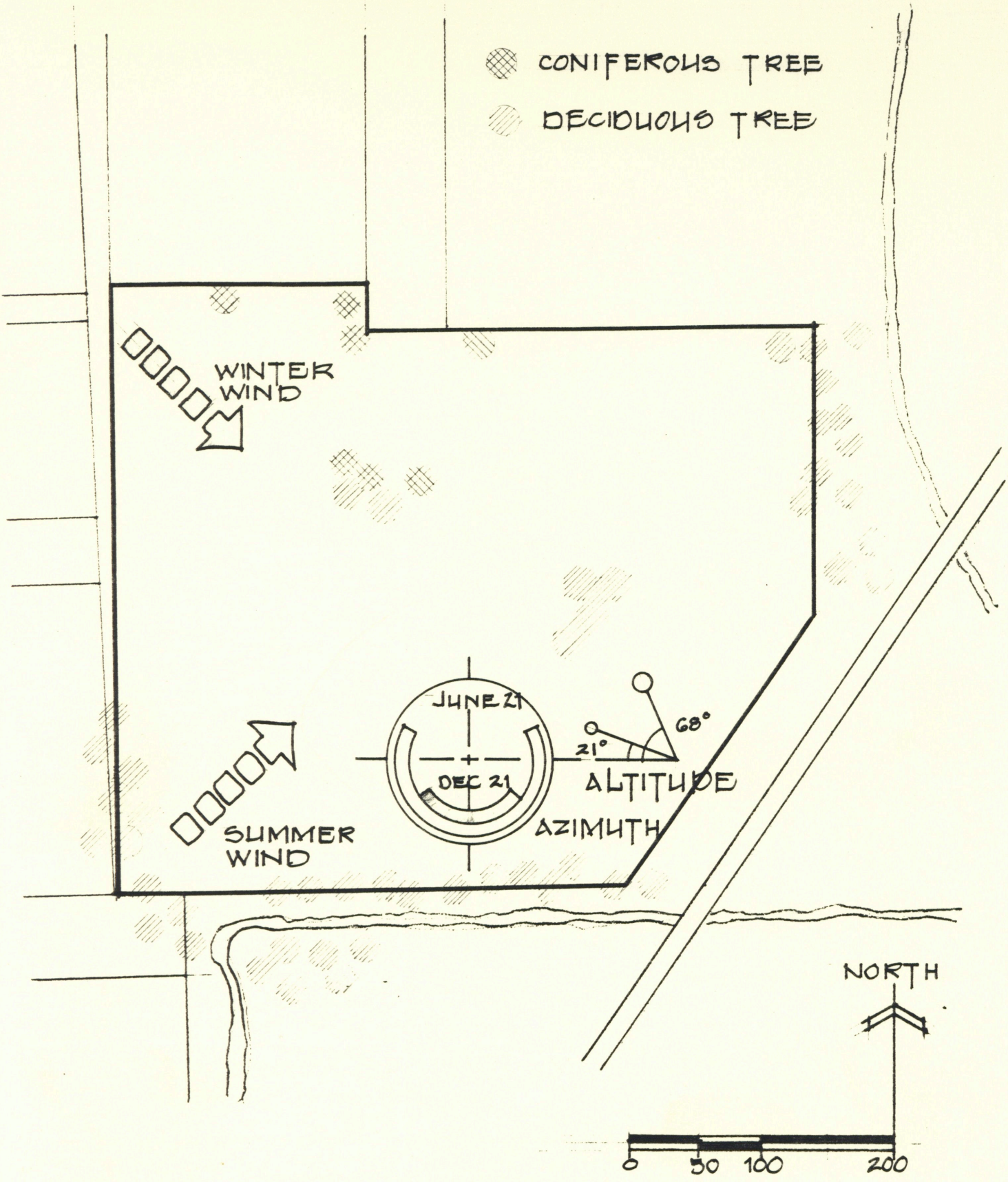
- Winter wind is from north-west and summer wind is from the south-west.
- Winter storms sometimes come from the east but the Sourdough ridge offers protection to the site.

b. Solar:

- The site is clear to maximum winter and summer solar exposure.
- The trees on the creek are all deciduous type, offering winter solar exposure.
- Summer shading protection may be required.

c. Vegetation:

- Mainly deciduous trees with some coniferous trees on the north boundaries
- Shrubs and bushes grow wild all over the site.



SOLAR, WIND & VEGETATION

2. Noise, Views, Site Access and Circulation

a. Noise:

- Minimal noise coming from the north and west of the site
- Site is peaceful and pleasant without any noise from vehicular traffic and also its secluded nature seems to add to its calmness.

b. Views:

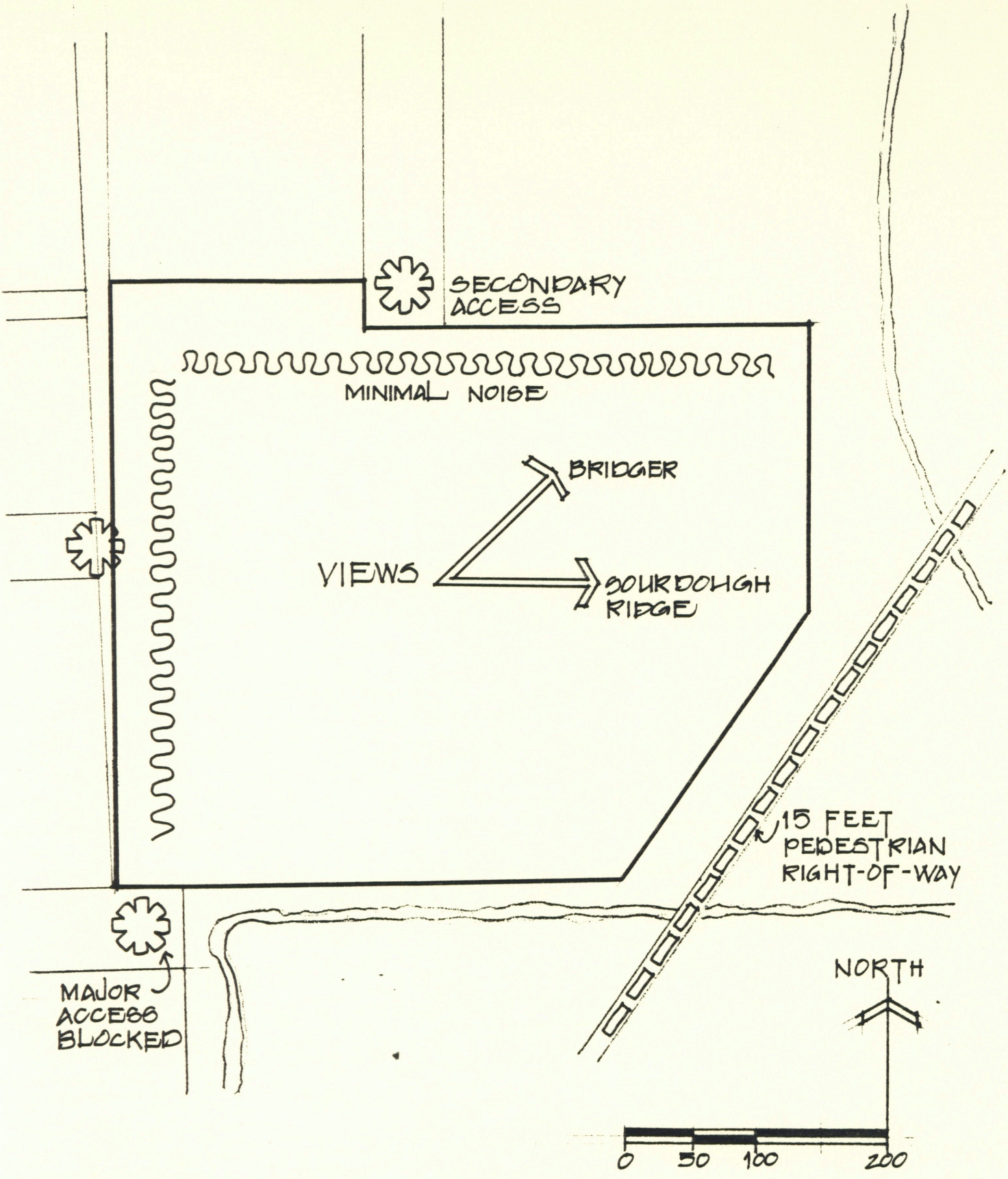
- Clear view towards Pete's Hill (a winter recreation area) on Sourdough ridge
- View towards the Bridger Mountains is partly blocked but is still visible.
- On the west and north, scattered single family housing and apartments are visible.

c. Site Access:

- Vehicular access to the site is currently through two streets, Dell Place and E. Alderson Street.
- Major access should be from E. College Street (currently blocked) because College Street is an east-west arterial.
- Dell Place is a good secondary access as it flows into E. Story Street, which is a collector street.

d. Circulation

- The 15 feet pedestrian right-of-way is a popular path for joggers or just walking pedestrians which is the abandoned railway track now owned by the city.
- On the south side of Figgins Creek is a vacant land which is a play area for children.



NOISE, VIEWS, SITE ACCESS & CIRCULATION

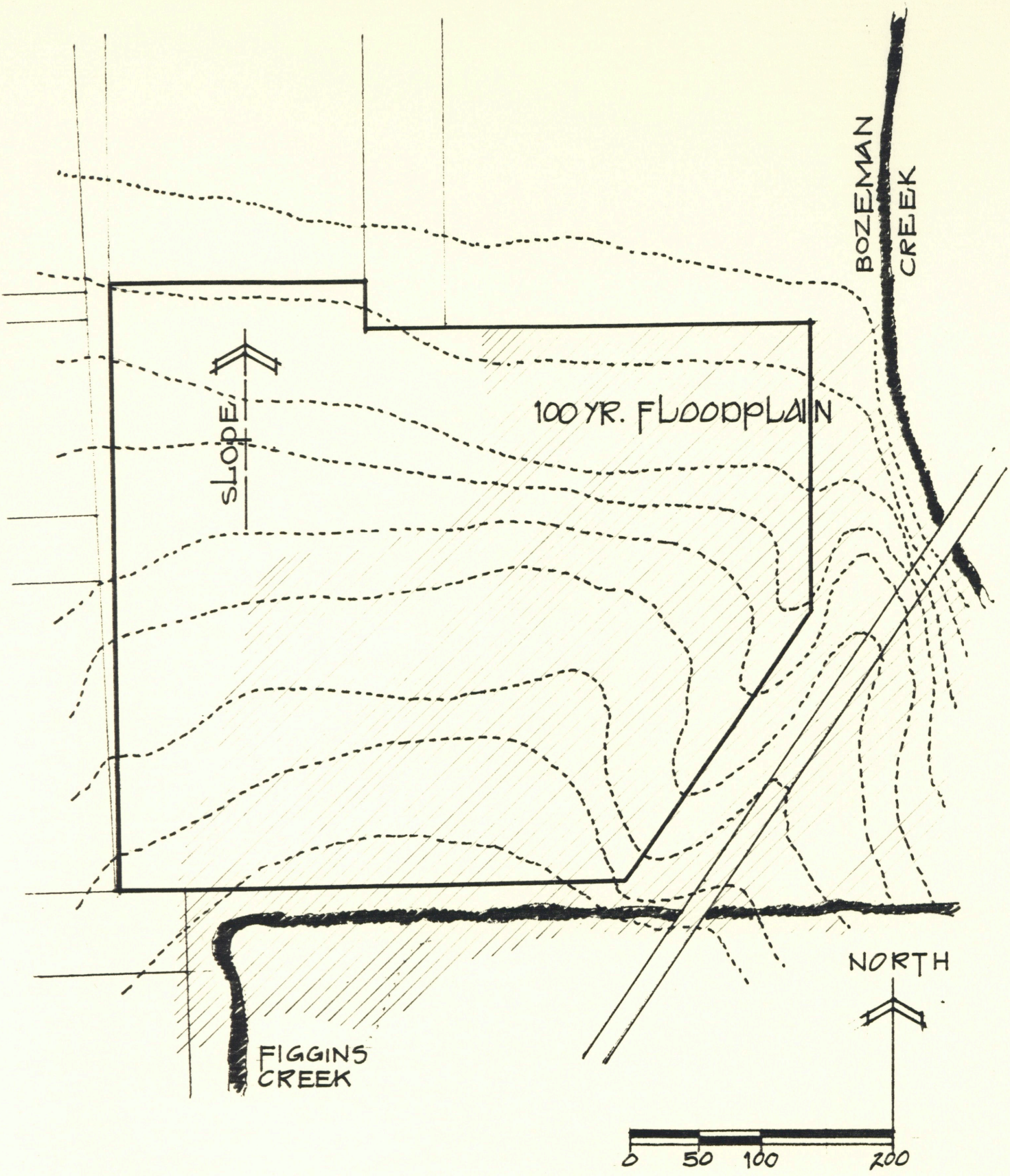
3. Topography and Floodplain

a. The site is sloping gradually towards the north, about one degree slope gradient, which is not real good drainage.

b. Site is within the 100 year frequency floodplain which is also another factor affecting drainage.

c. Elevation of floodplain average about 6 feet higher than existing grade.

d. Any structures of development proposed has to be higher than the elevation of the floodplain.



TOPOGRAPHY & FLOODPLAIN

C. CLIMATIC ANALYSIS

Bozeman Climate

Bozeman is located at the base of the western slope of the Bridger Mountain range at the point where the valley is about ten miles wide east to west, and experiences essentially a mountain valley climate.

Precipitation in the Bozeman area varies considerably. Difference in snowfall are very similar with the eastern edges of the valley, including Bozeman, usually receives larger amounts than the western edge.

Summers are generally pleasant and are characterized by warm days, cool nights and a high percentage of sunshine. Hot weather is not very frequent. Humid weather is rarely experienced and precipitation falls mainly in rain showers.

Winters are generally cold and occasionally a winter has had a week or more of severely cold weather. Mild weather is not unusual and most precipitation falls in the form of snow.

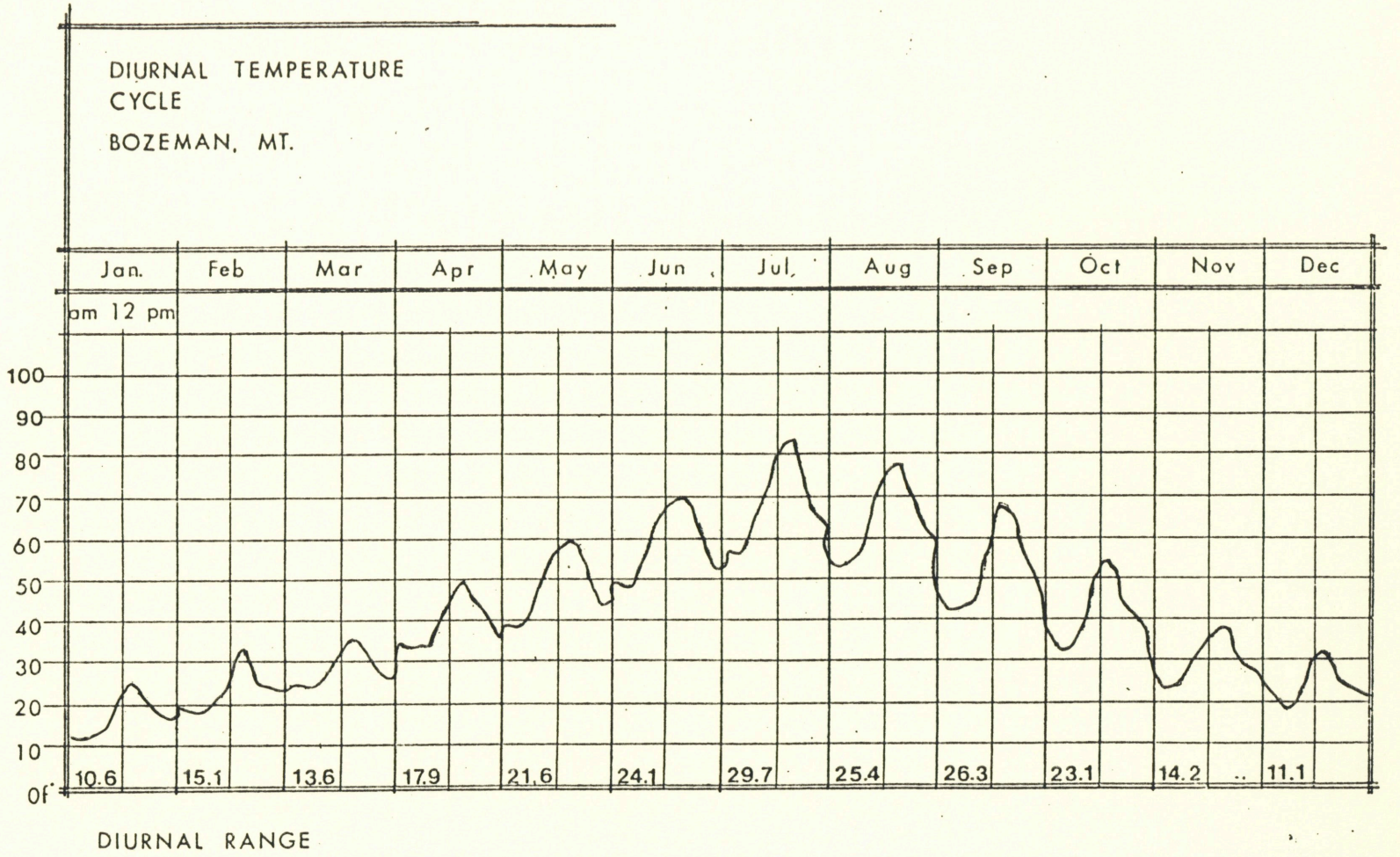
CLIMATOLOGICAL SUMMARY

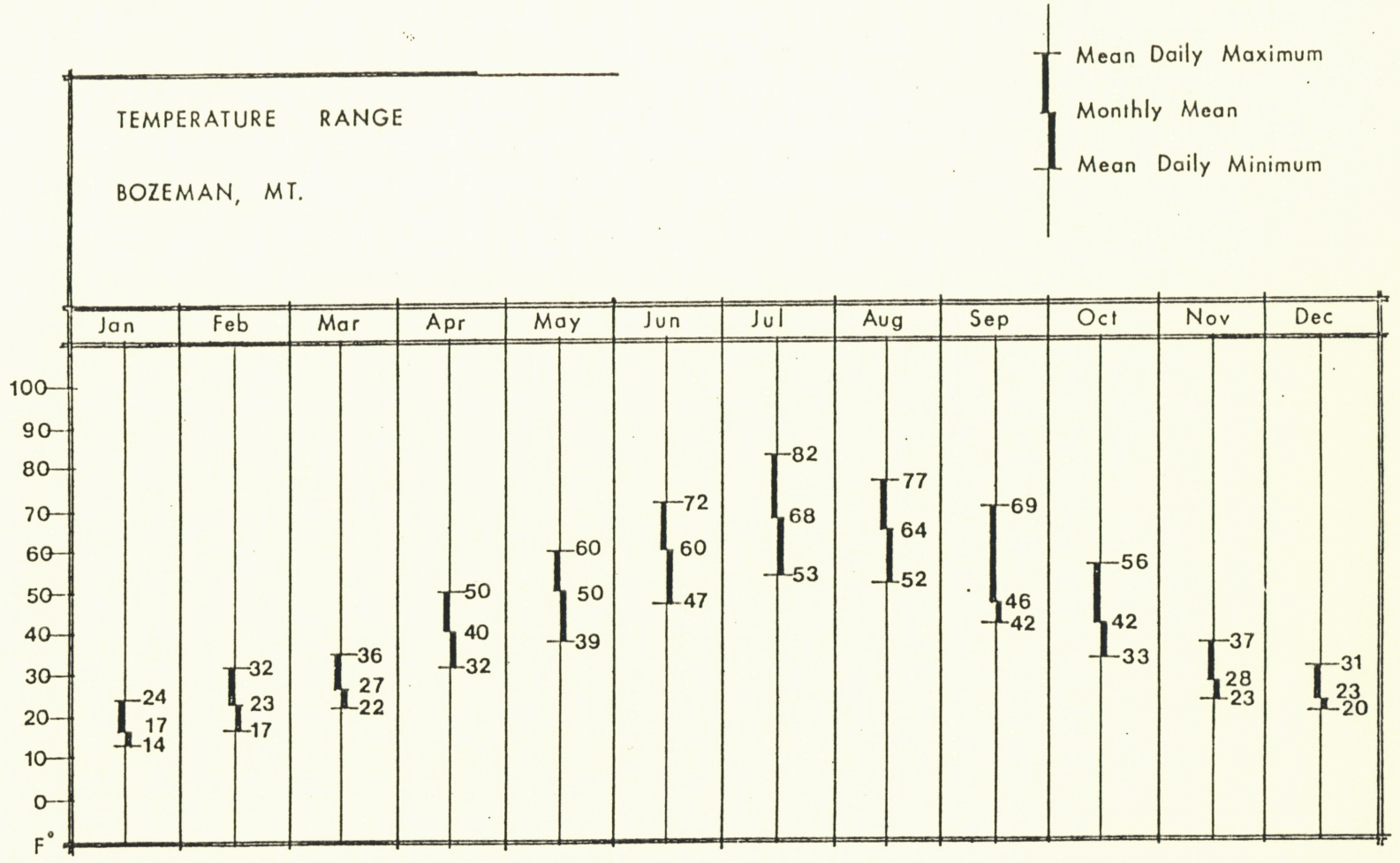
TEMPERATURE 1940 - 1969

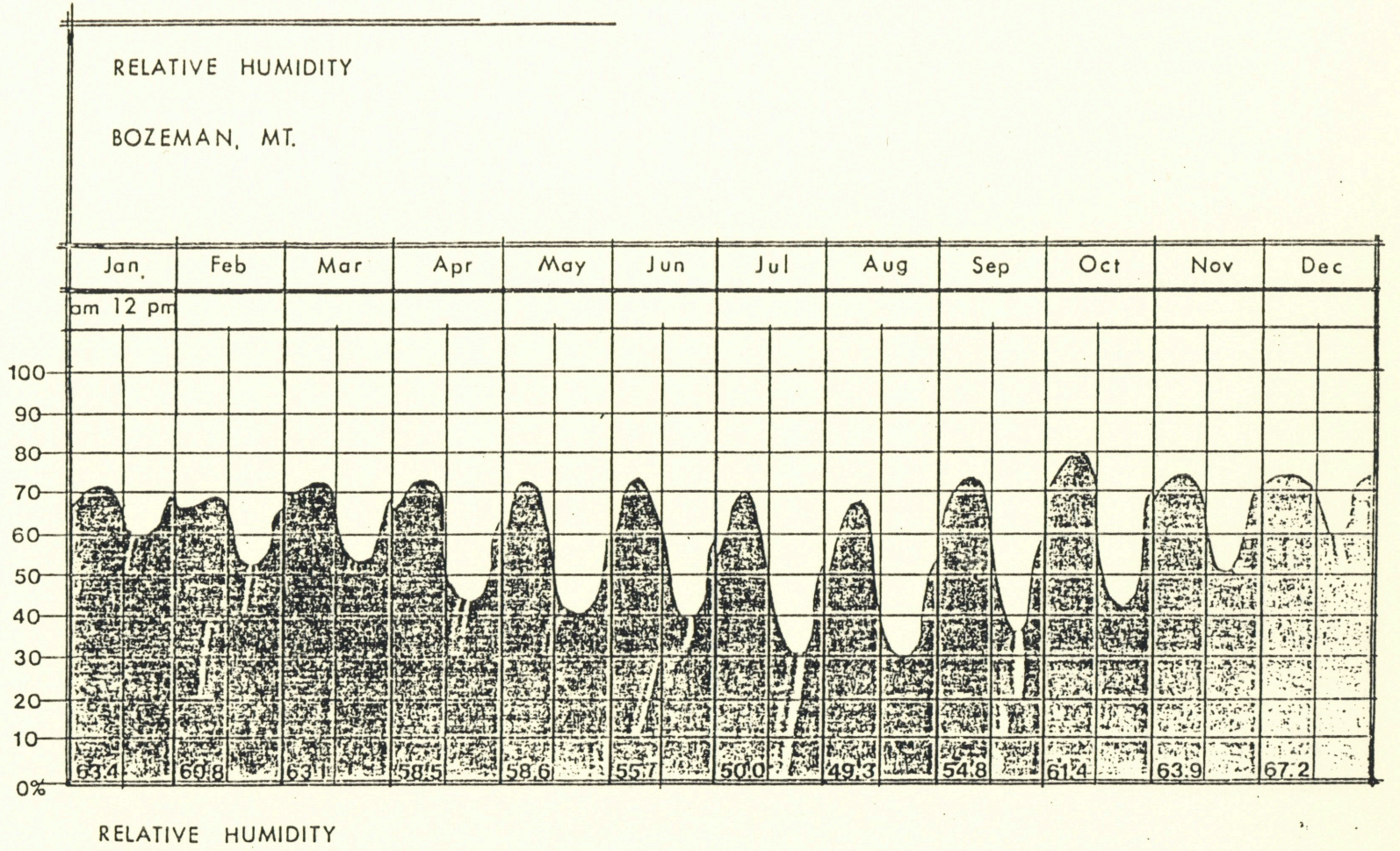
MONTH	AVG. DAILY	RECORD HIGH	RECORD LOW
JAN	20.4	58	-36
FEB	25.9	62	-29
MARCH	30.2	70	-23
APRIL	42.1	81	2
MAY	50.9	89	16
JUNE	57.6	91	26
JULY	66.3	98	32
AUG	64.9	99	29
SEPT	55.6	95	16
OCT	46.1	82	9
NOV	32.2	70	-26
DEC	25.2	59	-29

PRECIPITATION TOTALS

MONTH	AVERAGE	SNOW AVERAGE	SNOW MAX
JAN	.94	15.0	32.8
FEB	.68	9.7	22.1
MARCH	1.41	16.9	36.9
APRIL	1.84	10.5	37.0
MAY	2.61	2.9	24.3
JUNE	3.27	.3	6.0
JULY	1.19	0.0	Trace
AUG	1.36	Trace	1.0
SEPT	1.76	.5	6.4
OCT	1.44	4.3	19.0
NOV	1.26	10.9	22.5
DEC	.85	12.5	26.8


DIURNAL TEMPERATURE
CYCLE
BOZEMAN, MT.
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Jul.
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Sep
Oct
Nov
Dec
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17.9
21.6
24.1
29.7
25.4
26.3
23.1
14.2
11.1
DIURNAL RANGE


TEMPERATURE RANGE
BOZEMAN, MT.
Mean Daily Maximum
Monthly Mean
Mean Daily Minimum
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
100
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RELATIVE HUMIDITY
BOZEMAN, MT.
Jan
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Dec
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60
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10
0%
63.4
60.8
63.1
58.5
58.6
55.7
50.0
49.3
54.8
61.4
63.9
67.2
RELATIVE HUMIDITY

VICINITY PARKS ANALYSIS

The following parks, Lindley, Bogert and Langhor are within the vicinity of the project site. These parks are analyzed to check on the area they serve. The parks are analyzed under categories:

-size of park

-type of park

-facilities present

Included are the services each provides to the neighborhood and community.

This analysis is done to determine whether this new development should provide an extensive community park area within the development itself or be able to utilize some of the existing parks services.

1.Analysis of Vicinity Developed Parks

a. Lindley Park

-Size: 12.6 acres

-TypeNeighborhood/community

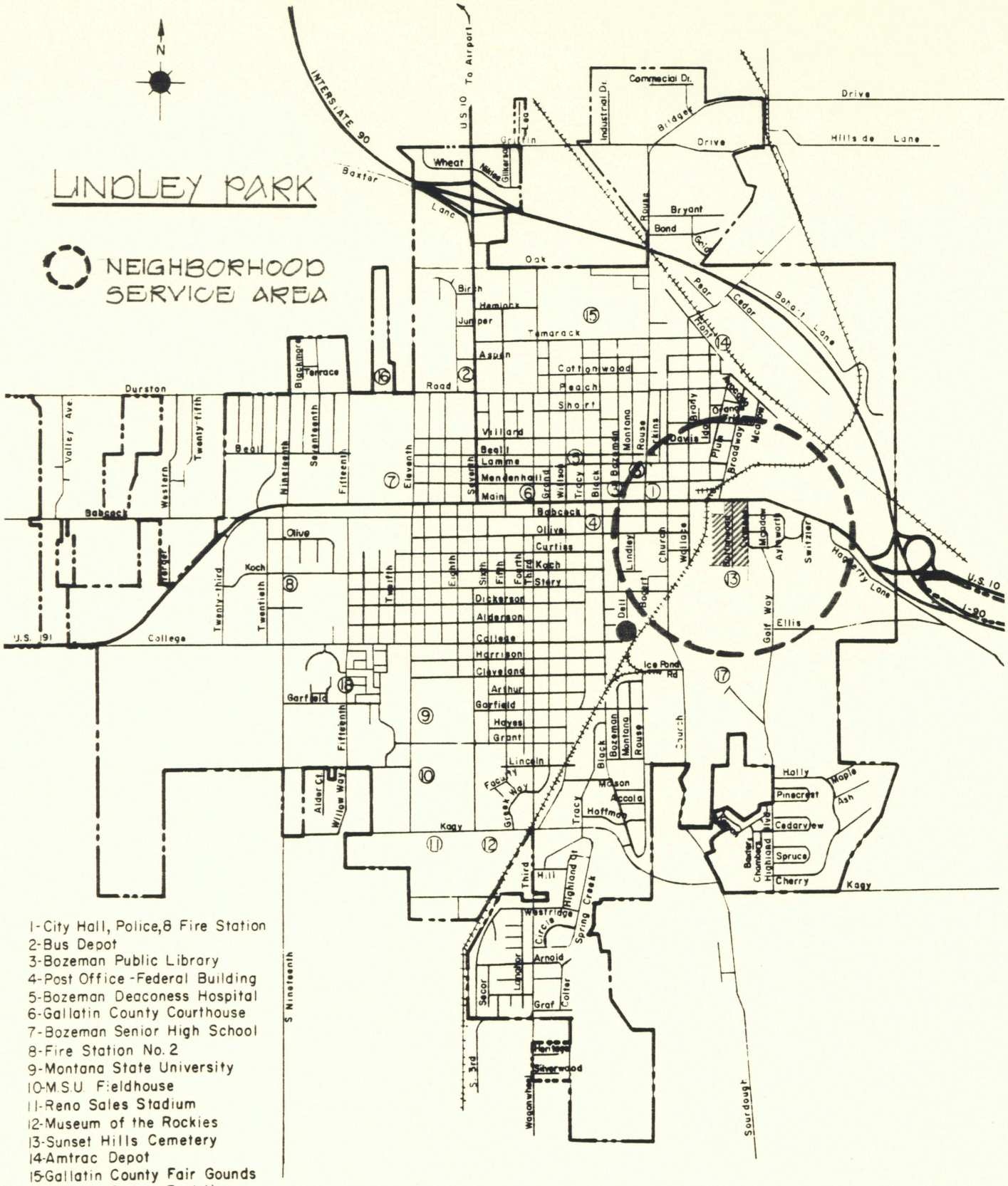
-Facilities inventory: play area with equipment
picnic area with tables
picnic shelter
restrooms
extensive landscaping

-serves a relatively small neighborhood and appears to be community centered

-Lindley park is a neighborhood park that is oriented to the entire community on more of a passive nature, such as picnicking, strolling, etc.

Revised: October , 1980

CITY OF BOZEMAN MONTANA



1-City Hall, Police,& Fire Station
2-Bus Depot
3-Bozeman Public Library
4-Post Office -Federal Building
5-Bozeman Deaconess Hospital
6-Gallatin County Courthouse
7-Bozeman Senior High School
8-Fire Station No. 2
9-Montana State University
10-M.S.U. Fieldhouse
11-Reno Sales Stadium
12-Museum of the Rockies
13-Sunset Hills Cemetery
14-Amtrac Depot
15-Gallatin County Fair Gounds
16-Gallatin County Rest Home
17-Hillcrest Home
18-MSU Student Housing

b. Bogert Park

-Size: 6.8 acres

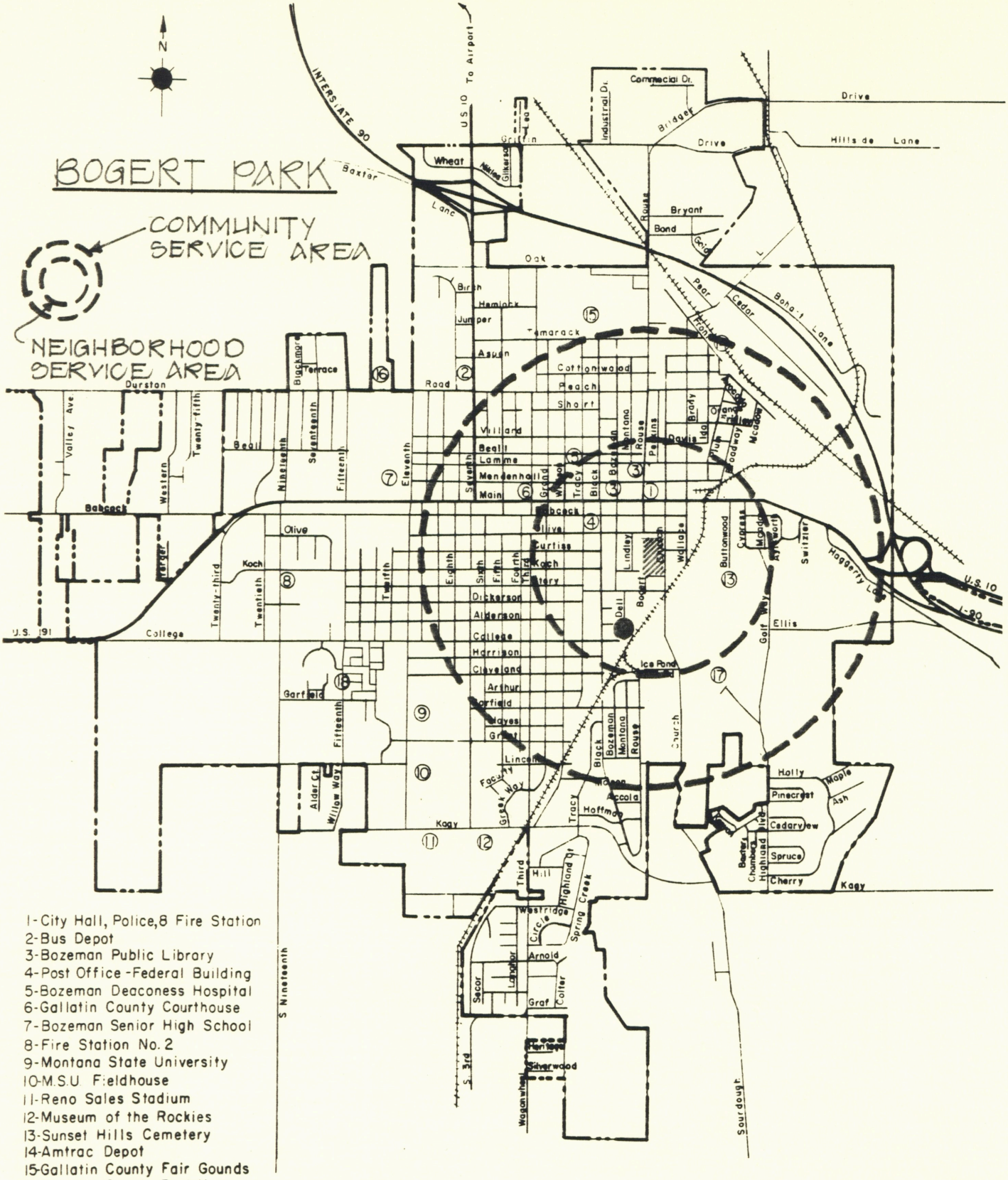
-Type: Community/neighborhood

-Facility inventory: swimming pool
tennis courts
play area with equipment
Bozeman Creek
picnic area
recreation building
ball field
band shell
restrooms
parking

-Has a farly large neighborhood service area, oriented to the entire community on the active nature

Revised: October, 1980

CITY OF BOZEMAN MONTANA



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2. Analysis of Vicinity Undeveloped Park

a. Langhor park

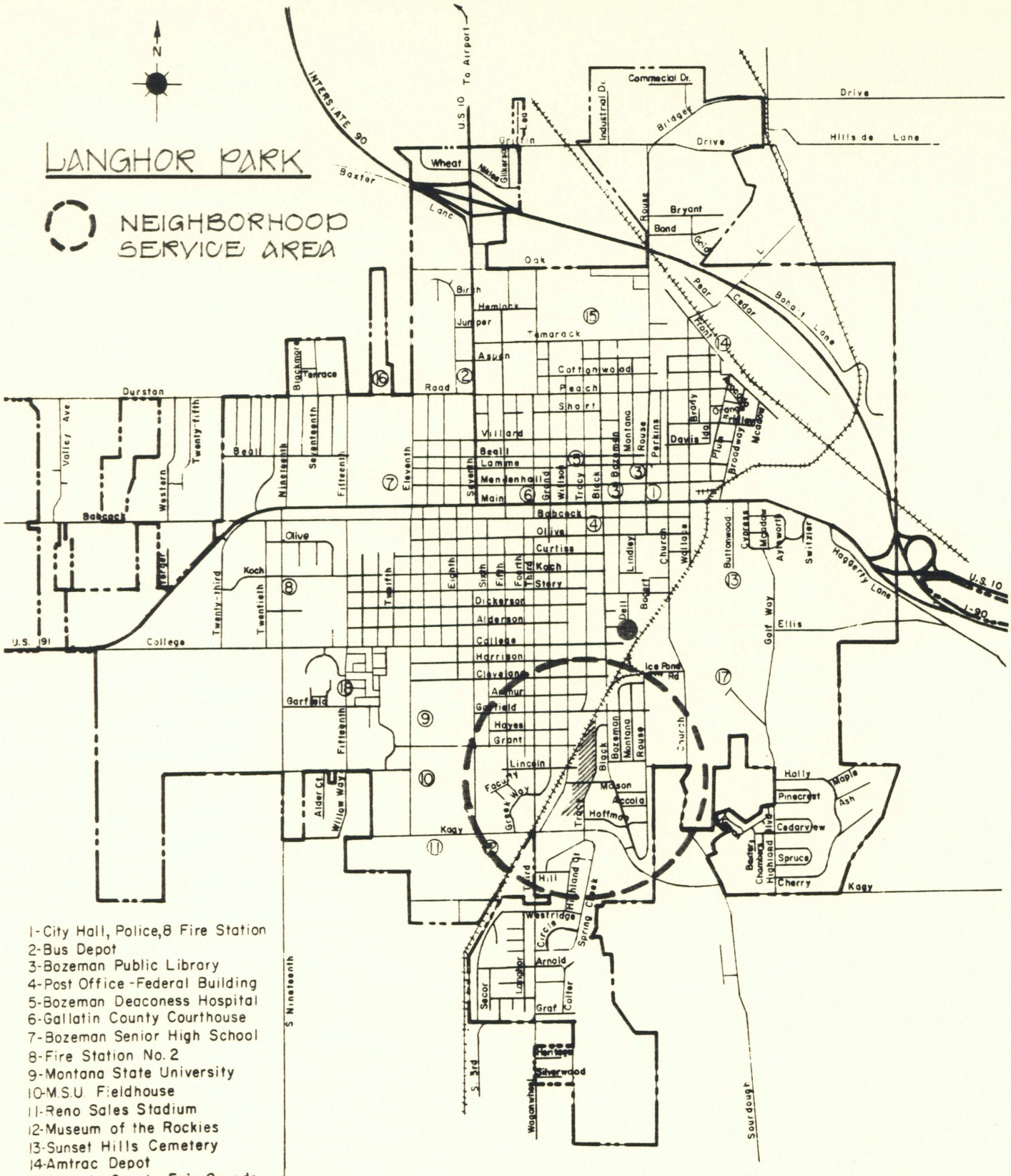
-Size: 8.9 acres

-Type: Neighborhood/community

-Condition: currently still not developed but plans to develop the park are within the near future.

Revised: October , 1980

CITY OF BOZEMAN MONTANA



1-City Hall, Police,& Fire Station
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16-Gallatin County Rest Home
17-Hillcrest Home
18-MSU Student Housing

BOZEMAN MASTER PLAN FOR RESIDENTIAL DEVELOPMENT

1. Residential goals

a. Encourage high density development where there is adequate road, bicycle and pedestrian access, in close proximity to shopping and employment and near the central business district.

b. Encourage construction of a full range of housing types, sizes and costs to assure the opportunity for future residents to obtain a choice of living environments.

c. Encourage planned unit/cluster residential development techniques that feature a variety of housing types, designed to enhance the natural environment, conserve energy and to provide efficient public services and facilities.

d. Encourage the preservation and rehabilitation of the existing housing stock to promote the health, safety and general welfare of the residents of the city of Bozeman and its jurisdictional area, regardless of income levels.

2. Residential land use

a. The majority of housing in Bozeman and the jurisdictional area is single-family residential.

b. There were approximately 783 acres in use for single-family

residences in 1981, which comprised about 17% of the city's total land use.

c. The number of multi-family units in Bozeman has increased greatly in the past years. Eighty percent of all housing starts in Bozeman from 1979 to 1981 have been multi-family residential units. This totalled 43.9% of housing units in Bozeman.

d. Mobile homes are a great deal less important than conventional housing because of the lack of land available to develop new mobile home parks. Most of the mobile home parks in the city are developed to capacity. There are 50 acres of land zoned residential-mobile home in the northeast planning sector of Bozeman; this is the only land zoned for mobile home development within the city.

3. Housing Element

a. The objective of the "housing element" is to identify the city's housing problem, determine possible solutions and recommend housing goals.

b. A "housing element" is an analytical document of present and future housing needs in a community. More specifically the study, or element reveals the cost of housing, the supply and demand of housing types, the number and types of homes in use and the trends indicating their development.

c. The housing element was completed in 1978 by the Bozeman

City-County planning staff. The following are the findings of the 1978 study:

-Almost one half of all single family houses are being built outside the city.

-Land investment and speculation are creating a haphazard growth pattern of urban sprawl.

-Housing construction costs have increased due to materials cost increases.

-Housing finance costs have risen astronomically. This has driven up the average monthly housing cost at a rate faster than the average wage with the result that a smaller percentage of people can afford housing.

-The rental market has grown steadily.

4. Energy element for the Bozeman master plan

a. The study was completed in June 1982 and concludes that low temperatures and long winters are what makes Bozeman suited to building earth-sheltered and superinsulated structures.

b. It also concludes that high density residential development such as multi-story apartments, condominiums and townhouses are the most energy efficient of all residential developments. Because of Bozeman's northern location and cloud patterns, a solar heated structure is not as suitable.

5. Population density

a. Bozeman exhibits a rather low population density of 6.1 people per acre (1982).

b. The economy has dictated the building projects be directed towards multi-family projects, mainly condominium and townhouse development.

c. Migration is the most important factor for population increase in Bozeman and Gallatin county.

F. GOALS

1. To locate dwelling units to some views and solar exposure.

2. To control access through the development by limiting public street access and signage.

3. To have pedestrian linkage to the public street access and the 15 feet pedestrian right-of-way.

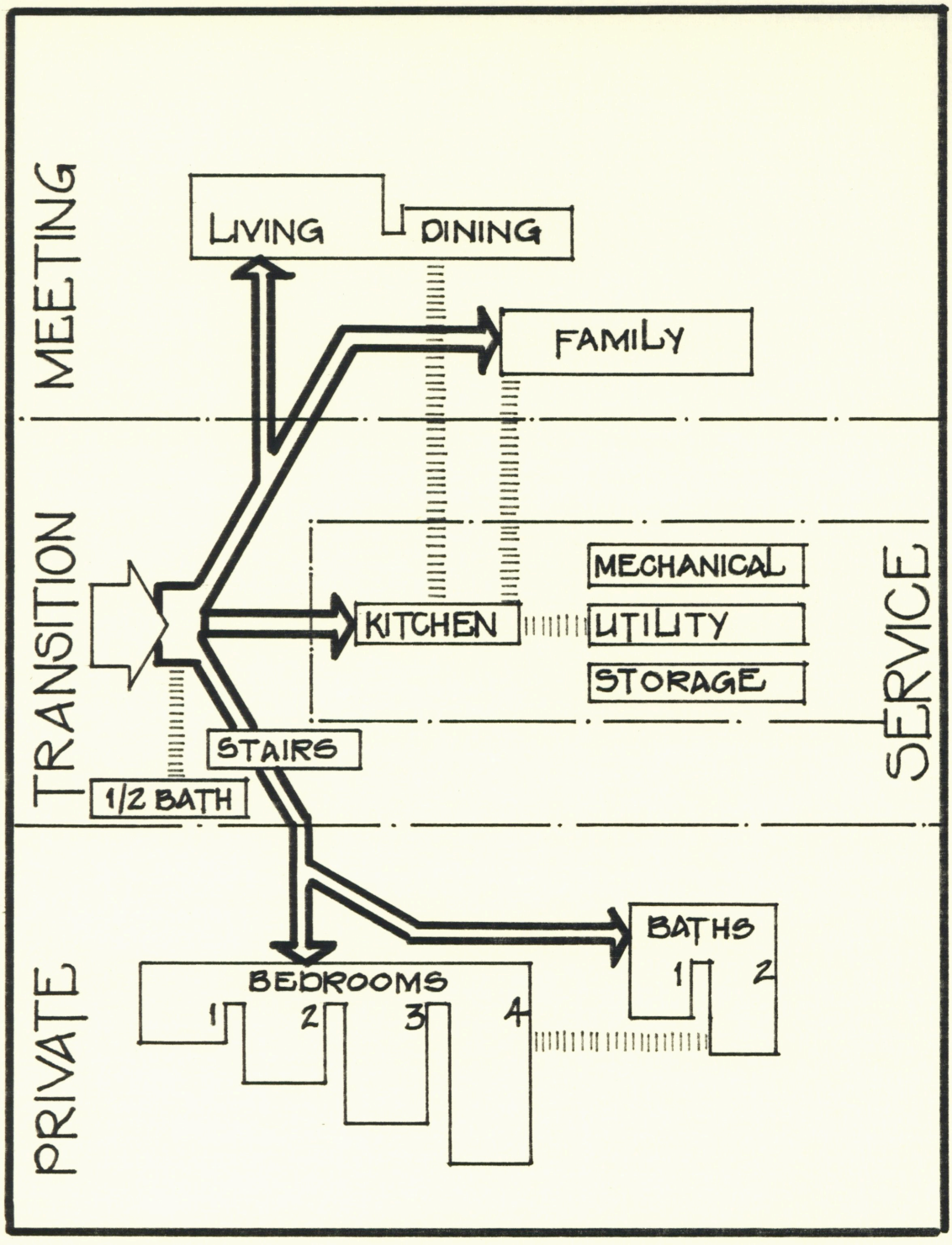
4. To have proper drainage through the development to compensate the floodplain and poor existing site drainage by using storm drains.

5. To design dwelling units in response to the cold winter and summer Bozeman climate.

6. To consider making use of existing vicinity parks, services and amenities in the site planning layout.

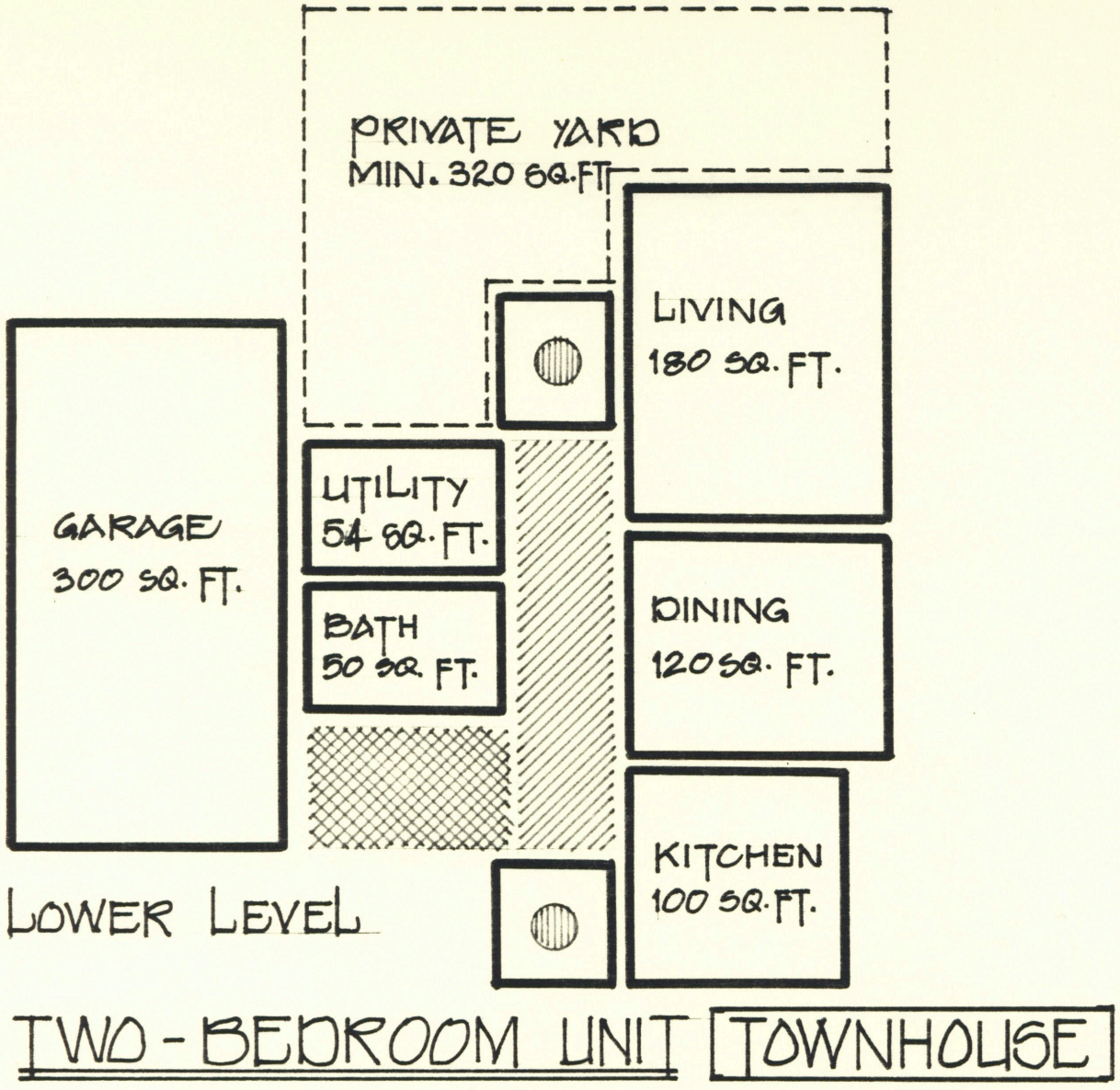
7. To follow the pattern and goals of the existing Bozeman master plan for residential development.

PROGRAM

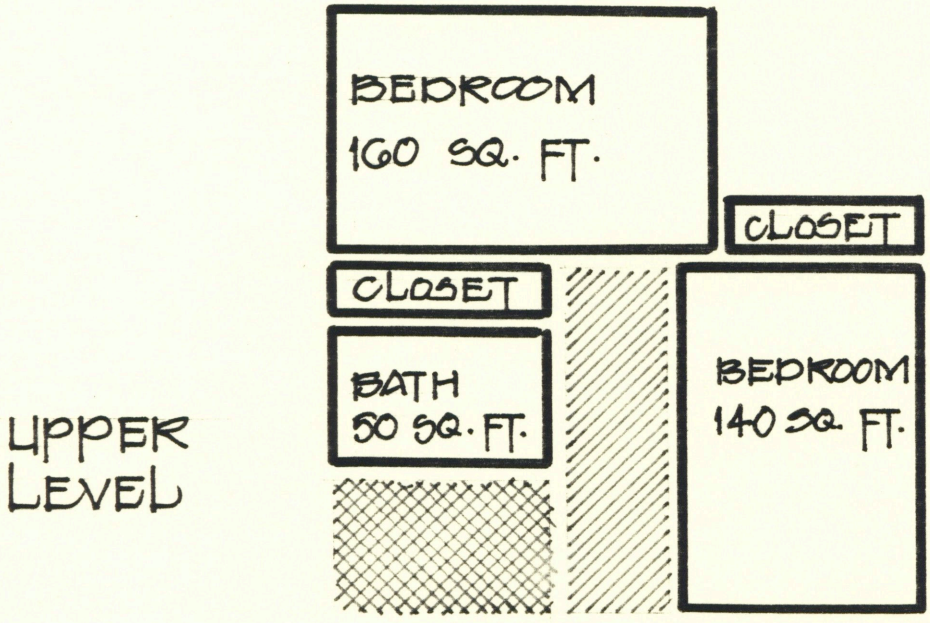


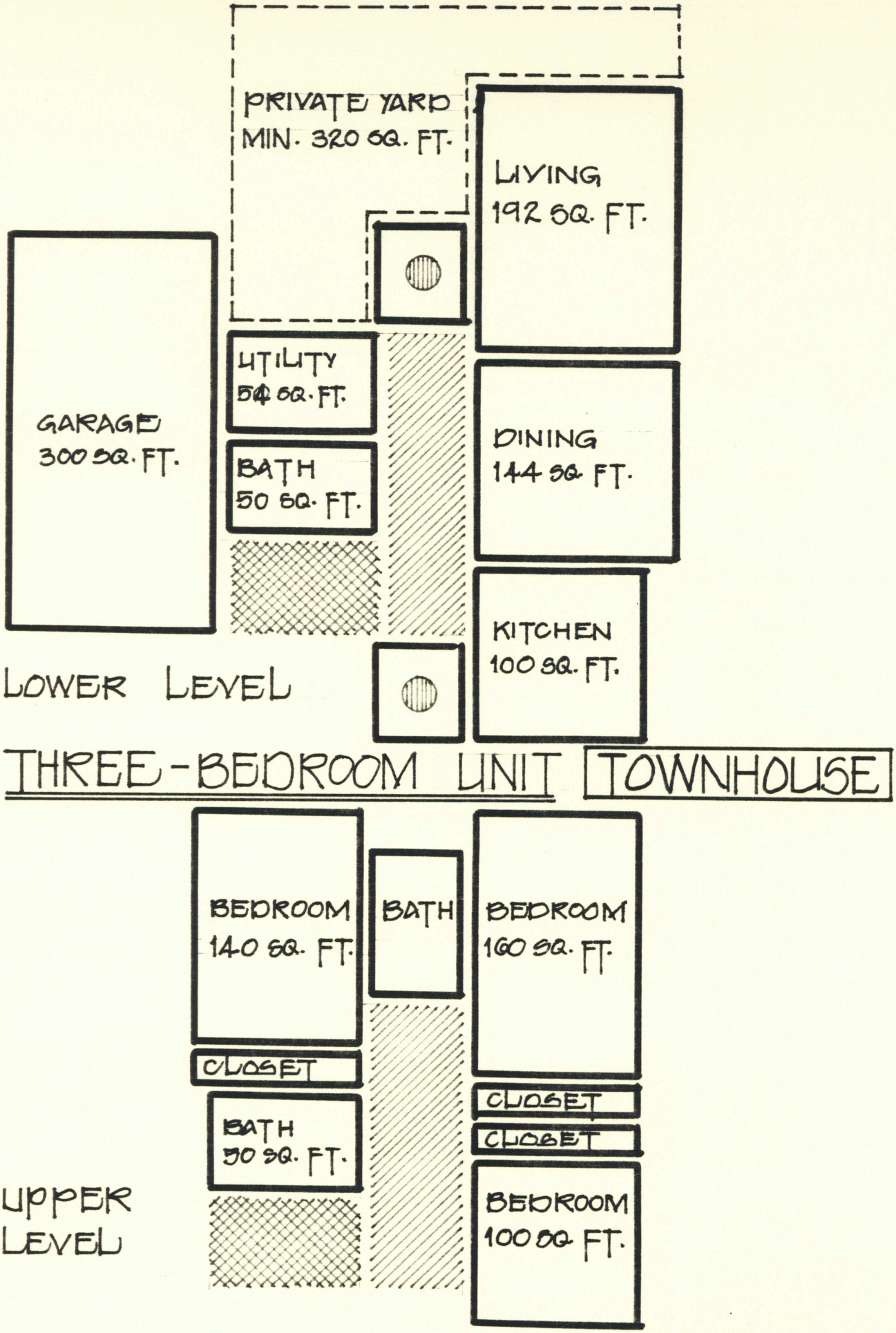
INTERNAL FLOW CHART

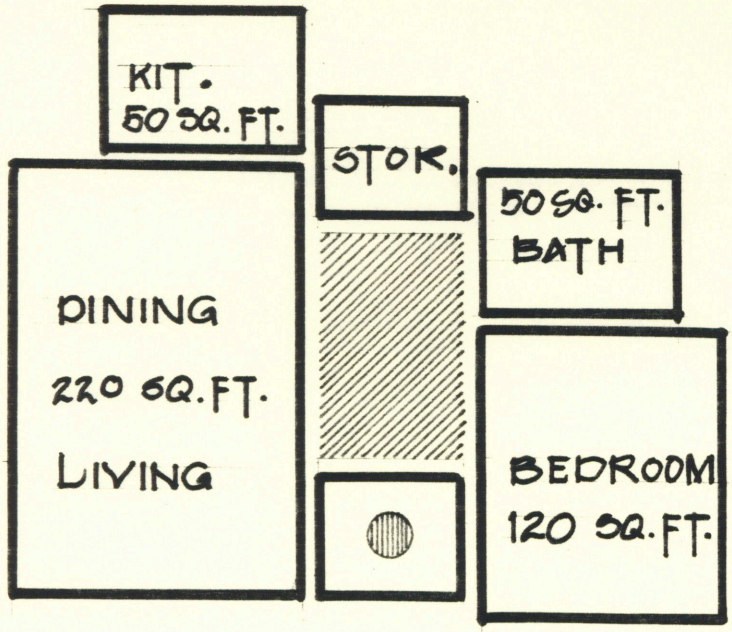
TOWNHOUSE



TWO-BEDROOM UNIT TOWNHOUSE




PRIVATE YARD
MIN. 320 SQ. FT.
LIVING
192 SQ. FT.
GARAGE
300 SQ. FT.
UTILITY
54 SQ. FT.
BATH
50 SQ. FT.
DINING
144 SQ FT.
KITCHEN
100 SQ. FT.
LOWER LEVEL
THREE-BEDROOM UNIT TOWNHOUSE
BEDROOM
140 SQ. FT.
BATH
BEDROOM
160 SQ. FT.
CLOSET
CLOSET
CLOSET
BATH
50 SQ. FT.
BEDROOM
100 SQ FT.
UPPER
LEVEL

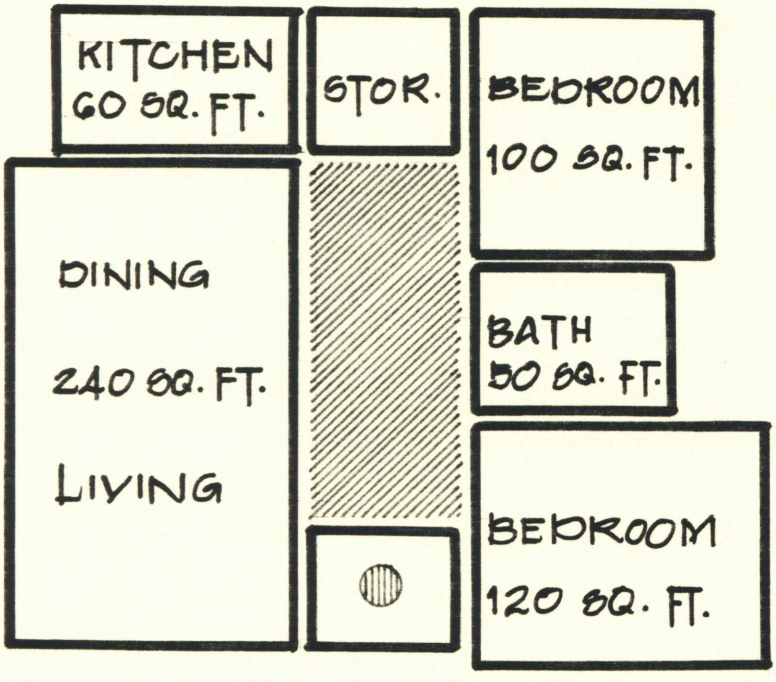


ENTRY FOYER

HORIZONTAL CIRCULATION

VERTICAL CIRCULATION

ONE-BEDROOM UNIT APARTMENT



TWO-BEDROOM UNIT APARTMENT

SPACE REQUIREMENTS

The maximum allowable dwelling units for this site is 73 units. A common building is also being proposed to serve this development.

Proposed dwelling units

-Townhouse

-Low rise apartments

Distribution of dwelling units

-Townhouse = 70% of total

-Low rise apartments = 30% of total

Therefore, proposal will be for a maximum of :

70% x 73 = 51 units of townhouse

30% x 73 = 22 units of apartments

Townhouse units distribution

-60% for two-bedroom units = 31 units

-40% for three-bedroom units = 20 units

Apartment units distribution

-50% for one-bedroom units = 11 units

-50% for two-bedroom units = 11 units

Distribution of total dwelling units proposed

-Two-bedroom townhouse = 31

-Three-bedroom townhouse = 20

-One bedroom apartment = 11

-Two bedroom apartment = 11 Total units = 73

Proposed floor area for Common Building

Spaces	Net floor area	
Restrooms	100	
Recreation room	600	
Meeting room	400	
Lounge area	400	
Lobby space	100	
Storage	200	Total = 1800 sq. ft.

Proposed floor area for Townhouse two-bedroom unit

Spaces	Net floor area	
Entry	60	
Living	180	
Dining	120	
Kitchen	100	
Bedroom - one	160	
-two	140	
Bathroom - one	50	
-one half	50	
Utility/storage	60	Total = 920 sq.ft.

Three-bedroom unit

Spaces	Net floor area	
Entry	60	
Living	192	
Dining	144	
Kitchen	100	
Bedroom - one	160	
- two	140	
- three	100	
Bathroom - one	50	
- two	50	
- one half	50	
Utility/storage	80	Total = 1,126 sq. ft.

Proposed floor area for apartment, one bedroom unit

Spaces	Net floor area	
Entry	30	
Living - Dining	220	
Kitchenette	50	
Bedroom	120	
Bathroom	50	
Storage	30	Total = 500 sq. ft.

Two-bedroom apartment unit

Spaces	Net floor area	
Entry	30	
Living-dining	240	
Kitchen	60	
Bedroom - one	120	
- two	100	
Bathroom	50	
Storage	40	Total = 640 sq.ft.

Common open space

Common outdoor area with sitting areas should be provided for adults engaging passive activities. Such areas should be well landscaped with vegetation, paths, lighting, benches, etc. This area should be located near the common building.

A playlot for young children should be provided and located near the common building. The playlot size shall be a minimum of 2,000 square feet.

The common building and all common space shall be maintained and owned by the residents within this development.

ROOM REQUIREMENTS

Living room

-The size of the living room should reflect the size of the dwelling unit and the economic status of the occupants.

-Circulation through the living room should be as direct as possible, yet it should not interfere with the furniture placement.

-Opening should be located so as to give enough wall space for various furniture arrangements.

-Seating arrangement should be around a 10 foot diameter for comfortable group conservation.

-The minimum size for the living room without dining facilities (townhouse) should be approximately 180 sq.ft.

-The minimum width of a living room should be 12 feet (townhouse and apartments). The recommended width is 14 feet.

Dining Area

- This area should be for the main dining purpose and may be combined with the living room or kitchen, or may be a separate room.

- The amount of space allocated to dining should be based on the number of persons to be served and the proper circulation space.

- Appropriate space should be provided for the storage of china and dining articles in the dining area itself or in the adjacent kitchen.

- The minimum size for combined living and dining area (apartment) should be 200 sq. ft.

Kitchen

-The size of the kitchen should be determined by the number of bedrooms provided. Kitchens for larger units with more bedrooms may not require more floor area but will require more counter space, a larger number of burners on a range, a large oven and more storage space.

-The kitchen should be conveniently located near the dining area, living area, and utility area. The kitchen should have direct access to the dining area.

-Kitchen storage should include:

* accessible storage space for food and utensils
* sufficient space for the average kitchen accessories
* sufficient storage space for those items of household equipment normally used and for which storage is not elsewhere provided.

-The most common types of kitchen arrangements are:

* straight-line or galley
* parrallel
* U type
* L type

-The galley type arrangement is used for kitchenettes that require a minimum of equipment.

-The parallel and U arrangement are considered the most efficient in regard to movement and working relationships.

-The L arrangement is commonly in a large kitchen, which makes possible a eating area.

-L or U layouts provide a more flexible working area, especially when more than one person is using the kitchen. These layouts are recommended for use in family units.

Bedrooms

-Visual and audio privacy is essential for all bedrooms.

-All bedrooms should have proper access to natural light and ventilation.

-Bedrooms should be located away from the living and working area for privacy.

-The location of doors, windows and closets should be planned to allow the best placement of the bed and other furniture.

-Placement of the closet next to the door into the bedroom minimizes the use of wall space.

-Bedrooms should be sufficient size to permit an alternate arrangement of furniture.

-Primary bedrooms should have at least one uninterrupted wall space of at least 10 feet.

Bathrooms

-The bathroom should be convenient to the bedroom zone, and accessible from the living and work area.

-Linen storage should be accessible from the bathroom but not located within the bathroom.

-For dwellings on two levels, the second toilet ideally should not be located on the same level as the bathroom.

-A half bath could include a washer and dryer with storage for laundry cleaning equipment.

Utility (townhouse)

-Location for water heater, furnace, storage and, possibly, laundry facility

-If laundry facility is included, space allocation for appliances and equipment should be present.

washer	30" x 30"
dryer	30" x 30"
laundry tray	24" x 20"
combination sink and tray	42" x 20"

-Hot water storage tank capacity will depend on the size of the unit.

Laundry room (apartment)

-The laundry room should have at least one wall facing the outside for ventilation.

-Laundry room should be provided with an area for sitting while waiting for their laundry to be done and folding table to work on.

-One washer and dryer is required to serve every six dwelling unit apartments.

D. GOALS

1. To provide adequate safety measures to all dwelling units from the 100 year frequency flood hazard.

2. To preserve any natural features within and around the site.

3. To separate the living areas from the quiet areas.

4. To separate interior circulation into a transition circulation zone.

5. To provide solar access to the living areas of the dwellling units.

6. To design for different furniture arrangements within any one room.

CONSUMER AND HOUSING

CONSUMER AND HOUSING

There are may factors involved in the housing industry which may affect the outcome of any housing project. To have a successful housing project in consumer terms, their desires have to be met. According to builders, they attribute the success of their residential projects to overall quality, location and design. Yet, the consumers decision to buy is based on many more factors, including lifestyle, the appeal of home ownership, advertising, affordability and even the approach of a builder's sales staff. Model homes and sales centers also play an influential role in consumer buying decisions.

The following information on housing patterns for 1986 is the summary of a survey conducted by Professional Builders. At the end of this summary is the full survey conducted by them. The geographic regions surveyed include Montana and most of the other parts of the United States. However, considerations have to be taken into account since consumers preferences may vary in different geographic regions.

The single-family detached house is the most preferred type of home among all consumers. The ideal house is an 1874 square foot detached, single level home of traditional design on a lot of a half-acre or greater. This house has three bedrooms, two baths, a full basement, and unfinished recreation area, great room.

Consumers shopping for attached housing would prefer a 1487

square foot townhome of contemporary design. The home would have a small yard and a private patio or courtyard. One thing all consumers want are luxury and livability in every price range.

A home is more than just a place to live. It is an important investment. Seventy percent of consumers surveyed say a home is the best investment they can make. Yet, consumers must be able to afford to purchase a home. The most important factor in deciding whether or not consumers will buy a home is monthly payments for young buyers and price among older buyers.

Consumers like smaller homes because monthly mortgage payments are more in line with their budget. However, consumers are aware that smaller homes have a reputation for offering less space, are built of lesser quality and can be in a less than desirable location.

Products play a larger part than just meeting consumers' everyday needs, and amenities serve a more significant role than just fulfilling consumers desires. Both products and amenities are an integral part of a prospective buyer's perception of overall quality and workmanship. Quality features are so important that prospects are willing to pay extra for them.

Home shoppers are willing to spend more initially on energy-saving features because energy costs can be a significant portion of the total costs of home ownership. Buyers can get a mortgage with a lower income for energy-efficient homes since mortgage payments taken with utility costs constitute a large monthly

expenditure for the home buyer.

Convenience and low maintenance items were prospects' top choices in kitchens and bathrooms. In bathrooms, consumers expect more and more amenities as standard features. In the kitchen, consumers demand convenience products and low-maintenance features.

General conclusions drawn from this survey are:

-Build quality; quality does not have to mean high prices

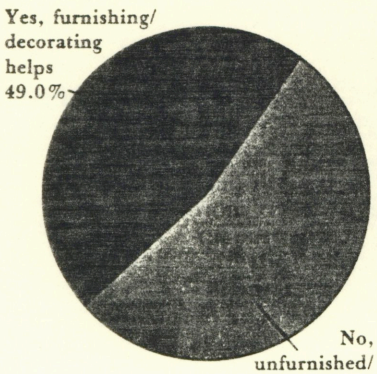
-Offer a strong amenity package

-Keep prices affordable

-Be aware of consumer preference

Buying decisions are influenced substantially through use of interior furnishings and decorating

About half of prospective buyers say that interior furnishings and decorating play an important role in their buying decision. Almost 60% of buyers of attached housing say interior merchandising is important. Builders think so too; 70.2% of builders say that their model interiors are generally furnished.



(all consumers)

An active lifestyle and affordability are prime reasons buyers seek attached housing

Consumers seeking attached housing say their reasons for purchasing such a unit are based on less home maintenance, community features and affordability. Among buyers of detached housing, almost 60% said that they would not purchase attached housing under any condition.

	Buyers of attached
Less home maintenence	70.1%
Community features	36.1
Only type of housing I can afford	22.7
Best way to buy first home	21.7
More house for the money	12.4
Only housing available in desired location	9.3
Prefer the cluster lifestyle	8.3
Increased prestige	4.1

Consumers seek a new home's investment value and appreciation when making their final selection

Investment value ranks highest among the most important factors in selecting a new home. Attractiveness and livability are also key considerations. These rankings hold true by all home price categories and buyer types as well.

	Consumers
Good investment/ appreciating value	53.4%
Style and appearance	40.1
Size/number of rooms	37.9
Close to work	17.1
Quality of schools	16.1
Warranties	13.3
Neighborhood location	9.5
Close to public transportation	4.4
Close to shopping	3.8
Brand name used throughout	2.9

Why move? Buyers of detached homes want a larger home, buyers of attached homes want less maintenance

The need for more space and a better location motivates shoppers of detached housing to look for a new home. Those wanting attached housing seek less maintenence. Among buyer types, 49% of move-ups and 35.5% first-time buyers want larger homes, 40% of empty-nesters want smaller homes, 34.6% of retirees want less maintenance.

	Buyers of detached	Buyers of attached
Larger home	34.6%	17.3%
Better location	27.5	15.4
Present home profit	16.6	13.5
More amenities	12.9	15.4
Newer home	12.7	3.9
Energy efficient	11.1	3.9
Less maintenence	9.2	32.7
Smaller home	7.2	9.6
Community prestige	3.7	7.7
Community features	2.3	9.6

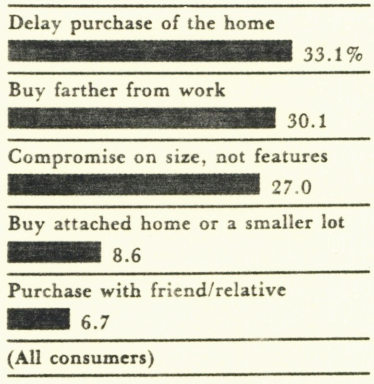
Looking for "something more" and changing needs are prime reasons consumers seek new housing

Dissatisfaction with one's present home is a consumer's prime motivation to seek a new home. Among all consumers, over half plan to buy a new house because of a need for more space, more amenities or changed location. Among buyers of attached housing, more than one-third are buying a home for the first time.

	Buyers of detached	Buyers of detached
More space, amenities or new location	55.4%	20.7%
Buying for the first time	14.3	35.6
Due to retirement	12.8	28.7
Must move due to job or family	10.7	5.8
Less space, maintenance, changing needs	9.5	14.9
Other	0.6	0.0

Prospective buyers would rather wait than compromise due to rising home prices

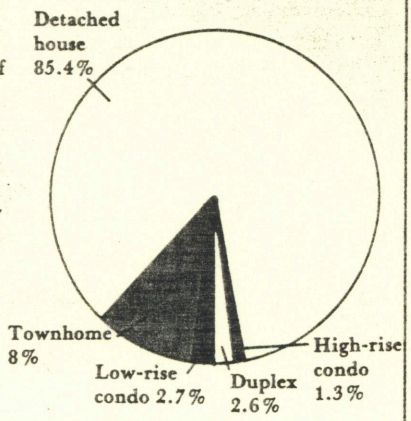
About one-third of all consumers who responded in the survey would rather delay the purchase of a new home than to compromise on the home they really want. Buyers of attached housing are more willing to compromise on size, but not features.



(All consumers)

The detached house is still the number one preference among all shoppers

The single-family detached house is the most preferred type of home among all consumers, regardless of their geographic region, price range or buyer type. And 80.4% of builders say that the detached house is their best-selling model. Among consumers seeking attached housing, 54.9% prefer townhomes.



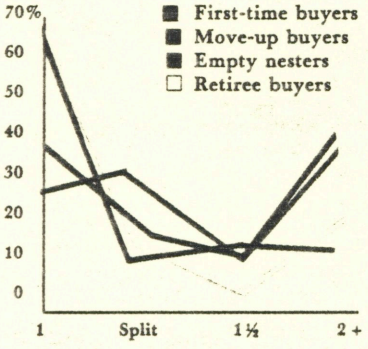
Preferred architectural styles still lean toward traditional designs

Traditional styling, which includes Victorian, colonial and Tudor, is the preference of 54.7% of all consumers. And 70.2% of builders say their best-selling model home is of traditional style. Thirty percent of shoppers seeking detached housing prefer the contemporary design; 43.4% of those seeking attached housing favor contemporary.

	Consumers prefer	Best-selling models
Contemporary	32.3%	28.7%
Traditional	29.9%	42.2%
Colonial	15.3%	19.2%
Spanish	6.8%	8.4%
Victorian	5.4%	4.1%
Tudor	4.1%	4.7%
Other	6.3%	3.7%

Single-level homes are preferred by more than 40% of all consumers

The single-level house is favored by most consumers, regardless of region or home price range. But 36.4% of first-time buyers prefer two-stories or more; move-up buyers would choose either a single-level or two-story home. As home price range increases, so does preference for two-story homes.



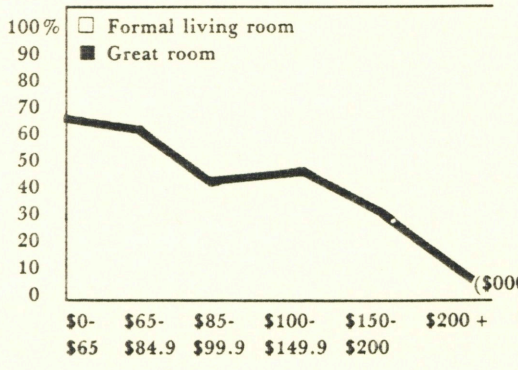
Those seeking detached housing want large lots, buyers of attached prefer private courtyards

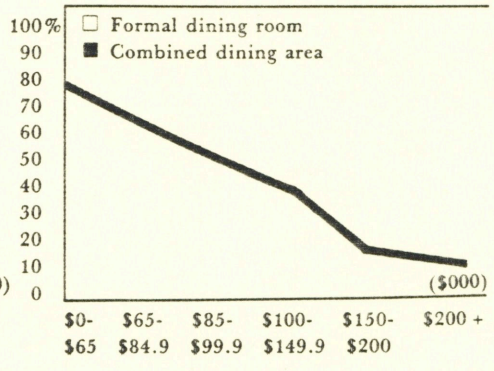
The type of lot that consumers seek varies widely by the type of housing they want. Almost 60% of those seeking detached housing want at least a half-acre lot, but only 43.4% of builders offer that size of lot with their best-selling models. More than 60% of prospective buyers of attached housing want a small yard with a private courtyard.

	Detached buyers	Attached buyers
½ acre or more	58.1%	9.2%
Narrow frontage/ large rear yard	35.7	24.5
Minimum yard with private court	15.5	60.2
No private yard/ common open space	2.8	16.3
Narrow frontage/ large front yard	1.5	4.1

Preference for formal living and dining rooms or informal space varies widely

Among all consumers, more than half prefer informal great rooms and dining areas where space is shared with the kitchen or family room. But as noted in the charts, as home price increases, so does consumer preference for formal living and dining rooms. In this survey, 51.3% of builders also report that the formal living rooms are decreasing.





Consumers are convinced that there are no better investments than home ownership

No other investments compare to the value of a house. That is what 70% of consumers say when asked what investments are better than a house. Home ownership is considered the best investment among consumers of all ages, incomes and regions.

Name an investment better than home ownership	All consumers
There is none	70.0%
Savings certificate of deposit	10.7
Money market funds	9.9
Stocks	6.7
Bonds	6.5
Gold	4.3
Coins	3.1

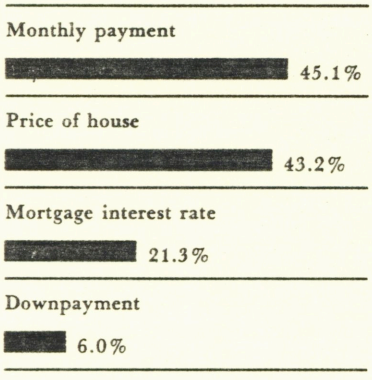
To attract buyers, builders use such incentives as interest rate buy-downs

Buying down the interest rate for the first few years of a mortgage is the most popular financial incentive offered by builders to attract buyers. Builders buy down interest rates an average of 4.5% of the selling price. Or they will discount a home's selling price by 5%. Only 11.3% of builders use builder bonds to help finance these incentives.

Financial incentives	Builders
Buy-down interest rates	45.1%
Offer extra features free	43.4
Reduce selling price	28.0
Rent, with option to buy	15.5
Guarantee sale of current home	11.8
Lease the land	2.4

Monthly payment is most important among young buyers, price is most important among older buyers

The monthly payment is the top-ranked consideration in wether or not a consumer will purchase a home, according to 51.4% of would-be first-time buyers and 55.2% of move-up buyers. House price is more important to 61.3% of empty nesters and 72.8% of retirees.



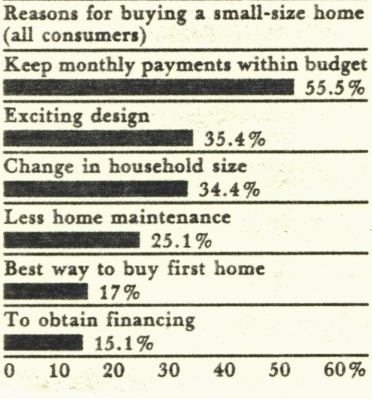
One-quarter of consumers can currently afford a maximum monthly payment between $500 and $749

Prospective buyers are willing to pay an average of 27.6% of before-tax household income for principal, interest, taxes and insurance. Overall, that signifies a median payment of $658. And, as noted in the table, about two-thirds of those surveyed can afford to pay in excess of $500 towards a monthly payment.

Max. monthly payment	Consumers
Less than $250	5.9%
$250 to $299	3.3
$300 to $349	4.9
$350 to $399	6.7
$400 to $499	13.5
$500 to $749	24.9
$750 to $1000	19.7
More than $1000	21.1

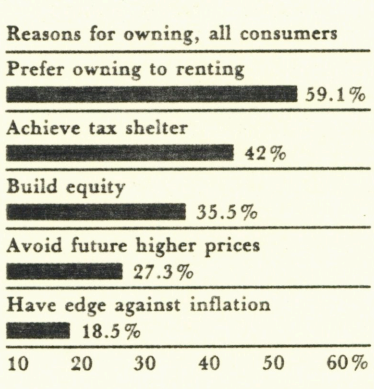
Lower monthly payments and exciting design make smaller homes attractive

Consumers say that they would purchase a smaller home primarily for financial considerations. The monthly payment was the top consideration among 75% of first-time buyers, 56% of move-up buyers and 50% of retiree buyers. Empty nesters cite less home maintenance as the main reson they would buy a smaller home.



Owning property rather than renting it is the top financial reason for buying a home, say consumers

The most influential financial reason for home ownership is that monthly payments are applied to owning property rather than renting it. Tax shelter reasons are important among owners of higher-priced housing. More than 55% of buyers seeking homes costing $100,000 or more look to the tax shelter advantage.



Among all consumers, down payment averages 21.2% of the home price but varies according to buyer type.

How much buyers put down on the price of a home varies according to age and income. About half of first-time buyers expect to spend less than 10% on the down payment. About 35% of those planning to buy an attached home and 21.2% planning to buy a detached home will put down from 11% to 20%.

% of home price	All consumers
None	2.0%
1 to 10	35.1
11 to 20	23.2
21 to 30	11.9
31 to 40	9.0
More than 40	18.8

About 25% of all consumers expect to spend less than $10,000 for a down payment

Among all consumers, average downpayment is $28,813. But that amount varies widely by buyer type. Among first-time buyers, 41.2% expect to pay less than $10,000. Retirees expect to spend from $20,000 to $29,999. Among buyers of homes priced from $150,000 to $200,000, nearly ⅓ expect to put down more than $70,000.

Downpayment	All consumers
Less than $10,000	25.5%
$10,000 to $19,999	22.1
$20,000 to $29,999	18.6
$30,000 to $39,999	8.3
$40,000 to $49,999	6.4
$50,000 to $59,999	5.2
$60,000 to $69,999	4.2
$70,000 +	9.7

Consumers say affordable prices are the advantage of smaller homes but the disadvantage is smaller space

The lower price tag is the most significant advantage in purchasing a smaller, more affordable home, say consumers in every category, price range and geographic region. But consumers are also aware that smaller homes have a reputation for offering less space, are built of lesser quality and can be in a less than desirable location.

Advantages of smaller homes	All consumers
Designed for better use of space	31.0%
Less maintanance and upkeep	27.3
More energy efficient	26.6
Smaller lot, lower property taxes	15.6
No advantages	9.1

Disadvantages of smaller homes	All consumers
Less spacious	63.3%
Less desirable location	32.2
Lower quality construction	31.3
Fewer amenities	27.4
Less desirable design	16.9
No disadvantages	5.0

Main ways to reduce housing costs are to relax land-use restrictions, try innovative financing techniques, builders say

Buyers aren't the only ones concerned about the cost of housing. Builders see many ways to reduce the cost. Relaxing land-use restrictions and using innovative financing techniques have the most potential, builders say. Almost half the builders say building on smaller lots can reduce new-home costs.

Greatest potential to reducing price of housing	Builders
Relax land-use restrictions	44.0%
Innovative financing	40.0
Increase density	38.8
Build smaller units	36.4
Improve building techniques	35.6
Decrease construction time	31.8
Reduce labor costs	25.0

Ways builders can reduce costs	Builders
Use smaller lots	48.0%
Use standard designs	46.3
Build smaller homes	38.8
Design for future expansion	36.2
Build attached units	27.2
Erect prefabricated homes	8.7

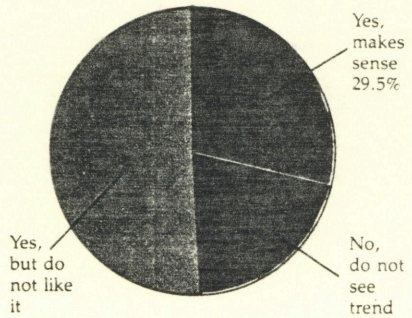
Buyers give their point of view on subject of affordable housing

Today's home buyers recognize that new homes are getting smaller but that fact does not necessarily sit too well with them. □ Still, they will purchase a smaller-sized home under certain circumstances. □ The most mentioned reason for buying an affordable house would be to keep monthly payments in line with their budgets. □ They will buy smaller homes if they are designed with excitement and made to "live big." □ Buyers do not want to share both the financial burden of home ownership and living space with someone else. They want a home of their own to themselves. □ Shoppers do see homes they can afford on the market but many think they are too hard to find. Others consider them not too desirable. □ Buyers primarily blame the recent run-up in housing costs on inflation.

Home shoppers reluctantly see trend to smaller, more efficient housing

More than 80 percent of all home shoppers can tell there is a trend to smaller houses, but most do not like that trend. Empty-nester buyers, however, are most in favor of smaller, more affordable units. Move-up buyers like it least.

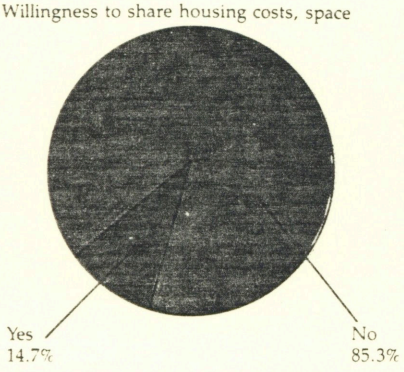
Consumers' view of downsizing trend



Buyers are unwilling to share financial burden or space to have new home

More home shoppers would not share financial expense or living space, even if sharing were only way to afford a new home. Most willing market segment is first-time buyers, yet only a quarter of these buyers would double up.

Willingness to share housing costs, space



Affordable housing out there, but some buyers cannot find it

Shoppers of attached housing are more likely to disfavor the desirability of affordable housing offered in their market. First-time buyers indicate they have hardest time finding new homes in their price range.

Availability of affordable housing	
Yes, a wide selection	39.2%
Yes, but not every desirable	10.5
Yes, but very hard to find	44.2
No, but will stretch budget to buy	6.1

Consumers will buy smaller homes under certain circumstances

Consumers can be convinced to buy a smaller house under certain conditions. First-time buyer see payments as a major consideration. Retirees and empty-nesters prefer smaller units because they require less maintenance.

Conditions of small home purchase	
To keep payments in line with budget	45.3%
Change in household size	44.8
Unit offers design excitement "big" space	42.3
Less home maintenance	29.5
Best way to enter new home market	19.2

Inflation tops consumers' list of home price hike factors

Home buyers point to inflation as the primary culprit in increasing home prices. But consumers also know that cost of financing, materials and labor also influence final sales price.

Home price increase causes	
Inflation	73.5%
Financing	54.7
Materials	44.2
Labor	44.0
Land	19.8
Builder profit	13.9
Government regs	12.0

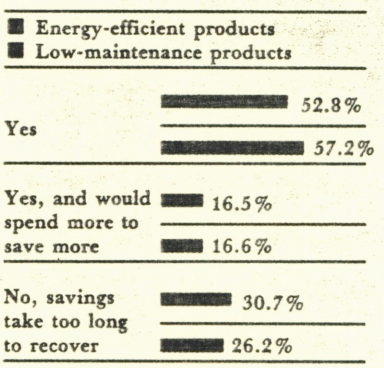
Brick is highest-rated exterior finish among consumers and builders

Brick is the favorite among all buyers, in most geographic regions. In the west south central region, 84.2% of consumers and 97.1% of builders prefer brick. Stucco was first choice among 34.7% in the Pacific states. Brick and wood siding are favored equally by 28.2% of New England consumers.

	All consumers	Builders
Brick	49.0%	33.3%
Wood siding	12.9	27.2
Stucco	10.6	17.2
Aluminum/metal siding	10.0	5.4
Vinyl siding	9.5	11.5
Wood shakes/ shingles	4.8	8.5
Hardboard siding	2.8	11.3
Plywood siding	0.4	5.6

Most consumers say that they will spend more to save more on maintenance and heating/cooling costs

As noted, more than half of consumers said that they would spend an additional $1000 for energy-efficient products and features in order to save $100 a year in future heating/cooling costs. And they would spend an additional $1500 for low-maintenance features to save $200 annually on future maintenance.



Construction quality and energy savings credibility are investigated by consumers, marketed by builders

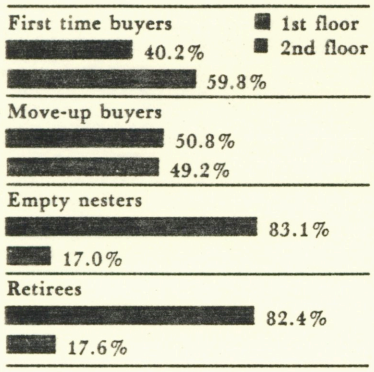
In determining the credibility of construction quality and energy-saving features, more than half of consumers ask for written guarantees and rely on their own inspection. Opinions of others are also key considerations. In marketing quality and energy savings, builders rely most heavily on literature and presentation by sales personnel.

How consumers test credibility	Construction quality	Energy savings
By visual inspection	72.1%	53.6%
Ask for guarantee/ warranty	56.1	58.6
Ask others who bought	55.5	39.6
Get independent evaluation	47.5	37.8
Compare with other homes	46.4	33.6
Look for brand names	24.0	34.5
Ask for literature	23.4	42.8
Take builder's word for it	16.5	11.4

How builders market	Construction quality	Energy savings
Salesman presentation	88.6%	70.1%
Literature/brochures	78.6	56.5
Sales center displays	48.6	50.3
Signage/model home stickers	45.7	19.1
Supplier promotions/ literature	44.3	51.7
Independent evaluations/ testimonials	30.0	8.2
Written guarantee/warranty	30.0	0.0
Cutaway exhibits	17.1	7.5

First-floor master bedroom is an attractive feature among most buyers

The location of the master bedroom on the first floor can be a big marketing plus, especially among empty nesters and retirees. The desire for a first-floor location doubles between age 30 and age 60. But over half of buyers less than age 40 still prefer a master bedroom on the second floor.



The master suite continues to increase in amenities and in marketing importance

Over the past few years, 53.8% of builders say that the master suite in their best selling model has increased in size and 54.1% of those builders say the master bathroom has increased in size. Among consumers in this survey, a private bathroom is the most desired element for the master bedroom suite, followed closely by a walk-in closet.

Most important elements	All consumers
Private bath	74.0%
Walk-in closet	68.0
Separation from other bedrooms	24.7
Dressing/make-up area	7.5
None	5.6
Sitting area	4.2
Balcony/patio	3.7
Fireplace	2.9
Mirrored doors	0.4

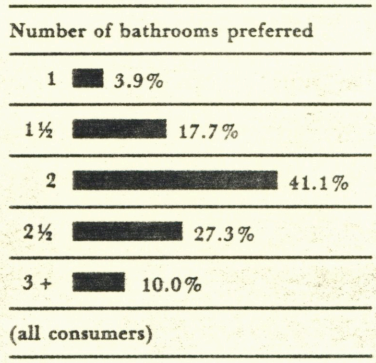
Consumers want space in the kitchen for a sit-down eating area

Seventy-seven percent of responding consumers want at least some space for sit-down dining in the kitchen. This preference is stated regardless of consumers' home state, age, buyer type and household size. To accommodate these arrangements, 43.2% of builders say that kitchen size is increasing over the past few years.

	Consumers prefer	Builders offer
Food preparation area only	10.3%	6.0%
Only countertop with stools	12.7	7.5
Small eating area	37.7	28.0
Full dining area	16.3	37.6
Combined kitchen/ family room	23.1	20.9

Two bathrooms are favored overall by buyers and in builders' best-selling models

More than 40% of all consumers seek two bathrooms for the homes they plan to buy. And 42.2% of builders say that two bathrooms are included in their best-selling models. More than 60% of buyers in the $200,000-plus price range expect three or more bathrooms.



Make the most of square footage in home design, especially storage areas, consumers say

Good, efficient use of square footage ranks highest among desired design elements, by home shoppers. Adequate storage space is the most sought after feature among all geographic regions, home price ranges, housing types, buyer types and household size. Visually shared space is also a popular feature to make rooms look and live bigger.

	Very desirable	Desirable
Lots of storage space	63.9%	32.4%
Additional storage	59.9	36.3
Visually shared space	42.4	46.5
Privacy	41.7	47.2
Family-oriented spaces	41.1	44.2
Distinctive entry foyer	29.6	49.8
Entertainment areas	18.6	50.6

(all consumers)

Builders use special design and marketing techniques as the size of the house and lot decreases

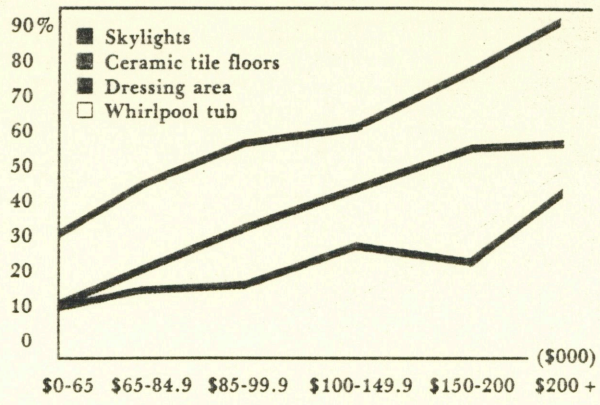
Among builders, 22.2% say that the average lot size has decreased in the past year and 28.5% say that the size of their best-selling model homes has decreased in the past few years. Builders are responding to these trends by increasing the marketability of their models through better design and improved land planning, as shown in the table.

Techniques	Builders
Improved interior space planning	70.6%
Improved exterior land planning	35.9
Improved interior decorating	33.6
Additional/upgraded standard features	32.4
Additional/upgraded energy features	31.3
More amenities	22.5
Other	3.8

In the bath, consumers expect more and more amenities as standard features

Amenities have turned the bathroom into a key marketing area in model homes as consumers demand more and more luxury products as standard features. Percentages vary only slightly between those shopping for detached and those for attached housing. The largest differences are by price range.

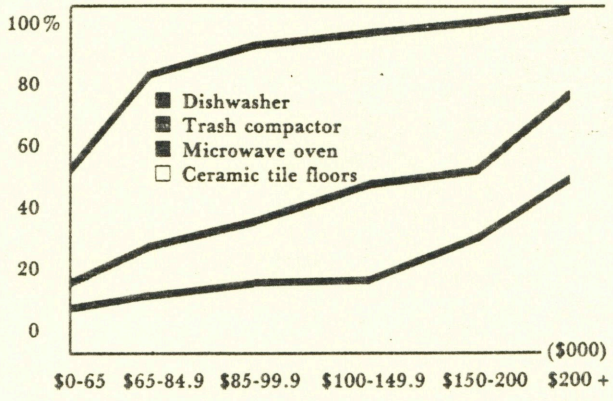
	Consumers want	Builders offer
Medicine cabinet	88.5%	61.1%
Exhaust fan	82.9	89.9
Linen storage cabinets	79.3	54.3
Tub/shower door	68.3	58.9
Single-bowl vanity	58.5	53.4
Ceramic tile walls	51.5	33.0
Ceramic tile floors	50.8	35.1
Colored fixtures	48.5	53.2
Bathroom heater	39.1	25.7
Safety features	42.6	31.4



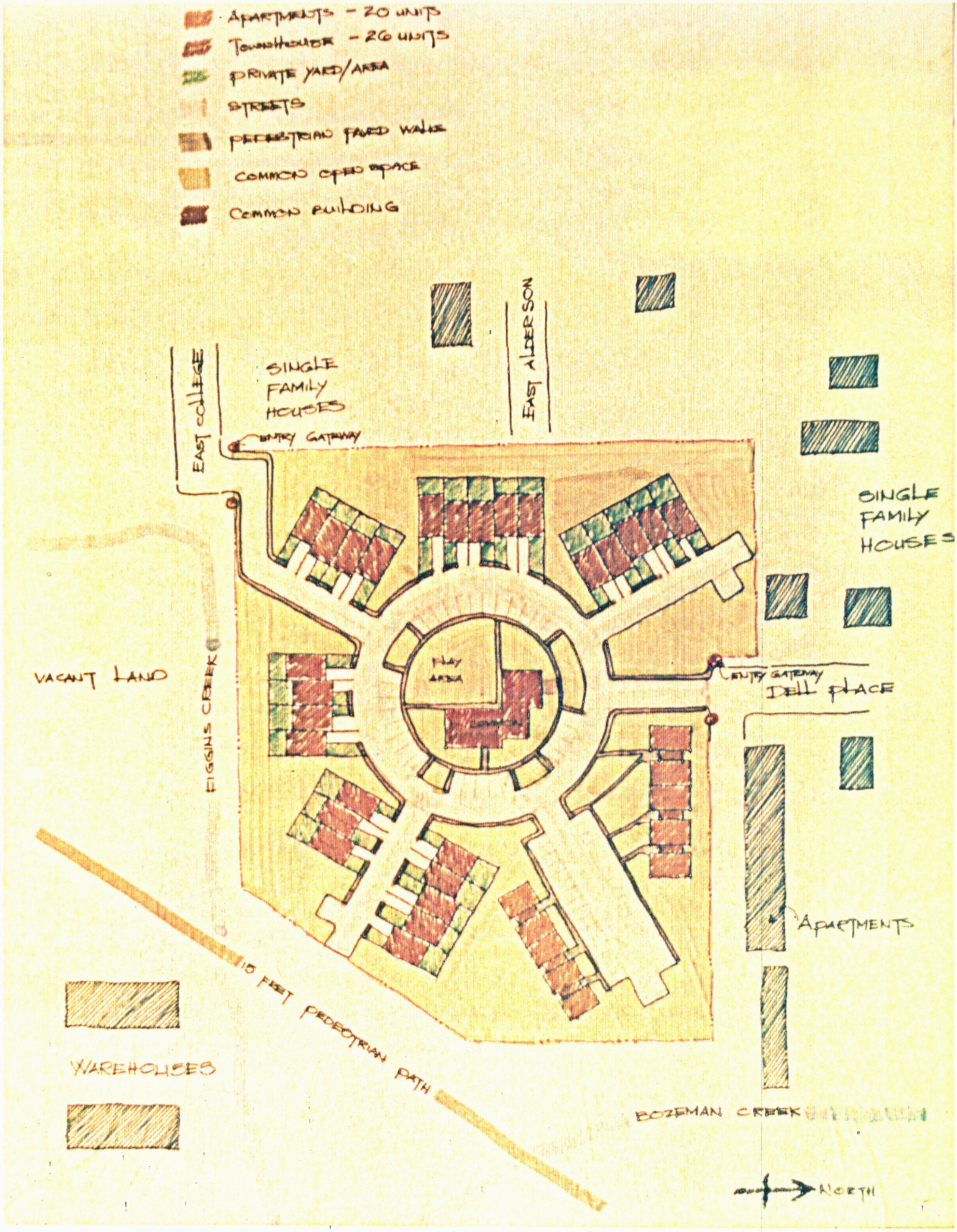
In the kitchen, consumers demand convenience products and low-maintenance features

The luxury options of yesteryear have become necessities in today's kitchen, from conveniences to decorative features. As the home price increases, the more amenities buyers expect as standard equipment, as noted in the line chart. The table notes what buyers expect as standard features and what builders actually provide as standard.

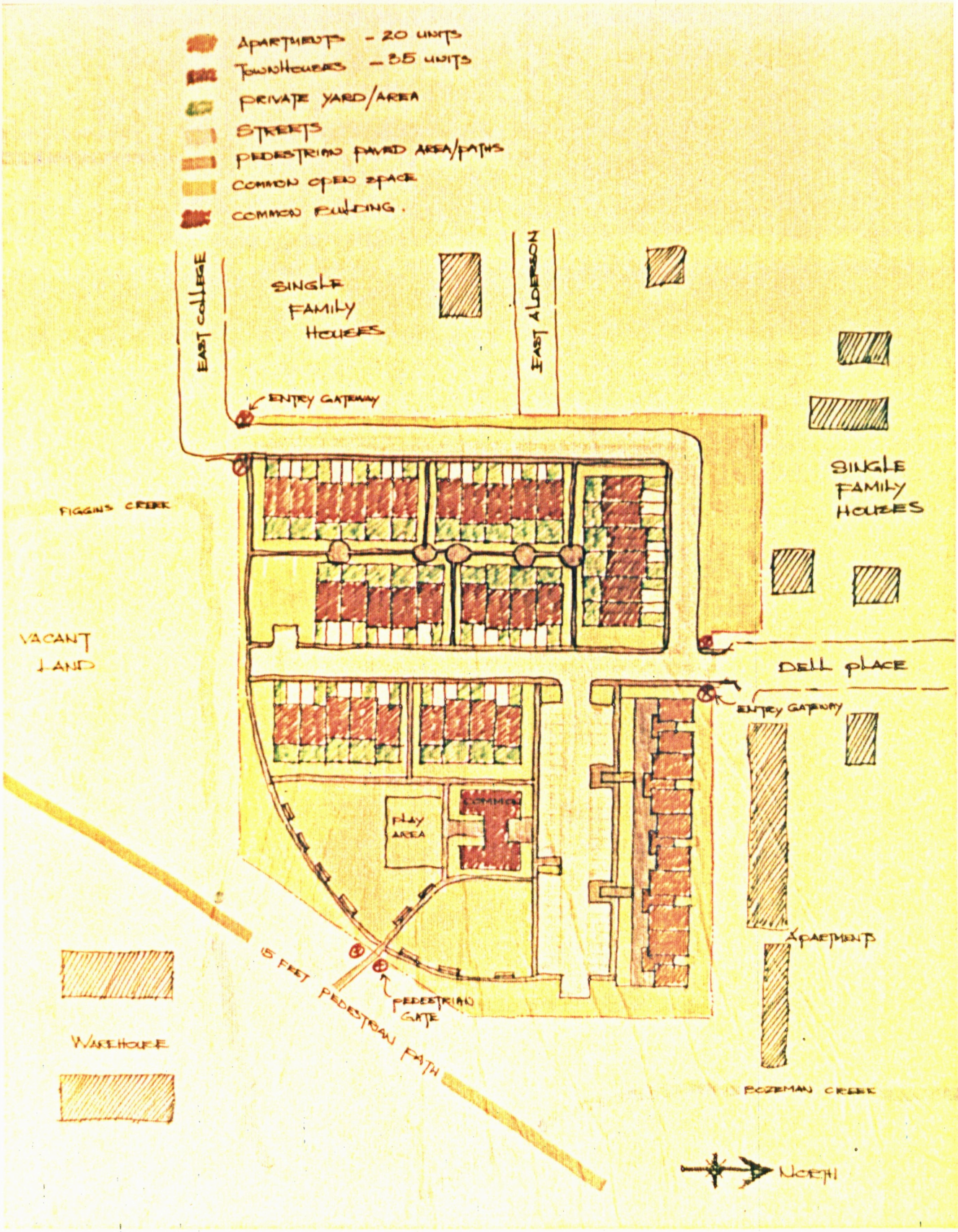
	Consumers want	Builders offer
Range/oven	91.5%	92.3%
Dishwasher	78.2	92.1
Vinyl floor covering	73.4	81.6
Stainless steel sink	70.0	68.0
Garbage disposal	69.1	81.8
Refrigerator	59.7	33.5
Single-handle faucet	58.7	82.5
Fluorescent lighting	56.5	54.2
Laminated countertop	49.9	73.4



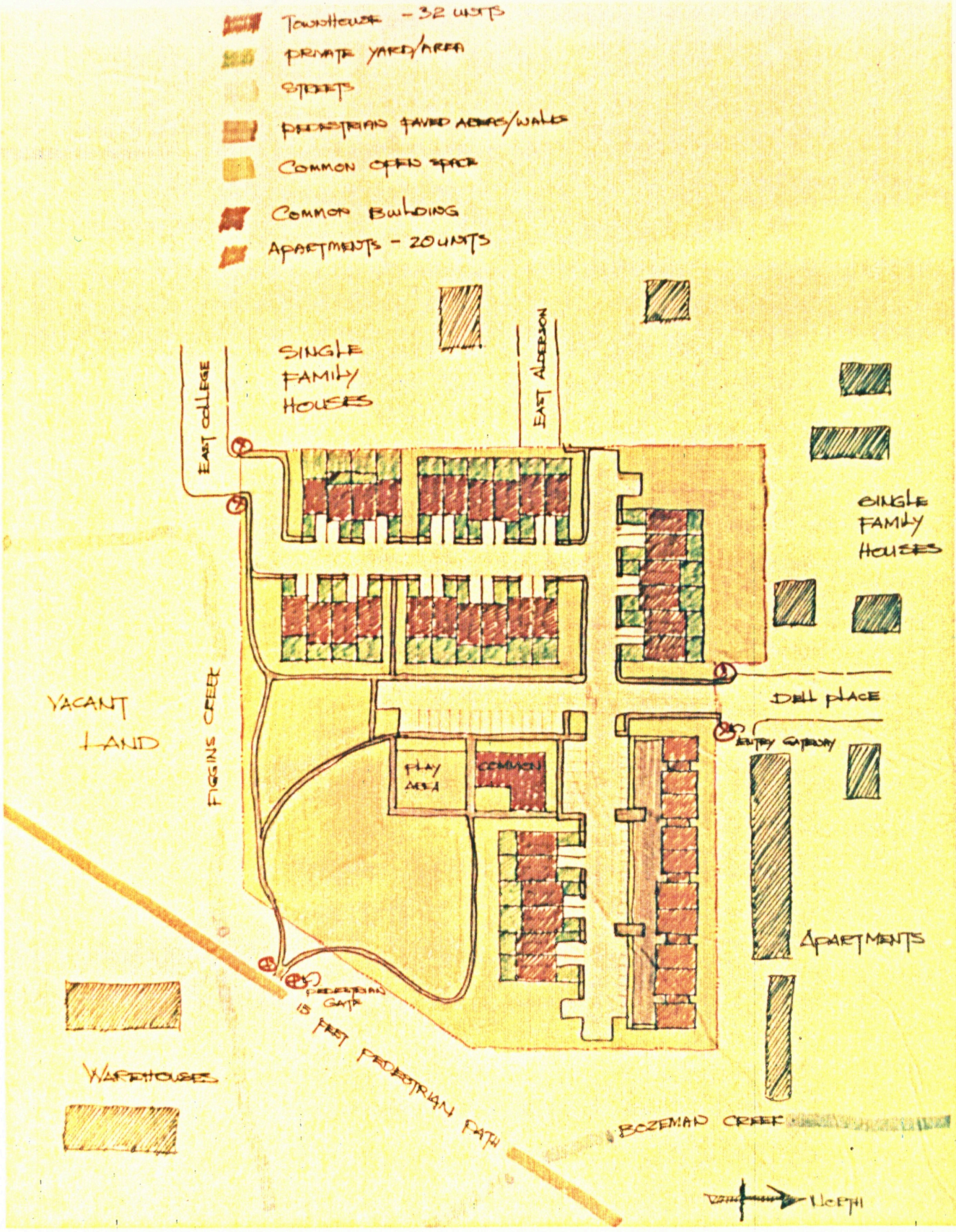
SCHEMES


APARTMENTS - 20 UNITS
TOWNHOUSES - 26 UNITS
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED WALK
COMMON OPEN SPACE
COMMON BUILDING
EAST ALDERSON
SINGLE FAMILY HOUSES
EAST COLLEGE
ENTRY GATEWAY
SINGLE FAMILY HOUSES
VACANT LAND
HIGGINS CREEK
PLAY AREA
ENTRY GATEWAY
DELL PLACE
APARTMENTS
10 FEET PEDESTRIAN PATH
WAREHOUSES
BOZEMAN CREEK
NORTH

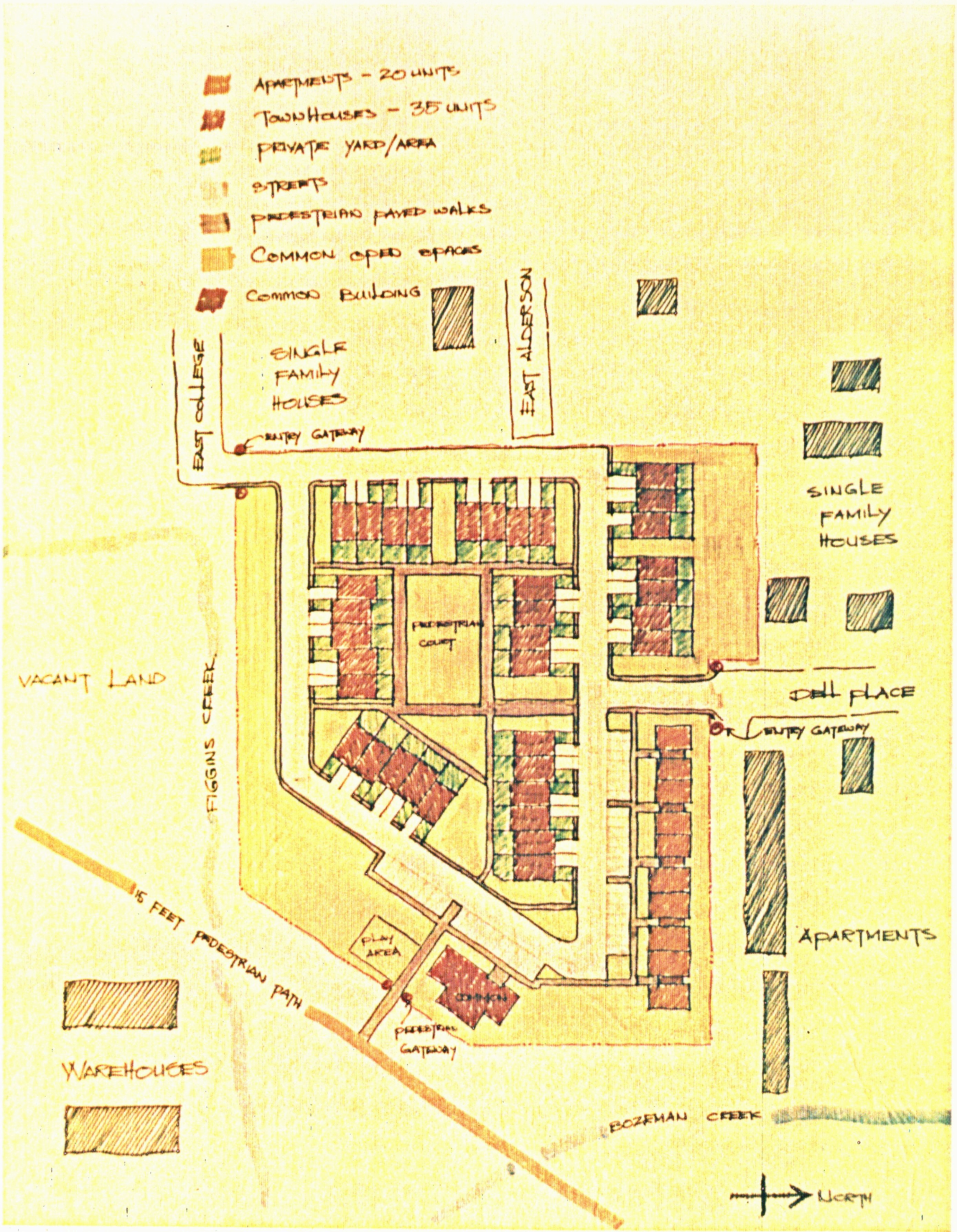
SCHEME 1


APARTMENTS - 20 UNITS
TOWNHOUSES - 35 UNITS
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED AREA/PATHS
COMMON OPEN SPACE
COMMON BUILDING.
EAST COLLEGE
SINGLE FAMILY HOUSES
EAST ALDERSON
ENTRY GATEWAY
SINGLE FAMILY HOUSES
FIGGINS CREEK
VACANT LAND
DELL PLACE
ENTRY GATEWAY
COMMON
PLAY AREA
APARTMENTS
15 FEET PEDESTRIAN PATH
PEDESTRIAN GATE
WAREHOUSE
BOZEMAN CREEK
NORTH

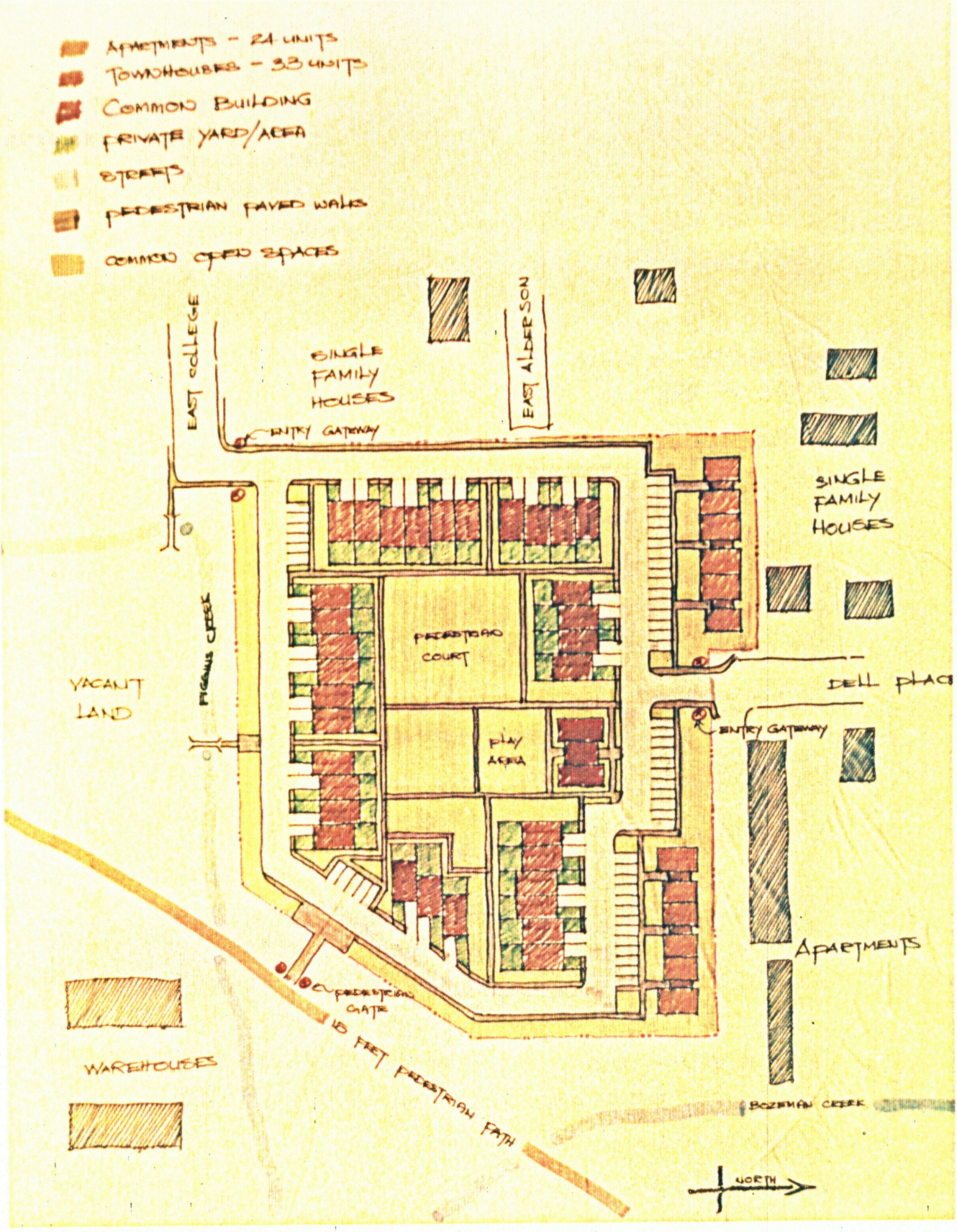
SCHEME 2


TOWNHOUSE - 32 UNITS
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED AREAS/WALKS
COMMON OPEN SPACE
COMMON BUILDING
APARTMENTS - 20 UNITS
SINGLE FAMILY HOUSES
EAST COLLEGE
EAST ALDERSON
SINGLE FAMILY HOUSES
DELL PLACE
ENTRY GATEWAY
VACANT LAND
FIGGINS CREEK
PLAY AREA
COMMON
APARTMENTS
PEDESTRIAN GATE
TO FIRST PEDESTRIAN PATH
WAREHOUSES
BOZEMAN CREEK
NORTH

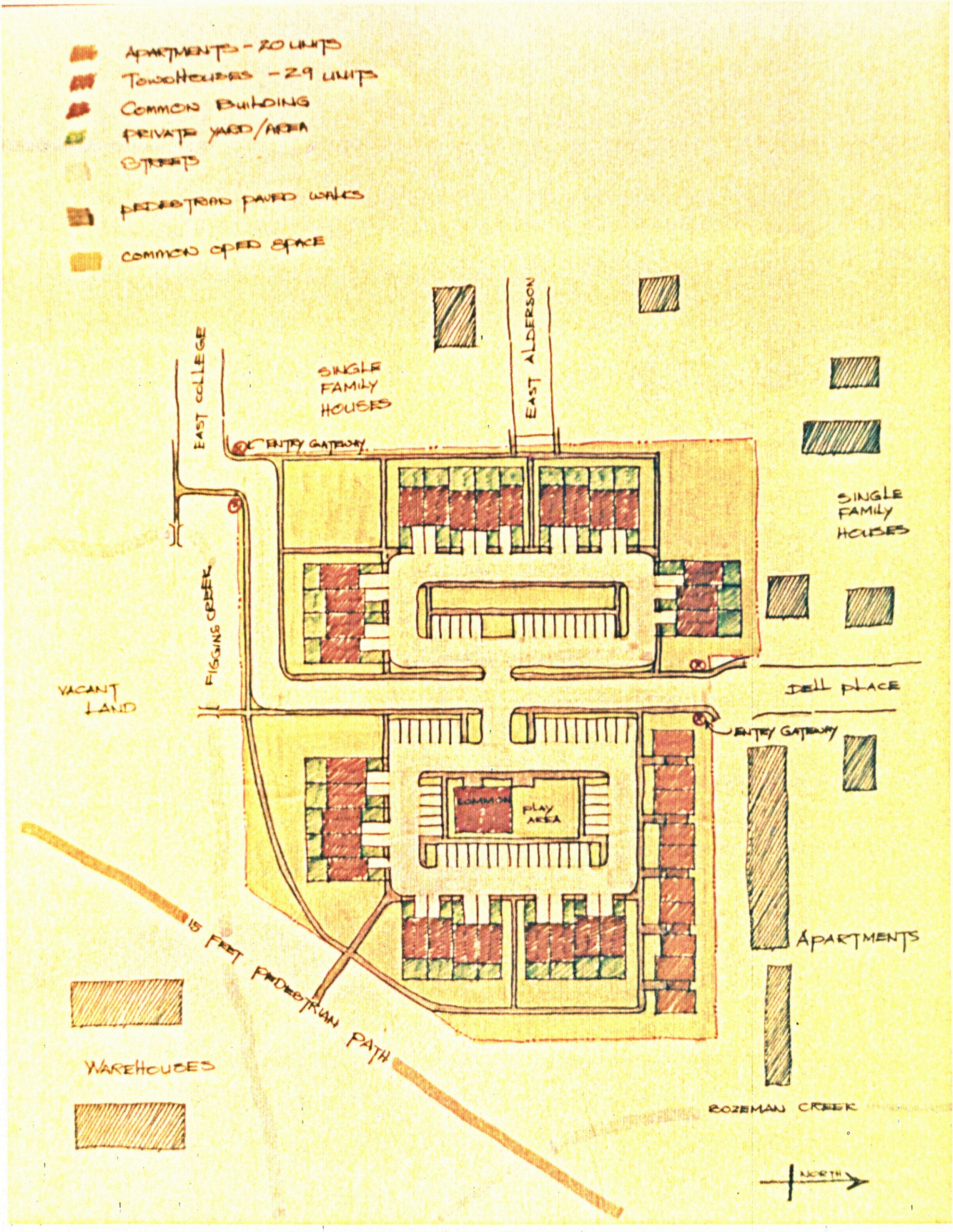
SCHEME 3


APARTMENTS - 20 UNITS
TOWNHOUSES - 35 UNITS
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED WALKS
COMMON OPEN SPACES
COMMON BUILDING
SINGLE FAMILY HOUSES
EAST COLLEGE
ENTRY GATEWAY
EAST ALDERSON
SINGLE FAMILY HOUSES
PEDESTRIAN COURT
VACANT LAND
FIGGINS CREEK
DELL PLACE
ENTRY GATEWAY
APARTMENTS
15 FEET PEDESTRIAN PATH
PLAY AREA
COMMON
PEDESTRIAN GATEWAY
WAREHOUSES
BOZEMAN CREEK
NORTH

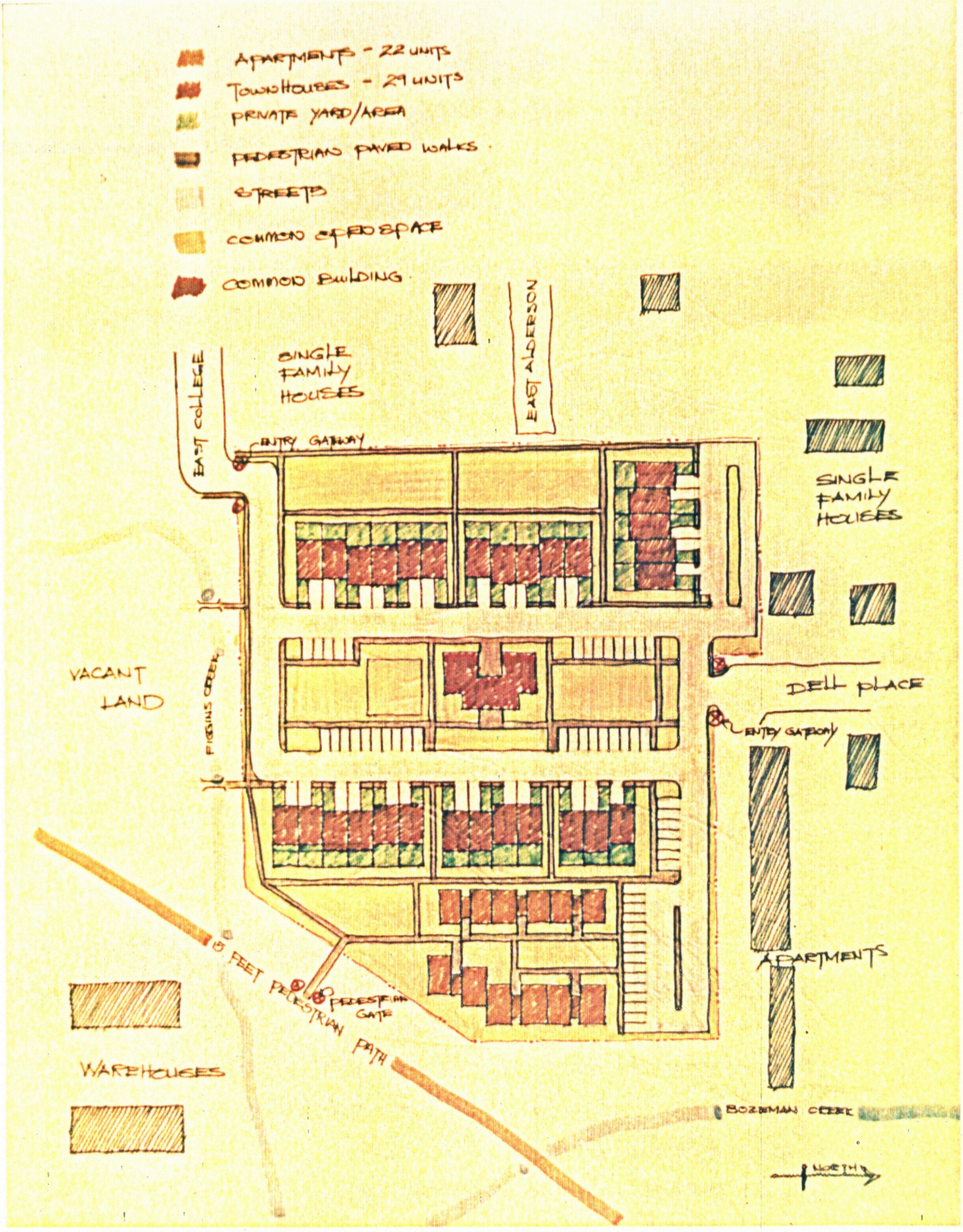
SCHEME 4


APARTMENTS - 24 UNITS
TOWNHOUSES - 33 UNITS
COMMON BUILDING
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED WALKS
COMMON OPEN SPACES
EAST COLLEGE
SINGLE FAMILY HOUSES
EAST ALDERSON
ENTRY GATEWAY
SINGLE FAMILY HOUSES
FIGURE 5 CREEK
PEDESTRIAN COURT
YACANT LAND
DELL PLACE
ENTRY GATEWAY
PLAY AREA
APARTMENTS
PEDESTRIAN GATE
WAREHOUSES
10 FEET PEDESTRIAN PATH
BOZEMAN CREEK
NORTH

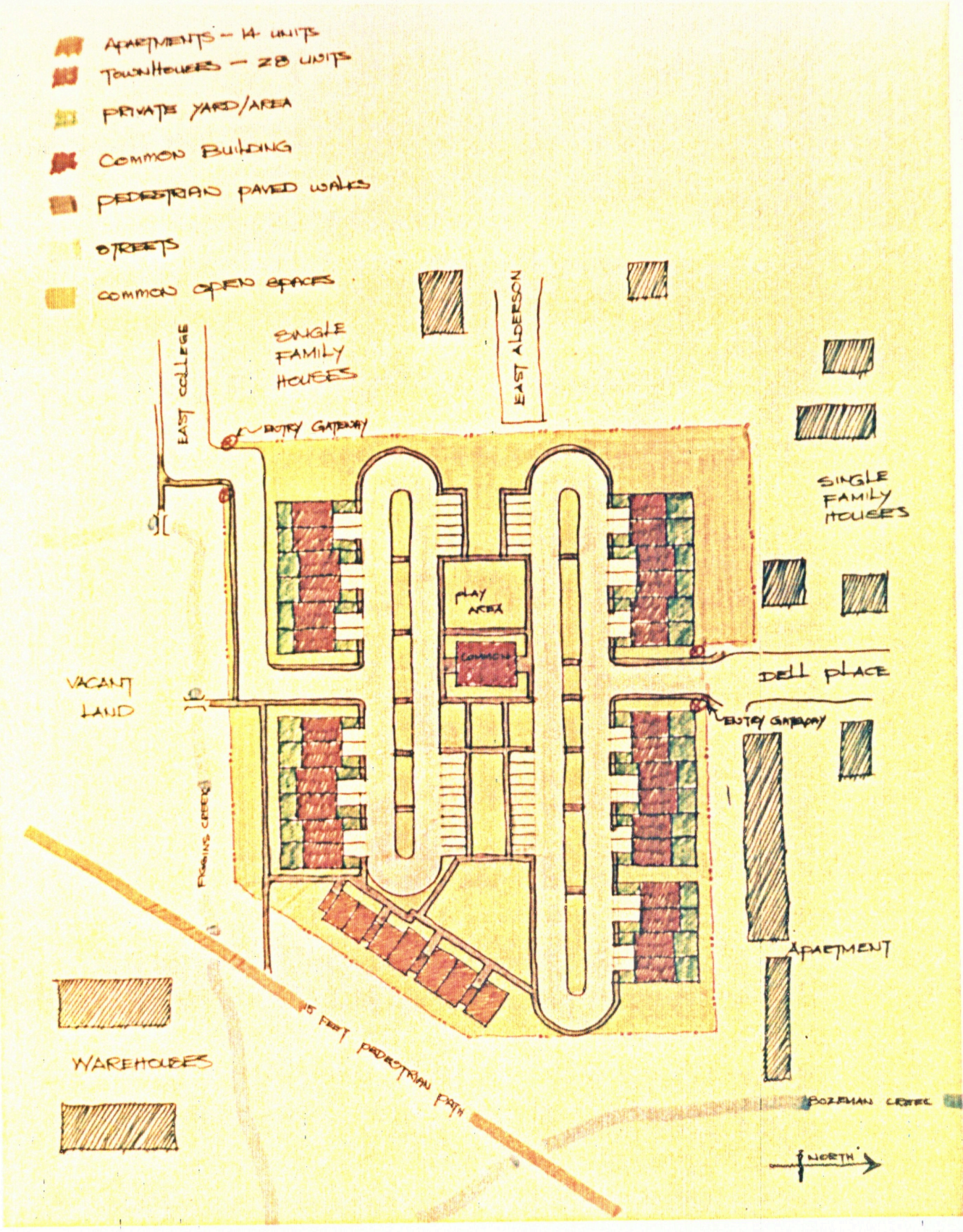
SCHEME 5


APARTMENTS - 20 UNITS
TOWNHOUSES - 29 UNITS
COMMON BUILDING
PRIVATE YARD/AREA
STREETS
PEDESTRIAN PAVED WALKS
COMMON OPEN SPACE
EAST ALDERSON
SINGLE FAMILY HOUSES
EAST COLLEGE
ENTRY GATEWAY
SINGLE FAMILY HOUSES
FIGGINS CREEK
VACANT LAND
DELL PLACE
ENTRY GATEWAY
COMMON
PLAY AREA
APARTMENTS
15 FOOT PEDESTRIAN PATH
WAREHOUSES
BOZEMAN CREEK
NORTH

SCHEME 6


APARTMENTS - 22 UNITS
TOWNHOUSES - 29 UNITS
PRIVATE YARD/AREA
PEDESTRIAN PAVED WALKS
STREETS
COMMON OPEN SPACE
COMMON BUILDING
SINGLE FAMILY HOUSES
EAST ALDERSON
EAST COLLEGE
ENTRY GATEWAY
SINGLE FAMILY HOUSES
VACANT LAND
FIGGINS CREEK
DELL PLACE
ENTRY GATEWAY
APARTMENTS
15 FEET PEDESTRIAN PATH
PEDESTRIAN GATE
WAREHOUSES
BOZEMAN CREEK
NORTH

SCHEME 7


APARTMENTS – 14 UNITS
TOWNHOUSES – 28 UNITS
PRIVATE YARD/AREA
COMMON BUILDING
PEDESTRIAN PAVED WALKS
STREETS
COMMON OPEN SPACES
EAST COLLEGE
SINGLE FAMILY HOUSES
EAST ALDERSON
ENTRY GATEWAY
SINGLE FAMILY HOUSES
PLAY AREA
COMMON
DELL PLACE
VACANT LAND
ENTRY GATEWAY
FOSSIL CREEK
APARTMENT
WAREHOUSES
15 FEET PEDESTRIAN PATH
BOZEMAN CREEK
NORTH

SCHEME 8

APPENDIX A

BOZEMAN ZONING ORDINANCE

Location of Site

-Zone R - 3 Residential-Medium Density District

-100 Year Flood Hazard District(ZONE B:areas between limits of the 100 year flood and 500 year flood)

Proposed Development

-Planned Unit Development for townhouses

Density

-Site size = 4.9 acres

-Density = 15 units/acre

-Total number of allowable dwelling units

4.9 x 15 = 73 units

GENERAL PROVISIONS

Dwelling unit access

-No two townhouse dwelling units shall be served by the same interior or exterior stairway or by the same exterior door

Building height

-The maximum height for any townhouse shall not exceed 32 feet. Building height is the vertical distance from the average elevation of the proposed finished grade at the front of the building to the highest of a flat roof, and the mean height between eaves and ridge for gable roofs.

Lot area

-No townhouse lot shall contain an area of less than 1,600 square feet.

-Minimum lot and building width shall not be less than 20 feet.

Unit size

-Every townhouse dwelling unit shall have a minimum gross floor area of 750 square feet.

Townhouse group

-Each grouping of townhouse units shall contain not less than two units nor more than 6 individual townhouse units contiguous to one another.

Distance between townhouse groups

-No portion of a townhouse, accessory structure, or other building type in or related to one group or cluster of contiguous townhouses shall be nearer than 15 feet to any portion of a townhouse or accessory structure of another townhouse building or cluster.

Architectural treatment

-Facades of townhouses in a group shall be varied by changed front yard setbacks and variation in materials or design so that no more than two abutting townhouses will have the same front yard setback and the same or essentially the same architectural treatment of facades and roof line.

Common open space

-A minimum of 1/9 of the site to be developed shall be provided as common open space.

-50 percent of the 1/9 open space shall be unencumbered with any structures, or any other impervious areas. This area shall be landscaped.

-The remaining 50 percent may be used only for recreational purposes such as swimming pools, tennis courts, pedestrian walks, etc.

Courtyards

-Courtyards which are designed to provide primary access from groups or cluster of lots or building sites adjacent to public streets must have an average width between the fronts of such lots of buildings of 15 feet with minimum distance of not less than 10 feet. The length of such courtyards should not be more than 100 feet, extending away from the public street upon which such courtyards must open into.

Street frontage

-Each townhouse project site must have a frontage on a public street. Individual lots need not front on a public or private street but may face upon common open areas subject to the parking distance factor.

Setback requirements

-No more than 2 abutting townhouse or townhouse clusters within the townhouse project site shall have a common front building setback. Variation in the setback of front

building faces shall be at least 4 feet.

-No townhouse dwelling unit shall be located closer than 25 feet to any public right-of-way nor within 15 feet of a private drive, access road, or common open parking area to the front or rear of such a dwelling unit.

-No building shall be located closer than 5 feet to any interior pedestrian way, court, plaza, open parking lot, or any other surface area reserved for public use.

-No building shall be located closer than 15 feet to any interior street or closer than 25 feet to any exterior street.

-No building or structure, except a wall or fence, shall be located closer to any exterior boundary than 8 feet plus 3 feet for each additional story over one story.

Yard requirement

-Front yard:

Each individual townhouse lot shall have a front yard of 15 feet. Front yard may be reduced to 10 feet if townhouse faces onto a common open area.

-Rear yard:

Minimum rear yard shall be 15 feet to the rear property line.

-Side yard:

Minimum side yard shall be 8 feet from any property line of the townhouse project site.

-Private yard area

Every lot containing a townhouse must provide a private

yard of at least 320 square feet, oriented to either the building front, rear, or side, enclosed visually by fences or walls at least 5 feet in height or plantings to screen first level views from adjacent units.

Accessory buildings

-No accessory building shall be erected in any side or front yard but may be located in a rear yard and shall not occupy over 25 percent of the rear yard area and shall be set back at least 10 feet from any alley or rear service street line.

Landscaping

-No less than an average of 65 percent of all yards on either public or private streets shall be landscaped.

-Additional landscaping adjacent to the required front yard, may be included as part of the front yard landscaping to satisfy the 65 percent requirement.

Curb cuts and driveways

-A minimum distance of 30 feet shall be maintained between more than two separate driveways/curb cuts in any direction along all public street frontage.

-Where townhouse lots front on private streets, the above driveway/curb cut requirements may be modified.

-No more than one curb cut shall be permitted per 2 townhouses.

-Minimum corner clearance shall be:

15 feet from property line at uncontrolled intersections

30 feet from property lines at controlled intersections

Parking requirements

-Off-street parking areas for multifamily dwellings shall be on the same lot with the dwelling they are required to serve.

-Off-street parking areas shall be located within 100 feet of the use to be served and located in the same district as the principal user.

-A minimum of 2 1/4 off-street parking spaces shall be provided for the residents of each townhouse.

-Required parking spaces may be located in any required front or side yard for townhouses.

-Where one parking space is provided in the front yard area, the front setback of the building shall be a minimum distance of 20 feet from private street or access drive, with driveway width not exceeding 12 feet.

-Where 2 parking spaces are provided in the front yard area, the frontage lot width shall be increased to 30 feet with same setback. Driveway width shall not exceed 20 feet.

Streets

-Minor private streets which are improved in accordance with specifications of the city shall not be required to reserve right-of-way in excess of the roadway width.

-The roadway width, as measured from back of curb to back of curb may be:

* minor streets with no parking, 20 feet wide
* minor streets with guest parking on one side, 28 feet wide
* minor streets with guest parking on both sides, 34 feet wide

Utilities and services

-all townhouses must be connected to public water and sewer lines, and all electrical and telephone lines in a townhouse development site shall be placed underground.

-Proper and adequate access for firefighting purposes and access to service areas to provide garbage and waste collection, and for other necessary services, shall be provided.

UNIFORM BUILDING CODE

Group R. Occupancies

Division 3 (Dwellings and Lodging Houses)

Type of Construction:

- -unlimited
- -May use any type of currently acceptable construction methods

Fire code requirements

- -Adjoining living units such as townhouses or duplexes shall have a one hour fire resistive separation wall between units that extends to the underside of the roof sheathing as well as to the inner edges of horizontal projecting elements.
- -Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency egress or rescue.
- -All egress or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. Minimum net clear opening height dimension shall be 24 inches. Minimum net clear opening width dimension shall be 20 inches. Rescue windows shall have a finished sill height not more than 44 inches above the floor.

Light and ventilation

-All habitable rooms shall be provided with natural ventilation by means of openable exterior openings with an area of not less than 1/12 of the floor area and with a minimum of 5 square feet.

-All habitable rooms shall be provided with natural light by means of exterior glazed openings with an area not less than 1/10 of the room floor area with a minimum of 10 square feet.

-All bathrooms, water closed compartments, laundry rooms and similar rooms shall be provided with natural ventilation by means of openable exterior openings with an area not less than 1/20 of the floor area with a minimum of 1 1/2 square feet.

-In lieu of required exterior openings for natural ventilation, a mechanical ventilation system may be provided in bathrooms, water closet compartments, laundry rooms and similar rooms, connected to the outside, capable of providing 5 air changes per hour.

Room dimensions

-Habitable space shall have a ceiling height of not less than 7 feet 6 inches

-Kitchens, halls, bathrooms and toilet compartments may have a ceiling height of not less than 7 feet measured to the lowest projection from the ceiling.

-In a sloping ceiling room, the prescribed ceiling height for the room is required in only one-half the area thereof.

-No portion of the room measuring less than 5 feet from the finished floor to the finished ceiling shall be included in any computation of the minimum area thereof.

-Every dwelling unit shall have at least one room which shall have not less than 150 square feet of floor area.

-Other habitable rooms except kitchen shall have an area of not less than 70 square feet.

-No habitable room other than a kitchen shall be less than 7 feet in any dimension.

Sound transmission control

-All separating walls and floor-ceiling assemblies shall provide an airborne sound insulation equal to that required to meet a sound transmission class (stc) of 50 (45 if field tested).

-Every corridor within a dwelling unit shall have a minimum width of 36 inches Height of corridors and exterior exit balconies shall have a clear height of not less than 7 feet measured to the lowest projection from the ceiling.

-Stairway width shall not be less than 30 inches wide. Handrails may project into the required width a distance of 3 1/2 inches from each side of the stairway.

-The rise of every step in a stairway shall not be less than 4 inches nor greater than 7 1/2 inches. The run shall not be less than 10 inches as measured horizontally between the vertical planes of the furthermost projection of adjacent treads.

For R - 5 occupancy [Dwelling Houses]

-Fire resistive - one hour

-Type of construction - II

-Maximum height - 65 feet

-Maximum height in stories - 3 stories

For R - 1 occupancy [apartment houses]

-Maximum height - 65 feet

-Maximum height in stories - 4 stories

Zoning

-Parking: one space per bedroom; plus one visitor space per each four apartment units. [one and one-half spaces per unit minimum]

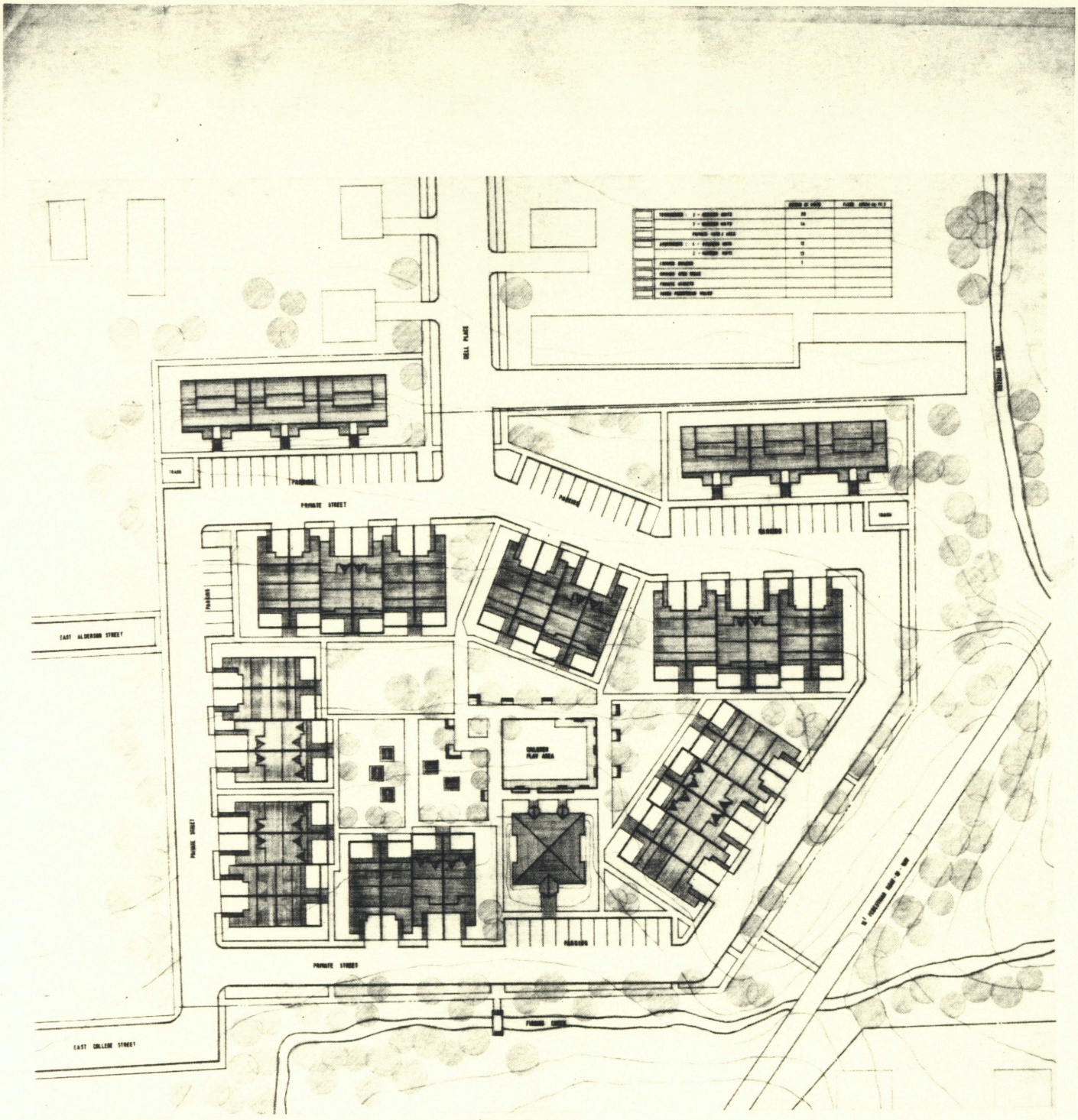
Height of building:

The vertical distance above a reference datum measured to the highest point of the coping of a flat roof or to the deck line of a mansard roof or to the average height of the highest gable of a pitched or hipped roof.

The reference datum shall be selected by either of the following, whichever yields a greaheight of building:

1. The elevation of the highest adjoining sidewalk or ground surface within a 5 foot horizontal distance of the exterior wall of the building when such sidewalk or ground surface is not more than 10 feet above lowest grade.
2. An elevation 10 feet higher than the lower grade when the sidewalk or ground surface described in item 1 above is more than 10 feet above lowest grade.

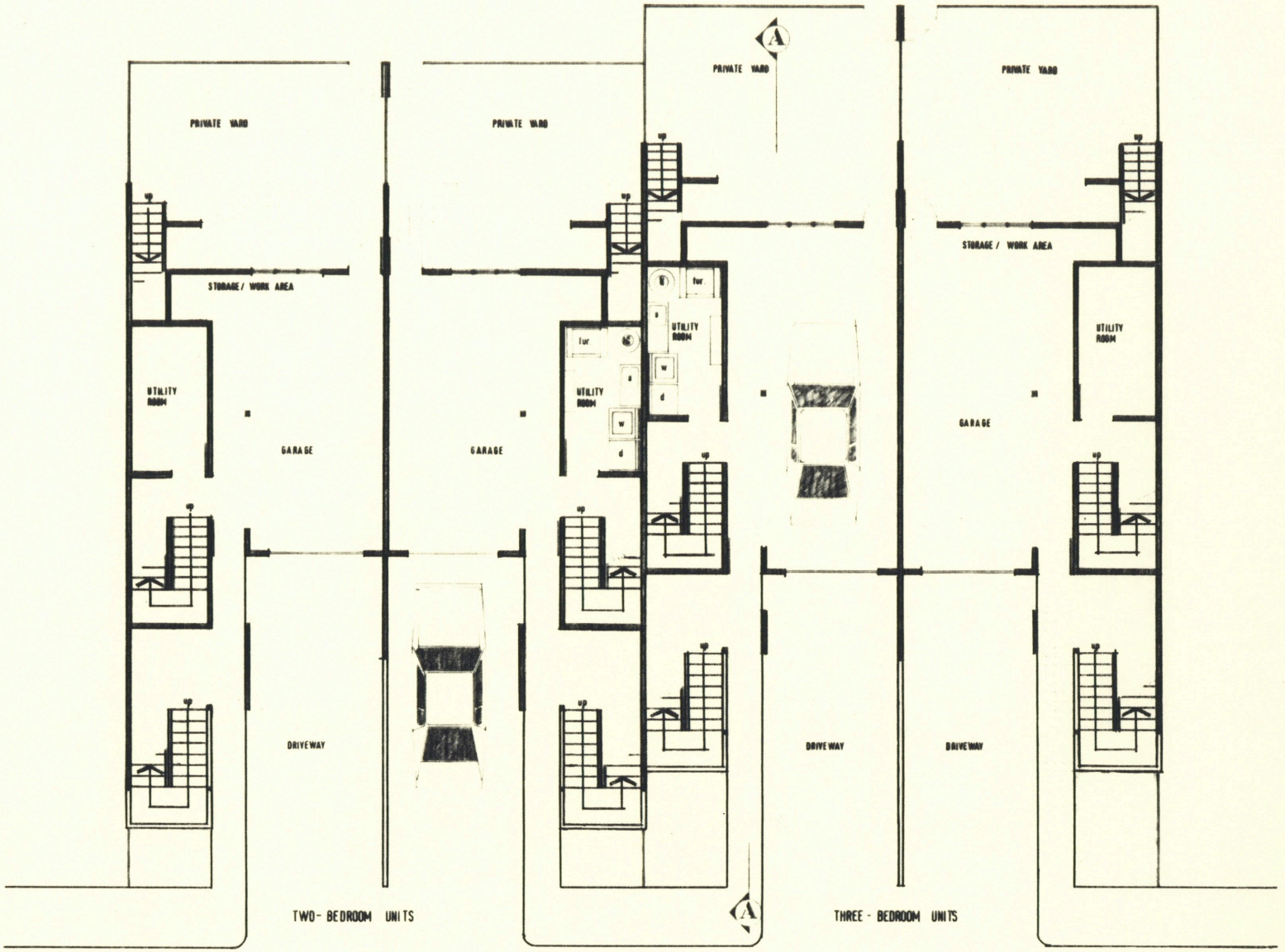
APPENDIX B



COTTONWOOD ACRES

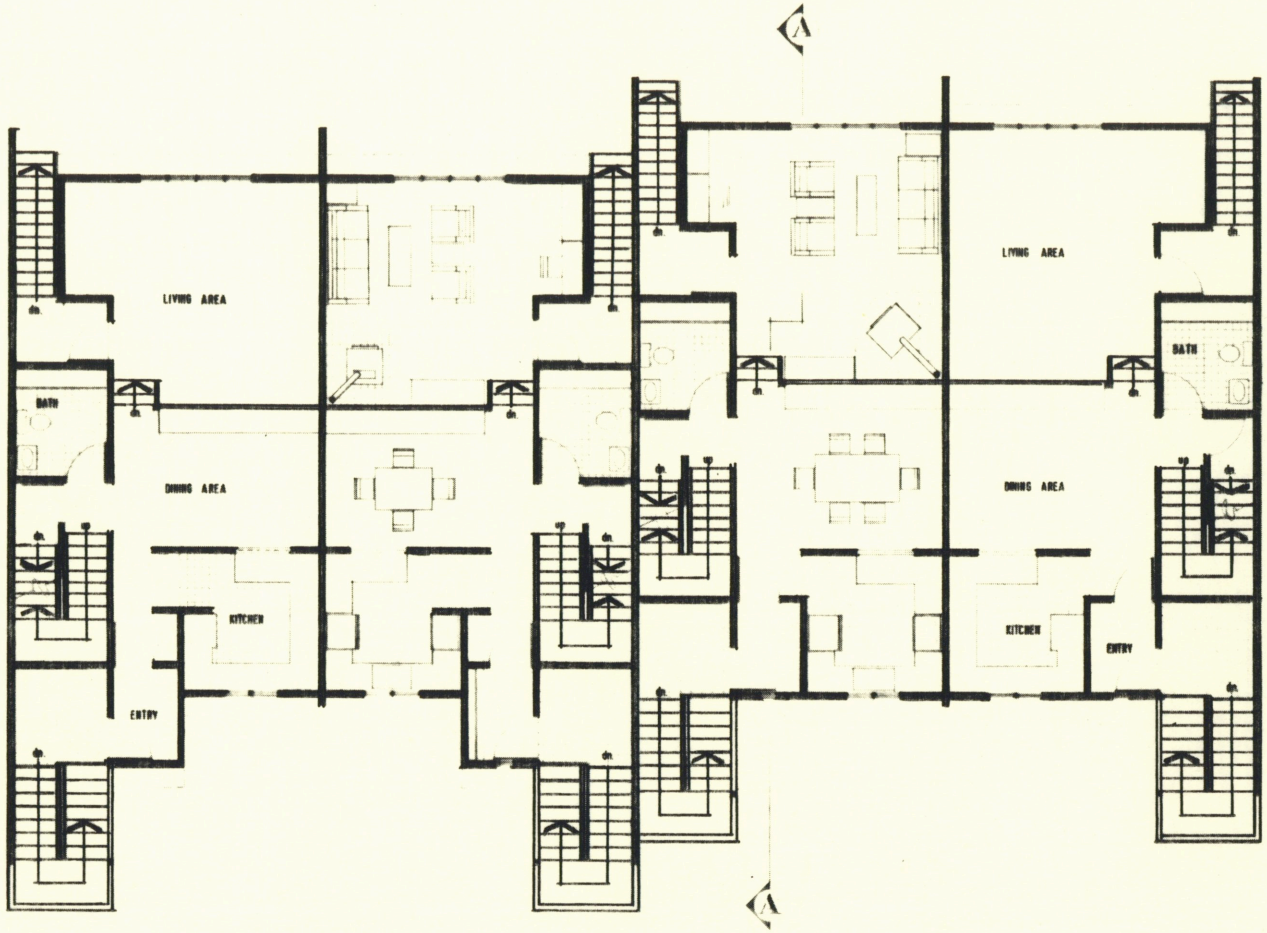
BOZEMAN MONTANA

SITE PLAN



TOWNHOUSE

GROUND FLOOR PLAN

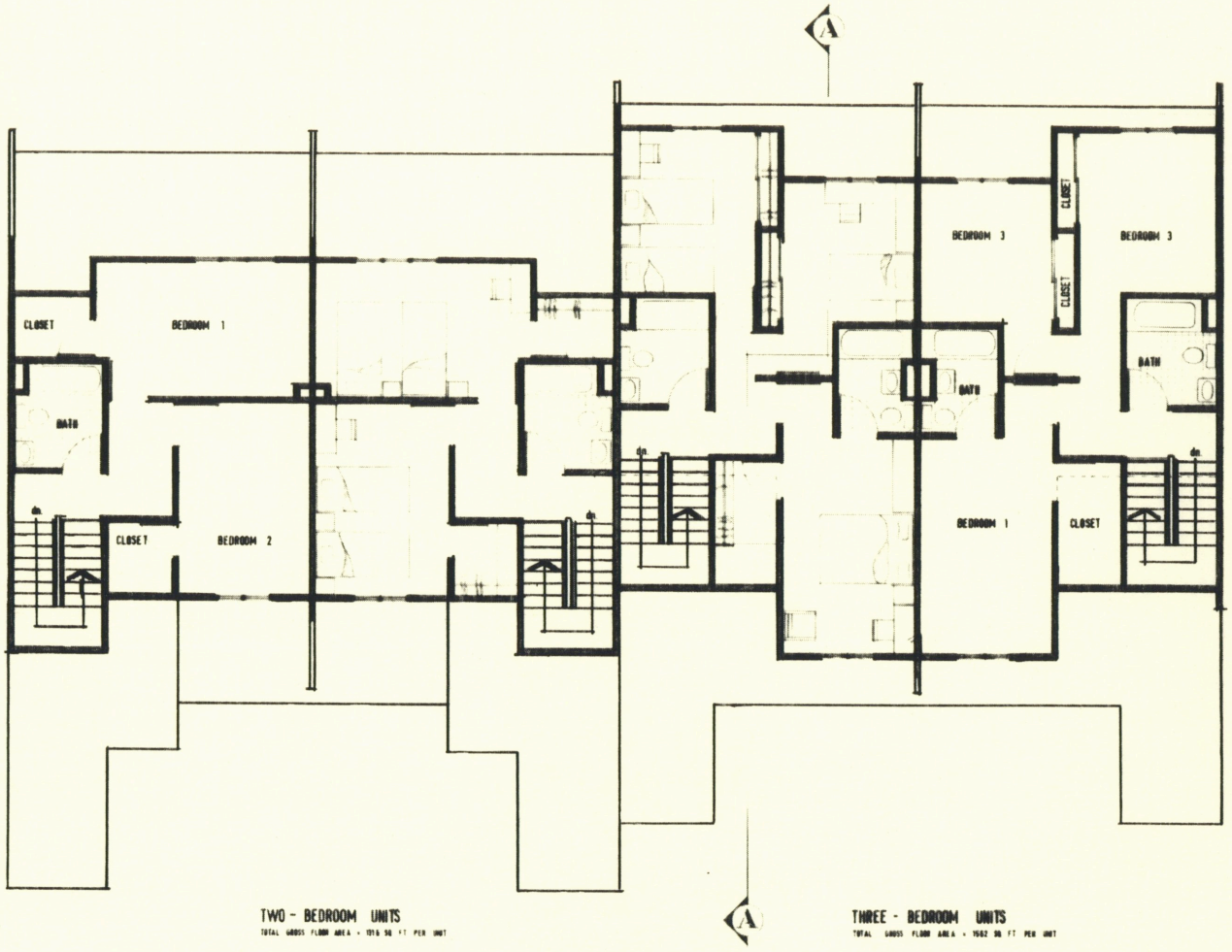


TWO - BEDROOM UNITS

THREE - BEDROOM UNITS

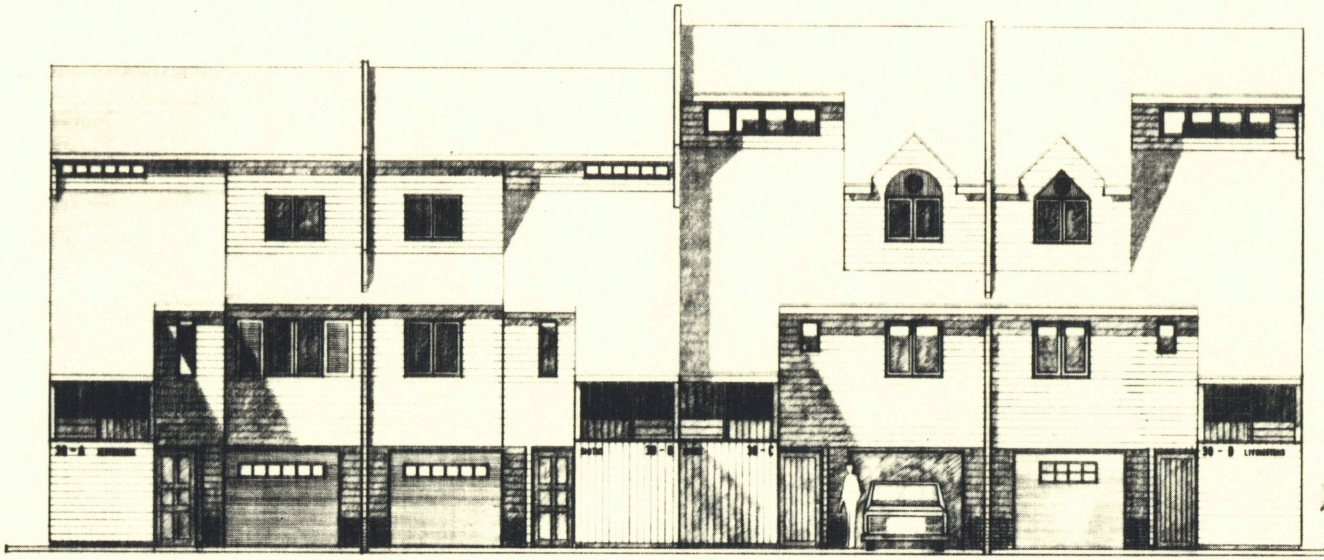
TOWNHOUSE

FIRST FLOOR PLAN

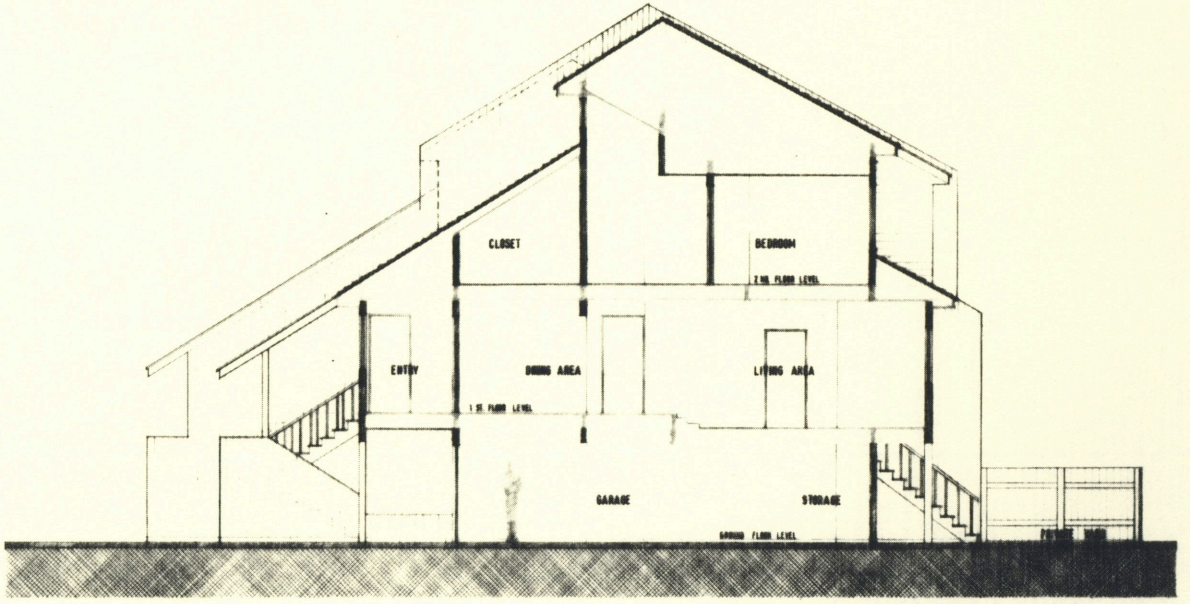


TOWNHOUSE

SECOND FLOOR PLAN



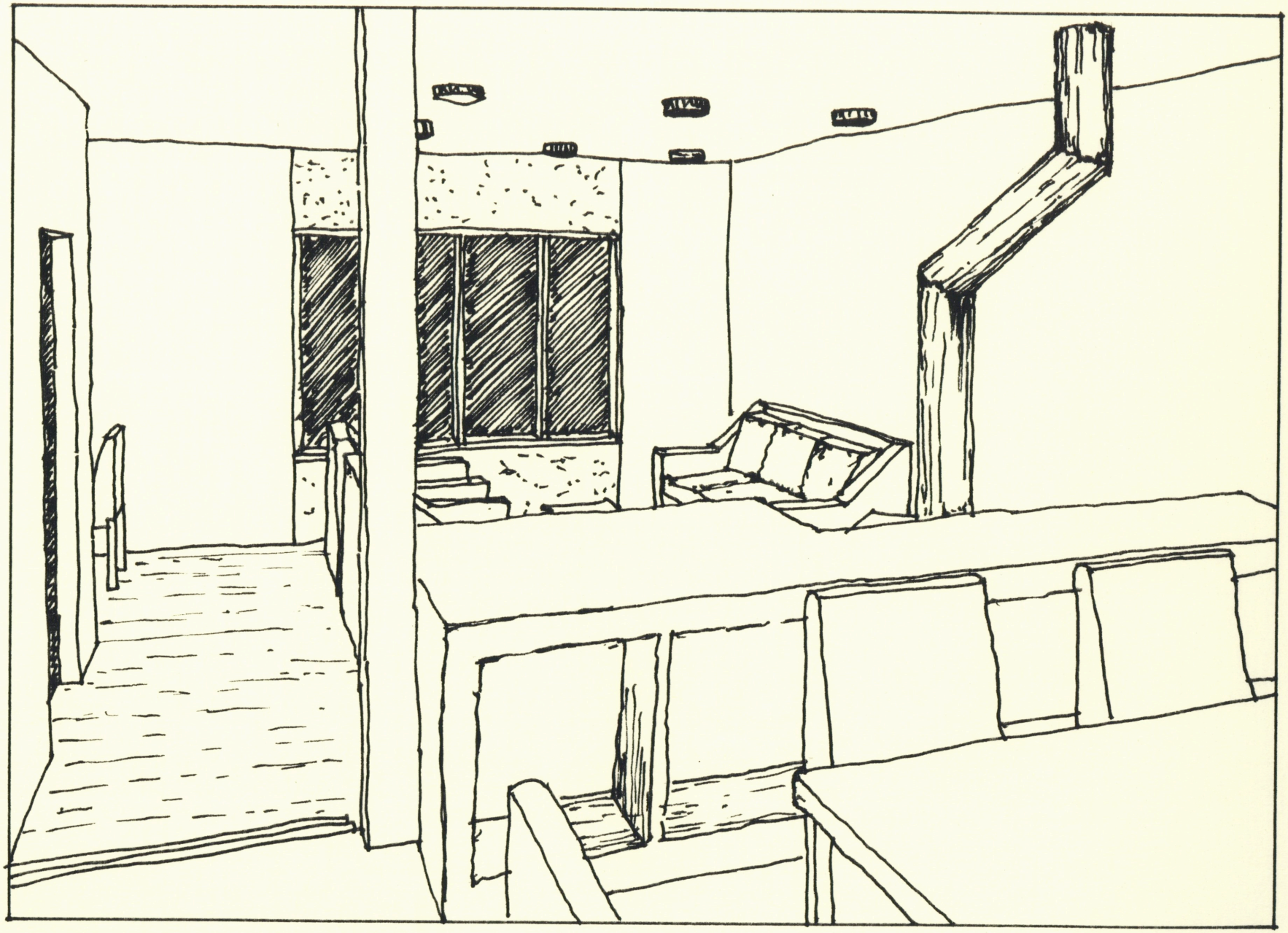
FRONT ELEVATION



SECTION A - A

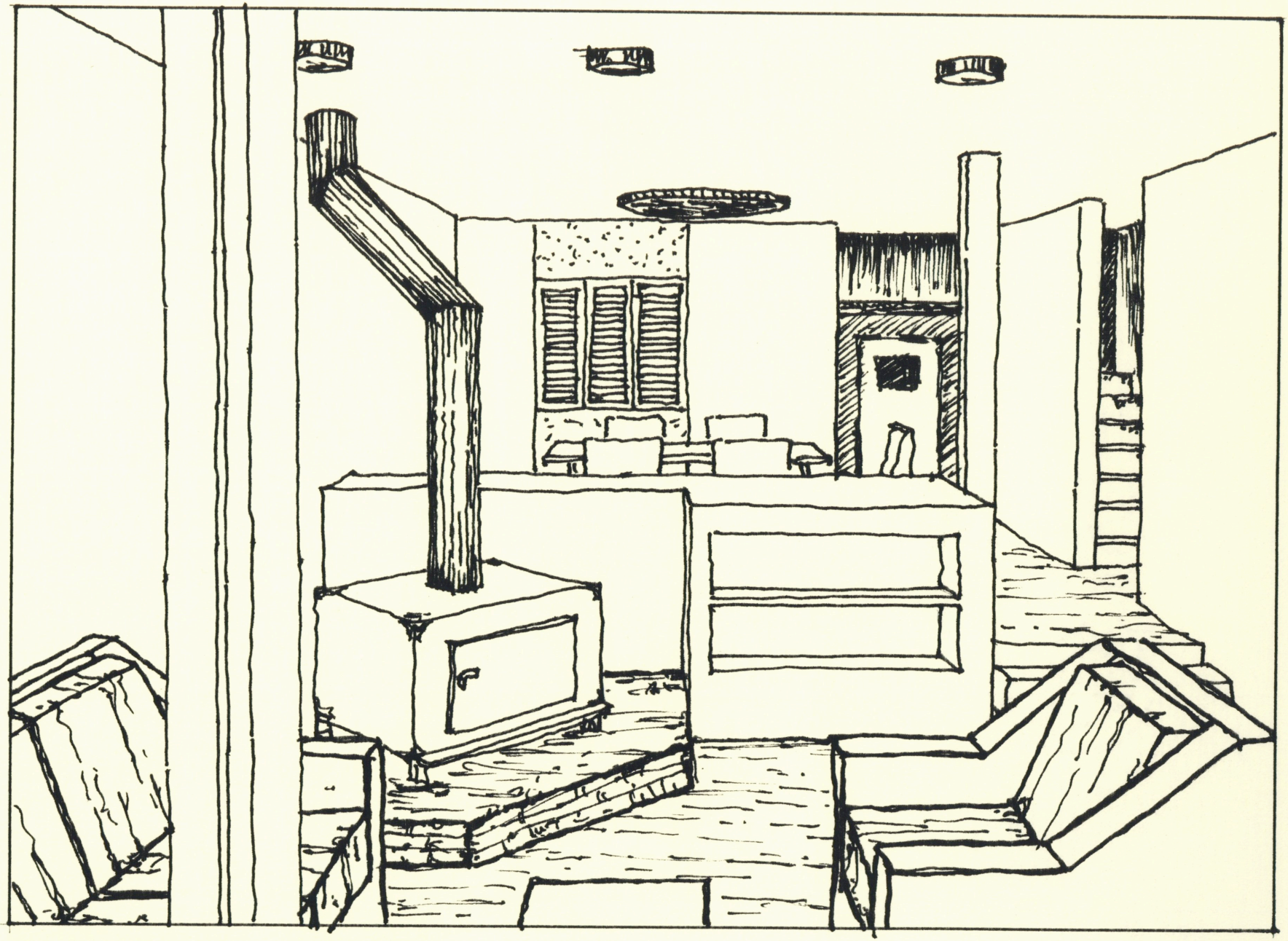
TOWNHOUSE

ELEVATION - SECTION



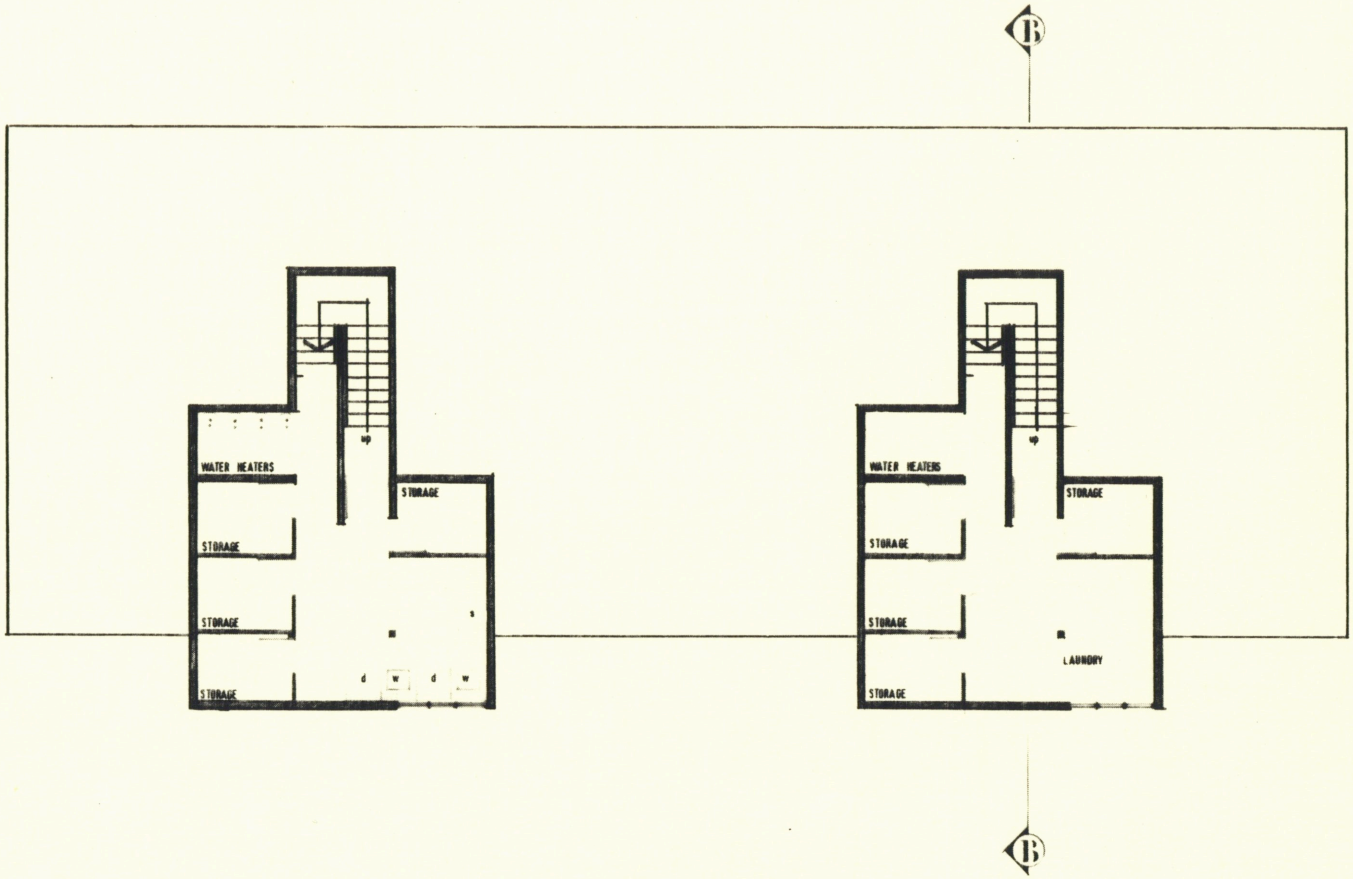
TOWNHOUSE

INTERIOR



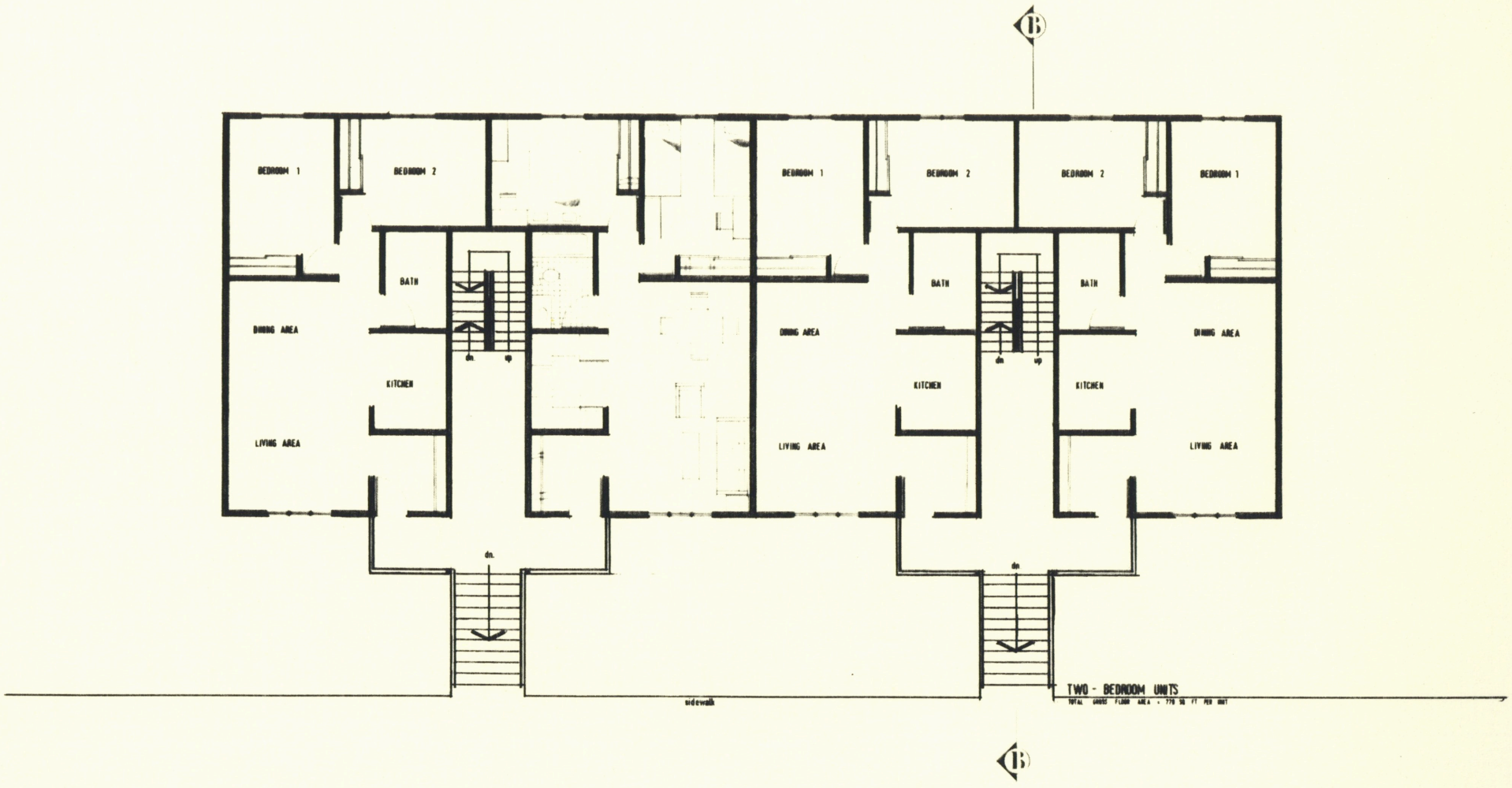
TOWNHOUSE

INTERIOR



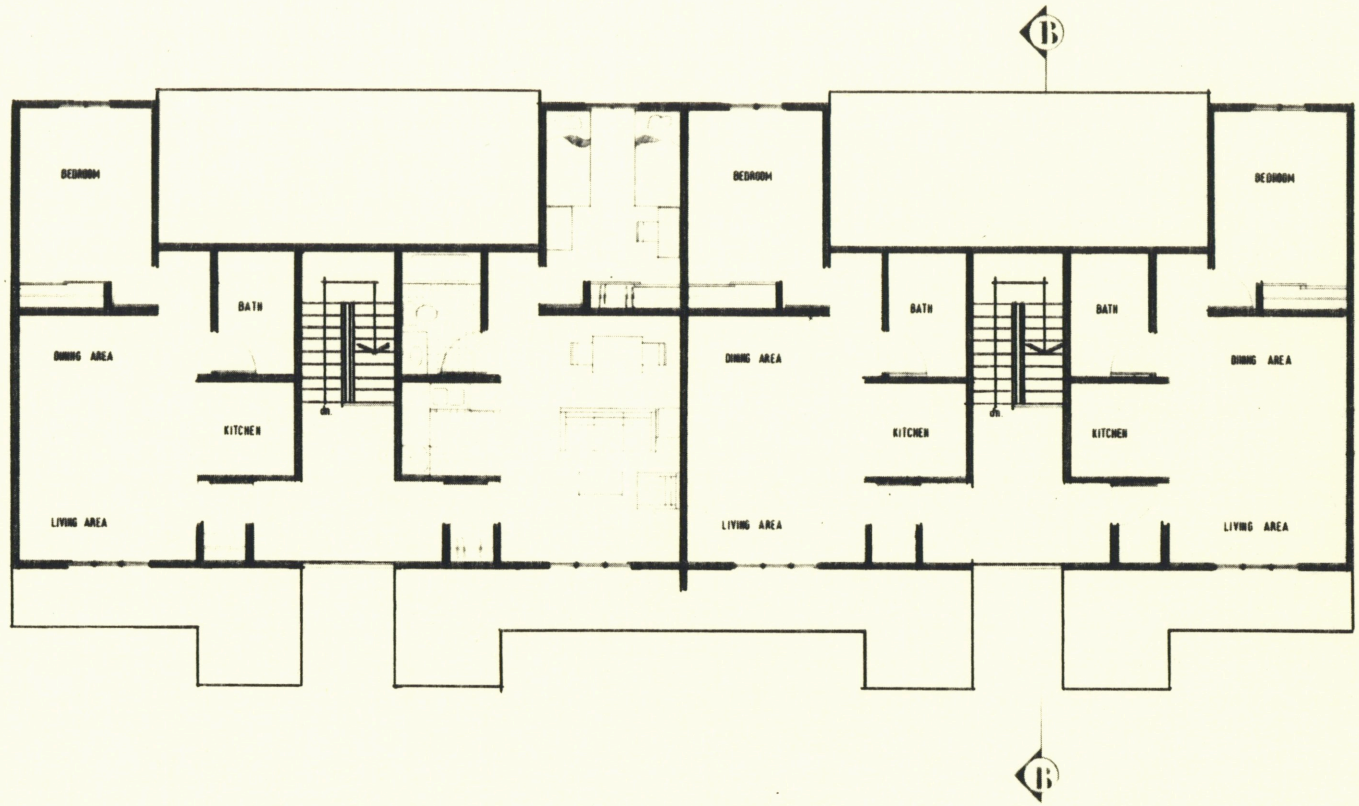
APARTMENTS

BASEMENT FLOOR PLAN



APARTMENTS

FIRST FLOOR PLAN

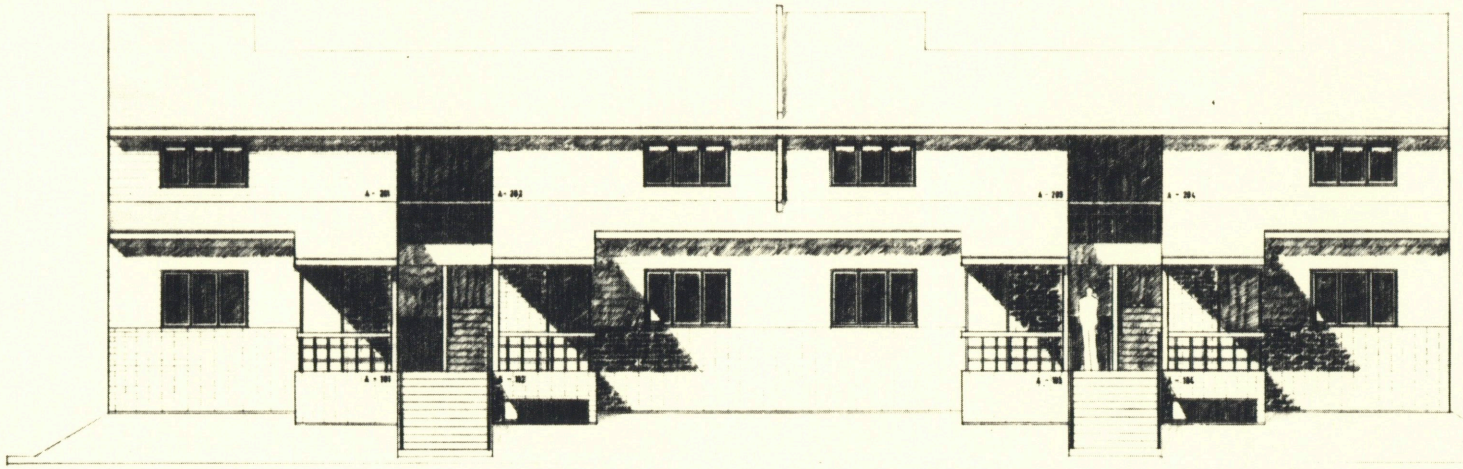


ONE - BEDROOM UNITS

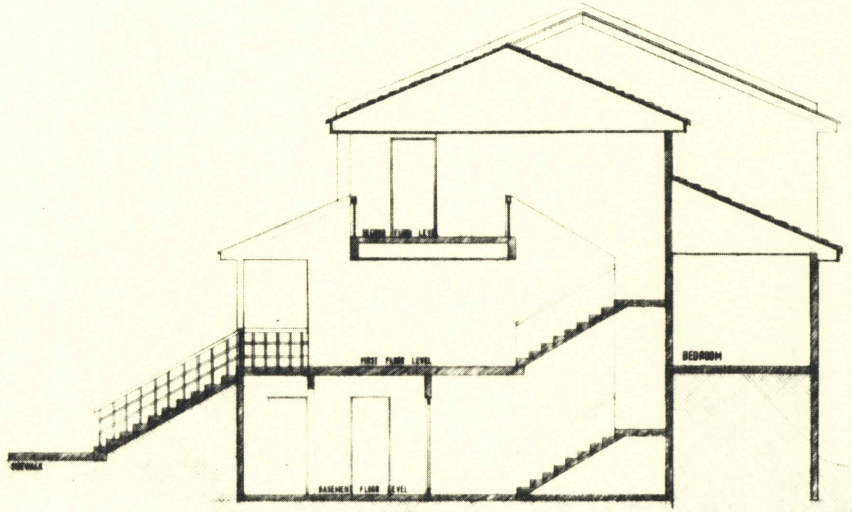
TOTAL GROSS FLOOR AREA = 547 SQ FT PER UNIT

APARTMENTS

SECOND FLOOR PLAN



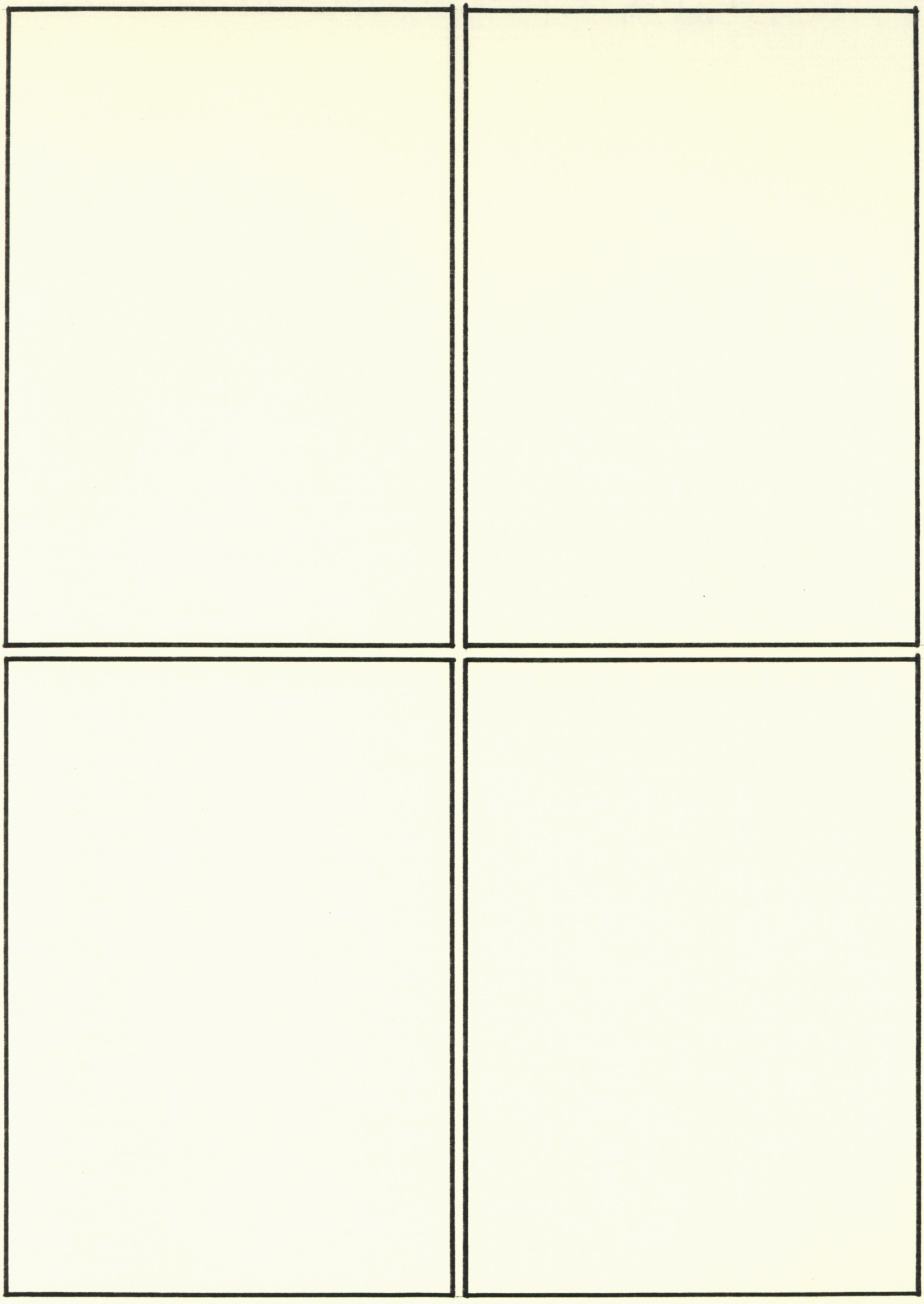
FRONT ELEVATION



SECTION B - B

APARTMENTS

ELEVATION - SECTION



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