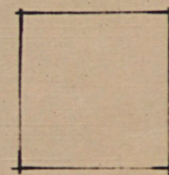


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VILLAGE WITHIN A RESORT



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VILLAGE WITHIN A RESORT

PANORAMA SKI RESORT

BRITISH COLUMBIA, CANADA

by

KRISTIN J. BELL

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

of

BACHELOR OF ARCHITECTURE

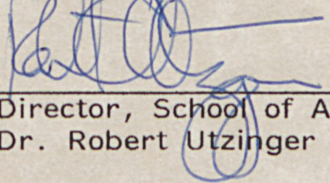
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MONTANA STATE UNIVERSITY
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Kristin Bell

Date

June 12/87

ACKNOWLEDGMENTS

In beginning, I would like to thank all those whom I've asked to my struggle to understand the complex nature of a literature, teachers, professionals, and students. In regard to this thesis, without the unconditional advice and consideration (both written information and syllabus) I had received from the many parties involved, I would not have had the opportunity to pursue the project. Although all are contributory cannot be mentioned, the following must necessarily be noted:

Wes Salade

General Manager at Paternitec Inc. Reno, N. V.

Gay Mader

Bridge Station

In dedication to my mother and father: without whose loving support my dreams would not survive.

A. J. C. C.

President of Construction for the College Group

Michael Stewart and L. J. L.

University of

The Design Workshop, L. J.

Design, California

A. J. C.

ACKNOWLEDGEMENTS.

In beginning, I would like to thank all of those whom have aided in my struggle to understand the complex nature of architecture: teachers, professionals, and students. In regard to this thesis, without the uninhibited advice and documentation (both written information and applicable maps) received from the many parties involved, I would not have had the opportunity to pursue the project. Although all who contributed cannot be mentioned, the following must necessarily be noted:

Mus Hadade

General Manager at Panorama Ski Resort, B. C.

Guy Messerli

Rodger Madsen

William E. Lloyd

Project Manager

R. S. Girardau

President of Construction for the Cascade Group

Morgan Stewart and Co., Ltd.

Vancouver, B. C.

The Design Workshop, Inc.

Aspen, Colorado

K. Fisk

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From the beginning of time man has recognized that to create a place means to express the essence of being. The manmade environment where he lives is not a mere practical tool or the result of arbitrary happenings, it has structure and embodies meaning. These meanings and structures are reflections of man's understanding of the natural environment and his existential situation in general. A study of man-made place therefore ought to have a natural basis: it should take the relationship to the natural environment as a point of departure.

Christian Norberg-Shultz

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

I

Through the course of my architectural education I have been striving to reach an understanding of man's unique relationship to both the natural and the built environment. It is the purpose of this thesis, therefore, to not only design a building that assumes an appropriate posture within its setting, but to create a form which makes a clear visual statement about the unique character of its environment.

The project is located at Panorama Ski Resort in British Columbia, Canada. The resort presently provides both summer and winter amenities, however, lacks a strong image 'statement' which strikes the visitor upon arrival and, in turn, draws him back. Through the research of precedent ski resort developments as well as European Alpine villages, a commercial/residential "village within a resort" will be created.

He who knows the difference between excess and exuberance is aware of the nature of the poetic principle, and not by his work. The more a design is the creative revelation of intrinsic nature, whatever the medium or form of expression, the better. 'Creative' then, implies exuberance. It is not only true expression but true interpretation, as a whole, of the significance, truth, and force of Nature, raised to the fullest power by the poet.

Frank Lloyd Wright

PROJECT SYNOPSIS

II

DEFINITIONS:

For the purpose of this thesis and the following text, the definitions of 'resort' and 'village' must be clarified and understood in relation to the specific project.

RESORT: "a place to which people frequently or generally go, especially one providing rest and recreation facilities for people on vacation."

VILLAGE: "a small community or group of houses in a rural area, usually smaller than a town and sometimes incorporated as a multiplicity"

Both definitions were extracted from the Webster's Dictionary. For the duration of this thesis, 'RESORT' will pertain to the entire development: Panorama Ski Resort. The 'VILLAGE' will relate specifically to the commercial/ residential thesis project. Thus, a village within the resort will be created.

PROJECT PURPOSE:

Panorama Ski Resort in British Columbia, Canada embodies a unique characteristic in that it provides both summer and winter amenities. The forces of climate provide an approximately equal number of summer (130 days) and winter (135 days) seasonal days. For this reason, the resort strives to attract year-round destination visitors.

Presently the resort provides accommodation for approximately 1,500 overnight guests through both condominium units and hotel rooms. Two restaurants, one night club, two small pubs, conference rooms, offices, a ski repair shop, and a convenience store (trailer) provide services to the guests. Also, sporting facilities include ski lifts, tennis courts, riding stables, hot tubs, white-water rafting, cross-country ski trails, mountain hiking, and a swimming pool.

Although the above facilities and amenities exist, it is apparent that a village core within the resort is presently missing and necessary to provide a more complete range of services to mountain guests. A project which will include both commercial and residential facilities has been proposed by the owners of the resort (the Cascade Group) and thus it is the purpose of this thesis to pursue such a project. The thesis intends to create a character statement through the design of a village within the resort in such a manner as to relate simultaneously to the compelling environment of the mountain setting while impressing a desired image through the centrality of the site.

SCOPE:

The village site, covering approximately five acres, was zoned for medium density development with a land-use of commercial mixed-use and residential. Having a central location, the site has the potential to become the focus of interest within the resort.

Several building types will be necessary and can be effectively situated on this prominent site. Condominiums, which will provide an extension to the existing development, are a requirement enforced by the Cascade Group. Also, commercial facilities are necessary such that services will be provided, ultimately eliminating the need to leave the resort during the visitation period.

As a result of the minimal land available, it has been suggested by Cascade to integrate the commercial and residential zones. This might be accomplished by creating the commercial zone on the first two stories with residential facilities above - a height restriction of five stories is enforced.

Primary commercial facilities to be included within the village are as follows:

bakery	miscellaneous shops/offices
barber shop	night clubs
bars	non-denominational chapel
beauty parlor	registration/information center
delicatessen	restaurant/cafe
grocery store	theatre

METHODOLOGY:

My family purchased a lot at Panorama Ski Resort in 1973 and proceeded to build a cabin within the subdivision. Upon completion, we traveled from our home in Calgary, Alberta to Panorama (approximately 200 miles) during both summer and winter months. Thus it was that I was able to witness the growth of Panorama as a relatively small day-ski facility into a prominent destination resort over a period of ten years. As a result of this close connection to the resort, its inhabitants, and its developers, I believe I have a true understanding of its future needs as well as its past faults. (See Appendix D)

This thesis enabled me to communicate with the residents of the subdivision, employees of the resort, and the owners. These people proved to be a beneficial source in grasping the underlying problems facing the proposed project - from commercial needs to architectural forms. In addition to this personal contact, I conducted a precedent study of Canadian and U.S. ski resorts, as well as European Alpine villages. As a result of this research, it became evident that the intimacy emanated from within the Alpine villages was also the character desired for Panorama Resort's village core project. (See Appendix A and B)

With this underlying characteristic in mind, the project focuses upon providing the necessary commercial facilities and residential accommodation in order to create an intimate community atmosphere within the resort. Many design and development guidelines have been created by the Cascade Group in order to ensure the aesthetic quality of the resort facilities. These will be addressed in such a way as to best solve the design problem. (See Appendix C)

MISSION STATEMENT:

As architects we often come to depend on intuition, not on analysis; to give the users what we want, not what they want; to strive for self-expression, not for collaboration; to celebrate our autonomy, our freedom of choice, not our interdependence.

-William Pena

The centrality of the project site has the potential to create a 'hub' of activity within the resort. By developing a thorough understanding of the resort needs, climatic implications, and forces acting upon the site, an appropriate design which relates to the area as well as emanates a unique character will be reached.

Each site, natural or manmade, is unique and all its parts have meaning in relation to the whole. The essential quality of that whole must be understood not only because the site will impose certain practical limitations, but also because it will contain new potentialities, and because a plan, however radical, must maintain some continuity with the surroundings in which it is placed. A plan necessarily disturbs a site, but it should enhance and not violate it.

Kevin Lynch

C O N T E X T

III

REGIONAL LOCATION

Panorama Ski Resort is located in British Columbia, the westernmost province of Canada. The resort is located at approximately 50° north latitude and 116° west longitude in the southwest quadrant of the province. Panorama is located in the Toby Creek Valley of the Central Purcell Mountains. These mountains are one of the four ranges comprising the Columbia Mountains that extend through British Columbia. Invermere is the nearest community to the resort and is located 17 kilometers (11 miles) to the northeast. Invermere is the commercial center of the immediate region and has a population of approximately 1,400 people. The resort is accessed by way of a fully-maintained, hard-topped road. The resort base is located at an altitude of 1,145 meters. This is approximately 1,000 meters below the local tree line.

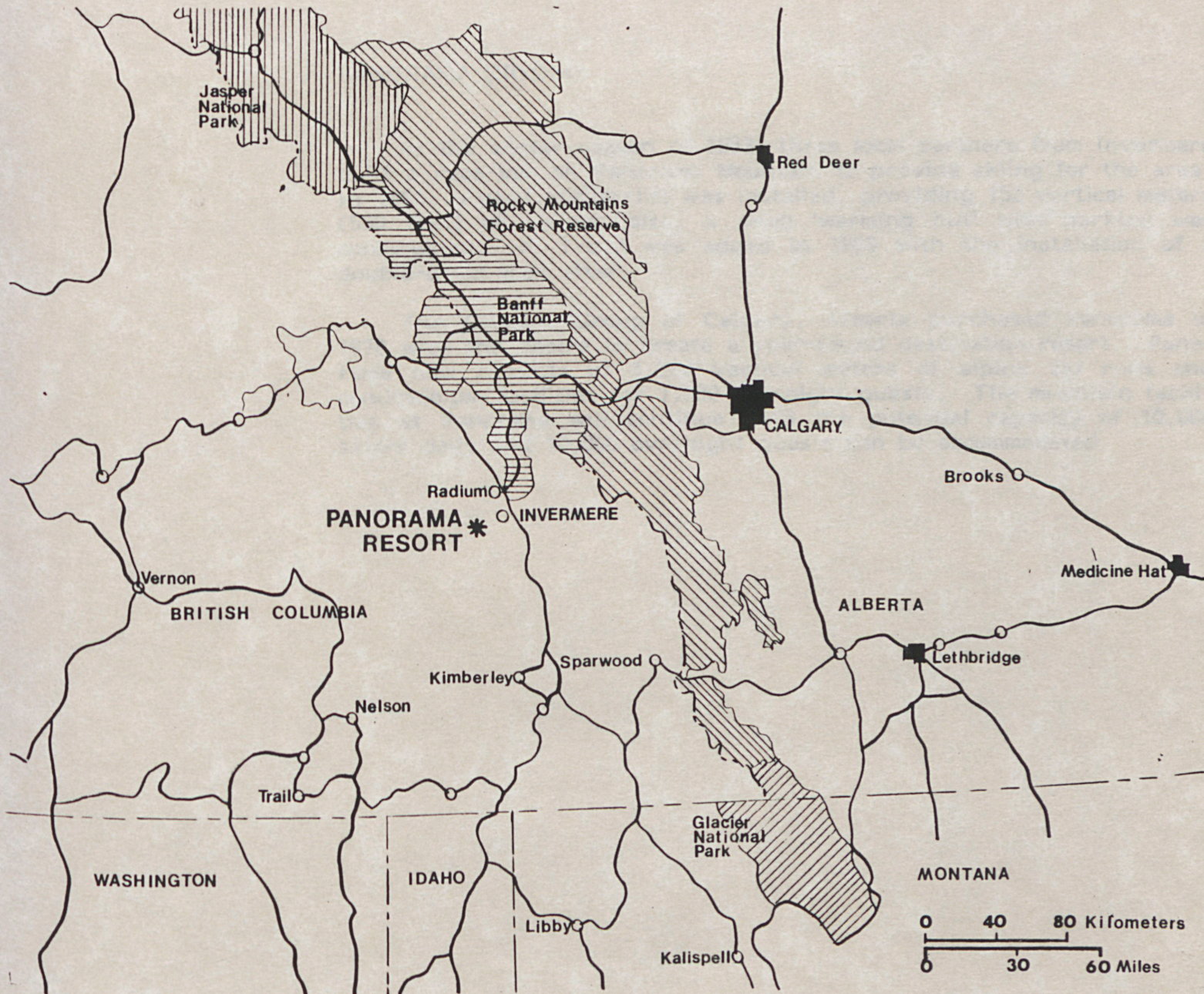


0 200 400 Miles
0 200 600 Kilometers



BRITISH COLUMBIA CANADA

A



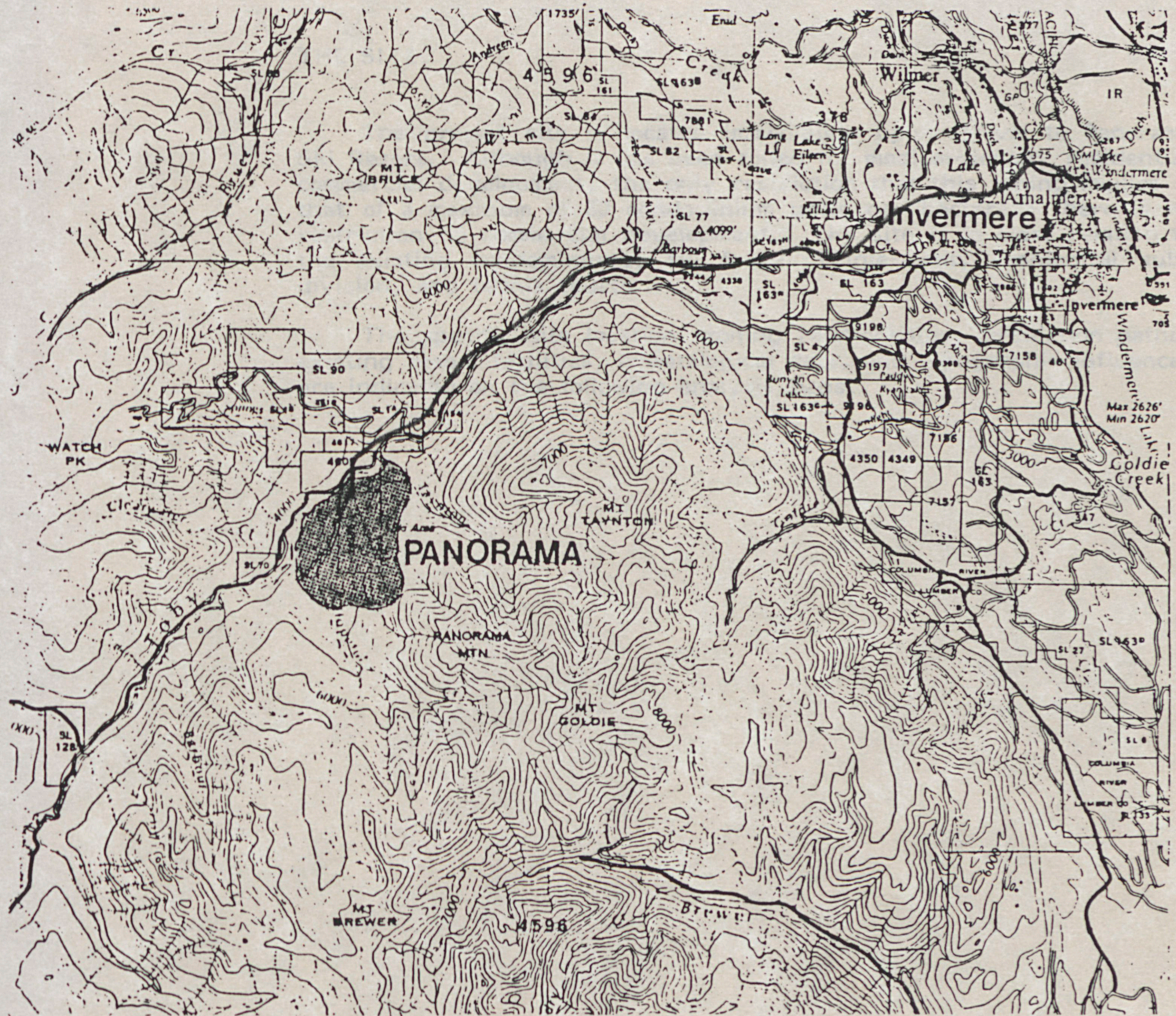
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PANORAMA ORIGIN:

In the winter season of 1962, three local partners from Invermere built a rope-tow on Panorama Mountain to provide skiing for the area. In 1964, a used platter-lift was installed, providing 152 vertical meters (500 feet) of skiing; also, a small 'warming hut' with parking was constructed. A T-bar was added in 1969 with the installation of a double-chair soon after.

The Cascade Group of Calgary, Alberta purchased Panorama in 1978 with the desire to create a year-round destination resort. Panorama now consists of 1,220 vertical meters of alpine ski runs and condominium facilities for 1,500 overnight guests. The mountain facilities at Panorama will continue until the potential capacity of 10,000 skiers daily and 10,000 overnight guests can be accommodated.



 **PANORAMA**
RESORT

BRITISH COLUMBIA CANADA

C

THE SITE

The project site is located immediately upon arrival to Panorama Ski Resort. Although it has been zoned for medium-density residential/commercial development, the only restriction that this zoning implies is that of a maximum of 60 condominium units per hectare - there is no restriction on commercial development. The site is in close relation to the existing condominiums, ski lodge, single-family residential subdivision, and tennis courts.

The specific site location, zoning relationships, circulation paths, existing resort facilities, climatological data, and topographic influences are indicated on the following analysis maps.



PANORAMA

Canada's Alpine Resort
Radium/Invermere BC

PANORAMA RESORT LIFTS & TRAILS

Lifts	Length	
A. Platter Lift	1600 - 490m	
B. T-Bar	4900 - 1490m	
C. Double Chair	1900 - 585m	
D. Triple Chair	4000 - 1217m	
E. Double Chair	4700 - 1410m	
F. Handie Tow	500 - 185m	
G. Champagne T-Bar	2400 - 720m	

Easiest ●

More Difficult ■

Most Difficult ◆

ALPINE TRAILS

- | | | |
|-----------------|---------------------|----------------------|
| 1. Beginner | 10. Eagle's Glide | 18. Out Rider |
| 2. Highway 1 | 11. Workshop | 19. Detour |
| 3. Powder Trail | 12. Over Easy | 20. Boomerang |
| 4. Horseshoe | 13. Fritz's Run | 21. Downhill |
| 5. Show Off | 14. Whiskey Jack | 22. Tacky |
| 6. Old Timer | 15. Sunbird | 23. Liftline |
| 7. Hay Fever | 16. Heaven Can Wait | 24. Skyline |
| 8. Hoggattals | 17. Little Dipper | 25. Rollercoaster |
| 9. New Timer | | 26. Top of the World |

SNOW MAKING CROSS COUNTRY TRAILS

CAUTION

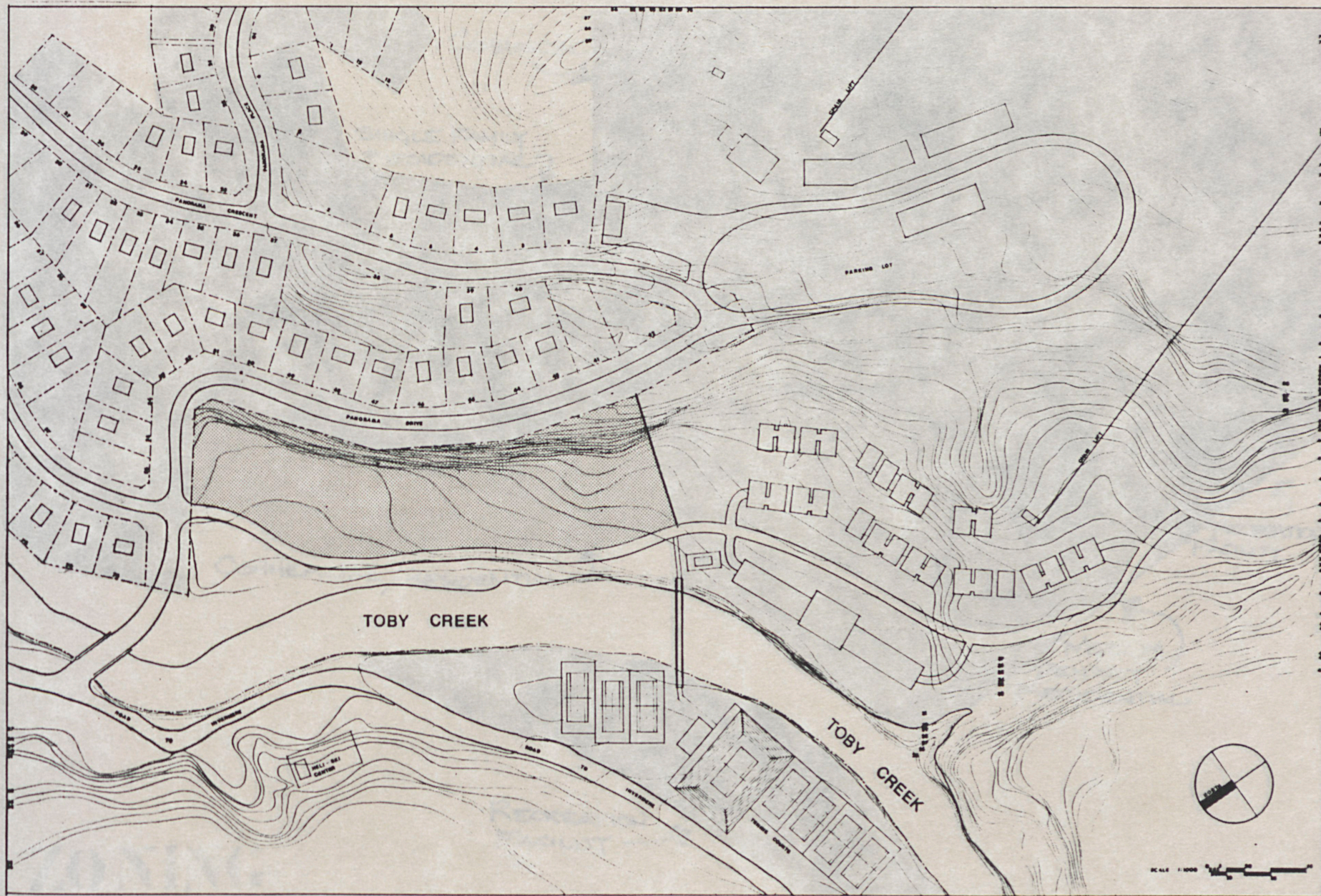
Conditions change with snow and weather. Grooming activities may be in progress at any time on slopes and trails. Use caution and ski on designated slopes and trails only. Never ski out of area boundaries.

Observe all area warnings and Closing Signs.

SKI UNDER CONTROL

PRINTED IN CANADA

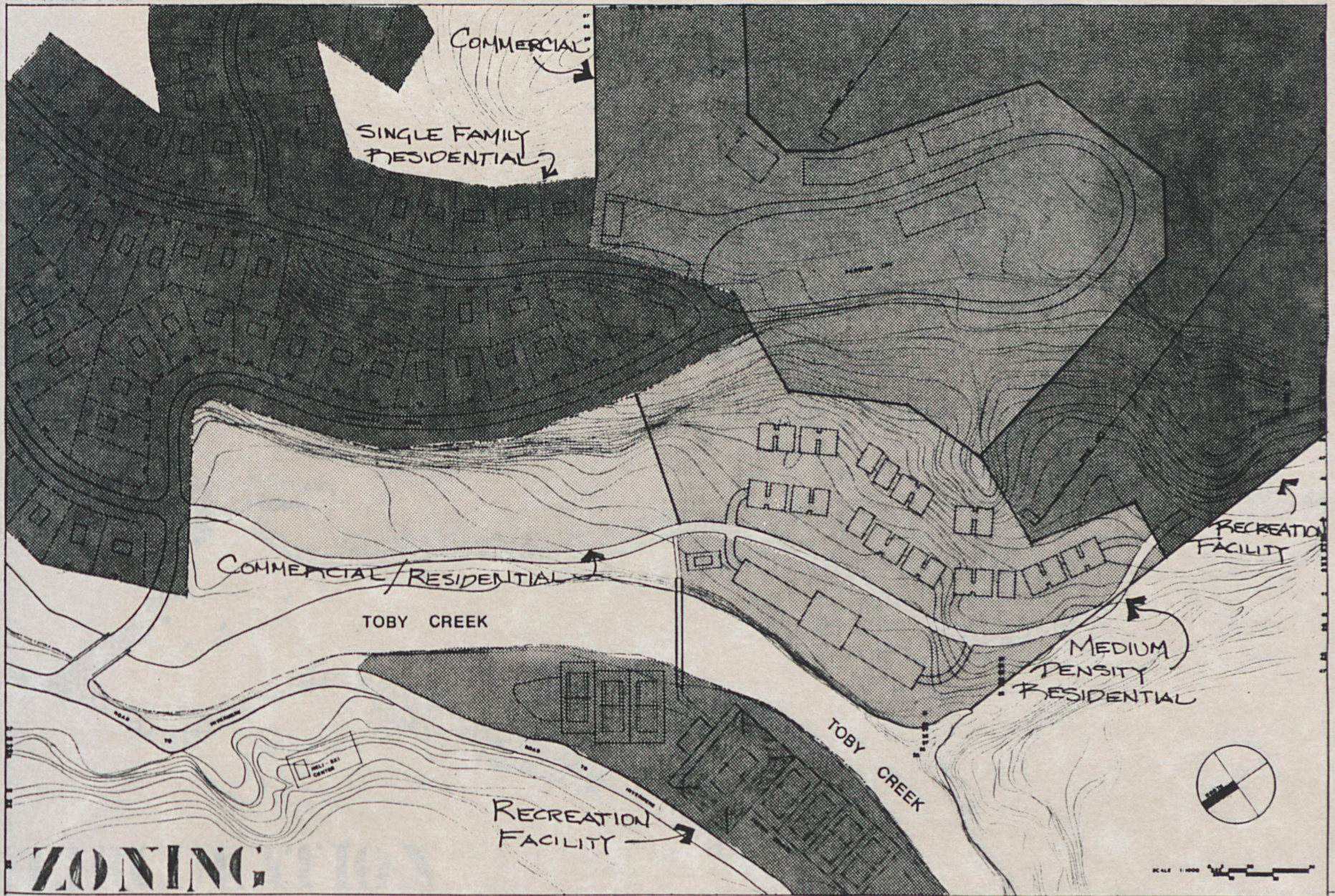
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RESORT

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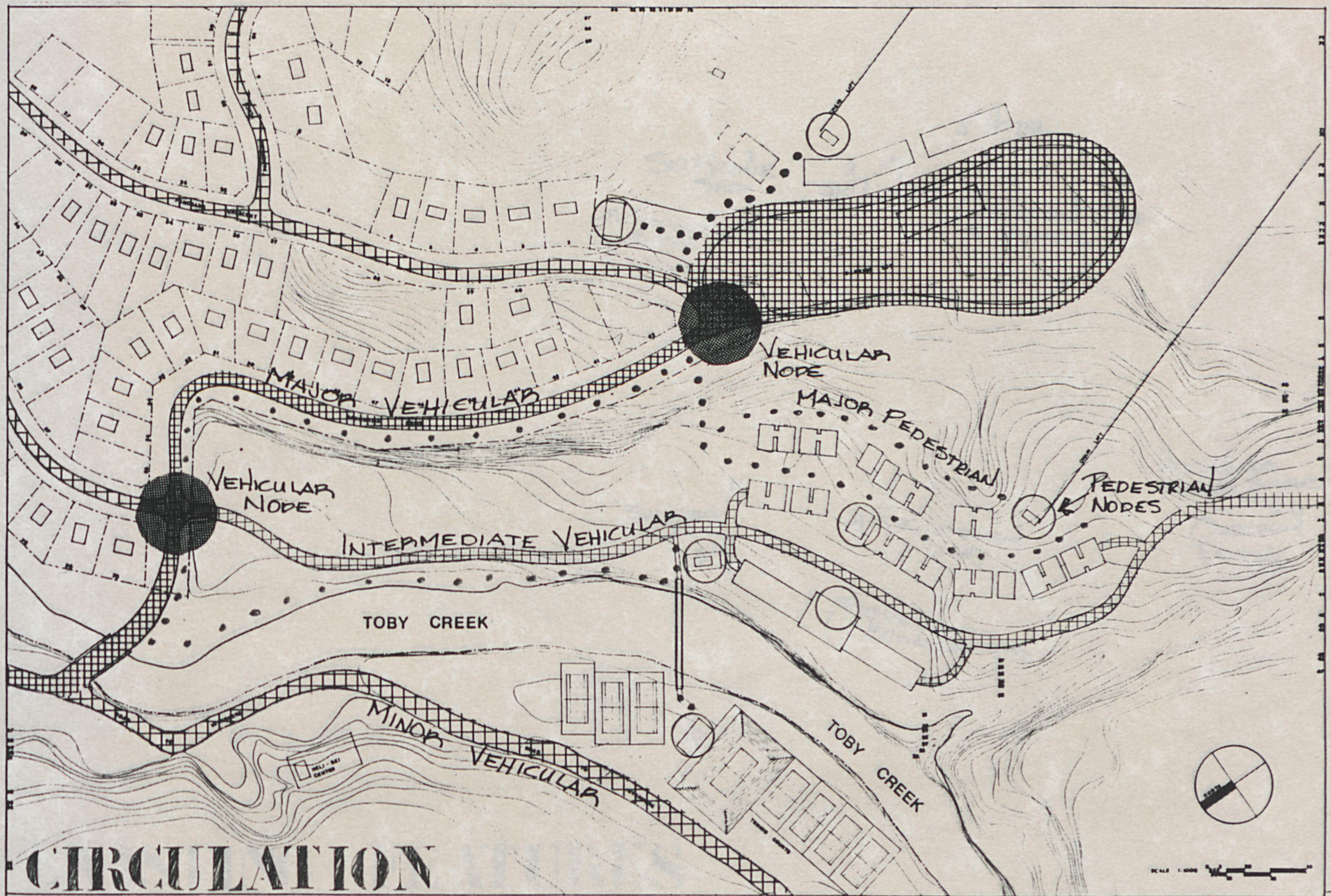
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RESORT

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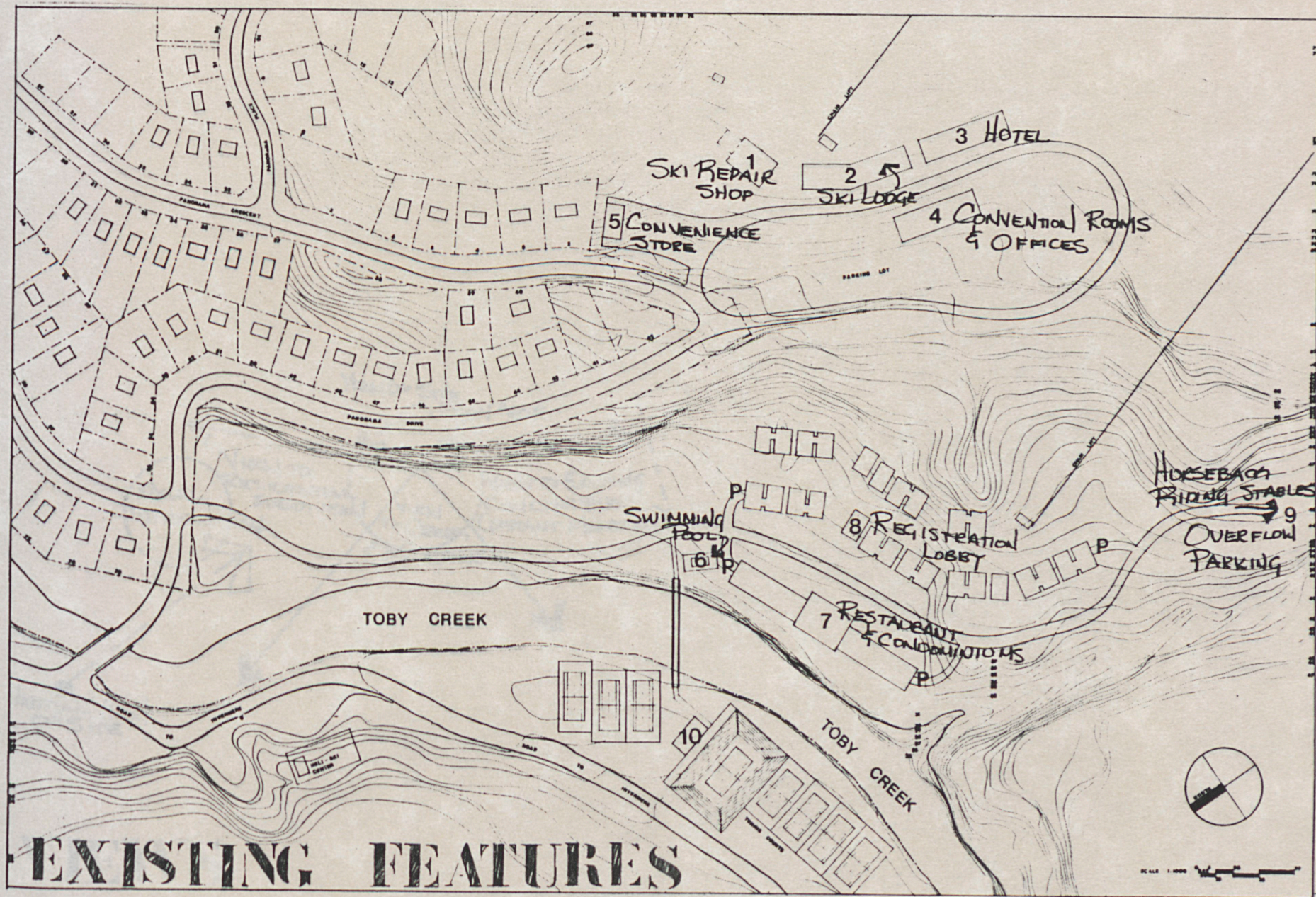
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RESORT

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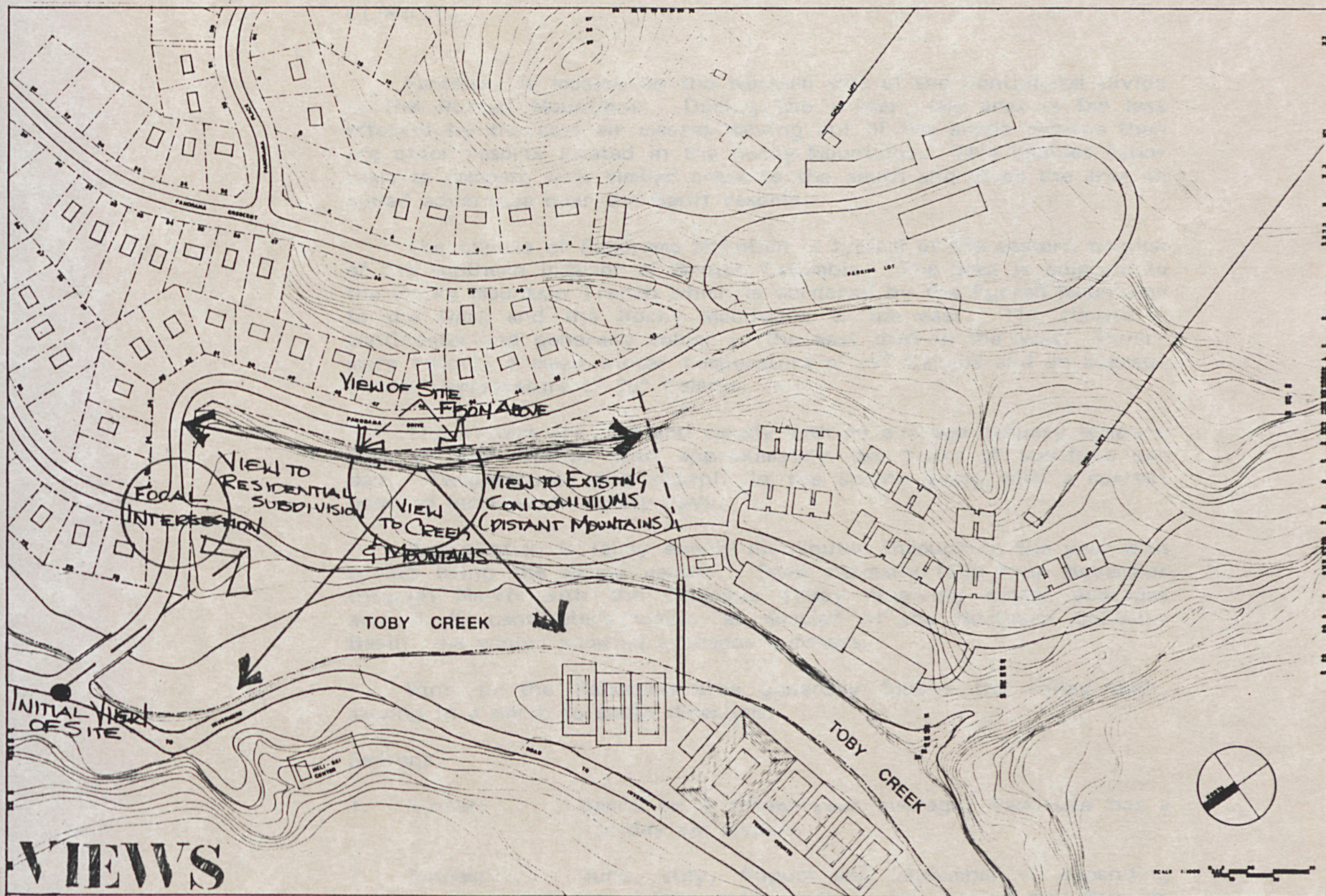
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PANORAMA
RESORT

BRITISH COLUMBIA CANADA

H



VIEWS

PANORAMA
RESORT

BRITISH COLUMBIA CANADA

I

CLIMATE:

Panorama is located on the western side of the Continental Divide in the Purcell Mountains. During the winter, the area is far less effected by the cold air masses moving out of the arctic regions than are other resorts located in the Rocky Mountains. This enables Panorama to compete with similar areas to the south and gives the area an added advantage over the Banff resorts.

The climate of Panorama Mountain is typical of the eastern portion of the southern interior of British Columbia. The area is adjacent to the Rocky Mountain Trench which is bordered by the Purcell Mountains to the west and the Rocky Mountains to the east. The climate is continental and generally colder in the east than in the west. Invermere reports a mean winter temperature of -6° Celsius and an average summer temperature of 20° Celsius.

The winters are cold and cloudy with an average January temperature of -10° Celsius with approximately two hours of sunshine per day. Temperatures rise sharply in the spring along with a corresponding increase on sunny days.

Precipitation is fairly evenly distributed throughout the year with spring being the driest season. Snow normally falls from November through March with the Columbia Valley receiving winter averages around 45 centimeters while, at Glacier in the Northern Columbia Basin, the winter snowfall averages 8 meters.

Wind in the Panorama area generally follows the valley path, moving in a north to south direction.

Seasons

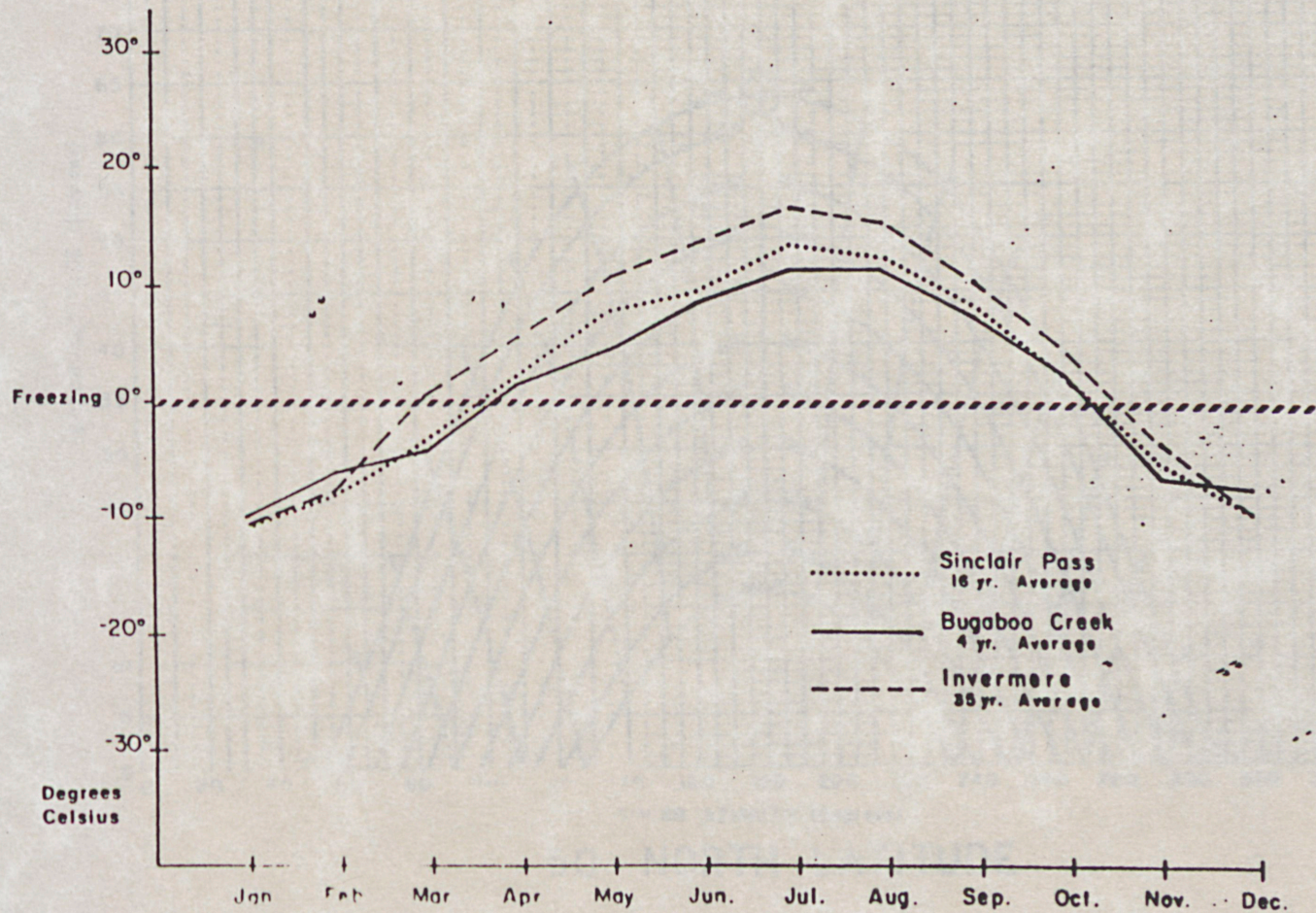
1. Winter: based on a fifteen-year average, Panorama has a 135 day ski season.
2. Summer: June, July, August and September -- depending completely upon weather, this period may fluctuate ten to twenty days either way, but the norm will be approximately 130 days.

3. Off-Season: the days that fail to fall under the definition of winter or summer constitute the off-season period.

It is therefore apparent that the project must be designed for both winter and summer conditions since the season durations are approximately equal.



Mean Daily Temperatures

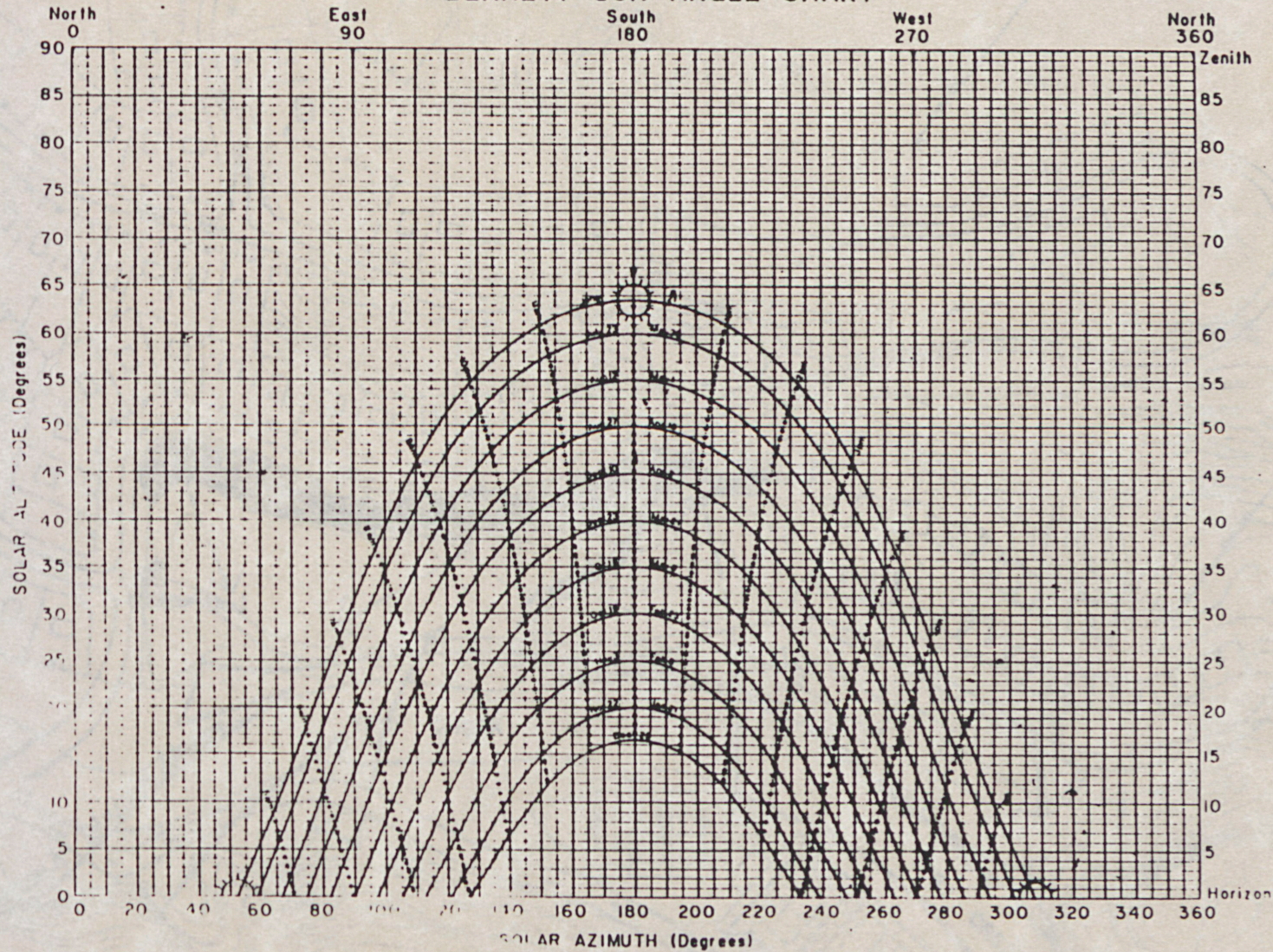


PANORAMA
RESORT

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J

BENNETT SUN ANGLE CHART

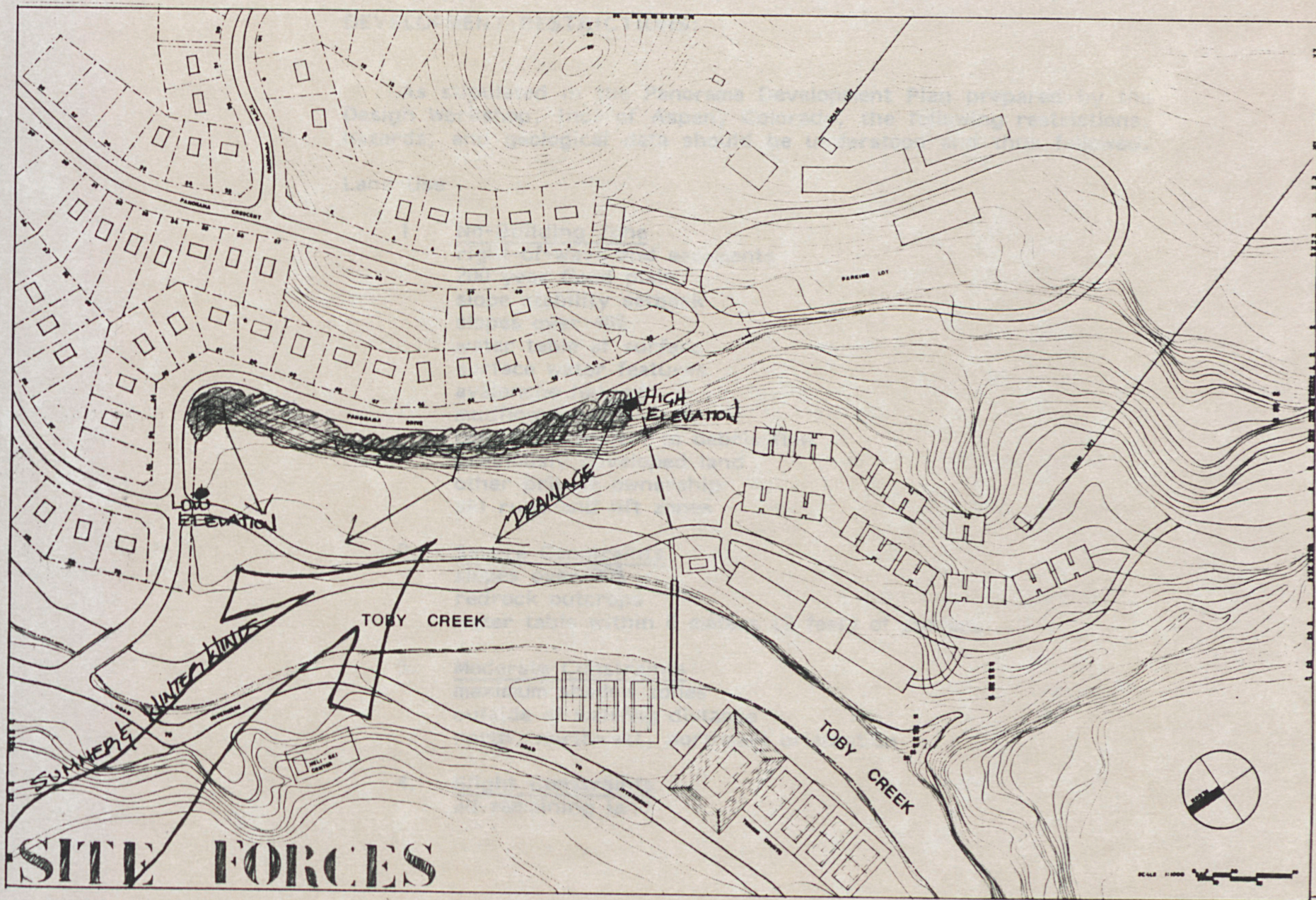


50° NORTH LATITUDE



BRITISH COLUMBIA CANADA

K



PANORAMA
RESORT

BRITISH COLUMBIA CANADA

L

DEVELOPMENT RESTRICTIONS:

As stipulated in the Panorama Development Plan prepared by the Design Workshop, Inc. of Aspen, Colorado, the following restrictions, hazards, and geological data should be understood and thus followed.

Land-Use

1. No-Building Zone
right-of-ways and easements
200 year flood plain
slope stability setback
slopes over 40%
water table at surface
surface water features
avalanche hazard
mudflow areas
cone fans subject to debris flow
previously developed land
other private ownership
ski runs and lift zones
2. Severe Constraints
slopes over 30%
redrock outcrops
water table within 6 meters (2 feet) of surface
3. Moderate Constraints
maximum shadow zones
outside of walking distance
north, northwest, northeast orientation
4. Slight Constraints
all remaining land

Topography

1. Panorama base area lies between 3,700 and 3,900 feet above sea level
2. Maximum slope restrictions:

parking lots	20%
day lodge	15%
intense residential	30%
commercial uses	15%
low density subdivision	40%
employee housing	30%
3. Roads

collector road grades	8%
private service drives	10%

Slope

1. Strive for maximum winter sun exposure
2. Slope orientations
 - a. warmest: face south--will receive the highest amount of solar radiation on a yearly basis
 - b. moderately warm: eastern and western orientation
 - c. cool: north facing slopes
3. Optimum Orientation
 - a. east of south--will result in a balanced heat distribution
4. Site Location
 - a. 50°30' North Latitude
 - b. Midday sun only rises a maximum of 16° above the horizon during the winter solstice

Geological Hazards

1. floods
2. snow avalanches
3. rock and mud slides

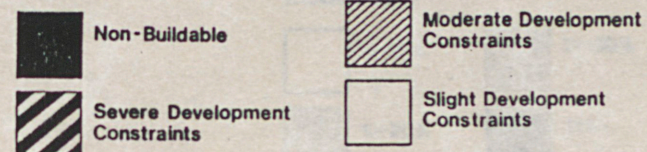
Vegetation

1. The existing vegetation is a valuable, natural resource and plays an intricate role in the site's ecological balance
2. Vegetation preservation and protection is an important concern
3. The removal of vegetation for development causes the reduction of wildlife habitat
4. Use trail systems for pedestrians, equestrian, and cross-country skiing to lessen the impact on vegetation
5. Avoid soil compaction around trees
6. Types: lodgepole pine
white spruce
balsam poplar
mixed forest
birch shrub
disturbed grasslands (cleared)



Development Suitability

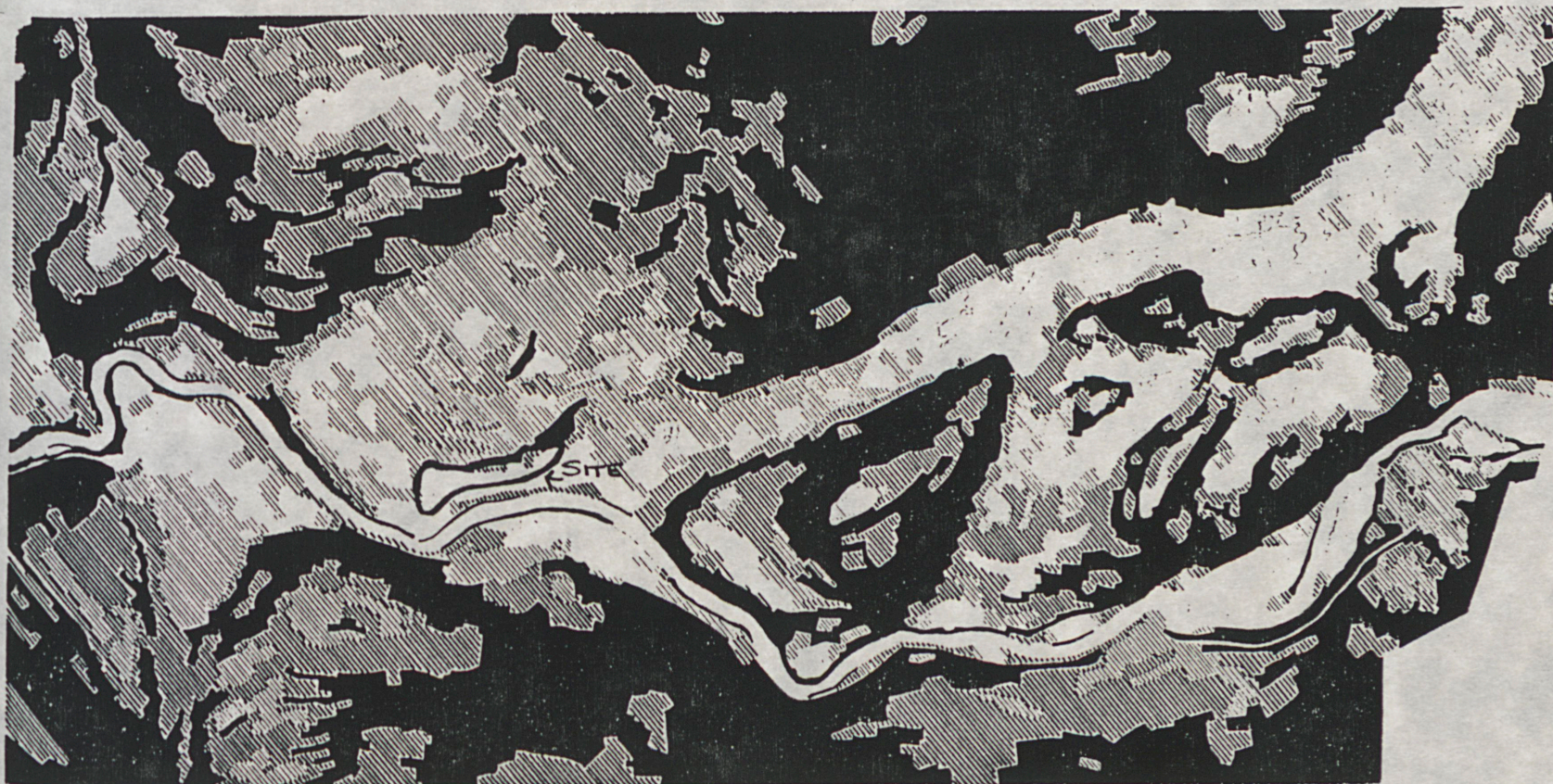
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 **PANORAMA**
RESORT

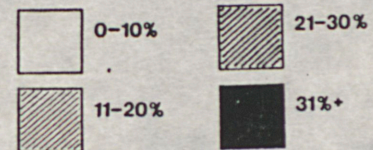
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Topographic Slope

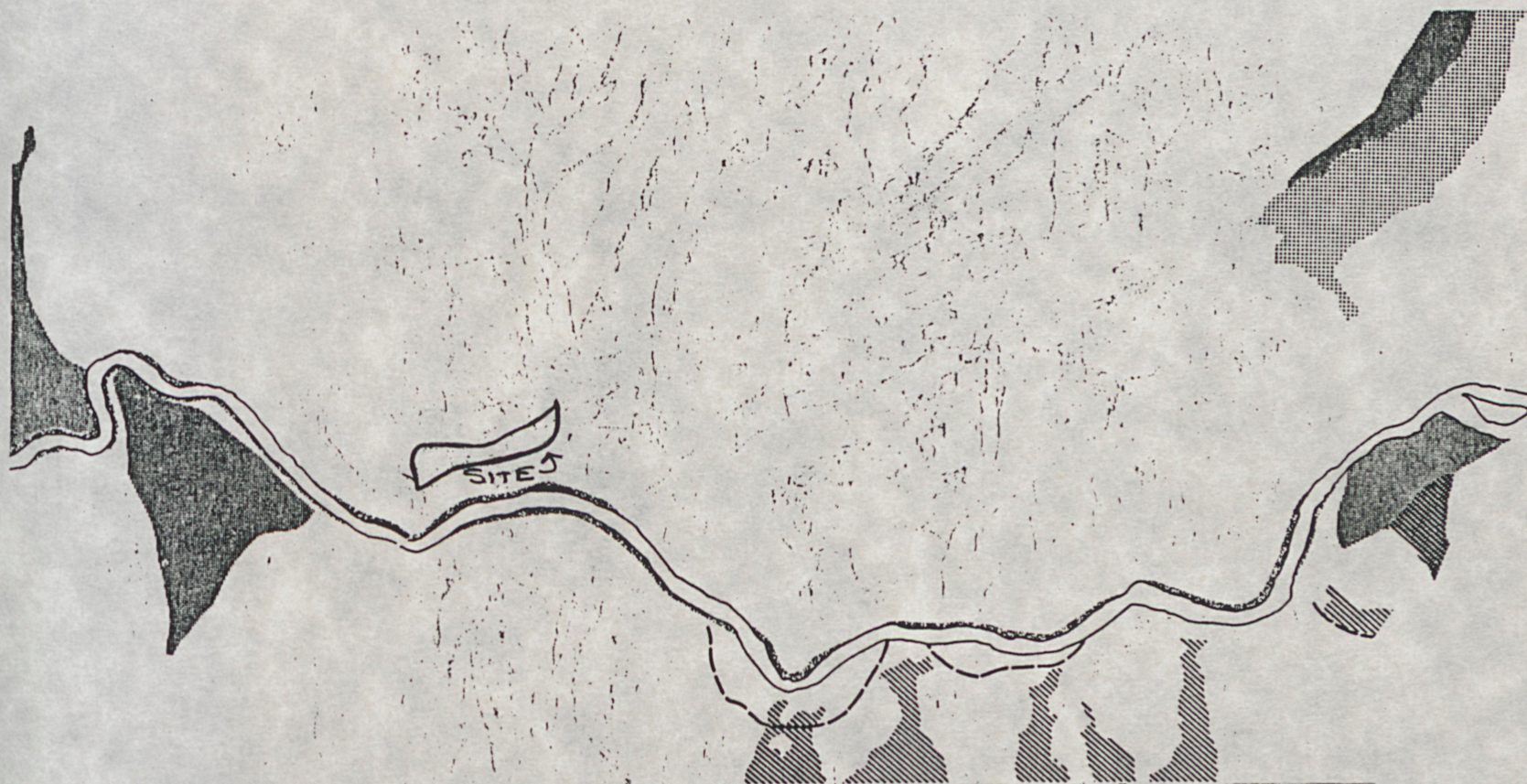
LEGEND



 **PANORAMA**
RESORT

BRITISH COLUMBIA CANADA

N



Geologic Hazards

LEGEND

	Avalanche Track		Mud Flow
	Landslide Scarp		Slope Stability Setback
	Cone - Fan Susceptible to Debris Flow		Active Stream Undercutting

PANORAMA
RESORT

BRITISH COLUMBIA CANADA





Vegetation Associations

LEGEND



Lodgepole Pine



White Spruce



Mixed Forest



Birch Shrub



Balsam Poplar



Ski Runs



Rock Outcrop

PANORAMA
RESORT

BRITISH COLUMBIA CANADA

P



Sun/Shadow

LEGEND



Most Sun



Moderate Sun



Moderate Shadow



Maximum Shadow

PANORAMA
RESORT

BRITISH COLUMBIA CANADA





Landform Analysis

LEGEND

	Cone Fan		Hummocky Terrain
	Alluvial Plain		Mud Flow
	Low Terraces		Bedrock Knolls, Outcrops

 **PANORAMA**
RESORT

BRITISH COLUMBIA CANADA

R



Hydrology

LEGEND



Primary Streams



Bog Areas



Water Table
at the Surface



Water Table
Within 2 of
the Surface



Seepage Areas
Associated With
High Water Table



Intermittent Drainage



Taynton Creek
Watershed

 **PANORAMA**
RESORT

BRITISH COLUMBIA CANADA



DEVELOPMENT GUIDELINES:

THE BUILDING SCALE

1. Residential 3.5 stories (max.)
2. Commercial 5 stories (max.)
 - a. Levels 1 and 2: retail
entertainment
office space
 - b. Levels 3 to 5: residential

CONDOMINIUM UNITS

TYPE	SIZE	PERCENT (%)
1. Studio	46 sq. mtrs. (500 sq. ft.)	10%
2. 1 bedroom	69 sq. mtrs. (750 sq. ft.)	20%
3. 2 bedroom	102 sq. mtrs. (1100 sq. ft.)	60%
4. 3 bedroom	120 sq. mtrs. (1300 sq. ft.)	10%

ZONING RESTRICTIONS

1. Medium-Density Commercial/Residential
 - a. Condominiums
 - . a maximum development of 30 - 40 units per net buildable acre
 - b. Commercial
 - . there is no density restriction for commercial development

PARKING

1. All parking is to be located underground except for the day-skiing surface lot.

UTILITIES

1. All utilities servicing the site shall be placed underground and meet applicable standards.

EXISTING AND REQUIRED FACILITIES:

EXISTING FACILITIES

- Cafeteria (day lodge)
- Clothing Store
- Convenience Store
- Meeting/Conference Rooms
- Offices
- Pub
- Restaurant/Lounge
- Restaurant/Nightclub

DESIRED FACILITIES

- Bakery
- Bank
- Barber Shop
- Beauty Salon
- Deli
- Drive-thru Registration/Information
- Grocery Store
- Non-denominational Chapel
- Sport Shop
- Theater
- Various other shops and restaurants

On no account allow set-backs between streets or paths or public open land and the buildings which front on them. The setbacks do nothing valuable and almost always destroy the value of the open areas between the buildings. Build right up to the paths . . . And let the building fronts take on slightly uneven angles as they accommodate to the shape of the street.

-Christopher Alexander

S P A T I A L

S U M M A R Y

IV

SPATIAL REQUIREMENTS:

SITE: 19,537 square meters (211,000 square feet)

= $\pm$ 5 acres

USE: Medium-Density Residential
Mixed-Use Commercial

DENSITY: Maximum of 35 dwelling units per acre

SITE COVERAGE: 50% Outdoor Space
(MAX.) 50% Built Space

= 9,769 square meters (105,500 sq. ft.)

TOTAL: Maximum of 5 floors
(MAX.)

= 48,843 square meters (527,500 sq. ft.)

CIRCULATION, STRUCTURE, MECHANICAL:

15% of Total = 7,327 square meters
(79,125 square feet)

COMMERCIAL:

Total = 16,606 square meters
(Maximum) (179,350 square feet)

Commercial space must be flexible in size and directly accessible to the public.

A possible ratio of commercial uses (as per the precedent studies)

Food Services	30%
Entertainment	20%
Mixed Use-Shops	50%

RESIDENTIAL:

Total = 24,910 square meters
(Maximum) (269,025 square feet)

As a result of the development guidelines, no more than 150 condominium (residential) units should exist.

Attaining a worthwhile goal necessitates careful planning. One day's planning can never be correlated with that of another unless we first establish a goal. Our first goal should be living in harmony with Nature, for the Laws of Nature are fixed laws. They will never change, so we must adjust our lives in accordance with their demands.

Forest C. Shaklee

PANORAMA RESORT GOALS:

As stipulated by the Cascade Group, the primary goal for the development was to create "a high quality, year-round destination resort: an area where all services and products are readily available within close geographic proximity to each other and where products and services are of such a nature as to induce the consumer to incur certain time and costs in travelling to the area and to remain on site for no less than a period of two days and nights."

The following goal statements have been extracted from those which the Cascade Group has enforced throughout the resort development and thus should be noted:

1. To provide a quality recreational environment attracting year-round tourism.
2. To create a development program that responds to the site's natural attributes and complements the recreation attractions of the Columbia Valley.
3. To balance base facilities and accommodations with mountain ski capacity.
4. To respect environmental hazards and avoid excessive impact to natural systems.
5. To create a project that contributes positively to the public fiscal base and local employment opportunities.
6. To increase utilization of the skiing resource by changing visitation patterns from day and weekend skiers to destination skiers.
7. To maximize pedestrian accessibility, and discourage vehicular use wherever possible.

8. In keeping with the pedestrian oriented village, attention to building size and materials will attract close-viewed interest of the meandering spectator.

VILLAGE CORE GOALS:

The village within the resort must be pleasing and attractive to a large cross-section of skiers and summer visitors. Therefore, The Cascade Group suggests that the village should be; UNIQUE, FUNCTIONAL, ALPINE, INTERNATIONAL, AESTHETICAL, and COMMERCIAL-
LY VIABLE.

The most prominent requirement is that of having an alpine appearance and uniqueness. Contact with nature and the preservation of the surrounding environment is of prime importance in its juxtaposition with the closely knit, intimate village. Simple life and contact with the outdoors prevail as the basic ideals.

The following village design goals have been extracted from Panorama's Development Plan as stipulated by the Cascade Group.

1. HUMAN SCALE: the building of a village that is true to human scale.
2. FUNCTION: to develop a village that is functional to both summer and winter enjoyment as well as congenial to the visitor and permanent resident.
3. ALPINE: to give the village an alpine appearance.
4. NATURE: to complement, preserve, and enhance the natural environment of the site and its surroundings.
5. COMMERCIAL VIABILITY: the design of buildings, plazas, arcades, and porticos with consideration of the commercial viability of the village.
6. VITALITY: to maintain vitality in the village: to make it a place for people, activity, and congregation.

7. VARIETY: to create variety in the sequence of spaces, not only with layout, but also with the physical forms that define spaces, to effect the emotions of the pedestrian and give interest.
8. UNITY: as well as establishing a very subtle variety in form, period, color, and texture; to establish a village that is a whole.
9. INTERNATIONAL: the formation of an international atmosphere that is interesting to the domestic and foreign visitor.

It is not possible, nor is it desired, to completely hide the resort development. What seems more appropriate is to control the building scale, architectural style, materials, and color so that the village entity forms a partnership with the natural landscape and even enhances it. A view from the mountain above is especially important.

CREATION OF AN ALPINE VILLAGE:

Following the research of ski resort developments and European resorts (see Appendix A and B), the following will be necessary to create an Alpine Village:

1. Simplicity to signify the peasantry and uncomplicated life of most alpine villages.
2. A rustic appearance obtained from the weathering caused by the extreme climate.
3. Solidity of construction to match the weight and bulk of the surrounding mountains and to indicate the load bearing qualities of the buildings for snow.
4. Warm color tones matching the natural colors of the landscape.
5. Variation in building form to prevent large, monotonous, banal forms. The following might be of assistance:
 - variation in window size, shape, moldings, and placement
 - bay windows and projecting balconies
 - overhanging structures
 - building setbacks
 - roof variation
 - exposure of rafters, beams, and trusses

The simple social intercourse created when people rub shoulders in public is one of the most essential kinds of social 'glue' in society.

The sight of action is an incentive for action. When people can see into spaces from the street their world is enlarged and made richer, there is more understanding; and there is the possibility for communication, learning.

-Christopher Alexander

CONCLUSIONS

VI

Upon completion of the analysis of the thesis site, an understanding was reached pertaining to the influences of both external and internal forces. Therefore, an initial schematic study relating to the proposed commercial/residential "village within the resort" was, necessarily, the next step. Three different relationship studies were focused upon:

1. INTEGRATION of commercial to residential uses.
This study dealt with a total mixture of the commercial to the residential facilities. Through this integration, a unique quality and character could be created which could provide interest and excitement through commercial activity to the resort guest.
2. SEPARATION of commercial and residential uses.
By keeping the commercial facilities separated from the residential units, an actual community-type atmosphere would be created (having a commercial core and a separate residential core). Also, this separation reflects the theme presently in effect at the resort.
3. COMBINATION of commercial and residential uses.
This third study of the relationship between commercial and residential facilities focused upon providing the visitor with a 'bothand' situation. This meant that a visitor could either choose accommodation within the commercial activity or choose to be completely separated from any commercial space.

As a result of the above study, it became apparent that by choosing "INTEGRATION" as the driving conceptual force, the atmosphere and desired "Alpine Village" character could best be achieved. Although the integration of residential and commercial uses is of primary importance, integration can be applied to many other design factors:

INTEGRATION OF THE VILLAGE TO THE RESORT
INTEGRATION OF AN INTIMATE HUMAN SCALE WITHIN THE
VILLAGE TO THE MONUMENTAL SCALE OF THE SURROUND-
ING MOUNTAINS

INTEGRATION OF CONTEXTURAL MATERIALS (reflecting the surroundings) TO CONTEMPORARY MATERIALS (reflecting the machinery: ski lifts, etc..)

INTEGRATION OF THE NATURAL ENVIRONMENT TO THE BUILT ENVIRONMENT

With this understanding and driving force in the general project design, it became apparent that, as a result of the abundance of contradictory forces acting upon the village site, a prioritized list of design generators and modifiers need be addressed.

Three major generators were:

1. TOTAL INTEGRATION
2. PEDESTRIAN RELATIONSHIP
3. RESORT/VILLAGE RELATIONSHIP

Two major modifiers were:

1. VEHICULAR RELATIONSHIP
2. CLIMATIC INFLUENCES

With the above generators and modifiers acting as key design influences, the creation of a village within the existing resort could be addressed. In order to achieve the primary goal of creating an "Alpine Village" for pedestrian use, a linear street was created which conforms to the contours of the site. Climatic forces became influential factors in the design of street facades.

An earlier study of the spatial requirements dealt with the absolute maximum densities and ratios of commercial to residential functions. In order to limit the effect upon the site and surroundings, these maximum calculations were reduced in such a way as to best maximize the site's potential to create the desired pedestrian-oriented alpine street. The proposed built area, therefore, is approximately 21,000 square meters (225,750 square feet) with 15,000 square meters of residential (with approximately 90 units) and 6,000 square meters of commercial space.

In summary, this thesis project reflects that of an urban design problem, where pedestrian spaces have been created as a result of the built forms.

DOCUMENTATION

VII

BIBLIOGRAPHY

VII

BIBLIOGRAPHY

- Abercrombie, Stanley. Architecture As Art. New York: Harper and Row Publishers, 1986.
- Allen, Gerald and Donald Lyndon and Charles Moore. The Place of Houses. New York: Holt, Rinehart, and Winston, 1979.
- Allen, James. As A Man Thinketh. New York: Grosset and Dunlap, 1931.
- Anderson, Grace. "A Ski Lodge for all Seasons," Architectural Record. (October 1984), pp. 188-191.
- Anderson, Grace. "Nostalgie du Chateau," Progressive Architecture. (March 1979), pp. 70-75.
- Barker, Mary L. "Traditional Landscape and Mass Tourism in the Alps." Geographic Review. (1982) pp. 395-415.
- Batchelor, Peter and David Lewis. Urban Design in Action. Raleigh, North Carolina: The Student Publication of the School of Design, North Carolina State University, 1985.
- Bennett, Robert. Sun Angles for Design. Bala Cynwyd, PA, 1978.
- Carver, Norman F. "Villages of Iberia," AJA Journal. (May 1982), pp. 48-63.
- Darbellay, Charly. "Ecological Problems in the Swiss Alps: the Pays d'Enhaut Project." International Social Science Journal. (1982) pp. 427-439.
- Darley, Gillian. Villages of Vision. London, England: The Architectural Press Ltd., 1975.

- Guimond, Pierre S. and Brian R. Sinclair. Calgary Architecture: The Boom Years 1972-1982. Calgary, Alberta: Detselig Enterprises Ltd., 1984.
- Harris, Stacy Paleologos. Insights on Sights. Washington, D.C.: Partners for Livable Places, 1984.
- Hoffman, George W. A Geography of Europe. John Wiley and Sons, New York, 1983, pp. 410-411.
- Leonard, Michael. "LesArcs," Architectural Review. (August 1980), pp. 93-97.
- Lesnikowski, Kłojciech G. Rationalism and Romanticism in Architecture. New York: McGraw-Hill Book Co., 1982.
- Lynch, Kevin. Site Planning. Cambridge, Mass.: The M.I.T. Press, 1962.
- Mackinlay, Ian and W.E. Willis. Snow Country Design. Washington, D.C.: National Endowment for the Arts, 1965.
- McHarg, Ian L. Design with Nature. Garden City, New York: Doubleday and Co., Inc., 1971.
- Norberg, Schulz, Christian. Genius Loci: Toward A Phenomenology of Architecture. Academy Editions, London, 1979.
- Schirmbeck, Egon. Idea, Form, and Architecture. New York: Van Nostrand and Reinhold Co., 1987.
- Shaklee, Forest C. Reflections on A Philosophy. New York: The Benjamin Co., Inc., 1973.
- Stadel, Christoph. "The Alps: Mountains in Transformation." Focus. (Jan. Feb. 1982), pp. 1-16

Stockwell, Sherwood. "Land Use Planning and Design for Ski Resorts," Architectural Record. (January 1974), pp. 141-156.

Quatrill, Malcolm. Reima Pietila: Architecture, Context, and Modernism. New York: Rizzoli, 1985.

Venturi, Robert. Complexity and Contradiction in Architecture. New York: The Museum of Modern Art, 1977.

Whiteson, Leon. Modern Canadian Architecture. Edmonton, Alberta: Hurtig Publishers Ltd., 1983.

Wright, F.L. A Testament. New York: Horizon Press, 1957.

_____. "Eagleridge Design Competition," Architectural Record. (February 1982), pp. 40-43.

_____. "Newest U.S. Invaders of Europe-Tourists." U.S. News and World Report. July 26, 1982), pp. 51-52.

✓ _____ "Park City Utah," Architectural Record. (May 1983), pp. 92-97.

A P P E N D I X

A

Eagle Ridge Design Competition

The Boston architectural firm of Goody, Clancy, and Associates has won an open two-stage competition sponsored by the developers Caltenno-Colorado for the design of Eagle Ridge, a \$160-million resort community to be constructed in Steamboat Springs, Colorado. The 37-acre development has been conceived as a year-round family-oriented resort.

Stressing the importance of ecological and aesthetic harmony with the natural environment and with the nearby town of Steamboat Springs, sponsors encouraged entrants to regard the project as "an opportunity to combine the latest technologies related to housing by experimenting and developing them at the luxury level where they can become realities."

The winning entry by Goody, Clancy, and Associates consisted of "an organizing concept of grouping the individual units to form larger clusters, accommodating the parking platforms, forming little hill sides in the meadows or jagged pyramid-like clusters on the slope, and building up to the hotel as a focal point, resulted in a dramatic development perceivable at a distance and offering varied and rich spaces within. The organizing arrangement is not a formal, imposed order . . . but rather one which is versatile and responsive, resulting in the arrangement of buildings and public spaces in a manner in which the site features are maximized. The circulation system of walkways and paths, crossing the road and descending the hill, similarly demonstrates the abilities of the organizing concept to respond effectively to the site's opportunities."

The residential sectors consist of interlocking configurations of L-shaped dwelling modules, stepped to follow the terrain. These are sited with north-south/east-west orientations for optimal exposure to sunlight and views. All parking is located underground. The commercial plaza consists of sheltered terraces which furnish year-round settings for outdoor cafes and public gathering places.

Northstar-at-Tahoe

Trimont Land Company (developers) recognized Northstar's natural beauty as its major asset and thus devised a land use plan which would maintain the environmental and ecological values of their land. Their goal was to "maintain the landscape, minimize erosion, and foster forest regeneration."

Visual impact studies were conducted which proved that buildings could be fit into the environment without altering it and, indeed, so that they would be invisible from anywhere outside of the property. Within the property, no more than three buildings can be seen at one time, and nowhere is an overall view obtainable.

One of the primary design goals was to create a completely pedestrian place. As a result, cars are parked away from the village and condominiums, and everyone walks.

"More than extra insulation and larger furnaces are necessary to design a good, tight building for snow country. A good first rule for mountain areas is to pitch roofs away from where people are expected to be." Ice dams, formed at eaves when heat from inside melts the snow and sends it coursing down to the cold eave, where it freezes, eventually cause leaks inside or damage to the roof outside. "A good second rule in the mountains, therefore, is to design so ice 'dams' can't form." This is accomplished either by using the European 'cold roof' - two separate layers between which outside air flows, preventing heat transfer - or by introducing warm air into the eaves. "A good third rule is to design for a respectable snow load: at Northstar we used 240 pounds per square foot - far more than standards require." Flat roofs can be effective, and sometimes even be preferred from an engineering standpoint.

The day lodge has a striking blue-enameled aluminum roof designed to take care of snow problems through its form. On one side it is so steep that snow cannot build up on it; this is the 'front' where people gather. On the other side, the pitch allows snow to slide off to an area never used by people.

Summer or winter, the village is the center of activity for Northstar; the community's 'downtown.' Shops and restaurants are on the ground floor of the village buildings with an arcade to shelter access to them. A grove of trees in the center of the village sets the height limit for the buildings. Only foot traffic is allowed entrance to the village.

Elkhorn Valley

Elkhorn, at Sun Valley, is a sunny, almost windless, completely treeless site. "To intrude upon the untouched grandeur of this open valley may have seemed a sacrilege, but its openness made it vulnerable and a sure target for development at some time." To make Elkhorn a 'human-scale village' within the vast scale of the valley and mountains at once brought it into the context of similar situations in the Alps.

Killingsworth, Brody, and Associates strived for a feeling of a Swiss mountain village. They studied mountain villages in various parts of Europe and chose "not to borrow their forms but to analyze the characteristics which were common to all, and, using these basics, to devise a contemporary and individual style which would be distinct to Elkhorn." They made use of pitched roofs, deep set windows and balconies, and stenciled patterns (in blue) to catch the 'whimsical' and the practical aspects of alpine buildings.

"Old villages," remarked Edward Killingsworth, "aren't precise and well-ordered; they just sort of happen." Elkhorn is no self-conscious putting together of forms for a studied variation, but has a feeling of natural difference which comes from the siting of the groups of condominiums and from disciplined use of materials.

"A new resort town, however small, deserves its own architectural character as much - perhaps more, because it is small and more easily seen - as any larger development." The architects determined that Elkhorn should be completely modern, however, should have as much charm as an alpine village. "Swiss, Bavarian, Austrian, Italian villages are essentially identical: a play of spaces; narrow, curving streets, enticing the pedestrian, that spill out into squares; narrow slits between buildings through which shafts of light penetrate; a feeling of containment derived from tall buildings and restricted vistas." These characteristics contribute to a comfortable pedestrian scale and to the "delight which spells success in any destination resort." Killingsworth, Brody, and Associates based their design for Elkhorn on the previously-stated principles, however strived to develop only the subtlest resemblance to buildings of earlier periods so that a unique identity could develop for Elkhorn.

A P P E N D I X

B

THE EFFECTS OF MASS TOURISM IN THE ALPS

With an area of approximately 175,000 square kilometers and a resident population of seven million people the Alps are neither the largest nor the most populated mountain region of the world. (Stadel) However, of all the high mountain regions, the Alps are the most developed, with the greatest amount of tourist activity and have experienced one of the most rapid and profound transformations of its environment and socio-economic structures in recent times. This transformation of the Alpine region into a resound and recreational urban 'hinterland' has resulted in new prosperity but has also placed considerable stress on the environment, the population, and the existing infrastructure. (Stadel) This paper proposes to examine the changes effected by mass tourism on the landscape, the economy and the traditional culture of the Alps.

Throughout history, the Alps have experienced major shifts in their functional roles and in the use made of the environment. "At certain times," according to Christoph Stadel, "the Alps became an active space, a region of significant importance in Europe. At other times, the Alps remained, or reverted back to a 'passive space,' experiencing a state of isolation and a lag in development." (Stadel, p. 2) Traditional Alpine life was based on mountain agriculture and forestry supported by supplementary employment in mining, cottage industries, and transportation. The traditional activity of the rural population was characterized by the trilogy of field cultivation, pastoral activity, and forestry. The location of permanent villages and of intensive field cultivation was determined by favorable topographic and microclimatic factors. (Stadel) Traditional life in the Alps was affected by numerous constraints: rugged topography, severe weather and climate conditions, natural hazards, isolation, and a land tenure system which favored subdivision and fragmentation of property. However, living conditions were less disrupted by wars, social unrest, and political oppression than in the lowlands.

"The origin of the existing patterns of income inequities, depopulation of isolated valleys, and land abandonment lies in the accelerated decline of the Alpine agricultural economy after the onset of the industrial revolution." (Barker, p. 395) Depopulation, however, was not a new phenomenon as a shift to extensive agricultural

practices began in the late middle ages and led to a peak of land clearance in the fourteenth century. Following the French Revolution, the confiscation of large monastic estates in the Alps resulted in significant land abandonment and a pattern of state ownership which established the centralized approach to French land use planning. The development of railroads spurred rural depopulation throughout the Alps in the nineteenth century. (Barker) This land abandonment and the shift to an extensive grazing economy resulted in significant landscape changes. For example, "natural regrowth and reforestation increased the forest cover of the French Alps from 19 percent in 1879 to 33 percent in 1980." (Barker, p. 396)

The 20th century brought about the emergence of mass tourism in the Alps. This new focus on tourism was the result of, and stimulated by, a combination of factors. "First, new affluence and increased leisure orientation of a large proportion of the European population since the 1950's. Second, social legislation which institutionalized extended paid holidays and extensive health care. Third, the popularity of new forms of tourism and the construction of extensive new facilities for the accommodation, transportation, and entertainment of tourists. Fourth, the rise of motor transportation and private car-ownership highways." (Stadel, p. 5) Summer tourism had dominated into the early 20th century.

It was not until the 1920's and early 1930's that a significant winter season developed. In the early stages of tourism, the distribution of economic benefits tended to be highly localized - development was concentrated along the railroad in a few resorts.

As a result of the new focus on mass tourism since the 1950's, most Alpine mountain farming areas suffered economic and social crisis unless they could adjust to the needs of increased tourism or were heavily subsidized by their governments. In contrast to previous times, the non-agricultural communities of the rural population, mainly tourism, became so overwhelming that agriculture was reduced to a minor role. In those areas where little potential for tourism existed, agriculture largely disappeared from marginal zones, villages and fields were abandoned and pasture lands became overgrown by vegetation. This caused an increase in the occurrence of avalanches and landslides which, in turn, reduced the recreational value of the landscape. In

the higher altitude zones, on steep slopes, the area devoted to agriculture has been disappearing steadily over the last few decades.

Large numbers of the traditional summer pastures above the forest-line have been abandoned; the upper limits of agricultural settlements, field cultivation, and regularly mown meadows has been lowered, in some areas by several hundred meters. (Stadel) "There is a growing awareness that if the Alpine regions are not to decline to the point of becoming museums, then the inhabitants must be offered the possibility of work with dignity and opportunities equivalent to those available to inhabitants of the plains." (Stadel, p. 6)

Although remote valleys in the Alps are suffering economic decline, mass tourism has served as a catalyst for repopulation and economic revitalization especially in parts of Switzerland and western Austria. However, even in these areas, growth has been concentrated around the tourist centers that are located along transportation routes. Since the tourism boom favors the less remote areas, "out-migration of the young from the isolated valleys results in a predominance of older persons in the remaining population, a higher per capita cost of maintaining essential services, a decline in the productive capacity of the land, and a loss of social stability." (Barker, p. 399) Mountain communities, therefore, have become more vulnerable to externally induced change.

The expansion of mass tourism in the Alps varied regionally. Rapid growth in the eastern Alps during the 1950's was followed by lower, but still exponential rates, between 1960 and 1970. Summer decreases occurred in 1973 and in 1974 as a consequence of cutbacks in oil production and price increases by OPEC. The revaluation of the Swiss franc in 1971 led to a slump in the number of foreign visitors; this decline continued as the effects of the oil-price rise and economic recession were experienced. (Barker) The length of the tourist season has also become a crucial economic factor as communities participate in the increasingly fierce competition for visitors. "Resorts that rely on one short peak summer (July-September) or winter (January-March) season have difficulty in defraying capital costs for ski lifts or hotels. The local populations have been unable to earn sufficient income to maintain themselves during the rest of the year." (Barker, p. 401) One solution to this problem might be to use the facilities

during a second tourist season; for example, "by developing summer skiing on glaciers high above the valley communities or by promoting the summer attractions of winter resorts." (Barker, p. 401)

Vacation houses have become a popular alternative to hotels or accommodation in private dwellings. By the 1960's, the supply of empty available farmhouses was exhausted and a surge of apartment-type construction was prevalent. Also, the number of second homes doubled during the 1960's and reached a peak in the 1970's. More than 40 percent of the total buildings in some communities of Alto Adige are vacation houses; three-quarters being foreign owned. (Barker) A number of problems, however, have arisen as a result of this vacation house boom. When second-home owners moved in permanently after retirement, demands on the local services increased. The use of vacation houses is limited to a brief period of the year, therefore, minimal services were provided throughout the year. Economic benefits to local businesses are not as large as would be expected since second-home owners often bring their own supplies. (Barker) During the major tourist season, the resident Alpine population of about 7 million people is increased by about 3 million guests (who stay overnight) with an additional 2 million tourists on weekends. A large proportion of these tourists in the Alpine region populate and over-crowd a relatively small number of well-known resorts; they are not dispersed evenly over the Alpine landscape. (Stadel) Despite the fact that many attempts to decentralize tourism have occurred, large peripheral areas remain relatively unaffected by tourism. Also, although most Alpine resorts have attempted to develop year-round tourism, they still clearly exhibit weekend seasonal peaks.

In comparing the population development of specific Alpine regions and communities, a clear correlation appears between tourist activity and the growth of the resident population: tourist regions benefit from an influx of people, whereas regions with little tourism tend to stagnate or decline. (Stadel) "With the rise of tourism to the principal component of the Alpine economy, the occupational structure of the population shows a major shift from primary employment (agriculture, forestry, mining) to the tertiary sector (tourist-related service employment)." (Stadel, p. 8) One of the most significant and most visible consequences of the growth of tourism has been the increasingly large demand for space for the accommodation, transportation, servicing,

recreation, and entertainment of tourists. The tourist-related settlement process and building activity appeared in various forms depending on the region and its particular planning approach. In some communities there is an attempt to preserve the image of a traditional mountain village and a rural cultural landscape. In these resorts, new buildings must conform to rigid building standards which regulate the dimensions of the new structure, the building materials used, and the architectural details, in order to give the illusion of an undisturbed traditional community. This approach has proven to be highly successful in preserving the visual harmony of the landscape while at the same time attracting large numbers of tourists." (Stadel, p. 9)

Several differences in the scale intensity, and the form of development between the western and eastern models of tourism are reflected in the valley and Alpine landscapes." In the west, large ski resorts have been erected in the sub-alpine zone long after the local population retreated to the main valley where agriculture, forestry, and manufacturing provided employment. The forested zone between the valley and the uplands serves as a buffer or barrier separating the valley communities from the ski stations." (Barker, p. 408) This landscape model offers a strong contrast with tourist areas in the eastern Alps. "In the eastern model hotels pensions, and vacation houses arose around the traditional valley communities, many of which have ski and summer-sport facilities." (Barker, p. 408) As the number and range of facilities expand in the eastern Alps, the initial positive effects may be replaced by the negative consequences of further growth. Initially tourism improves the standard of living of the local population since employment expands and agriculture is intensified in response to increased demands for local food products. The intensity and volume of tourism in the peak season, however, result in an overcommitment of financial resources to tourist accommodations and loss of traditional ways of life.

The spatial concentration of tourism in the Alpine region has raised the issue of identifying criteria and thresholds for the carrying capacity of a tourist landscape. Peter Haimayer suggests that "this carrying capacity could be assessed in terms of the three basic factors of 'physical capacity,' and 'sociopsychological capacity relates to levels of tolerance of the local population for the incursion of outsiders and alien cultural influences. (Stadel, p. 12)

The change of the Alpine landscape, as a result of mass tourism, altered and often disturbed the delicate balance between the natural environment and the human utilization of the Alps. The need for concerted supra-regional planning becomes obvious when one considers the fact that the Alps fulfill the double functional role of being the living space for a residential population, while also being an important resource region and the major recreational destination for the densely populated and highly developed core regions of Europe. (Stadel) The disproportionate influence of outsiders threatens to outweigh the needs of the native population and the Alpine environment:" the former land of the mountain peasantry has become the recreation area of an urban population." (Stadel, p. 12) Planning goals for the Alpine region generally are centered around the following principles: "first, cautious, protective utilization of the alpine resources and carefully planned development of the alpine region - in the alpine core areas, guidance and possibly restriction of the alpine population - attempts should be made to guarantee an adequate and multilateral economic base for that population with sufficient provision of services and infrastructures." (Stadel, p. 13)

The tourism boom has revitalized traditional skills and cultural activities in mountain valleys throughout the Alpine region. In general, the regions where mountain agriculture survived, have a firm social fabric to absorb the effects of mass tourism. Commercialization and the influx of alien values threaten the cultural identity of these Alpine communities with many residents believing that their local customs including festivals that celebrate the seasons in the traditional farming cycle, are being transformed to folklore for outside consumption. (Barker) Conflicts between the interests of local communities and those of urban-based environmental groups are increasing. For these reasons, therefore, the Alpine region faces the immediate need to develop a specific alpine planning strategies while at the same time, face the challenge of making the transition from a phase of economic growth to that of a period of balance with the industrialized nations. (Stadel)

APPENDIX

C

THE ARCHITECTURE:

1. Clusters and groupings of buildings should fit the form of the land contours.
2. Architecture is to be simple in form with a minimum of decorative fenestration.
3. Building forms will be sympathetic to the mountain setting and local context.
4. Relationships between building forms will be a major consideration. A village-like quality is the character and scale to be achieved.
5. Building heights will be limited to $3\frac{1}{2}$ stories for residential units and no more than 5 stories for the village center structures.
6. Architectural configurations will aim to satisfy winter conditions and provide for summer comfort by utilizing outdoor living spaces.
7. Orientation of dwelling units will be toward open spaces wherever possible.
8. Orientation of structures will be in the optimum direction whenever possible to maximize sun exposure.
9. The majority of glass will be on the south side of structures. Windows will have the option of shade protection during overheated periods.
10. Building materials will be indigenous to the area to blend with the natural landscape.
11. Colors will be of natural hues unless used as accent or special purpose.

12. Exterior materials that are subject to freeze-thaw damage will be avoided.
13. Fire protection will be a concern in choice of construction materials and configuration of multiple dwelling units.
14. Entrance spaces or foyers will be provided to accommodate storage and provide a buffer zone against weather extremes.
15. Sloping roofs are desired to encourage snow removal by wind action. Cool roofs are desirable to prevent moisture penetration and ice-filled gutters.
16. Roof colors and materials will be such as to not result in obtrusive visual impact when viewed from above.

The theme of Panorama Resort revolves around a series of urban facades relating in different ways to a series of street spaces - urban facades with numerous adjustments to the different requirements of inside and outside and their association with everyday life. "The values that we are aiming towards in Panorama are not simplified, beautiful forms, but actions of people and the effect of physical forms on their spirit - design that is humanistic." (The Cascade Group)

Architect Guidelines

1. Symmetrical forms should be generally avoided.
2. Although one of the goals is to incorporate intricacy and variety, a goal of unity should also be incorporated along with this. Complex architecture that does not forsake the whole unity of the village is an imperative requirement.
3. It is not intended to achieve an overall pattern, texture, or form.
4. The buildings are modest instead of a monument of the ideals of an individualist.
5. Sensitive use of materials is more important than applied ornamentation. The intricacy should be in form, not in texture.
6. Interior needs, especially for lodges and hotels decide window placements. The problem will be to make the exterior symmetrical form, thus established by the interior function, asymmetrical.
7. The only authoritarian monumental form will appear in the form of towers.
8. Designers must respect the specific appearance being achieved for each locality within the resort.
9. There is an occasional need for simple structures so that complexity does not become total confusion.
10. Each building must respect its neighbors.

ROOF FORMS

The resultant product, in the attempt to concentrate density throughout the resort and the desire to generally restrict the building heights to a maximum of stories, becomes a series of buildings of similar height which together form a harsh line between building and sky. It is necessary to break up this dividing line between structure and sky. The idea is to attract the pedestrian away from his pre-occupation with the street - to force him to look up, and thus see the resort come alive in its third dimension.

Variation in roofs and features can be achieved by the following means:

1. variation in pitch
2. offsetting the ridge line
3. variation in building height
4. features on top floors such as an overhanging balcony or portico
5. use of dormers
6. variation in the overhang of the eave
7. changing the direction of the ridge line so that a gable end adjoins an eave
8. a set back or overhang of the upper floors
9. the domination of some chimneys

Roof pitches should be designed to retain snow and snowguards should be positioned over entries.

Cold roofs or approved heavily insulated roofs that have no heat loss will be mandatory to retain snow and therefore, eliminate ice build-up; eave lines should normally extend with no soffit so that air circulates underneath. In order to form a unification and view from above that is not disorganized, all roof materials will be consistently the same cedar shingle.

Towers

1. Height will cause people to look up, thereby taking in another dimension of the village.
2. Towers give pedestrians orientation as to where they are and where they have to go in the village.
3. Identify focal points
4. The distinct heights accent the rather uniform roofs and give the total village distinction.
5. Towers should provide viewing areas to climb up to.

Colors

1. The use of a variety of barn-red stains, to the extent of 30% of each building in the resort being red, will add uniqueness to the otherwise monotone effect of natural cedar.
2. Variation in the use of red stain will also assist in the variation of building facades.
3. No one building should be red and cedar siding must be oiled or natural transparent stain.
4. Red paint can also be used discriminately in areas where color and light are necessary; such as under porticos and balconies, or to give some accent to beam structures.
5. Stucco walls in the street and on the lower floors of a few buildings should be venetian red, beige, or cream.
6. Trim around openings can be painted white, shades of yellow, brown, and red-ochre, and primary colors of red, yellow, orange, green, and blue.

7. Natural colors are emphasized and no pastel colors or extreme bright colors should be permitted.
8. Groups of openings can be colored differently along a facade to break up the buildings and give variation. However, individual doors or windows should not be colored differently.

Building Texture

1. A rustic appearance always seems to be a part of any of the real alpine villages that were established a long time ago in Europe.
2. Rustic materials will considerably influence an alpine appearance of the resort.
3. It is not possible to instantly create a weathered village, but there are ways to ensure that it will develop a weathered, rustic appearance within a few years.
4. The qualities of a wall-color, texture, shadow, and pattern - should be significant enough for the wall to have life and character, just as any other element.
5. It is necessary for the wall to be noticed by either of these qualities.
6. In the selection of materials, the elements of warmth, intimacy, rustic alpine, contrast, display, and simplicity were considered important.
7. Instead of a uniform treatment, emphasizing contrasting textures will induce awareness to the otherwise uninterested person.
8. Color, shadow, and pattern will display the walls in a much richer way.

9. Proposed building materials for exterior walls are:
 - a. natural rough-sawn cedar or redwood clapboard or vertical board and batten siding
 - b. cedar shingles
 - c. other wooden clapboard or vertical board and batten siding where red stain is used
 - d. Venetian red, beige, or cream stucco on ground floor walls or landscaping retaining walls
 - e. natural stone on retaining walls
10. Different materials and siding methods should be used on individual buildings to give variation to the facade

Scale

1. Develop a small village atmosphere by keeping the scale of the buildings as small as possible.
2. The facades of the buildings can be broken up horizontally so that a building block will appear as a series of small buildings, similar to a row of townhouses.
3. Scale of the malls should be very small and intimate, designed to suit human scale.
4. What is being safeguarded against is a large building occupying the whole frontage with a continuous facade of repetitious form and texture.
5. Another advantage obtained from breaking up the facade is that the resort, which is not very big, will appear to have more to it, the quantity of buildings creating a false impression.
6. Buildings with narrow frontage will create interest and variety and will give the appearance that the resort is a community of houses, thereby being a place that is lived-in instead of a series of large hotels.

LANDSCAPING:

The resort and its surroundings have a considerable influence in the determination of the type and extent of landscaping. Other influences are the design of the village itself and the function of the shopping district. We are fortunate in having a resort site that has excellent qualities awaiting to be taken advantage of.

The resort should be designed to be as unobtrusive as possible. To emphasize the effect of being nestled into natural surroundings, planting around the periphery of the resort should be exaggerated. The excellence of the resort will result from this preservation, enhancement, and exploitation of the site giving the resort its basic character.

Interior resort landscaping must be of itself - different from the natural scenery on the outside. Planting should emphasize different species such as vines, flowers, and shrubs with just a few large specimen trees. An emphasis on natural planting around the edge of buildings is necessary to soften the hard line between urbanity and nature; screen the development, and give hints of nature through openings to those looking from within. This planting will preserve, enhance, and exploit the basic qualities of the site and the beauty of nature.

" . . . to contrast urban scenery with nature and to preserve and enhance the natural scenery."

The Extent of Landscaping

1. Freedom in pedestrian movement and vision should not be impeded by obstructions such as planters, berms, and low, dense trees.
2. Contrast of the urban scenery on the inside with nature on the outside is diluted to form a vision of a resort with no identity.
3. With the confinement of many of the spaces in the resort, there is no room for extensive planting.

4. Extensive planting, berming, planters, and so on will detract from the dramatic scenery of the floor.
5. It is not necessary to use extensive planting as infill. The resort should be designed on a human scale with spaces that can effectively be filled with people and pavement.
6. There will be sufficient landscaping with the natural areas on the periphery of the resort which is within walking distance.
7. Space must be left for snow removal, fire, and emergency access, pedestrian movement (with skis), lights, street furniture, information boards, and street occupancy by shops and restaurants.

Landscaping Design Criteria

1. Minimize erosion by grading and replanting all areas immediately after being disturbed by construction.
2. Landscaping will be used to define entries, use areas, and circulation corridors.
3. Planting will be used to screen parking and other unattractive places from roadways and use areas.
4. Landscaping will be used to structure views, provide privacy for outdoor living areas, and provide shade and wind breaks.
5. Full use will be made of the natural features of the site such as rock outcroppings and native trees.
6. Landscaping will be in keeping with the resort character and scale.

THE FLOOR

Landscaping with the use of vegetation and interesting floor treatment are essential items to be included in the resort. The floor of a space is just as important as the building walls that also help to define space, deserving the same amount of expenditure and thought. The building and the streets are one and the ground area is the connecting surface that forms a partnership between them.

Discretion must be used to ensure that the design objectives are achieved for a simple, alpine village that is in keeping with the outdoor way of life that is encouraged. Cobblestones, for example, would be ideal but probably cannot be afforded. Some materials can be eliminated because of their inability to withstand mountain conditions, such as poured-in-place concrete. Suitable materials to consider are:

1. precast concrete pavers
2. birck
3. wood boardwalks
4. stone
5. colored asphalt

These materials and combinations of them would give more than enough variety and interest to the floor.

The Equility of Surfaces

Walls of buildings and the ground surface define spaces. These surfaces must be treated as equals in the non-discriminate community of structures. We can use the vertical surface of buildings and walls, balconies, patios, and even roofs for planting. There are many intriguing options available to break away from the approach to planting in the street.

1. Vines over pergolas in the street or on an upper level (balcony or deck) of a building
2. Sod roofs at lower levels (so they can be seen) planted with natural grasses and flowers

3. Vines and hanging plants over walls
4. Flower boxes and pots on balconies, window sills, building walls, and retaining walls around steps
5. Potted shrubs on balconies and landings

CIRCULATION:

Walking Distance

Walking distance to ski lifts and commercial facilities is an extremely important factor in establishing the desirable outer limits of village development. If the convenient walking distance is exceeded, internal transportation (either a shuttle system or private automobile) is necessary. If the private automobile is used extensively, much valuable land is consumed in providing multi-facility parking.

The maximum desirable walking distance has been established as being 330 meters (1000 feet) with development outside of 450 meters (1500 feet) not considered within walking distance. Outer walking limits for vertical grade at a rate of 76 meters (250 feet) with a horizontal distance reduction per 15 meters (50 feet) of vertical elevation change.

Service

Restaurants require very good service access so they should have priority where service is available.

Perhaps a service access system in the parking structure below the buildings could be incorporated. If so, the roof clearance on the lower floor of the parking structure should be a minimum of 14 feet so that trucks can enter this floor and deliver to commercial space via loading docks and service elevators.

A prime objective in the operation of the village must be to minimize vehicle entry as much as possible without disrupting functional operation. So that trucks can be eliminated altogether from the village, a remote receiving depot should operate where goods are temporarily stored and transferred to small vans which then deliver the goods to shops and restaurants. If this operation is controlled by the resort, the type of vehicle delivering in the village and the time of delivery can be strictly controlled to coincide with when the guests are on the mountain skiing or not yet out of bed. The resort will take on

a totally different atmosphere with these advantages, making it a "place for people."

Parking

The land available at Panorama restricts all uses, so it has not been possible to provide any ground-level parking, nor is it considered desirable to have vehicles visible in the commercial areas. Therefore, all parking (with the exception of day-skier parking) should be located underground.

Roadway Classification

- | | | |
|----|--------------------------|----------------------------|
| 1. | Entrance Road: | 7.3 meters (24 feet) paved |
| 2. | Collector Road: | 7.3 meters (24 feet) paved |
| | a. Minimum of 20.1 meter | (66 foot) right of way |
| 3. | Private Service Drives: | 6-6.7 meters (20-22 feet) |
| | paved | |

Fire and Emergency

Fire and emergency access must be provided to at least one side of all buildings.

LIGHTING:

1. A unified lighting system integrated with the overall resort character will be used to provide adequate visibility and protection throughout the entire resort.
2. Lights will achieve a soft effect and be of pedestrian scale; mounted on twelve foot poles or buildings.
3. Accent lights will be used to highlight special features and uses.
4. Landscape lighting will be up-lighting with non-glaring all-weather fixtures.
5. Lighting equipment should provide durability, economical operation, maintenance convenience, and energy conservation.
6. Lighting equipment will have aesthetic relationship to the surrounding architecture and blend with the natural landscape.
7. Lighting will be used to reinforce hierarchy of circulation and spaces.

SIGNAGE:

1. Signing will be a unified system integrated with the overall resort character.
2. The number of freestanding signs will be minimized by consolidating signs.
3. Directional signs will be the minimum size required to communicate the necessary information.
4. Illumination of signs will be a constant intensity and directed on the sign itself so that it does not glare onto public sidewalks, or adjacent premises.
5. Materials will be indigenous and blend in style and material with adjacent architecture and landscape.

WILLIAM LLOYD
ROGER MADSON
KEN FISK

SITE

78-1
DL 4609 (East Half)

FOUNDATION

1. PROBLEM: Glacial Silt
High percentage of clay
Therefore expands
SOLUTION: Excavate
Remove drainage tile and replace C/W beetle
membrane

ROOF

1. PROBLEM: Cedar Shakes
SOLUTION: Metal
2. PROBLEM: Icing
SOLUTION: Ventilation (air circulation)
Leave air space between insulation and roof-
ing material (Cold Roof System)
Avoid gables
3. PROBLEM: Roof Transitions
SOLUTION: Avoid: Gables
Skylights
4. PROBLEM: Leakage
SOLUTION: Avoid uncovered sundeck over living area
Provide roof over deck
Venting (fireplace)

MAIN FLOOR

1. PROBLEM: Water Entry
SOLUTION: Raise slab above grade so that run-off does not enter building

STAIRS

1. PROBLEM: Too Steep
How to accommodate skiers? (ski boots)
SOLUTION: Riser: 5"
Tread: 14"

TOBY CREEK BUILDING

1. Restaurant: No Access for service vehicles
2. Storage: Keep it on main floor with shipping dock
Elevators expensive

PROPOSALS

1. Chapel: Fireproof
2. Drive-thru Registration: Save guest from leaving family in car
Provide map directing guest directly to room/condo and where to park
3. Signage: No existing format
Possibility to color-code
Should be: informational
regulatory
directional
4. Lighting: Exterior
Low sodium
3 phase

5. Facia Board: Overhang 1½" to avoid weathering
6. Parking: 1 floor below grade
Max. slope: 6% - 8%
7. Fire: Emergency access necessary to all buildings
8. Handicap Facilities: As per code
9. Staff Housing:
10. Tiers into Slope: Tie town centre into above activities
11. Sewage Terchiary Plant (drums)
100% ground discharge
12. Easement 120' right-of-way

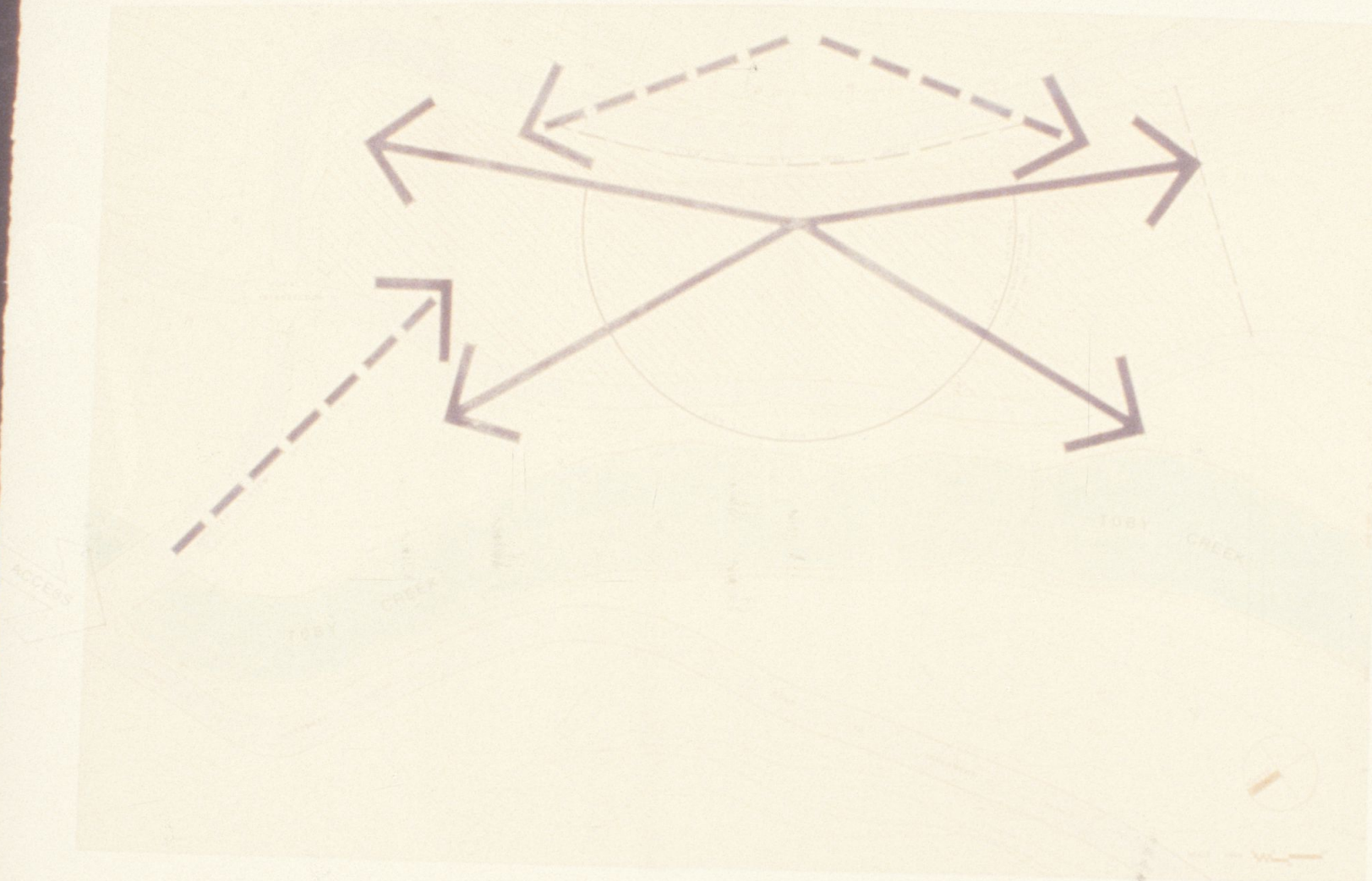


ZONING

- RECREATION FACILITY
- RESIDENTIAL (LOW DENSITY)
- RESIDENTIAL (MEDIUM DENSITY)
- RESIDENTIAL (SINGLE-FAMILY)
- COMMERCIAL RESIDENTIAL



BRITISH COLUMBIA CANADA



VIEWS



PANORAMA
RESORT

BRITISH COLUMBIA CANADA



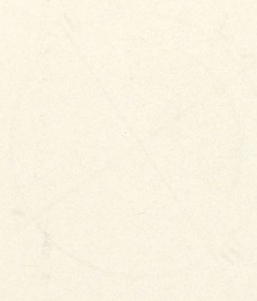
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DRAINAGE

TRAIL COVER

AVENUE

SIX ANGLES



 **PANORAMA**
RESORT

BRITISH COLUMBIA CANADA



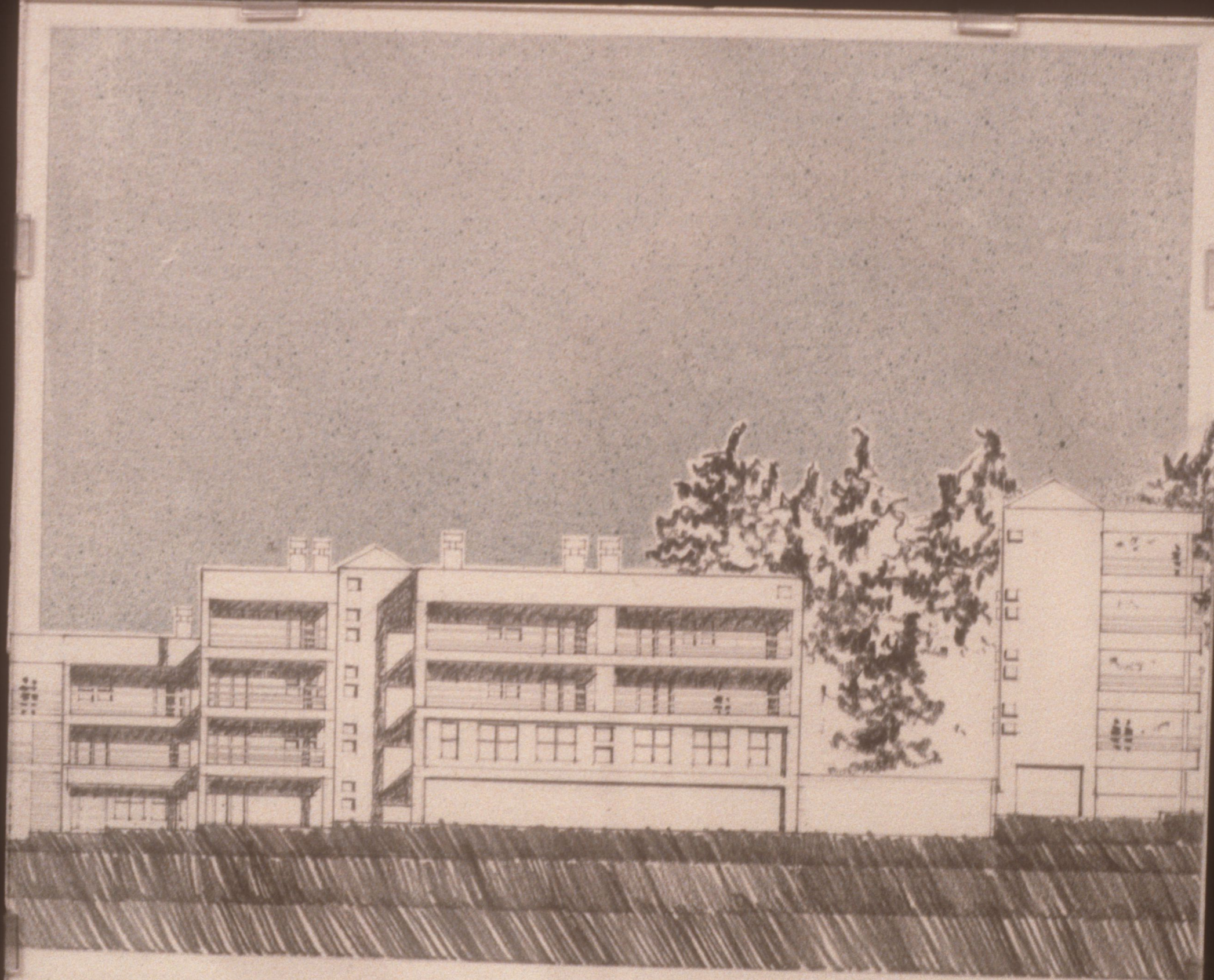




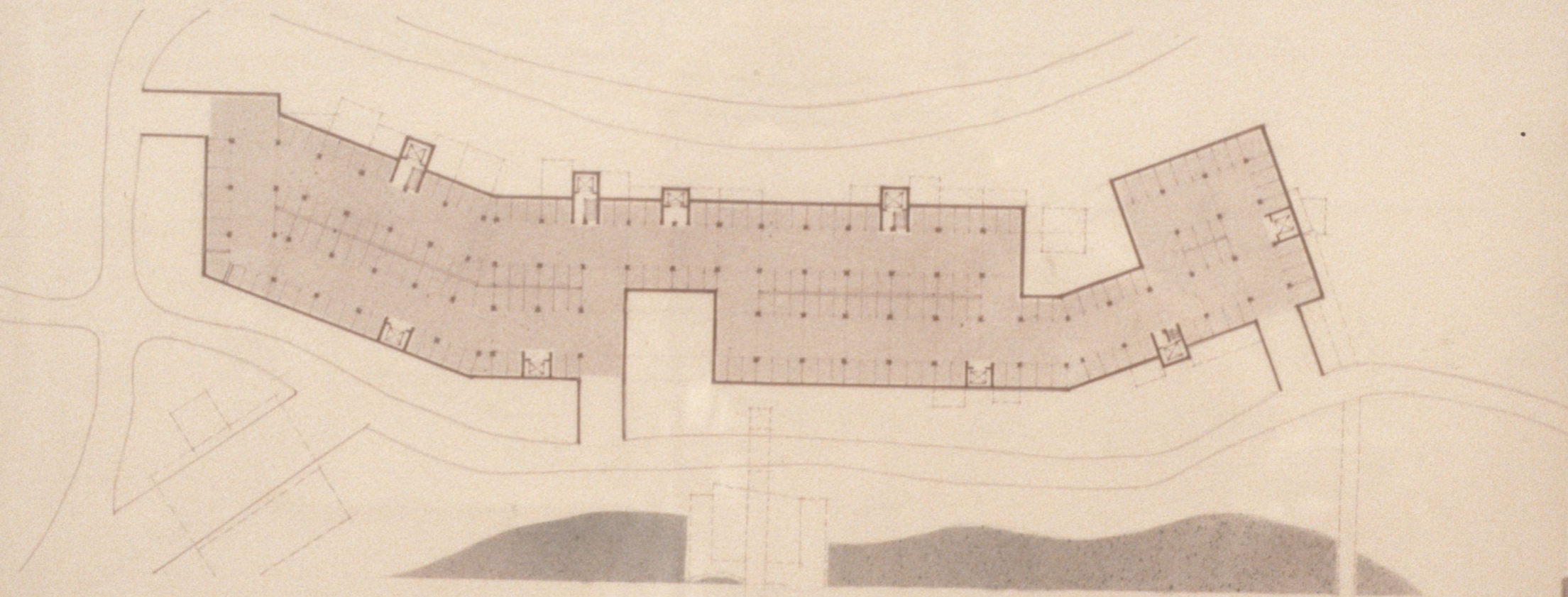
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11250 ELEVATION B



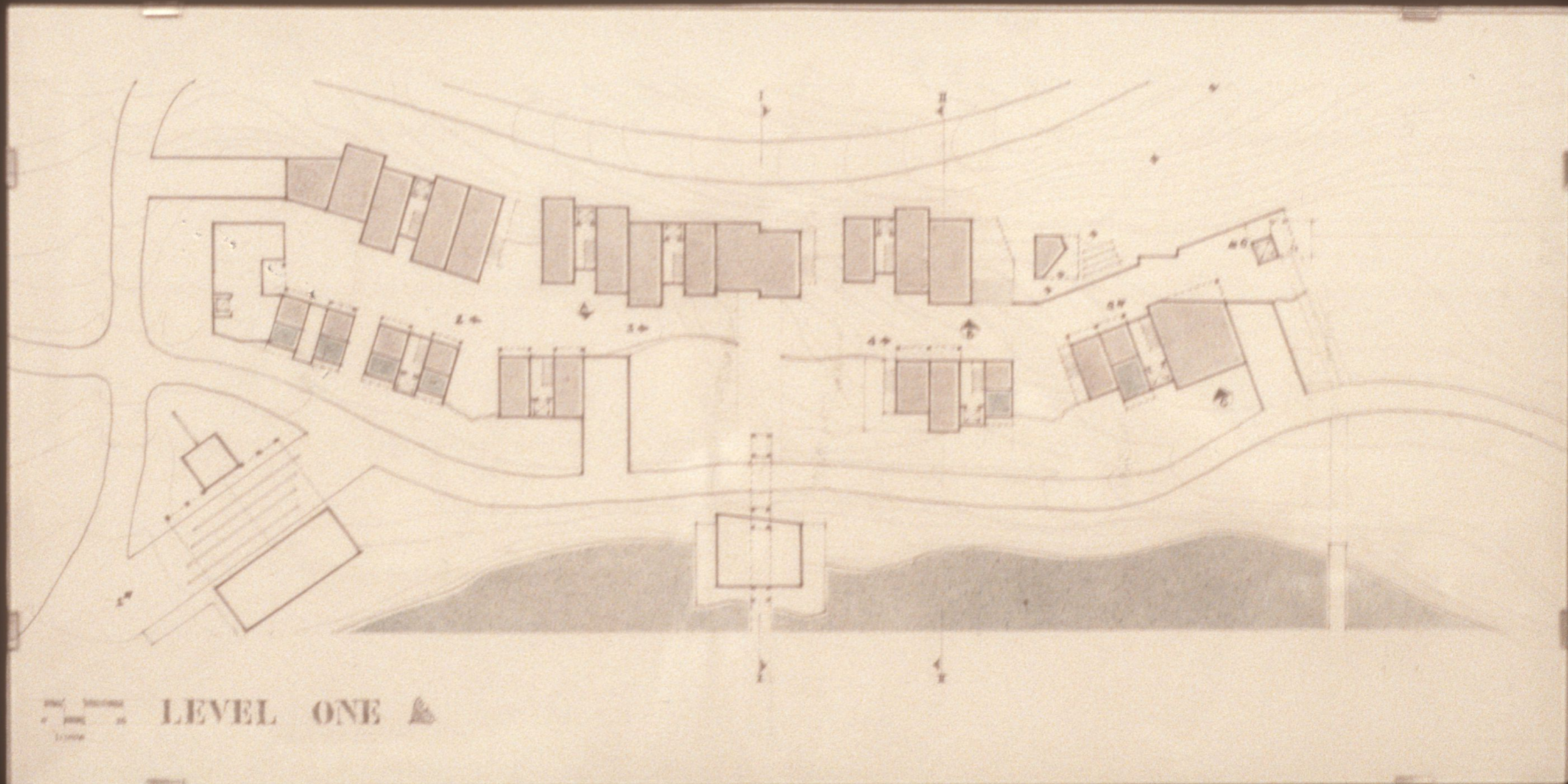
1-250 ELEVATION C

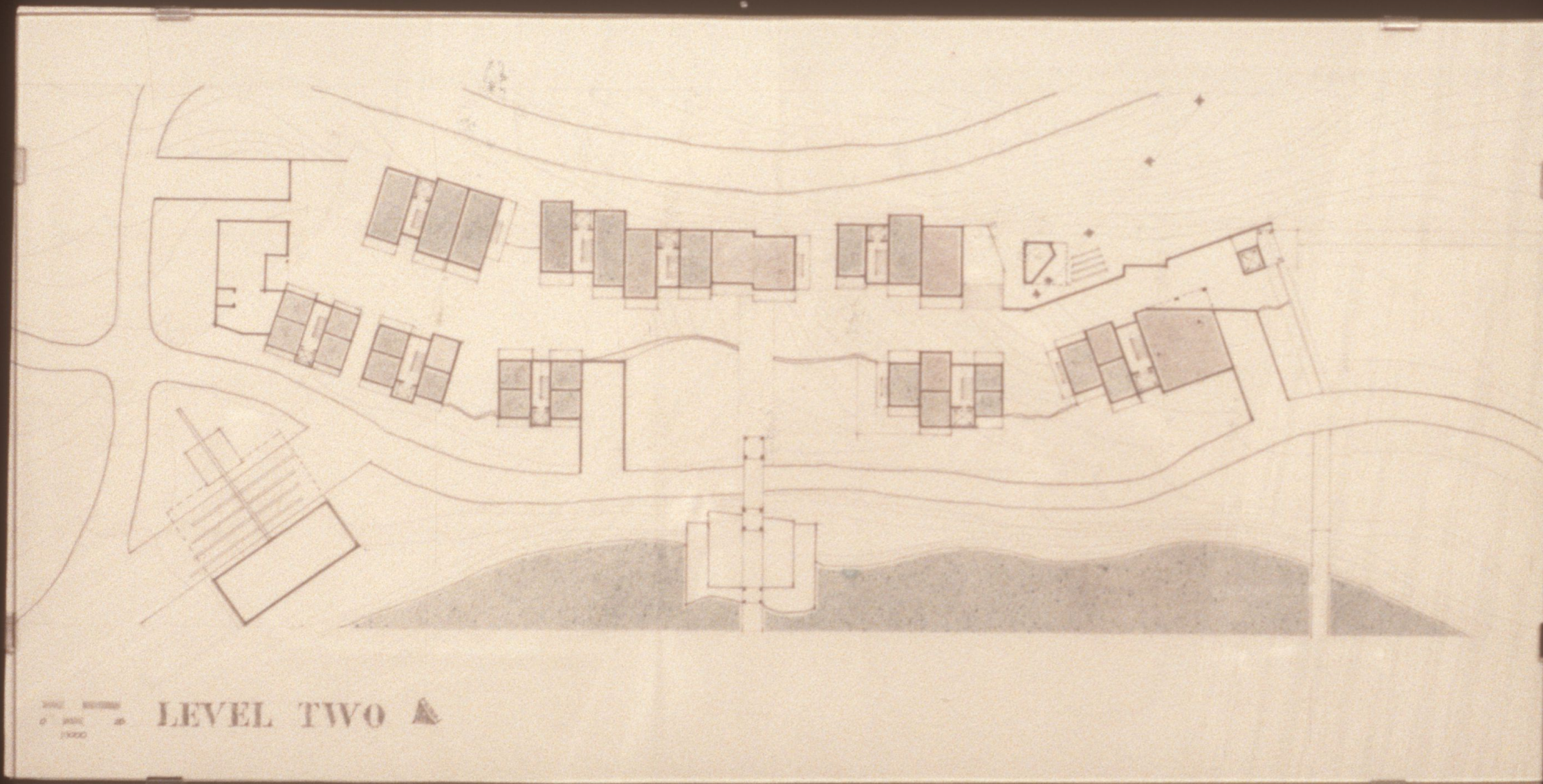


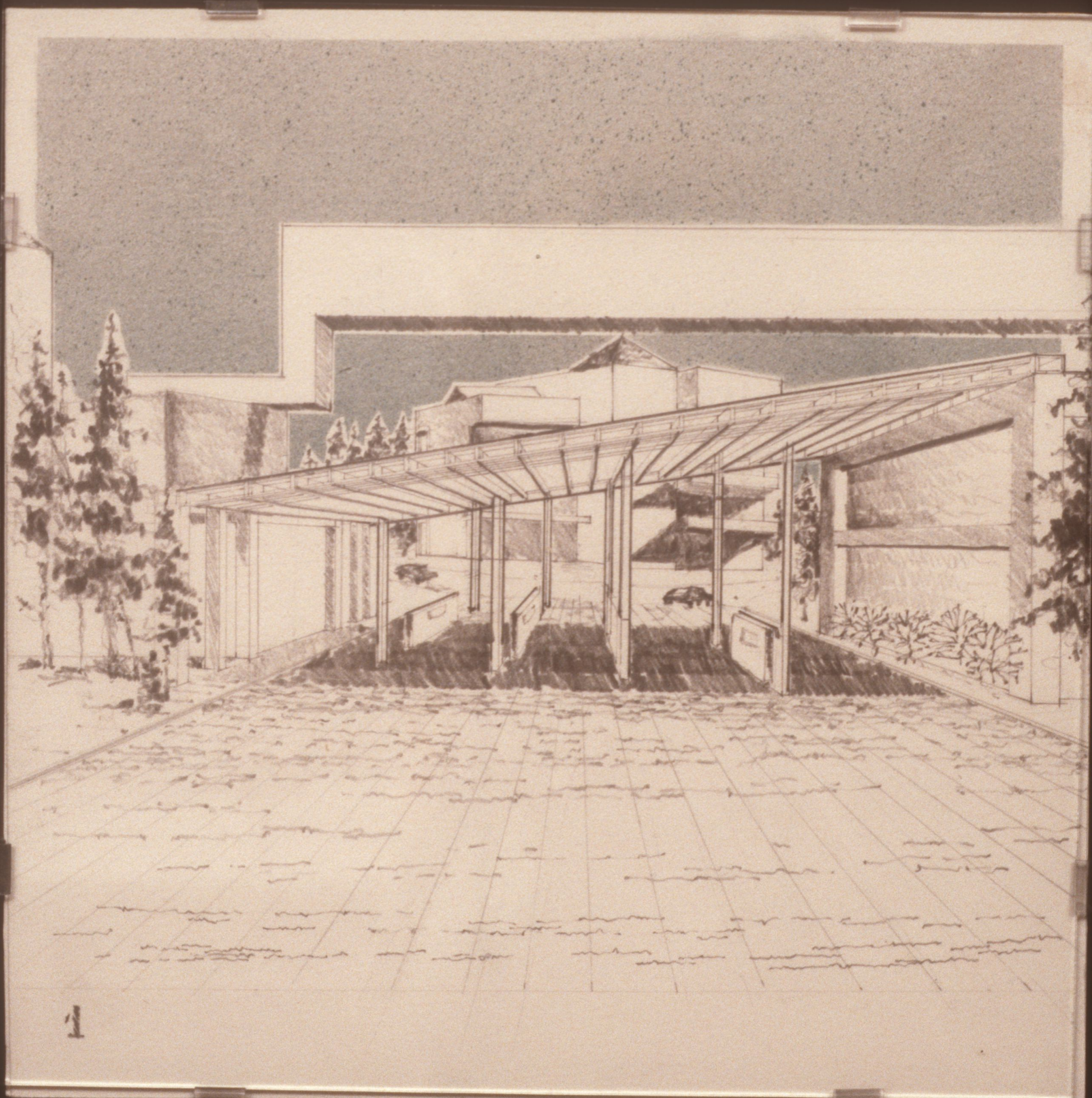
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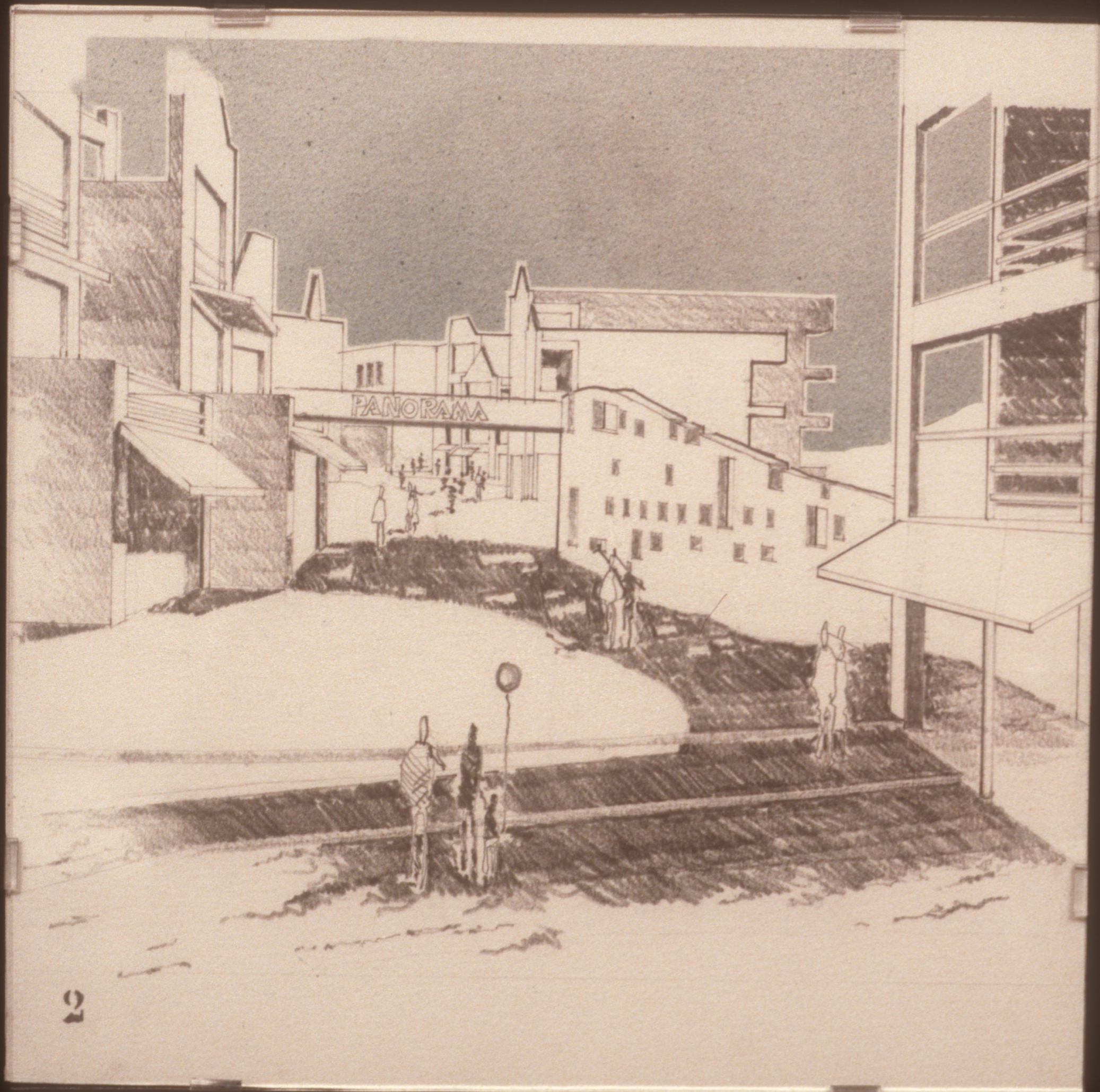
PARKING

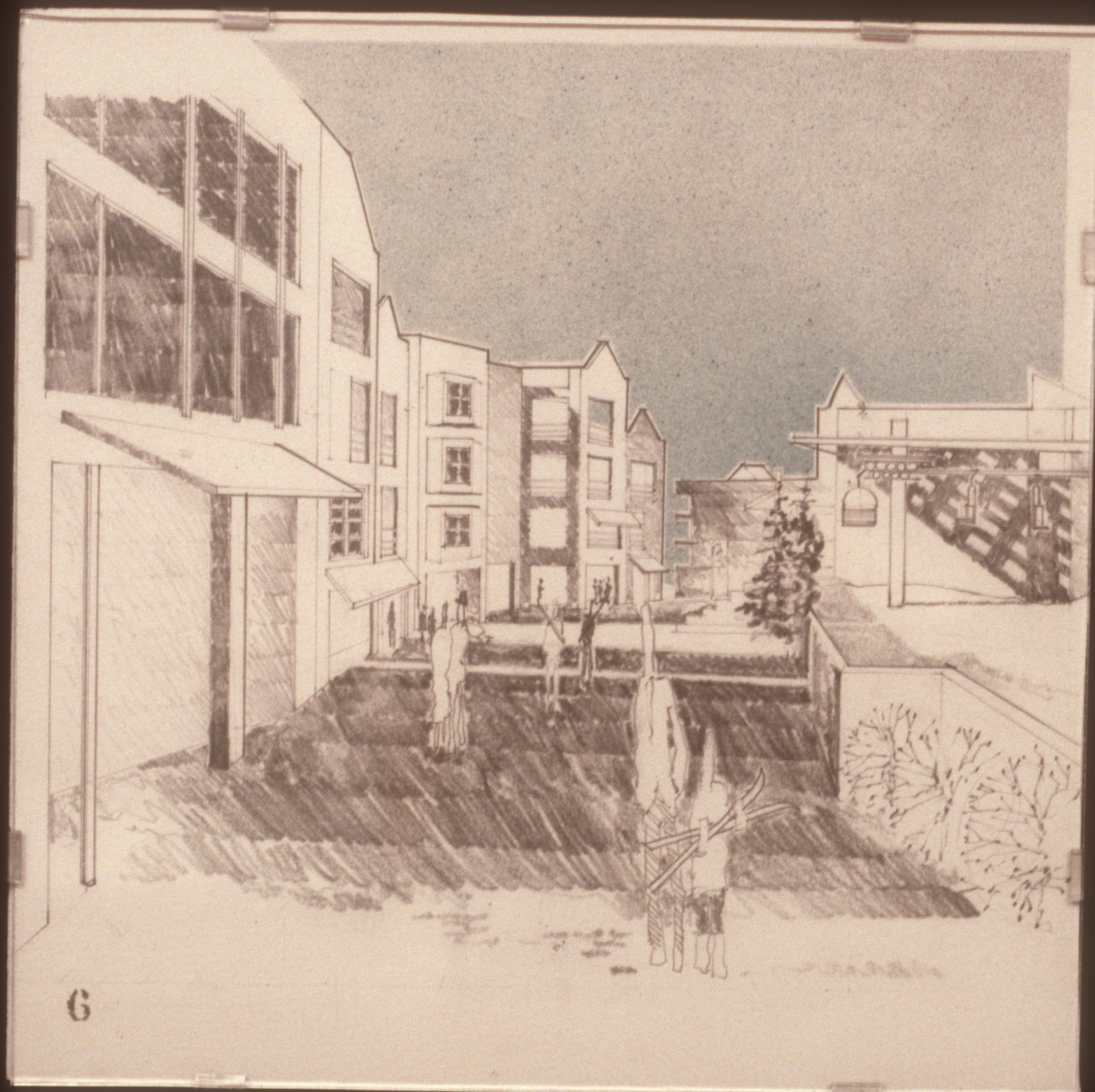












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