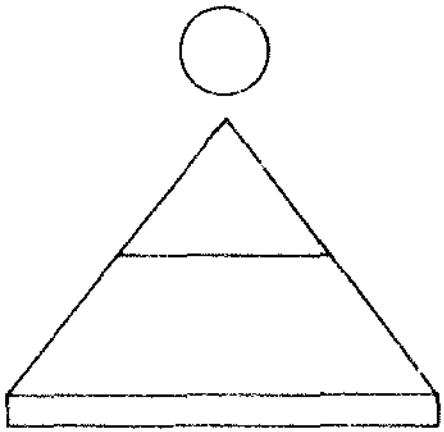

GRANT CREEK AREA PLAN

1980

MISSOULA PLANNING OFFICE · 301 WEST ALDER · MISSOULA, MONTANA 59801

ACKNOWLEDGEMENTS

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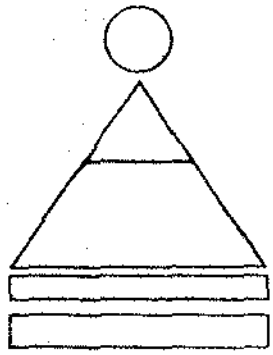


INTRODUCTION

INTRODUCTION

Portions of Grant Creek Valley have been covered by comprehensive plans since 1967. The first plan was presented to the community in 1967, and adopted by the City and County in 1968. An update to the urban plan was adopted by the City and the County in 1975. The lower portion of the Valley was first designated for single family residential use at a density of less than two dwelling units per acre. The 1975 update designated all of the Grant Creek Valley for rural residential use at adensity of less than one dwelling unit per five acres. The area was proposed for zoning in 1976 and was adopted in early 1977. The zoning designations were for one dwelling unit per acre (C-RR1) for lower valley floor portions, and one dwelling unit per five acres (C-A3) for the upper portions and selected foothills and side drainages. In 1979, the lower portion was annexed into the City but not zoned. Also, in 1979, the Grant Creek Ranch was largely rezoned to Planned Unit Development (PUD).

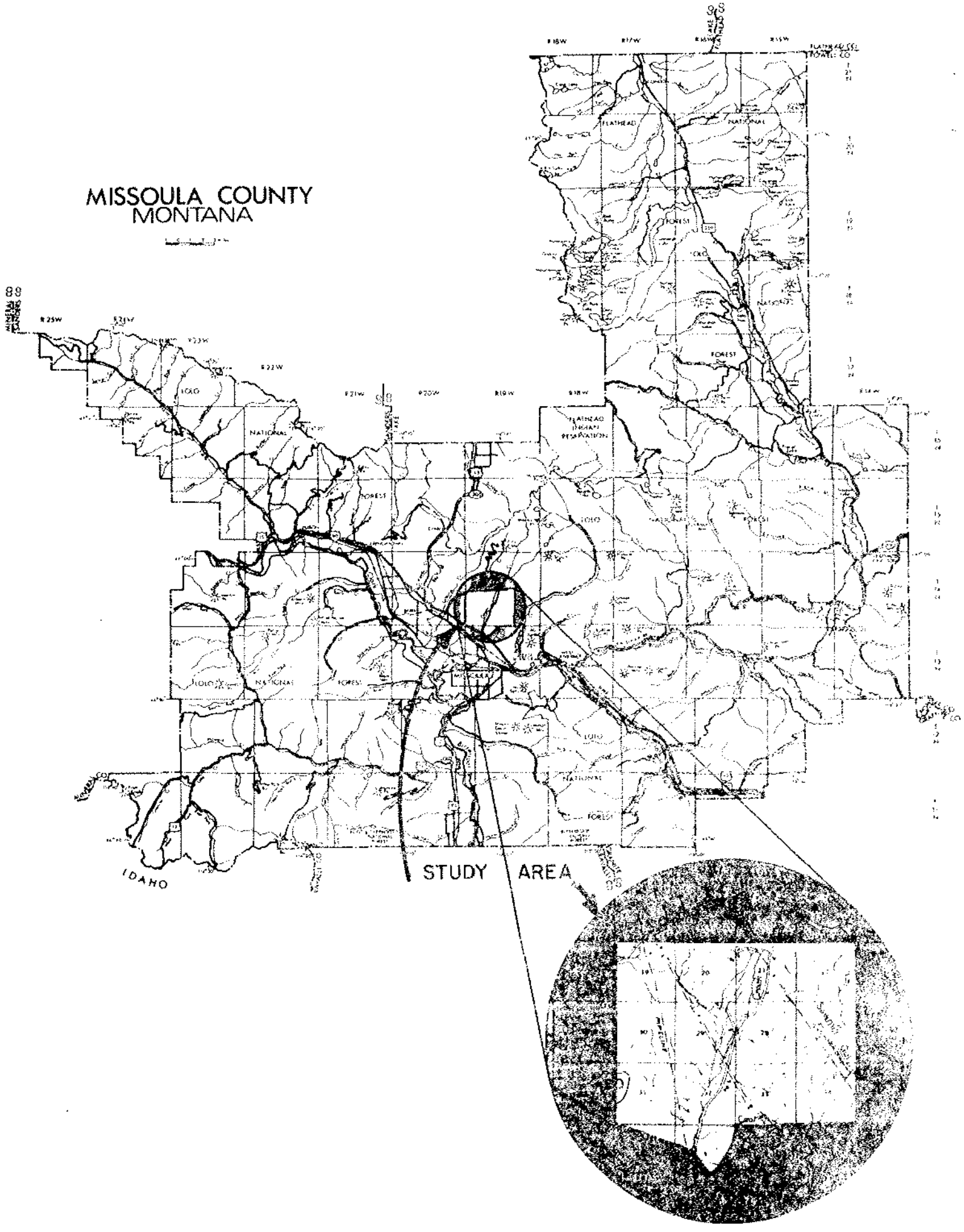
Starting in 1968, gravels from the lower portion of Grant Creek Valley were excavated for construction materials. In addition, the property owner involved filled large portions of the wetter areas adjacent to Grant Creek. The remainder of the area has been used for agricultural purposes except the area north and around Snow Bowl Road. The first residential development started with ten acre lots in Grant Creek Tracts in 1962. In 1967, the Grantlands were started with lot sizes averaging 1 1/2 acres. By 1979, approximately 200 lots had been created with about 140 lots reviewed through the County's subdivision process. Presently, with the Grantland Associates and the Prospect proposals, an additional 2,500 dwelling units are being considered. Both of these developments are being created under the Planned Unit Development provisions of zoning.

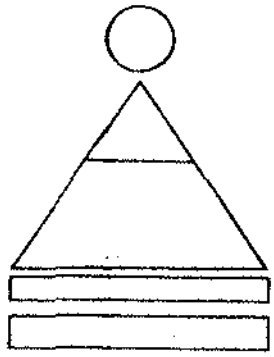
Problems and Opportunities

The Grant Creek Valley offers many opportunities for urban development. The area is close to the downtown area of Missoula and to some of the main industrial employment centers. The natural beauty and clean air are major amenities of the area. Also, the presence of wildlife, including deer and elk, attracts many people to the area.

These natural amenities are also the basis for many of the problems identified for the Valley. Conflicts between urban development and the natural environment, especially wildlife, are a major problem. Additional problems includ lack of sufficient vehicular access out of the Valley, soil problems for septic tanks, high groundwater areas, landslide areas, conflicts with interstate utility corridors, and wildfire hazards for development in forested areas. Concerns for the future as development continues include availability of local services, energy conservation, employment opportunities, air quality, agricultural land loss, floodplains, and traffic.

The plan for the Grant Creek valley is being updated for two major reasons. First, the Planned Unit Developments and the zoning that have been adopted reflect variations from the existing land use plan. Second, the lower portion of the valley has been annexed to the City of Missoula and central sewer and water service are now available. With these changes in the situation since the 1975 plan update, that plan needs to be further updated before additional development occurs.


MISSOULA COUNTY
MONTANA
STUDY AREA
IDAHO



COMMUNITY ATTITUDES

GOALS AND OBJECTIVES

There are four basic assumptions in the Comprehensive Plan which apply to the Grant Creek area. They are as follows:

1. The Comprehensive Plan is to provide drection for the future development of Missoula County.

2. Public services and facilities should be fully utilized before investments are made to service new areas.

3. Economic and social well-being is tied to the quality of the natural environment, whether providing resources for jobs or sources of recreation.

4. The "rural ethic" is the basic foundation of the community and has a significant impact on the life-style which many rural citizens treasure.

Within the Comprehensive Plan there are sets of goals and objectives which apply directly to any growth in Missoula County. Land use goals advocated by the Comprehensive Plan have a direct affect on any development in the Grant Creek Valley. In the drafting of the Grant Creek Area Plan the attitudes and concerns of the public were considered in the development of goals and objectives. These were derived from opinions expressed in past subdivision and zoning hearings for Grant Creek as well as recognized trends in community attitudes.

In order to preserve the natural amenities of the Grant Creek Valley, while accomodating development, the following goals and objectives have been developed:

I. PHYSICAL ENVIRONMANT

A. Transportation

1. Provide two routes into the Grant Creek Valley.

2. Provide an alternative emergency route out of the Valley in the event of wildfire.

3. Improve the Grant Creek Road to handle an increased traffic flow.

B. Floodplain

Protect the integrity of the Grant Creek floodplain by adopting floodplain management regulations.

C. Wildlife

1. Protect existing wildlife populations by establishing winter range preserves and domistic animal control provisions.

2. Protect wildlife migration corridors.

3. Protect natural vegetation for wildlife habitat.

4. Provide educational information to residents to encourage compatible lifestyles in wildlife areas.

5. Restrict off-road vehicle usage.

6. Establish development standards for lots in or adjacent to critical wildlife areas.

7. Prohibit hunting adjacent to development.

D. Soils

1. Prohibit development in unstable areas and areas with a slope of 25 percent or greater.

2. Provide central sewage disposal to areas unsuitable for individual subsurface sewage disposal systems.

3. Discourage use of individual sewage disposal systems in order to provide better design possibilities, management of facilities, and environment quality.

4. Assure proper road design to minimize maintenance costs.

E. Utility Corridors

1. Make provisions for interstate utility corridors to minimize conflicts with local development patterns.

2. Assess the impact of interstate utility corridors on environmental quality, aesthetics wildlife, health safety, and land values.

F. Energy

Establish site development standards to encourage energy efficient design through maximizing solar radiation and microclimate enhancement, and minimizing utility service needs through shorter road and utility line lengths or cluster development.

G. Wildfire Hazard

1. Establish site development standards to minimize wild fire dangers.

2. Provide a water supply system capable of meeting fire protection needs.

3. Establish a local fire station.

4. Require effective signing of streets and numbering of houses to allow rapid response for fire protection and to facilitate evacuation.

H. Air Quality

1. Establish policies for maintaining and improving air quality through standards for road paving and fireplace installation and operation.

2. Encourage alternate transportation modes such as bus service and car pool.

3. Establish air quality control monitoring within the Grant Creek Valley.

I. Water Quality

Assure continued recharge of water meeting quality standards into the Missoula Valley aquifer to minimize net withdrawn of groundwater.

II. LOSS OF AGRICULTURAL LAND

Provide for the conservation of agricultural lands through tax incentives, conservation easements and donations and purchases, trespass controls, and resident education to minimize conflicts between urban and agricultural uses.

III. Economic

A. Provide commercial and public service centers within each neighborhood.

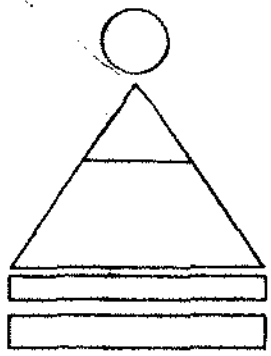
B. Encourage employment of residents within neighborhood commercial and public sevice centers.

C. Encourage local employment opportunities compatible with residential land uses in each neighborhood to minimize commuting requirements.

IV. Recreation

A. Develop recreational opportunities for Grant Creek residents and the general public.

B. Preserve open space for wildlife, agriculture, recreation, and the preservation of the rural character of the Grant Creek Valley.



NATURAL ENVIRONMENT

NATURAL ENVIRONMENT

Introduction

Natural processes of geologic earth movement, soil formation and erosion, hydrologic cycles, climatic change, and wildlife and vegetative growth and decay have shaped the Grant Creek Valley into its present form. By drawing information from the sciences that describe these processes, the future patterns of development in Grant Creek can not only be designed to avoid natural hazards and minimize adverse impact, but development can also be done in an energy-effecient beneficial manner that uses nature. With this in mind, the following sections evaluate: (1) the impacts development may have on the environment; (2) specific hazards or amenities that relate to suitability for development; and (3) proposals for design efficiency using the natural environment.

The Planning Staff has compiled data from numerous sources to provide a background for this plan. In the interest of providing a concise report, this base data is not included here; a list of sources appears at the end of this chapter.

Potential Impacts

Major areas of environmental importance, relative to development in Grant Creek, center on water quality, air quality and wildlife habitat. Measures for minimizing these impacts are discussed below.

Water Quality

Sedimentation of surface waters is frequently the result of subdivisions that have poor erosion control designs. Although sedimentatory is not currently a problem in Grant Creek, the soil survey indicates that there are some soil types in the Grant Creek Valley that erode easily when exposed to wind and water. These are shown on the Soils Map and include Argiborolls-Haploborolls, Vista Loam, Big Arm Gravelly Loam, Bignell Gravelly Very Fine Sandy Loam and Repp Gravelly Loam. In general, these soils cover the hillslopes on either side of the valley bottom.

It is recommended that all development on these easily-eroded soils include measures for immediate revegetation. Where possible, drainage designs should provide for dispersion of runoff water, rather than concentrating it in a confined channel.

Septic tank suitability is also identified by the soil survey interpretations, which give a general view of the problems to be encountered with individual sewage disposal systems. However, since proper sewage effluent treatment depends on subsurface conditions of the soil, on-site inspection and testing are needed to verify specific site suitability.

Groundwater recharge is an important consideration for this valley that feeds the Missoula Valley aquifer. A recent study by Arthur Geldon and Robert Curry found evidence that the groundwater table at the mouth of Grant Creek was being lowered from excessive withdrawals of water. In order to maintain adequate recharge in this area, the design of development in the lower Grant Creek Valley should include measures for minimizing runoff and keeping the infiltration and recharge of groundwater high.

Air Quality

Automobile travel and wood stove emissions are two main potential sources of air pollution in the Grant Creek Valley. Efforts to minimize the effects of these sources will prevent further degrading of air quality in the Missoula Valley.

In an effort to reduce automobile travel, a number of recommendations have been made for Grant Creek development. First, bicycle and pedestrian routes have been proposed, generally following the most direct routes between development clusters. Second, clustering of residential units has been encouraged, reducing the length of roadway within the residential areas.

Although the Grant Creek Valley is currently dependent on automobile access to link its residences with Missoula's commercial and employment centers, the proposed development patterns will lend themselves to future bus service routing. Subsequent phases of development will be required to request inclusion in the Missoula Urban Transportation District.

Road and driveway paving will be required for all proposed developments in order to minimize dust pollution.

Smoke from woodburning stoves and fireplaces is a well-documented wintertime problem in the Missoula Valley. At present, the volunteer program is working reasonably well in reducing woodburning at critical times of air inversions. However, with the increased use of wood stoves and fireplaces and the market demanding that they be installed in virtually all new house construction, the problem of particulate emission from wood smoke is bound to get worse. For developments with townhouse design or clusters, consideration should be given to central heating systems to improve efficiency.

Wildlife Habitat

Elk wintering areas in Grant Creek have been identified by the Montana Cooperative Wildlife Research Unit. It is recommended that these areas be preserved. In additions, travel corridors for elk and deer must permit unhindered migration from winter to summer range.

Whitetail and mule deer are less sensitive than elk to pressures from development. It is expected that preservation of the elk habitat will also benefit deer.

Fences that entangle the deer and elk and harassment from dogs are two of the most critical impacts of development on wildlife. These problems have been addressed in the Planned Unit Development reviews of both Grantland and Prospect. Implementation will involve employment of a warden to enforce the covenants restricting harassment of wildlife.

Two major land donations to the National Wildlife Federation have been transferred by the developers of both Prospect and Grantland. The wetland area adjacent to Prospect provides a bird refuge, while a large tract of partially timbered hillslopes of the east side of the valley provides deer and elk winter range.

Development Suitability

The natural environment poses direct constraints to development that are evident either as hazards to future residents or as increased costs for construction and maintenance. Some development hazards can be overcome with specific treatment or modifications; however, the long-term effect generally means that the expense of maintaining these special designs falls on future residents or the taxpayers in general. River channelization is one example where public costs will continue to increase as it becomes necessary to extend riprap further and further downstream from an initial project. The solution lies in careful evaluation of the natural limitations of a site prior to development.

Soils, Geology and Slope

Mapping by the Soil Conservation Service identifies thirteen soil types in the Grant Creek study area. Soil descriptions are included in the background data for this Plan and address limitations such as flooding hazard, runoff, erosion hazard, permeability, percolation (to evaluate septic tank suitability and drainage), shrink-swell and stability for building construction.

Geologic mapping (Geoplan, 1978) supplements the soils information with more data on the stability of geologic units to support construction. Landslide and mudslide potential are identified, along with shrink-swell and hydrologic characteristics of the underlying strata. The fault lines shown on the map indicate past geologic activity; there is a greater hazard from soils that might be unstable during an earth tremor than from actual slippage along the fault lines.

The third essential source of data for determining stability and construction suitability is slope. Mapping of the Grant Creek Study Area by the Missoula Planning Office (1980) delineates five slope classifications. While this information should be used in coordination with geology and soils data, the table below outlines some general standards of suitability:

Slope	Acceptable Uses
0- 8%	Generally, all types of uses are acceptable, although those needing extensive area, such as shopping centers, are limited to less than 2%.
8-15%	(1) Residential, with roads designed to meet grade limitations. (2) Commercial uses may be limited by lack of suitable parking area. (3) Recreational uses that do not require extensive ball fields or playing areas.
15-25%	(1) Residential, as long as the design minimizes runoff and soil erosion. Note - septic tank drainfields are not permitted on slopes over 15% without special design considerations. Roadway design requires extreme care so as to keep within grades while minimizing cut-and-fill. (2) Recreation, although walking is strenuous.
25%+	Limited recreational uses, requiring extreme physical exertion. No construction.

Floodplain and Wetlands

The Grant Creek floodplain has been tentatively delineated for the Flood Insurance Administration. Although there are some problems of scale, this information is reasonably accurate. In addition, the Geology map unit of "Alluvium of the floodplain" gives a more dynamic picture of what is happening with the floodplain.

Wetlands occur in the bottom of the Grant Creek Valley within two soil types the Typic Xerifluvents and Haploquolls. There may also be small poorly drained areas in other parts of the valley. Vegetation type is the most accurate means of identifying areas that are consistently wet. Prior to development, vegetation types should be mapped within the two soil types mentioned above, so that problems associated with shallow water tables and wetness can be avoided.

Fire Hazard

Five fire hazard classes have been mapped for the study area. The following table describes the characteristics of these classes.

VEGETATION AND FIRE BEHAVIOR CHARACTERIZING PROPOSED

FIRE HAZARD CLASSES FOR MONTANA WILDLANDS

Hazard Class	Vegetation (Fuel)	Expected Fire Behavior
0	None (open water, bare rock, cultivated field, etc.	None
1	Grass, weeds, shrubs, 2 feet or less in height; deadwood in contact with ground; open conifer stands with 0-35% crown coverage; also stands of aspen, cottonwood, willow; grassland and shrublands other than ceanothus. Where slash is present these stands become Class 3.	Flames less than 5 feet high, higher flareups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; human being can run through flames without serious injury and can occupy just-burned area; spotting generally rare, short range.
2.	Dense to moderately dense flammable vegetation 2 feet or greater in height, including shrubs, conifer reproduction, abundant litter and/or herbaceous fuel; scattered conifer stands may also be present.	Flames 5 to 20 feet high, of brief duration; fire spread usually fast, at least 40 acres/hour; human being cannot safely pass through flames but can occupy just-burned area within about 15 minutes; short-range spotting common.
3	Medium density conifer stands with 35-55% crown coverage and surface fuels of mainly herbage and litter and some patches of conifer reproduction and deadwood. Includes old-growth conifer stands with light surface fuels regardless of crown coverage. Where slash is present or where surface fuels extend to lower part of tree crowns, these stands become Class 4.	Intermittent flare-ups occurring to many feet above treetops; short and medium range spotting common; behavior between flare-ups as in Class 1; passing through fire front sometimes possible, but chancy; parts of burned area can be occupied within one-half hour.
4.	Dense conifer stands greater than 55% crown coverage with vertical fuel continuity into tree crowns. Also includes medium-density stands with dense to moderately dense understories of flammable shrubs, conifer reproduction, abundant litter and/or herbaceous fuel.	Flare-ups higher than trees frequent to continuous; spread up to several hundred acres per hour; fire front impossible; spotting several hundred yards common, possible to a mile or more; just-burned area untendable for an hour or more.

Suggested Fire Hazard Ameliorative Treatments:

Hazard Class 4 (dense conifers)

Thin out trees to obtain a spacing of 12 feet between trees, or a spacing equivalent to the diameter of the trees plus 8 feet, whichever is wider. Dispose of all slash resulting from the thinning. Any poles, posts, or firewood recovered from the thinning should be stacked at least 100 feet from structures.

Hazard Class 3 (medium-dense conifers)

Thin trees to a diameter plus 8 foot spacing or wider for a distance equal to at least two tree lengths from the outline of the structure on all sides. Dispose of all slash and deadwood.

Hazard Class 2 (young conifers and tall shrubs)

Grub out potentially flammable small trees and shrubs from a strip about 70 feet wide on the downslope side of the structure and about 35 feet on the other three sides. Occasional clumps may be retained as landscaping features. Each spring rake litter from under trees and shrubs in the cleared strip.

Hazard Class 1 (grass and low shrubs)

None required. Cleanup of any large amounts of deadwood within 100 feet of structure suggested.

Hazard Class 0 - None Required

All Classes - The following treatments and precautions are necessary to make forest residences reasonably fire safe regardless of the original hazard class.

1. Dispose of road right-of-way slash by chipping, burning, or hauling away before construction begins. Dispose of slash from subsequent road extension and right-of-way widening as it is created.

2. Keep a 10 foot strip around all structures free of dead grass and weeds, fallen trees and limbs, household debris and other fuels.

3. Prune dead branches to a height of at least 10 feet from all trees within two tree heights of structures. Prune live branches to 10 feet from at least half of the trees in this strip.

4. Use roofing material of low ignitability.

5. Keep dead needles, leaves, twigs, etc., cleaned off roofs, gutters, sun decks, and porches.

6. Stock firewood uphill or on contour from buildings. Keep fine fuels away from stocked firewood as in number 2 above.

7. Equip stacks and chimneys with approved spark arrestors.

8. Keep tree branches away from chimneys (including all types of smoke pipes) for 10 feet directly above and a distance on all sides equal to the height of the chimney above the roof.

Design Eficiency

In addition to the constraints mentioned above, the environment also provides some opportunities for creating an efficient design, in terms of energy consumption, access and using the amenities of the site.

A. Solar Access

The Aspect map included in this study delineates north, south, southeast, and southwest slopes in the Grant Creek area. Because of the scale the information will be generalized and will not include shadowing effects of ridges. The south facing slopes would be the best site for intensive development, however there are other elements involved in planning energy efficiency.

B. Micro Climate

Vegetation and wind are elements which should be considered with topographic aspect because of the micro-environments which they help to create. The micro-climate of areas with different slope orientations differ depending upon the effects of solar radiation and wind direction. Eastern and southern slopes provide better habitats for people and plants since they receive more slolar heat in winter and cooler breezes in the summer. Northern and western slopes, on the other hand, receive less solar heat and more cold wind in winter.

In order to maximize warming effects of solar radiation, the following criteria should be used:

1. Utilize south facing slopes as much as possible.

2. Orient active living areas to the south to take full advantage of the winter sun.

3. Utilize exterior walls and fences to capture the winter sun and reflect warmth into living areas.

4. Utilize darker colors, which absorb radiation.

In order to minimize the impact of winter winds, these criteria should be recognized:

1. Locate buildings on the lee side of hills in the "wind shadow".

2. Utilize evergreens, and earth mounds to protect northern exposures.

3. Flat or shallow pitched roofs collect and hold snow for added insulation.

4. Structures can be built into hillsides or partially covered with earth and planting for natural insulation.

The following outline would be useful for planners and developers to identify solar design criteria:

Site Selection:
In order to maximize solar access, the development should place highest densities on south-facing slopes. Lower densities should be sited on north-facing slopes.

Street Layout:
Streets should be oriented on an east/west axis to the greatest possible extent. Orientation can vary up to ten (10) degrees variation to the northwest

and twenty-five (25) degrees variation to the southwest. Topography also is an important consideration in determining the layout of street systems.

Lot Layout:
Lots should be oriented north and south to the greatest extent possible. Orientation of the north/south axis can vary up to twenty-two (22) degrees from the north/south axis.

Building Siting:
The long axis of a building should be oriented north and south to the greatest possible extent. Building orientation can vary up to twelve (12) degrees southeast from due south.

Buildings should be sited as close to the north lot line or lines as possible to increase yard space to the south for better owner control of shading.

Zero lot line and clustering techniques should be used when good solar access isn't possible for single-family detached units.

Tall buildings should be sited to the north of shorter ones. Tall buildings should be buffered from adjacent development in same way.

Landscaping:
New trees shall be both leafy decidous and evergreen. Evergreens should be planted to block prevailing winds. Decidous trees may be planted so as to shade the house with the angle of summer sun. In selecting trees for landscaping, the mature height and canopy size should be considered.

*Extracted from Landscape Planning for Energy Conservation. American Society of Landscape Architects Foundation.

GRANT CREEK AREA PLAN

GEOLOGY

QUATERNARY

- **Qal** – Alluvium of the floodplain
- **Qfy** – Alluvial fan deposits, young
- **Qtey** – Terrace deposits, young
- **Qls** – Landslide deposits
- **Qfo** – Alluvial fan deposits, old
- **Qteo** – Terrace deposits, old

QUATERNARY – TERTIARY

- **QTpg** – Piedmont gravel deposits

TERTIARY

- **Tu** – Tertiary basin deposits, undifferentiated

PRECAMBRIAN

- **Ym** – Miller Peak Fm.
- **Yw** – Wallace Fm.

CONTACT: Solid where observed, dashed where inferred, dotted where speculated; zig-zag pattern indicates interfingering of units.

FAULT: Dashed where inferred, dotted where speculated; D on downthrown side, U on upthrown side; arrows indicate relative movement.

LINEAMENT: Linear features suggesting fault locations, displacement uncertain.

DIP AND STRIKE OF BEDDING

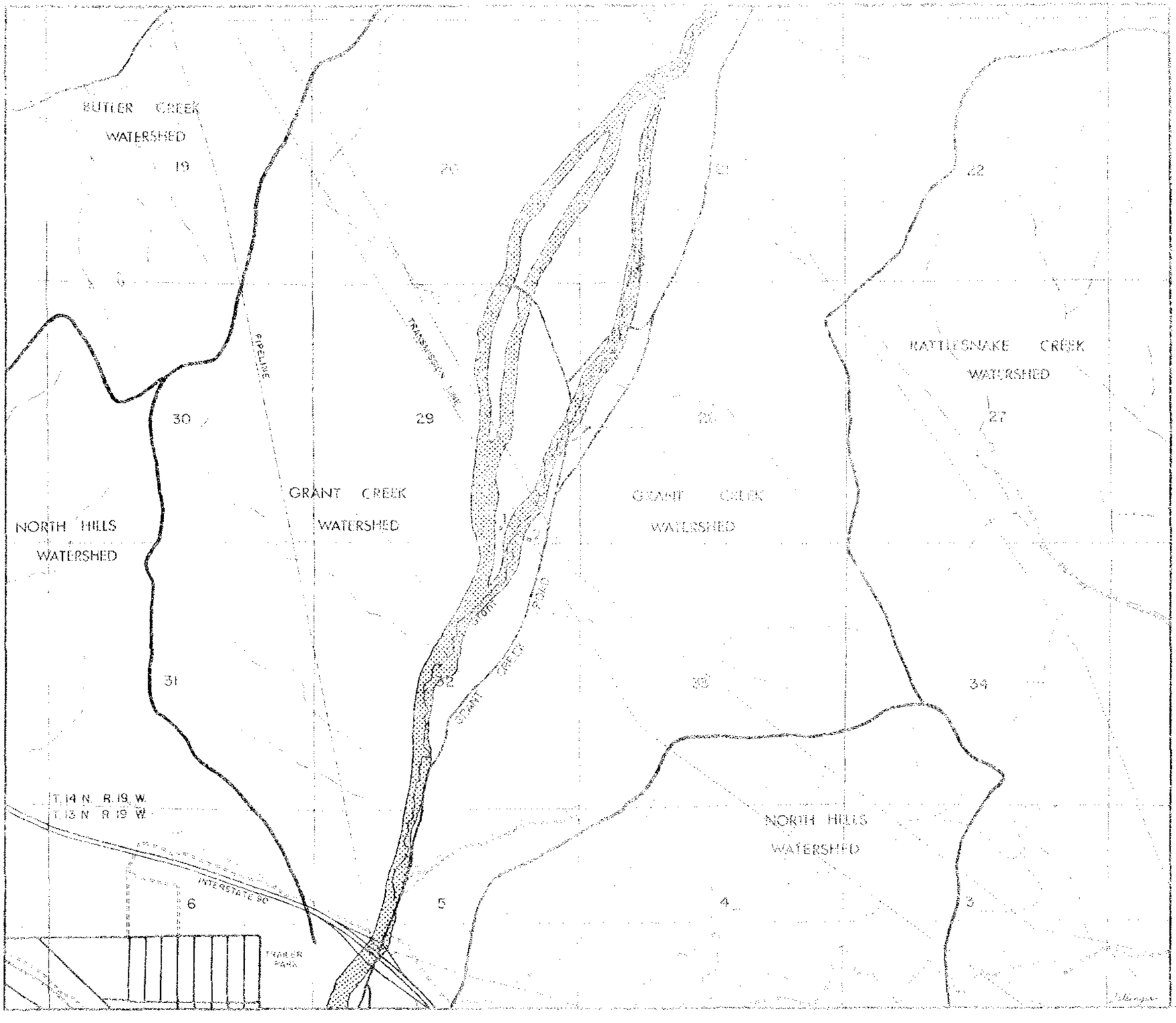
SOURCE: Geo Plan

January 1980

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office



GRANT CREEK AREA PLAN

HYDROLOGY

PERENNIAL STREAM

INTERMITTENT STREAM

100 YEAR FLOODPLAIN

•1 •2 TEST WELLS

WATERSHED BOUNDARIES

SOURCE: Missoula Planning Office
January 1980

N

SCALE
0 ¼ ½ 1 MILE

Missoula Planning Office

GRANT CREEK AREA PLAN

SLOPE

0-8%

8-15%

15-25%

25-40%

40% AND GREATER

SOURCE: Missoula Planning Office
January 1980

N

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office

GRANT CREEK AREA PLAN

ASPECT

0% - 8% SLOPE

25% OR GREATER SLOPE

270° - 90° NORTH ASPECT

150° - 210° SOUTH ASPECT

90° - 150° SOUTHEAST ASPECT

210° - 270° SOUTHWEST ASPECT

N 0°

W 270° E 90°

210° S 150°

SOURCE: Missoula Planning Office

N

January 1980

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office

GRANT CREEK AREA PLAN

SOILS

- McCOLLUM LOAM
- JOCKO GRAVELLY COARSE SANDY LOAM
- TYPIC XERIFLUVENTS
- ARGIBOROLLS - HAPLOBOROLLS
- GRANTSDALE LOAM
- VISTA LOAM
- BIG ARM GRAVELLY LOAM
- BIGNELL GRAVELLY VERY FINE SANDY LOAM
- REPP GRAVELLY LOAM
- BEESKOVE VERY GRAVELLY LOAM
- WINKLER - SHARROTT COMPLEX
- TEVIS GRAVELLY LOAM
- HAPLOQOLLS

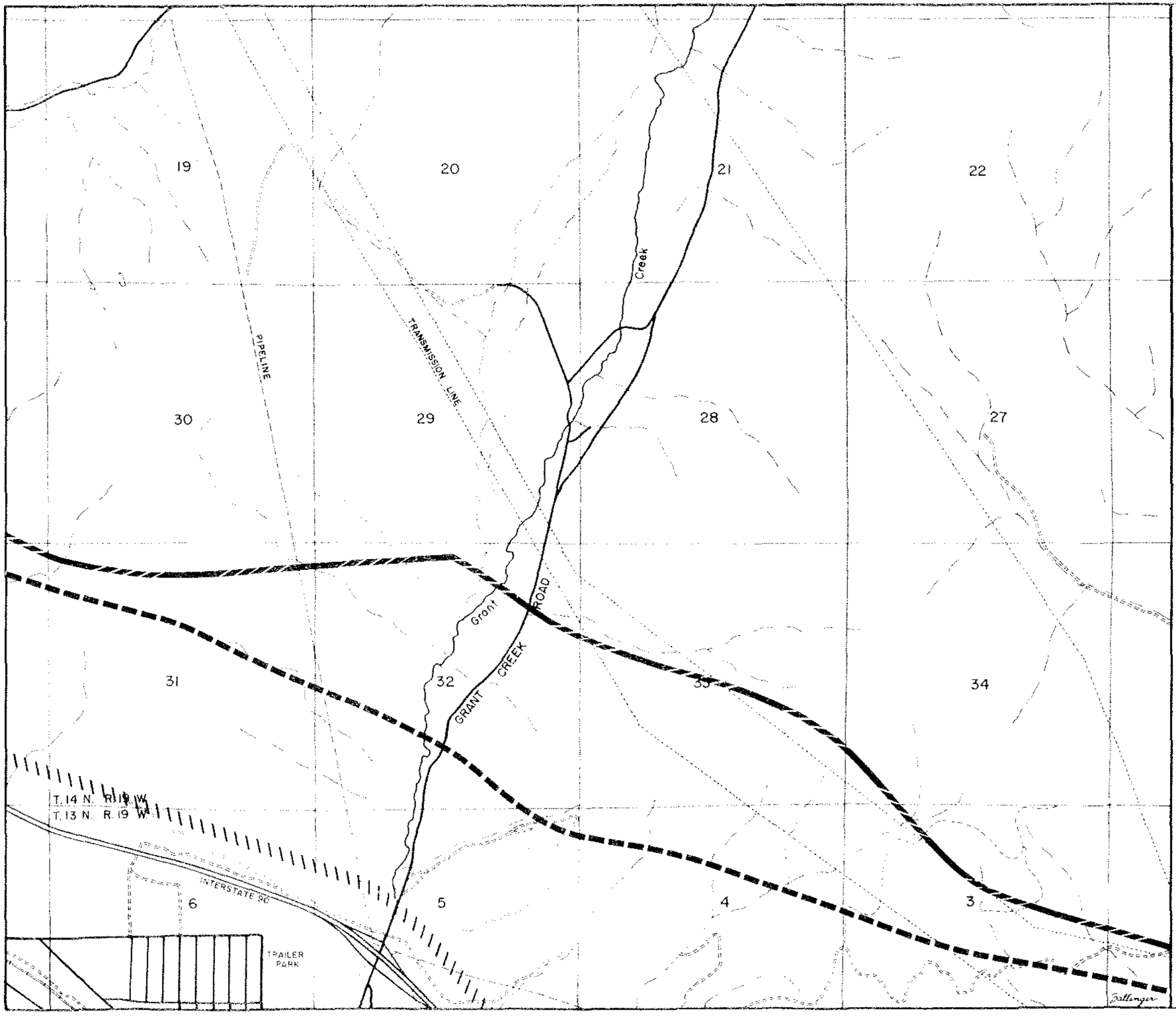
SOURCE: Soil Conservation Service USDA

January 1980

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office



GRANT CREEK AREA PLAN

WILDLIFE

MULE DEER

WHITE TAILED DEER

ELK

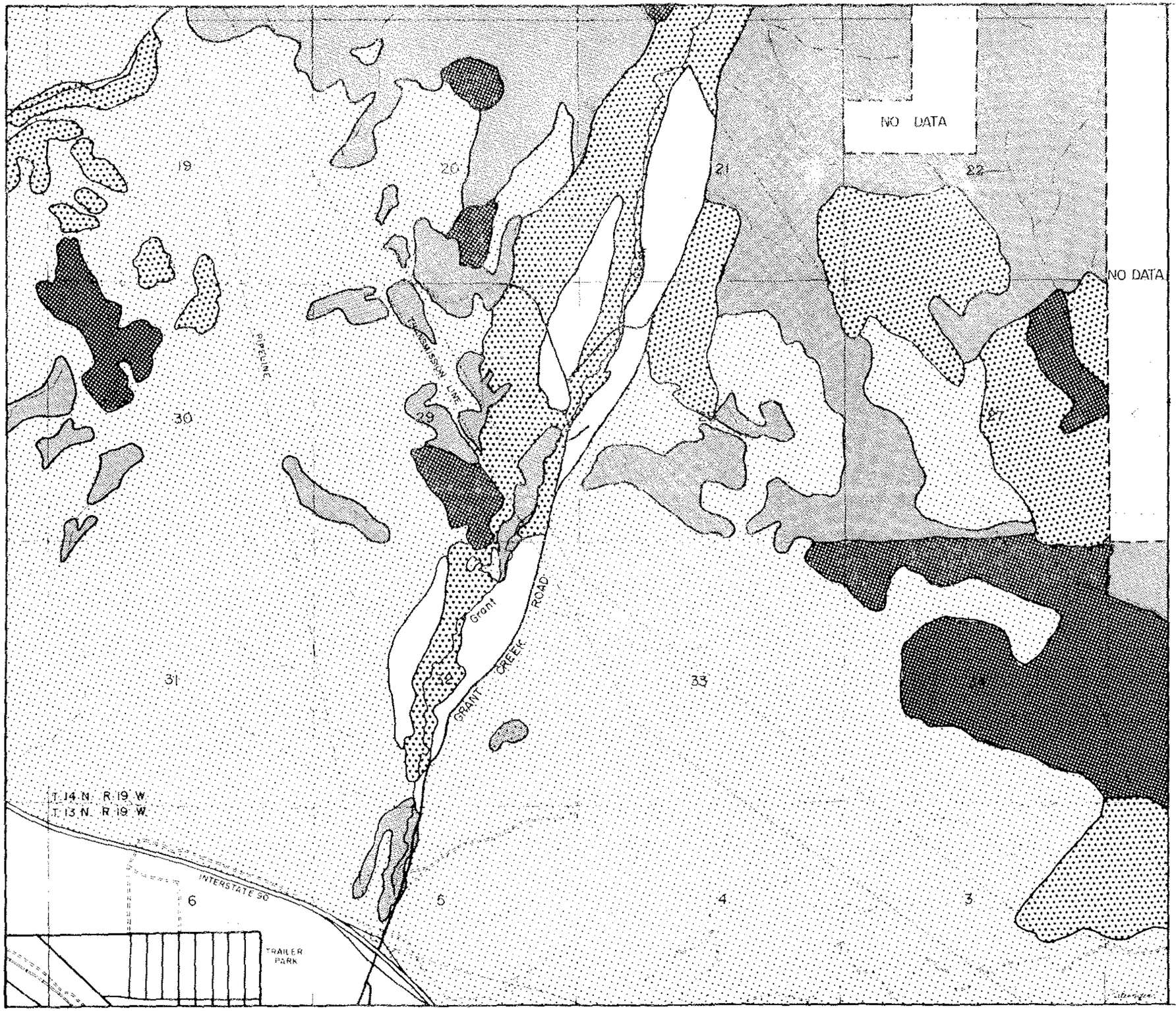
(Note: Areas extend north from the boundary lines)

SOURCE: Montana Dept. of Fish, Wildlife & Parks
January 1980

N

SCALE
0 ¼ ½ 1 MILE

Missoula Planning Office



GRANT CREEK AREA PLAN

VEGETATION
FIRE HAZARDS

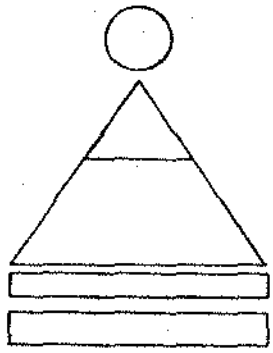
- HAZARD CLASS 0
- HAZARD CLASS 1
- HAZARD CLASS 2
- HAZARD CLASS 3
- HAZARD CLASS 4

SOURCE: Northern Forest Fire Lab, U.S.F.S.
January 1980

N

SCALE
0 1/4 1/2 1 MILE

Missoula Planning Office



CULTURAL ENVIRONMENT

Land Use

Grant Creek is on the verge of some major changes in land use patterns. Until the last few years, the study area was comprised of range and timberland, with relatively productive cropland along the valley bottom. The Grant Creek ranch buildings and a few houses are at the center of this ranch. Toward the southwest a gravel pit and the Wheeler homestead stand adjacent to the interstate.

Development pressures are scheduled to alter this landscape. Grantland I through II and the Grantland-Rankin subdivisions have already been platted with large 1 to 5 acre parcels, most of which are developed. The Prospect and Grantland developments, currently under way will add more than 2,000 homes to the valley. The size of this addition to the Missoula Urban Area is potentially greater than the population of the Rattlesnake Valley.

From the standpoint of existing land use, there are a number of community values that need to be protected as the development of Grant Creek proceeds.

First, aesthetic values stand to lose ground if new construction and subdivision activity is not done carefully. The necessary clearing and laying out of transportation and utility routes require design considerations so that existing views are maintained, a sense of separation or privacy is assured, and new vegetation is placed so as to reduce noise and visual disturbance in this primarily residential community. Some of these concepts have already been incorporated into the Grantland and Prospect PUD designs.

Second, the agricultural land in the Grant Creek Valley has relatively good productivity. The availability of irrigation water makes it particularly well-suited to cropland. There are some areas of dryland and irrigated agricultural capability that are among the highest agricultural classifications in Missoula County. A limiting factor on agricultural productivity is the area's short growing season. Unfortunately, Grantland-Rankin subdivision and Prospect PUD are being developed on these soils.

A third value is in the historical setting of Grant Creek. Steps are underway to assure the preservation of the Jeanette Rankin homestead. In addition, archeological study has shown that Indian burial grounds may exist within the study area.

GRANT CREEK

Population

Grant Creek is within the boundaries of Census Tracts 1 and 2. These Census Tract boundaries extend beyond the Grant Creek Area west and north of Missoula. Therefore, we can only generalize about population trends for Grant Creek.

According to the 201 Sewer Facility Study projections, the population is expected to increase 100% by the year 2000. In the past year the Planning Office has reviewed two major developments in this area. The developers plan 2,250 units including both low and high density developments.

201 Service Area
Projected Population Distribution

1970	1978	1980	1985	1990	1990	2000
Census Tract 1						
353/	5202	5610	6280	6892	7664	8480
Census Tract 2						
4175	5463	5778	6430	7006	7814	8610

EMERGENCY SERVICES

Ambulance and Medical Supplies Services

For the Grant Creek area, Fred Nelson, of Arrow Ambulance, has stated there are 5 ambulances, staffed with a driver as well as an Emergency Medical Technician (EMT). Their service has 2 units available 24 hours a day, 7 days a week. Their ambulances are fully equipped to handle all emergency care.

With the new Reserve Street Bridge in operation, they state they can respond to any emergency in that area within 10 to 12 minutes; although bad roads could delay their response time.

Missoula Rural Fire District

The Missoula Rural Fire District states that response time from the airport station, depending on traffic and road conditions, could vary from 5 to 8 minutes to the Marbut Ranch buildings area. First response from the airport would be by 2 or more paid firefighters, plus 5 or 6 volunteers from the area. Immediate back-up would come from Station #1. South Avenue and Reserve Street, with 1 or more Class A Pumpers and 1 - 4,600 gallon tank, pumper with from 1 to 3 paid firefighters and up to 30 volunteers. Another immediate back-up is provided by Station #3 located in the Rattlesnake, which is manned by paid employees, from 8:00 a.m. to 5:00 p.m., 5 days a week. Volunteers provide services otherwise. Vehicular response from the Rattlesnake would be 1 Class A Pumper and 1 tanker pumper.

All responding stations would have a Class A Pumper carrying 750 gallons in their booter tanks and the capacity of pumping 1,250 gallons per minute. The airport and Station #1 would respond with large tankers with from 4,300 to 4,600 gallon capacity. These tankers are also capable of pumping and fighting fire on their own.

In regard to the probable time it would take the Rural Fire District to build a fire station on the acre provided by the developers of Grantland, this could vary from 1 to 10 years, depending partly on how fast the area develops. Their policy has been to watch the taxable income from an area to see whether it can support a building and or paid crews.

HOSPITALS

St. Patrick Hospital

Sister Simonne Begin stated in a February 12, 1979, letter, included in the Grantland submittal, that St. Patrick's Hospital can provide emergency services to the Grant Creek Development.

They operate a 24 hour physician staffed emergency room and have physicians on call in every specialty. Some of their major services are: Open Heart Surgery; Pediactrics Department; CAT Scanner; Radiology Department; Radiation Oncology Department (cobalt therapy); and Renal Dialysis, with many ancillary services.

Missoula Community Hospital

Grant Winn stated in a February 7, 1979, letter, included in the Grantland PUD submittal, that Missoula Community Hospital is a short-term general acute hospital with an emergency room providing services 24 hours a day. They will be able to provide emergency medical services for the Grant Creek Development.

POLICE PROTECTION

The Grantland PUD submittal states that police services are available through the Missoula County Sheriff's Department At this time, no personnel from that department are assigned specifically to the Grant Creek area. However, the area is patrolled on an irregular basis. Patrolling increases substantially during ski season due to the increase in traffic traveling to and from Snow Bowl.

It should be noted that investigation of traffic accidents on major County roads in Missoula County is done by personnel from the Montana Highway Parol and not by the Sheriff's Department.

The developer of Grantland PUD has assessed the probable impact of the proposed development. The area is currently rural and agricultural in nature and crime rates are very low. For this reason, the developer states the Sheriff's Deparmtent should be able to provide police protection for the first 3 or 4 phases of the proposed development without adding personnel or equipment. They project full development of the Grantland project may result in the need for additional personnel and equipment to enable the Sheriff's Department to provide required services.

The developers of Prospect PUD, located approximately 1/4 mile north of Interstate 90 and west of Grant Creek Road, submitted the following information in their PUD zoning submission:

Law Enforcement Services

Law enforcement services including criminal investigation, crime prevention and control, traffic control, accident investigation and civil complaint response are provided by a uniform patrol division, detective division and a traffic accident investigation unit. It is anticipated that the City will be able to provide the same level of law enforcement services to this ara through Fiscal Year 1980, by minor adjustment in scheduling of officers and revising patrol zones. However, based on the anticipated growth and the mixed nature of the development, the City will have to increase the manpower levels during Fiscal Year 1981 and beyond.

Fire Prevention and Central Services

Fire services, including suppression, fire prevention and investigation and emergency medical aid are provided through the manning of 3 pumpers, 1 scope truck, rescue boat, protable water

pumper and 9 firefighters; Mount Street Station houses 2pumpers and 3 firefighters; 39th Street Station houses 1 pumper, 1 aerial ladder truck and 2 firefighters; all stations are augmented by 7 night sleepers. Immediate response to this area will be out of the Headquarters Station with 3 pumpers, 1,500 gallons of water, 7 to 12 firefighters, and back-up provided by 2 - 3,000 gallon water tankers and up to 40 more professionally trained firefighters.

The 3 first-respone pumpers each carry 1,600 feet of 3 inch hose which would make continuous water available from hydrants or ditches. Emergency medical aid will also be provided from the Headquarters Station. A continuous supply of water, through a system of water mains and fire hydrants, located at the direction of the Fire Department, must be provided before this area will have the same level of fire protection enjoyed by the majority of City residents. It is our understanding that the property owners in the area will initiate action to achieve an adequate water system. Based on the present commercial development of the area, it is anticipated that within the next 5 to 10 years, the City will have to provide an additional fire station, firefighters, and equipment to adequately protect this and other areas of the northwest portion of the City. It is also anticipated that the existing firefighting force will have to be increased in Fiscal Year 1981, to provide adequate coverage during the development stages of this development.

GRANT CREEK

Schools

Grant Creek is within the boundaries of School District #4 and 20. Essentially, most of the area is within School District #4. Hellgate Elementary has grades Kindergarten through 8, with 804 students. 95% of Hellgate students are transported by bus. Recent expansion at Hellgate Elementary will provide 12 new classrooms. These additional classrooms should be ready by the Fall of 1980 and will bring school capacity up to 1,000 students.

The developers of Grantland are willing to donate a 10 acre school site to Hellgate Elementary School within their development. The decision on the new school will be up to the voters.

The probable impact of these planned developments was estimated by a developer:

Elementary 2,200 homes @ .51 students per house = 1,122 students

High School 2,200 homes @ .19 students per house = 418 students

The Grantland developer has computed the expected number of students in the following manner:

"Assuming that the proposed developments are actually platted over a 10 year period with each phase having an equal number of lots and with the first phase being filed in the fall of 1979 and assuming that the buildout period for each phase will be 4 years, the following table indicates estimated additions of children to the school system each year from 1980 through 1992.

PROJECTED ADDITIONS TO SCHOOL DISTRICTS

1980 - 1992

Phases (220 Lots Each)

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10	Total
1980											
Elem	28.05										
Hi-Sch	10.45										38
1981											
Elem	28.05	28.05									
Hi-Sch	10.45	10.45									77
1982											
Elem	28.05	28.05	28.05								
Hi-Sch	10.45	10.45	10.45								115
1983											
Elem	28.05	28.05	28.05	28.05							
Hi-Sch	10.45	10.45	10.45	10.45							154
1984											
Elem		28.05	28.05	28.05	28.05						
Hi-Sch		10.45	10.45	10.45	10.45						154
1985											
Elem			28.05	28.05	28.05	28.45					
Hi-Sch			10.45	10.45	10.45	10.45					154
1986											
Elem				28.05	28.05	28.05	28.05				
Hi-Sch				10.45	10.45	10.45	10.45				154
1987											
Elem					28.05	28.05	28.05	28.05			
Hi-Sch					10.45	10.45	10.45	10.45			154
1988											
Elem						28.05	28.05	28.05	28.05		
Hi-Sch						10.45	10.45	10.45	10.45		154
1989											
Elem							28.04	28.05	28.05	28.05	
Hi-Sch							10.45	10.45	10.45	10.45	154
1990											
Elem								28.05	28.05	28.05	
Hi-Sch								10.45	10.45	10.45	115
1991											
Elem									28.05	28.05	
Hi-Sch									10.45	10.45	77
1992											
Elem										28.05	
Hi-Sch										10.45	38

GRANT CREEK

Transportation

Transportation facilities serve two primary purposes - the movement of people and goods. The primary transportation mode in Missoula is the automobile and in the Grant Creek area, streets are the only facilities available at this time.

Streets: Streets in the area are classified in two ways - by function and by administration. Functional classification relates to how streets are used or will be used, while administrative classification relates to the authority responsible for the street.

There are four functional classes of streets in the area - interstate, arterials, collectors and locals. These four types constitute the area's street system.

Definitions of these major street classes are:

1. Interstate - This class is devoted entirely to traffic movement with little or no land service function. It is characterized by a high degree of access control. The only street in this class is I-90.

2. Arterials - This class provides through movement between areas and across the City. Its primary function is movement, as opposed to property access. Grant Creek Road and Reserve Street are examples of this classification.

3. Collectors - This class serves internal traffic movements within an area and provides for movement between arterials and local streets. Their function is divided between providing movement as well as property access. Snow Bowl Road and Colorado Gulch Road are examples of collector streets.

4. Locals - The sole function of local streets is access to adjacent land. These streets make up a large percentage of the total street mileage, but carry a small proportation of the vehicle miles of travel.

Grant Creek Road is adequate to handle traffic for the next few years. Development plans for the next 10 years call for 2,500 new homes in the Grant Creek Valley. The Rattlesnake Valley, by comparison, is currently estimated to have 1,800 homes. The lower Rattlesnake has two main access roads, while Grant Creek has only 1 which will have to handle more traffic than currently exists in the Rattlesnake. Future traffic volumes on Grant Creek Road will exceed 17,000 A.D.T. (Average Daily Traffic) if Grant Creek is developed as planned. A portion of Grant Creek Road (north from the I-90 Interchange) will require reconstruction to safely accommodate this increase in traffic. As Grant Creek develops, lower Grant Creek Road at the I-90 Interchange will also become a bottleneck. A Federal highway project will be required to correct this situation.

Some preliminary steps have been taken toward future upgrading of Grant Creek Road. These steps occurred during the PUD (Planned Unit Development) zoning process, and the preliminary plat phases of the Grantland and Prospect subdivision process.

The PUD zoning for Grantland included the following as a condition of the zoning:

"Within one year of PUD approval, the developer shall enter into discussions with the County Commissioners and County Surveyor to develop a schedule and plan for participating with the County to improve the new Grant Creek Road. These discussions shall also [illegible] conditions under which the developer will incur costs for the improvement of old grant Creek Road."

The Surveyor's Staff and Planning Staff recommended a traffic plan be developed for Grant Creek Road to address the

improvements necessary to handle the added traffic generated by this development. The existing road will not safely take the projected additional traffic without widening and probably realignment. Each subdivision, including this one, should provide some of the required Grant Creek Road improvements with the initial emphasis on reserving the necessary future right-of-way.

As mentioned above, it is important that the impacts of Grantland development on traffic and circulation be examined early in the development stage. This will help avoid problems that have occurred in the South Hills, where the incremental approach toward streets and roads was employed as each subdivision was submitted for review. A unique opportunity exists in the Grant Creek area, where two developers effectively own most of the valley and are in a position to develop a circulation system for Grant Creek. The Staff encourages both developers to pool their resources to generate a traffic flow study which will cover the area from the I-90 Interchange to the northern limits of Grantland. Such a study would provide a good basis for discussion of the developers' and the City's and County's responsibilities in addressing traffic impacts on Grant Creek Road and the larger Missoula community.

The costs incurred by the developer for the study should be credited toward their share of improvements for Grant Creek Road, which will be determined during discussions with the County Commissioners and Surveyor.

The Staff also recommended that the study be completed within a year from the date of PUD zoning approval (September 19, 1979), so the study can be used in the discussions. The study should be submitted to the County Surveyor's Office for review and comment.

The Planning Staff recommended that the following be included in the scope of the traffic study. These requirements were developed by the Planning Staff, County Surveyor and the Missoula Transportation Technical Advisory Committee (TAC):

1. The limits of the study be from Grant Creek and the I-90 Interchange to the boundaries of the Grantland ownership.

2. The study addresses eventual right-of-way requirements and alignment of Grant Creek Road needed to serve the "built out" development.

3. Address the estimated number of vehicles from this and future subdivisions and the impacts on the air quality in Grantland.

4. The location of approaches along Grant Creek Road.

5. The location and type of traffic control devices needed to serve the development when "built out".

6. The location and design standards for pedestrian and bicycle systems.

7. The location of and design standards for circulation and channelization patterns.

8. Need for street lighting for traffic safety.

9. The location of and design standards for alternate accesses to Grant Creek, i.e. Butler Creek and Coal Mine Road.

10. Provisions for emergency vehicles, particularly fire trucks.

11. Provisions for the recreational traffic use of Grant Creek Road for Snow Bowl Ski area.

12. Provisions for storm drainage adjacent to the road.

13. A schedule and cost estimates for staging the improvements which are indicated by the traffic study.

Mass Transit

The Mountain Line does not presently serve the Grant Creek area. A provision for bus service in the future, when sufficient demand is present, is contained in the PUD zoning approval for Grantland. Condition number 4 states that "Beginning with the third subdivision, and with each submittal thereafter, the issue of participation in the Missoula Transit District shall be assessed by the Missoula Planning Board".

The developers of Prospect PUD have also stated their intention to request bus service for their development when the project's population is sufficient.

The Missoula Urban Transit District would not be able to provide service to the area for at least a few years, due to lead times necessary to obtain capital equipment (i.e. buses). The Transit Board has the authority to accept or reject petitions for annexation into the district, and would have to examine criteria such as: the number of riders; the cost to the district to provide service; and, the increase in the tax base the district area would provide. A step which could be taken to facilitate bus service as the area develops is provision of sufficient, right-of-way for bus turn-outs near areas of development.

Pedestrian and Bicycle Facilities

No provisions have been made for pedestrian and bicycle usage on the major roads in Grant Creek. Developers of Grantland are proposing a pedestrian trail system, separate from the roads, for pedestrian use. The Planning Staff has recommended an additional 4 feet of paving on collector streets to allow for pedestrian and bicycle use, but this recommendation has not been adopted to date.

TRAFFIC COUNTS IN GRANT CREEK AREA

STREET	LEG	YEAR 1975	1978	1979	1980	1985	2000
Lower Grant Creek Road	.5 mi. North of I-90	585	868	873			18,000*
	150' North of Snow Bowl Road 500' South	173	340				
	400' North of I-90	585		873			
	200' South of Snow Bowl Road	440					
	500' South of Reserve Street	595					

*Estimated trip operation when Grant Creek is built out.

GRANT CREEK AREA PLAN

EXISTING LAND USE

- RESIDENTIAL - LOW DENSITY
  ONE UNIT PER 20 ACRES OR MORE
- RESIDENTIAL - MEDIUM DENSITY
  ONE UNIT PER 5 TO 20 ACRES
- RESIDENTIAL - HIGH DENSITY
  ONE UNIT PER LESS THAN 5 ACRES

- CROPLAND
- RANCH BUILDINGS
- STOCKYARDS
- GRAZING / OPEN
- FOREST
- MINERAL EXTRACTION
- WILDLIFE RESERVE

SOURCE: Aerial Photography
Field Reconnaisance
January 1980

N

SCALE
0 ¼ ½ 1 MILE

Missoula Planning Office

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 1 2 3 4 5 6

PIPELINE

TRANSMISSION LINE

Grant Creek

GRANT CREEK ROAD

INTERSTATE 90

TRAILER PARK

T. 14 N. R. 19 W.
T. 13 N. R. 19 W.

GRANT CREEK AREA PLAN

ZONING

- C-RR1
- C-RR2
- C-A1
- C-A3
- UZ
- GRANTLAND P.U.D.
- PROSPECT P.U.D.
- PROPERTY ANNEXED TO THE CITY AND PRESENTLY UNDER CONSIDERATION FOR ZONING

CITY LIMITS

SOURCE: Missoula Planning Office
January 1980

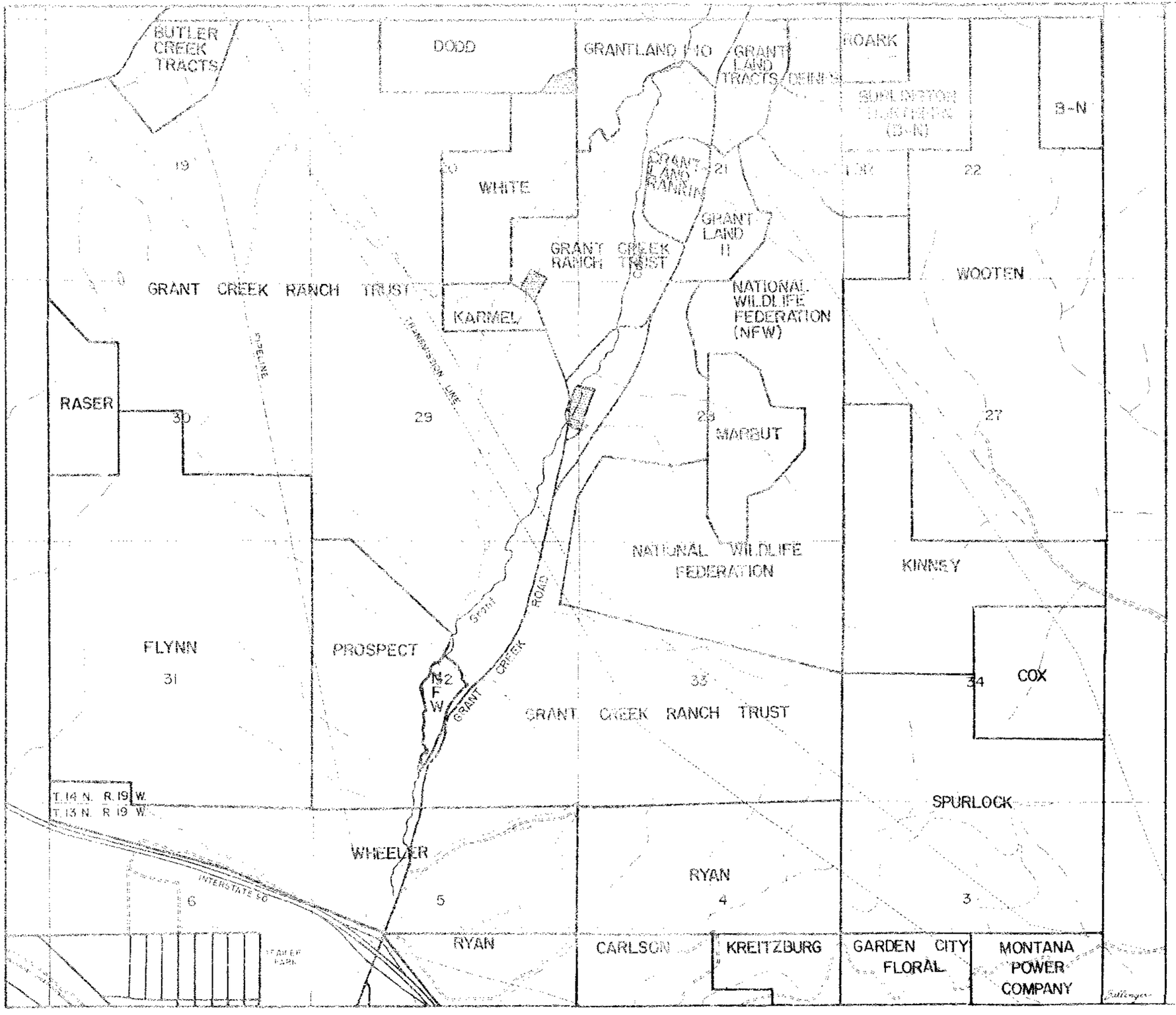
N

SCALE
0 1/4 1/2 1 MILE

Missoula Planning Office

19 20 21 22
30 29 28 27
31 32 33 34
6 5 4 3
T. 14 N. R. 19 W.
T. 13 N. R. 19 W.
PIPELINE
TRANSMISSION LINE
CREEK
GRANT CREEK ROAD
INTERSTATE 90
TRAILER PARK

GRANT CREEK AREA PLAN
PRESENT LAND OWNERSHIP



SMALL PRIVATE OWNERSHIPS

SOURCE: Missoula County Assessor's Office

January 1980

N

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office

GRANT CREEK AREA PLAN

SCHOOL AND FIRE DISTRICTS

MISSOULA CITY FIRE DEPARTMENT

STATE OF MONTANA

MISSOULA R.F.D.

UNPROTECTED

SCHOOL DISTRICT BOUNDARIES

SOURCES: Missoula Rural Fire District
Missoula County Schools

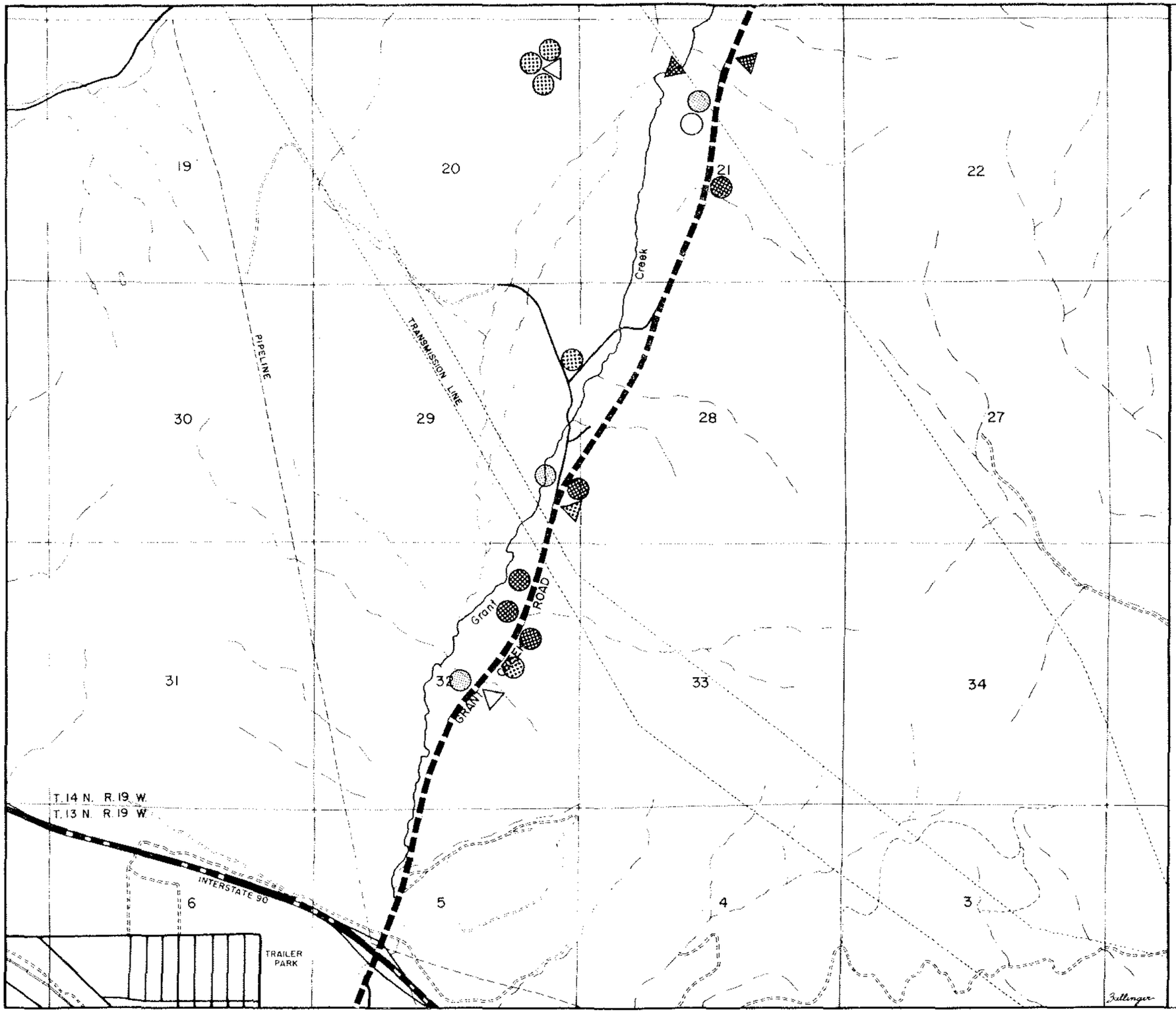
January 1980

N

SCALE

0 ¼ ½ 1 MILE

Missoula Planning Office



GRANT CREEK AREA PLAN

FUNCTIONAL CLASSIFICATION OF STREETS & ACCIDENT LOCATIONS

INTERSTATE

PROPOSED ARTERIAL

TYPE OF ACCIDENT

○ SINGLE VEHICLE

△ VEHICLE - VEHICLE

1972

1973

1974

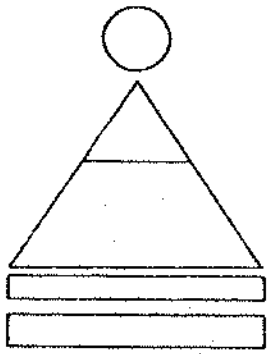
1975

SOURCE: Missoula County Road Dept. Accident Records, 1972-1975
January 1980

N

SCALE
0 ¼ ½ 1 MILE

Missoula Planning Office



LAND USE

GRANT CREEK

ALTERNATE PLANS

Three alternate approaches to development of the Grant Creek Valley were considered. They are: 1) revising the existing plan and using the same land use categories contained in the 1975 plan; 2) developing the neighborhood ined developofandthe ment1)useinand district concepts first used in the Wye/O'Keefe Creek Area Plan - 1978; and, 3) while using the neighborhood and district concepts, developing a plan for a much higher level of development than currently proposed by developments within the valley.

The revision of the existing plan to reflect proposed development was rejected. The approach used in the 1975 plan was appropriate at the time for the development concepts endorsed by the community in general. Now with energy considerations playing an important role in land use decisions and with a growth in planning awareness by the community, there is a need for a new concept which will address the community's concerns.

The neighborhood and district concepts developed in the Wye/O'Keefe Creek Area Plan appear to provide a good base to address these new perceptions. This is the alternative that was developed as the preferred approach to development of the Grant Creek Valley.

Additional development substantially beyond what is currently proposed by the developers of Grantland Associates and Prospect was also rejected.

A substantial increase of development within the Grant Creek area would create additional problems for air quality, transportation facilities, safe access, fire protection, and quality of life. A main concern of many of the esidents is maintaining as much as possible, the rural character of the area. Substantial increases in development levels would destroy this rural character. There is no need demonstrated by population projections for substantial development of the Grant Creek Valley.

THE PLAN

Much of the plan reflects the developments already approved or seeking approval. The purpose of the plan in these areas is to provide the community patterns expressed in the neighborhood and district concepts. These concepts look to provide a pattern for development with strong considerations for social interaction, energy conservation, sense of community, economic efficiency, and effective use of public facilities and services.

Within the Grant Creek area, there are two complete districts proposed. For the sake of discussion, they have been titled Grantland for the upper district, and Prospect for the lower area. These districts would each contain about 1,000 to 2,000 dwellings with a population of 2,500 to 6,000. Each district would have an elementary school, a public park system, and a commercial service center. The districts would attempt to become self-sufficient for many public and commercial services and facilities, with a large enough population to support these services. Each district would have an internal circulation system for vehicles, bicycles, and pedestrians which would promote energy conservation, better air quality, and be so designed to minimize pedestrian/vehicle conflicts.

Grantland District

The land use designations and the transportation system reflect the approved Grantland Associates Planned Unit Development. Additional considerations involved in the plan include: development of an internal pedestrian system; a internal system which bounds rather than divides neighborhoods; and standards for neighborhood development. The areas not covered under the Grantland PUD have been designed in a manner to reflect the

neighborhood and ditrict concepts and the existing development.

The Grantland District is projected to contain neighborhoods. Each neighborhood should meet the standards developed for neighborhood units in the Wye/O'Keefe Area Plan. The neighborhoods would include 120 to 200 dwelling units for a total of about ____ units for the district.

The Grantland school site would have an elementary school age population of 500 to 1,000. The school site has been reserved through the Grantland PUD approval. The school building would probably not be built until the district residential area was nearly finished.

Prospect PUD

Again, the plan reflects much of the development planned in the Prospect and Grantland Subdivisions. The areas not covered in these subdivisions are designated for residential, public, and commercial land uses. A school site of five to ten acres is designated to provide for the future elementary school. With about 1,000 dwelling units, an elementary school age population of 300 to 700 is expected. A school site is necessary to provide service to this district which is one to two miles from the Grantland school site and two to threemiles from the present Hellgate school. It is anticipated that a school would not be built until most of the Prospect district is built.

An important element of the district concept is to provide work place opportunities within each district. An interstate highway interchange oriented commercial area is designated at the entrance to Interstate 90. In addition to the highway, oriented commecial employment opportunities, the plan designates asn ara for light industrial activities between the residential area and Interstate 90. The industrial designation should ahave additional design standards to buffer the residential area. The present earthern berm between the industrial area and I-90 should be retained to provide an acoustical barrier for the industrial area and the residential area further north. The industrial area would be located within the area where gravel is now being extracted. This area would be ten to fifteen feet lower than the residential area on the bench. The difference in elevation would provide additional buffering between the industrial and residential uses.

A neighborhood commercial service area is designated north of the highway oriented commercial area to provide convenient commercial services to the residential development of the Prospect district. This location for neighborhood commercial would also provide a transition between the more intense highway commercial and the residential area.

The Grant Creek floodplain should be left in its natural state and not filled further. The floodplain would become part of a linear park system running from the I-90 Interchange north to Snow Bowl Road. This linear park would connect with the major public open space in Prospect and Grantland districts and should have a pedestrian trail system to encourage usage of the system.

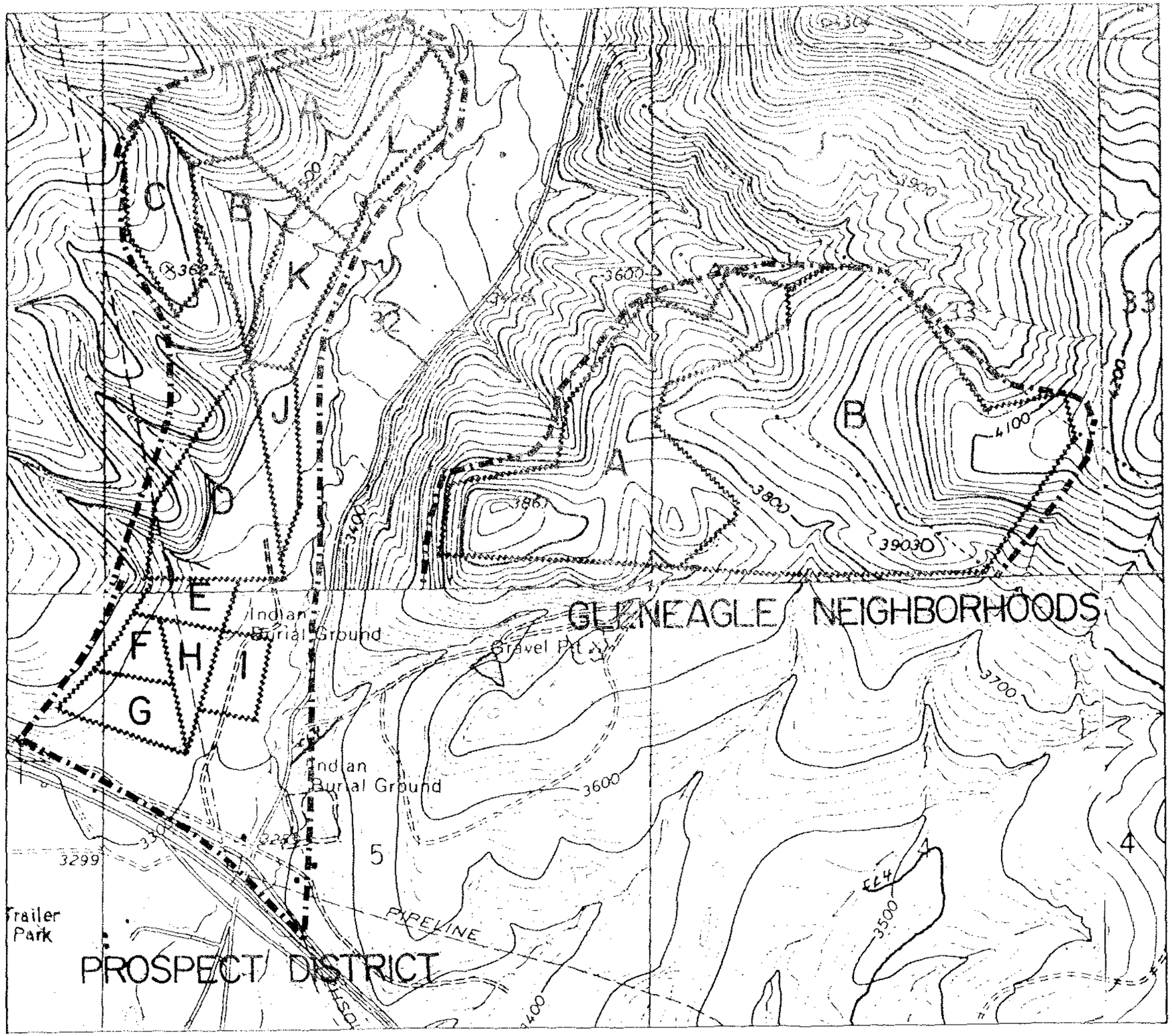
Gleneagle Neighborhoods

The Gleneagle Subdivision forms two neighborhoods divided by Gleneagle Way. Because of their isolation in the foothills east of Grant Creek, the Gleneagle Neighborhoods would not relate well with the Grant Creek districts of Prospect and Grantland. Within the scope of this plan it is proposed that these neighborhoods not be tied to any Grant Creek district. The community may want to reevaluate the plan for the south facing foothills between Grant Creek and Rattlesnake Creek. The present plan proposes no development of this north hills area. If development is deemed appropriate for the north hills, the Gleneagle neighborhoods would become part of a North Hills district

Rural Transition Area

The large lot development north of Snow Bowl Road would be designated a rural transition area. This designation is not a change from the present land use plan. The change would be in standards that are a part of the rural transition area. These standards are found in the Wye/O'Keefe Creek Area Plan - 1978, and deal primarily with setback standards that preserve future development opportunities for an area in transition from rural to urban uses.

GRANT CREEK LAND USE PLAN



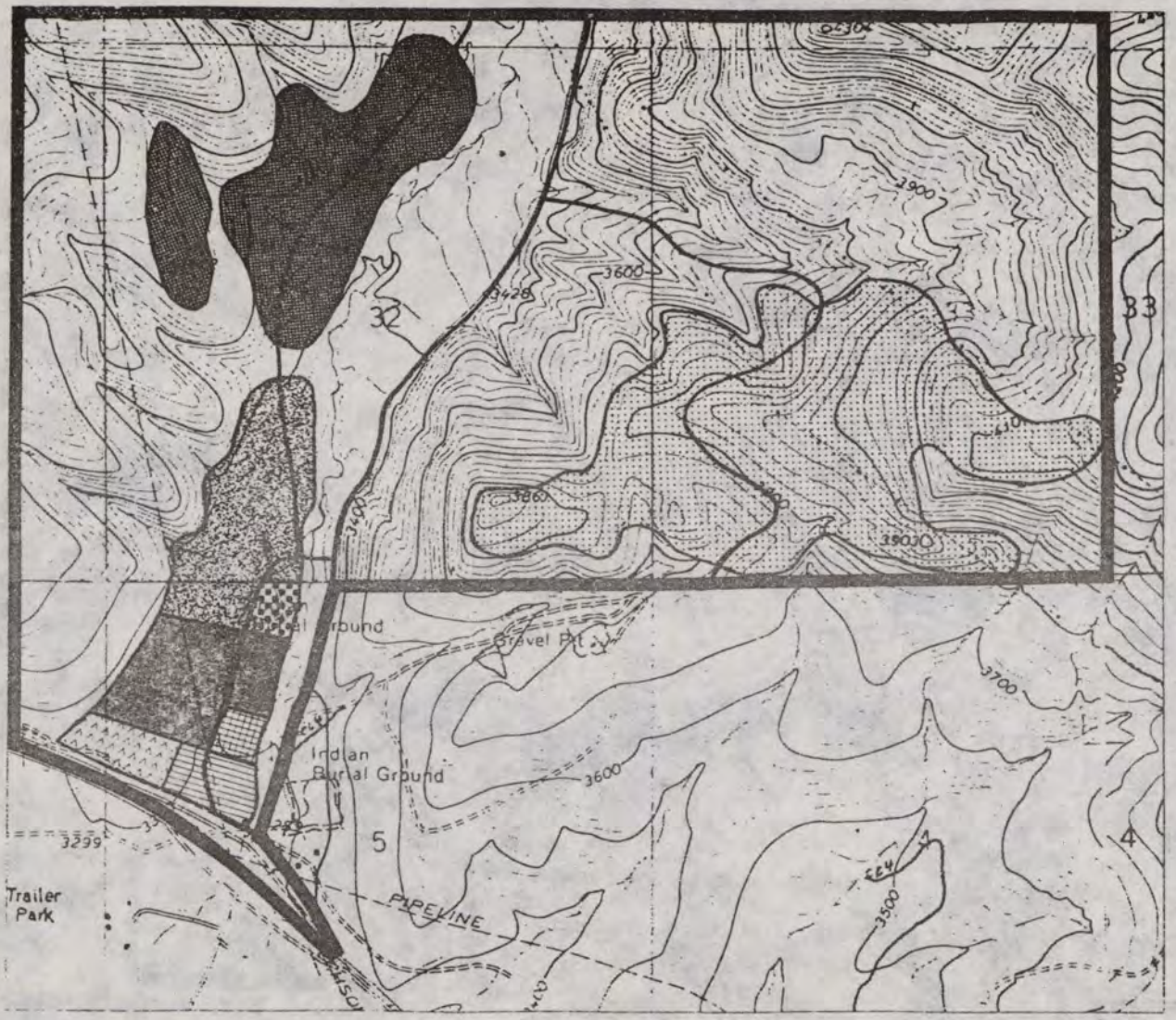
DISTRICT BOUNDARY

NEIGHBORHOOD BOUNDARY

G NEIGHBORHOOD IDENTIFIER

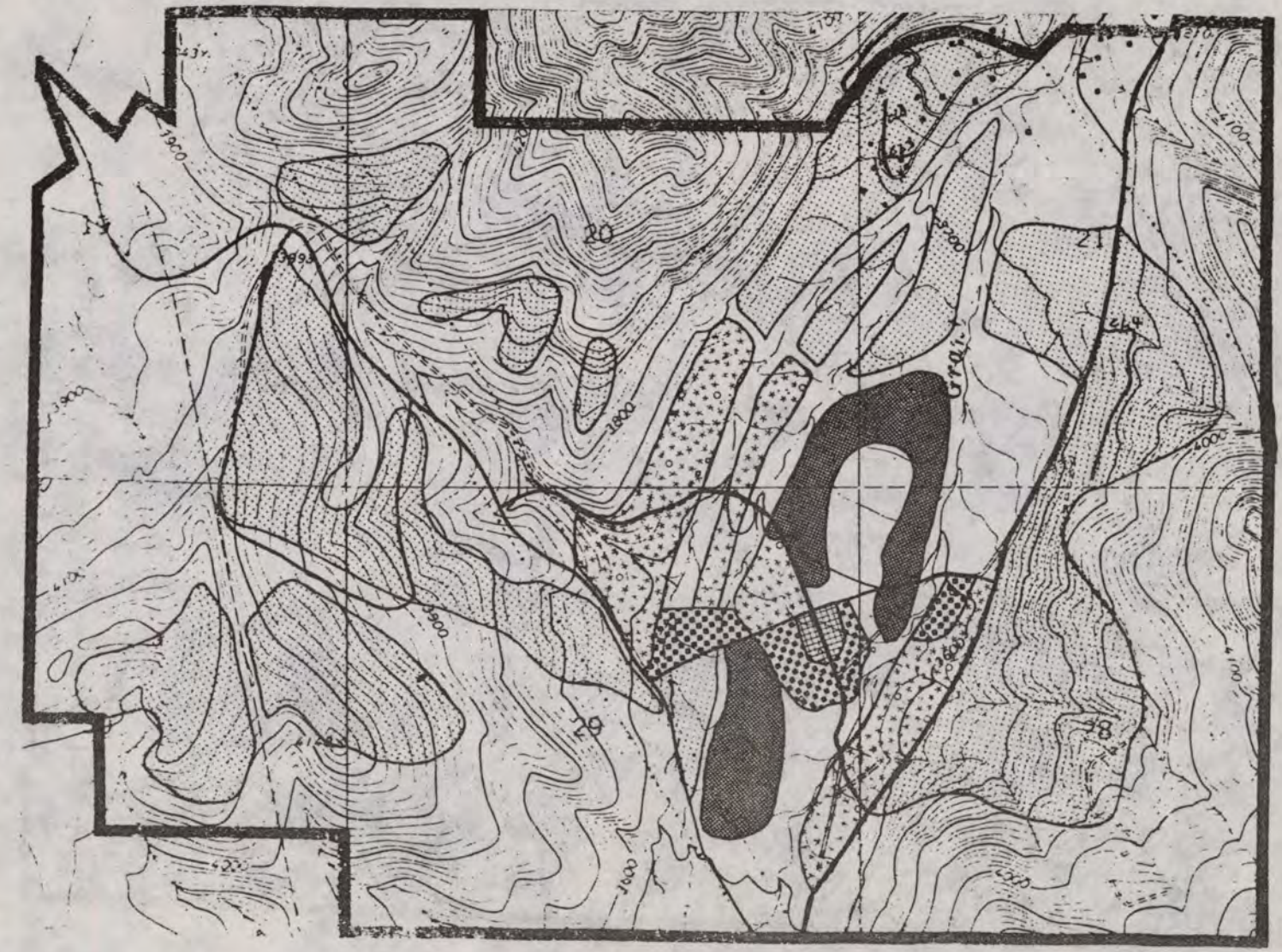
January 1980
Missoula Planning Office

GRANT CREEK LAND USE PLAN



- RURAL SINGLE FAMILY
  1 UNIT PER 5 ACRES
- LOW DENSITY SINGLE FAMILY
  2 UNITS PER ACRE
- MED. DENSITY SINGLE FAMILY
  4 UNITS PER ACRE
- HIGH DENSITY SINGLE FAMILY
  6 UNITS PER ACRE
- HIGH DENSITY SINGLE FAMILY
  10 UNITS PER ACRE
- MED. DENSITY MULTI-FAMILY
  16 UNITS PER ACRE
- NEIGHBORHOOD COMMERCIAL
- GENERAL COMMERCIAL
- LIGHT INDUSTRIAL
- PUBLIC
- QUASI-PUBLIC
- OPEN AND RESOURCE

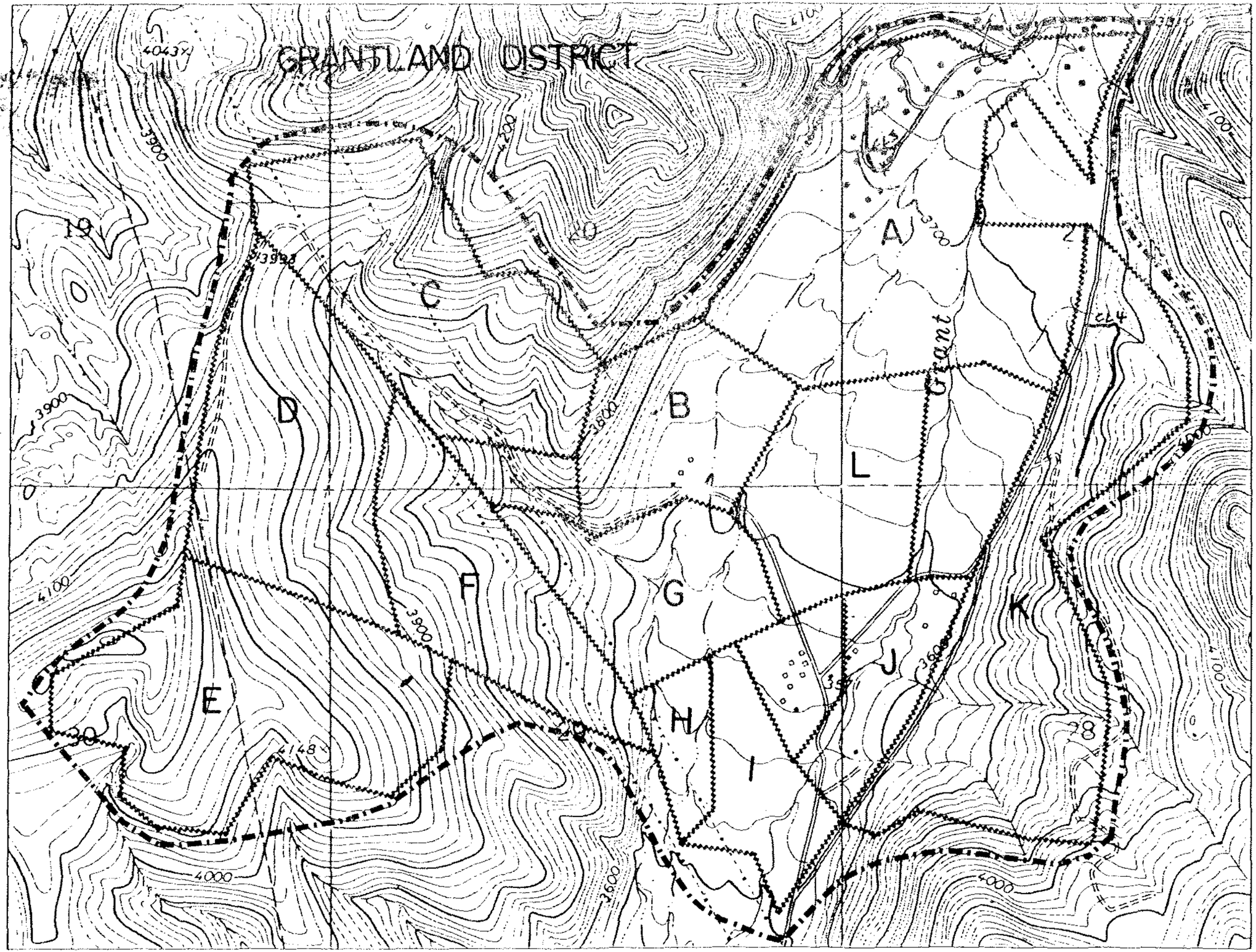
January 1980
Missoula Planning Office



GRANT CREEK LAND USE PLAN

REFER TO LEGEND ON OTHER MAP

GRANT CREEK LAND USE PLAN



REFER TO LEGEND ON OTHER MAP