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BOZEMAN

"We are just beginning to realize that the needs of the elderly constitute as big a housing problem as the one faced by veterans after the war."

Banker Walter C. Nelson

Chairman, Housing Committee

White House Conference on Aging

A NEW APARTMENT BUILDING COMPLEX

Butte, Montana

Part I

Undergraduate Thesis in Architectural Design

By 441

Leo J. Belanger

Submitted to the School of Architecture as partial fulfillment of the requirements for the degree of Bachelor of Architecture.

At

Montana State University

Bozeman, Montana

March 7, 1966

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PROPOSAL

Everywhere there are people whose housing requirements have changed because their children have grown up and moved out.

Although some of these people are willing to pick up and go to retirement areas like Arizona and Florida, many of them want to remain among familiar surroundings - but in a smaller house or an apartment with less upkeep and more conveient living.

This "everywhere" market is being sold today. In Butte, Montana it is not being sold as well as it could be sold for a simple reason:

> Few of the houses or apartments bought or rented by retired buyers are designed specifically for them.

Few of the houses being bought in Butte by retired or pre-retired buyers meet their general requirements. The newest apartments in Butte are 25 years old and certainly do not meet the requirements.

I propose to fulfill part of the housing needs for pre-retired or retired people in Butte by designing housing specifically for them.

CONDITONS CREATING A NEED

NATIONAL NEED

Today's Retirement Market is Big and Fast Getting Bigger
Robert W. Murray, Jr.

One-third of all United States households are now headed by a man or woman 55 years old or older.

Every year in the sixties, the number of households headed by older people will go up more than 400,000.

In the next few years, these older families will account for about half an increase in all households.

So ten years from now there will be ten million 45 and older (of retirement and pre-retirement age). Significantly, a couple in their late 50's today can expect almost a quarter of a century more of life.

The market for retirement housing is growing fast, not just because the number of older families is growing fast, but because their children are marrying earlier and moving away from the family homestead earlier. So houses are growing too big before their time.

Today's Retirement Market is Far More Than "The 65 - and - over market".
Robert W. Murray, Jr.

The best way to sell the retirement market is to aim at couples whose children are grown, whose health is good, and whose incomes are at a peak.

These families, many of whom are as much as 15 or more years from actual retirement, can be sold today on buying a house or renting a house that fits their new needs - and future needs - better than the house they bought years ago to raise their children in.

"The attack on the housing needs of the elderly should start with people as they reach middle age, when children are growing up, getting married, and establishing homes of their own." So says Evertt Ashley, HHFA, expert on housing for the retired.

"The best retirement market to sell to is people who have not retired, who still work, who want to continue to live near their friends. They already have more leisure time and can be sold on moving to a house that will be better suited for them when they have even more leisure after retirement." So says Sociologist William C. Loring of Prudential Insurance Co.

Today's Retirement Market is Far More than "The Warm Climate Market".

The great majority of retired - and about-to-retire people want to stay in their own communities.

Surveys indicate 75% to 90% of older people expect to stay in the neighborhood or city where they now live. There is also evidence that some people who retire to new areas grow tired of living there and return to their former communities. Most retired people live in the same areas where they previously lived, according to the 1960 census. Census figures also show that there is a million men between 45 and 64 who could work but have nonetheless retired.

A Message From the Housing and Home Finance Administrator

The provision of an adequate supply of housing for older persons, suitable to their special needs and available to them on terms they can afford, is one of the major objectives of the programs administered by the Housing and Home Finance Agency.

There are today more than 20 million Americans who are 62 years of age or older; by 1980 this number will have risen to approximately 30 million. Not all of these millions need special housing provided for them, but a significant number of them do. There is a serious shortage of housing designed for the special circumstances of many older persons--lessened income, physical limitations, the need for special nursing or medical care, and need of a living environment that contributes to dignity, independence and meaningful activity. Through Federally aided low-rent public housing, and through FHA mortgage insurance, the HHFA seeks to continue to add to the supply of suitable housing available for older persons.

To augment this effort, the Congress approved in 1959 a limited program of long-term, low-interest-rate direct loans to finance housing developments especially planned for older persons. This program was enlarged and broadened by the Housing Act of 1961 and the Senior Citizens Housing Act of 1962.

Robert C. Weaver
Housing and Home
Finance Administrator

LOCAL NEED

A population study of Silver Bow County by Ronald Thompson and Associates (city planners), shows the need for housing pre-retired or retired people. (See population study in Local Conditions Section)

Mr. Thompson believes that the nationwide trend towards suburbanization together with population decline in the older central cities is clearly evident in Butte. He also believes this trend will become even more obvious in the future.

However, one hundred percent (100%) of Butte's apartment houses (44) are located in the older central part of the city. One hundred percent (100%) of Butte's apartment houses are 25 years or older, according to city records, and William Mulcahy, city engineer, inspector.

This points out that the apartment housing in Butte is not adequate. It is not adequate in quantity. It is not adequate in quality. It is not adequate in city orientation.

Mr. Thompson shows that there is, in Butte, an increasing percentage of the population in the older age brackets. Butte's apartment facilities are not numerous enough at present, according to William Mulcahy.

This increasing population percentage is accompanied with population expectancies for Butte. The Bureau of Census has estimated the State of Montana population will, in 1965, amount to a 15% increase over 1960 census figures. Silver Bow County in 1960 had a population of 46, 454 persons and an average 15% increase to JUST 1965 would give a total of over 52,000 persons in the Butte Area.

OFFICE OF THE MAYOR - CITY OF BUTTE

THOMAS F. POWERS, MAYOR

June 2, 1965

Leo J. Bellanger
718 South 12th
Bozeman, Montana

RE: "Architectural Thesis in Butte"

Dear Sir:

Certainly there exists in the city of Butte a particular need for a program upgrading the lot of the senior citizen. The need for adequate and improved housing for those people who have reached a retired statis and those who are living on the proceeds of investments or who receive state and federal pensions is indeed acute. We are certainly in need of a program which will provide improved housing conditions for those citizens who have reached their twilight years. A study and a proposal for such a project would be at this time a prime asset to our growing city.

Subsidence and blight have stricken our midtown section as it has in many of our nation's cities rendering the midtown housing facilities unhealthy, unsafe, and unsavory to the average as well as to the mid-wealthy citizenry. Architecturally, the problem consists of proper planning and designing to accommodate those who are incumbered with the physical ailments prevalent among the elderly. Consistant with modern planning, such design should be outward rather than upward. The challenge here is to meet the requirements of the elder generation providing them with comfortable housing while at the same time avoiding any other physical deterrents.

With this objective in mind, I invite you to submit to me a thesis containing a possible solution to this all important problem.

Sincerely yours,

Tom Powers

Tom Powers
Mayor

TFP:clw



1. MUELLER APTS
Considered Butte's Finest



2. CLARK APTS
Aged Rental Housing



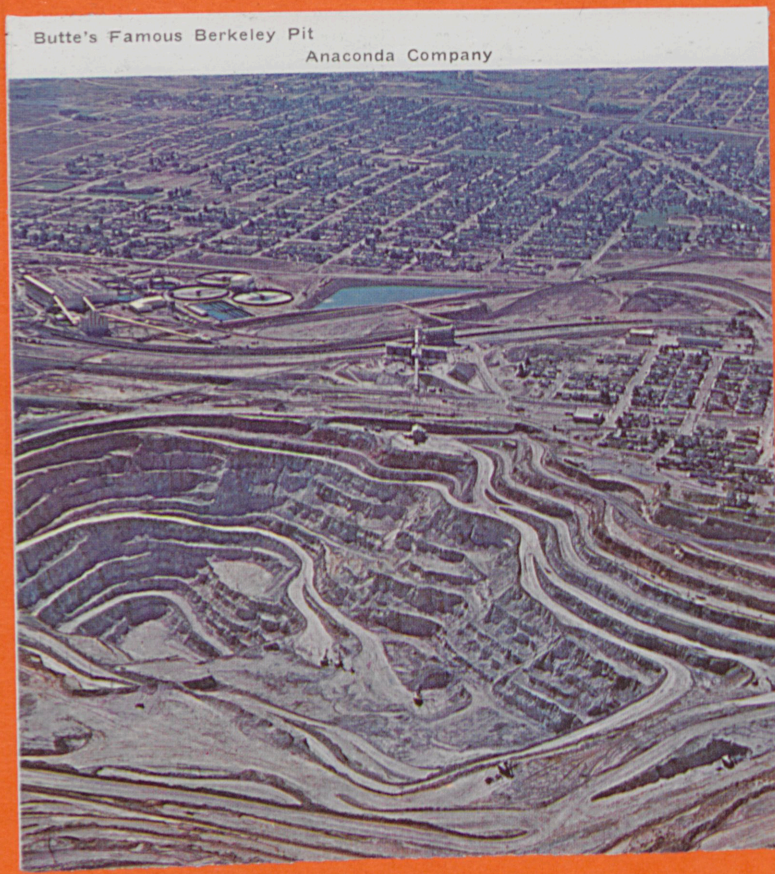
3. NAPTON APTS
Typical Environment of
Butte Apartments



4. VIRGINIA APTS
Typical Backside Ugliness

LOCAL CONDITIONS



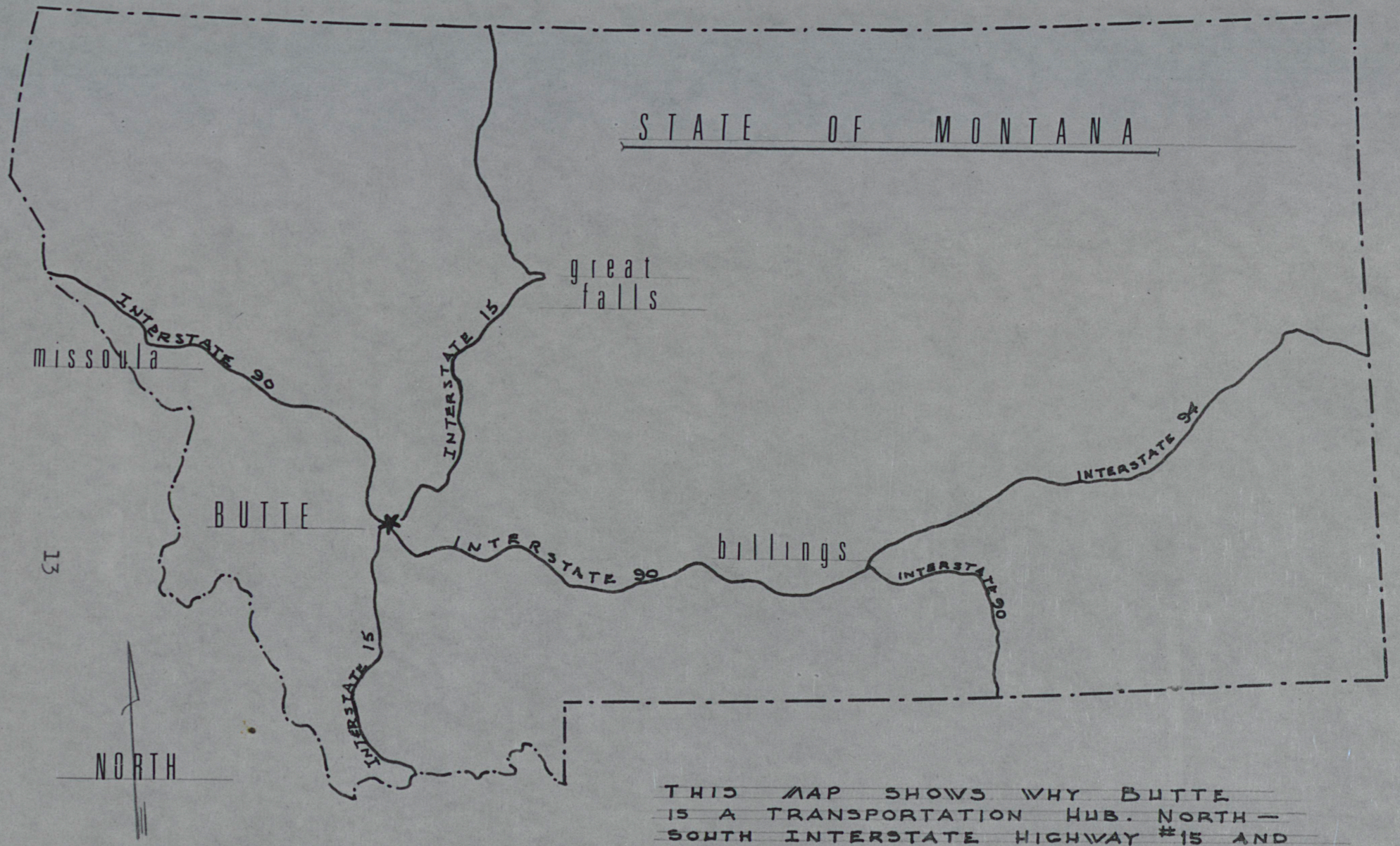


Butte's Famous Berkeley Pit
Anaconda Company

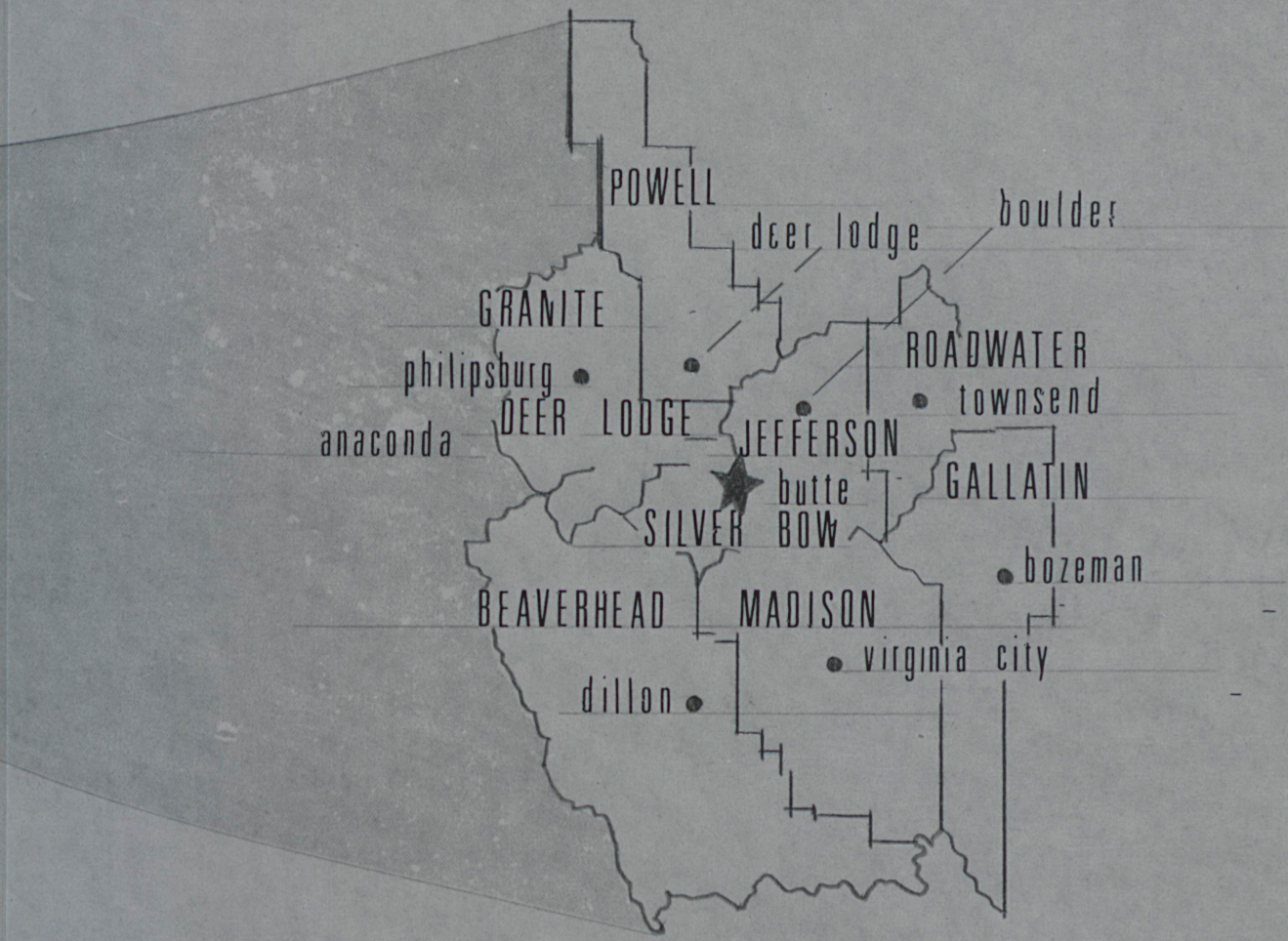
GEOGRAPHIC

Butte, Montana
Latitude 45° 57'
Longitude 112° 30' W
Elevation 5530'

Butte, located in the Summit Valley at the foot of the Continental Divide, is in southwestern Montana. Elevation of the city averages about 5,500 feet. Population of the urban area is approximately 46,000. The business district and part of the residential area are located on the southern slope of the hill containing the copper, zinc, manganese and other mineral deposits. The remainder of the residential district is located on the floor of the valley to the south. In this valley, Silver Bow Creek and its tributaries form the headwaters of the Clark Fork of the Columbia River. The County Seat of Silver Bow County is located here.



THIS MAP SHOWS WHY BUTTE IS A TRANSPORTATION HUB. NORTH—SOUTH INTERSTATE HIGHWAY #15 AND EAST—WEST INTERSTATE #90 CROSS AT BUTTE, MONTATA.


POWELL
deer lodge
boulder
GRANITE
ROADWATER
philipsburg
townsend
DEER LODGE
anaconda
JEFFERSON
butte
GALLATIN
SILVER BOW
bozeman
BEAVERHEAD
MADISON
virginia city
dillon

BUTTE & VICINITY

SCALE

1962

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ALDEN	C-2	EVERGREEN	C-5	OHIO	E-4
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ELLA	C-7	LEIPSIC	G-2	WEST PARK PLACE	F-7
ELM	F-7	LEWISOHN	D-2	WHARTON	I-8
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MCCLINTOCK	V-8	NEW	E-4		

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GEOLOGY OF THE REGION

The rocks in the Butte district are of igneous and sedimentary origins. Others are closely related in mineral and chemical composition, though very different in appearance.

The soil is moderately coarsed, textured sand. Normal conditions are 24 inches of sand loam over coarse textured sand.

Drought and fertility are low. Water holding power in the present soil is also low.

GEOLOGY OF THE REGION

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The soil is moderately coarsed, textured sand. Normal conditions are 24 inches of sand loam over coarse textured sand.

Drought and fertility are low. Water holding power in the present soil is also low.

HISTORICAL

The City of Butte, "The Richest Hill on Earth", has a history of great wealth, conflict, growth, decline and prosperity almost entirely based upon its citizens' struggle to extract the mineral riches which underlie the area.

A gold mining boom, two unprofitable smelting ventures, near decline into oblivion and revival as a lusty silver camp had already been written into Butte's history when the city was incorporated by the Legislative Assembly on Montana in 1879. At this time both Marcus Daly and William Clark, protagonists in the later "War of the Copper Kings", had already begun to invest in Butte mining claims.

In 1864 two prospectors from the gold camp at Virginia City, Montana found placer deposits along the banks of Silver Bow Creek. Their gold was taken to Virginia City for assaying and as news of the strike spread other miners followed the two pioneers in the hope of "striking it rich".

These early adventurers named the camp "Butte", to do honor to the solitary peak to the northwest, which present day residents refer to as "Big Butte".

The placer diggings petered out, however, and many who had prospered with Butte left to look for new fortunes. A water shortage caused even more to leave and Butte virtually became a ghost town until 1875, when silver was discovered "on the Hill". Butte then became a silver camp and in the 1880's was the world's greatest producer of that metal until price decline had the effect of bringing silver activity almost to a standstill by 1893.

While silver mining flourished in the 1880's its importance was soon over-shadowed by that of copper - for as early as 1882 Butte was known primarily as a copper center. As the production of the "red metal" increased Butte's population and importance grew, and by 1890 over 40,000 people lived in the City and its suburbs: Walkerville, Centerville, and Meaderville. This population included thousands of Irish miners; workers who had emigrated from the mines in Cornwall, England; and representatives of other ethnic groups.

This city and its underground wealth and workings were to be the dramatic stage for the conflicts of the three copper kings of old time Butte which formed an important part of its historical background. The three "copper kings" were Marcus Daly, William A. Clark, and F. Augustus Heinze.

The Anaconda Mining Company was incorporated in 1891. Through exchange and purchase of stock Daly came to control of the Company.

In 1889 the Standard Oil Company formed the Amalgamated Copper Company from holdings of several mining firms, including Daly's Anaconda Company. In 1906 Heinze sold his Butte holdings to the Amalgamated Company.

When Amalgamated Company was dissolved in 1915 the Anaconda Company again became predominant and has remained so in the area since that time.

Exploration to prove up the Greater Butte Projects Ore Reserves, led to the dicovery of additional ore suitable for open pit mining. The Berkeley Pit yields approximately 17,500 tons of ore daily.

Throughout the years, Butte has continued to depend on mining for its economic well-being and has experienced alternate prosperity and depression with the fluctuation of the labor and metals market.

POPULATION

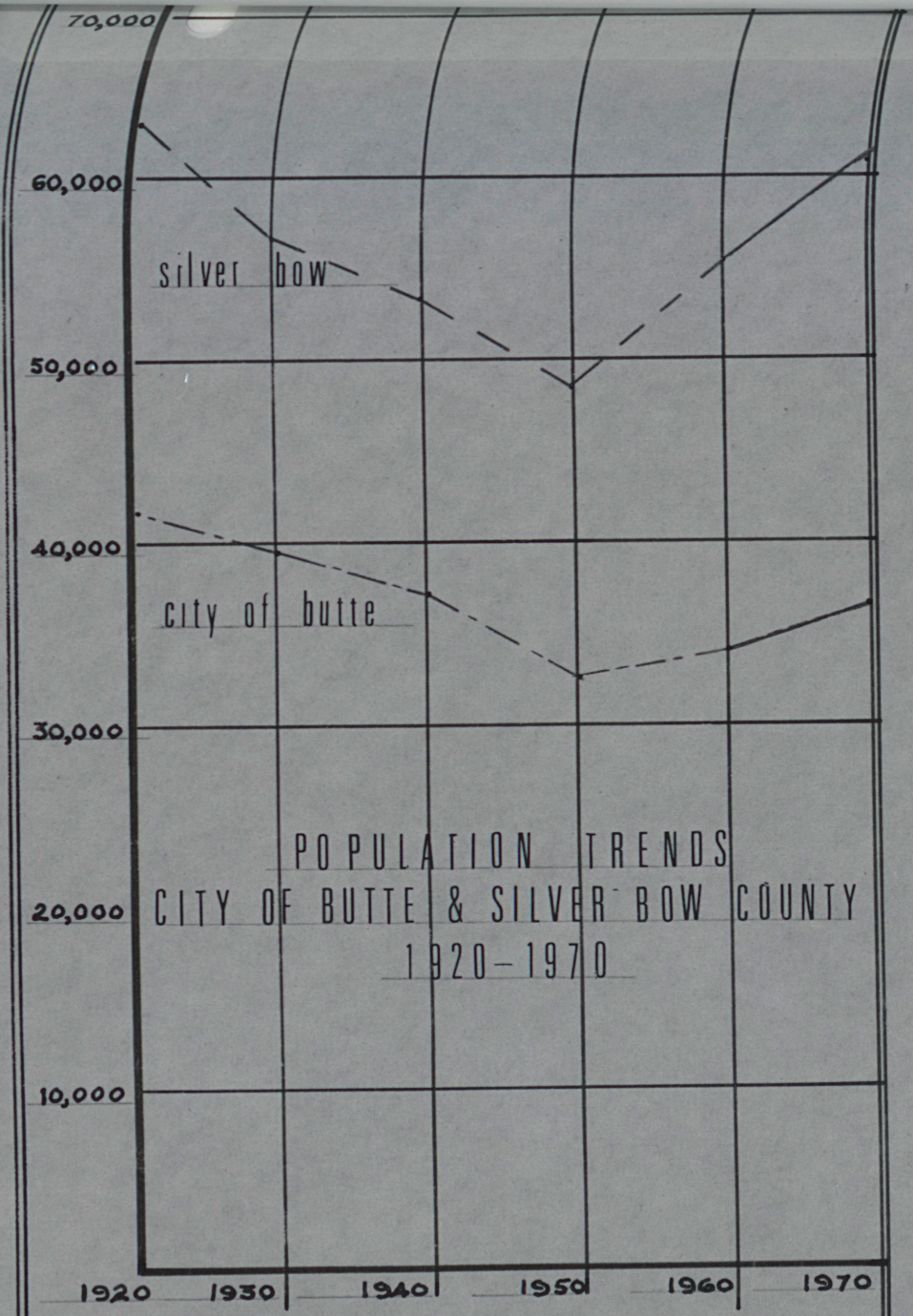
Population trends in Silver Bow County and the City of Butte from 1950 to the present date, have reversed a consistent decline experienced since 1920. (see graph) A trend toward suburbanization has slowed population increase within the city of Butte. The percentage of the county's population in the 0-19 years group shows a significant increase for 1960 over 1950. This can be attributed to the "Baby Boom" of World War II and post-war periods.

In the 20-34 years age group for 1960 the characteristic shrinkage in the proportion due to the low birth rates of the "Depression Years" is evident. In addition to the "Depression" birth rate shrinkage, a general decrease in the age groups from 15-34 years indicates out-migration in this highly productive group.

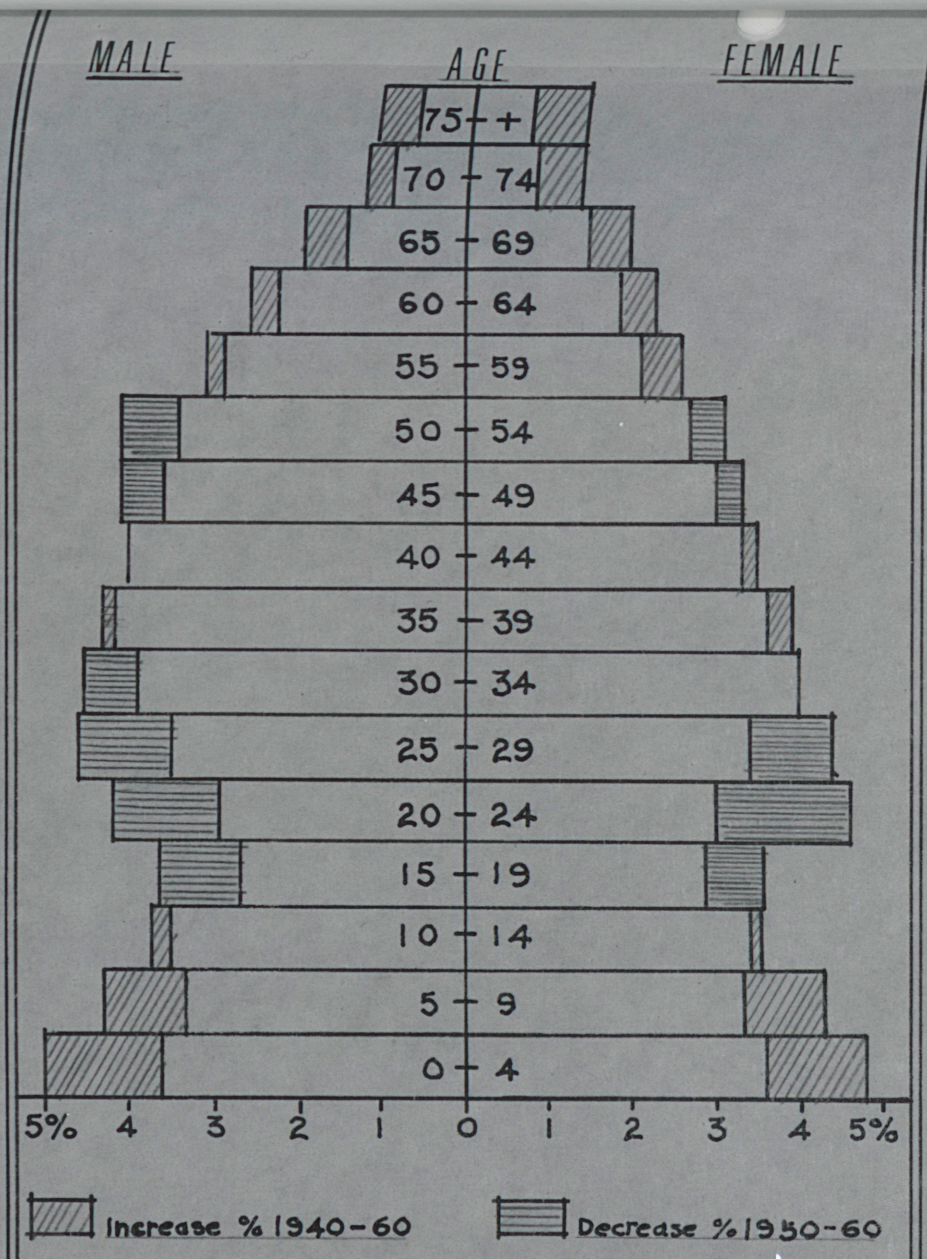
An increasing percentage of the population in the older age brackets gives credence to the developing concern about the aging population in the county.

Age Group	1950		1960	
	MALE	FEMALE	MALE	FEMALE
50-54	2.9	2.8	3.1	3.3
55-59	2.6	2.6	2.8	3.2
60-64	2.2	1.9	2.6	2.8
65-69	1.4	1.5	1.9	1.9
70-74	.9	.9	1.2	1.4
75-over	.7	.8	1.1	1.4

In 1960, Ronald Thompson, Planning Consultant for Butte, said that the growing proportion of the male and female population in the age brackets of fifty and over requires that special consideration be given to the need for providing additional housing, medical, and recreational facilities for this segment of Butte's population.



POPULATION TRENDS
CITY OF BUTTE & SILVER BOW COUNTY
1920–1970



COMPARISON OF 5 YEAR AGE GROUPINGS
1950–60
for
SILVER BOW COUNTY

CLIMATE

Butte is located on the western slope of the Rocky Mountains with the Continental Divide two miles to the north and east, and twelve miles to the south. The business district and part of the residential district are located on the southern slope of an area of extensive mining, but the remainder of the residential district is located on the floor of the valley to the south. This valley is part of the source region of the Clark Fork River, which flows to the northwest. Weather records are kept at the airport (elevation 5,530 feet) which is in the valley five miles southeast of downtown Butte.

There is much cold air drainage into the valley from the surrounding mountains and in the winter this air drainage, together with radiation from the snow-covered surface, may produce temperatures from 20 degrees to 25 degrees colder at the airport than in the city about 200 feet higher. In the spring, summer, and fall months this temperature contrast is not so pronounced. On windy days there will be little temperature difference. During winter months, a strong inversion is observed over the valley, but since, gas is the main fuel, this inversion is marked by a haze layer rather than by a

layer of "smog" as might be expected from other types of fuel.

Because of the elevation, temperatures are much cooler than would be expected for a weather station at this latitude. Summer maximums infrequently reach 90°, and there has been only one occurrence, July 22, 1931, of 100° maximum. Zero minimums have been recorded as early as October and as late as April, and the number of occurrences is about 43 a year. The coldest ever recorded was -52 on February 9, 1933. Freezing temperatures can be expected any time of year, but they are least likely to be observed from May through August. The average number of days between the last temperature of 28 in the spring and the first in the fall is about 120. In the late summer and early fall, the days are mostly clear and warm, and the nights are pleasantly cool. Periods of severe cold may occur from November through March, but these periods are of short duration and are usually followed by warmer weather as a result of invasions of warmer air from the Pacific. Precipitation for the airport has varied from as little as 6.38 inches in 1935 to as much as 16.93 inches in 1948. The yearly normal is 12.67 inches, but more than two-thirds of this amount is measured during the

growing season, April through September. May and June are the wettest months with more than one-third of the year's annual precipitation fallin in the two-month period. Snowfall is light, averaging about 50 inches a year. The greatest 24 hour fall was 30.0 inches on October 10, 1911.

As may be expected in the Northern Rockies, blizzard conditions with sharp temperature drops, northerly winds and snow may accur during the winter months. However, these storms last for a period of only one to three days.

Thunderstorms, sometimes accompanied by sharp cloud-to-ground lightning, strong gusty winds, and some hail, occur, on an average, about 41 times during the April-September, 6-month period. These storms seldom cause extensive damage. Severe ice, sleet, and hail are rarely experienced. High winds can be expected at any time, mostly in the winter and spring, but high winds generally last only a short time.

Summary

Butte's climate is comfortable, with an unusually high number of days of sunshine per year. Annual precipitation averages 12.76 inches, and there is a pronounced summer maximum, about two-thirds falling during the period from May through September. The growing season averages 110 days. Annual snowfall averages 46 inches and is seldom heavy enough to disrupt traffic.

BUTTE, MONTANA
LATITUDE.....45° 57'
LONGITUDE.....112° 30' W
ELEVATION.....5530'

Month	Average Temperature Daily max.	Daily min.	Ave.	Temperature Number of Days Maximum 90° & above	Minimum 32° & above	0° & below	Normal total precip.
	(*)	(*)	(*)				(*)
January	27.9	1.6	14.8	0	12	14	.42
February	32.8	5.7	19.3	0	15	10	.44
March	39.0	13.8	26.4	0	23	5	.65
April	51.0	25.7	38.4	0	29	0	.90
May	60.8	33.6	47.2	0	31	0	1.74
June	67.8	40.1	54.0	0	30	0	2.42
July	79.8	45.1	62.5	3	31	0	1.20
August	78.1	42.5	60.3	1	31	0	1.03
September	67.5	34.8	51.2	0	30	0	1.04
October	56.3	26.9	41.6	0	30	0	.67
November	40.5	15.0	27.8	0	23	4	.49
December	32.7	8.0	20.4	0	17	9	.48
Year	52.9	24.4	38.7	4	303	42	11.48

		5:00 AM	11:00 AM	5:00 PM	11:00 PM
BUTTE					
	August	79	35	32	61
HUMIDITY	September	82	43	38	66
	October	82	52	47	73
"DRY"	November	80	65	68	78
	December	79	71	72	78

ECONOMY

The five southwestern Montana counties surrounding Silver Bow comprise the Butte retail trade area, covering approximately 10% of Montana's total land area. Total population of the six-county trade area was estimated at 100,000 in 1960.

Mining, the greatest single employer in the area, is the prime economic importance to the trading area. Agriculture is of particular significance to both Beaverhead and Madison counties. Service and finance, trade occupations, manufacturing, are other major sources of employment for the trade area's population.

A successive population decline has been evident in 1930, 1940, and 1950. The median age in the trade area (34.2) exceeds Montana's 29.9. Each of the six counties in the trade area exceed Montana's average of 8.6% of the population 65 years or older.

Because of its location and its excellent transpotation facilities, Butte can expect increased agricultural prosperity based upon livestock and perhaps feeding operations. In both 1954 and 1958, the trade area accounted for 15% of Montana's retail trade.

The construction of the Safeway Distribution Center near Butte presages an upswing in wholesaling activity. In recent years, such industries as the Victor Chemical Works and the Montana Pole Plant have widened Butte's economic base.

The city is presently experiencing the effects of the haphazard growth and lack of foresight in the prosperous and roaring past. Interest in the future of the city is high and recent trends prove that the citizens are vitally aware of the need for co-operation within the area and further diversification of the economy.

SITE CONDITIONS


BERKLEY PIT
CITY HALL
PARK ST.
MONTANA ST.
MONTANA INSTITUTE OF TECHNOLOGY
MAIN ST.
CONCENTRATOR
COLUMBIA GARDENS
BUTTE SPUR DIESEL STACK
IRON ST.
TO ANACONDA & DEER LODGE
INTERSTATE 90 & 15
RAILROAD OVERPASS
INTERSTATE 15
RAILROAD OVERPASS
INTERSTATE 90
butte interstate

SITE CONDITIONS

Orientation

The site is located on the eastern fringe of the city of Butte. It is approximately one (1) mile east of the new intersection of U.S. Highway #15 and U.S. Highway #91. The site elevation is approximately 250' to 300' above South Butte. The site location can be seen on map #2. The site is on the western slope of the Continental Divide. Therefore, the site will receive morning sun and will have the FINAL VIEW of the evening sunsets.

Adjacent Environment

The adjacent environment to the site can be seen in the following pictures, taken February 26, 1966.

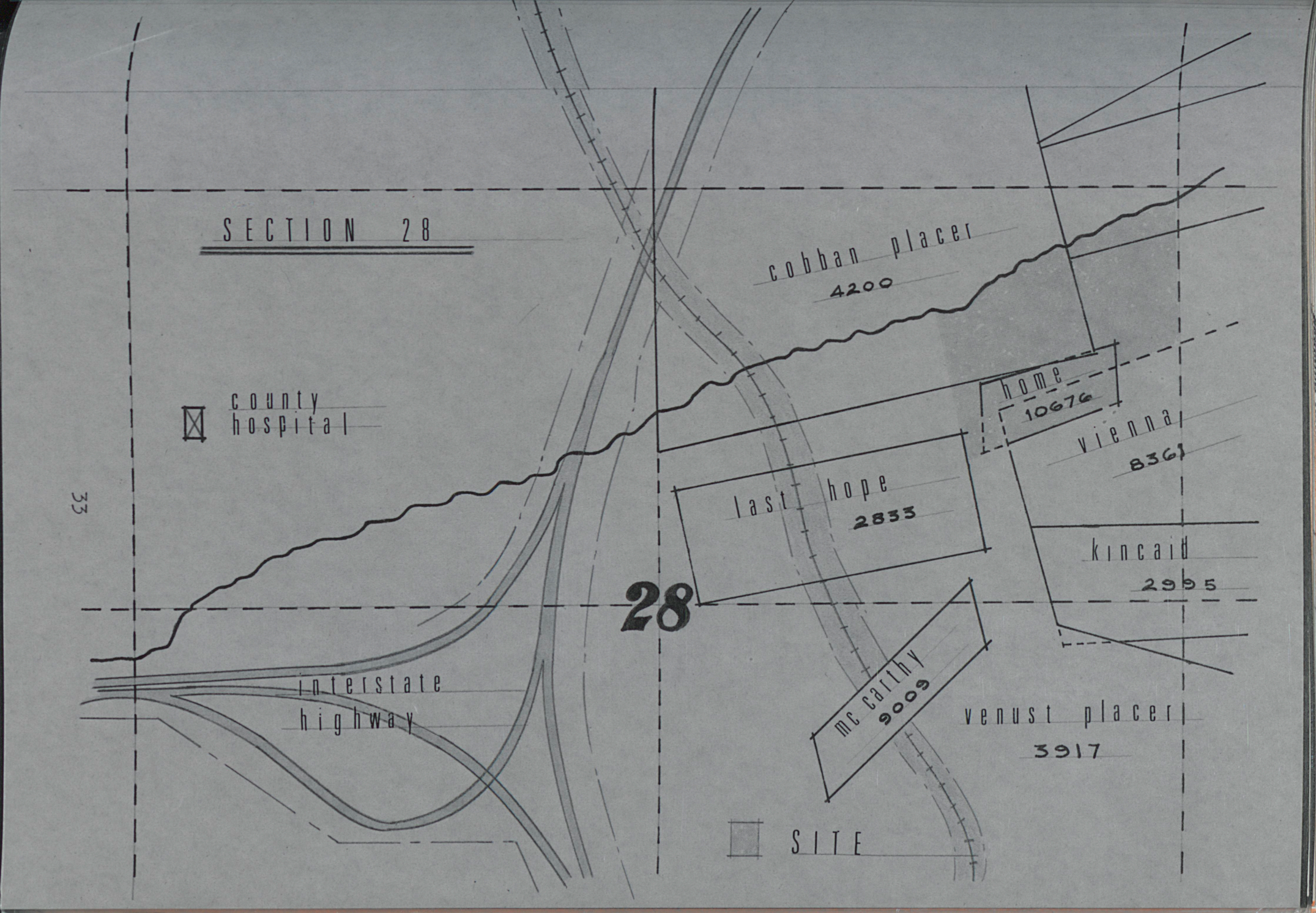
Size

Marking - NE¼ SEC 28 T3N R4W Montana Principal Meridian the site is approximately 32 acres. Sketch #3 shows the composition of mining claims that makeup the site. Most of these claims are owned by the Anaconda Company, others are under private ownership. The number on each claim is the file number registered with the Montana Land Survey Office in Butte. The Montana Land Survey Office has all the information and records necessary to survey the site.

Topography

The site is on the western slope of the Continental Divide. The slope of the site varies from a 15° minimum to a 30° For more information see the following U.S. Department of Interior Geological Survey contour map and the pictures taken at the site.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Floral Park
Tramway Gulch
Reese Canyon
Brookside Canyon
Blacktail Creek
Silver Bow General Hosp
Whittier School
Butte County Club
Sandpit
Athletic Field
Prospect
Kossuth St
Mapola Ave
Pacific
Modoc
Quarries
Airport
BM 5603
BM 5719
BM 5815
BM 5917
5922
6368
6245
6200
6400
6600
5600
5542
5515
5560
5520
5480
5658
6717
6555
6495
5495
5499
5497
5530
5535
5525
5092
5091
5090
T. 3 N.
T. 2 N.
384000m E.
394000m N.
386
388
27'30"
22'30"
57'30"
20
21
22
27
28
29
33
4
3


SECTION 28
cobban placer
4200
county
hospital
home
10676
vienna
8361
last hope
2833
kincaid
2965
28
interstate
highway
mc carthy
9009
venust placer
3917
SITE
33

Prevailing Winds

Although Butte has only minor wind conditions the site will, because of its elevation, receive winds from the westerly and southernly directions. Expected wind conditions should remain only minor wind conditions, according to the Weather Station reporter at Butte's airport. Temperatures are expected to be 15-25 degrees higher than in the city.

Traffic Patterns

Traffic at the site area will be on two routes. First, U. S. Highway #15 is located 150 yards to the west and an exit, entrance to the site is existing. This gives the tenants of the apartment an efficient to all of Butte's interchanges. Second, a road to the Country Club area is built as a secondary means to the City of Butte.

See contour map for more information.

Zoning Regulations

Residential - The main concentration of residential uses in Butte are located to the northeast and east of Butte's fringe areas.

Residential concentration of the east portion of the fringe area is bounded generally by the city limits on the west, the Country Club to the south and the main line of the Northern Pacific Railroad to the north. Behind the site, or to the east is the Continental Divide.

This area has experienced the greatest amount of new residential construction since the World War II. This area is expected to continue with the residential growth.

Homes in this area are of an individually high standard, possessing good construction and lot sizes.

As is the case with all areas presently outside the city limits, the site sector has no zoning or land use restrictions.

Since the apartment complex is to be financed by State and/or Federal aid, State and Federal building codes must be followed.

Distant and Close Views

See pictures - next page.



5. CONTINENTAL DIVIDE
Veiw Looking East



6. BUTTE and BERKELEY PIT
Veiw Looking North



7. SOUTH BUTTE
Veiw Looking West



8. HIGHLAND MOUNTAINS
Veiw Looking South
Access Road

Vegetation and Other Natural Features

Mr. Neilson, U. S. Geological Office - Butte, describes the vegetation and other natural features of the site as such:

Surface - (18" - 24") coarse sand loam over moderately coarse textured sand.

Soil Fertitlity - Low (Droughty)

Drainage - Good. Drainage would not be a problem unless man made.

Water Holding Power - Low

Cutting - Deep cuttings (banks) would prove to cause a dust problem. Steep cuts would not give a sluffing problem. If cuts are left exposed the coarse would have a tendency to blow.

Filling - To improve the soil condition by filling would prove uneconomical. Better soil does not exist within the Butte area.

Bearing Strength - High. No foundation support problem is foreseen.

Planting - Trees - Juniper trees grow well in the area. Early spring planting of young trees is the best.

Lawn - Bluegrass Fescue Clove grows well. The site needs a topsoil backfill. Water young lawns thoroughly and frequently for two years. Fertilize lawns for the first two years.



9. Soil and Vegetation



10. Soil and Vegetation

Availability of Utilities

Water - Mr. Hasen, president of the Butte Water Co., says that the pumped water line could be brought to the site. He said that this is a common procedure in Butte. The nearest water amin to the site would be used. The Butte Water Co. would install the line to the site boundary at no cost to the owner. The pump would be charged to the owner. The water used at the site would be metered and charged according to regular Butte rates. Maintenance of the pump would be charges to the owner.

Power - Mr. Dugdale, representative of the Montana Power Co., gives the following facts.
The closest power line to the site is approximately 4,000 feet. To bring power to the site, the first 1,000 feet of line is free, the remainder is $.20 per foot.
Meters are installed by the Montana Power Co.
Power, telephone, and television lines can all come in the same cable. One 22/40 single phase line per dwelling unit is included with above.
The line can be hung from the power poles or underground. If underground lines are desired the customer pays for digging expenses. Federal Housing Administration requirements for underground lines must be followed.

Gas - A Montana Power Company representative states that a gas line could be brought to the site for an estimated $3,000. A gas line costs $1.00 per foot.

ECONOMICS

MARKET ANALYSIS

One of the first phases of an architect's duties is to analyize the potential market for the proposed facilities.

Today's Retirement Market is Ready to Pay for the Kind of Housing It Needs.

Millions of people in the pre-retirement or retirement age brackets can afford good new housing.
Reports the Census Bureau: In 1959, one-third of non-farm families headed by a person of retirement age had incomes of $4,000 or more a year (Two-thirds owned their own homes and half owned homes mortgage free).
In 1958, three-fourths of families headed by people 55 to 64 years old had incomes of $3,000 or more.
And the buying power of older people is growing fast.
In 1958, people of pre-retirement and retirement age had incomes totaling about $30 billion, compared with $22 billion in 1954. So says the Department of Health, Education, and Welfare.
In 1960, 88% of people 60 and over were employed and (or) received social insurance benefits, compared with 52% in 1950. (Social Security Administration)

No current figures pinpoint the assets of people in the retirement market. But a Federal Reserve study of older persons finances in 1955 showed that the average couple or single person 60 and over had a net worth of $8,400.00.

Older People Need Less Income than Younger Families to Buy a New House.

Many retired people with #3,000 incomes can afford new housing as easily as younger people earning $6,000, according to Sociologist William C. Loring of Prudential.

Here is why:

1. Older people have more capital for down payments. Says Loring: "The median homeowner among the elderly has more than twice the equity possessed by the median of all spending units."
2. Older people can afford to budget more of their income for housing -- about 33% compared with less than 20% for younger people. Furthermore, much of their income -- annuities, pensions, and life insurance endowments -- is tax free and not subject to change.

Prudential's Loring points out:

"Over 3 million heads of senior families (30%) have incomes and equities large enough to consider moving to other housing."

So new housing, skillfully designed and merchandised, can compete with used housing for about one-third of the elderly market -- about the same ratio as the demand for new vs used housing in the general market.

FINANCING

How I Propose to Finance the Apartment Complex.....

The proposed site is in alow-rate tax and realty area. This site can be converted into high-paying investments for investors willing to finance the apartment complex. I believe that small Butte investors -- lawyers, doctors, and others with high personal incomes -- can be attracted to finance the retirement housing when the tax advantages are pointed out to them, and when they see the promise of a better return than they can get by buying stocks.

In every market type, described in the Building Program Section, the opportunity for a paying investment is good. Good, because there is a need for well designed housing with a planned environment for people of pre-retirement or retirement age.

THE KEY TO THE PROFIT IN APARTMENT HOUSING IS ACCELERATED DEPRECIATION BY THE "DOUBLE DECLINING BALANCE METHOD".

This fast depreciation method lets the investor write off twice as much depreciation the first year as the average depreciation over the life of the building. The second year, the investor writes off twice as much as the remaining amount divided by the full life of the building, and so on.

Example: On a $50,000 apartment complex with an expected 25-year life, this 200% depreciation method gives the investor a $4,000 tax deduction the first year (instead of only $2,000), $3,680 the second year, $3,385 the third, $3,3115 the fourth, and so on. Not until the tenth year will the inveators depreciation fall below $2,000.

The Internal Revenue Service sometimes allows the 25-year life on frame construction apartments, but usually requires a 30-year life. Masonry buildings sometimes get a 35-year depreciation period, but a 40-year life is more usual.

These deductions can be used directly to reduce the investor's personal income tax liability if ownership is kept in the name of an individual, partnership, or syndicate instead of a corporation.

Further, when the investor sells his share of the apartment complex he makes a profit. The gain on such a sale is a capital gain and the maximum tax payable is 25%.

THE APARTMENT COMPLEX WILL BE FINANCED AND OWNED BY A COOPERATIVE OF SMALL BUTTE BUSINESSMEN.

Financial aid from the Housing Agencies would be available. The Federal Housing Administration (FHA), under Section 207 and 234 of the National Housing Act, insures mortgages on rental housing projects. FHA is authorized to issue commitments to insure the mortgage upon completion.

The Community Facilities Administration (CFA) would make a low-interest rate, long term loan to this type of rental or cooperative housing.

If loans and/or mortgages are obtained from the FHA or CFA the apartment complex will be required to meet certain building standards laid out by these agencies.

THE COOPERATIVE OF BUTTE BUSINESSMEN WHO OWN THE APARTMENT COMPLEX WILL RENT TO PRE-RETIRED OR RETIRED AGE PEOPLE.

Advantages to Renting

The three most important reasons that people give for renting are:

1. The cost of living is less as there is no maintenance cost, and utilities serve more than one unit.
2. There are not as many taxes applied to the individual.
3. Renting allows the occupant to have flexibility in location.

The three most important reasons for renting are also three of the most important needs of a retired person.

Rental Return

An estimate on rental return can be made from the following formula as prepared by the Community Facilities Administration of the Housing and Home Finance Agency.

$$x = \frac{(i)\ (a)\ 9b)}{0.90}$$

x = the annual rental change per unit
a = the annual cost of the construction loan per unit.
b = a debt coverage factor (amortization)
0.90 = an annual vacancy loss of 10% (high)

Care and judgement must be used when selecting the building materials for quality and durability.

Itemization of Costs

For the Segregated Method (Marshell Valuation Service) of estimating the total cost to the investors, the following list is suggested:

1. Site Costs
    - A. Cost of Land
    - B. Cost of utilities on site.
    - C. Extension of utilities to off-site mains
    - D. Extra foundation work filled earth, ground water conditions, etc.
    - E. Landscape work
2. Construction Costs
    - A. Labor and materials
    - B. Builders fees and overhead
    - C. Payroll taxes
3. Costs Incidental to Construction
    - A. Architect and engineer fees
    - B. Interest on loan during construction
    - C. Taxes on real estate during construction
    - D. Insurance
    - E. Financing expense, mortgage, insurance, etc..
    - F. Title and recording expense
    - G. Legal expenses
    - H. Organization expenses

In direct relation, the following is a list of the elements composing rent.

1. Operation and Maintenance
    A. Costs of fuel, electricity, gas, payroll for caretakers, phones, trash removal, water, repairs, decorating, insurance, taxes, renting and administration, and miscellaneous small items.
    B. Allowance for vacancies
2. Financial Expense
    A. Interest
    B. Depreciation reserves
    C. Maintenance reserves
3. Profit and Income Taxes

ESTIMATE

Because construction costs, site and site improvment costs, operation and maintenance costs will not be known until the preliminary design is complete the Segregated Method of Estimating (Marshell) will not be used. The following facts, made with the use of the Marshell Valuation Service, will provide a basis to work from.

An apartment complex of one or two stories would be classified as a Multiple Residence by the Marshell Valuation Service. Each unit would have a kitchen and bath and would be designed for other than transient occupancy. I am designing for this type of apartment and occupant.

The Marshell Calculator Method lists four (4) classes of apartment buildings:

Class A - Building having fireproofed structural steel frame with reinforced concrete or masonry floors and roofs.

Class B - Buildings having reinforced concrete frames and concrete or masonry floors and roofs.

Class C.- Buildings having masonry exterior walls and wood or steel roof structure.

Class D - Buildings having wood or light steel frame and roof structures.

A comparative cost is shown below. These figures include architect's fees, contractor's overhead and profit. (See M.V.S. for further breakdown)

CLASS	TYPE	COST PER CU. FT. IN DOLLARS	COST PER SQ.FT. IN DOLLARS
A	Excellent		
	Good		
	Low Cost		These figures depend on the number of units,
B	Excellent		basements, garages, etc.
	Good		
	Low Cost		
C	Excellent	1.66	14.90
	Good	1.36	12.20
	Average	1.10	9.89
D	Excellent	1.12	10.08
	Good	1.03	9.27
	Average	.92	8.24

Building Lives

Typical life expectancies, in years, of multiple residences by class of construction and quality are:

	Class C	Class D
Excellent Multiples	60	55
Good	55	50
Average	50	45
Low Cost	45	40

To receive government loans the apartment complex must have at least a 50 year life expectancy. I will design accordingly.

A Segregated Cost Estimate or total estimate given at this time would be absurd. I feel the apartment complex must be designed completely before an estimate can be given.

A final estimate will be made upon completion of the design phase and will be found in the Summary Section of this Thesis Research.

I will estimate by the Segregated Cost Method -- Marshell Valuation Service.

In order for the apartment complex to be financed by small Butte businessmen a cost limit per living unit must be reached. On February 3, 1966 I interviewed three Butte businessmen to get an idea of a limit.

Question	-	How much money would you be willing to invest in an apartment complex and how many living units do you think this amount should buy you?
Dr. Rowling Dentist		"I feel that I could invest about $25,000 into an apartment complex of the type you mention. I'm sure Butte needs them. I would want two units for $25,000 investment."
Dr. Mueske		"The quality of apartments that I believe you are after would cost, in my estimation, around $15,000 each. I think, I would finance two units at this price level."

Mr. Rickman Business Manager	"Right now, I would finance one-unit for around $10,000 or less. If this unit does O.K. then I would be willing to finance more."

Economically What Would Retirement Apartments (Houses) Do For Butte?

People who buy or rent retirement apartments or houses are not necessarily people who have stopped working. But they are people whose children have grown up and moved away. So new retirement apartments and new retirement houses raise a communit's tax revenue without raising it's school bills.

Retired people who are attracted to stay in Butte will be an economic wealth to Butte. That is, the people who earn their retirement savings in Butte are an economic wealth to Butte only as lang as they spend their savings in Butte. Otherwise, they are an economic drain by taking their money from the city.

Retired people who are attracted to come and live in Butte will be an economic wealth to Butte. Their retirement savings will be spent in Butte, thereby, becoming an economic wealth to the city.

SELLING RENTABLE HOUSING

You can sell (or rent) to retired or about-to-retire people the same way you sell to younger people. But some phases of your sales effort will need special emphasis. For example:

1. Put more emphasis on careful market analysis.
2. Put more emphasis on tracking down your prospects.
3. Put emphasis on community facilities.
4. Put emphasis on proving a small house can be a well built house.
5. Put more emphasis on trouble-free housing.
6. Put emphasis on features that have special appeal to older people.
7. Put emphasis on lower living costs.

A E S T H E T I C S

AESTHETIC CONSIDERATIONS

The important basic factor about apartments, the consideration that over-shadows all others in real significance, is the fact that people live here, and it is the undeniable responsibility of the architect to see to it that the lives of such apartment dwellers are as pleasant as possible, and are lived in the most attractive surroundings the environment and circumstances will permit. In far too many cases, rentable square feet, amortization tables, FHA regulations, zoning laws, building costs, and the myriad other economic and legal factors of apartment construction seem to receive major attention, over human considerations, in the rush of preparing preliminary sketches. Yet, it is elementary that apartment building design for pleasant living must be based upon the individual living units themselves, and that these can be successful only when their spaces, traffic patterns, furnishings, and all the other considerations of daily living, affecting interior design, have been throughly studied and solved. Only then can a group of such units be assembled into a building, properly related to the setting, and begin to assume their role as a background for life.

Millions in the city or county, in the town or suburbia, choose to live in apartment dwellings. Some prefer the anonymity of large buildings; others choose the more intimately scaled maisonette or row house, but whatever the apartment type, no one is willing to give up the dignity and individuality commonly associated with life in one's own house. Avoiding the burdens of private home maintenance and repair should not mean that rental dwellings will not have the quality and quantity of space that is necessary for graceful living and adequate privacy.

Providing a background for living is the architect's responsibility. No one can say with scientific certainty the affect a building may have on its occupants, but we can be certain that the architect, through his work, can help an unsure citizenry to a more adequate and richer way of life. The good buildings are never crowded, and the well designed apartment will provide space for doing all the things that require doing, plus a measure of extra space to set off and make more beatiful the areas designed for specific functions.

What kind of space is needed for civilized living; for an easy, pleasant, full life? To give quality living, there must be much more than a mere stringing together of a

group of minimum-sized areas. Far too many buildings, in Butte, neglect the spiritual needs of the occupants in favor of commercial considerations; or perhaps are too involved with mannerisms or design cliches, lack of plan organization, poorly proportioned rooms, too low ceilings by broken beams, awkward corners with jutting piers, etc.

Just as architects are again discovering the joys of curved and irregular shapes, as opposed to the glass box, so the most thoughtful of the designers are aware of the necessity for a variety of shapes and spaces in apartments; the need for spatial sequences which arouse curiosity and which can constantly be a source of delightful surprise in their unexpected variation of pattern.

The articulation of architectural space and its effect on apartment dwellers can best be studied by trying to arrange the necessary accoutrements for living. Of course, the imaginative handling of materials, color, detail, and scale will help in adding zest and graciousness, but our first step in designing interiors is to deal with the arrangement of furniture so its pattern becomes both functional and pleasing. A good plan will permit more than a single arrangement, so that the

pattern of living for different tenants of differing tastes can be approached in different ways. The same tenant might also want to move his furniture about, from time to time, in order to create a new atmosphere, perhaps even for just a party.

The better plans also show good space distribution, with enough change in shape and volume to create variety and interesting sequences. Even when a plan is open, with one space flowing into another, privacy can be achieved if a clear separation of function is carefully studied.

It is fundamental that rooms should not be used for circulation. One should be able to reach bedrooms, bathroom, and kitchen from the front hall without walking through the living or dining rooms, or other principal areas. A room scarcely exists that can provide paths for traffic and pleasant spaces for living, at the same time. All feeling of order and calm is destroyed when people must pass through a space, and comfortable furniture groupings are virtually impossible.

The relationship to outdoors must be carefully studied. While the entire building should be, as M. Labatut puts it, "Dressed in a landscape", each resident should also be able to feel some community with the indoors. Perhaps

this can be achieved by a balcony, a terrace, or even a view from a window that overlooks a garden or lawn. Vistas should be a part of the interior scheme so that one's eyes and imagination are not confined by the apartment walls. Upper floor views take on a different scale and the outdoors tends to become a map spread out below. The elevation of the site (5,250) to the elevation of Butte (5,200) tends to give this feeling. In this situation we will seem to feel littleness in the face of the city.

Apartment buildings, when well designed, offer a kind of living that appeals to cultivated persons seeking a maximum of convenience and privacy; an easier life free of responsiblities of snow removal, grass cutting, and all the other chores and expenses that go along with home ownership and maintenance.

BUILDING PROGRAM

BUILDING PROGRAM

Introduction

The apartment complex must utilize the space conditions of the site to the greatest possible advantage, and also assure maximum comfort for living conditions. The apartment complex must offer a fulfillment to the existing need of better and more pleasant way of living for pre-retired, retired people.

The apartment complex must satisfy this living need in the most economical way. The apartment complex must prove to be a good business oppurtunity for the owners.

The following design criteria are the minimum prescribed by the Communtiy Facilities Administration (CFA), and should not be regarded as the only items requiring special attention in design to meet the needs and welfare of the project should accomodate the special requirements of older citizens with particular emphasis on safety and convenience, both in dwelling units and site areas.

The project is to provide homes, not just housing, for the occupants and should include or provide access to all the facilities needed for living. Project design should be based on due regard for the dignity of the individual by providing for privacy and freedom of movement.

The following statement is considered to the LAW of the Community Faciclities Administration.

The development and use of land, including buildings, shall comply with all applicable laws, ordinances, codes, and regulations, including deed restrictions and covenants, running with the land.

Because the project will include its own sewage disposal system, evidence of approval by the appropriate health authority will be required.

Site Selection

Good site seletion is a matter of first and basic concern. The site should be located where the residents can participate in community and civic life. The location must be reasonably free of objectionable influences such as smoke, noxious odors, unusual noises, and dust. Electrical power, gas, water, sewer, and telephone services must be provided, as necessary at the project site.

Site Planning

The site plan should provide a safe and convenient system of drives, service access, and walks readily accessible to all occupants.

On-site facilities for vehicle parking should be provided to meet the needs generated by the project with due regard for economic utilization of the land and good site-planning practice.

Due consideration must be given in planning walks, ramps, and driveways to prevent slipping or stumbling. Sudden changes in alignment and gradient shall be avoided. Gradient of walks should be minimal. Single riser grade changes in walks will not be premitted. Handrails and ample places for rest should be provided.

Adequate site drainage must be provided.

Artificial lighting of the grounds should provide illumination of sufficient intensity and distribution to eliminate dark areas.

Building Design

Exterior and interior design should have visual appeal, characterized by simplicity, harmony, and refinement, The building(s) should be attractively and effectively related to the size, shape, and topography of the site. Exterior and interior design should be a straightforward expression of residential character presenting a home-like atmosphere, suitable to the local environment and climate conditions.

Project design must be functional and provide for the safety, health and general welfare of occupants of this age group.

Air Conditioning

Summer air conditioning may be included in the project provided such use is customary in similar dwelling units in the area and cost thereof is not excessive.

Storage Space

Storage space for equipment and supplies for project operation and maintenance should be provided at suitable locations within the project.

Lighting

A high level of artiiicial illumination commensurate with the use of each space and the needs of older persons shall be provided.

Heating and Ventilation

All buildings shall be provided with an adequate heating system with a designed capacity to maintain a temperature of 80 degrees Fahrenheit in all bathrooms, and of 75 degrees Fahrenheit in all habitable rooms and corridors when the outside temperature is at design level for the locality. Lower inside design temperatures may be used for storage rooms, workrooms, and other similiar spaces. Wherever matural ventilation is not adequate for comfort and health, mechanical ventilation should be provided. Kitchens and bathrooms not having windows in exterior walls shall be provided with mechanical ventilation.

Sound Transmission

The location of buildings, the arrangement of living units within the buildings, and suitable materials and methods of construction should be utilized to reduce the transmission of sound.

Living Units

Living units shall include permanent provisions for living, sleeping, eating, cooking, and sanitation. Each living unit must contain kitchen and bathroom facilities as prescribed below.

Rooms should be of such size and so arranged and planned as to assure adequate privacy, and permit the proper placement and convenient use of furniture and equipment, appropriate to and essential for the use of the occupants. Living units may be the one-room "efficiency" type or may include one-bedroom and two-bedroom units, depending on the occupancy needs established for the project. The usable floor area should have a minimum of approximately 200 square feet for efficiency (0-bedroom) units, and a minimum of approximately 100 square feet additional for each bedroom.

Habitable Rooms Below Grade

Habitable rooms having floors below exterior grade will be acceptable only when the design provides adequate natural light, ventilation, heat, damp-proofing and egress to the satisfaction of CFA.

Kitchens

All living units shall have kitchen facilities which include as a minimum the following: sink, a three-burner cooking top with an attached or sectional oven, refrigerator, counter worktop and storage cabinet for utensils, dishes, cutlery, linens, and food; top shelf not over 6 feet above the floor. Ranges and refrigerators can be free-standing or built-in.

Bathrooms

Each living unit shall have bathroom facilities, including as a minimum a lavatory, water closet and bathtub or stall shower. The stall shower should include a built-in seat or bench, or room enough for a bath stool. The sizes of the room and arrangement of the fixtures shall be adequate for the convenient use of the fixtures by older persons. Any threshold should be flush with the floor.

All plumbing fixtures, accessories and trim shall be selected for and provide the maximum features of design that contribute to the safety, convenience and aid to older persons. A storage cabinet of adequate size, for medicines, toilet articles, and bathroom needs, shall be located in an easily accessible place.

Social and Recreational Facilities

Social and recreational facilities should reflect - insofar as feasible - preferences of the anticipated residents. Indoor facilities usually should include hobby or craft facilities and lounging areas which can be used for meetings or other group activities.

Wherever practical, out-of-door facilities, including landscaped sitting areas and space for exercise and games, should be provided.

Laundry Facilities

Where practicable, self-service automatic laundry facilities for the common use by residents should be provided in a convenient location.

Construction Criteria

Required Fire Protection Standards

A. One and Two Story Building - One-hour fire resistive construction is required of one and two story buildings.

B. Three and More Story Buildings - All construction materials in buildings over two stories shall be of approved, non-combustible materials, and:

1. All main structural elements shall have a fire resistance rating of not less than two hours.
2. All firewalls, interior partitions enclosing elevator shafts, stairways and other openings through the floor shall have a fire resistance rating of not less than two hours.
3. All other interior walls or partitions shall have a fire resistance rating of not less than one hour.

Floor Finishes

All wearing surfaces of floors, stair treads, and landings shall have non-slip characteristics.

Stairs, Steps, and Landings

Width of exit stairs shall be not less than 3'-0" clear between handrails. Width of landings in the direction of travel shall be not less than stair width.

Treads shall have a minimum width exclusive of nosing of 10" and risers shall have a maximum height not exceeding 7" except service stairs may have 9" treads and 8" risers. Maximum height between landings shall not exceed 12'.

Electrical

Permanent lighting fixtures shall be controlled by wall switches located near room entrance door, on lock side of

door, approximately 3'-0" above floor; for bathroom, switch shall not be readily accessible from tub or shower. Each habitable room shall have convenience outlets frequently and conveniently placed, but not less than two convenience outlets, which shall be located approximately 24" above floor.

A minimum of two lighting circuits shall be provided in each living unit.

Finished Hardware

Finished hardware should be selected to provide the maximum safety and convenience of the occupants. No door shall have latches, chains or lolts which cannot be operated from both sides.

All living unit entrance locks must be part of an integrated master key system.

"The apartment complex must prove to be a good business opportunity for the owners."

While the age and health of the occupants require consideration in design, the designer also should make a effort to minimize the cost and labor involved in project operation and maintenance since these are major elements in rental charges.

Robert W. Murray Jr., NAHB's rental staff, says, "Almost

anybody can make money building rental housing. But nobody should expect to make money building apartment houses today unless he knows exactly what he is doing. More homebuilders come to me every day for advice. I tell them to start by hiring an expert in all the tax angles."

Murray suggests:

It is easy to make money building apartments only.....

IF the owners have enough money to start with.

IF the owners have a topflight tax consultant.

IF the owners have a apartment wise architect.

IF the owners have a good mortgage banker.

IF the owners have people ready to buy.

Murray also says, "Building apartments for today's market is no game for the lone amateur and no place for the shoestringing operator. But a new-comer to the rental market can make a success if the advantages of the competent professional help is available."

The apartment complex will be built by men who have reached a high-income, high-cash position and want to take advantage of the special tax advantages that apartments offer.

D E S I G N

BUILDING DESIGN

Today's Retirement Market Can Be Met With Many Different Types Of Housing.

The market can be met with single-family houses in retirement colonies or mixed in among younger families.

The market can be met with low-rent apartments, and co-op apartments in suburbs and central city area.

The market can be met with self-contained communities of multi-level apartments offering everything from stores to recretion facilities.

The market can be met with specialized communal housing including central dining facilities and essential services.

The market can be met with medium rise apartments. These include one and two story apartments.

The market can be met with townhouses. Townhouses provide outdoor family living and save on construction costs.

The market can be met with small apartments and duplexes. The duplex can be made to look like and live like a house.

So the retirement market is really many markets. In fact, some experts say it calls for more kinds of housing than are now being built for families with children.

Design For What Kind Of People?

Today's retirement market is made up of people who want to simplify living.

Most want a smaller house than they now have, and a smaller lot. They want more built in conveniences and easier maintenance.

Most people in the retirement market are as active and vigorous as middle aged people were a few decades ago. Earlier generations were satisfied merely to wait out their remaining days. But today's shorter work week, increased leisure, and longer period of retirement emphasize the need for ways to occupy one's time and for the optimal environment in which to enjoy it.

Design And Planning Considerations

1. The accommodations must be small and compact, both for economy and convenience.
2. They must be of fireproof construction and designed for the maximum of safety.
3. They must minimize the problems of housekeeping and daily activities.
4. They should be eminently liveable and pleasant.
5. They should provide a high degree of privacy.
6. None of these features should be obvious enough to result in an institutional look.

The site area is reasonable free of objectionable features such as smoke, noxious odors, unusual noises, dust, and other undesirable features.

The design, construction and selection of materials and equipment will be such as to keep the maintenance and replacement costs within practical economical limits for at least 50 years. I, the designer, will achieve the best balance possible between holding costs to a minimum while providing excellent living conditions for the occupant.

The number of units in one project will be determined primarily by the location and effective local demand for the housing at the anticipated rental levels. Economic feasibility will be demonstrated, and per unit costs for development and operation will be carefully examined.

As I see it, the time is past when architects were expected to confine their efforts to design, co-ordination, and supervision. Increasingly, a sound knowledge of costs, building economics, and the mechanics of government housing agencies is expected to the architect and enhances the value of his services to his client.

Table I
Allowable Room Count and Minimum Room Sizes for Separate Rooms

Name of Space	Room Count	LIVING UNITS 0-BR	1-BR	2-BR	3-BR	Least Dimension
		Min. area (sq. ft.)				
LR	1	-	160	160	170	11'-0"
DR	1	-	100	100	110	8'-4"
K'ette	1	-	60	60	70	5'-4"
BR	1	-	120	80	80	8'-0"
K'ette	½	40	40	-	-	3'-6"
Total BR	-	-	120	200	280	-
Other	1	-	80	80	80	8'-0"
Bath	½	-	-	-	-	-
½-Bath	¼	-	-	-	-	-
Foyer	¼	20	20	20	20	4'-0"
Porch	¼	70	70	70	70	6'-0"
Terrace	¼	120	120	120	120	8'-0"

Table II
Allowable Room Count and Minimum Room Sizes for Combined Spaces

Combined Space	Comb. Room Count	LIVING UNITS WITH 0-BR	1-BR	2-BR	3-BR
		Min. area (sq. ft.)			
LR-D	1½	-	200	200	200
LR-DR size	2	-	240	240	260
LR-D-BR	2	240	-	-	-
LR-BR	1	190	-	-	-
K-D	1½	100	110	110	120
L-D area	2	-	150	150	160
K'ette-D	1	80	80	-	-

I Will Design High Quality Apartments.

The best and only sure way to make money in this market is to build the bery best new apartments possible because:

1. REALLY GOOD APARTMENTS ARE HARD TO FIND IN BUTTE.
   There is in Butte a need for really good new apartments- particularly ones that are well located.
   In virtually every market across the country the report is the same; full houses and waiting lists for well planned, well equipped apartments, especially those in the middle and upper rental brackets.

2. PEOPLE ARE NO LONGER LOOKING FOR SHELTER - THEY WANT THE KIND OF LIVING POSSIBLE IN REALLY GOOD APARTMENTS.
   Mere living space is not the answer any more. Present day apartment dwellers want all the luxury and all the extras they can get.
   What features do tenants want? They want good kitchens, large rooms, and large closets. It's the women who usually decides on the apartments, and she looks at the kitchen and closets first. The higher the rental, the more important these things are.

3. PEOPLE HAVE THE MONEY TO PAY HIGHER RENTS, AND THEY WILL SPEND IT TO GET A REALLY GOOD APARTMENT.

People have a wide choice of apartment rentals today. And although the rents in good new apartment buildings are higher, we will find a lot of people willing to pay these higher rents. People don't want an apartment just as a temporary place to hang their hat. They want the advantage of a permanent home without the responsibility of a permanent home. And they are willing to pay as much or more than homeowners to get what they want.

4. THE RENTAL MARKET IS FLUID; TENANTS CAN AND WILL MOVE AS SOON AS SOMEONE OFFERS THEM A BETTER APARTMENT.
In Butte there is many vacancies in apartments built twenty or thirty years ago which were once filled. New apartments with desirable features like wall-to-wall carpets, drapes, private patios, etc, are drawing tenants out of older buildings which offer none of these things.
People are constantly looking for something more and better for their money. If you give them a better new apartment, they'll move to it, leaving their old apartment behind and vacant.

5. IN SOME RENT RANGES, MEDIOCRE APARTMENTS WILL BE HURT BY NEW HOUSE COMPETITION WHEN FINANCING COSTS DROP.

This is particularly true in lower-rentals.
As soon as money eases so homes can be financed with almost no points, a lot of lower-rent apartments will start to emply. Rentals have not been as good in older apartments as in new ones. Old apartments are competing with homes that people can buy without paying anything down.

So, although mediocre apartments are still full in some markets today it just doesn't make sense to build them. As soon and as fast as the supply of good new apartments catches up with demand, the mediocre apartments will be in trouble. Their owners will lose their tenants and lose their investment.
Therefore, I will design apartments of good quality to be put into the retiremtnt housing market.

BUILDING DESIGN TEST

Retirement Housing Will Sell Or Rent Better If It Passes This Test.

Will the housing provide maximum comfort?

Is the heating system most efficient at 75°F (instead of 72°F)? Does it respond quickly and control humidity?

Is there summer air conditioning?

Is noise reduced by acoustical materials?

Is mechanical equipment quiet?

Are circulation patterns short, direct, and easy?

Are walls and windows protected from summer sun by overhangs or outside shading devices?

Are controls for openable sash easy to reach?

Do doors have easy-to-grap lever handles or matt-finished polygonal knobs?

Are doors at least 3'wide?

Are electrical outlets high (at least 18") to prevent stooping?

Are wall Switches low (36") to prevent reaching?

Are there master light controls in the bedroom, main entry, and garage to turn off forgotten lights?

Is there space in the master bedroom for twin beds with 18" minimum clearance on three sides?

Do bedroom closets have low (48") easy-to-reach poles for hanging up skirts, pants, and jackets?

Will the housing require minimum maintenance?

Do exterior materials need little or no upkeep?

Are interior materials easy to clean?

Can windows be removed from inside for easy washing?

Do roof overhangs protect walls and windows from rain?

Has dust-catching interior trim been avoided?

Has hard-to-clean corners been avoided?

Will the housing have maximum safety?

Are floors, walks, garage, and patio all on one level?

Are joints in concrete paths and tile floors small, tight, smooth, and level?

Are floors skidproof even when wet or greasy?

Are floors so goodlooking the occupant won't cover them with slippery scatter rugs?

Are saddles avoided at doorways?

Are light fixtures and outlets controlled by luminous wall switches?

Are there three-way switches in master bedroom?

Does multi-point switching light a path ahead?

Do high and uniform lighting levels (both natural and artificial) eliminate dark corners?

Do ceiling fixtures (where necessary) pull down for easy bulb changing?

Is there a fire alarm system?

Do steps and stairs have uniform proportions, continuous handrails on both sides, closed risers no more than 7" high, abrasive treads or nosings, good illumination, light colored treads, spacious landings at top and bottom, and a minimum width of #8-3".

Will the housing have a cheerful atmosphere?

Are there lots of big windows to bring in light and add spaciousness?

Are window sills no higher than 30" (so pleasant views can be seen from chairs and beds)?

Does open planning make space seem larger?

Is there room for hobby activities?

Are colors light, bright, and cheerful?

Is there a private outdoor sitting area?

Do interior spaces have visual and spacial variety?

Is there wall space and open storage to display prized mementos?

Will the kitchen include these special features?

Are counters low (32" or less) with knee room under sink and range so housewife can work sitting down?

Are there pull-out boards becide sink and range to increase work surface for sitters?

Can storage be reached without stooping, stretching, or climbing (no shelves higher then 6')?

Do base cabinets have pull-out shelves and drawers?

Is sink shallow so its bottom will be easy to reach from a sitting position?

Does sink have a single-lever faucet for easy control?

Are hot-water pipes and underside of sink insulated to protect a person when seated at sink?

Are work areas (including range) brightly lighted?

Do indicator lights show ehen range or oven is on?

Does gas equipment have safety shutoff?

Are small-appliance outlets easy to reach?

Is kick space at least 9" high and at least 6" deep?

Will the bathroom include these special features?

Is there a light switch outside the door (so bath can be lighted before it is entered)?

Is there knee space under lavatory for sit-down washing?

Is mirror low enough to use when seated?

Is there extra storage for medicines and cleaning equipment?

Are cabinets, soap dishes, etc recessed?

Does bathtub have low sides (not over 18")?

Is there a built-in seat next to the tub?

Are there grab bars at the tub ans shower?

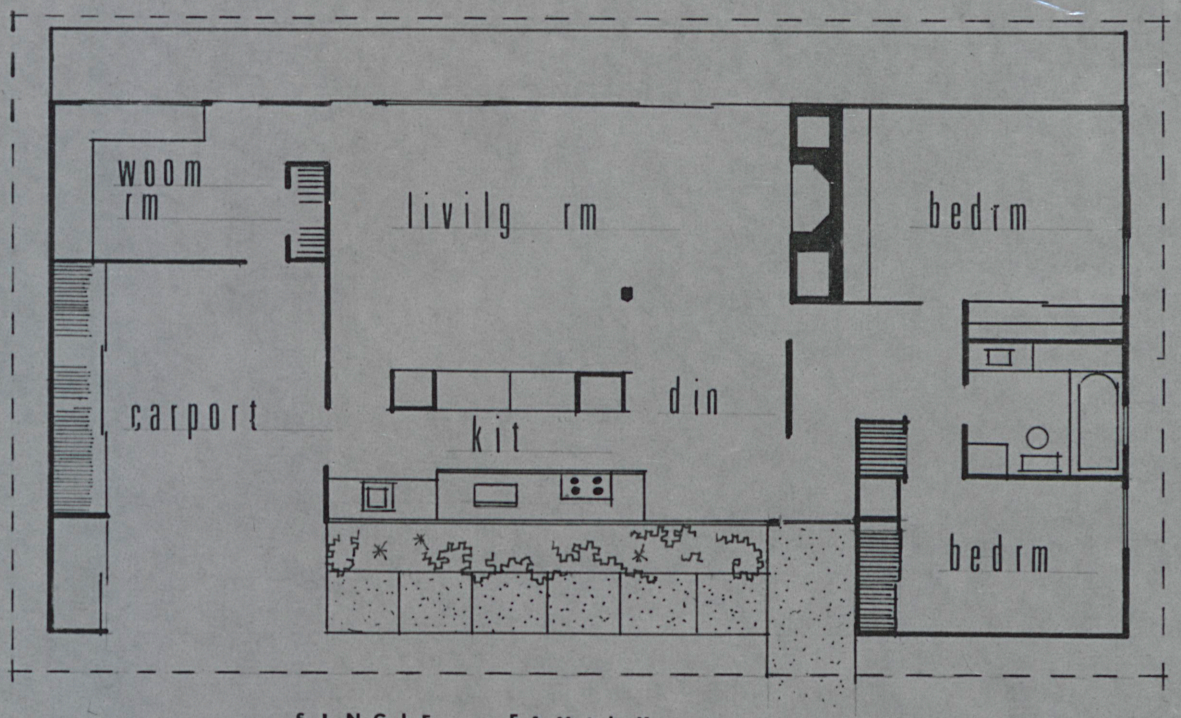
Are towel bars strong enough to act as extra grab bars?

Are water controls lever-operated?

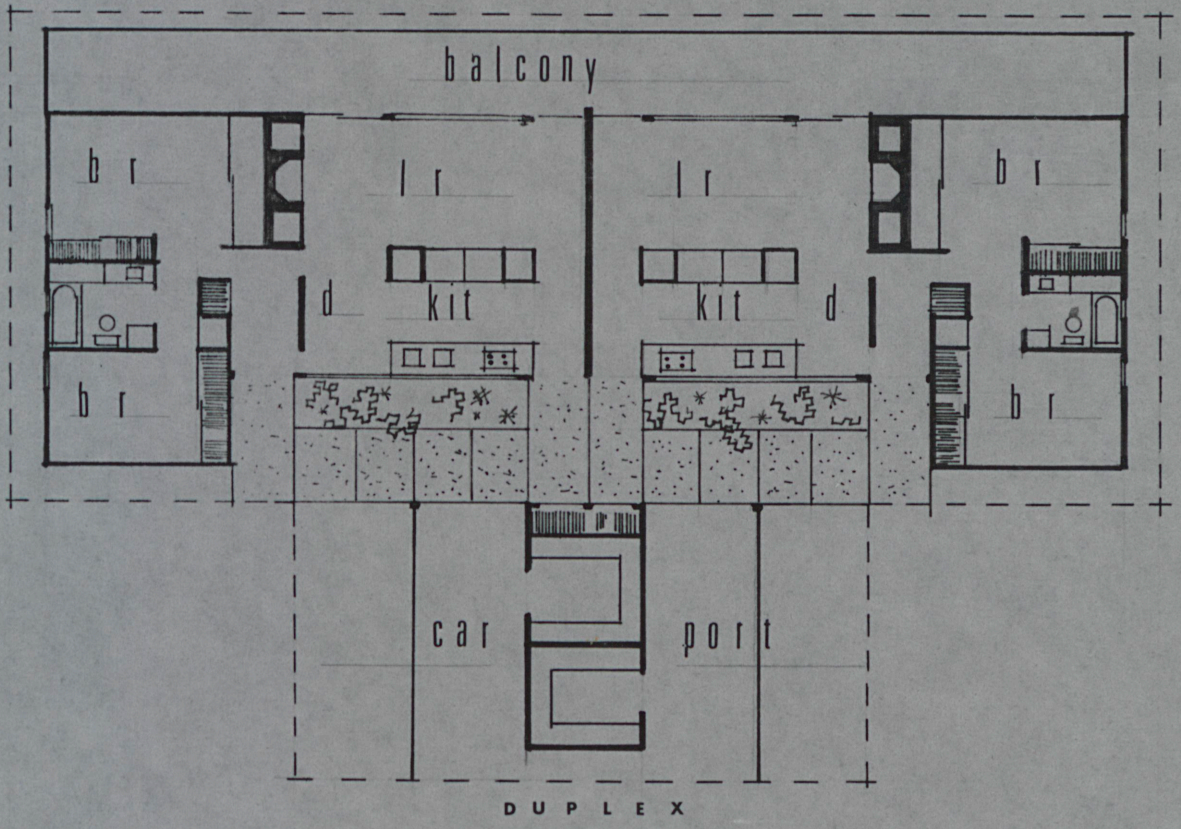
Is shower and tub water thermostat-controlled?

Can shower control be reached without getting wet?

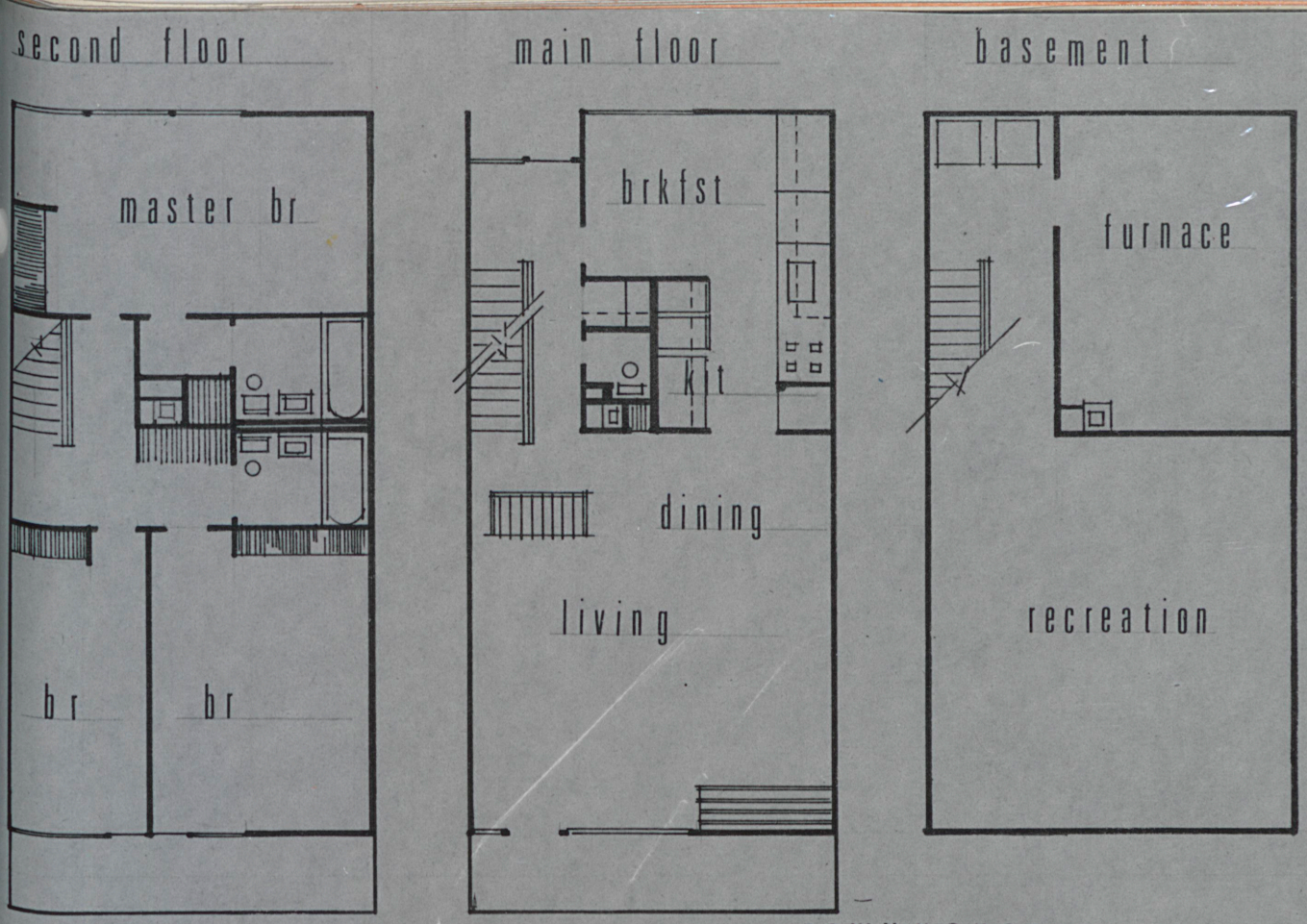
Is there supplementary heating?



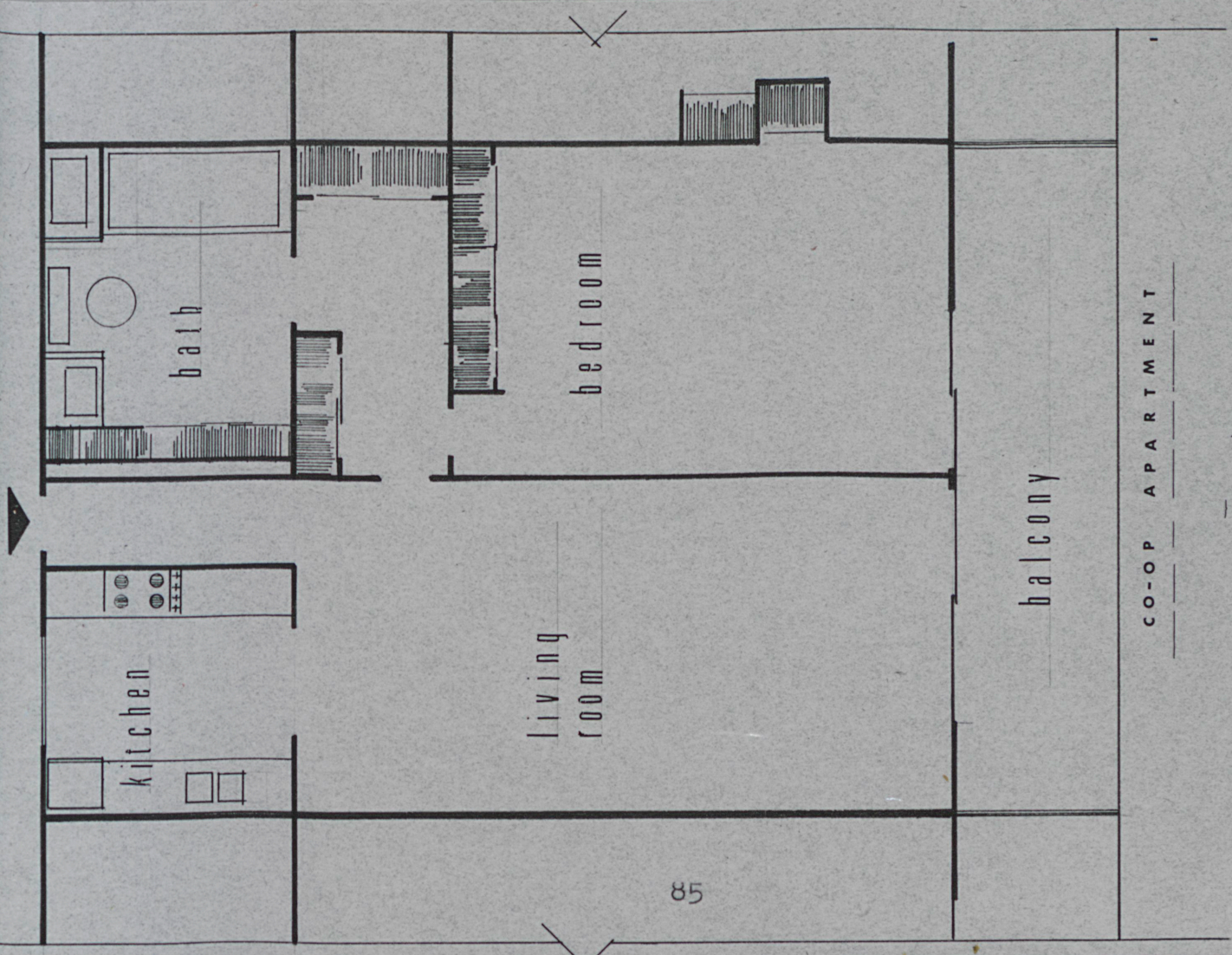
SINGLE FAMILY



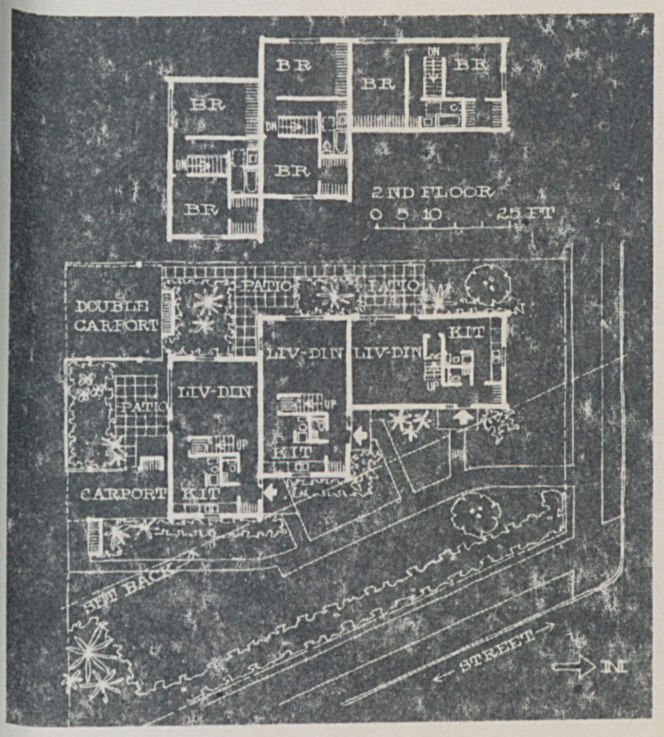
DUPLEX

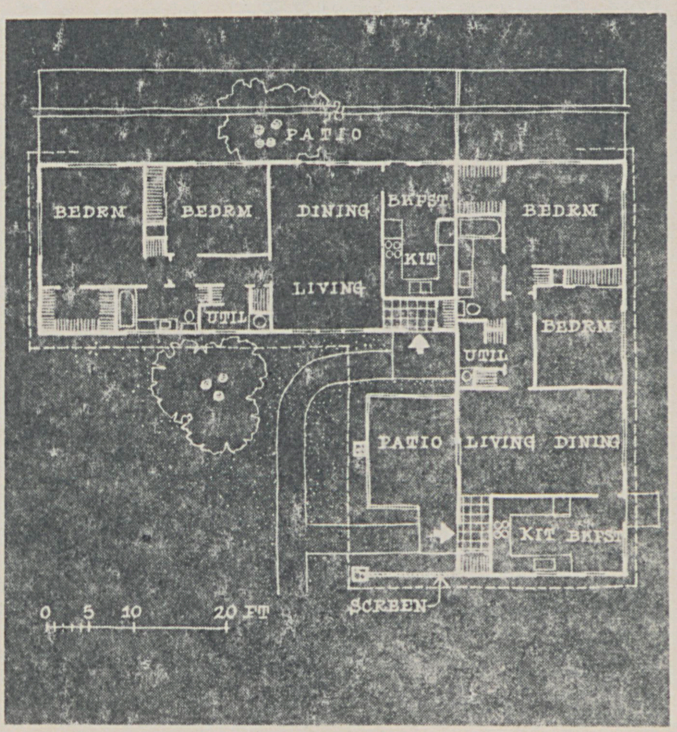


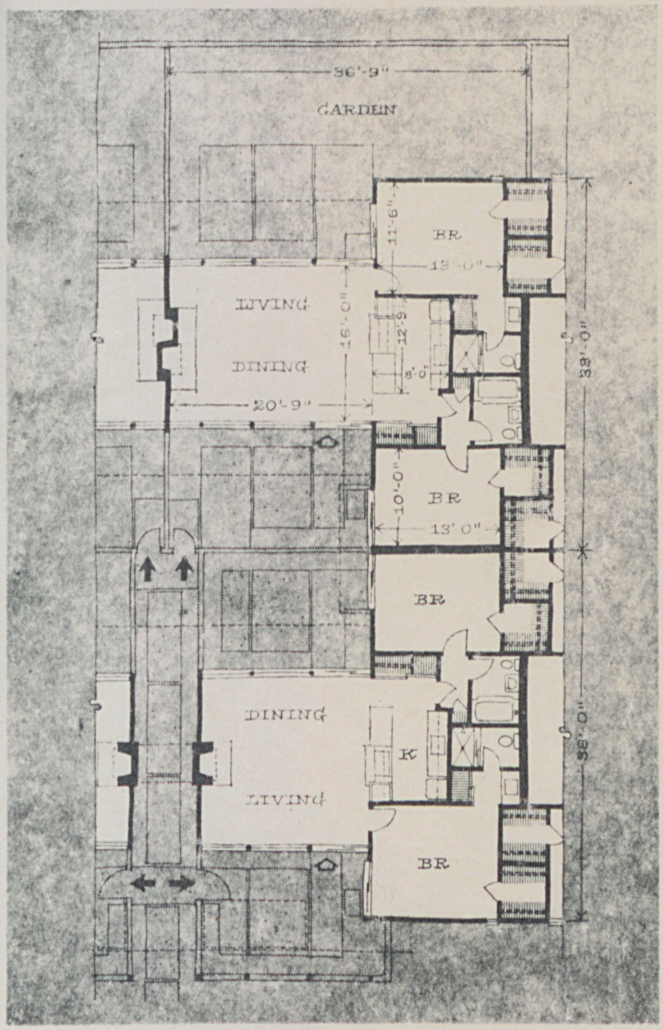
TOWN HOUSE

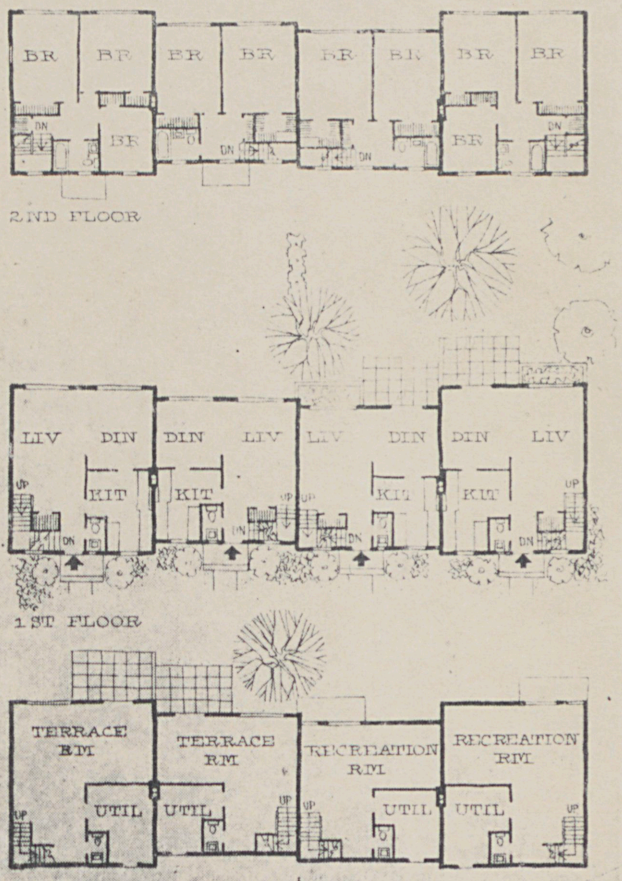


CO-OP APARTMENT









APARTMENTS WITH BASEMENT TERRACES

APARTMENTS WITH 1ST FLOOR TERRACES

APPENDIX

APPENDIX

1. Correspondence
2. Interviews
3. Acknowledgement

606 South 13th
Bozeman, Montana
November 2, 1965

Mr. Frank E. Lowrance
Housing and Home Finance Agency
Box 444
Helena, Montana 59601

Dear Sir:

I am a student of architecture at Montana State University in Bozeman. This quarter I am writing a thesis report on a apartment building complex for Butte, Montana. The apartment complex will be directed for use by our senior citizens of the Butte area.

I would appreciate information on what assistance is available from the Housing and Home Finance Agency for the financing of apartment buildings. Also, if there are any specifications for getting financial help, this and any other pertinent information will be greatly appreciated.

Sincerely yours,

Leo J. Belanger

HOUSING AND HOME FINANCE AGENCY
OFFICE OF THE REGIONAL ADMINISTRATOR
Box 444
Helena, Montana 59601

November 9, 1965

Mr. Leo J. Belanger
606 South 13th
Bozeman, Montana

Dear Mr. Belanger:

In response to your letter of November 2, I am enclosing a pamphlet entitled "Senior Citizens Housing Loan Program" which describes the assistance available through this Agency for the construction of Senior Citizen Housing.

Also enclosed is a guide for project design, and a fact sheet listing the Federal assistance available through direct loans, FHA mortgage insurance, and public housing to help provide housing for elderly persons.

I hope this information will be of assistance to you in writing your thesis. If we can be of further assistance, please let us know. Effective today this Agency became the Department of Housing and Urban Development; but other than that, our address remains the same.

Sincerely yours,

Frank E. Lowrance

Frank E. Lowrance
HHFA Engineer

enc.

606 South 13th
Bozeman, Montana
November 2, 1965

Mr. Al Massman
Director of Montana F.H.A.
Federal Housing Administration
Helena, Montana

Dear Sir:

I am a student of architecture at Montana State University in Bozeman. This quarter I am writing a thesis report on a apartment building complex for Butte, Montana.

I would appreciate information on what assistance is available from the Federal Housing Administration for the financing of apartment buildings. Also, if there are any specifications for getting financial help, this and any other pertinent information will be greatly appreciated.

Sincerely yours,

Leo J. Belanger

FHA

FEDERAL HOUSING ADMINISTRATION

November 9, 1965

Office of
THE DIRECTOR
Helena, Montana

IN REPLY PLEASE REFER TO:

Mr. Leo J. Belanger
606 South 13th
Bozeman, Montana

Dear Mr. Belanger:

This is in response to your letter of November 2, advising you are writing a thesis report on an apartment building complex and requesting information on Federal Housing Administration's program for insuring the financing of apartment buildings.

Enclosed are FHA Consumer Bulletins which we believe will be of help to you.

Cordially yours,

A. J. Massman
Director

606 South 13th
Bozeman, Montana
November 2, 1965

Mr. Robert J. Munzenrider
Director of Hospital Facilities
State Board of Health
Helena, Montana

Dear Sir:

I am a student of architecture at Montana State University in Bozeman. This quarter I am writing a thesis report on a apartment building complex for Butte, Montana. The apartment complex will be directed for use by our senior citizens of the Butte area.

I would appreciate if you could send me a copy of AMENDMENTS TO MONTANA LICENSING LAW AND STANDARDS FOR HOMES FOR THE AGED, 1960, INCLUDING September 8, 1960 AMENDMENTS of the Montana State Board of Health.

Any other information concerning apartment buildings, its equipment, its need, its design, would be greatly appreciated.

Sincerely yours,

Leo J. Belanger

State of Montana

State Board of Health

HELENA, MONTANA

JOHN S. ANDERSON, M.D.
EXECUTIVE OFFICER AND SECRETARY

November 26, 1965

Mr. Leo J. Belanger
606 South 13th
Bozeman, Montana

Dear Mr. Belanger:

Your letter to Mr. Robert Munzenrider of November 2, 1965 has been referred to this Division, which has the responsibility for licensure and preparation of standards for long term care facilities. Enclosed herewith is our most recent revision of the Montana Licensing Law and Standards for Long Term Care Facilities. These amendments are all that have been made by the State Board of Health to this date which were not included with the copy of the Homes for the Aged Standards furnished you by Mr. Munzenrider.

In accordance with the new law passed by the last legislature the Minumum Standards, Rules and Regulations will be revised in the very near future. With the advent of Medicare there will be more rigid requirements to qualify as providers of nursing home care. These changes are in the future and will not be promulgated for at least another year.

Sincerely,

Chas. B. Goldy, Hospital Consultant
Div. of Environmental Sanitation

CBG:hm
Enc.

INTERVIEWS

Date	Person
11/2/65	Mr. Southare Agriculture Department Montana State University
11/2/65	Mr. Caprio Agriculture Department Montana State University
11/9/65	Mr. Neilson U.S. Land and Geology Office Post Office Building Butte, Montana
11/9/65	Mr. Hasen President - Butte Water Company Butte, Montana
11/9/65	Mr. Dugdale Representative - Montana Power Company Butte, Montana
11/16/65	Mr. Mulcahy Butte City Engineer Butte, Montana
2/3/66	Dr. Mueske - Dentist Potential Owner Butte, Montana
2/3/66	Mr. Rickman - Butte Businessman Potential Owner Butte, Montana
2/3/66	Dr. Rowling - Dentist Potential Owner Butte, Montana

ACKNOWLEDGEMENT

I thank Butte's Mayor Tom Powers, Butte Chamber of Commerce, Ron Rickman, and other Butte people who were find enough to provide literature and answer correspondence. I thank my wife Evelyn for her assistance in typing this thesis.

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BIBLIOGRAPHY

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Marshell Valuation Service

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