$20.00

WYE MULLAN WEST

COMPREHENSIVE AREA PLAN

Adopted November 16, 2005
by the Board of County Commissioners and
Missoula City Council

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PREFACE

PURPOSE OF A COMPREHENSIVE PLAN

Montana law has authorized County land use planning since 1975. In 1999, the State legislature shifted the emphasis of land use planning from the preparation of comprehensive plans to the creation of jurisdiction-wide growth policies. The law requires that each county adopt a Growth Policy as a basis for future land use decisions. The Growth Policy also encourages adoption of detailed plans for neighborhoods, regions, areas and specific issues. In practice, the most common use of the Growth Policy and its associated area or specific plans is as a guide for agency review of subdivisions, though no proposed subdivision can be denied based solely on compliance with the Growth Policy or area plans.

A Growth Policy "provides a framework for articulating existing goals and policies and establishes the legal and philosophical foundation upon which future plans and regulations will be based."[1] In accordance, the Missoula County Office of Planning and Grants drafted a *Growth Policy for Missoula County* which was adopted in July of 2002.

Montana Code Annotated Section 76-1-605 describes the purpose and uses of a Growth Policy and its amended regional land use plans. The Board of County Commissioners shall "be guided by and give consideration to the general policy and pattern of development set out in the growth policy in the:

1. authorization, construction, alteration, or abandonment of public ways, public places, public structures, or public utilities;
2. authorization, acceptance, or construction of water mains, sewers, connections, facilities, or utilities;
3. adoption of subdivision controls; and
4. adoption of zoning ordinances or resolutions."

The *Wye Mullan West Comprehensive Area Plan* is a comprehensive area plan, in compliance with the broader *1998 Missoula Urban Comprehensive Plan* and the *2002 Missoula County Growth Policy*. Consulting the land use map and text of this plan provides educated guidance for how development should occur in the *Wye Mullan West Comprehensive Area Plan* over the next 20 years.

[1] *Missoula County Growth Policy*. Missoula County (August 2002).

ACKNOWLEDGEMENTS

THIS PLANNING DOCUMENT OWES ITS FINAL FORM AND CONTENT TO THE FOLLOWING GROUPS AND INDIVIDUALS…

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CHAPTER 1
INTRODUCTION

> "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community of life. It is wrong when it tends otherwise."
> – ALDO LEOPOLD, *A SAND COUNTY ALMANAC, 1949.*

PLAN OVERVIEW

PURPOSE

The *Wye Mullan West Comprehensive Area Plan* (*Wye Mullan Plan*) is a non-regulatory document to be used to provide guidance on how growth and development should occur in the Wye Mullan Plan area (plan area) and to inform government decisions with respect to land use issues in the plan area. This Plan amends the *Missoula County Growth Policy* of 2002. Area plans elaborate on the community-wide goals and objectives of the *Growth Policy* by focusing more intently on a particular place within the greater Missoula Community.

REGIONAL CONTEXT

Planning is a social activity; it involves people and the results are affected by who is involved and how they participate in the process. Good planning does more than simply identify solutions to problems. It provides an opportunity for learning and community building. During the Wye Mullan planning process, those involved helped define the essential community character of the area. Plan area residents also described what they most value about the place and hope to retain as development occurs.

Development of the Missoula valley is inevitable and the plan area contains a major portion of the developable land adjacent to the City of Missoula (See Map 1-1). This Plan suggests how best to meet the needs of the greater community with regards to growth and development and how best to implement *Missoula County Growth Policy* goals and objectives within the *Wye Mullan Plan* area without destroying the essential aspects of community character important to the people who already live there.

BOUNDARIES DESCRIPTION

The project area is 13,227 acres, and has four distinct edges: The Reserve Street commercial area, the Clark Fork River natural area, US Highway 93, and Deschamps Lane. The plan area includes the North Reserve Street Corridor, Mullan Road to Deschamps Lane, and the Wye at the intersection of US Highway 93 and Interstate 90 (see Map 1-2). The north boundary extends to the north side of Old Highway 10 West. At the west end of the north boundary, the plan area encompasses the "Wye," the developing area centered on the junction of US Highway 93 North and Interstate 90. At the northeast end of the boundary the plan area encompasses existing residential development between Old Highway 10 West and Interstate 90. The east boundary extends to the east side of Reserve Street and includes the first east block of development along North Reserve Street. The south boundary follows the northern edge of the Clark Fork River. The west boundary runs along Deschamps Lane (See Map 1-2).

COMMUNITY PROFILE

POPULATION AND GROWTH

The population within the plan area increased from 3,839 to 5,483 or 42.8 percent from 1990 to 2000, according to the U.S. Census Bureau's 2000 Census. This population increase amounts to a 3.6 percent compounded annual growth rate for the decade. The current population is estimated at 6,709 based on housing unit increases and persons per household from the 2000 Census. Population within the plan area continues to experience a 3.6 percent compounded annual growth rate based on housing unit increases from 2000 to 2003.

Additional housing unit increases could reach 2,800 to 3,500 by the year 2025. The lower number reflects the current rate of growth for the *Wye Mullan Plan* area at 3.6 percent annually and the higher is suggested by the potential for development identified in the *2004 Missoula Transportation Plan Update* (equating to a 4.1 percent annual increase).

The designated land uses proposed under this Plan will yield approximately 10,500 new dwelling units at build-out in approximately forty-five years. Build-out under designated land uses, existing at the time this Plan was written, would have yielded approximately 9,000 new dwelling units in forty years. Though implementing this Plan will yield a higher overall density in the area, density will be concentrated in more appropriate locations and development will be clustered. This means that more of the plan area will be retained as open space and the pattern of development will be less sprawled with developable lands used more efficiently.

EXISTING LAND USE DESIGNATIONS

Suburban Residential land use is the predominant designation throughout the interior of the plan area. The western end of the plan area is designated Rural Residential, particularly in the Grass Valley area. Urban Residential is primarily designated west of Reserve Street High Density Residential is designated near the Wye. General Commercial land use is concentrated around the Wye as well. Highway Heavy Commercial runs along the Reserve Street corridor and portions of Old Highway 10 West. Light Industrial exists to the west of Reserve Street north of Mullan Road in the vicinity of the airport. The Missoula International Airport is designated Public/Quasi-Public. Land Uses around the airport include Light Industrial, Parks and Open Space, and Rural Residential. Flood plain areas are designated Parks and Open Space (see Map 1-3).

EXISTING ZONING

Most of the plan area is zoned with standard County zoning, special zoning districts, or standard City zoning (see Maps 1-4a and 1-4b). Only a small area near the Wye is not zoned. A majority of the interior plan area is zoned for one dwelling unit per acre (C-RRI), including portions that are within the floodplain. Small areas of zoning for two dwelling units per acre (C-RR2) and four dwelling units per acre (C-RR3) are interspersed throughout the plan area, primarily along Mullan Road, Flynn Lane, and north of Old Highway 10 West (west of Reserve Street). Commercial zoning districts exist primarily in the area around the Wye, along Old Highway 10 West, along Reserve Street, and a small portion west of Reserve Street and south of Mullan Road. Other small areas of Neighborhood Commercial zoning exist along Mullan Road. Rural Residential zoning districts exist in areas west of the clay hills and in some locations closer to Reserve Street and Old Highway 10 West, near the airport. The airport is zoned as Public Lands (C-PI) (see Map 1-4a).

The special zoning districts established within the Stahl ownerships and associated with Katoonah Lodges function as a form of transfer of development rights, where zoning rights that existed in the floodplain were shifted primarily to areas outside of the floodplain on the north and south side of Mullan Road. This transfer of development rights resulted in a C-A1 zoning district (one dwelling unit per forty acres) within the floodplain and where additional development would have been discouraged.

The PUD for El Mar Estates is the oldest special district in the area, while Hellgate Meadows is the newest. El Mar Estates included a specific sub-district for commercial uses along Mullan Road. Hellgate Meadows included provisions for commercial uses through a mixed use zoning district referred to as "Traditional Neighborhood Design" (TND).

Another tool used in this plan area is the Enterprise Commercial (EC) Overlay. This overlay is intended to establish additional development standards for commercial uses with very large building footprints.

A comparison of current zoning and proposed land uses helps to identify where community direction would suggest increases or decreases in commercial intensity or residential density. These "decreases" and "increases" are shown on Map 1-5: *Comparison of Current Zoning and Proposed Land Uses*. Areas where "no change" is recommended between zoning and land use are also shown. Areas where the changes between land use and current zoning can't be compared because there is a recommended shift between commercial or industrial uses and residential uses are described as "different" on Map 1-5. The map highlights an overall goal of shifting development out of resource areas such as floodplains and into areas proximal to community facilities and services.

NEED FOR A PLAN

The need for a plan that encompasses the *Wye Mullan Plan* area is based on a number of reasons including the need to plan for future growth in the area, considering several factors: updating land use designations with an eventual goal of updating zoning to match land use; suitability and capability of the area to develop at certain intensities; land use relationships between the airport and adjacent properties; and extension of infrastructure including sewer into the area.

Planning for compatible land use around the airport is a significant element of this Plan. At the same time that comprehensive community planning occurred for the plan area the airport was engaged in its own internal master planning process. They evaluated airport operations, accessed the need for airport expansion, updated their noise study, considered operational impacts to lands outside the airport, and clarified development constraints within the Airport Influence Area. Further description of the airport planning process, the airport's role within the development process and rationale for land uses adjacent to airport operations can be found in the Transportation section of this Plan.

PLANNING PROCESS

The community process of the *Wye Mullan Plan* began in April 1997 with a public meeting at Hellgate Elementary School. This was the first meeting in a series of three major workshops between 1997 and 1998. There were approximately 80 citizens in attendance.

A Citizens Advisory Committee (CAC) was formed by volunteers attending the April 1997 meeting. The CAC grew over time to include any interested persons. The early workshops helped to shape the primary elements of this Plan: Natural Environment, Economy, Housing, Neighborhoods and Infrastructure. The Office of Planning and Grants (OPG) worked with citizens and agencies to shape Plan vision and coordinate concepts. OPG also formed an Interagency Team (IAT) which met bi-monthly to coordinate agency involvement in the plan area. Agencies represented included, but were not limited to: Public Works, Schools, Airport, Transportation, Parks Department, Fire, Legal council, and Environmental Health.

The planning process was put on hold in 1999 and was re-started in the Fall of 2002. In September 2002 a meeting was coordinated between agencies involved in the plan area, and community meetings began again in October 2002. The first meeting introduced the community to the renewed planning effort and identified new planning issues in the plan area. A second meeting held in November 2002, focused on collecting information from the citizens regarding key planning issues and concerns as well as growth and development opportunities in the area. At this meeting, the community expressed the desire for a facilitated community workshop to look at and work more closely with staff on key elements of the Plan.

A two-day Community Open House and Workshop was held at Hellgate Elementary School on April 11 and 12, 2003. The opening session on the eleventh was dedicated to one-on-one communication between OPG staff, a number of agency representatives and participating citizens. A variety of resource maps relevant to the plan area were available for viewing.

The following day saw a more formalized and facilitated workshop. As a starting point, a draft of principles based on past planning efforts and adopted policies from the *County Growth Policy* and *Urban Area Plan* were presented. Discussion followed and the group worked to revise and expand planning principles for the area. Citizens prioritized the planning principles. (See Appendix 1.2: *Summary of Planning Principles*, for the full list of prioritized principles). During the afternoon the group worked at conceptualizing and generally mapping out land uses based on the identified and prioritized planning principles. Small teams were formed to develop basic land use maps and each team presented its map to the group for further discussion. The Planning Office prepared a Summary Report of the April 2004 Workshop which is available upon request.

The final phase of citizen meetings focused on land use planning concepts. Citizens met with OPG staff and agency representatives to refine land use descriptions and develop a more detailed proposed *Land Use Map*. There were seven meetings held from May through September 2003.

During the drafting phase of the Plan, interested citizens were kept up to date via E-Mail, newsletter, and postcards. Chapters of the Plan were posted on the OPG website as they were finalized. The Final Draft Document was made available to the public in August, 2004. A final community meeting to review and discuss the Final Draft was held in mid-September and the Draft Plan was turned over for consideration to the Missoula Consolidated Planning Board in October of 2004.

REVIEW AND ADOPTION

The Missoula Consolidated Planning Board completed its review of the final draft of the Wye Mullan Area Plan on January 25, 2005.

The Commissioners held their first public hearing on the Plan in Missoula on April 11, 2005. They continued the hearing to April 27, 2005.[1] After further amendments to the Plan were made, the Commissioners passed a motion to adopt the Resolution of Intent to Adopt the Plan as amended on August 18, 2005.[2] After further amendments to the Plan were made, the Commissioners passed a motion to adopt the Resolution to Adopt the Plan as amended on November 16, 2005.

The City Council held their first public hearing on the Plan in Missoula on April 11, 2005. They continued the hearing to April 25, 2005.[3] After further amendments to the Plan were made, and a final public hearing was held on November 16, 2005, the City Council passed a motion to adopt the Resolution to Adopt the Plan as amended on November 16, 2005.

PLAN ORGANIZATION

The Plan is organized into eight chapters. Each chapter begins with planning principles derived from the April, 2004 Community Workshop that were of high-priority (See Appendix 1.2: *Summary of Planning Principles*). Each chapter also includes a component of existing conditions and analysis and concludes with objectives and strategies. These planning principles are the basis for developing goals, objectives and strategies for the Plan.

[1] Subsequent public hearings were held on May 11, June 1, June 15, July 6, and July 13, 2005.
[2] Additional amendments were made at administrative meetings on October 11and October 19, 2005.
[3] Subsequent public hearings were held on May 9, June 6, and June 20, 2005, with numerous PAZ committee meetings.

Planning Principles are value statements made by the community during Plan Development meetings. These values are the broad ideas that guide the goals, objectives, and strategies outlined within the *Wye Mullan Plan* (See Appendix 1.2: *Summary of Planning Principles*).

Goals are general statements that are not necessarily measurable. These are statements by the residents of the community that articulate the type of community they wish to live in and convert values into planning terms.

Objectives are specific, measurable statements of desired ends.

Strategies are actions. Implementation strategies recommend specific actions or guidelines to achieve the goals and enact the policies of the Plan. Implementation may include development of more specific plans or regulations that achieve the goals and policies of the Plan.

Summary of Chapters

Chapter 2: Natural Environment
Describes various natural resources in the region as they relate to land use planning

Chapter 3: Neighborhood
Describes existing and proposed neighborhoods in the Plan Area
Provides development guidelines that reinforce the sense of neighborhood

Chapter 4: Housing
Describes existing housing conditions and the need for new and diverse housing opportunities

Chapter 5: The Economy
Describes existing conditions within the context of the larger community

Chapter 6: Infrastructure
Describes available infrastructure and the need for coordinated future infrastructure extension

Chapter 7: Land Use Types
Describes land use types and guidelines for development.
Explains where certain land use designations are applied within the Plan Area

Chapter 8: Plan Implementation

Appendices
Further Information

CHAPTER 2
NATURAL RESOURCES

INTRODUCTION

Natural resources in the *Wye Mullan West Comprehensive Area Plan* (*Wye Mullan Plan*) were a main foundation for area settlement and remain an essential component of the area's character. As such, development should be balanced with the preservation and enhancement of natural resources. This chapter describes existing natural resources in the area and also suggests ways in which they can be protected, preserved, and enhanced as growth and development occurs.

PLANNING PRINCIPLES

- Value and protect wildlife habitat, natural open space, creeks and wetlands, water courses, historic and rural character.
- Control noxious weeds.
- Protect, monitor, and manage water resources and the aquifer.
- Support development that promotes natural resource areas, including agriculture, where appropriate.

GOALS

Protect natural resources in the plan area and improve them where degradation has occurred.

Maintain and improve surface water and groundwater quality and quantity.

Preserve sensitive habitat such as those found in the floodplain, wetlands, riparian areas, drainages, and riverbanks.

Protect sensitive lands as development increases to enable the natural system to function.

The main planning techniques for balancing protection of the many resources in the area with the potential for development are the strategies for each resource type, the implementation of criteria within this section, the use of map information, and design guidelines (Appendix 2.1: *Conservation Design Guidelines*). The *Potential Wildlife Habitat and Linkage Map* specifically shows areas where connection between resources is important. These linkages will facilitate habitat restoration by establishing connections between rivers, creeks, drainages, and high value riparian and wetland areas.

Conservation Design Guidelines are included in the Appendices and should be considered early in and throughout project design. These guidelines encourage the identification of areas with natural resources and land constraints as undesirable for development before mapping building site locations. Project design should consider all the natural resources described in this chapter. (See Appendix 2.1: *Conservation Design Guidelines*.)

GEOLOGIC RESOURCES

Landforms

The Wye Mullan Plan area (plan area) contains typical Missoula Valley landforms resulting from periods of inundation and regression associated with Glacial Lake Missoula or from more recent alluvial deposition and erosion. Four general landforms are identified within the plan area (depicted on Map 2-1):

1. The Clay Hills are remnant deposits of Glacial Lake Missoula and represent the oldest landform in the plan area. This landform is located primarily in the middle portion of the plan area and consists of rolling hills bounded by relatively steep slopes and narrow ridges that transition to the surrounding terraces and river. Land cover consists mostly of sagebrush and grassland. Riparian vegetation exists in the intermittent and ephemeral streams and drainages, providing quality wildlife habitat.

2. The Upper Clark Fork Terrace consists primarily of deposits from the Grant Creek alluvial fan and stream terrace deposition. This landform is located in the northeastern portion of the plan area. Grant Creek once flowed freely through this area. However, the segment between Old Highway 10 West (West Broadway) and the Old Milwaukee Railroad right-of-way was channelized and became known as the "Field-Dougherty Ditch." Grant Creek may be restored to a more natural state and relocated. Terrain in this area is relatively flat and gently transitions to the Lower Clark Fork Terrace. The area is predominantly foothills grassland where agriculture is not present. Soils in this area are considered prime for agriculture, if irrigated.

3. The Lower Clark Fork Terrace forms the southern edge of the plan area. Alluvial deposits are consistent with active river channels and floodplains. This area is gently sloping and functions as a transition between the Upper Clark Fork Terrace and the active channel of the Clark Fork River. Steeper slopes are present at the contact with the Clay Hills. Riparian vegetation exists in drainages, side channels, and within the floodplain along the river's edge. Fertile soils make this area suitable for agriculture.

4. The Grass Valley extends from the Clay Hills to well past the western plan boundary. It shares many attributes with the Lower Clark Fork Terrace, but is further from the river. The area is generally flat and provides a transition between the Clay Hills and the floodplain of the Clark Fork River to the west. Slopes get steeper at the Clay Hills. Both the Butler and the LaValle Creek drainages empty into this area. Artesian wells and groundwater flows have produced a large wetland/grassland complex in the northern portion of the area. Consequently, there is potential for high ground water here. This complex provides excellent wildlife habitat for both waterfowl and larger animals.

SOIL TYPES

The U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) has produced a survey of soil types for Missoula County, with mapped units that correspond to specific soil types and characteristics, accurate to within 10 acres. There are 20 soil types in the *Wye Mullan Plan* study area. The soil survey describes agricultural viability, soil limitations for building sites, roads, septic tank, drain fields, and general erosion potential. The soil survey should be used as a reference in designing and evaluating development proposals.

Soil types help define the kind of development suited for particular locations. The most erosive soils in the plan area are likely to be found in areas of steep slope that have been highly disturbed by development, agricultural uses, and overgrazing. Erosion is common where slopes lack on-site water retention capacity due to impermeable soils. Soil is especially susceptible to erosion during and after construction. Individual parcels of land should be assessed for soil constraints prior to development and concerns should be adequately addressed.

AGRICULTURAL SOILS

Soils are often classified by their capability to support agricultural production. The Missoula Conservation District, in collaboration with NRCS, has evaluated the soil productivity of the County and divided it into three categories: Prime farmland (if irrigated), farmland of statewide importance, and farmland of local importance. Prime farmland soil has the highest potential for crop yield when managed properly (See Map 2-2). Factors that are taken into account in determining agricultural viability include chemical makeup, depth, productivity, and slope.[1]

Approximately 84% of the plan area is considered to have soils of varying degrees of agricultural importance (see Figure 2-1). Statewide and prime soil categories are the most significant and cover approximately 24% of the plan area. These soils are primarily found in the Upper and Lower Clark Fork Terraces and the Grass Valley area. Seventy percent (2,148 acres) of the prime agricultural soils are found within the Urban Growth Area. The remaining 30% (943 acres) of prime agricultural soils are located outside the Urban Growth Area, primarily along the western portion of the plan area and along the Clark Fork River floodplain fringe. The soils of statewide importance are found in small stretches adjacent to the Clark Fork River and near the Wye. Any remaining soils that are not too steep or too wet are generally considered farmland of local importance.

Figure 2-1
Wye Mullan West Soils of Agricultural Importance

Type	Acres (approx.)	Percent of Plan Area (approx.)
Local	8,037	60%
Prime (if irrigated)	3,091	23%
Statewide	94	1%
Total	**11,222**	**84%**

Not all land with agricultural soils is used for agriculture. One way to determine how much land is used for agricultural purposes is to consult the Assessor's database for land taxed as agricultural. Five thousand two hundred and ninety-nine acres are being taxed as agricultural land, approximately 40%, in the plan area.[1] Approximately half of that acreage (2,642 acres) is inside the Urban Growth Area (UGA) and most of that is either within the Mullan Road Sewer Project R.S.I.D. #8474 or associated with the sewer project through other agreements. Within the UGA there are 33 agriculturally taxed parcels ranging in size from six acres to 590 acres. Some of those parcels may be purchased by the Airport and others are currently under development. Most of the prime agricultural land lies between Reserve Street and the Clay Hills and is currently zoned for development at one dwelling unit per five acres (C-A3) or one dwelling unit per acre (C-RR1). Significantly less land will be taxed for agricultural purposes in the future.

Approximately 2,657 acres are taxed for agricultural use outside the Urban Growth Area.[2] This acreage is divided between 31 owners ranging in size from five acres to 610 acres. The areas outside the UGA with prime or statewide soils that are taxed as agricultural land are also zoned at one dwelling unit per five acres or one dwelling unit per acre.

The continuation of agricultural activities should be supported through creation of conservation easements, transfer of development rights and establishment of community gardens.

[1] Montana Department of Administration *Montana Cadastral Database, CAMA related data* (Helena, MT: Montana State Library, October 23, 2003, ***http://nris.state.mt.us/nsdi/nris/cadastral.html***).
[2] Montana Department of Administration *Montana Cadastral Database, CAMA related data* (Helena, MT: Montana State Library, October 23, 2003, ***http://nris.state.mt.us/nsdi/nris/cadastral.html***.)

HILLSIDES

Hillsides have slopes greater than ten percent. Steep slopes have slopes greater than 25%. Several locations within the plan area are constrained by hillside and steep slope (mostly along the Clark Fork riverbank, the clay hills landform, and associated drainages). The *Missoula City and County Subdivision Regulations, Hillside Design Standards*, apply to development on slopes over ten percent. The Missoula City/County Health Department applies special requirements for septic tank sitting in areas with slope greater than 15%. General City and County policies regarding hillside development are contained within the *Missoula County Growth Policy*. Areas with slopes greater than 25% are generally considered too steep for building purposes.

Map 2-3 shows the slope percentages within the plan area. The approximate percentages of land within each slope category are shown in Figure 2-2.

Figure 2-2
Wye Mullan West Plan Area by Category of Slope

Slope	Acres (approx.)	Percentage of Plan Area (approx.)
Less than 10%	12,165	91.3%
10-14%	376	2.8%
15 - 24.9%	503	3.8%
25% and Greater	283	2.1%

Only a small percentage of the plan area contains slopes of 25% or greater. Generally these areas are land use designated as Open and Resource. However, areas of 15 to 24.9% slope may also be designated as Open and Resource, when necessary, to complete more comprehensive Open and Resource systems.

Hillside development impacts both the environmental and scenic quality of the area in which it occurs. Hillside development requires more sanding for steeper roadways and results in increased particulate matter in the air during winter months. Hillside development also disrupts natural drainage systems. The increase in impervious surfaces can also lead to increased runoff below the development. This can increase erosion, may activate landslides, or exacerbate other geologic hazards. Hilltop development placed too close to hillsides and natural drainages creates many of the same concerns with runoff and increased erosion. Development should be discouraged on steep slopes and significantly set back from the hilltop to hillside transition area.

SCENIC OPEN SPACE

Scenic views are highly valued within the community. "Federal law considers scenic open spaces to be those areas which contribute to scenic panoramas which can be enjoyed from a park, nature preserve, public road, water body, trail, historic structure or land area, or which provide a visual buffer around important Open Space features. Visual, not physical access, may be sufficient for the public to appreciate such values."[3] This may include views from public vantage points such as along major travel corridors, major public lands, or public watercourses.

The need to specifically protect the views along the Clark Fork River is reinforced in the *Missoula Urban Open Space Plan*. The *Open Space Plan* identifies the Clark Fork River Corridor as high value open space or 'cornerstone.' Views along, access to, and preservation of the vegetation along the river corridor are critical elements in protecting this amenity. Riparian vegetation exists along most of the stretch of the Clark Fork River running through the plan area. The braided water course in some stretches also lends

[3] Missoula County, *Inventory of Conservation Resources* (Missoula, MT: City of Missoula, 1992, page 44).

itself to a wide floodway that supports vegetation and helps to preserve views along the water course. Other stretches of the Clark Fork River, in this area, include steep sloped benches that preclude development within direct proximity of the river. Placement of structures and modifications to the landscape should be severely limited within proximity of the river's edge.

GEOLOGIC HAZARDS

Areas located at the outlet of small narrow drainages with high gradient gullies have the potential for mudflow, debris avalanche, and flash floods.[4] (See Map 2-3: *Slopes and Geologic Hazards*.) Where there is a question of slope stability in a specific area, the site should be examined by a qualified specialist and either not developed or developed in such a manner as to minimize risks associated with potential hazards.

BIOLOGIC RESOURCES

The plan area supports a wide variety of plant and animal resources that are of significant value to the community. This section describes extant wildlife and wildlife habitat. A list of species of special concern can be found in Appendix 2.2. Habitat descriptions are based on information from general surveys for the plan area and may not reflect the specific characteristics of an individual property.

Biologic resources are best protected by leaving the area undisturbed and unaffected by development near or adjacent to it. Site specific analysis and appropriate design considerations near natural resource areas can be used to help preserve ecological quality.

VEGETATION

Wetlands and Riparian Habitat

Wetlands and areas of riparian resource are found along the Clark Fork River, LaValle and Butler Creeks, in the Grass Valley area, along irrigation ditches and within many of the drainages in the Clay Hills as identified on Map 2-4.

Wetlands are protected by State and Federal laws, as well as local subdivision and zoning regulations. Work within these areas, including road construction, vegetation clearing, dredging, filling, or water diversion requires a permit. Development (e.g. roads, structures) through wetlands and areas of riparian resource should be minimized through the subdivision planning process. Wetlands and areas of riparian resource require protection from disturbance if they are to maintain these ecological benefits:

1. Surface water storage during floods;
2. Groundwater recharge areas;
3. Filtering surface runoff;
4. Provision of wildlife habitat;
5. Increased biological value of riparian habitats.

Wetlands are often located along rivers and streams, in low spots across the landscape, at groundwater discharge areas, or along artificial constructs, such as irrigation ditches. Wetland types, within this plan area, include springs, seeps, marshes, wet meadows, and riparian areas (along creek and river margins). Wetlands have shallow groundwater and typically experience seasonal flooding. They provide a unique habitat for many migratory bird species.

One of these wetlands, a large (500 acres) wetland/grassland complex, partially fed by artesian wells, is located west of the airport in the Grass Valley and extends to the west of Deschamps Lane. Large numbers of bird species depend on this unique complex. This area is currently designated by Federal Emergency Management Agency (FEMA) as 100-year floodplain.

[4] *Landslides and Potential Landslides, Southwest Missoula Quadrangle*, (Missoula, MT: Weber and Associates, 1978).

As a type of wetland, areas of riparian resource provide habitat for migrating and nesting birds, big game species, and many smaller mammals, reptiles, and amphibians. Riparian areas also function as critical wildlife linkages between habitat complexes including linkages between habitat within the plan area and the larger big game winter ranges bordering the plan area. The greatest chance for wildlife habitat protection lies in remaining natural riparian and wetland areas. Where those areas are next to native grasslands, extra efforts should be made to protect those sites from development. Loss of wildlife linkages disrupts animal and bird seasonal and diurnal migration patterns leading to species decline. Loss of riparian vegetation can also result in bank destabilization along water courses, leading to loss of critical in-stream and shoreline habitat, reduction of stream productivity, and increase in water temperature.

Areas of riparian resource vary in width and vitality within the plan area. The riparian habitat of the Clark Fork River is nearly a mile wide along portions of the southern boundary of the plan area. Old growth ponderosa pine, cottonwood, and other riparian habitats along the Clark Fork River support a large community of wild mammals, cavity-nesting birds, amphibians, and reptiles. Among the richest in terms of species diversity, this riparian habitat complex is vulnerable to a variety of developmental impacts and is decreasing in the Missoula Valley.[5]

The areas of riparian resource in the Clay Hills drainages are narrow draws that sustain native riparian vegetation. The areas of riparian resource along the Butler and LaValle Creek drainages provide wildlife linkages into and away from the large grass valley wetland/grassland complex. The complex provides important habitat conditions that benefit both the Clark Fork River corridor and the adjacent big game winter ranges. Along Grant Creek, there are pockets of riparian vegetation, including some cottonwood trees. One of the goals of the Grant Creek Restoration Project is to improve fish habitat including reestablishment of riparian habitat. Development that disturbs these corridors and interferes with the natural movement of animals is counterproductive to the restoration of the Creek.

Irrigation ditches within the plan area support low canopy riparian shrubs. Larger riparian vegetation is usually removed as part of ditch maintenance. The riparian shrubs provide habitat for smaller mammal and bird species and should be protected where it does not interfere with ditch maintenance.

In addition to the protection of wetlands and areas of riparian resource, buffering from development is needed to protect water quality, preserve wildlife habitat and corridors, allow expansion and reestablishment of riparian vegetation, enhance natural filtration of surface run-off, and promote bank stability. Additional buffering may be necessary based on a site specific analysis. This Plan recommends minimum setbacks from all drainages. Those recommendations are in the Water section of this chapter. The Grant Creek Restoration Project will also incorporate setbacks into its design.
Other recommendations for activities in riparian areas and their buffer zones include grazing management techniques such as fencing, off-stream watering, rotating grazing areas, providing weed management, using native plants, and limiting the amount of impervious surfaces in a development.

Grassland Habitat

Although much of the open land within the plan area contains exotic (non-native) grassland species and agricultural crops, there is some remnant native vegetation such as Idaho fescue, rabbitbrush and sagebrush, exist. This type of habitat is one of the most threatened. Grassland habitat is prevalent in the area west and south of the Airport, including portions of the Grass Valley, and to the west and south of Mullan Road.

[5]Letter from Montana Fish, Wildlife and Parks, Interagency Meeting September 30, 2002.

An area of predominant native vegetation has been identified south of El Mar Estates, within the Kona Ranch. "Remnants of native Palouse Prairie vegetation are present on the clay hills [in that area]. Mountain big sagebrush is the dominant shrub with an understory of rough fescue, June grass, bluebunch wheatgrass and Idaho fescue. Most of the prairie vegetation in the clay hills is in excellent range condition, free of noxious weeds."[6] Conservation and restoration of predominant areas of the native sagebrush and grassland vegetation is encouraged.

Large numbers of ground-nesting birds, rodents, reptiles, and mammals inhabit the grasslands. Large raptor species such as the Red-tailed Hawk, American Kestrel, and Western Screech-Owl utilize these areas as hunting grounds, while nesting in adjacent riparian areas. Other animals such as fox, badgers, Columbian ground squirrels, vole, and the Western Jumping mouse also inhabit grassland areas within the Plan boundary.

While preservation of all grasslands in the plan area is not feasible, consideration of the health and unique qualities of existing grasslands is encouraged. Planning techniques such as clustering may be used to encourage retention of large grassland communities. Restoration efforts through weed management, controlled grazing, and planting with native species are encouraged for reestablishing biological diversity. Native plants can also be transplanted from areas proposed for development into existing parks or other areas in need of native plant revegetation.

Noxious Weeds

Native grasses and wildflowers are being threatened by the invasion of numerous noxious weeds. Noxious weeds limit agricultural productivity, alter wildlife habitat, and threaten native grasslands. Ground disturbance from construction increases the possibility of spreading noxious weeds.

Proper management reduces the amount of noxious weeds and restores native vegetation. When noxious weeds are eradicated from a site, planting native species, crops, or landscaping prevents the reintroduction of invasive species. When land is taken out of agriculture, weed management and restoration of native vegetation should occur.

Habitat and Linkage Areas

Wildlife habitat and movement linkages are vital to the overall ecological health of the plan area. They are places where animals live or regularly frequent. According to Montana Department of Fish, Wildlife and Parks data, big game winter ranges bound the plan area to the northeast and southwest (see Map 2-5). Wetlands, like the big game winter ranges, serve as habitat complexes. The plan area supports a wide variety of animals from large mammals consistent with the big game winter ranges to the smaller non-game species.

In this Plan, wildlife habitats are generally identified based on characteristics conducive to wildlife. Typically they are designated with Open and Resource land use. These areas are generally wetlands, riparian areas, floodplains, drainages, and areas of steep slope (see Map 2-5). They may be places where wildlife currently exist or that could be rehabilitated for wildlife. Grassland habitat provides cover and forage for ground nesting birds, rodents, reptiles, and mammals as well as important waterfowl nesting sites and hunting grounds for large raptor species. Unique grassland habitat has not specifically been identified on Map 2-5, but should be considered during site specific evaluation when planning any site improvements or development.

Wildlife linkages are conceptually identified in this Plan to articulate the need for connections between wildlife habitat and Open and Resource areas. Riparian areas commonly function as linkages between the larger habitat complexes near or adjacent to them. Animals travel along the main creeks, irrigation

[6] Page 2, Wildlife and Wildlife Habitat on the Kona Ranch, April 2005, prepared by Joe C. Elliott Ph.D., for Bonnie G. Snavely

ditches, and the Clark Fork River corridor, seeking vegetation for shelter, shade, and food. These areas often contain important nesting sites for larger raptor species. Mapping of wildlife linkages serves to identify general connections between wildlife habitat areas (see Map 2-5).

Identification, in this Plan, of wildlife habitat and linkage areas is conceptual and serves, at least, to recognize places where opportunities exist to protect or improve habitat quality. Criteria used to identify such places include consideration of landform, hydrology, vegetation, road kill frequency, and baseline species inventories. The identification of both habitat and linkage areas included interagency reviews and recommendations.

The eastern habitat area follows the Grant Creek corridor. There is potential for a linkage connecting the Grant Creek area with habitat to the west. The western habitat and linkage areas are especially significant because they lie within the transition from urban to rural types of land use and are areas that could readily be enhanced for wildlife preservation. Road kill reports indicate the most frequent wildlife crossings on Mullan Road are toward the western end of the plan area near Kona Ranch Road and west of El Mar Estates.[7] When transportation improvements are made to this area, consideration should be given to safe wildlife crossings.

Careful consideration of the treatment of wildlife habitat and linkages in new development may decrease wildlife and human conflicts. Wildlife habitats, as well as movement linkages, need protection and buffering from adjacent development. Protection and rehabilitation of habitat and movement linkages will help preserve the diversity of wildlife in the area. Wildlife habitat and linkages should be more specifically identified during project development and review.

The following criteria describe the desired relationship between development and the wildlife linkages:

- Wildlife linkages should vary in width depending on cover, topography, and existing development.
- Wildlife linkages and habitat areas should be contiguous with that on adjacent lands.
- Coordinate the proposed width and improvements of the linkage areas with Fish, Wildlife and Parks.
- Wildlife linkages should include areas where rehabilitation of corridors can help to enhance the movement.
- Adequate space between clusters or individual lots will facilitate wildlife movement. Circular lots with no touching boundaries could be considered.
- Site specific evaluation of wildlife habitat and linkages should include consideration of landform, hydrology, vegetation, road kill frequency, and baseline species inventories.

FISH AND WILDLIFE

Mammals

The plan area supports large animals such as mule deer, black bear, mountain lion, the occasional moose, and the relatively abundant white-tailed deer. In addition, there are numerous smaller mammals that play less noticeable roles. A preliminary baseline inventory of species known to exist within the plan area can be found in Appendix 2.3. According to the Montana Heritage Program, there are two mammalian species of special concern that may be present in the plan area (Appendix 2.2). As development continues, protection of habitat and movement corridors will help preserve wildlife in the area.

Some residential areas include habitat for white-tailed deer, small mammals and birds. Montana Department of Fish, Wildlife, and Parks recommend specific measures to minimize conflicts with

[7] Based on information from Montana Department of Transportation and Montana Highway Patrol for 2000 to 2002.

wildlife. These measures include proper storage of garbage and pet food and confining pets to the house or yard.[8]

Birds

Numerous bird species are reliant on wetland, riparian, and grassland habitat including various waterfowl, sandpipers, long-billed curlews, rails, Hungarian partridge, and raptor species. Efforts are underway to seek "Important Bird Area" designation by the Audubon Society for the Clark Fork River corridor and the Grass Valley Area.

Great blue herons occupy areas near Kelly Island. Herons nest in large cottonwoods adjacent to clear slow-moving sloughs that provide excellent fishing during peak flows when the main channel is muddied.

According to Montana Fish, Wildlife and Parks there is a bald eagle wintering area from approximately Reserve Street westward to the Kona Bridge. A pair of bald eagles nests on Kelly Island and several more pairs nest along the Clark Fork River, west of the Kona Bridge. Other potential nest sites are located between Reserve Street and Kona Bridge.[9] The Montana Bald Eagle Working Group has published management guidelines for bald eagle habitat and should be consulted when developing near these sites.

Timing construction around, and minimizing habitat disturbance during, nesting and migration events protects the viability and diversity of bird species within the plan area. Nest trees for large birds such as herons, eagles, Canada geese, and osprey are especially vulnerable to development as they are often removed. Every effort should be made to preserve mature vegetation.

Fish

The Clark Fork River is a popular and productive trout fishery ranking among the best in the State. Typical fish species include rainbow, brown, cutthroat, and bull trout, mountain whitefish, suckers, pikeminnow, sculpins, reside shiners, and northern pike. Grant Creek provides a valuable fishery north of Interstate 90 and has the potential to provide the same within the plan area if restored to natural flow. Preservation of riparian areas protects fishery resources. The Montana Fish, Wildlife and Parks fishery management program emphasizes establishing in-stream flow reservations, enforcing laws relating to habitat alteration, encouraging floodplain management in harmony with stream environment, responding to conflicting water development projects, and monitoring fish populations and habitat. A goal of the Grant Creek Restoration Project is to improve fish passage, to and from the Clark Fork River, and fish habitat with special consideration for migratory trout species including bull and westslope cutthroat trout.

SPECIES OF SPECIAL CONCERN

According to the Montana Natural Heritage Program (MNHP), seventeen species of special concern have been identified in or around the *Wye Mullan Plan* area (Appendix 2.2). This includes species designated by MNHP as species of special concern in Montana or with a special designation by federal or state land management agencies. Habitat for these species should be protected from development. Check with the MNHP and other resource agencies to learn more about the species of special concern in the area.

WATER RESOURCES

Numerous water resources including the Clark Fork River, LaValle Creek, Butler Creek, Grant Creek, and other intermittent streams and drainages, and irrigation ditches cross the *Wye Mullan Plan* area. The watercourses provide aquifer recharge for drinking and irrigation, habitat for fish and other aquatic life, optimal conditions for wetland and riparian vegetation that supports diverse wildlife populations, and recreational opportunities for the human residents.

[8] See the *Living with Wildlife* brochure available through the Montana Fish Wildlife and Parks Departments or the Office of Planning and Grants.
[9] Montana Fish, Wildlife and Parks, 2004.

SURFACE WATER

Clark Fork River

The Clark Fork River corridor forms the southern boundary of the *Wye Mullan Plan* area. Aside from the main river channel, there are many sloughs and depressions marking previous channels of the meandering river. Some of the sloughs include permanent lakes, while in others the drainage water continues to flow.[10]

The Clark Fork remains a major source of recharge to the southern portion of the Missoula Aquifer and therefore plays a large role in the quality of area groundwater. (Although, in most of the plan area, the Clark Fork is gaining water from the aquifer.) The Clark Fork River has been listed as impaired by the Montana Department of Environmental Quality under Section 303(d) of the *Clean Water Act* in 1988. The primary cause for impairment along the stretch of the river between Fish Creek and the Rattlesnake Creek, including the stretch within this plan area, is algae caused by excessive nutrients in the water.[11] This listing means that the problem must be remedied under State and Federal water quality laws. The plan to fix the algae problem is in the Voluntary Nutrient Reduction Program.[12] Further description of the Voluntary Nutrient Reduction Program is found at the end of this section.

Currently, the majority of the Federal Emergency Management Agency (FEMA) designated 100-year floodplain between Reserve Street and Cote Lane is zoned one dwelling unit per acre. Uses in the 100-year floodplain include limited residential, commercial, agricultural, and resource extraction. The commercial uses are generally adjacent to the Reserve Street corridor and the resource extraction is primarily gravel operations. Missoula County and the City of Missoula have adopted floodplain regulations to minimize flood hazards to development. Transfer of development rights should be explored as a tool for transferred development rights from the floodplain to areas more appropriate for development.

The Clark Fork River floodplain within the plan area is well defined with base flood elevations identified. The 100-year floodplain consists of the flood fringe and the floodway. Within the Plan boundaries, the 100-year floodplain varies in width from approximately 400 to 4400 feet with the narrowest portions along steep banks of the river. The ordinary high water mark lies within the floodway.

Appropriate proximity of development to the river corridor is determined by a number of factors: flood fringe, floodway, and landform and resource values of the area. Development in the flood fringe is discouraged and development within the floodway is prohibited. Development within these areas is further constrained by riparian vegetation, high groundwater, and steep slopes. These constraints along the Clark Fork River will set development back from the river corridor. In any event, development should not occur within 300 feet of the ordinary high water mark of the river as defined by MCA 23-2-301[13], unless an evaluation of resource constraints indicates water quality, flood risk, bank stability, riparian habitat, wildlife habitat or corridors, and recreational values are not negatively impacted.

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[10] Army Corps of Engineers, *Special Flood Hazard Information: Clark Fork – Vicinity of Missoula to Alberton, Montana* (MT: Army Corps of Engineers, 1973, page 2).

[11] *Watershed Information, Montana Department of Environmental Quality, TMDL* Full or Partial Report, 3/23/2004.

[12] Jim Carlson, Director of Environmental Health *Missoulian*, Editorial, Appendix #5, Treasure State Endowment Program (TSEP), Grant Application, 2003, Mullan Road Corridor Sewer Project.

[13] "Ordinary high-water mark" means the line that water impresses on land by covering it for sufficient periods to cause physical characteristics that distinguish the area below the line from the area above it. Characteristics of the area below the line include, when appropriate, but are not limited to deprivation of the soil of substantially all terrestrial vegetation and destruction of its agricultural vegetative value. A flood plain adjacent to surface waters is not considered to lie within the surface waters' high-water marks. (23-2-301, MCA)

Grant Creek

The portion of Grant Creek that flows through the plan area has been highly channelized and diverted for irrigation. The Grant Creek Environmental Restoration and Flood Control Project is managed by the County Public Works Department and supported by various State and Federal agencies. The upstream boundary of the project area is Prospect Drive. The downstream boundary is the confluence of Grant Creek with the Clark Fork Floodplain. The objective of the project is to seek a solution that will balance hydraulic capacity, flood hazard mitigation, sediment management, maintenance, new development, airport expansion, aesthetics, and habitat to protect environmental infrastructure. Appendix 2.4 shows the Grant Creek proposed post-project floodplain according to the preferred alternative model of the *Task 400 Hydraulic Report* from February, 2005.

The goals of the project, in order of priority, are as follows:

1. Reduce surface and groundwater problems in the study area.
2. Improve fish passage in lower Grant Creek.
3. Improve fish habitat in lower Grant Creek.
4. Improve recreational and aesthetic opportunities.[14]

New development should not occur within the 100-year floodplain. Site specific evaluations should be performed for development near Grant Creek. Once the creek is restored, a new riparian corridor will likely be reestablished and require protection as part of Grant Creek Restoration Project. New development should be setback from the creek taking into account floodplain boundary, areas of riparian resource, fish habitat, and wildlife habitat in accordance with the Grant Creek Restoration Project.[15] Grant Creek is a significant groundwater recharge source in this area.

Other Drainages and Streams

Both LaValle and Butler Creek are included on the FEMA Flood Insurance Rate Map (FIRM) and have approximate floodplains identified. These creeks have been altered from their historic channels. The alterations are largely due to irrigation diversion and development both within and upstream from the *Wye Mullan Plan* area. Butler Creek diverts into the Grass Valley/French irrigation ditch. Previous airport development has also affected both drainages and future runway expansion may have further impacts. Environmental impacts to the drainages will be evaluated in the environmental analysis, to be conducted before future airport expansion into the area.

There are numerous other intermittent streams and drainages within the plan area. For instance, an unnamed intermittent stream exists north of Phantom Hills and other drainages run southwest of El Mar Estates. These drainages typically convey runoff from the clay hills to the lower adjacent land. Recent subdivisions within the plan area have dedicated fifty-foot easements from drainage center-line.

Minimum drainage setbacks are recommended in order to:

1. Carry run-off during high precipitation events.
2. Provide drainage for increased run-off associated with additional impervious surfaces.
3. Retain natural vegetation along drainages for infiltration of pollutants,
4. Retain natural vegetation for animal habitat and movement corridors.
5. Protect development from flooding.

[14] U.S. Army Corps of Engineers *Grant Creek Environmental Restoration and Flood Control Project Management Plan* (2002), page 2.

[15] The need for riparian buffers is discussed in the Biology Section. This buffer may overlap and be combined with, or may exist separately from, the recommended minimum setback from high water mark, depending on specific site conditions.

Development setback should be a minimum of one hundred feet from the top of bank[16] of LaValle and Butler Creeks. Development adjacent to other streams or drainages should consider a minimum setback of fifty feet from the center-line of the drainage. Development throughout the plan area should take into account floodplain boundaries, areas of riparian resource, and wildlife corridors.

Site specific evaluation should occur for development proximal to a stream or drainage. This evaluation should address water quality, flood risk, riparian habitat, wildlife habitat or corridors, social, cultural and recreational values and may result in an increased setback for development and any other mitigation.

Irrigation Ditches

There are many irrigation ditches within the plan area that provide water for agricultural and private uses. The Grass Valley/French and Flynn/Lowney ditches are the primary ditches and are shown on Map 2-6. They feed the secondary ditches throughout the plan area. The continued usefulness of irrigation ditches varies widely depending on the adjacent uses and comprehensive plan for future uses. As lands evolve from agricultural to other development, the continued presence of associated irrigation ditches should be reevaluated. Abandonment may be particularly appropriate when returning the water to the river or stream may improve in-stream flows or facilitate stream restoration. The actual appropriation and protection of such flows for instream uses will require compliance with the *Water Use Act*, Montana's legal framework for administering its system of water rights.

Besides serving agriculture, irrigation ditches are valued for their adjacent vegetation, support of wildlife movement, and contribution to the rural character. In fact, portions of the Grass Valley/French Ditch are a part of the "potential wildlife linkage" along the western part of the plan area, which is also an area recommended to retain rural characteristics. However, these values are secondary to naturally functioning stream corridors that the water would otherwise support.

FLOOD HAZARDS

Flood hazard areas are those that may be inundated by floodwaters, surfacing groundwater, or places where alteration of the land could increase flooding danger for other properties. Long-term County flood damage reduction policies are discussed in the *2002 Missoula County Growth Policy*. Instead of trying to control floods, Missoula County follows measures that control flood damage. By recognizing that floods are inevitable, homes, businesses and public infrastructure should be built in locations ensuring that neither property nor human health will be damaged. Any alterations to floodplains must not endanger nearby properties, nor harm natural stream functions.

The Federal Emergency Management Agency (FEMA) has designated floodplain boundaries within the plan area. These floodplain boundaries have been adopted to identify locations that are associated with flooding hazards and may require flood insurance. New development should not occur within 100-year floodplains.

In the *Wye Mullan Plan* area, FEMA designated 2,448 acres as 100-year floodplain: the Clark Fork River, Grant Creek, LaValle Creek, Butler Creek, and the Grass Valley wetland complex (See Map 2-6). FEMA lifted the 100-year floodplain designation in the area of the Pleasant View subdivision through a Letter of Map Revision (LOMR).[17] Site-specific assessment of flood hazard should be carried out near irrigation ditches and other drainages for which floodplains have not been mapped. Identified floodplains are designated as Open and Resource land, with a few exceptions.

The Montana Department of Natural Resources and Conservation (DNRC) released a floodplain study in September, 2001 that identifies areas of flood risk along the current Grant Creek channel. Based on that

[16] The top of bank, which is described as the first horizontal break above the ordinary high water mark, was used because it appears to be easily distinguishable.
[17] FEMA *Letter of Map Revision*, (April 26, 2000 and June 14, 2000).

study, the DNRC has identified 168 acres inside the plan area as within the 100-year floodplain of Grant Creek (see Map 2-7).

The DNRC study was initiated due to the unreliability of FEMA regulatory Flood Insurance Rate Map (FIRM) and the need to delineate known flood areas. The study was designed to aid both the mitigation of known flooding of the Mullan Trail Subdivision and the planning and administration of Floodplain Regulations applied to new development. Although the DNRC floodplain designations are currently the most accurate for the area, the Grant Creek Environmental Restoration and Flood Control Project may affect the location of the identified floodplain.

Three areas within the plan area have either been designated as a floodplain or have elevations lower than identified flood elevations (areas of significant flood risk). These areas have not been designated as Open and Resource because they are already developed or are part of the Grant Creek Environmental Restoration and Flood Control Project. Ultimately, the Project may reduce the flood hazard in these areas. Site-specific evaluation of flood hazard is recommended for new development in these areas, which are generally located on Map 2-7, including:

1. Mullan Trail Subdivision: Although portions of the subdivision are within the 100-year floodplain, restoration of Grant Creek should modify the floodplain within the area. This area is developed; the land use recommended is residential. Additional development in the floodplain is discouraged by this Plan and likely not permitted by the Floodplain Regulations.

2. Immediately southeast of the intersection of Whippoorwill Drive and Old Highway 10 West: This large agricultural field is lower in elevation than the current channel of Grant Creek. It is separated from the creek either by a berm or an elevated roadway.

3. Area between the Old Milwaukee railroad right-of-way and Hellgate School: A stretch of FEMA designated floodplain exists in this area and will be reevaluated as part of the Grant Creek Environmental Restoration and Flood Control Project.

GROUNDWATER

The Missoula Valley Aquifer was designated a “sole source aquifer” by the United States Environmental Protection Agency in 1988. This means that it is currently the sole source of drinking water for Missoula County residents. The aquifer is vulnerable to contamination because the course deposits lying above much of the aquifer are permeable, allowing contaminants to reach groundwater. *Wye Mullan Plan* area deposits include some Glacial Lake Missoula clays, which are of low permeability and provide some protection to the underlying aquifer; however, the extent of these deposits is spotty and discontinuous, consequently any protection provided is limited. The aquifer in this area is mainly recharged by underflow and leakage from tributary drainages, including Grant Creek, Butler Creek & LaValle Creek, and seepage from the surrounding hills. See Map 2-8 Groundwater Elevations for general contours of the Missoula Valley Aquifer.

Land within floodplains or near watercourses is often subject to high groundwater during spring runoff and flood events. Additional areas, which were once part of the floodplain and are now separated from overland river flooding by roads and railroad berms, can still become inundated through groundwater seepage. High groundwater can result in damage to building foundations and basements.

Depth to groundwater is highly variable within the plan area. Water depth in the plan area naturally ranges from over 120 feet at the Wye to less than ten feet in the Grass Valley. Depth to groundwater can vary due to seasonal precipitation, irrigation practices, and groundwater extraction rates. Areas with surfacing groundwater pose a significant flood hazard to development. Site-specific assessment of potential surfacing groundwater should be provided during project review, if warranted.

WATER QUALITY

Surface water and groundwater provide drinking water, support habitat, and provide fisheries resources. Water quality can be degraded from point sources, non-point sources and contaminants from septic systems.

Urban runoff results from the installation of large areas of impervious surface such as buildings, driveways, sidewalks, roads, parking lots and runways. According to the EPA, a typical city block generates more than five times more runoff than a woodland area of the same size. Non-point source pollutants introduced into surface water and groundwater from urban run-off may include automotive byproducts, pesticides and herbicides, road salts, and heavy metals. Impervious surfaces can significantly increase the ambient temperature of an area, resulting in heated runoff. When heated runoff reaches watercourses increased stream temperature can lead to increased algal growth and destruction of fish habitat.

Integration of runoff retention areas, drainage buffers, and protection of riparian areas within developments provides natural infiltration and can significantly reduce the effect urban runoff has on water quality. Limiting impervious surfaces and use of alternative porous surfaces can also reduce the effect of runoff.

Landscaping choices can reduce the quantity of urban runoff. Using native plants that are well-suited to a region's climate and pests, xeriscape landscape design drastically reduces the need for irrigation and chemical applications. Less irrigation results in less runoff and fewer chemical applications keeps runoff cleaner.[18] New development design should include landscaping elements that reduce both water consumption and chemical runoff.

Additional threats to water quality include an overabundance of residential and commercial septic systems and the potential for an accidental release from either a hazardous materials transportation accident, or an underground fuel storage tank. The relatively high density of transportation-related businesses in this area represents a significant potential for contaminant sources. Accidental releases are typically localized in effect but a large release could threaten down gradient groundwater and surface water receptors. Degradation of water quality from septic systems is long-term and widespread because a primary contaminant, nitrate, is very soluble and can move within groundwater to surface water.

Impacts on groundwater from subsurface sewage disposal (septic systems) were evaluated and quantified in the *1996 Missoula County Carrying Capacity Study*. The study indicated that septic systems discharging to groundwater have resulted in elevated levels of nutrient loading in the Bitterroot and Clark Fork Rivers. In areas of coarse soils and shallow ground water, subsurface sewage disposal also presents the risk of contamination of drinking water supplies with pathogens sometimes present in sewage. For the purpose of granting conventional septic permits, the health regulations require that an applicant demonstrate that groundwater is more than six feet below ground surface. However, most of this area should be able to connect to municipal sewer through the Mullan Corridor Sewer Project. Decreasing use of on-site septic systems as sewer becomes available will help prevent further degradation of groundwater quality in the *Wye Mullan Plan* area.

Groundwater monitoring within the plan area in wells in the vicinity of Cartage Road have shown elevated nitrate levels with one public water supply well approaching the 10mg/L standard during past sampling.[19] Other private wells and monitoring wells within the plan area have elevated nitrate levels but do not exceed the drinking water standard.[20] Elevated nitrate levels have constrained, and in some cases eliminated, the ability of developing on-site waste systems in the O'Keefe Creek/Wye study area.

WATER QUALITY DISTRICT

The plan area falls completely within the Missoula Water Quality District. The Missoula Water Quality District was formed by joint resolution of the Board of County Commissioners and City Council in 1993

[18] EPA, *Managing Point and Nonpoint Source Pollution from Households*
[19] Steve Wright, *Groundwater Quality in the O'Keefe Creek/Wye Area* (Missoula MT: Missoula Water Quality, March 1999).
[20] Coordination with the Missoula City/County Health Department, March, 2004.

and is administered by the Missoula City/County Health Department. The Water Quality District allows local government to assume more direct control over the protection of drinking water and surface water monitoring, inspection, enforcement, and education programs.

VOLUNTARY NUTRIENT REDUCTION PROGRAM

In order to comply with Federal and State regulation for surface water quality the City and County of Missoula have entered into a *Voluntary Nutrient Reduction Program* (VNRP). The program is designed to reduce nitrate and phosphorus contaminants in the Clark Fork River watershed in order to restore beneficial uses of the stream and eliminate nuisance algae growth. The Voluntary Nutrient Reduction Program calls for site-specific measures to be taken by the major point source dischargers and for significant reductions in key non-point sources to meet specific in-stream targets for algal density and nutrient (phosphorous and nitrogen) concentrations. The facility improvements at the Missoula Wastewater Treatment Plant and extension of sewer into the plan area are components of the Voluntary Nutrient Reduction Program.

AIR RESOURCES

Factors that contribute to decreased air quality include the amount of vehicle miles traveled (VMT), hillside development, road dust, residential wood burning, outdoor burning, and industrial sources. The Missoula City/County Health Department administers specific regulations within an adopted Air Stagnation Zone (ASZ). The zone is roughly defined as the 4 ½ mile area around the Missoula City limits. All but the most western portion of the *Wye Mullan Plan* area lies within the ASZ.

The following measures apply within the ASZ:

- All new roads and parking lots must be paved.
- Residential driveways must be paved 20 feet from a paved road surface or to the edge of the right-of-way, whichever is longer.
- New fireplaces and wood stoves cannot be installed within this zone. Only pellet stoves that emit less than 1 gram of particulate per hour are approved for installation.
- Many existing woodstoves have to be removed at the time of sale of a property, unless they meet certain emission requirements.
- Hillside and ridge top development is strongly discouraged. Vehicular access to these sites expels more emissions and particulate matter. Roads require sanding for traction assistance and significantly add to suspended particulate matter in the air.

Special concern has been expressed regarding the amount of dust generated from graveled roads. Two of the most heavily traveled gravel roads within the plan area are Deschamps Lane and Roller Coaster Road. These roads are used primarily by agricultural vehicles and as a bypass for Old Highway 10 West. As development occurs along these two roads, developers are waiving their right to protest creation of RSIDs for road improvements. When enough development has occurred, improvements to the roads may be funded by creation of an RSID.

Vehicle miles traveled will increase as development expands and the population increases into the *Wye Mullan Plan* area. A mixture of uses is encouraged in certain areas to allow for work close to living areas and reduced vehicle miles traveled.

OBJECTIVES AND STRATEGIES

GEOLOGIC RESOURCES

1. Support agricultural opportunities.
   a) Map soils identified by NRCS as prime, state, or of local agricultural importance prior to development.
   b) Identify existing agricultural uses on lands with important agricultural soils and monitor changes in use.
   c) Encourage and support measures that promote continued agricultural land uses including:

i) Agricultural or other conservation easements;
ii) Transfer of development rights;
iii) Value-added agricultural operations that typically operate on smaller parcels of land;
iv) Community gardens.

d) Consider cluster development in order to retain large tracts in agricultural areas.

e) Participate in a County-wide Food Policy Council.

2. Protect hillsides and other areas from erosion.
   a) Evaluate soil type and slope as related to the type of development planned.
   b) Map steep slopes and erosive soils prior to development in order to guide development away from steep slopes and evaluate potential impacts to adjacent development.
   c) Follow hillside development, grading, and drainage regulations for new construction.
   d) Minimize and mitigate potential erosion resulting from construction activity or other land uses that may affect the landscape and surrounding resources.
   e) Avoid construction of roads on slopes greater than 25%.
3. Limit hillside and hilltop development.
   a) Develop setbacks from hilltops.
4. Preserve scenic open space qualities.
   a) New construction should not adversely impact the viewshed along the Clark Fork River and other important view points such as along main travel corridors.
   b) Preserve and enhance vegetation along the bank of the Clark Fork River.
5. Protect development from geologic hazards.
   a) Place new development on stable underlying geology.
   b) Unstable geology should be mapped and examined by a qualified specialist prior to development.

BIOLOGIC RESOURCES

1. Protect significant ecological habitat areas.
   a) Integrate site specific analysis and development design to protect habitat areas.
   b) Leave resource areas undisturbed and unaffected by development near or adjacent to it.
   c) Assess whether special status species are likely to occur on a site.
   d) If special status species are found, consult with resource agencies for appropriate protection measures.
   e) Consider clustering development in order to retain large areas of grassland communities.
2. Protect, preserve, and enhance wetlands and areas of riparian resources.
   a) Identify wetlands and areas of riparian resource prior to development.
   b) New development should establish a buffer area that is typically fifty feet back from existing wetland and riparian vegetation. When determining the optimal buffer width consider the following:
      i) The existence of riparian vegetation on the property;
      ii) The existence of soil types, slope characteristics, groundwater levels, and other characteristics that would allow for the likely natural reestablishment of riparian vegetation following a change in land use practices;
      iii) The importance of the wildlife habitat and/or corridors on the property, as identified by Montana Fish Wildlife and Parks;
      iv) The amount of impervious surfaces proposed in the development;
      v) The proposed density of development;
      vi) The likelihood of degradation of surface or ground water quality from the proposed development;
      vii) The steepness of the slope to be developed.
   c) Promote the enhancement and restoration of degraded wetlands and areas of riparian resources.
   d) Maintain the riparian vegetation along drainages and riverfront for wildlife habitat, soil stabilization, and water quality.
   e) Incorporate grazing management techniques to minimize impacts to riparian and wetland areas and associated buffers.
   f) Development (e.g. roads, structures) through wetlands and areas of riparian resource should be minimized through the subdivision planning process.
3. Preserve wildlife habitat and linkages to maintain healthy, viable wildlife populations within the area.

a) Discourage development in wildlife habitat and linkages.

   b) Establish buffer areas that are adequate to mitigate impacts from development on a case by case basis.
      i) Refer to criteria for wildlife habitat and linkages in the Habitat and Linkage section.
   c) Designate no-build areas and develop design standards for lands adjacent to wildlife habitat and linkages.
   d) Development near habitat and linkage areas should be reviewed for habitat and linkage quality by Montana Fish, Wildlife and Parks. Further site-specific analysis may be necessary subsequent to the findings of Montana Fish, Wildlife and Parks and subdivision review.
4. Protect and enhance fish habitat.
   a) Support the Grant Creek Restoration Project efforts to reestablish fish passage and fish habitat including reestablishment of riparian vegetation.
5. Minimize wildlife-human conflicts within and adjacent to wildlife habitat.
   a) Address wildlife conflicts with traffic at frequent deer and other wildlife crossings.
   b) Consider the creation of safe wildlife crossings at key locations when transportation improvements are made.
   c) Follow the *Living with Wildlife* recommendations.
   d) Require new subdivisions to adopt covenants that establish measures to minimize wildlife-human conflicts.
   e) Encourage the use of wildlife-friendly fencing in, or near, wildlife habitat.
6. Establish land use practices that prevent the spread of noxious weed infestations.
   a) Require weed control in new subdivisions, including common areas.
   b) Require that new development successfully revegetate areas of ground disturbance with appropriate plant species.
   c) Require developers to prepare and implement a weed control program on land designated as Parkland, Common Area, or Open Space.
   d) Prepare and implement a management plan to keep public lands weed-free.

WATER RESOURCES

1. Improve and maintain surface water and groundwater quality and quantity.
   a) Minimize non-point source runoff.
   b) Limit impervious surfaces to the minimum area required for the development. Alternative surfaces should be considered and applied where appropriate.
   c) Devise a strategy for water resource protection and water conservation, including landscape use. Encourage the use of vegetation with low water requirements for landscaping. Limit turf lawns to areas immediately surrounding residences.
   d) Identify areas of high groundwater and potential groundwater contamination, during review of new developments.
   e) Limit non-sewered residential development in areas of groundwater concern.
   f) Support community-volunteer clean-up and maintenance of the riverfront.
   g) Continue efforts to connect septic systems within sewered areas to municipal sewer.
   h) Heavy commercial, industrial and urban/high density residential development should be served by new or existing regulated public water supplies, which have construction, supply, and monitoring requirements to ensure safe and adequate drinking water.
2. Protect in-stream flows.
   a) Minimize disturbance and disruption of flow within creeks.
   b) Encourage the use of well or municipal water for residential irrigation.
3. Promote natural stream function and stability.
   a) Provide educational materials to suburban stream-front property owners regarding stock watering, vegetation management, and other stream stewardship issues.
   b) Actively promote stream restoration efforts that establish naturally stable river systems and rely on long-term revegetation as opposed to engineered structural methods.

c) Maintain and revegetate riparian areas and floodplains where necessary to hold soil in place, prevent erosion, and provide for flood and storm water storage.

d) When necessary to artificially stabilize stream banks, use measures that do not cause impacts to other property owners or negatively impact fisheries or other wildlife habitat.

4. Ensure that new development is placed an adequate distance from watercourses to protect each watercourse and improve and maintain its associated habitats.
   a) Keep new development outside the identified 100-year floodplains.
   b) Establish specific setbacks for development from creeks and drainages.
      i) Keep development setback a minimum of 100 feet from the top of bank of LaValle and Butler Creeks.
      ii) Keep development setback a minimum of 50 feet from the centerline of other drainage channels that do not have FEMA-mapped floodplains.
      iii) Evaluate sites to determine whether additional setback or other mitigation techniques are needed to protect water quality, minimize flood risk, provide bank stability, preserve riparian and wildlife habitat, and preserve cultural and recreational values.
   c) Support and implement the Grant Creek Restoration Project.
      i) Discourage development within the Grant Creek 100-year floodplain.
      ii) Incorporate elements that reduce flooding and groundwater problems downstream while improving fish passage, animal habitat, recreational, and aesthetic opportunities.
      iii) Explore the need for additional setback, beyond the limits of the 100-year floodplain, with the completion of the Grant Creek Restoration Project.
   d) Evaluate proposed development within 300 feet of the ordinary high water mark of the Clark Fork River to address potential development impacts to water quality, flood risk, bank stability, riparian habitat, wildlife habitat or corridors, social, cultural, and recreational values. These factors will be utilized in defining specific setbacks and identifying other possible restrictions. Specifically, factors to be addressed may include:
      i) The importance of the wildlife habitat and/or corridors on the property and the roles they play in the larger habitat or migration context;
      ii) The existence of riparian vegetation on the property;
      iii) The existence of soil types, slope characteristics, groundwater levels, and other characteristics that would allow for the likely natural reestablishment of riparian vegetation following a change in land use practices;
      iv) The amount of impervious surfaces proposed in the development;
      v) The proposed density of development;
      vi) The likelihood of degradation of surface or ground water quality from the proposed development;
      vii) The steepness of the slope to be developed;
      viii) Social, cultural, and recreational values;
      ix) The likelihood of river/stream migration toward the proposed development;
      x) The likelihood of flooding or surfacing groundwater on the property;
      xi) Other relevant issues.

5. Preserve the floodplain for flood attenuation, aquifer recharge, and natural filtration while protecting development from flooding and bank erosion.
   a) Establish a mechanism to allow transfer of development rights from flood hazard areas to sites outside flood hazard areas.
   b) Limit new development of homes, commercial, or industrial buildings in the 100-year floodplain to improving or replacing existing structures according to *Missoula County Floodplain Regulations*.
   c) Require that all lots in new subdivisions have a buildable area and road access located naturally outside flood hazard areas.
   d) Require detailed analyses to determine actual flood elevations and flood hazards before development is approved in or near the designated 100-year or 500-year floodplain, or other flood hazard area.
   e) Require that proposed development will be free from high groundwater hazards.

f) Require that public infrastructure minimally impacts streams and floodplains.

AIR RESOURCES

1. Establish land use practices and promote types of development that minimize impacts to air quality.
   a) Construction sites should use dust abatement and erosion control techniques to minimize impacts to neighboring sites.
   b) Pave all new roads within the air stagnation zone.
   c) Pave Deschamps Lane and Roller Coaster Road.
   d) Avoid construction of roads on slopes greater than 25%.
2. Reduce traffic congestion and minimize vehicle miles traveled.
   a) Promote alternative transportation methods.
   b) Incorporate effective transportation demand management techniques into development design.

CHAPTER 3
NEIGHBORHOOD

INTRODUCTION

Neighborhoods are shaped by the interaction between people and the natural environment and are strengthened by common characteristics and identity. Understanding the past (history), the present (including existing development, community assets, and characteristics), and the future (including potential for new development) is essential to defining a neighborhood. Identifying the essential characteristics of a neighborhood and perpetuating those through its evolution is what sustains the quality, cohesion, and livability of a neighborhood. This chapter goes beyond specific site or building considerations to issues which affect the character of neighborhoods and the entire community.

PLANNING PRINCIPLES

- Promote compatibility with valuable environmental and agricultural areas.
- Establish non-motorized connections among neighborhoods.
- Consider continuity of character in development.
- Compliment the character of the existing neighborhoods.
- Respect, preserve, and manage historic resources.
- Provide a mix of uses including varied residential opportunities and other uses that specifically serve the neighborhood.

GOALS

Protect and preserve historic and cultural resources in the plan area to safeguard the area's heritage.

Integrate new development and infrastructure with existing land use patterns to achieve overall compatibility with the neighborhood character and uses.

Preserve the diversity, integrity, and unique values of the area.

Consider associated services, amenities, and methods of reflecting the character within each neighborhood.

Enhance neighborhood character and the overall quality of life in the community with compatible and complementary development and re-development.

HISTORICAL AND CULTURAL RESOURCES

The formation of the City of Missoula is rooted in the Wye Mullan Plan area (plan area). Plans for the construction of a trading post in this area began in 1856 and home sites were established and land farmed near what became known as Hell Gate Village. In 1860, the same year as the completion of Mullan Road, Lyman (Frank) Worden and Christopher Powers (C.P.) Higgins established the first trading post at Hell Gate Village. Other buildings emerged around the trading post.[1]

Between 1864 and 1865, Higgins, Worden, and David Pattee built a lumber mill and flour mill approximately four miles east of Hell Gate Village, near the present location of the Higgins Avenue Bridge. The mill construction led to a shift towards development focused around the mills. By 1866 residents of the area were moving east and development around Hell Gate Village slowed.

[1] Koelbel, Lenora. *Missoula, the Way it Was: A Portrait of an Early Western Town.* Missoula, MT: Gateway Printing and Litho, 1972, p. 18.

Settlement in the plan area continued within the rural tradition with agriculture being the primary use of the land well into the 1900s. Infrastructure continued to expand around the plan area. Aerial photography shows Old Highway 10 West in place in 1937. The airport moved to this area in the early 1940s. Interstate 90 was completed through the area in 1965. The first major residential subdivision was approved in 1974, referred to as El Mar Estates. This was the beginning of many more major residential subdivisions. The Reserve Street Bridge was completed in 1977 and widened in 2000. By the 1990s major commercial development occurred along Reserve Street.

HISTORIC SITES

The National Register of Historic Places (NRHP) is the official list of the nation's historic buildings and sites that are considered to be worthy of preservation. The Register listing provides recognition of the property and can reward landowners for their preservation efforts through access to grants and tax credits. Listing in the register does not interfere with a landowner's right to paint, remodel, sell, or even demolish the building. Nor does listing require that a building be open to the public. Two sites in the plan area are listed with the NRHP and are identified on Map 3-2: *Community Assets*:

- Flynn Farm house listed as a National Register of Historic Place in 1980
- DeSmet School House listed as a National Register of Historic Place in 1991

Sites and structures of historical value to the community, regardless of whether they are formally listed, also contribute to the identity of the area and are considered assets to the community. Recognition that structures are historic does not necessarily mean that historic designation is being pursued. Preservation of historic buildings is encouraged. Retaining unique architectural features and supporting compatible uses for historic property that require minimal alteration of structure, site, and environment are ways to accomplish preservation. The following sites and structures in the plan area may also have historic significance but are not listed:

- Hell Gate Village site; any remaining structures have been significantly altered and very few remnants of the original site remain, but the area may still be acknowledged as the original site of Missoula.
- Grass Valley French Ditch (constructed beginning in 1901) and Flynn Lowney Ditch (constructed beginning in 1903) "may be eligible for listing in the National Register of Historic Places given their association with early agricultural development in the Missoula Valley."[2]
- Old Milwaukee Railroad (constructed in Missoula in 1909). Other segments have already been determined eligible for listing in the NRHP.
- Historic trails such as the "Bitterroot North to Jocko Valley" trail.
- Mullan Road, dedicated as an Historical Engineering Landmark (see Appendix 3.1).[3]

The community is encouraged to organize an historic association and seek funding for educational programs to promote awareness of these special places. Signage, site markers, celebrations, and restoration of what remains are all possibilities, and would help assure that this important part of our valley's legacy is not forgotten. A more detailed historical account is found in Appendix 3.1.

[2] Beery, Derek. *Cultural Resource Inventory of the Area of Potential Effect Associated with the Proposed Missoula County Mullan Road Sewer Project (RSID No. 8474).* Missoula, MT. Historical Resource Associates, Inc., 2003, p 10.
[3] Mineral County Pioneer, Volume 6, Summer 1989.

CURRENT DEVELOPMENT

Existing development is shown on Map 3-1 and illustrates the primary concentrations of commercial/industrial development, residential development, and public or quasi-public areas. The information used to determine development types is based on Montana Department of Revenue data indicating tax categories. Portions of an individual property may be taxed under several categories. The classification that best represents the actual uses on the ground was used to identify the use.

The majority of commercial development exists along North Reserve Street, Old Highway 10 West, and around the Wye. Additional commercial development is dispersed around Westview Village mobile home development. Commercial gravel operations exist on the south side of Mullan Road.

The majority of residential development in the plan area is comprised of single-dwelling units, with some concentrations of dwelling units in mobile home parks or multiple-dwelling structures. Mobile home parks are either in the vicinity of Old Highway 10 West, Mullan Road, or near Reserve Street. Multiple-dwelling developments are near Reserve Street.

The airport is located in the middle of the plan area and is accessed by Old Highway 10 West. Directly north of the airport are several industrial areas that have been experiencing a surge in development activity. The airport serves as a regional transportation hub and encompasses a variety of commercial and industrial services. Influences from airport operations have been considered beyond airport ownership.

Existing development patterns are distinct and typically emerged subdivision by subdivision in relationship to infrastructure improvements. However, some models of master planning for larger areas exist within the vicinity of the plan area and have taken on a character of their own, becoming the nucleus of developing neighborhoods. The development along North Reserve Street emerged as a planned, primarily business neighborhood. The concentration of larger retail and business uses along the main travel corridor, smaller lots planned closer to Reserve Street that help to buffer the parking areas, landscaping requirements, building design requirements, and the potential for high density residential located behind the large retail and business uses, functioning as transitions, were included as a part of the planning for that area. In this way, the business uses along Reserve Street are an exception to planning in isolation and are a model of planning as a neighborhood.

Hellgate Meadows, located west of Reserve Street, is an example of Traditional Neighborhood Development (TND). Through an extensive public involvement process, citizens had input in the resulting special district. Transition between uses, a system of interconnected streets, dispersed open spaces and gathering areas, specific building design regulations, and the mix of small-scale neighborhood commercial uses with residential uses were considerations in the special district. The results provide flexibility in meeting market demands, as well as predictability of development characteristics.

COMMUNITY CHARACTER

Community assets play an important role in any neighborhood. They are defined by the historical identity of an area, the places to gather, the places to reflect, and the places to interact with others. They are often considered the central focus of a neighborhood and the outstanding features that shape neighborhood character. Assets that already exist in the plan area include a range of public service facilities, recreational facilities, open space amenities and historic resources. Map 3-2 identifies the variety of community assets.

New development should reflect and respect characteristics of existing development. Primarily, existing characteristics reflect a semi-rural landscape where people enjoy the space between neighbors, the solitude, the night sky, the ability to have a large garden, watch wildlife, and raise horses or other farm animals. The challenge is to balance the existing characteristics with proximity to jobs and community

services, extension of utilities and roads, and the need to house a growing population in an affordable manner. For areas further west, the desire is to see very little change in the neighborhood character, while recognizing additional development will occur. Closer to the existing city limits, considerable change is expected and development should build upon the best urban characteristics of the past.

An underlying question asked while developing this Plan was "Where does Missoula begin?" If development along the western urban fringe continues with a regular pattern of suburban-scale lots (between one and four acres), agricultural land will be consumed and the edge of Missoula will become less definite. Meaningful habitat protection could become impossible. A clustered development pattern along the western part of the plan area is intended to provide a perceivable break in the landscape that preserves consolidated open areas and allows some aspects of rural living to continue.

As a way of visualizing the characteristics of the area with prioritized planning principles in mind, Natural Resources, Open Space, and Recreational Elements were mapped. These elements contribute to an interconnected open space system and identify areas where minimal development should occur and where development is recommended. Natural resource elements exist throughout the plan area, but especially to the west and along the Clark Fork River. By utilizing this open space approach to land use planning "each development will add to – rather than subtract from – the community's open space acreage."[4] The essential character of the area is preserved.

NEIGHBORHOODS

Neighborhoods are the most basic physical and social units of the community. In the plan area there are five types of neighborhoods. The following section describes typical characteristics of each.

URBAN NEIGHBORHOODS

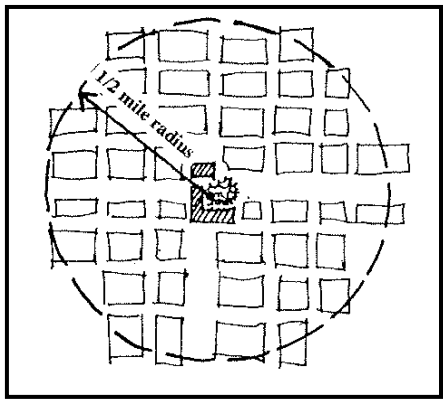
Urban neighborhoods, like the existing city neighborhoods, have sidewalks, fine-grain local street grids, and neighborhood parks. They are denser and use City services. The street layout is uniform and lot sizes are similar. The same criterion that is used for locating and spacing neighborhood parks, half mile radius equaling a ten minutes walk, should be used as a model for neighborhood size in order to stress walkable connections between residents. A variety of park spaces are considered with the neighborhood park being the primary public, central, and accessible recreation area. Pocket parks should also be interspersed in order to provide open areas within very close walking distance to homes.

Characteristics:

- Self-defined: Although neighborhoods are the components of a larger community, they have unique characteristics.
- Strong center: At the heart of a neighborhood should be some organizing element such as a neighborhood park, neighborhood center, trail system, school, or other places to gather.
- Overlapping edges: Transition between neighborhoods occurs by land use patterns that are complementary to both neighborhoods.
- Mixed use component: Urban neighborhoods may have an area of mixed use neighborhood commercial uses primarily serving the surrounding neighborhood.
- Diversity: Urban neighborhoods provide diverse housing types.
- Pedestrian-friendly and walkable community: The transportation system, site development, and architecture should be inviting to pedestrians with public amenities within approximately ten minute walking distance of most residents.

[4] Arendt, Randall. *Growing Greener: Putting Conservation into Local Plans and Ordinances.* Washington, D.C. Island Press, 1999.

- Increased connectivity: Urban neighborhoods have smaller blocks with a network of through streets.
- Denser development patterns: Buildings are placed closer to the street and setbacks between buildings are less in urban neighborhoods.
- Variety of park options based on the following level of service:
    1. Pocket parks should be available within ¼ mile radius of housing.
    2. Neighborhood parks should be available within ½ mile radius of housing.
- Dispersed traffic: A predictable system of connected local streets should lead to collector streets. Arterials should typically lie outside the neighborhood.
- Public infrastructure: Public water and sewer are available in urban neighborhoods.



Urban Neighborhood with an interconnected street pattern and focus area within half mile radius of residences. [5]

Urban Neighborhood [6]

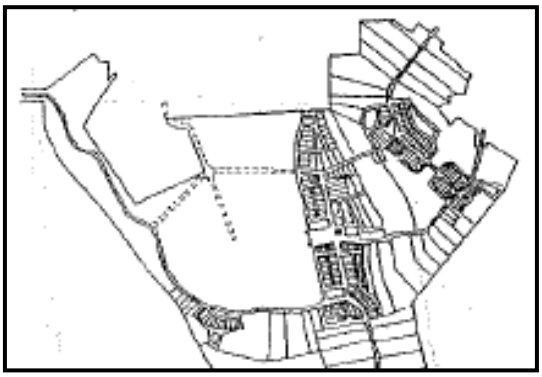
[5] MAKERS Architecture and Urban Design. *Residential Development Handbook for Snohomish County Communities.* Everett WA: MAKERS, 1992 p S-34.
[6] Aerial photography of Missoula. Missoula, MT: City of Missoula Engineering Department, 2002.

URBAN-CLUSTER NEIGHBORHOODS

In urban-cluster neighborhoods the relationship to the natural environment is more prominent. Clusters of urban density development are located with consideration for retaining large natural areas. The layout is irregular and lot sizes vary. These neighborhoods are further from the city center. The rural characteristics are preserved by designing development to protect natural areas.

Characteristics:

- Compatible with the landscape: Urban-cluster neighborhoods are more responsive to the natural context and therefore portray irregular development patterns.
- Minimize road impacts: Within development areas, street systems should reflect urban standards. Beyond the development areas, connecting roads should reflect rural standards.
- Rural pedestrian system: A pedestrian path, separated from the roadway, provide a pedestrian connection compatible with the irregular development pattern.
- Clustered development: Urban-cluster neighborhoods include clusters of small lots balanced by large open spaces.
- Plan for public infrastructure: Planning should accommodate public water and sewer systems.
- Broad open space needs: The emphasis of open space areas should be on resource protection and conservation while active parks and trails should also be planned to meet the needs of the projected population.
- Within development areas, refer to the Urban Neighborhood Characteristics.



Urban-Cluster Neighborhood with varying lot sizes and significant amount of open area. [7]

Urban-Cluster Neighborhood [8]

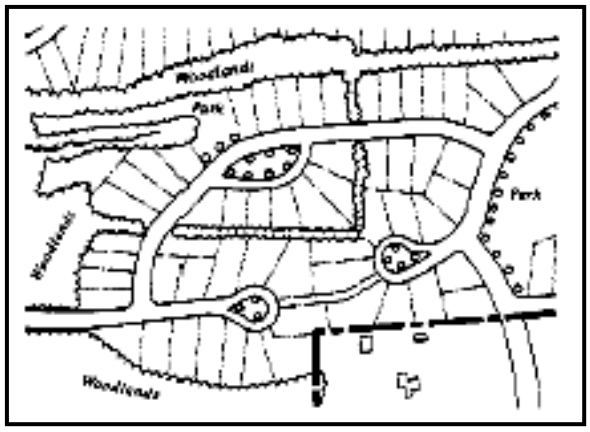
[7] Arendt, Randall. *Rural by Design*. Chicago, IL: American Planning Association, 1994, p.38.
[8] Aerial photography of Missoula. Missoula, MT: City of Missoula Engineering Department, 2002.

EXISTING NEIGHBORHOODS

Some neighborhoods are almost entirely developed in the plan area. They consist of subdivisions developed near each other, each with their own covenants. While the primary characteristics of these areas are not expected to change, improved common amenities and transportation connections can be established to enhance neighborhoods. New development through subdivision of existing large lots will not be significant enough to change the character.

Characteristics:

- Organic pattern: Irregularly shaped development patterns are connected by transportation networks.
- Improved connectivity: Non-motorized trails connect developments. Connect existing local streets when feasible, while not encouraging through traffic.
- Enhance existing character: Any further development in this neighborhood should not detract from the existing character.



Existing neighborhood with increased connectivity [9]

Existing Neighborhood [10]

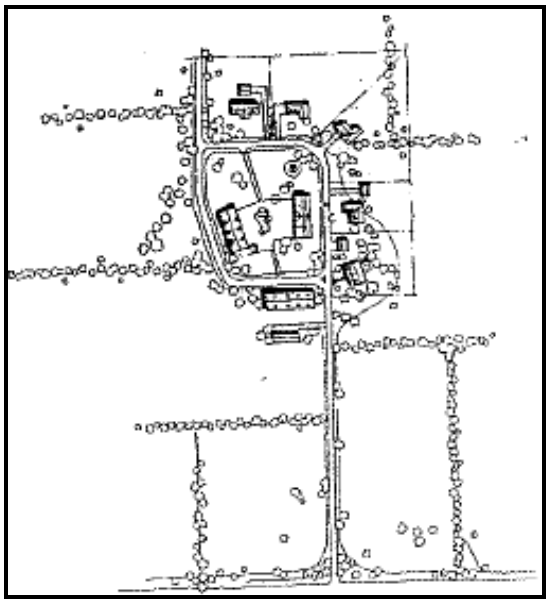
[9] Arendt, Randall. *Rural by Design*. Chicago IL. American Planning Association, p.206.
[10] Aerial photography of Missoula. Missoula, MT: City of Missoula Engineering Department, 2002.

RURAL NEIGHBORHOODS

Rural neighborhoods are characterized by openness, with a residential density of one dwelling unit per five acres or greater. They function as a transition between developed areas and are less reliant on urban services. The landscape, open fields and views through the properties become more prominent than structures. Development needs to continue the emphasis on rural characteristics.

Characteristics:

- Compatible with the landscape: Natural resources such as agricultural areas, water features, wetlands, hillsides, and floodplain are prominent.
- Organic pattern: Spacing between developments is irregular.
- Consolidate open area: Adjacent development can connect open spaces to provide more viable pasture and agricultural lands.
- Conservation design: Cluster lots to conserve open areas.
- Reflect rural character: Cluster structures to mimic farmhouses located near outbuildings.
- Roads should not dominate the landscape: Use of rural road standards including narrow streets sections for local circulation is encouraged.



Rural neighborhood cluster [11]

Rural Neighborhood [12]

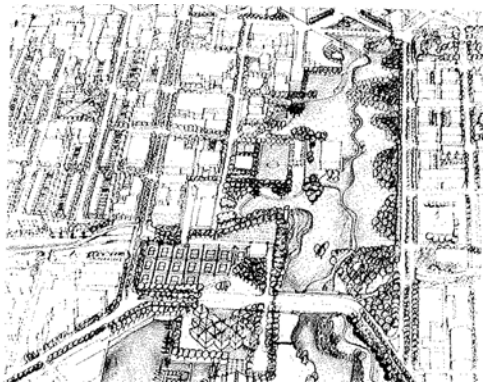
[11] Arendt, Randall. *Rural by Design*. Chicago: IL. American Planning Association p.201.
[12] Aerial photography of Missoula. Missoula: MT, City of Missoula Engineering Department, 1999.

BUSINESS NEIGHBORHOODS

These are neighborhoods that fill the majority of the employment needs in the area. They are more homogeneous in terms of uses (little or no residential uses). Business neighborhoods will often be more dependent on large truck traffic but should not diminish the need for pedestrian connectivity between businesses. Businesses located close to transit routes and residential areas may be able to reduce the amount of employee vehicle miles traveled through increased pedestrian connectivity. Additionally, pedestrian connectivity facilitates service links between businesses. Distinctions between business neighborhoods are based on location, type of employment offered, or by the nature of goods or services offered.

Characteristics:

- Orient toward the street: Building should face the street and have direct access to collector or local transportation routes.
- Group similar uses: Common intensities of commercial or industrial uses are grouped together.
- Consider multi-modal transportation: Depending on location, pedestrian and transit facilities should be made available.
- Mixed Use fringe: Transition through mixed uses to residential around the perimeter of the neighborhood.



Business neighborhoods could integrate natural features, incorporate street grids, and accommodate a variety of uses. [13]

Business Neighborhood [14]

POTENTIAL NEIGHBORHOODS IN THE WYE MULLAN WEST COMMUNITY

Quality neighborhoods develop with coordinated planning by land owners, residents, developers, community leaders, and planners. Applying the neighborhood characteristics described above to this plan area results in the identification of current and future neighborhoods. Potential neighborhoods focus on areas where new development may still occur as well as areas where consideration to additional characteristics could further the sense of neighborhood. Not all parts of the plan area are mapped as potential neighborhoods because of resource constraints that prohibit additional development or the area has predominantly public or quasi-public uses. A potential neighborhood may consist of several smaller existing developments that help to set the characteristics for the area but also create a challenge for developing a common sense of neighborhood. This Plan describes 13 potential neighborhoods. See Map 3-3 for the general location of each neighborhood.

[13] Kelbaugh, Douglas. *Common Place: Toward Neighborhood and Regional Design.* Seattle WA. University of Washington Press, 1999 p 162.
[14] Aerial photography of Missoula. Missoula, MT. City of Missoula Engineering Department, 2002.

1. **Within and around Westview Village is an urban neighborhood.** The density of the existing mobile home park and proximity to Reserve Street places it close to community services. The neighborhood market serves local needs and decreases the need to leave the area for convenience items. This neighborhood is isolated from other residential neighborhoods by changes in terrain and dissimilar surrounding uses. Connections to nearby residential developments will expand this neighborhood. This area needs a neighborhood park according to the *Consolidated Master Parks and Recreation Plan for the Greater Missoula Area*. A centrally located neighborhood park provides a gathering place for the population of the area and is an important element of an urban neighborhood.

2. **Between Reserve Street and Hellgate School is a potential urban neighborhood.** Proximity to urban services and established development patterns that include a mixture of uses and a variety of housing types make this area a potential urban neighborhood. Components of the neighborhood should include neighborhood commercial uses at key intersections, a public neighborhood park at least four acres in size, a variety of residential types including single family, townhouse, and multi-family, a street grid which includes short blocks, increased connectivity, and alleys that separate the cars from the pedestrians. Hellgate Elementary School is positioned on the edge of this neighborhood and is a community asset for the entire area.

   Two larger developments as well as several small subdivisions have been approved in the area between Reserve Street and Hellgate School. Hellgate Meadows and Pleasant View Homes are east of Flynn Lane. These projects contribute distinctively different characteristics to the area. Hellgate Meadows is a Special Zoning District that prescribes a mix of neighborhood commercial and varying residential building types including live/work units, along with special feature parks. Lots are small with homes oriented to the main streets and garages are oriented to the alleys. The potential mixture of uses promotes a walkable community and potential pedestrian-friendly services will create destinations for walking. The proximity to neighbors and services including park areas are key characteristics of an urban neighborhood. Pleasant View is primarily single family residential with a street grid and alleys. A parcel located at a key intersection between two main roads in the development is available for neighborhood commercial use. Small parks are distributed throughout the development. Future phases of Pleasant View should include other elements of urban neighborhood planning such as diverse housing types, establishing a centrally located neighborhood park, and pedestrian friendly features including main entries facing the streets and garages accessed off the alley.

   Transition from the "big box" commercial developments along Reserve Street should occur with the reduction in intensity of development from east to west. Pleasant View could contribute to this transition if there is an increase in intensity and more variety to the residential building types as development proceeds eastward. Hellgate Meadows on the other hand, which originated closer to Reserve Street, should address reduction in intensity as it develops westward. Development along the western edge of the neighborhood may be even less dense close to the school.

3. **Between Hellgate School and Grant Creek is a potential urban neighborhood**. Proximity to urban services and to the school and recommended land uses make this area a potential urban neighborhood.

   The McKinnon/Edwards conservation easement and the lower-density development near the school define the eastern edge of a potential neighborhood. The northern boundary is delineated by the mixed use land use designations. Grant Creek and its floodplain mark the western edge. The Old Milwaukee and Mullan Road define the southern edge.

This neighborhood primarily consists of urban residential land use while also recognizing existing development. Blending larger lots with smaller lots provides transition from existing developments and is a means of offering a variety of building types. A range of residential densities and a mixture of uses are encouraged near England Boulevard. A potential neighborhood center indicator is shown along a north-south collector road between Mullan Road and England Boulevard. A neighborhood park in a central part of the neighborhood is indicated. Near the perimeter of the neighborhood, Grant Creek and the Old Milwaukee are potentially parts of a community trail system.

4. **Within and around Hellgate Station is a potential urban neighborhood.** It is slightly smaller than other neighborhoods. It includes high density mobile home parks, some commercial uses, and several established smaller developments with a variety of residential building types. Mullan Road extends through the center of the neighborhood and the Clark Fork River floodplain defines the southern edge. Grant Creek and the Old Milwaukee are within close proximity, contributing to the concept of this area functioning as a focus of community activities.

   Development of the area around Hellgate Station, using an historic theme with signage that retraces the steps of the past, would celebrate the area's rich history. Where a collector road intersects with Mullan Road, near Hellgate Station, is an appropriate location for neighborhood center uses. Improved pedestrian crossings on Mullan Road will promote pedestrian movement and connectivity of the neighborhood.

5. **Between Mullan Road and the airport is a potential urban-cluster neighborhood**. The neighborhood lies primarily along the top of the clay hills with the transition to the grass valley area along the western edge and Grant Creek along the eastern edge. An open and resource land use, functioning as a greenbelt, defines the northern edge beyond which is airport development and light industrial land use.

   The neighborhood has the potential to develop with a strong relationship to the open space in the area. A golf course and residential community exist in the southwestern end. A community park is recommended toward the eastern edge and near Grant Creek, and a neighborhood park is recommended along the western end. The Old Milwaukee railroad bed extends through the middle of the neighborhood, providing potential open space and trail connections. New development should focus around the Old Milwaukee railroad bed and cluster away from the drainages, existing riparian vegetation, and Grant Creek.

6. **Around New Meadows Park is an existing neighborhood.** Most of this area is developed with lots ranging in size from ¼ acre to two acres.

   New Meadows Park is the focal point of this neighborhood. The open space aspects of this park could be a benefit to people in surrounding subdivisions including areas across Mullan Road. The area has a variety of residential building types, a neighborhood park, an area zoned for commercial uses, and an area for public uses, where the rural fire station is located. This area needs other public uses that complement the fire station and improved pedestrian access across Mullan Road to further define the area as a neighborhood.

7. **Around Golden West Park is an existing neighborhood.** Most of this area is developed with lots ranging in size from one acre to five acres. It is semi-rural, characterized by larger spaces between residences that offer a visual connection to the landscape, minimal pedestrian facilities, and a street system consisting of many cul-de-sacs. This neighborhood focuses around Golden West Park, an existing public neighborhood park. The area is well served by public amenities. Additional pedestrian easements are needed between existing streets in this area. A system of neighborhood trails may run "like a string of pearls" from one destination to another – from New Meadows to Golden West, and eventually to Kelly Island. When additional development occurs, consideration should be given to improving local street connectivity.

8. **Between Cote Lane and Kona Ranch Road is a large area likely to develop as two urban-cluster neighborhoods: Kona Ranch East and Kona Ranch West.** The two neighborhoods should have many common characteristics and coordinated open space. They should balance rural characteristics with urban services, considering useful and visible open space for rural activities such as raising horses, agriculture, and gardening, clustered buildings, open rail fencing, connection and consolidation of public infrastructure, and varying setbacks from roads. Developed areas could convey many urban characteristics such as consolidated development pattern, interconnected street system and a mixture of building types, yet rural characteristics could also be conveyed in the surrounding setting. The undeveloped areas should promote rural, open space characteristics including minimal disruption by roadways.

   A "planned destination resort" land use designation was proposed in the vicinity of the Clark Fork River and Kona Ranch Road late in the planning process. The concept introduces unique elements not otherwise included in the existing land use designations that may provide additional amenities to the area and enhance its character. The concept also presents concerns related to potential traffic impacts to Kona Ranch Road, impacts to natural resources along the Clark Fork River, and impacts to surrounding neighborhood areas, both inside and outside of the plan area.

   More specific information is required before a "planned destination resort" land use designation can be defined adequately, analyzed for appropriateness, and located in the plan area. Such information is typically presented in detailed applications for Special Zoning Districts and development proposals that address scale, context, location, use, and other elements that may affect natural resources, transportation and other infrastructure, public services, neighborhood character, and other values reflected in the Plan.

   This Plan does not create a "planned destination resort" land use designation, however if such a development application is made, it will be considered by the City and County governing bodies based on an evaluation of its merits in the context of goals and objectives adopted in the Plan.

   8a. Kona Ranch East: This area is within the Missoula Municipal Sewer Service Area so consolidating density into clusters is possible. Significant open space will preserve the rural character, preserve the natural resources, and will allow transition from existing development. The undeveloped space should be organized, providing for active recreation as the population increases, adding a neighborhood park.

   This area will complement the small lots of El Mar Estate through open space amenities to new development also with potentially small lots.

8b. Kona Ranch West: This neighborhood should focus around significant open space. The open space functions as a break between rural neighborhoods with large residential lots to the west and the area with smaller residential lots to the east. Clustered pods of small-lot residential development are interspersed throughout larger areas of open space. The open space break should be visible from Mullan Road.

The intersection of Kona Ranch Road and Mullan Road define the northern edge of the neighborhood. This area has the potential to develop as a special gateway conveying the beginning of the Missoula community.

9. **Grass Valley East is a rural neighborhood.** It emerges around Kona Ranch Road, a portion of Mullan Road, and Deschamps Lane and includes several large-lot developments interspersed with parcels of land still being used for agricultural purposes.

   The rural neighborhood contains a much lower population and less need for neighborhood parks. Rural roads, meandering trails and clustered structures mimicking traditional farms are rural characteristics that should be encouraged.

10. **The Wye is a business neighborhood.** The area adjacent to Interstate 90 and Highway 93 has already developed as a commercial transportation hub for travelers and truck traffic with highway heavy commercial and industrial uses to serve the transportation industry. It is also a main entry point into the Missoula Urban Growth Area. Improvements to landscaping and signage would help to introduce Missoula but would also characterize the area as its own neighborhood. There is potential for residential development around the fringes of the Wye in the future, creating potential conflicts between residential and heavy commercial uses. Less intense commercial uses or higher intensity residential can provide a transition. As plans for development in this area emerge they should include the placement of a neighborhood park as a focal point for community activity.

11. **Highway 10 Corridor is a business neighborhood.** This corridor has already developed for commercial and light industrial uses, and it is a main travel corridor into Missoula from the Wye and the airport.

    Business uses that serve regional or community needs should continue to be located close to the Highway 10 Corridor. The neighborhood should develop with controlled access, consistent landscaping, clearly defined approach areas to development, and thematic signage. Because this neighborhood is one of the first impressions of the community, specific development standards should be implemented. Business developments should be concentrated at major intersections in order to avoid a constant strip of commercial uses and associated access points along the corridor.

12. **Between England Boulevard and Old Highway 10 West**. This mostly undeveloped area is south of the Highway 10 Corridor, west of Flynn Lane and east of Grant Creek.

    Ideally, this area will develop with clean industry and research and development projects. Industrial, manufacturing, and warehouse facilities are also anticipated. Regional retail uses are not supported by existing or planned infrastructure. Community commercial uses, especially along England Boulevard and near the north end of Flynn Lane, function as a transition from existing residential land use to more intense commercial uses. Establishing a local street-grid will help to create a flexible transportation system that includes opportunities for pedestrian-friendly streetscapes and efficient vehicular movement in the neighborhood. Design of the England Boulevard corridor should be pedestrian friendly, accommodating vehicular and pedestrian travel.

13. **Reserve Street corridor is a business neighborhood.** Most of the development pattern along Reserve Street is already established. Specific development standards have been applied to many of the uses in the area. Transition occurs through the shift in intensity from "big-box" retail uses along Reserve Street to office and high-density residential uses beyond. Characteristics that should continue to be enhanced in the neighborhood included placing structures to face the main travel corridor, encouraging access to development from the adjacent collector routes, enhancing pedestrian connectivity between developments, encouraging a continued mix of uses, and considering architectural treatment of the back side of large developments when adjacent to residential areas.

OBJECTIVES AND STRATEGIES

1. Inventory, identify, and evaluate historical and cultural sites and structures.
   a) Develop means to protect cultural and historic sites, trails, and structures within the plan area.
   b) Form a Mullan Road Historic Society to help evaluate and develop ways to preserve historic homes and heritage.
   c) Support historic, archeological, or architectural surveys of local historic resources in the plan area.
   d) Consider incentives for historic preservation.
2. Encourage the preservation and adaptive re-use of historic structures or systems.
   a) Support compatible uses for historic property that require minimal alteration of structure, site, and environment.
   b) Encourage repair rather than replacement of deteriorated architectural features whenever feasible by replicating the original design and materials.
   c) Encourage developers to avoid destroying, removing, or altering historic materials or distinctive architectural features.
3. Protect and preserve archeological resources affected by or adjacent to any project.
   a) If cultural resources are uncovered during any earth moving, immediately halt activity and contact the Confederated Salish and Kootenai Tribe's Tribal Preservation Office in Pablo, the Missoula Historic Preservation Office, and the State Historic Preservation Office (SHPO) in Helena before further disturbance of the site occurs.
   b) Encourage SHPO file searches when appropriate during project review.
4. Support and provide educational opportunities on area history.
   a) Form a Mullan Road Historical Society to help develop commemorative signs or interpretive programs.
   b) Support cross-cultural work on cultural, historical, and archeological sites in the area.
5. Establish a balance between new development and existing character.
   a) Preserve open space, and sensitive environmental areas within high density housing areas by encouraging cluster housing development.
   b) Concentrate new higher intensity development in the eastern portion of the plan area proximal to the regional commercial uses along Reserve Street.
   c) Recommend urban levels of development where services and amenities exist, while also fitting with the character of the area.
   d) Create neighborhood centers anchored by existing uses or strategically placed at key intersections.
   e) Recommend suburban levels of development with increased non-motorized connectivity in areas where existing development patterns are set.
   f) Recommend urban levels of development in the area between the Old Milwaukee and airport in order to function as a transition between existing development and airport uses.
   g) Retain the large-lot rural development pattern along the western end of the plan area near Deschamps Lane and Grass Valley Estates.

h) Establish a clustered development pattern along the western end of the plan area to function as the gateway into Missoula.

6. Create transitions between uses and buffer incompatible uses from each other.
   a) Establish buffer areas or less dense development adjacent to already established subdivisions that are of considerably different density than proposed development.
   b) Incorporate mixed use development as a method of transition between primarily commercial and primarily residential areas, where applicable.
   c) Development should transition in intensity from most intense closest to Reserve Street to least intense along the western part of the plan area.
7. Include consideration of typical neighborhood characteristics when developing in particular neighborhoods.
   a) Urban neighborhoods should reinforce pedestrian-friendly development patterns with public amenities within accepted walking distance.
      i) Consider Neighborhood Center uses in proximity to the Neighborhood Center indicator.
   b) Non-urban neighborhoods should include small groups of clustered development and a majority of open space. See *Conservation Design Guidelines* in Appendix 2.1.
   c) Existing neighborhoods should establish strengthened connectivity to reinforce a collective sense of place that goes beyond the bounds of each subdivision.
   d) Rural neighborhoods should continue to consider the variety of lot sizes in order to retain large open areas for rural purposes.
8. Establish a system of vehicular and pedestrian movement that reinforces the sense of neighborhood.
   a) Major roadways need to include off-road non-motorized routes.
   b) Collector roadways should be designed to be pedestrian-friendly including limitations on curb cuts, permitting on-street parking, and incorporating boulevard sidewalks.
   c) Work with appropriate agencies to establish increased non-motorized connectivity between already established neighborhoods.
   d) Consider improved pedestrian crossings, off-road non-motorized routes, and transit pull-outs along Mullan Road.
   e) Reinforce the sense of gateway at key intersections along Mullan Road through techniques such as narrowing the roadway to slow traffic, increasing the landscaping, establishing pedestrian crossings, establishing signage, and creating public or inviting spaces adjacent to the gateway.
9. Implement development guidelines for multi-family housing, mixed uses, commercial, industrial, and the interface between different uses.
   a) Commercial uses should use design concepts that integrate the development into the neighborhood context, where appropriate.
   b) Create guidelines for each type of commercial and industrial use (including scale, uses, site location, circulation, transition buffering). Apply performance zoning where appropriate.
   c) All residential neighborhoods should be buffered from higher intensity land uses (commercial, light industrial, and airport uses) and connected by well-designed multi-modal travel corridors.
   d) Implement the *Community Design Guidelines* found in Appendix 2.1 through an overlay or other zoning tools.
10. Coordinate land use planning with airport planning.

CHAPTER 4
HOUSING

INTRODUCTION

This chapter examines the housing types found in the plan area as well as emerging types of housing. The area is uniquely available to a variety of housing types because of large, undeveloped ownerships with access to urban services. Careful consideration of overall mix and placement of housing enhances social, cultural, and economic diversity and supports an environment rich with natural resources.

PLANNING PRINCIPLES

- Provide a mix of housing types and densities within each development;
- Provide a high quality and desirable living environment;
- Encourage a variety of residential settings;
- Complement the character of the existing neighborhoods; and
- Provide complementary commercial uses within neighborhoods.

GOALS

Enhance opportunities to develop diverse housing at appropriate densities to meet the community's needs.

Increase neighborhood access to affordable, diverse and high quality housing.

Encourage residential land use that considers existing or anticipated growth of public services and facilities, preservation of natural resources and compatibility with neighborhood character.

HOUSING DEMOGRAPHICS

Figure 4-1 shows population growth rates, a trend toward smaller households, and a decreasing housing vacancy rate in the County, Urban Area, and Plan Area for 1990, 2000, and 2003. Within the County and the Urban Area, the increase in housing units closely matched the increase in population between 1990 and 2000. The Wye Mullan Plan area (plan area) increased its housing units by 44% from 1990 to 2000 to accommodate a 41% increase in population.[1] The plan area accounted for approximately 14% of the growth in the Urban Area during the same period of time. Between 2000 and 2003, 239 new dwelling units were added to the market in the plan area, a 3.6 percent growth per year. If the trend continues as it has over the past three years, the number of additional housing units built by 2025 will be approximately 2,800.

[1] For an analysis of the trends towards single person households and an aging population see the *2003 Consolidated Plan*. The higher increase in the percentage growth of households over population growth is indicative of this trend.

Figure 4-1
Households and Housing Units

		1990❶	2000❷	% Increase	2003
Missoula County	**Population**	78,687	95,802	22%	102,050❹
	Households	30,782	38,439		
	Housing Units	33,466	41,319	23%	42,518❸
	Persons /household	2.53	2.40		
	Vacancy	2,684 (8%)	2,880 (7%)		
Missoula Urban Area	**Population**	60,944	73,023	20%	76,803❹
	Households	25,073	29,810		
	Housing Units	26,322	31,088	18%	31,479❸
	Persons/household	2.63	2.44		
	Vacancy	1,249 (5%)	1,278 (4%)		
Plan Area	**Population**	3,888	5,483	41%	6,208❹
	Households	1,345	2,026		
	Housing Units	1,462	2,110	44%	2,388❸
	Persons/household	2.89	2.7		
	Vacancy	117 (8%)	84 (4%)		

❶ 1990 Census Data (Block level).
❷ 2000 Census Data (Block level).
❸ IMPMOB (Improvement Mobile) 2003.
❹Projection based on IMPMOB for housing 2003 (using reported Units x persons/household from 2000 census data).

Figure 4-2 highlights household composition for key household types in the plan area, and indicates that while the plan area will continue to attract "households with individuals under 18 years of age," this household grouping saw the lowest percent change during the ten year period. As the population continues to age, housing for the elderly requiring proximity to services, accessibility and assisted living will increase. The number of persons per household continues to decline. Planning for smaller households, as indicated by the large increase in one-person and elderly living alone households, dictates the creation of diverse housing types but especially smaller units.[2]

Figure 4-2
Selected Household Composition in the Plan Area

	1990	2000	Percent Change
One-person	122	211	+73%
One or more persons over 65	113	168	+49%
Households where elderly persons lived with others	79	113	+43%
Households where the elderly lived alone	34	55	+62%
Female householder living alone over 65	23	29	+26%
Households with individuals under 18 years	475	554	+17%
Female head of household with children	67	91	+36%

Source: Based on U.S. Census Bureau Data (Block Level)

[2] One of The Missoula Housing Authority's long-term strategies is to "respond to the need for smaller units with fewer bedrooms because of our changing demographics (smaller family size, more seniors living alone)" (*Missoula Consolidated Plan* 1999-2003, page 36).

HOUSING STOCK

Residential development in the plan area has increased considerably in the past ten years (see Appendix 4.1 for name, location and year of subdivision development). Where a development pattern is established, new development should reflect the existing character and development pattern (see Appendix 4.1 *Residential Developments and Subdivisions*). Connectivity between existing neighborhoods and new development should be established and a transition should be considered.

Specific design guidelines ensure compatibility with existing development and the desired character for the area or neighborhoods within the area. Design guidelines have been established that balance the opportunities for development with the overall character of the area. Design guidelines promote more efficient use of resources and land, thus potentially saving on total development costs. It is possible to develop housing with smaller square footage on smaller lots while meeting design standards which promote the character of the immediate or adjacent area. The *Neighborhood Chapter* describes techniques for creating neighborhood compatible, resource sensitive development. The *Community Design Guidelines*, in Appendix 3.2 also provide general development guidelines.

OCCUPANCY

In the plan area, 75% of housing units were owner occupied in 1990 and 71% were occupied in 2000; much higher than the comparable percentages in the County and Urban Area. The increase in rental housing in the plan area will probably continue. As large parcels are developed, a balance between owner occupied residences and rental units should be achieved. Figure 4-3 also indicates that the amount of vacant housing throughout the County has declined.

Figure 4-3
Occupancy of Housing Units

		1990	2000
Missoula County	**Owner Occupied**	18,514 (60%)	23,795 (62%)
	Renter Occupied	12,268 (40%)	14,644 (38%)
	Vacant	2,684 (8%)	2,880 (7%)
Missoula Urban Area	**Owner Occupied**	13,724 (55%)	16,539 (55%)
	Renter Occupied	11,349(45%)	13,271 (45%)
	Vacant	2,023 (7%)	1,253 (4%)
Plan Area	**Owner Occupied**	1,401(75%)	1,672 (71%)
	Renter Occupied	311 (16%)	354 (24%)
	Vacant	145 (8%)	127 (4%)

Source: US Census Bureau Data

HOUSING UNIT TYPES

Figure 4-4 shows the plan area with only nine percent of multi-dwelling units. The remaining units are either stick-built, or mobile, single-dwellings.

Figure 4-4
Housing Unit Types

	Housing Type by # of units ❶	1990❷	2000❸	2003❹
Missoula County	**Single Dwelling**	20,487 (62%)	26,068 (63%)	25,850 (63%)
	Multi-Dwelling	8,012 (24%)	9,624 (23%)	9,301 (23%)
	Mobile Home	4,664 (14%)	5,528 (13%)	5,900 (14%)
Missoula Urban Area	**Single Dwelling**	15,113 (58%)	17,267 (59%)	17,851 (58%)
	Multi-Dwelling	7,833 (30%)	8,543 (29%)	8,949 (30%)
	Mobile Home	3,134 (12%)	3,659 (12%)	3,739 (12%)
Plan Area	**Single Dwelling**	510 (34%)	1,109 (49 %)	1,241(47%)
	Multi-Dwelling	15 (1%)	207 (9%)	224 (8%)
	Mobile Home	980 (65%)	964 (42 %)	1,196 (45%)

❶ Montana Department of Revenue- Assessor's Data.
❷ U.S. Census Data (Block Group level)
❸ U.S. Census Data (Block Group level)
❹ IMPMOB (Improvement Mobile) 2003, Montana Department of Revenue Data.
Note: Other types of housing units in the area not included in this figure.

As the greater Missoula community continues to grow, diverse housing types should be provided in order to accommodate different household size and income levels. A diverse housing mix is achieved by integrating single dwelling units, duplexes, accessory dwelling units, townhouses, and multi-dwelling units within a neighborhood. Duplexes and single dwelling homes on smaller lots, and multi-dwelling residential units built to reflect the overall character of the surrounding neighborhood, increase diversity of housing types and opportunities for various income groups. Increased diversity can also be achieved by designating an area as a neighborhood center, or as mixed use with medium-to-high density housing mixed with neighborhood commercial uses. Accessory units, or second units, located in the single-family portion of residential areas create affordable rental units without changing the character and quality of single-family areas. They also offset housing costs for the primary unit, provide needed space for a family member, or act as transitional single-family housing.

A mixture of settings can be achieved by clustering development and surrounding it with open space, varying lot sizes, increasing density, and mixing residential and complementary uses in central locations as well as by other creative, innovative means. Planning for Traditional Neighborhood Development (TNDs) in urban residential areas forwards the concepts of mixed settings and variety. TNDs mimic past traditional development patterns by including varying housing types, central parks, street grids with alleys, and limited neighborhood commercial.

Traditionally, increased density and affordable housing in this area have been provided with the development of mobile home parks, served by community sewer and water. There are 42 mobile home parks in the plan area (see Appendix 4.1, *Housing Developments*). Katoonah Lodges is the most recent mobile home park with its first phase geared towards affordable senior living. Strict development standards make it a model mobile home park development. Westview Village is the largest with 382 units.

AVAILABILITY

Figure 4-5 compares the number of existing housing units (from Figure 4-1) to the potential number of housing units allowed under existing zoning, existing land use designations, and the revised land uses of this Plan.

Figure 4-5
Comparison of Current Housing Unit Potential to Proposed Total Housing Units

	Residential Developed (2003)		Potential Residential based on Existing Zoning		Potential Residential based on Existing Land Use Designations		Potential Residential based on Proposed Land Use Designations	
	Units	*Acres*	*Units*	*Acres*	*Units*	*Acres*	*Units*	*Acres*
Plan Area	2,388	--	8,413	6,300	11,015	5,654	12,910	5,141

Note: Units with acreage to be revised based on final draft of land use.

Resulting residential build-out depicts the suitability of this area for increased density, and the need for this area to accommodate a reasonable percentage of growth in the Missoula community.

The proposed residential land uses could yield approximately 1,895 additional housing units than with past land uses and 4,497 more than with existing zoning. Zoning changes still need to occur to permit development at this intensity. Another important comparison is the change in amount of acreage used for residential. The proposed residential land use takes up significantly less land than existing zoning or past land use by recommending less development in constrained areas and more development in suitable areas.

Special consideration should be given to the Missoula International Airport which is centrally located within the plan area. The airport necessitates constraining residential land uses to the East, South, and West. In some areas around the airport, residential land use is excluded and in other areas, limited. Natural resources such as the floodplain and hillside also influence land use designations and intensity of development in the plan area.

HOUSING COST AND AFFORDABILITY

"Affordable housing has been identified as a critical community development need in Missoula."[3] Figure 4-6 demonstrates an increasing disparity between the cost of housing and household income. Consequently, fewer people in Missoula can afford to buy a home.

Figure 4-6
Income and Cost of Housing

		1990❶	2000❷	2003❸
Median Value of Home / Median Price of Home	Missoula County	$65,500	$136,500	$ 154,950
	Missoula Urban Area	$59,815	$125,852	$ NA
	Plan Area	$70,033	$160,800❹	$ 155,900❺
Median Household Income	Missoula County	$23,388	$34,454	
	Missoula Urban Area	$23,595	$33,912	
	Plan Area	$28,356	$42,228	

❶1990 Census Data
❷2000 Census Data
❸2003 Data is provided by the Missoula County Association of Realtors.
❹2002 Census Data (values as perceived by owner)
❺2003 Data (values based on actual market values)

The lack of affordable housing is reaching a critical point in Missoula County as it is in many counties in Western Montana. The Federal government has guidelines to determine housing affordability[4] and to indicate who qualifies for various types of housing assistance.[5] "In 2000, 25% of urban area home owners and 51% of renters paid more than 30% of their incomes for housing."[6] The cost of housing in Missoula is accelerating at a faster rate than the median household income. The U.S. Census also reported a 110% jump in Missoula's median home value during the last decade. The same period saw the median income for individuals, families or households grow by less than 50%.[7] In 2002, the median household income of the plan area exceeded the median income of the Urban Area and the County.

[3] *Missoula Consolidated Plan 1999-2003*, Page 33.
[4] According to HUD guidelines, housing is considered "affordable" if no more than 30% of gross monthly household income is required to meet housing costs.
[5] Low-income households are defined as those earning 50% or less of the area's median household income. Moderate-income households are those that earn less than 80% of the area's median household income.
[6] Missoula Consolidated Plan, Page 28.
[7] Missoula Consolidated Plan, Page 28.

OBJECTIVES AND STRATEGIES

1. Encourage housing development that is compatible with neighborhood character.
   a) Build neighborhoods that are focused around community spaces such as the school or parks.
   b) Encourage use of the *Community Design Guidelines: Appendix 3.2*, and implement the Community Design Guidelines through a proposed overlay zone or other zoning tools to ensure compatibility.
2. Provide an adequate supply and variety of housing types and densities within the planning area.
   a) Develop a mix of housing densities within close proximity of each other.
   b) Support variations in lot size while maintaining overall density.
   c) Implement this Plan through revisions to zoning in the area.
   d) Allow for densities to be flexible depending on master plan design, and compatibility with surrounding uses.
   e) Encourage clustering of lots and building locations.
   f) Develop tools to encourage medium and high-density residential development (8-16 units per acre) in the areas designated for such uses.
   g) Maximize the availability of community resources and provision of services.
3. Encourage a mix of housing types to meet the needs of various ages, incomes, abilities, and household sizes.
   a) Provide a range of housing opportunities for senior residents.
   b) Encourage cluster development, minimum lot size, and zero lot line as development standards for certain parts of the plan area.
   c) Aid and encourage private, governmental and non-profit agencies in their efforts to develop affordable and diverse housing within innovative neighborhood design.
   d) Develop site design standards for manufactured homes.
   e) Support development that accommodates special accessibility needs.
   f) Support programs that assist with first-time homeownership
   g) Support programs that assist with home improvements for low and moderate income households.
4. Locate urban residential development within proximity to schools, parks, and convenience shopping.
   a) Encourage Traditional Neighborhood Design development.
5. Design development with flexibility to adapt to infrastructure changes and future connections.
   a) Include pedestrian linkages between neighborhood and with nearby uses and natural features.
   b) Design development that may in the future connect to the Missoula Wastewater Facility for the potential to be re-subdivided into smaller lots.
   c) Provide opportunities for connection to a road grid system.
6. Coordinate land use planning with Airport Planning.

CHAPTER 5
ECONOMY

INTRODUCTION

The economic life of the Wye Mullan Plan area (plan area) is tied to interstate and regional commerce and is an integral part of the Urban Area economy and that of Missoula County as a whole. The *Urban Area Comprehensive Plan* emphasizes the relationship between economics and quality of life of area residents. It supports the need for diverse economic growth as well as improved job opportunities and business expansion. Sustainable economic development respects the built environment, natural resources, and the social systems that define and give character to a community while striving for profitability. Land uses within the plan area directed toward commercial and industrial activities must account for regional economic conditions and reflect the needs of the community.

In October of 2003 the City of Missoula, Missoula County, Missoula Economic Development Corporation, Missoula Area Economic Development Corporation, the University of Montana, and the O'Connor Center for the Rocky Mountain West held a one-day Economic Forum. "The purpose of the Forum was to consider the rapid changes Missoula is undergoing and its economic future."[1] The Forum participants agreed enthusiastically about Missoula's strengths: its natural environment, cultural and community values, and the University of Montana. Participants of the Economic Development Forum overwhelmingly (87%) agreed that "quality of life" was the main reason they continue to live in the Missoula area. Wye Mullan citizens' economic priorities align with the desire for diverse economic opportunities that enhance the quality of life within the Missoula area, protect the natural resources, and preserve the sense of community.

PLANNING PRINCIPLES

- Strategically locate and cluster neighborhood commercial uses and blend them with the character of the surrounding neighborhoods.
- Encourage environmentally-friendly businesses and industry.
- Designate a place for regional commercial and industrial uses similar to the Missoula Development Park; reflect and respect the character of the surrounding neighborhoods.
- Support local sustainable agriculture.

GOALS

Support sustainable economic development that allows for diverse business and employment opportunities and integrates with the natural environment.

Cluster commercial and industrial development along major travel corridors and in appropriate land use areas.

Establish compatibility between neighborhood commercial uses and the character of the surrounding residential neighborhoods.

Establish mixed use areas allowing people to live, work, shop, and recreate all within their own neighborhood.

[1] Ginny, Fay, SuzAnne Miller. *Summary Report of the Missoula Economic Development Forum from October 20, 2003*. (Center for the Rocky Mountain West, 2003, page 3).

EXISTING ECONOMIC CONDITIONS

The plan area includes places where commercial or industrial uses are predominant such as along North Reserve Street, Old Highway 10 West, and the Wye. The Missoula International Airport, accessed from Old Highway 10 West, is centrally located within the plan area and provides an international transportation hub for the region. The airport is a critical component of economic growth for the area. It ties the region to the rest of the country while generating local support services, industries, and associated businesses.

Light industrial and commercial businesses also exist adjacent to the plan area, especially to the northwest and to the north, in the Missoula Development Park. The Missoula Development Park provides a mix of economic and employment opportunities with housing, allowing people to live and work in the same area.

Figure 5-1 indicates the amount of land currently zoned or designated for commercial or industrial type uses and the amount of recommended commercial or industrial land use. It also indicates the amount of land being taxed for commercial purposes (CAMA Data).[2]

Figure 5-1 Commercial or Industrial Areas in the Wye Mullan Area (Acres)

Existing Land Use Designations	2,454
Existing Zoning (City and County)	2,716
Existing Development based on CAMA Date[3]	1,200
Proposed Land Use Designations	2,693

Approximately 2,454 acres within the plan area were designated for commercial or industrial uses with most of it located along North Reserve Street, Old Highway 10 West, the Wye, and southwest of the airport. Of that, approximately 1,200 acres are currently being used for commercial or industrial activities and some 1,254 acres, though designated for commercial or industrial use, are taxed otherwise. A majority of that 1,254 acres not being used for commercial or industrial is located to the southwest of the airport and has been in agricultural use. This Plan designates an additional 239 acres for commercial and industrial uses, making a total of approximately 1,493 acres available in the plan area for future commercial and industrial development.

BUSINESS AND COMMERCE

There are 283 parcels with 207 owners that are taxed as either commercial or industrial uses encompassing 1,200 acres.[4] Ten businesses employ over 100 people each. Twenty-two businesses employ between 50 and 100 people each. Many other smaller businesses exist and home occupations are also interspersed within the residential areas. A majority of the large businesses are non-retail, primarily focusing on freight, warehousing, and construction. Large businesses are located along the arterials including Reserve Street, Old Highway 10 West, and the Wye.

Another element contributing to the local economy has been agriculture. While much large ownership is currently taxed for agriculture, that amount is expected to decline in the near future. Pressures from residential growth and other non-agricultural uses are making large-scale agricultural operations less viable in the area. Extension of sewer into the eastern half of the plan area furthers this trend. Agricultural opportunities continue in the western portion.

[2] Montana Cadastral Database, Department of Revenue's Computer Assisted Mass Appraisal (CAMA) related data, Montana Department of Administration, (Helena, MT: Montana State Library, 2003, at http://nris.state.mt.us/nsdi/nris/cadastral.html).
[3] This estimation excludes Hellgate Elementary and the Missoula International Airport though they are sources of employment for the community.
[4] CAMA.

Development techniques and economic incentives are available to encourage agricultural use to remain in the area as long as feasible. Landowners are encouraged to explore the use of agricultural easements**.** Such easements involve the placement of permanent restrictions on individual parcels that prohibit future urban development and allow farming to continue. While landowners retain full ownership they voluntarily give up their development rights either for cash, a tax credit, or a combination of the two. These programs are administered by government agencies or nonprofit land trusts.

Other tools include conservation easements, the transfer of development rights, and farm support programs such as incubator farms[5]. In areas where development is proposed, clustering would help to retain larger parcels of land in single ownership, making it possible to support agricultural uses including on-site agricultural operations, lease agreements with nearby farmers, or community gardens. Larger-scale agricultural activities are best suited in the western portion of the plan area and along the southern floodplain fringe area.

ECONOMIC TRENDS

Census data reveals how residents of the plan area are employed. See Appendix 5.1: *Graphs of Employment by Industry* and *Missoula County Census Data* for 1990 and 2000. Service and retail trade industries provided the highest employment in 2000, which is a shift from 1990 when service and manufacturing provided the highest employment. Not surprisingly, the types of large businesses within the plan area parallel the types of employment for area residents, suggesting that people living in the plan area tend to work in the area.

Census data is consistent with a report presented at the Missoula Economic Development Forum on October 20, 2003. According to the *Summary of the Missoula Economic Development Forum*, the way in which the economy is restructuring can be viewed by identifying where the biggest gains and biggest losses in labor earnings occurred. This involved analyzing the more detailed sub-sectors. The fastest growing sub-sectors between 1990 and 2000 for Missoula County were Health Care Services, Special Trade Contractors, Business Services, Real Estate, and Wholesale Trade and Engineering and Management Services. The declining sub-sectors for the same time frame included Chemical Product Manufacturing, Miscellaneous Manufacturing, Furniture & Fixture Manufacturing, Net Farm Income, and Lumber & Wood Product Manufacturing.

While the plan area shows continued strength in industrial-based employment, census information for the City and County both indicate a trend toward service-based, Fire, and Retail trade employment typically recommended within the Community Commercial and Neighborhood Center land uses. There is a continuing need to provide land for regionally-based commercial, economic opportunities together with community and neighborhood-based commercial land uses. Regionally based uses are those that attract people from multiple counties and consequently generate high traffic volumes. These types of uses are typically found in Highway Heavy, Community Commercial, or Industrial land use areas. Community-based uses are those that draw upon the Missoula urban area for clientele and are typically found in the Mixed Use, Community Commercial, or Industrial land use. Neighborhood-based uses provide support services to local neighborhoods and are typically found in Neighborhood Center land uses.

[5] Incubator farms are programs intended to help new farmers get established, trained, and provide resources to draw upon for technical assistance. Such a program arranges lease agreements for land, equipment, greenhouses, irrigation and storage facilities. It also provides mechanical support, marketing programs, and business planning resources.

ECONOMIC OPPORTUNITIES

Sustainable economic opportunities are encouraged and are possible by considering the following:

- Recommending land use for a range of commercial opportunities;
- Integrating residential and compatible commercial uses in designated areas;
- Enhancing the walkability of neighborhoods;
- Planning with minimal disturbance to the natural resources;
- Developing economic opportunities in this manner preserves and enhances the quality of life valued by Missoula residents.

Where and how commercial or industrial uses are developed within the plan area is considered as part of the land use recommendations and further described in Appendix 3.2: *Community Design Guidelines*. Commercial and industrial development should be planned to fit within the surrounding context and should not overwhelm residential neighborhoods. It is essential that commercial or industrial uses not sprawl along every main travel corridor. They should be clustered within distinct neighborhoods or emerging neighborhoods. Uses that generate high traffic volumes should be located for the least impact on existing and planned roads. Generally, such uses attract regional traffic (highway heavy commercial) or high volumes of retail clientele (big-box retail) and should be located on major arterials on the northern and eastern edges of the plan area. The *Design Guidelines* provide general development suggestions as well as specific recommendations for how commercial, mixed use, and industrial develop.

Where appropriate, integration of commercial and residential land uses will enhance both the vitality and "walkability" of the community. This Plan further promotes mixed use development allowing people to work in proximity to where they live. All commercial and industrial development should be pedestrian and transit friendly and supportive of the idea that people desire to live and work within close proximity. Careful consideration of pedestrian and non-motorized travel routes will enhance neighborhood interaction and integration with commercial developments.

OBJECTIVES AND STRATEGIES

1. Encourage a diversified economy.
   a) Establish areas for a range of commercial development types including light industrial, commercial, and other employment-related uses.
   b) Continue to support home occupations that meet zoning standards for these uses.
2. Encourage entrepreneurship, reinvestment, redevelopment, and new business development.
   a) Consider trends towards changing economic needs when planning new development.
3. Support community and regionally-based commercial uses in appropriate land use designated areas.
   a) Locate commercial and light industrial uses that are of a regional scale based on the following criteria:
      i) Planned as part of a business neighborhood;
      ii) Ensure that infrastructure needs are in place to support development;
      iii) Have direct access to principal arterial roadways;
      iv) Conduct a traffic analysis and mitigate associated issues; and
      v) Restrict "big-box" (large) retail, large office complexes, and large entertainment facilities within the extended approach and departure areas of the existing main runway.
   b) Concentrate fleet trucking, freeway commercial and trucking-related uses at the Wye.
   c) Discourage the development of a commercial strip along Mullan Road.
   d) Coordinate the placement of commercial uses on select roads with the streetscape description established in the Appendix 6A-2: *Transportation Guidelines*.

4. Encourage neighborhood-based commercial uses.
   a) Concentrate neighborhood centers with neighborhood commercial uses in areas indicated on the *Land Use Map* or as indicated in the Plan.
   b) Allow office space and other low intensity employment uses within neighborhood centers.
   c) Limit the scale and range of neighborhood commercial uses within neighborhood centers to be compatible with surrounding residential uses.
   d) Phase commercial development to coincide with residential development.
5. Consider natural resource qualities when locating and developing commercial or industrial uses.
6. Develop all commercial uses utilizing design concepts that integrate the development into the neighborhood context.
   a) Design and build commercial development with attention to site planning and design guidelines.
   b) Implement *Design Guidelines* found in Appendix 3.2 through zoning tools such as performance standards or overlays.
   c) Develop criteria for addressing traffic generation and noise concerns with development either through subdivision or zoning.
   d) Create transitions between uses and integrate buffers.
7. Support local sustainable agriculture.
   a) Develop strategies for farmland preservation for areas outside the sewer district to include, but not be limited to, agricultural zoning and agricultural districts.
   b) Encourage value added industries utilizing local agriculture.

CHAPTER 6
INFRASTRUCTURE

INTRODUCTION

This chapter addresses the broad range of services and facilities provided by local agencies that are necessary for communities to take shape. According to the *Urban Comprehensive Plan's* Growth Management Themes, infrastructure is more than the physical connection of transportation systems, sewer, water, and telecommunications.[1] Social and cultural infrastructure should also be considered and are addressed.

In addressing these themes, this chapter is divided into two parts: community facilities and public services. The Community Facilities Section addresses transportation, park and recreational areas, and utilities and the Public Services Section addresses emergency services and education. General principles, goals, issues, and objectives related to planning for all types of infrastructure are addressed below.

PLANNING PRINCIPLES

- Improve and maintain a transportation system that is safe, healthy, affordable, and efficient.
- Include a network of parallel road systems.
- Facilitate all modes of transportation. Enhance or create non-motorized pathway systems.
- Manage and build infrastructure systems strategically and collaboratively.
- Build a transportation network that provides appropriate access to local land uses.
- Keep land uses compatible with the *Airport Master Plan*.
- Limit through-traffic, but not connectivity, in neighborhoods.
- Promote an adequate and appropriate sewer system.

GOALS

Collaboratively plan for cost effective public services such as transportation systems, sewer, police and fire protection, libraries, active recreation, and schools.

Ensure that the impacts associated with development are fully addressed and that the costs of mitigating those impacts are fairly distributed.

Coordinate and establish infrastructure services in a timely way, with the community in mind.

Manage the impacts of growth on the existing infrastructure.

Facilitate the use of all modes of transportation.

Provide for safe, healthy, affordable, and efficient access to transportation systems.

Provide community recreation opportunities that meet the diverse needs for community citizens.

Develop an adequate sewer system.

[1] Urban Comprehensive Plan (page 94, 1998).

COORDINATION AND TIMING

The Growth Management Themes encourage availability and coordination of all types of infrastructure as development occurs. Coordinated and collaborative planning for infrastructure is essential to emerging neighborhoods as infrastructure planning is linked to land use planning. Each has the potential to drive the other. It is important to know enough about the potential for infrastructure extensions into the area to plan for growth, while the elements of growth such as land uses recommendations help to establish specific needs for infrastructure systems.

Coordination between the City and County is also essential. Consistent planning and implementation, including regulation revisions, project review and infrastructure extension, provides predictability for the community, landowners, and neighbors.

Citizens of the Wye Mullan Plan area identified the disproportionate increase in development compared to extension of infrastructure to support it, specifically in regard to the transportation system. Existing residents do not want increased development to impact them negatively.

This Plan addresses citizen concerns through detailed planning information for the main infrastructure elements, transportation and parks, as they relate to proposed land use. Each infrastructure element was considered part of a coordinated system which, upon completion, would result in a cohesive system of services. The Plan also encourages developing mitigation measures that help to complete infrastructure systems concurrent with development. When discretionary review, such as rezoning, is involved the proposal will be reviewed for availability of adequate infrastructure both on-site and off-site. In some cases, subdivision proposals have been required to develop in phases, ensuring that impacts are fully addressed before additional phases can occur.

IMPLEMENTATION AND COSTS

Typically, infrastructure is phased so that only those improvements required for a particular phase of a development are built. However, we cannot rely solely on individual development to provide neighborhood and community infrastructure such as parks and transportation facilities. Gaps in transportation, parks, and utility systems will exist for extensive periods of time, placing undue burden on existing infrastructure unless alternative methods of completing infrastructure systems are explored. New development should pay the full cost of extension of public facilities to the development and the pro rata share of the cost of infrastructure improvements required as a result of the development. Other techniques should also be explored such as creating Rural Special Improvement Districts (RSIDs), Special Improvement Districts (SIDs) or encouraging government participation by contributing the local or community share of infrastructure costs.

Another tool for addressing infrastructure funding concerns is the use of City and County Capital Improvement Programs. The Capital Improvements Program allows the community opportunities for input on where improvements to capital facilities and infrastructure are needed.

SERVICE PROVIDERS

In general, service providers reported available capacity and a willingness to supply additional services. The service providers and owners of major infrastructure are listed in Figure 6-1.

Figure 6-1
Public Facilities and Service Providers List

Infrastructure Providers	Service
NORTHWESTERN ENERGY	Natural Gas And Electricity
MISSOULA RURAL ELECTRIC COOPERATIVE	Electricity
MOUNTAIN WATER	Water
AT&T CABLE	Cable Television
COUNTY OF MISSOULA	Roads, Bridges, Public Parks, Community Septic Systems
CITY OF MISSOULA	Sewer, Roads, Public Parks
MONTANA DEPARTMENT OF TRANSPORTATION (MDT)	Roads
MONTANA DEPARTMENT OF NATURAL RESOURCES and CONSERVATION (DNRC)	Water Rights (surface and sub-surface), Timber, Mining, Wildland Fire Protection
BROWNING FERRIS INDUSTRIES (BFI)	Garbage Service
QWEST and various other providers	Telephone and Fiberoptic
MISSOULA COUNTY SHERIFF	Law Enforcement protection
MONTANA HIGHWAY PATROL	Law Enforcement protection
MISSOULA CITY POLICE	Law Enforcement protection
MISSOULA RURAL FIRE	Fire protection
MISSOULA CITY FIRE DEPARTMENT	Fire protection
FRENCHTOWN RURAL FIRE DEPARTMENT	Fire protection
MISSOULA EMERGENCY SERVICES INC.	Ground Transportation for Medical Emergencies
LIFE FLIGHT	Helicopter ambulance for remote or difficult locations, or high speed needs
SCHOOL DISTRICTS 4, 20 and MISSOULA COUNTY PUBLIC SCHOOLS	Hellgate, DeSmet, Frenchtown, and Missoula County Schools
MOUNTAIN LINE TRANSIT	Public transit system

GENERAL OBJECTIVES AND STRATEGIES

1. Encourage development to locate in areas where facilities are available and where the public costs of providing needed facilities and public services are lowest.
2. Coordinate infrastructure planning among government agencies, private sector groups, and the general public.
3. Plan and install infrastructure prior to development.
   a) New development should pay the full cost of public facilities extension and the pro rata share of the cost of infrastructure improvements resulting from the particular development.
4. Explore financing options for infrastructure upgrades and expansions.
   a) Reduce costs to landowners by pursuing affordable financing programs and enhancement grants for extension of maintenance and infrastructure.
   b) Design cost sharing formulas and plans for infrastructure in cooperation with area property owners prior to the construction of each project in order to distribute cost equitably among existing users, future users, and those profiting from future development.
   c) Create Rural Special Improvement Districts (RSIDs) or Special Improvement Districts (SIDs).
   d) Through a Capital Improvement Program, identify, prioritize, and establish funding mechanisms for meeting the public service needs.

e) Develop regulatory tools such as impact fees or mitigation measures, which encourage new development to fully address public costs and impacts associated with growth.

CHAPTER 6A
COMMUNITY FACILITIES

TRANSPORTATION

This section describes the status of all modes of the transportation system in the Wye Mullan Plan area (plan area), including streets, bicycle and pedestrian facilities, public transit, rail service, and the Missoula International Airport. The following discussion of transportation needs for the plan area furthers many concepts found in the *2004 Transportation Plan Update* (adopted for the Missoula Valley in May 2004). Projects identified in the *Transportation Plan Update* and the *Wye Mullan West Comprehensive Area Plan* (*Wye Mullan Plan*) will be developed in more detail during project design phases.

ROADWAYS

Existing Facilities

The *Wye Mullan Plan* area contains segments of nearly every type of roadway facility, from interstate highway to private road. Figure 6A-1 indicates the major public roads, their functional classification, and the responsible jurisdiction.

Figure 6A-1
Major Road Facilities

Facility	Length in Plan Area (in Miles)	Functional Classification	Responsible Jurisdiction*
Mullan Road #S-263	6.0	Minor Arterial/Collector	City/County
Interstate 90	2.0	Principal Arterial	State
US Highway 93 (Reserve Street)	2.9	Principal Arterial	State
Old Highway 10 West	6.6	Minor Arterial	State
Flynn Lane	1.0	Minor Collector	County
Roller Coaster Road	1.2	Minor Collector	County
Cote Lane	1.4	Principal Collector	County
Deschamps Lane	3.0	Principal Collector	County
Kona Ranch Road	0.7	Principal Collector	County

*The responsible agency may change over time as jurisdiction changes.

Map 6A-1, *Transportation System,* shows the major existing roads and future collectors in the plan area as well as transit routes, rail lines, and trails.

Traffic Volume Changes

Figure 6A-2 shows recent traffic volumes, expressed as annual Average Daily Traffic (ADT), which represents traffic volume on an average weekday during that year. Traffic volumes on most roads in the area have increased more than three percent each year. These increases produce delays during peak hours at Mullan Road and Flynn Lane as well as Mullan Road and Reserve Street.

Figure 6A-2
Wye Mullan Area Traffic Volume

Station Number	Location Description	1990	1995	2000	2001	2002	% Change*
1	I-90 between Reserve Street Interchange & DeSmet Interchange	11,990	15,090	16,270	16,760	16,400	3.1%
6	Reserve Street (N-92) just south of the Reserve Street Interchange	11,740	18,070	16,740	15,940	18,740	5.0%
7	Reserve Street (U 8103) north of International Drive/Stockyard Road	9,750		20,250	20,640	19,520	8.4%
8	Reserve Street (U 8103) on Airport Rd./MRL Overpass	9,610	17,870	24,240	20,710	22,310	11.0%
135	Reserve St. (U 8103) 0.3 mi. north of Mullan Rd. (U 8124/S 263)	13,930	20,050	29,690	27,630	29,830	9.5%
267	Reserve Street just north of Northern Pacific			27,140	27,550	29,630	4.6%
34	U.S. 93 (MT 200/Hwy 10) m.p. 5 at end of 4-lane NW/of Reserve St. overpass	9,670		13,560		10,030	0.3%
302	Broadway west of Reserve St.			14,630		12,640	-6.8%
35	Flynn Ln. just west of U.S. 93/MT 200	660				1,960	16.4%
257	Flynn Ln. 300 ft. north of Mullan Rd. (S 263)	1,400		1,290		2,800	8.3%
37	Mullan Rd. (S 263) 350 ft. east of Cote Ln.	4,720		6,130		6,830	3.7%
134	Mullan Rd. (S 263) 300 ft. west of Reserve Street (U 8103)		10,990			16,730	7.5%
38	Cote Ln. 300 ft. south of Mullan Rd. (S 263)		3,370	2,630	2,350	2,720	-2.8%

* % change is the average annual change between 1990 and 2002

See Map 6A-3 for projected traffic volumes.

High Crash Locations

At the intersection of Mullan Road and Reserve Street, increased traffic and congestion have produced both a high number of crashes per year and a high crash rate per million vehicles entering the intersection. The crash rates at the Mullan/Reserve intersection are higher than the statewide average for intersections of similar type of street (land use type, number of lanes, etc). Each of the following intersections along Reserve Street between Mullan Road and West Broadway has had more than 12 crashes per year: Palmer, Union Pacific, American Way, Northern Pacific and West Broadway.

INTERSECTION IMPROVEMENTS

There are presently five signalized intersections in the plan area. The *2004 Missoula Urban Transportation Plan Update* examines how well these intersections currently work, and how well they are expected to work in 2025. The term "Level of Service" (LOS) refers to a qualitative measure of operating conditions for an intersection or street segment. A grading scale of A through F is used to characterize traffic operating conditions, with "A" describing the most free-flow and insignificant delays and "F" describing forced flow and excessive delays. [1]

[1] See the *2004 Missoula Urban Transportation Plan Update*, Table 3, p.22, for detailed descriptions of all five Levels of Service.

Figure 6A-3, *2000 and 2025 Signalized Intersection Level of Service*, lists existing signalized intersections in the plan area in 2000, and projected (2025) Levels of Service (LOS). These signals have coordinated timing (with the exception of the signals on Broadway).

Figure 6A-3
2000 and 2025 Signalized Intersection Level of Service

Intersection	(2000) LOS AM/PM	Projected (2025) LOS AM/PM
Reserve & Northern Pacific	A/B	B/F
Reserve & Union Pacific	A/B	C/F
Reserve & Mullan	D/E	F/F
Broadway & Reserve (south, east and west ramps)	A/B	C/D
Mullan & Clark Fork Lane	C/D	D/E

The intersections and the roadway links connecting the intersections have finite capacities. However, an intersection or roadway link can accommodate more vehicles than a community the size of Missoula typically will accept. Therefore, the *2004 Missoula Urban Transportation Plan Update* has employed the concept of "acceptable" capacity, determined through the following assumptions:

- For corridors within the urbanized area, Level of Service "D" operations were assumed to be the minimum acceptable. Level of Service "D" is described as restricted flow and regular delays. Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
- For rural portions of the *Transportation Plan Update* Study area, Level of Service "C" operations were assumed to be the minimum acceptable. Under Level of Service "C," operation is stable and delays are acceptable, but most drivers feel somewhat restricted.

The intersection of Mullan Road and Reserve Street was upgraded in 2000. However, growth in traffic volume at the intersection has exceeded estimates prepared during the *1996 Missoula Urban Transportation Plan Update* by 20 to 50 percent. Delays at this intersection are expected to keep increasing.

Intersection congestion will worsen as traffic increases with continued growth. The *2004 Missoula Urban Transportation Plan Update* identified the intersection at Mullan Road and Flynn Lane as particularly congested, and recommends improvements at this intersection until completion of the new collector to the east, Mary Jane Boulevard. The choice of improvement at any intersection would depend on the outcome of the study and public process that would occur before installation.

There could be more signals or other intersection improvements in the plan area if minimum conditions exist that would justify signal installation at specific locations. An "improvement" could mean a signal, a roundabout, or some other type of traffic control device. The Collector Roadway System Map in Appendix 6A-1 identifies several possible signal or roundabout locations at intersections of streets that should be built in conjunction with future development.

ROADWAY CAPACITIES

Calculated capacities used for current and future traffic analyses are based on the acceptable capacity of the signalized intersections along a corridor.

As used in the *Wye Mullan Plan*, a capacity deficiency is the condition where the current daily traffic volume in a corridor or at an intersection exceeds the acceptable capacity of the roadway. Identification of capacity deficiencies makes it easier to develop projects that will correct the deficiencies. The *2004 Missoula Urban Transportation Plan Update* includes an extensive list of projects and improvements designed to address capacity deficiencies throughout the Missoula region. Figure 6A-4 presents the projects that are in or could benefit the *Wye Mullan Plan* area. For the capacity deficiency analysis, the maps display three categories of traffic operations:

- *Approaching Capacity:* This condition is based on volume-to-capacity (V/C) ratios from 0.80 to 0.99.
- *At Capacity* (Minor Deficiencies): This condition is based on V/C ratio of 1.00 to 1.19.
- *Over Capacity* (Significant Deficiencies): This condition is based on V/C ratio is 1.20 or higher.

Current Capacity Deficiencies: Map 6A-2 shows the locations of current (2000) roadway capacity deficiencies in the plan area. Two corridors in the plan area currently experience capacity problems – Reserve Street and Mullan Road. The remaining road facilities in the plan area are functioning within their capacities.

Projected Capacity Deficiencies: Map 6A-3 shows locations in the *Wye Mullan Plan* area where congestion is expected to remain an issue by the year 2025, assuming construction of improvements recommended in the *2004 Missoula Urban Transportation Plan Update*. In the plan area, as in the Missoula region and elsewhere in the country, it is not financially feasible to build enough new lanes and roadways to eliminate congestion. Capacity deficiencies will continue to exist, but completion of the improvements recommended in the *Transportation Plan Update* will reduce congestion significantly.

Major Road Improvements: Traffic volumes on Mullan Road increased by 7 percent between 1990 and 2002. Increased traffic volume is making access onto Mullan Road more difficult during peak travel hours. School bus loading and unloading increases congestion because traffic must stop in both directions.

Developers of some recent large projects on Mullan Road have been required to conduct traffic analyses and build portions of the Collector Roadway System in order for the projects to proceed. Nearly all traffic to and from the plan area uses Mullan Road, and continued development in the area will increase congestion. Recommended Mullan Road improvements in the *Transportation Plan Update* would reduce congestion. The road is recommended for widening to two travel lanes in each direction plus an auxiliary center lane for left turns from Reserve Street to Flynn Lane. From Flynn Lane to Cote Lane the recommendation is for one travel lane in each direction plus an auxiliary lane. Mullan Road's average right-of-way width is 60 feet. Developers of some projects may need to dedicate additional right-of-way.

Traffic is expected to increase approximately 35 percent by 2025 along Mullan Road, assuming completion of the Collector Roadway System and other improvements. With the recommended improvements, Mullan Road's projected 2025 operation level will be "approaching capacity" instead of the current level of "at capacity." Without the improvements, Mullan Road will be "over capacity" by 2025.

The impact of increased development on existing unpaved roads such as Deschamps Lane and Roller Coaster Road was another source of concern for residents. Dust from the additional traffic increases maintenance costs and reduces air quality. Owners must either improve the roads at the time of development or waive their right to protest assessment for future improvements.

Traffic on Flynn Lane has increased by 12 percent between 1990 and 2002, despite the road's limited right-of-way. Since Flynn Lane serves Hellgate School, safe pedestrian crossing and vehicular speeding are matters of concern, given school buses, parent drop-offs, employees, and other activities.

To relieve some of the pressure on Flynn Lane, the *Transportation Plan Update* recommends that Flynn Lane be "disconnected" from Mullan Road once Mary Jane Boulevard, a new collector east of Flynn Lane, is completed. Also recommended is realignment of the intersection of Flynn Lane and Broadway/Old Highway 10 West to remove the present right angle turn and skewed intersection with Broadway. Flynn Lane would then function as a local street. Approval of some development projects adjoining Flynn Lane has been conditioned on building components of the Collector Roadway System. Convenient vehicular access into and out of the airport will be increasingly important as air traffic grows and airport expansion continues. Creation of other routes to the airport besides the present entrance from West Broadway should be considered as growth continues.

FUNCTIONAL CLASSIFICATION HIERARCHY AND STANDARDS

Street and roadway facilities generally fall into a functional hierarchy based on the type of facility, its ownership, and the role it serves in the local and regional transportation system. The functional classification categorizes streets ranging from those that are primarily for travel mobility (arterials) to those that are primarily for access to property (local streets). The classification is useful for setting standards for right-of-way, spacing of driveways, defining intersections, setting speed limits, and implementing parking and other standards that preserve and enhance street function.

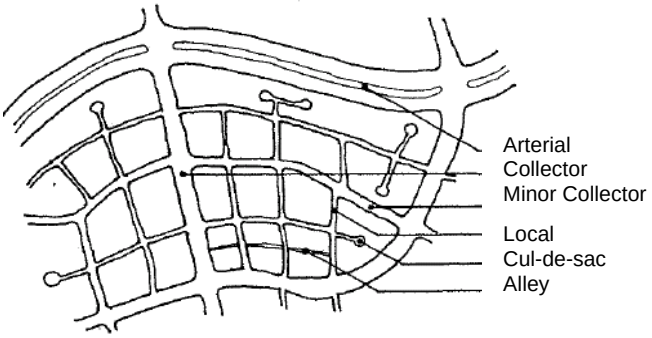
Typically, roadways are grouped in the following general functional categories:

- *Arterials* emphasize a high level of mobility for through-movement. They serve major activity centers and provide service for the highest traffic volume corridors. The arterial system is further divided into urban or rural and principal or minor arterials, depending on function and trip-making service provided. For example, the urban principal arterial system includes interstate highways, freeways, expressways, and other principal arterials. Urban minor arterials provide service for trips of moderate length and at a lower level of mobility and connect with urban principal arterials and rural collector routes.

- *Collectors* offer an intermediate level of service between local and arterial streets. They provide land access, collect traffic from local streets, connect neighborhoods to traffic generators and arterials, and serve as intra-area traffic corridors. The collector system is also divided into urban or rural and major or minor collectors, depending on function and trip-making service provided.

- *Local Streets* mostly provide direct access to adjacent land. They offer the lowest level of mobility and provide access to higher functionally classed roadways.

The sketch below illustrates the general relationship among different classifications of streets and their relationship to one another.



[2]

[2] *Residential Design Guidelines for Snohomish County* (Seattle, WA: MAKERS, 1992, page G-38).

COLLECTOR ROADWAY SYSTEM

The Board of County Commissioners adopted the *Collector Roadway Resolution* (#2001-005) on January 23, 2001 (see Appendix 6A-1). It shows general locations for future collector streets, non-motorized trails, and traffic controls in most of this plan area. The Resolution derives from the 1998 update to the *Missoula Urban Comprehensive Plan* and the *1996 Missoula Urban Transportation Plan Update*, which envision growth in the plan area. The final location of these routes will depend on factors such as topography, resource constraints, and negotiations with property owners.

Plans for future roads in the majority of the plan area are established. Collectors are identified via the *Collector Roadway Resolution* and subsequent road easements. Local streets, while not conceptually located in this Plan, are addressed through the objectives and strategies and *Transportation Guidelines* in Appendix 6A-2. One of the objectives in the *2004 Missoula Urban Transportation Plan Update* calls for a connected collector system beyond the *Wye Mullan Plan* area. This Plan encourages planning for collector routes northwest of the area planned with the *Collector Roadway Resolution.*

The *Collector Roadway Resolution* proposes a main east – west collector (England Boulevard) and a north-south collector (George Elmer Boulevard) to enable a connection between Old Highway 10 West, Interstate 90, and Mullan Road. The roadway system includes other future collectors and some local streets. However, the location of local streets is usually determined when subdivisions are platted.

One proposed link in the Collector Roadway System is a north - south arterial running from Old Highway 10 West to Mullan Road about three quarters of a mile west of Flynn Lane. This route is being explored for possible connection to Airway Boulevard.

During the alternatives analysis phase of the *2004 Missoula Transportation Plan Update*, new multi-modal Clark Fork river crossings were explored. None of the potential river crossings survived the alternatives analysis. No funding was identified for any new future river crossings on the 20-year list of recommended improvements. River crossings will likely be considered in future *Transportation Plan Updates*.

The Collector Roadway System envisions, and some easements are in place for, the extension of England Boulevard to the north and west. Such an extension could provide an alternative to Mullan Road. The extension could also provide access to land owned by the Missoula International Airport and related uses. Besides relieving some Mullan Road congestion, extending England Boulevard could provide a route for potential development to the north, and a route for traffic from the northwest of the airport to the southeast. If built, the extension of England Boulevard will involve addressing natural resource protection issues.

The Collector Roadway System is intended to encourage traffic to flow northward and use Old Highway 10 West. Emphasis should be placed on the completion of George Elmer Road and England Boulevard as two significant connecting routes between the existing arterial systems. Completion of the grid will provide motorists with alternatives to Mullan Road and Reserve Street. Missoula County negotiated many collector road easements as a step in implementing the *Collector Roadway System Resolution*. In some cases the actual alignment differs from the conceptual alignment in the Resolution because of property lines, the need to align with adjacent easements, or other site-specific factors. The *Land Use Map* and Map 6A-1, *Transportation System*, show the most current road easements and reflect adjustments to the maps that accompany *Resolution 2001-005*.

TOOLS FOR MANAGING TRANSPORTATION IMPACTS OF DEVELOPMENT

Several tools are available to help the area's roadway network to better accommodate the demands of increased development. The following are descriptions of traffic calming, connectivity, intersection improvements, access management, and transportation demand management.

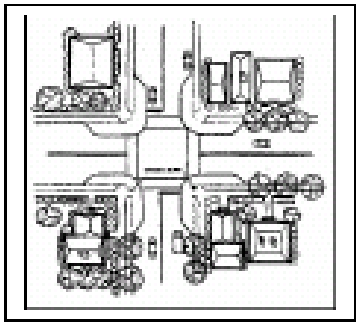
Traffic Calming

Traffic calming provides a way to slow down or discourage vehicular traffic on local streets while maintaining connectivity in residential neighborhoods. Traffic calming helps to ensure that local streets do not become burdened with through traffic, especially during periods of new construction. When incorporating traffic calming measures safety, weather, and maintenance will be considered. Below are illustrations of a few commonly used traffic calming measures.

Bulbouts

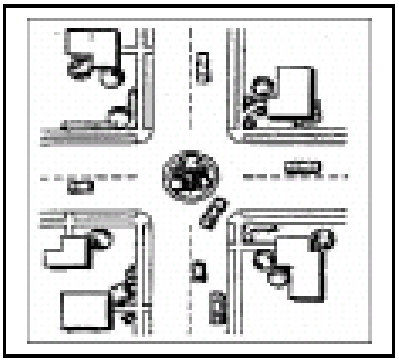
Curb extensions that extend the sidewalk into the parking lane of the street, thereby narrowing the street and causing vehicles to reduce speed.

[3]



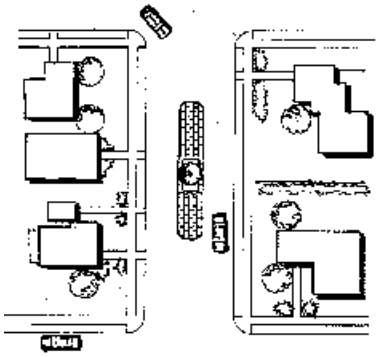
Traffic Circles

Raised islands in the middle of an intersection that circulate traffic in the same direction.



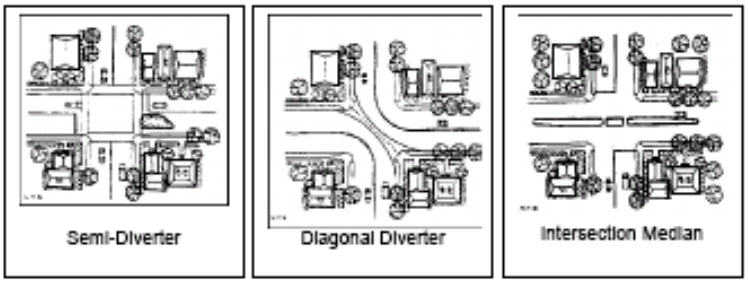
Center Islands

Raised islands in the center of a roadway that reduce lane width.



Diverters

These physically block a lane or portion of intersection to prevent travel in one direction.



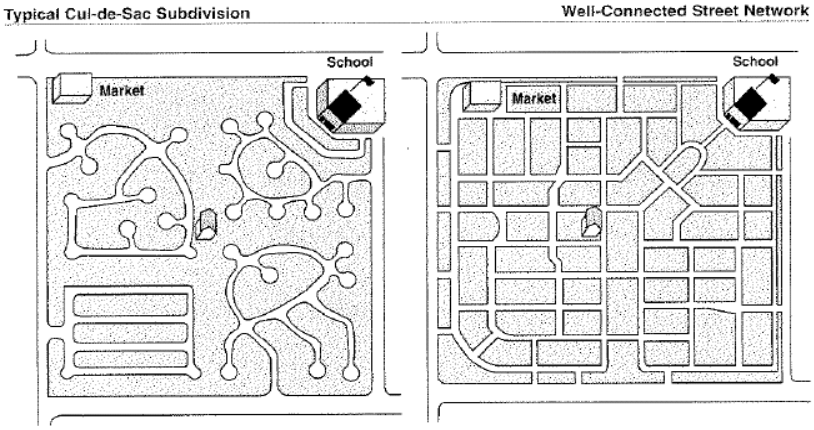
[3] All pictures: Federal Highway Administration, (http://www.ite.org/traffic/tcdevices.htm, accessed May 15, 2004).

Other common types of traffic calming measures not shown include:

- Roundabouts;
- Offset or "T" intersections;
- Raised crosswalks;
- Pavement surface modification, such as brick or other textured or colored surfaces; and
- Landscaped roadways, such as trees and landscaping in medians, islands, and roadsides.

Connectivity

Connectivity means being able to "get there from here" without having to travel long distances. One view of connectivity is a system of streets with multiple routes and connections serving the same origins and destinations. Connectivity not only relates to the number of intersections along a segment of street, but how an entire area is connected by the system. An area with high connectivity has multiple points of access around its perimeter as well as a dense system of parallel routes and cross-connections within the area, forming a grid-like hierarchy of arterials, collectors and local streets. Parallel routes are typically classified and sized appropriately for local traffic to discourage infiltration of longer distance through-traffic.



4

Cul-de-sacs and dead-end streets in the plan area are a concern for emergency service providers. Fire, police and ambulance officials recommend through-streets to reduce emergency response times. Residents generally like cul-de-sacs and dead-ends because of slower traffic and enhanced privacy. However, well-connected local street systems can address the concerns of emergency service providers and still reduce vehicle miles traveled (VMT), slow traffic and provide privacy. Interconnected street systems that avoid long straight blocks and include traffic calming techniques such as T-intersections, curving routes, and center medians can meet several objectives.[5]

The *2004 Missoula Urban Transportation Plan Update* encourages good connectivity through "standards to promote road network interconnectivity, including consideration of alternative modes, to the local street level inside the Urban Growth Area."

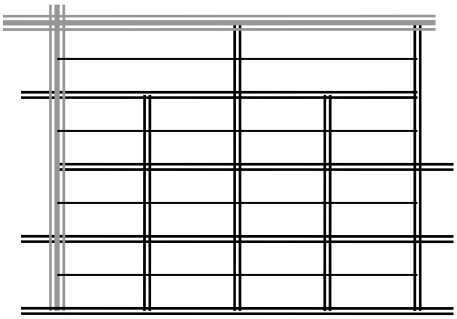
A system of through-streets facilitates efficient movement of traffic, provides better neighborhood connections, and reduces overall VMT. Public transit and school bus service can also improve neighborhood service in well-connected road systems.

The spacing of local streets, and thus the length of blocks, will vary depending on topography, drainages, connectivity, and other relevant factors. Typical urban blocks are rectangular in shape and range between 300 and 500 feet in length or width. The resulting rectilinear street grid system provides good circulation and connectivity among blocks and neighborhoods. This Plan recommends local street spacing between 300 and 500 feet.

[4] Daisa, James M., Tom Kloster and Richard Ledbetter, *Does Increased Street Connectivity Improve the Operation of Regional Streets?* (Portland OR).
[5] Community Planning Workshop, *TGM Guidebook, Neighborhood Street Design Guidelines; An Oregon Guide for Reducing Street Widths*, (Eugene, OR: University of Oregon).

The following diagrams show scenarios for local street systems ranging from a rectilinear grid to a curvilinear grid. All three systems provide good connectivity but the curvilinear street grid system also provides traffic calming because curved streets tend to slow traffic. The "Modified Rectilinear" or "Curvilinear" systems are preferable because of the added benefit of calming traffic.

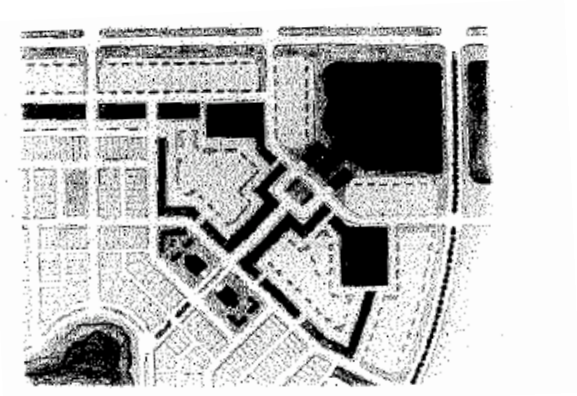
Rectilinear Street Grid



Modified Rectilinear System

[6]

Curvilinear Street Grid



[7]

Access Management

The term "access management" applies to various measures that can improve road safety and the movement of vehicular traffic through the control and management of road access points. Management of access points on Mullan Road requires the cooperation of MDT, whose jurisdiction of the road extends from Flynn Lane west, and the City of Missoula whose jurisdiction extends east from Flynn Lane. Major developments on State routes are reviewed under MDT's System Impact Process. Through that process, MDT may require a developer to provide improvements such as turn lanes or bays, signals, or deceleration lanes. Until another east-west collector road serves the plan area, demands for access to Mullan Road will increase and the road's ability to move traffic safely will be compromised.

[6] Arendt, Randall, *Growing Greener: Putting Conservation into Local Plans and Ordinances* (Washington D.C.: Island Press, 1999, page 207).
[7] Duany Andres & Elizabeth Plater-Zyberk, *Towns and Town-Making Principles*, (New York, NY: Rizzoli international Publications, 1992, page 93).

Examples of typical access management strategies include:

- Limiting the number of driveways to decrease turning conflicts (usually one driveway per lot);
- Locating driveways as far from adjacent intersections as possible;
- Connecting parking lots and consolidating driveways so that vehicles can travel between parcels without re-entering an arterial;
- Providing adequate spacing between intersecting streets;
- Using channels to preclude selected turning conflicts.[8]

Transportation Demand Management

The purpose of Transportation Demand Management (TDM) is to increase the efficiency of roadway systems by reducing the demand for vehicular travel. Problems caused by growing numbers of people driving alone have led to the realization that road funding cannot keep pace with demand. Missoula has employed various TDM strategies. Missoula in Motion (MIM) and Missoula Ravalli Transportation Management Association (MRTMA) are two government-supported agencies that have employed TDM strategies to reduce peak-hour travel demands. Carpooling and vanpooling, flexible work hours, telecommuting, encouraging alternative transportation use (e.g., bicycle, transit), and parking controls are some of these strategies.

Continued support for the TDM strategies employed by MIM and MRTMA can play an important role in reducing increased traffic congestion and VMT. New development that supports walking, biking, and transit as transportation choices, will decrease traffic congestion.

TIMING AND FUNDING OF TRANSPORTATION IMPROVEMENTS

During the planning process, area residents recognized the traffic impacts of new development. Trucks and heavy equipment track dust and mud onto residential streets. Heavier vehicles can damage pavement. As such, dust abatement during construction is needed and contractors should be required to clean, repair, or restore roadways after construction is completed. Existing residents also do not want to bear the costs of mitigating impacts from new development on the existing transportation system.

Some options include:

- Undertaking a traffic impact study of the plan area to determine the transportation needs that would result if all land in the plan area were developed as allowed by this Plan.
- Expanding the Collector Roadway System to include the remainder of the plan area.
- Consistency between the City and County regarding the authority to require traffic impact studies for development projects prior to project approval and conditions imposed on projects.
- Mitigating impacts of new development by requiring developers to pay the costs of new transportation infrastructure such as street and intersection improvements, pedestrian facilities, or transit amenities needed to accommodate the new development.
- Requiring installation of adequate infrastructure either before or at the time of development through other funding mechanisms.
- Update Subdivision Regulations to reflect issues raised in the Plan and current transportation standards.

[8] *Hennepin County Transportation Systems Plan (HC-TSP), (*Hennepin County, MN., p. 7-2).

Non-Motorized (Bicycle/Pedestrian) Facilities

Bicycle and pedestrian facilities are essential parts of an efficient transportation system. The easier it is for people to travel safely on foot or by bicycle, the more likely they are to choose biking or walking for trips they might otherwise make by car. Non-motorized linkages also help achieve the goal of increased connectivity within neighborhoods.

Presently, there are very few sidewalks in the plan area, due in part to the rural character of the area. As development occurs, the demand for sidewalks and bikeways will increase. The *Wye Mullan Plan* encourages neighborhood non-motorized trails in all new development.

There is no major infrastructure for non-motorized transportation in the plan area. The *2001 Non-Motorized Transportation Plan* identified the following facilities in the plan area:

- Milwaukee Trail – acquire additional land along or nearby the former Milwaukee Road railroad right-of-way to fill in gaps and extend the trail east to Missoula and west through the plan area.
- A Mullan Road area trail system.
- Bicycle/pedestrian facilities on Mullan Road, west of Reserve Street.

Milwaukee Trail: About 5.4 miles (or 6.05 acres) of the former Milwaukee Road right-of-way runs through the plan area. About 43 percent of that right-of-way is held by 38 private owners and some of it has been developed. Extending the Milwaukee Trail to the west into the plan area received a high priority from citizens participating in development of the *2001 Non-Motorized Transportation Plan* and this Plan. Extension of this trail system should be a part of development of land on or near the trail.

Mullan Road Bicycle/Pedestrian System: This Plan recognizes the need for bicycle/pedestrian facilities separated from Mullan Road's traffic lanes. The *2004 Missoula Urban Transportation Plan Update* recommends widening Mullan Road from Reserve Street to Cote Lane, incorporating bicycle and pedestrian facilities west of Reserve Street. (See Figure 6A-4) Actual locations of bicycle/pedestrian facilities relative to the road will be determined through a public process at the time of project design. Approval of development along the Mullan Road right-of-way should take expansion plans into account.

Grant Creek Trail: Another element of a community-wide trail system is to establish a north-south trail along Grant Creek in coordination with the Grant Creek Restoration Project.

Grass Valley Area Trail: A potential north-south community trail located in the western part of the plan area provides connectivity between a potential trail system along the Old Milwaukee and Old Highway 10 West.

Riverfront Trail: The *1995 Open Space Plan* identifies trails along both sides of the Clark Fork River running west from Bonner to Kelly Island and the confluence with the Bitterroot River. An alternative approach to extending trail systems along the riverfront is to encourage additional access points.

TRANSIT

Transit should be a major consideration in proposals for new development in the *Wye Mullan Plan* area. The Missoula Urban Transportation District (MUTD or Mountain Line) operates two routes in or near the plan area. Route 10 follows Old Highway 10 West to the Smurfit-Stone Container plant and returns to Missoula on Mullan Road in the morning. In the afternoon Route 10 goes out on Mullan Road to the Smurfit-Stone plant and returns to Missoula on Old Highway 10 West. Route 2 serves the Target and Albertsons shopping centers on North Reserve Street. During the planning process, area residents expressed a desire for improved public transit.

Mountain Line also operates an Americans with Disabilities Act (ADA) Comparable Paratransit Service within the district. The program provides curb-to-curb service for persons who are qualified for this service and are unable to use Mountain Line's fixed route service. This service meets Federal standards of being "comparable to the level of service provided to individuals without disabilities who use the fixed route system."[9]

The *2004 Missoula Urban Transportation Plan Update* identifies transit planning that would improve Mountain Line service to the *Wye Mullan Plan* area. One proposal would expand Route 8 to serve North Reserve Street. Another would add a new route serving North Reserve Street and Expressway, with improved service to the Missoula International Airport. Other system-wide recommendations that would benefit the plan area include extended evening service and permanent funding of the expanded summer schedule. The MUTD Board of Directors has the authority to expand the Transit District into the plan area. A condition of final plat approval may require the developer to petition into the MUTD Taxing District.

Mountain Line System Recommendations

The MUTD should review all new developments for inclusion in the district boundaries. Development along transit routes should include transit amenities such as bus pullouts, benches, and shelters. Passenger shelters that are lighted, protected from weather, and have seats, trash containers, and information boards should be provided at bus stops with 15 or more daily boardings. Sidewalks that connect transit stops to the local sidewalk network should also be provided. Pullouts should be considered at bus stops with more than ten daily boardings and on streets with speed limits of 35 mph or greater.

Park and ride facilities are also recommended. The *Wye Mullan Plan* identifies the Neighborhood Center land use type for passenger collection or potential park and ride points. The intersection of Kona Ranch Road with Mullan Road is another possible site for park and ride commuters coming into Missoula. Development at these locations should include transit amenities, subject to review by MUTD.

AIRPORT

The Missoula International Airport is a vital part of the national system of airports, as well as an integral part of the transportation infrastructure serving the Missoula area and surrounding region. The Federal Aviation Administration (FAA) categorizes the airport as a Primary Non-Hub under the FAA's National Plan of Integrated Airport Systems (NPIAS). The airport is currently served by five air carrier and commuter airlines, as well as several all-cargo airlines. Three fire fighting branches of the U.S. Forest Service also use the airport: The Aerial Fire Depot, Intermountain Fire Sciences Laboratory, and the Missoula Technology Development Center.

The airport is operated by the Missoula County Airport Authority, consisting of seven citizen members and two public employees appointed by the Board of County Commissioners. The Airport Director and staff are responsible for the operation and development of the airport, as well as compliance with all relevant Federal, State and Local regulations.

The airport is changing and use of the airport is increasing. Much of the response to this change occurs through processes that are on parallel courses. While the City and County of Missoula engaged in the Wye Mullan planning, in 2001 the airport revised its own planning of the future use of airport land.

An *Airport Layout Plan* recommended future expansion of runway capacity with one alternative being the addition of a second parallel runway serving general aviation. The airport currently encompasses about 1,800 acres and seeks to eventually expand to 3,100 acres. (See Map 6A-4)

[9] Rocky Mountain Disability & Business Technical Assistance Center, *ADA Transportation Series* http://www.ada-infonet.org/documents/transportation/paratransit-service.asp

The airport's preferred alternative locates the second runway approximately 2,800 feet south and parallel to the main runway. However, location of the potential second runway and its construction is uncertain until an *Airpsace Feasibility Study* and an *Environmental Assessment (EA)* are completed and aviation purpose and need are demonstrated. Consequently, predictions for when construction of the second runway would begin have varied greatly. Airport correspondence suggests construction could begin within 10 to 20 years. Airport comments on recent subdivisions state that "capacity forecasts do not indicate the construction of that runway within 20 years."[10] The *2004 Draft EA* prepared by the Airport Authority acknowledges that forecasted aircraft activity does not support the need for extra capacity within the airport planning period of 20 years.

A response to the *Airport Study*, prepared by consultants for private neighboring landowners, analyzes the forecast data from the Airport's Environmental Assessment and points out that their data show that annual operational capacity is not reached within eighty to one hundred years. Need has not been fully established.

The *FAR Part 150 Study* and *Land Use Compatibility Update*, approved by the Airport Authority and the FAA, recommends land uses compatible with the airport use for land around the airport. Missoula County and City have not adopted the *Part 150 Noise Study*, but have been asked by the Airport Authority to review and adopt a revised *Airport Influence Area Resolution*. The recommendations are implemented through adoption of land use regulations and approval of development by local governing bodies consistent with the airport uses.

The airport restricts land uses within the Runway Protection Zone (RPZ) within Airport Ownership. Within the 65 dnl noise contour, which often extends outside the airport ownership, no residential development, churches, schools or similar development of noise sensitive uses should occur. Because the airport is a quasi-public agency, land use on airport property need not comply with zoning.

The airport has relied upon scatter diagrams based upon different theories for analysis of crash data. This analysis resulted in creation by the airport of areas designated as Extended Approach and Departure Areas (EADA). Models for the analysis typically draw an area off the centerline of the flight path of the runway with sub-areas of increasing safety and thus a wider range of uses, as the distance increases beyond the end of the runway. Uses that attract gatherings of large groups of people and places of public assembly are not recommended but existing development is recognized in the models of the EADA.

The area recommended by the airport as an EADA for Missoula's existing main runway is approximately 7,500 feet beyond the 2,500 feet reserved for the runway protection zone or flight path. General consideration has been given to proximity of areas to the airport ownership when making land use recommendations. Land uses closest to the east and west end of the existing main runway address expressed concern over safety and noise consistent with other models. The general recommended uses for the area to the east and west extending from the existing runway are public/quasi-public, commercial/industrial, community commercial, mixed use, and industrial. Consistent with other models, this Plan recommends uses that do not attract gatherings of large groups of people such as churches, schools, day care centers, hospitals, nursing homes, large office complexes, big box retail, and large entertainment facilities, within the EADA of the existing main runway. Existing residential development and areas zoned for residential development east of Flynn Lane are the furthest from the main runway, still within the EADA. Recommendations for land use within this area reflect the existing approved densities and should not be increased.

A decision to create an EADA for a future runway balances the need for keeping the area around the airport as free as possible for future expansion, the community need for developable land served by sewer and other urban services, the need for development to support the recent extension of those services, and the rights of private owners of neighboring lands to develop, restricted by land use regulations that protect the public health and safety from current hazards.

[10] Airport comment letter for 44 Ranch Subdivision (March 29, 2005) and Chaparral Subdivision (March 31, 2005) proposals.

Land use restrictions are justified to protect the public health, safety, and welfare. While designating lands for appropriate uses in the vicinity of the airport, governing bodies considered whether land use can be restricted to protect residents against a threat to public safety 20 to 100 years in the future; whether individual land owners can be required to maintain land as a reserve for future public use; and whether the community is well served by reservation of otherwise developable land within the Urban Growth Area for a use planned far into the future. The land use recommendations adopted in this Plan recognize that the need for the future runway is speculative. Although the *Airport Environs Map* shows an EADA for a second runway consistent with the *Airport Layout Plan*, restrictions within the EADA are not recommended. Recommended land uses are for residential development at densities ranging from two to six dwelling units per acre with Parks and Open Space recommended on the east end and Cluster and Rural Residential at a density of one unit per five acres on the west end. Community Commercial and Mixed Use is recommended as well on the east end.

The south side of the airport has land in airport ownership that was purchased before the proposed second runway was moved one thousand feet to the north. The ownership of the property is important because the Airport Authority asserts that its land, if sold, may be restricted by deed to prevent land use incompatible with airport use. That land (and land to the south in private ownership) are long, narrow parcels currently zoned at a density of one dwelling unit per acre and as Light Industrial closer to the airport. Historically, this area had been recommended primarily for industrial use between the area for the existing runway and the Old Milwaukee and two dwelling units per acre for the portion to the southwest. While land owned by the airport is mostly designated as Public and Quasi-public uses, an analysis of the appropriate land uses requires a recommendation based, not upon ownership of the land, but land use capability.

Limitations to the development of that land include: part of it is outside but adjacent to the Sewer Service Area, varying topography throughout this area, limitations to further extension of a grid road system, and compatibility with adjacent land uses. Proximity to sewer lines, planned extension of England Boulevard through the property, and proximity to other land recommended for more dense development to the south and east all enhance its development capability. The proximity of property on Snowdrift Lane recommended at a density of one dwelling unit per five acres, the inability to provide north – south road connections because of having the airport on the north side and the Old Milwaukee Railroad bed on the south, establishing appropriate transitions between land uses, and preserving the rural character in this area, are all limitations to finding the land suitable for development at an urban density.

The analysis results in the land use recommendations of Residential at four dwelling units per acre directly south of the airport, and Cluster at two dwelling units per acre southwest of the airport, west of the clay hills. A potential Neighborhood Center Indicator is also shown in the area.

RAIL

The Montana Rail Link (MRL) main line is just north of Old Highway 10 West. The MRL was formed in 1987 when it assumed control of Montana's southern rail route from Burlington Northern Railroad. The MRL operates freight service on this major corridor, which connects rail traffic between Central and Southern states and the Pacific Northwest. About 18 trains per day use the main line. A branch line to the Smurfit-Stone Container Corp paper mill passes through the northwest corner of the plan area and carries one train per day.

URBAN TRANSPORTATION PLAN RECOMMENDATIONS

The *2004 Missoula Urban Transportation Plan Update* includes several transportation improvement projects or programs recommended for construction in the *Wye Mullan Plan* area through 2025. Not all of the recommended improvements will necessarily occur, due to funding limitations and urban area priorities. The *Transportation Plan Update* lists projects as "Committed," "Recommended" or "Unfunded or Illustrative" according to the following descriptions:

Committed Projects are those included within an approved City of Missoula, Missoula County, or MDT improvement plan. Committed projects were approved through planning efforts and budgeting processes that predate the *2004 Missoula Urban Transportation Plan Update*.

Recommended Plan Projects address an identified need within the 20-year planning period (through 2025). These may be needs such as congestion relief, missing trail links, bus replacements, air quality reduction, etc. The Recommended Projects list is based on the level of estimated available funding through 2025.

Unfunded or Illustrative Projects are those whose costs exceed the available public and private funds projected through 2025. These projects or activities could be considered if more transportation funds became available and development accelerates and the timetable for improvements changes. The *2004 Missoula Urban Transportation Plan* would have to be updated to incorporate public consideration and modeling of the Unfunded or Illustrative Projects before they could be funded.

Figures 6A-4a and 6A-4b describe recommended improvements in the plan area from the *Transportation Plan Update*. Both figures contain the same information but are sorted differently in order to highlight different ways of viewing the information. Figure 6A-4a lists recommended improvements from the *Transportation Plan Update* sorted by project status as described above.

Figure 6A-4b lists four types of improvements recommended in the *Transportation Plan Update* that are located in or benefit the *Wye Mullan Plan* area based primarily on mode of transportation. *Roadway Expansion* projects include projects such as additional lanes on Mullan Road and new roads that are part of the Collector Roadway System established by *Missoula County Resolution 2001-005*. *Transportation System Management (TSM)* projects are considered for specific locations, such as improvements to the intersection of Mullan Road and Reserve Street. *Non-Motorized* projects include sidewalks, walkways, trails, and bicycle facilities. *Transit* improvements include equipment addition or replacement, new or expanded routes, or increased frequency or hours of service.

Figure 6A-4a: Wye Mullan Area Improvements (from the 2004 Missoula Transportation Plan) – Project Status

COMMITTED PROJECTS		
Project Description	**Cost**	**Comment**
Mullan Road West - Safety Delineators	$28,000	
Mullan Road Seal and Cover	$230,000	
US 93: north of I-90 Junction; Signal at Murault's	$250,000	MDT District Safety Project.
Subtotal	**$508,000**	

RECOMMENDED PROJECTS		
Project Description	**Cost**	**Comment**
Reserve Street Corridor Study—Brooks Street to I-90	$1,000,000	
Reserve Street: Dual Left Turn Lanes on northbound Reserve Street to Mullan Road	$2,964,000	
Reserve Street: Lane Addition on Reserve Street Southbound Adjacent to I-90 Westbound On-Ramp	$90,000	
Improve Reserve Street Bike/Pedestrian Crossings from Brooks St. to Mullan Road	$-	Cost included in Reserve Street intersection improvement projects
Mullan Road: Widen Mullan to 4-Lanes plus Auxiliary (Reserve Street to Flynn/New Collector) Includes new signal at Flynn/new collector	$2,583,000	Includes $128,000 in Non-motorized facilities
Mullan Road: Widen to 2-Lanes plus Auxiliary (Flynn/new collector to Cote Lane)	$4,136,000	Includes $428,000 in Non-motorized facilities
Mullan Road/Flynn Lane—Intersection Improvements	$175,000	Could be signal, roundabout or other traffic control device.
Mullan Road: Add bike lane west of Reserve St; including a system within the Wye Mullan Development area	$25,000	
Flynn Lane: Provide Sub area Access to Mullan Road at Collector in Wye Mullan Proposal; Disconnect Flynn Lane from Mullan Road	$750,000	
Wye Mullan Plan Collector Roadway System Routes	$4,413,000	
Develop Western End of Milwaukee Trail from Reserve Street to Mullan Road	$833,300	
North Reserve Street Route Addition	$2,880,000	
Route 8: Extension to North Reserve Street	$2,880,000	
Evening Service Hours Extension (Service Until 8:15 PM)	$2,560,000	
Bus purchases	$-	To be determined as funds become available.
Bus replacement	$3,345,000	
Subtotal	**$28,634,300**	

UNFUNDED / ILLUSTRATIVE PROJECTS		
Project Description	**Cost**	**Comment**
Flynn Lane: Realign to Remove Right Angle Turn and Skewed Intersection with Broadway	$510,000	
Airway Blvd. Extension	$10,000,000	
New N-S Arterial: West of Reserve includes a River Crossing (Located Approximately 3/4 to 1 Mile W. of Reserve St.)	$15,714,000	
Premier Bus Service to Meet Mountain Line Expanded Service Levels	$12,000,000	
Enhanced Sunday Service	$2,352,000	
Subtotal	**$40,576,000**	
TOTAL	**$69,718,300**	

Figure 6A-4b: Wye Mullan Area Improvements (from the 2004 Missoula Transportation Plan) – Funding Categories

C = Committed ***R = Recommended*** ***U/I = Unfunded / Illustrative***

ROADWAY EXPANSION	**Cost**	Comment
Mullan Road: Widen Mullan to 4-Lanes plus Auxiliary (Reserve Street to Flynn/New Collector) Includes new signal at Flynn/new collector. ***R***	$2,583,000	Includes $128,000 in Non-motorized facilities
Mullan Road: Widen to 2-Lanes plus Auxiliary (Flynn/new collector to Cote Lane) ***R***	$4,136,000	Includes $428,000 in Non-motorized facilities
Flynn Lane: Provide Sub area Access to Mullan Road at Collector in Wye Mullan Proposal; Disconnect Flynn Lane from Mullan Road ***R***	$750,000	
Wye Mullan Plan Collector Roadway System Routes ***R***	$4,413,000	
Reserve Street: Lane Addition on Reserve Street Southbound Adjacent to I-90 Westbound On-Ramp ***R***	$90,000	
New N-S Arterial: West of Reserve includes a River Crossing (Located Approximately 3/4 to 1 Mile W. of Reserve St.) ***U/I***	$15,714,000	
Airway Blvd. Extension ***U/I***	$10,000,000	
Reserve Street Corridor Study—Brooks Street to I-90 ***R***	$1,000,000	
Subtotal	**$38,686,000.00**	
TRANSPORTATION SYSTEM MANAGEMENT	**Cost**	**Comment**
Mullan Road West - Safety Delineators ***C***	$28,000	
Mullan Road Seal and Cover ***C***	$230,000	
Reserve Street: Dual Left Turn Lanes on northbound Reserve Street to Mullan Road ***R***	$2,964,000	
Mullan Road/Flynn Lane—Intersection Improvements ***R***	$175,000	Could be signal, roundabout or other traffic control device.
US 93: north of I-90 Junction; Signal at Murault's ***C***	$250,000	MDT District Safety Project.
Flynn Lane: Realign to Remove Right Angle Turn and Skewed Intersection with Broadway ***U/I***	$510,000	
Subtotal	**$4,157,000.00**	
NON-MOTORIZED	**Cost**	**Comment**
Develop Western End of Milwaukee Trail from Reserve Street to Mullan Road ***R***	$833,300	
Mullan Road: Add bike lane west of Reserve St; including a system within the Wye Mullan Development area. ***R***	$25,000	
Improve Reserve Street Bike/Pedestrian Crossings from Brooks St. to Mullan Road ***R***	$0	Cost included in Reserve Street intersection improvement projects
Subtotal	**$858,300.00**	
TRANSIT	**Cost**	**Comment**
Bus purchases ***R***	$0	To be determined as funds become available.
Bus replacement ***R***	$3,345,000	
N. Reserve St. Route Addition ***R***	$2,880,000	
Evening Service Hours Extension (Service Until 8:15 PM) ***R***	$2,560,000	
Route 8: Extension to North Reserve Street ***R***	$2,880,000	
Enhanced Sunday Service ***U/I***	$2,352,000	
Premier Bus Service to Meet Mountain Line Expanded Service Levels ***U/I***	$12,000,000	
Subtotal	**$26,017,000.00**	
TOTAL	**$69,718,300**	

PARKS, RECREATIONAL, AND OPEN SPACE AREAS

Parks, recreation, and open space contributes to the mental and physical well being of the community's residents. The opportunity to enjoy recreational experiences is a central component of a desirable quality of life for the residents of the area and for Missoula in general. Contributing to the public park system will especially benefit the general population by providing an inviting opportunity for both passive and active recreation, offering open area relief as the community continues to grow, and enhancing the livability of each neighborhood.

The *2004 Master Parks and Recreation Plan for the Greater Missoula Area (Master Parks Plan)* was adopted for the Missoula Valley in April of 2004. This section focuses on the parks and recreation needs for the *Wye Mullan Plan* area and furthers many concepts of the *Master Parks Plan*.

PARKS

Many of the existing parks in the area were established as privately-owned common areas. Few are publicly owned. There are 23.95 acres of public parks (including County and State owned) and 99.85 acres of private common areas, totaling 123.8 acres, serving approximately ten subdivisions and 2,388 dwelling units.

Common areas are parkland owned and maintained by Homeowner's Associations. Subdivision covenants may provide restrictions on the use of common areas and the assessment of dues for maintenance. Maintenance by Homeowner's Associations is inconsistent. Use is intended for those living within the subdivision. Common areas do not contribute to the public system of recreational opportunities in neighborhoods. However, they may serve a role in preservation of neighborhood-scale conservation lands.[11] Figures 6A-5, 6A-6, and 6A-7 describe existing parks, distinguishing common areas from public parks.

The *Master Parks Plan* provides descriptions of the four main categories of park land: Community, Neighborhood, Pocket, and Conservation Parks. The following information further refines those descriptions and is coordinated with the *Master Parks Plan*. Recommended sizes and levels of service (LOS) are included. Parks that are of a neighborhood or community scale and meet the LOS criteria should be dedicated to the public.

COMMUNITY PARKS

Community parks vary in size from 25 to 100 acres and typically contain a number of structures and facilities to support large crowds. They should be connected via the community trail system. "Community parks should generally be located so as to provide all residents access to a community park within 1 ½ miles of their home."[12] There should be 4.5 acres of community parkland for every 1,000 people. At present, no community parks are located within the plan area.

NEIGHBORHOOD PARKS

Neighborhood parks range in size from five to twelve acres and provide a number of different uses and structures. Other neighborhood parks should be established to accommodate the surrounding neighborhoods. Residential neighborhoods should have a neighborhood park centrally located within ½ mile radius of most homes. Combined with pocket parks there should be 2.5 acres of neighborhood parkland for every 1,000 people.

[11] EDAW, *Consolidated Master Parks and Recreation Plan for the Greater Missoula Area*, City of Missoula, Missoula County, April 2004, page 2-31.
[12] EDAW, *Consolidated Master Parks and Recreation Plan for the Greater Missoula Area*, City of Missoula, Missoula County, April 2004, page 2-24.

Figure 6A-5
Existing Neighborhood Parks

Park Name	Acres	Observations
New Meadow Public Park	8.8	Partially developed County public park, No off-street parking, Existing play equipment and basketball court on a flat area, shallow rolling gullies.
Golden West Public Park	4.75	Poorly maintained ball field.
Sharptail Common Area	12	Mostly undeveloped slope, Important part of El Mar park system with play equipment, hills for informal play and sledding.
Chickadee Common Area	3.5	Part of El Mar park system, Small baseball diamond, level turf play area, Street visibility.
Mullan Trail and Country Crest Common Areas	Approx 40	Linked common area winding between neighborhood, varied terrain, Some native grasses in good condition.
Pleasant View Common Areas	2.61	Primarily used for storm drainage. Across Flynn Lane from Hellgate School.
Total	71.66	Public parks and common areas combined.

POCKET PARKS

Pocket parks are generally less than two acres in size and are integrated with the adjacent neighborhoods they serve. All existing pocket parks in this region are common areas. Future pocket parks should also be common areas because they are too small to be maintained by local government and do not serve a larger neighborhood. Residential neighborhoods should have pocket parks located within ¼ mile radius of most homes. Combined with neighborhood parks, there should be 2.5 acres of pocket parkland for every 1,000 people.

Figure 6A-6:
Existing Pocket Parks

Park Name	Acres	Condition	Opportunities
El-Mar Common Areas	16.3	good	Trail linkages, play equipment.
River Heights Common Areas	2.4	fair	Trail linkages.
Pleasant View Common Areas	2.82 total over 6 areas	new	Central locations and visual green space.
Hellgate Meadows Common Areas	1.17 + .44	new	Central Commons, Other parks planned as part of Special Zoning District.
Phantom Hills Common Areas	10.29 total over 15 areas	new	Size of park ranges from .07 to 2.41 acres used as buffer strips, central medians and active or passive park.
Total	22.63		

CONSERVATION PARKS

Conservation parks are characterized as natural areas, protecting sensitive habitat, or important natural features. Conservation Parks have no or few structures and little choice of activity. No specific size range for conservation parks is recommended.

Figure 6A-7:
Existing Conservation Parks

Park Name	Acres	Conservation Value
Kona East Common Area	3.8	Grassland restoration potential.
Crest Haven Common Area	2.2	Grassland restoration potential.
Council Hill Public Park	2.9	Steep grassy hillside.
Kelly Island Fishing Access	7.5	Clark Fork River riparian habitat. Adjoins Kelly Island State Park. County owned and MDFW&P managed.
Total	16.4	Public Parks and Common Areas Combined.

Additional conservation parks exist under the management of State and Federal agencies. Kelly Island State Park is a total of 666 acres and just to the west of the plan area is Council Grove State Park. Approximately 187 acres in size and managed by Montana Fish Wildlife and Parks (MFW&P), Council Grove holds historical significance as well as conservation value.

OTHER TYPES OF PARKS

SPECIAL PURPOSE AREAS

Special purpose areas are such places as golf courses, school land, community gardens, and potential gravel reclamation areas.

Golf courses establish open recreational areas combined with commercial uses. Recently, Phantom Links was established on Mullan Road. This 201-acre golf course is privately owned but open to the public.

School lands offer the potential for community activities and often have outdoor areas available as sports fields. Hellgate Elementary School has functioned as a community gathering area for many years but does not replace the need for neighborhood and community parks. Its grounds contain numerous play fields, play equipment, and open turf areas that are used by the local community not only for sports or school related activities but also for club sports such as little league and club soccer.

Community gardens extend open spaces either through dedication or as an area set aside for the production, cultivation, growth, and harvesting of agricultural commodities. Community gardens help to reinforce rural characteristics, retain green infrastructure, create alternative food sources, and contribute to the preservation of, access to, and use of open space. Community gardens offer space for participants to work together, thereby strengthening community relationships.[13] Community gardens, particularly in the urban environment, contribute to increasing diversity of land use, activities, cultural traditions, and bio-diversity. Gardening has become one of the most popular forms of recreation.

[13] Librizzi, Lenny. *Comprehensive Plans, Zoning Regulations, Open Space Policies and Goals Concerning Community Gardens and Open Green Space.* (1999:www.communitygarden.org, accessed July 8, 2004).

The *Wye Mullan Plan* area has traditionally been an agricultural area. Encouraging community gardens help to carry on the tradition. Community gardens complement an urban development pattern where smaller residential lots are used and residential density is increased. It is appropriate to consider community gardens as all or part of the State requirement for parkland dedication under the following situations:

- Neighborhood park minimum level of service (LOS) standards have been met in the ½ mile area;[14]
- There is agreement with an agency such as Garden City Harvest for maintenance, oversight, and programming;
- As part of a larger community park, given agreement for maintenance and programming when an agency exists;
- As part of a Common Area.

Several gravel operations exist to the south of Mullan Road, within the 100 year floodplain. Gravel operations run for a limited time due to the finite amount of material to extract. Once a gravel operation ceases to exist other uses of the property are often limited, especially if it is within a floodplain. During this planning process the community suggested eventual conversion of gravel extraction areas to public recreational uses. Reclamation of areas into safe parklands can be expensive but a good use of the land. This concept should be explored further with all concerned parties.

VISUAL GREEN SPACES

These areas do not provide for active recreation and are not calculated in the LOS for parks. They are areas "…that form vegetative islands, which break up the atmosphere of congestion in densely urban areas and provide a space for compatible forms of quiet recreation. Their primary purpose is to enhance community aesthetics and as such should be located in visually accessible areas."[15] In this plan area, they include central boulevards, entry areas to subdivisions, and landscaped buffers as permitted by subdivision regulations.

PARK NEEDS

The *1997 Missoula County Parks and Conservation Lands Plan* identified several park needs for this area. Community identified needs included soccer, baseball, and softball fields, community gardens, and centrally-located nature based trails and recreation areas. Specific improvements were suggested for existing parks and common areas. [16] Those improvements are still needed.

The Wye Mullan planning process emphasized exploring ways to be proactive about park size, location, and needs. The need to establish neighborhood parks concurrent with development and the need for a community park in the area were identified as especially important. Park settings were viewed as integral to neighborhood living. Connecting parks with a non-motorized system is also needed and highly recommended.

The most common way to obtain parkland is through subdivision dedication. Land dedication requirements for new subdivisions are found in Section 3-8 of the *Missoula County Subdivision Regulations* and *City Subdivision Regulations*. State regulations set the minimum requirement for amount of park land to be dedicated or the equivalent cash-in-lieu to be paid depending on the scale of development.

[14] Prepared by EDAW, *Master Parks and Recreation Plan for the Greater Missoula Area*, for the City of Missoula and Missoula County, May 2004, Page 2-19 and 4-1.
[15] Prepared by EDAW, *Consolidated Master Parks and Recreation Plan for the Greater Missoula Area*, for the City of Missoula, Missoula County, April 2004, page 2-30.
[16] *Missoula County Parks and Conservation Lands Plan*, 1997, pages 66 and 70.

Neighborhood parks can be established through subdivision parkland dedication. The size of parkland dedication depends on the size of the subdivision. A large development may yield enough park acreage to serve a neighborhood - at least five acres. Developers should be encouraged to locate parkland for active uses and to allow aggregation of parkland dedications from adjacent development to create larger parks. State law allows the dedication of parkland outside a subdivision but within the same ownership. This tool allows a landowner to collect parkland acreage from several smaller subdivisions and dedicate a larger tract, preferably in a location central to the neighborhood.

Neighborhood parks should be dedicated to the public so they are available to all neighborhoods. Neighborhood parks should be established throughout the planning area within reasonable walking distance of residential areas. The *Potential Parks and Trails Map,* Map 6A-6, shows possible locations for neighborhood parks and is consistent with the *Master Parks Plan*. These designations are approximate but should be considered as development occurs and park land is proposed.

Establishing both an active-recreation and a nature-based community area is a high priority for park development in the plan area. The active-recreation area would support uses requiring level, grassy play areas and could include recreational facilities such as pools and ice rinks. Active-recreation areas could also acknowledge existing historic or cultural attributes of an area. A nature-based area would provide opportunities for quiet, solitude, learning, and reflection in a natural setting. These two areas can be combined on one parcel if large enough to accommodate these very different uses.

An active-recreation area often requires extensive grading, paving, irrigating, fertilizing, and building of structures. For this reason it should not be located in a floodplain, areas of high groundwater, or areas so severely constrained by topography or other natural features so as to preclude development for active recreation. It should be in an area that is easily accessible for children and other non-motorized travelers.

A nature-based area is meant to allow human interaction with natural systems. This interaction, however, can lead to significant impacts on wildlife and native vegetation. Such a park should therefore not be located in ecologically-sensitive areas, and should be designed to mitigate impacts caused by human use. Low impact techniques include careful trail location and design, control of loose dogs, education of users, limiting the amount of irrigated turf areas, and discouraging large parking lots.

The *Land Use Map* and *Potential Park and Trails Map* show two possible locations for community parks. Each could serve different goals of the community park system. Both are accessible from the proposed collector roadway system and lie near the potential Old Milwaukee Trail system. Each offers different landforms and different uses – one being more passive and the other being more active. Both locations are central to this planning area and also act as a buffer between airport expansion and residential development.

Establishing community parks at sizes recommended is not feasible through individual subdivision parkland dedication alone. More proactive techniques need to be utilized if community parks are to be established. Partnerships between land owners and public or private agencies, and financing mechanisms such as impact fees, grants, or other techniques are all possibilities.

SPECIAL RESOURCE AREAS

OPEN SPACE

"The term o*pen space* resembles the definition of o*pen space land* offered in *Montana State Statutes, MCA 76-6-104*. *Open space land* means any land that is provided or preserved for:

a. Park or recreational purposes;
b. Conservation of land or other natural resources;
c. Historic or scenic purposes; or
d. Assisting in the shaping of the character, direction, and timing of community development."[17]

While State and Federal statutes may provide specific definitions of open space, this Plan refers to open space as the open quality of land that should be conserved. Open space is part of the landscape that contributes to the community's sense of place and identification. The open space may be valued from a visual perspective along public roads, water bodies, public lands, or historic sites. The open space contributes to a larger system of natural resource conservation and a balance of open space in proximity to the growing community. Open space does not imply public access to all lands conserved for this purpose because visual access may be sufficient for the public to appreciate such values.

More specifically, open space includes buffers, recreational lands, unique natural lands, view corridors, areas with conservation easements, community gardens, and access lands that provide trailheads or public access to natural areas. As described in the Natural Resource chapter of this document, important natural features including areas of wildlife movement, riparian vegetation, natural drainages, the Clark Fork River, creeks and drainages, and agricultural land, are integral components of open space in the area.

Open space protection is an important consideration for both planning efforts and development design. Linking open spaces through the creation of functional connections for wildlife movement, agricultural operations, river and stream corridor protection, or protection of significant views is important to maintaining a sense of the open and green character that currently exists.

The *Missoula Urban Area Open Space Plan* also highlights how our community values open space in this area. Identifying "potential additional cornerstones" is a community vision which extends beyond existing cornerstones in certain areas. There are "potential additional cornerstones" extending along the Clark Fork River and portions of the Grass Valley area and if secured could contribute a significant element to the open space system.

RESOURCE PLANNING TOOLS

Tools available for retaining open space and preserving special resource areas include conservation and agricultural easements, transfer of development rights, cluster land use, and zoning.

CONSERVATION AND AGRICULTURAL EASEMENTS

Conservation easements are a valuable tool for protecting natural resources on private property. Under an easement, a landowner retains ownership and management of the land, but voluntarily gives up the right to conduct certain activities. These activities may include subdivision, commercial timber harvest, grazing in riparian areas, mining, or other uses that would degrade the resource. Agricultural easements are a form of conservation easements that restrict land to agricultural or open space uses. The landowner can receive a tax benefit under a conservation easement.

[17] *Missoula Urban Area Open Space Plan*, 1995, Introduction.

Three methods for acquiring easements:

- Purchase of Development Rights: direct compensation to landowner for value of development rights.
- Donation or Charitable Contribution: outright gift by the landowner of development rights resulting in income tax credits.
- Transfer of Development Rights (TDR): the acquisition of easements in an area to be preserved by transferring the development rights to an area where urban growth is desired, often at high densities. A TDR arrangement typically is a condition imposed on new development, and the cost of acquiring rights from an agricultural landowner is carried by the developer[18].

Existing conservation easements have been established in the plan area. A 200 acre easement conserves Open Space, Agriculture, and Riparian values along a portion of the Clark Fork River. A 39 acre easement west of Hellgate Elementary School conserves a nationally-registered historic homestead and retains the agriculture and scenic value of the area. An 11 acre easement at the end of Council Hill recognizes a single existing home but restricts any future development and conserves the hillside and view corridor along the Clark Fork River.

Discussions are ongoing among landowners and land trusts to establish additional conservation easements that will protect agricultural areas as well as important riparian and wetland habitat from future development. Such easements could help to establish an edge to the growth of the urban area as well as fulfill additional cornerstone objectives of the *Missoula Urban Area Open Space Plan*.

TRANSFER OF DEVELOPMENT RIGHTS

One method of preserving resource and agricultural land is through transfer of development rights from resource lands such as floodplain areas to areas more suitable for residential development. The density transferred from these lands may be applied to areas that are demonstrated to be capable of supporting the additional density, are suitable for the additional density, and are designed so as not to adversely impact adjacent uses. Density may not be transferred to resources such as floodplains since development in these areas is not encouraged. Transfer of density is typically implemented on zoned land with legally defined development rights and where sending and receiving zones are established.

Density transfers would generally occur in conjunction with a subdivision and would be considered during the subdivision review process. A density transfer can be accomplished by use of a density transfer agreement that runs with the land. Density transfer agreements can be used on parcels within the same ownership, parcels in different ownerships, and between non-contiguous parcels. The agreement should be approved by the governing body and recorded with the County.

CLUSTER LAND USE AND ZONING

While clustered development is encouraged in most subdivision proposals, this Plan specifically includes a land use designation for clustering. The cluster land use description includes the need to establish a significant amount of open space. This designation establishes a balance between areas of future development and future open space. Concentrating uses in portions of a subdivision and establishing significantly more open areas than typically required in subdivisions will create a transition toward less dense development in the western portion of the plan area. See the Cluster Land Use description for more information.

[18] http://www.cas.nercrd.psu.edu/FLSokolow.pdf

Zoning is an important tool for implementing clustered land use and preserving open space. Land developed with this pattern, especially with increased densities in the clustered land use areas described in this Plan, should be zoned accordingly.

TRAIL SYSTEM

A complete non-motorized trail system consists of community trails, neighborhood trails, and on and off street parts (trails, sidewalks, bike lanes). When specifically locating community and neighborhood trails consider the following elements: topographic features, irrigation ditches, location of potential parks, public open spaces, community destinations, and inter-connectivity with the road system.

A community-wide trail system provides recreational opportunities for citizens throughout Missoula County as well as safe connections for non-motorized commuters. Neighborhood-connector trail systems provide safe alternative travel routes for all and especially for children going to school, seniors pursuing recreation, shopping and appointments, and residents who prefer not to drive locally. Ultimately, such a system reduces the amount of vehicular travel and sustains a healthier community.

A broad community vision includes the development of a regional non-motorized system along the Old Milwaukee Railroad. This concept is identified in the *Master Parks Plan, Urban Area Non-Motorized Transportation Plan*, and the *Missoula Urban Area Open Space Plan*. Parts of the Old Milwaukee have already been developed as a trail system within the city limits. Other parts have been established within open space dedications. The *Missoula County Parks and Conservation Lands Plan* recognizes the need for "centrally-located nature based trails and recreation areas."[19] Continuation of a community-wide trail system along the Old Milwaukee line through this plan area should be a priority.

Non-motorized circulation has been established along parts of the Clark Fork River within the City. Extension of this trail system may continue into the plan area as long as concerns such as increased traffic through residential areas, safety, security and natural resource protection are addressed.

Another integral part of a community-wide trail system is the potential Grant Creek corridor. This system, running north – south, will connect residents to community amenities such as the river, the Grant Creek drainage, the Old Milwaukee trail system, and future community parks.

The integration of neighborhood-connector trail systems is encouraged as a means of providing alternative routes for connecting neighborhoods. Since many existing subdivisions have been established with disconnected cul-de-sacs, the primary route for travel between neighborhoods is along the main travel corridor, Mullan Road. Establishing a neighborhood trail system will increase connectivity between existing neighborhoods and provide multiple options for local travel. This type of trail system may be a combination of off-road trails and separated walkways adjacent to existing roadways. Multiple systems of neighborhood trails are possible within this plan area. Development of a neighborhood trail from Mullan Road to Kelly Island, connecting New Meadows Park with Golden West Park, and then southward to Kelly Island is encouraged.

North of Mullan Road a community trail system is encouraged as a means of linking the neighborhood parks and pocket parks with each other as well as the amenities of the area (including Grant Creek and Hellgate Elementary School).

[19] *Missoula County Parks and Conservation Lands Plan*, 1997, page 63.

RIVER ACCESS

The Clark Fork River is accessible in various places such as Kelly Island State Park which offers fishing access. Desirable locations for future river access are where bridges cross the river. On the south side of the Kona Ranch Bridge public access to the river is being developed where portions of land were dedicated to the County during subdivision, with Fish Wildlife and Parks maintenance. This area is just outside the plan area. Development of public access to the river near Reserve Street is encouraged.

Another access point could be at the place where, potentially, the Old Milwaukee Trail will cross the river. Further amenities for public access to the river and the trail system, such as parking areas, should be explored.

GREEN INFRASTRUCTURE

Green infrastructure should be established as a system of open space that reflects the existing character of the area and includes sensitive habitat areas and recreational opportunities. The American Planners Association (APA) describes green infrastructure as:

> "…an interconnected network of greenways and natural lands that include wildlife habitat, waterways, native species and preservation or protection of ecological processes. All development (including redevelopment, infill development, and new construction in urbanizing areas) should plan for biodiversity and incorporate green infrastructure. Green infrastructure helps to maintain natural ecosystems, including clean air and water; reduces wildlife habitat fragmentation, pollution and other threats to biodiversity."[20]

A green infrastructure system can be established by enhancing and preserving existing drainages systems, community gardens, rural hedge rows and wind breaks, irregular tree clusters, and special vegetation including sagebrush communities and native grasses. By implementing conservation design techniques, development can conserve green infrastructure. Wide boulevards with enough space for an urban forest are encouraged as a means to contribute to green infrastructure and add to livability, wildlife movement, and improved air and water quality.

CULTURAL RESOURCES

Missoula originates in this area, and through the preservation of appropriate lands this historical and cultural connection can be available to future generations. Community-based public amenities should be established where there are special features to preserve or a unique historical or memorable event. Examples of preserving cultural resources in the form of parks, recreation, and open space resources in the plan area include: planning for neighborhood open space proximal to the historic Hellgate Townsite; establishing a conservation easement west of Hellgate Elementary School to preserve the character of a homestead dating back to the late 1800's; establishing a community-based trail where the Old Milwaukee railroad once ran. (See Appendix 3.1: *Historical Account*, and *Community Asset Map, Map 3-2*.)

[20] American Planning Association, *Policy Guide on Smart Growth,* (2003).

PARK DESIGN AND IMPROVEMENTS

Each type of park has associated design considerations including transportation, infrastructure, and maintenance.

Neighborhood parks should be designed with park frontage in mind. To reinforce neighborhood use, streets and sidewalks should frame the park. A neighborhood park should be centrally located, suitable for active recreation, and include a variety of amenities. This scale of park should be based on usage possibilities. For instance, if the park will be used as a practice field for sports it should be planned with such activities in mind. Parking and access to the park should also be considered. Whenever possible, parks should be accessible by a non-motorized transportation system.

A Community park should be located within proximity to special natural features in the area with easy access. It should provide a variety of active uses including recreation or fitness facilities such as swimming areas, children's playgrounds, and ice rinks, and should be designed for passive uses such as walking, picnicking, and bird watching.

Determining the appropriate type and location of parkland should consider *Conservation Design Guidelines*. (See Appendix 2.1) These guidelines help to identify developable and non-development areas by considering the following factors: natural features such as hillsides, drainages, streams and rivers, riparian vegetation, wildlife habitat, agricultural fields, important geology, views and vistas, consolidation of services, and utilization of existing infrastructure.

As development occurs, native vegetation should be maintained whenever possible. Native vegetation sustains the climate and wildlife of this area. They typically require less maintenance and irrigation. Native plants also best reflect the historic landscape. Vegetation in parks should be maintained in a healthy condition.

UTILITIES

Utilities described in this section include sewer, septic, water, power, and natural gas. Other utilities such as telephone, cable, and trash are available in the plan area but are described in the general infrastructure section at the beginning of the Infrastructure Chapter.

SEWER

The Urban Growth Area Boundary and the Missoula Waste-Water Treatment Plant Service Area (MWWTPSA) have the same boundary. Eventually sewer service will extend to all areas inside the MWWTPSA. Seventy percent (9,349 acres) of the plan area is located within the MWWTPSA. Fifty-two percent (6,946 acres) of the plan area has sewer available through existing connections or the potential for connections given the availability of sewer with in a district.[21] There are approximately 1,705 acres outside the Urban Growth Area and not constrained due to floodplain.

Resolution # 2002-025, establishes the intent to create RSID #8474 and was approved in March of 2002. This district provides for the extension of backbone sewer mains along the Mullan Road Corridor area from the Missoula Wastewater Treatment Facility. The district boundary is outlined in Map 6A-7, *Utilities*. RSID # 8474 includes over 2,380 acres of assessable area.

RSID #8474 accommodates the plan for growth along the Mullan Corridor. It closely parallels the Urban Growth Area boundary to the west. The backbone sewer main can accommodate the projected build-out for this plan area. As part of the detailed design work, there was a need to maintain a flatter grade on the main interceptors, avoiding the need for a pumping station. This resulted in incorporating larger diameter pipes in the gravity collection system with the ability to serve additional units.

Some properties will be able to hook up directly into the backbone lines while others will need to establish sub-districts for construction of neighborhood collector sewer lines. Sub-districts for El Mar, New Meadows, Golden West, Mullan Trail and Country Crest are being established. The *City/County Interlocal Agreement for RSID #8474* includes criteria for forming sub-districts (the process is set by State law). According to the Agreement, "RSIDs for the extension of other sub-districts with existing plumbed units as of the date of the signing of this agreement within a project area shall be initiated by the governing body with jurisdiction only if one of the three following conditions is met:

a) A petition is received to create the sub-district (current County policy requires a petition from 50% plus one of those property owners paying the cost of the proposed district; current City policy has no number required for a petition; or
b) There is a clearly established threat to public health, community septic system failure, or standards violation which requires sewer to address; or
c) The County or the City has obtained local, state, and/or federal funds to pay at least 55% of the cost of the project."[22]

Another 8.5 percent (approx. 1,132 acres) of the plan area is included in a proposal for sewer extension that is being explored by some landowners near the Wye. If this district is approved, only a very small portion of this plan area will not have sewer available in the next few years.

[21] Excluding 720 acres that are not appropriate for sewer and are inside the Urban Growth Area.
[22] City-County Interlocal Agreement, 3/13/02 Final, Page 9.

The County is expected to receive a request to create an RSID for sanitary sewer extension into the area around the Wye in the near future. A preliminary RSID Boundary is proposed and is attached to this document as Map 6A-8: *Potential Wye Basin Sewer District*. The *Wye Mullan Plan* area extends to near Cartage Road. During an RSID process more detail would be developed regarding plans for annexation, emergency service provision, refinement of RSID boundary, and financing.

The City has been involved in long range planning for provision of City services throughout the urban area. Annexation of the plan area is expected in the next 10 to 15 years.

Areas not appropriate for sewer extension include floodplain, conservation easements, park areas, and cemeteries and make up approximately 22.5% (2,994 acres) of the plan area.

Some recommendations for land use supportive of sewer extension are contemplated west of the current Urban Growth Area. This area is suitable for the recommended density but would require amending the Urban Growth Area, petitioning to the City for annexation, expansion of the sewer service area, and paying the proportionate share of the cost of the sewer backbone. Prior to extension of the Urban Growth Area a detailed master plan should be reviewed.

An interlocal agreement between the City of Missoula and the County of Missoula to cooperate in extension of City Sewer Service to areas within RSID #8474 was signed on March 13, 2002 delaying annexation of existing plumbed uses within the sewered areas.

SEPTIC SYSTEMS

Many existing residential units utilize individual or community septic systems. Existing properties that do not have a sewer main in the adjacent right-of-way will not be required to hook up to sewer even though they participate in the backbone RSID. Hook up will be dependant on the creation of neighborhood sewer sub-districts which would construct sewer collectors in the local streets. Over time, it is expected that most properties will shift from using a septic system to a sewer connection. *Missoula City-County Health Code and the State Subdivisions and Sanitation Act* includes regulations that are also considered when determining whether a project is required to connect to sewer or develop an individual septic system.

Properties outside the Urban Growth Area that are not constrained from development may continue to develop using either individual or community septic systems. *Missoula City/County Health Code Regulations* and State regulations require one acre per dwelling when individual septic and wells are used. When either public water or community septic systems are used, lot size may be as small as 20,000 square feet. This ensures adequate space for a septic system, wells, and improvements on each lot. The rural residential land use recommendation for the western portion of the plan area could be accommodated with individual septic.

NATURAL GAS

NorthWestern Energy Company operates an eight-inch underground high-pressure natural gas line in the northwestern portion of the plan area, south of the Wye. It provides service to and from Stone Container. This line is approximately shown on Map 6A-7: *Utilities*.

POWER

Missoula Electric Cooperative (MEC) and NorthWestern Energy provide electrical service in the plan area. Service is provided by the agency that is closest to a development. MEC owns property to the north of Country Crest, adjacent to the Old Milwaukee for a sub-station. Appropriate setbacks need to be established for any development near the sub-station. NorthWestern Energy has a substation in the southeast corner of the plan area, adjacent to the Old Milwaukee.

NorthWestern Energy Company and the Missoula Electric Cooperative will be able to continue to provide service as growth occurs in the plan area. Utility agencies have expressed concerns over adequate width and location of utility easements. Utility easements that get placed to the rear of properties typically result in concerns over access to the easement. Consolidating easements within the same area as the road right-of-way would allow for easier access. Involving utility agencies in early discussion over utility placement during project development is encouraged.

PUBLIC WATER

The majority of the water supply to existing development is served by individual water wells. Mountain Water Company (MWC) is the primary public water service provider in the urban area, including this plan area. Public water service is provided to some of the developed portions within the Master Plan area either by the MWC system that services the Missoula International Airport, Aerial Fire Depot and the Missoula Development Park areas, or various other small systems that are either publicly or privately owned. All domestic water use in the area is from wells, while irrigation is provided by either wells or surface water (irrigation ditches).

Individual water systems serve individual properties. Multi-family water systems can serve up to 14 service connections or 24 people per day. Individual and multi-family systems are not monitored or regulated while public water systems are licensed and the water quality is regulated and checked routinely. Public water wells accommodate at least 15 service connections or regularly serve 25 persons daily for at least 60 days per calendar year. There are many public water supplies in the area which include MWC, systems serving trailer courts such as Westview Village, and businesses that serve supply water to more than 25 people per day. Groundwater for drinking water supplies is generally available and adequate, and individual wells may be appropriate for agricultural, rural, semi-rural, low density residential, and light commercial development.

MWC commissioned Druyverstein Johnson & Anderson (DJA) to develop a *Master Plan for the West Valley Water System*, finalized in March of 1997. The *West Valley Master Plan* Boundary includes all of the plan area for *Wye Mullan Plan*. The intent of the Master Plan is to provide some guidance to MWC for planning for expansion into that area. DJA based their analysis on current zoning and possible build out. "The purpose of the Master Plan is to define a potential future service area boundary for the expansion of the Mountain Water Co. system, and conceptually plan for future water system improvements."[23]

Mountain Water has existing water mains extended through the Reserve Street Corridor and in some areas north of Old Highway 10 West around the Missoula Development Park and Momont Industrial Park. These mains are connected to the Missoula valley floor water system.

The *Conceptual Plan of Water System Facilities* shows additional water wells, an additional reservoir site, and potential major water mains running through the plan area. These typically follow future roads (according to an *Airport Area Grid Right-of-way Concept Resolution* adopted by the BCC and City Council in 1995). The *West Valley Master Plan* is intended as a guide to the development of a water system to serve the area and remains applicable even with a revised Street Grid Resolution, adopted by the BCC in 2001.

[23] Druyverstein Johnson & Anderson, *Master Plan for the West Valley Water System*, (March 1997, pg. 1).

Having adequate water volume and pressure is an important aspect of any type of development. However areas with existing commercial and industrial uses and areas proposed for new commercial and industrial use are required to sustain a greater flow of water over a longer period of time for fire protection. For this reason, fire protection requirements will be an essential consideration for sustaining commercial and industrial development. The *West Valley Master Plan* takes into account recommended fire flow amounts for residential and commercial/industrial uses, when estimating the amount of water needed for fire flow planning in the area. Review of subdivision by the applicable Fire District will consider the adequacy of water flow for emergency service.

Water, like sewer, is not extended unless it is economical for service providers to do so. Developers should bear all development costs including the provision of a water supply. For this reason, it would be most feasible to see development extend concentrically, from existing development already using community water. Connection to a public water system would alleviate some of the concerns in areas where water quality issues have already been raised. (See the water section of the Natural Resource Chapter for more information.)

STORM WATER MANAGEMENT

The areas between Old Highway 10 West and Mullan Road as well as the area between Flynn Lane and Grant Creek Road are also being considered for storm water planning. The results of this study should help the Public Works Departments determine the appropriate storm water management systems as development occurs. A majority of the area has clay soils, which are less conducive to percolating drainage. Therefore, an underground storm drain piping system following roadways should be the standard system for handling storm water run-off.

OBJECTIVES AND STRATEGIES

TRANSPORTATION

1. Provide for transportation connections between neighborhoods.
   a) Implement the *Collector Roadway System Resolution (#2001-005).*
   b) Refer to the *Wye Mullan Area Plan Transportation Guidelines* in Appendix 6A-2 when reviewing subdivisions and other development.
   c) Comply with Missoula City and County Subdivision Regulations that:
      i) connects dead-end streets; and
      ii) connects non-motorized facilities within and between neighborhoods.
   d) Avoid cul-de-sacs and dead-end streets except when there is no opportunity for connection to another street due to topographic constraints.
   e) Design streets to complete and connect the existing grid pattern.
   f) Encourage a local street grid pattern that provides multiple connections to the collector grid system, yet discourages cut-thru traffic in residential neighborhoods.
   g) Provide street stub-outs next to adjacent undeveloped land to allow construction of interconnecting streets once the adjacent land develops.
   h) Consider providing street stubs with new development adjacent to existing development where opportunities exist for future connections.
   i) Incorporate bicycle and pedestrian improvements identified in the *1994 and 2001 Non-Motorized Transportation Plan* and the *1995 Open Space Plan* into new development, including right-of-way acquisition.
   j) Incorporate a trail along Grant Creek in coordination with the Grant Creek Restoration Project.
   k) Develop standards to promote road network interconnectivity, including consideration of alternative modes, for the local and collector street level.
   l) Design street connections to keep through trips on collector or arterial streets while keeping local trips within neighborhoods, using local streets.
   m) Consider a mid-block pedestrian connection in blocks longer than 400 feet.

n) Limit block lengths to generally between 300-500 feet in any direction except where topographic-conditions and/or unique lot configuration offers no practical alternative.

2. Improve pedestrian, bicycle, and vehicular safety.
   a) Use landscape boulevard areas to separate pedestrians from streets.
   b) Incorporate traffic management tools into the design of new local streets to discourage speeding and cut-through traffic.
   c) Encourage residents to work with City and County Public Works Departments to determine the appropriate traffic management tools for existing neighborhoods.
   d) Encourage pedestrian, bicycle, and vehicular safety through school programs and media campaigns.
   e) The street network should allow bicyclists and pedestrians to travel on local streets to most locations within the neighborhood without having to follow arterials.
   f) Establish a separate bike and walking trail along Mullan Road.
   g) Trail easements need to be sized to meet certain standards.
3. As development occurs, improve existing roads to meet current standards.
   a) Use Capital Improvements Program (CIP) projects, Special Improvement Districts (SIDs) or Rural Special Improvement Districts (RSIDs) to provide funding to improve road systems comprehensively or incrementally.
   b) Address pedestrian and bicycle safety concerns on Flynn Lane, especially near Hellgate Elementary School.
4. Coordinate with the Missoula County and City of Missoula Public Works Departments and other appropriate agencies including MDT to find and implement solutions to traffic problems in the plan area.
   a) Support consistent approaches for transportation improvements between County and City jurisdictions.
   b) The City and County of Missoula Public Works Departments should work with the Montana Department of Transportation (MDT) to incorporate bike lanes on Mullan Road and West Broadway.
5. Provide access management for the roadway system.
   a) Control access especially onto and off of Mullan Road.
   b) Encourage shared driveways when appropriate.
   c) Require corner lot access to be on the street with the lowest functional classification; such as a collector instead of an arterial, or a local street instead of a collector.
6. Facilitate the use of and expansion of public transit in the plan area.
   a) Coordinate with the Missoula Urban Transportation District (MUTD) to assure expansion of District boundaries to include new development.
   b) Coordinate with MUTD to assure inclusion of appropriate transit amenities such as bus pullouts, benches, and bus shelters in street and development design
   c) Ensure that sidewalks in new developments connect to transit stops.
   d) Coordinate with MUTD to encourage development that supports establishment of, and provides for, commuter Park and Ride points.
7. Consider future growth when designing the area transportation system.
   a) Update the *Collector Roadway System Resolution* (#2001-005) to reflect current conditions.
   b) Extend planning for collector routes northwest of the area planned with *Resolution #2001-005*.
   c) Establish regulations requiring developers to conduct traffic studies appropriate for the level of development.
   d) Adopt provisions for mitigation of impacts of new development to pay the cost of transportation improvements, such as street and intersection improvements, pedestrian facilities, or transit amenities.
   e) Local government should make it a high priority to develop a build-out transportation infrastructure plan for the *Wye Mullan Plan* area to include the following:

i. Conduct a traffic analysis.
ii. Consider the future street network and use of mitigation fees to pay for needed improvements.
iii. Plan neighborhood-connector and community trail systems.
iv. Develop standards to promote road network connectivity, including consideration of alternative modes and mitigations.
v. Show a local street system on a transportation system map as a priority implementation measure.
vi. Develop an Implementation Schedule.

8. Maintain or improve existing levels of transportation services by reducing traffic congestion and vehicle hours traveled (VHT).
   a) Mitigate transportation impacts of new development by supporting the efforts of Missoula in Motion and Missoula Ravalli Transportation Management Association to promote alternative modes of transportation.
   b) Incorporate effective Transportation Demand Management (TDM) techniques into development design.
9. Coordinate planning efforts with the Missoula International Airport.
   a) Consider access needs of the Missoula International Airport.
10. Implement the goals and objectives of the most recent *Missoula Urban Transportation Plan Update* and this Plan by incorporating them into the review of new development in the *Wye Mullan Plan* area.
   a) Update subdivision regulations as needed to reflect issues raised in the Plan and current transportation standards.
11. Prioritize the need to develop George Elmer Road and England Boulevard.

PARKS, RECREATIONAL, AND OPEN SPACE AREAS

1. Develop a full range of recreational activities, including site-specific recreation (ballparks, river recreation, etc.), Community and Recreational Trails, Open Space and Conservation Lands, as well as Community-based Recreation (walking, bicycle, aquatics, athletic facilities, horse trails, etc.).
   a) Establish parks and recreational facilities including community parks, multi-use facilities, neighborhood parks, playgrounds, and ball fields.
   b) Identify the park needs based on *The Master Parks and Recreation Plan for the Greater Missoula Area*, *The 1997 Missoula County Parks Plan*, and other documents as appropriate or applicable.
   c) Establish areas for active-recreation and passive-recreation.
   d) Establish conservation parks on sensitive lands including wooded draws, gullies, wildlife habitat, and riparian areas.
   e) Create public community garden sites.
   f) Establish linear parkways that connect cultural and natural resources.
   g) Link parks, public facilities, cultural resources, open spaces, and the urban areas with a network of paths, trails, and sidewalks with tree-lined boulevards.
   h) Prioritize neighborhood and community park needs first before integrating pocket parks and small open spaces into neighborhoods.
   i) Enhance the urban forest by complying with all applicable boulevard requirements including those listed in zoning and subdivision regulations.
2. Implement the goals and recommendations of the *Master Parks Plan* by incorporating them into the review of new development in the *Wye Mullan Plan* area.
3. Locate recreational open spaces (parks, ball fields, golf course, etc.) near areas where development already exists or where it is desired, and where the need for recreational space is established.
4. Improve access to water resources and public areas, where appropriate.
   a) Determine the need for additional river access points, and boat launch areas on the Clark Fork River.
   b) Develop a river trail system.
5. Establish funding sources for acquisition, improvement, and maintenance of parks and trails.

   a) Explore the use of RSIDs, bond issues, park districts, cooperative agreements with State, Federal and private agencies, user fees for larger parks, developer assistance, and grants.
6. Incorporate areas with cultural, historic resources into parks and trail systems.
   a) Explore the potential for land acquisition, leases, and donations; partnerships with Federal and State agencies or private organizations or individuals.
7. Conserve significant open space resources.
   a) Encourage the use of conservation easements and other voluntary land use restrictions to preserve significant features in the area.
   b) Preserve views and open space along ridgelines, and watercourses.
   c) Encourage clustering development.
   d) Encourage working with other agencies to conserve open areas.

UTILITIES

1. Coordinate sewer infrastructure planning with Plan objectives, growth projections for the area, and nutrient reduction goals of the Voluntary Nutrient Reduction Program.
   a) A detailed master plan for proposed development should be submitted and considered by the City's Contract Sewer Committee prior to extension of the Urban Growth Area and sewer service area.
2. Provide for the timely installation and upgrading of public sewer in the plan area.
3. Ensure that household wastewater is adequately treated or connected to sanitary sewer to protect groundwater.
   a) Out of date septic systems should be improved.
4. Explore financing options for infrastructure upgrades and expansions.
   a) Reduce costs to landowners by using affordable financing programs and enhancement grants for extension of maintenance and infrastructure.
   b) Create Rural Special Improvement Districts (RSIDs) or Special Improvement Districts (SIDs).
5. Create a storm water management plan for the area.
6. Coordinate utility infrastructure planning.
   a) Coordinate with utility providers as new roadways are designed and constructed, so that consideration can be given to placement of utilities.
   b) Explore options for extending public water into the area including the potential for City extension of public water.

Figure 6A-4

Wye Mullan Area Improvements (from the 2004 Missoula Urban Transportation Plan Update)

COMMITTED PROJECTS			
Project Description		**Cost**	**Comment**
Mullan Road West - Safety Delineators	$	28,000	
Mullan Road Seal and Cover	$	230,000	
US 93: north of I-90 Junction; Signal at Murault's	$	250,000	MDT District Safety Project.
Subtotal	**$**	**508,000**	

RECOMMENDED PROJECTS			
Project Description		**Cost**	**Comment**
Reserve Street Corridor Study—Brooks Street to I-90	$	1,000,000	
Reserve Street: Dual Left Turn Lanes on northbound Reserve Street to Mullan Road	$	2,964,000	
Reserve Street: Lane Addition on Reserve Street Southbound Adjacent to I-90 Westbound On-Ramp	$	90,000	
Improve Reserve Street Bike/Pedestrian Crossings from Brooks St. to Mullan Road	$	-	Cost included in Reserve Street intersection improvement projects
Mullan Road: Widen Mullan to 4-Lanes plus Auxiliary (Reserve Street to Flynn/New Collector) Includes new signal at Flynn/new collector	$	2,583,000	Includes $128,000 in Non-motorized facilities
Mullan Road: Widen to 2-Lanes plus Auxiliary (Flynn/new collector to Cote Lane)	$	4,136,000	Includes $428,000 in Non-motorized facilities
Mullan Road/Flynn Lane—Intersection Improvements	$	175,000	Could be signal, roundabout or other traffic control device.
Mullan Road: Add bike lane west of Reserve St; including a system within the Wye Mullan Development area	$	25,000	
Flynn Lane: Provide Sub area Access to Mullan Road at Collector in Wye Mullan Proposal; Disconnect Flynn Lane from Mullan Road	$	750,000	
Wye Mullan Plan Collector Roadway System Routes	$	4,413,000	
Develop Western End of Milwaukee Trail from Reserve Street to Mullan Road	$	833,300	
North Reserve Street Route Addition	$	2,880,000	
Route 8: Extension to North Reserve Street	$	2,880,000	
Evening Service Hours Extension (Service Until 8:15 PM)	$	2,560,000	
Bus replacement	$	3,345,000	
Subtotal	**$**	**28,634,300**	

UNFUNDED / ILLUSTRATIVE PROJECTS			
Project Description		**Cost**	**Comment**
Flynn Lane: Realign to Remove Right Angle Turn and Skewed Intersec	$	510,000	
Airway Blvd. Extension	$	10,000,000	
New N-S Arterial: West of Reserve includes a River Crossing (Located Approximately 3/4 to 1 Mile W. of Reserve St.)	$	15,714,000	
Premier Bus Service to Meet Mountain Line Expanded Service Levels	$	12,000,000	
Enhanced Sunday Service	$	2,352,000	
Subtotal	**$**	**40,576,000**	
TOTAL	**$**	**69,718,300**	

CHAPTER 6B
COMMUNITY SERVICES

EMERGENCY SERVICES

There is significant coordination between Missoula County, City of Missoula, and volunteer emergency service agencies in the Wye Mullan Plan area (plan area). Most of the area is in unincorporated Missoula County, while portions are in the City of Missoula. Jurisdiction boundaries will continue to change as annexation occurs. The City of Missoula adopted impact fees in spring of 2004 in part "to assure that new development contributes its fair and proportionate share towards the costs of public facilities reasonably necessitated by such new development."[1]

FIRE

The Missoula County Fire Protection Association (MCFPA) is an organization of fire agencies in Missoula County that serves as a sounding board for fire prevention and other fire related needs in Missoula County. All fire protection agencies in the County belong to the MCFPA. The Missoula Rural Fire District (MRFD), the Missoula Fire Department (MFD), and the Frenchtown Rural Fire District all serve the plan area. Map 6B-1, *Fire and School Districts*, shows the location of fire stations and boundaries of the districts in the plan area.

Mutual Aid Agreements exist between all the fire service agencies. In addition, the MRFD has an Automatic Aid Agreement with the Frenchtown Rural Fire District and a Nearest Station Response Agreement with the MFD for some parts of the urban area. The MRFD also has separate Mutual Aid Agreements with the Frenchtown Rural Fire District and the MFD. Under such agreements, a member agency may request and receive assistance at an emergency that exceeds or might exceed the requesting agency's available resources. However, the assisting agency takes into account the need to provide services within its own jurisdiction. Interlocal agreements are a potential tool to clarify the relationship between agencies and to address the provision of emergency services.

Missoula Rural Fire District

The MRFD serves most of the plan area, covering 11,977 acres with one fire station within the plan area and one adjacent to it. Fire Station No. 6 is located at 8455 Mullan Road, near El Mar Estates. Fire Station No. 2 is located just outside of the plan area at 6550 Old Highway 10 West, northwest of the Missoula International Airport.

Four areas are designated as "Missoula Rural Out," meaning they are not within the Missoula Rural Fire District but surrounded by it. The first, approximately 1,700 acres, is located west of the airport and north of Mullan Road. The second area is nine acres just north of the first area. The third area is 147 acres between the airport and Old Highway 10 West. The fourth area is 38 acres on Cusker Lane near the Clark Fork River. These areas have never been annexed into the Fire District because of their agricultural use. The Missoula Rural Fire District responds to calls in these areas if properties inside the district remain adequately protected.

There are two areas, totaling 50 acres, labeled as "Missoula City/County" on Map 6B-1 which are surrounded by the City of Missoula. These areas are in the Missoula Rural Fire District, but they receive fire protection from the Missoula Fire Department under the Mutual Aid or Automatic Aid Agreement.

[1] City of Missoula, *Ordinance No. 3250, §15.66.010 2*, (adopted May 10, 2004).

Missoula Fire Department

The MFD is responsible for 979 acres of the plan area. The closest MFD station is Station No. 4, just east of the plan area at 3011 Lattimer Street, between Reserve Street and West Broadway. North of the Clark Fork River, the station serves all areas in the City limits west of, and including, Scott Street. South of the river, the station serves all areas west of, and including, Russell Street and north of, and including, South Third Street West. The station is staffed 24 hours a day, seven days a week, by at least three firefighters - Emergency Medical Technicians (EMTs).

To address Service delivery in the event of annexation in the plan area, in accordance with M.C.A. 7-2-4732, the City of Missoula must provide for the extension of fire and emergency services on substantially the same basis and in the same manner as within the rest of the City. MFD response time goals, derived in part from National Fire Protection Association (NFPA) standards, Insurance Services Office (ISO) recommendations, and other fire service guidelines include:

- Establishing the first-due engine company on the scene within six minutes 90% of the time for both fires and medical emergencies. This includes a one minute dispatch time goal, a one minute turnout time goal, and a one minute response time goal (NFPA 1710).

- Establishing the first alarm assignment (one engine companies, one ladder company, one Battalion Chief) on the scene within ten minutes 90% of the time at a fire suppression incident. This includes a one minute dispatch time goal, a one minute turnout time goal, and an eight minute response time goal (NFPA 1710).

MFD may be able to meet response time goals in parts of the plan area immediately upon annexation to the City. These goals would not be met in areas more distant from MFD fire stations with current MFD resources. Until such time when MFD can meet the response goals, coordination with MRFD and FRFD may be necessary through interim Mutual Aid and/or Automatic Aid Agreements.

To attain necessary flows for fire suppression, MFD relies on a water system that meets the minimum requirements of the fire code. Fire code requirements vary depending on the type of construction and the size of the buildings or structures. Planned development in the plan area should ensure a water system is in place to meet fire flow requirements.

MFD hopes to complete a *Comprehensive Fire Master Plan* in 2005 to identify how emergency services will be provided for the next three, five, ten and 20 years. By necessity, this Plan will consider the surrounding fire service jurisdictions.

MFD and Missoula Rural meet regularly to address the effects of annexation. If annexation moves Missoula City limits contiguous to the areas served by Frenchtown Fire, cooperation between the two fire protection agencies will be necessary to identify and provide the best level of service.

Frenchtown Rural Fire District

Three hundred seventy acres of the plan area is in the Frenchtown Rural Fire District. The closest Frenchtown fire station is outside the plan area to the north, at 9355 Ladyslipper Street, and is accessed by U.S. Highway 93 North. Coordination between MRFD, the City, and the Fire District is essential, especially with additional growth in the area.

Missoula International Airport: Aircraft Rescue & Firefighting Facility

Fire protection at the Missoula International Airport is the responsibility of the airport's Aircraft Rescue and Firefighting Facility (ARFF). The Federal Aviation Administration (FAA) coordinates funding for fire and rescue apparatus and personnel. Both the MFD and Missoula Rural have Mutual Aid Agreements with the ARFF.

LAW ENFORCEMENT

Missoula County Sheriff's Department

The Missoula County Sheriff's Department provides law enforcement service mainly in the unincorporated parts of the County. The Department currently has 49 sworn officers. The patrol division has four teams that work 12-hour shifts. Each patrol team usually has five officers per shift. The County is divided into five patrol zones, one of which includes all of the plan area. In most cases, one officer covers each patrol zone per shift.

Within the plan area, the Sheriff's Department coordinates law enforcement service with the City of Missoula Police Department in accordance with the State Mutual Aid Statutes. The Department also coordinates with the Montana Highway Patrol with respect to traffic law enforcement. Both the Missoula Police Department and the Highway Patrol support the Sheriff's Department.
Continued population growth in Missoula County, both inside and outside the city limits, has increased the need for more staff in the Sheriff's Department. As annexations occur, the Department adjusts patrol zones to minimize the need for deputies to drive long distances inside the City to reach County patrol areas. The Department is exploring whether it could share work stations with rural fire districts and provide space for patrol officers to perform administrative duties without returning to the courthouse.

Street connections are important to emergency service providers. This Plan identifies the need for interconnected street systems in the Transportation section.

Missoula Police Department

The role of the Missoula Police Department (MPD) will expand as development continues and areas are annexed. The MPD can serve the plan area as their jurisdiction grows, provided that revenue increases keep up with the population. The MPD has approximately 1.4 officers per thousand people. The City intends to maintain that ratio as growth continues, but MPD officials believe that using that ratio as a "level of service" standard does not adequately factor in the differing citizen expectations.

Montana Highway Patrol

The mission of the Montana Highway Patrol (MHP) is to provide traffic law enforcement and accident investigation and to assist the motoring public. MHP's primary jurisdiction includes State and Federal highways and rest areas in the unincorporated portions of Montana. MHP's Missoula District Office covers Missoula, Ravalli and Mineral Counties. Of the 26 MHP officers assigned to the Missoula District Office, 15 cover Missoula County around the clock. Although their main jurisdiction is in unincorporated areas, MHP officers may issue traffic citations inside city limits. The greatest challenge facing the Montana Highway Patrol is a lack of manpower in the face of increasing growth statewide, especially in the metropolitan areas.

AMBULANCE

Missoula Emergency Services provides ambulance service in the plan area, and is currently receiving an average of less than one call per day. The Frenchtown Rural Fire District provides ambulance service in its portion of the plan area.

DISASTER AND EMERGENCY SERVICES

The Missoula County Office of Disaster and Emergency Services prepares and manages plans and programs directed at disaster preparedness and coordination of response and recovery. The Office maintains and delivers information to the public in coordination with fire protection agencies, law enforcement, and other emergency response providers.

Most types of natural or man-made disasters do not pose risks that are greater in the plan area than elsewhere in the Missoula region with the exception of the threat of flooding along Grant Creek and in the Mullan Trail subdivision. A significant part of the plan area is within the floodplain of the Clark Fork River and the land uses for these areas are limited. This Plan discourages development in flood hazard areas and areas of high groundwater.

Connected streets and easy access into and out of the area increases the chance that emergency service providers can respond in a timely manner. Adding east-west collectors and minimizing the number of developments served by cul-de-sacs will improve emergency services.

Infrastructure must be adequate to accommodate emergency vehicles year round. Streets need to be wide enough to accommodate two-way traffic and they must be engineered and built to support the weight of emergency vehicles.

SCHOOLS

There are four school districts within the *Wye Mullan Plan* area. They are Hellgate Elementary School (District No. 4), DeSmet Elementary School (District No. 20), Frenchtown Schools (District No. 40) and the Missoula County Public Schools (which is a consolidation of the Missoula County High School District and Missoula Elementary District No. 1). Map 6B-1, *Fire and School Districts*, shows the boundaries of portions of each school district within the plan area.

Shifts in population demographics and population growth rates make predicting student enrollment difficult. Enrollment is changing at different rates in each of the school districts in the plan area; and though most districts in the Missoula Urban Area and experiencing declining enrollment, Hellgate Elementary is witnessing significant increases. Based on development trends in the area, and the land uses proposed in this Plan, the Hellgate School District will likely face significant growth. It is unlikely that the districts in the plan area will witness the declines in enrollment anticipated by the Missoula Urban Area districts.

Schools receive State funding based upon student population therefore as long as the students can be accommodated in existing buildings with existing personnel, increased enrollment is generally acceptable. At the local level, the property tax base determines the amount of school funding. Therefore increased development within a school district may result in additional funding for schools. The absence of industrial and commercial uses in a district or the presence of a tax increment district can have a negative impact on a district's funding.

HELLGATE SCHOOL DISTRICT NO. 4

The Hellgate School District provides instruction in kindergarten through eighth grade. Students in grades nine through twelve attend Big Sky High School in Missoula. The district encompasses 23,801 acres of which 10,672 acres (or 45%) are inside the plan area.

The Hellgate School District was established in 1873 with construction of the original one-room schoolhouse on an acre of land donated by the Dougherty family. The original schoolhouse was replaced in 1917 by a building that is used today as the district's administration building.

The Hellgate campus has expanded to meet the needs of a growing population and increased enrollment. Major additions of infrastructure have occurred in almost every decade since the 1950's. Currently, the campus occupies 41 acres and includes three classroom buildings and an administration building. Each classroom building is designed to hold about 400 students. Besides classrooms, the campus includes libraries, gymnasiums, office space, a computer lab, a multi-purpose room, athletic fields, and several playground areas. The campus serves as a community gathering place for meetings, athletic events and other activities.

The district's campus includes 23 acres, purchased in 2001, some of which is located within the extended approach and departure area of Missoula Airport's main runway. Such areas are not recommended for uses involving a gathering of people. Concerns have been raised over placing new school structures on this land. Because schools are public agencies, land use on school property need not comply with zoning.

District No. 4 is operating at capacity. Enrollment has increased steadily in recent years, despite an overall decrease in elementary school enrollment in the Missoula area. Hellgate School District reported that the 1993-1994 enrollment was 1,125 students and grew to 1,231 students in 2002-2003; an increase of 9.4 percent. For that same time frame, enrollment in Missoula County Public School District No. 1 elementary and middle age grades decreased by approximately 17%.[2] Projections for 2010 estimate total enrollment of 1,297 students at Hellgate Elementary School, equating to approximately ten new students per year.[3] Hellgate School District is anticipating this growth and is planning for it.

District No. 4 will receive most of the increased school enrollment in the plan area during the 20-year planning period. As many as 2,700 additional children in grades K-8 could live in the Hellgate School District (if the current number of school-age children per household continues).[4] With the addition of one more 400-student classroom building, the present Hellgate campus could accommodate a total enrollment of some 1,600 students. Hellgate School District administrators expect that the added enrollment will require acquisition of school sites elsewhere in the district.

This Plan recommends development of "Neighborhood Centers" for public uses such as schools, libraries, community centers, parks, and active recreation facilities. Schools dispersed throughout the plan area will contribute to the livability of the neighborhoods and reduce vehicle miles traveled. The proposed *Land Use Map* shows the location of the Neighborhood Centers.

DESMET SCHOOL DISTRICT NO. 20

The DeSmet School District provides instruction for grades kindergarten through eight. The School District is 17,120 acres, with 2,300 acres (13%) inside the plan area. Students living in the DeSmet District in grades nine through twelve attend Big Sky High School.

Most of the land within the plan area located in the DeSmet School District is in commercial or industrial use, including the Missoula International Airport. In the plan area students from the Futura and Buena Vista mobile home parks and Westview Village attend DeSmet. School population has changed very little even though development has increased housing stock in the district.

[2] Based on K-8 enrollment data provided by Missoula County Public Schools, showing 6,176 students in fall, 1993 and 5,105 students in fall of 2002.
[3] Based on school population projections provided by Hellgate School District.
[4] Current estimate of K-8 school age children per household provided by Hellgate District for typical, single family residential development.

This district was established, and the first schoolhouse built, in 1893. The first section of the current DeSmet School was built in 1965 across the road from the original building. In 1989 the district added a building to house middle school students. The elementary and middle school buildings were connected in 1994, creating a single building. The most recent classroom addition opened in 2001.

DeSmet enrollment peaked in the 1996-97 school year with 145 students. In 2002-03, enrollment was 120 students. The district has capacity to accommodate additional students.

FRENCHTOWN SCHOOL DISTRICT NO. 40

The Frenchtown School District provides instruction in grades kindergarten through twelve. The district contains 218,670 acres, of which only 301 acres (less than one percent) are in the plan area. The high school is currently operating at capacity. However, the district presently can accommodate more students at the elementary level. Most of the district lying within the plan area is currently in commercial or industrial use. Very few of the district's students come from the plan area. There is unlikely any significant increase in Frenchtown School District enrollment derived from the plan area.

MISSOULA COUNTY PUBLIC SCHOOLS

Missoula County Public Schools provides high school instruction for students in the DeSmet and Hellgate Elementary School Districts. Forty-nine acres in the southeast corner of the plan area is included in Missoula Elementary District No. 1, the elementary portion of the Missoula County Public Schools. Most of this area is taken up by the John R. Daily, Inc. meat packing plant on Mullan Road.

MISSOULA COUNTY PUBLIC LIBRARIES

The Missoula Public Library serves the entire County population with the main downtown facility and two small branches in Condon and Seeley Lake. For many communities, public libraries provide accessible, neutral, non-commercial space. It is generally recommended that community libraries be located within a 15 minute drive or 20 minute walk of the population served. As the Missoula County population increases and the urban area continue to expand, the Missoula County Public Library hopes to expand services to County residents in several areas of the County including this plan area. Mechanisms that could be used to achieve the establishment of a branch library in this plan area include collaborating with other agencies (such as the Parks Department or the School District) to share a location or incorporating a branch library as a feature of multi-use facilities, neighborhood centers, or other community facilities.

OBJECTIVES AND STRATEGIES

EMERGENCY SERVICES

1. Encourage a land use pattern that facilitates provision of emergency services.
   a) Concentrate the location of urban residential development and commercial uses to facilitate the provision of fire and police protection at an urban level of service.
   b) Consider response times for emergency services when determining appropriate densities and locations of development.
   c) Encourage connected street routes for improved access throughout the plan area.
2. Continue inter-jurisdictional cooperation between public safety agencies.
3. Maintain adequate fire and law enforcement protection and emergency medical services in the plan area by mitigating the impact of development on the providers of emergency services.

SCHOOLS

1. Maintain the quality of existing schools.
2. Ensure that the pace of development does not exceed the ability of school systems to provide adequate resources for increased student enrollment generated by the development.
   a) Reserve adequate school sites, and link the sites to developing neighborhoods, transportation corridors, parks and open spaces.
   b) Collaborate with school districts to determine appropriate site size and location.
      i. Engage in a cooperative planning effort with the Hellgate Elementary School District to identify potential school sites.
3. New development should address the impact of development on the school district.
4. Encourage location of school sites in Neighborhood Centers dispersed throughout the plan area.

LIBRARIES

1. Coordinate with the Missoula County Public Library regarding potential branch library locations.
   a) Collaborate with other agencies, such as the Parks Department or School District, regarding potential sites for a branch library.
   b) Consider incorporating branch libraries as a potential feature of multi-use facilities, community centers, neighborhood centers, or other community-based public amenities.

CHAPTER 7
LAND USE TYPES

INTRODUCTION

In this chapter, land use types are described and illustrated to provide a more complete understanding of land use designations. The intent of specific land use designations as well as example locations are listed. Also, recommended uses of land and appropriate development guidelines are explored. The land use types included in this chapter can be found in the proposed *Land Use Map* for the Wye Mullan Plan area (plan area). Further suggestions for site improvement and building development can be found in Appendix 3.2. Other suggestions for transportation planning are located in the *Transportation Guidelines* (see Appendix 6A-2).

Areas mapped to correspond with particular land use types are approximate and have not been established with the same level of precision as zoning district boundaries, legally described by survey references. Further, the areas within a land use designation have not been established with the same rights of protect or opportunity for variance, nor do they grant the same level of entitlement or limitation that zoning provides. The land use designations in this Plan may follow ownership lines but may also follow topography, natural resource areas, infrastructure boundaries, and waterways, floodways, and floodplains. The lines on the map distinguish land by use or by a recommended residential density. The recommended densities are guidelines and only one measure of substantial compliance with the Growth Policy.

These land use descriptions are subject to several conditions:

- Density recommendations quantify potential gross density on a parcel but do not necessarily recommend minimum lot sizes.
- Density may be clustered within a parcel.
- The maximum gross density designated on the *Land Use Map* may not be achievable on parcels with other constraints on development.
- Density recommendations are not zoning.
- Goals and policies of the Plan are considered along with land use descriptions during project evaluation.
- On properties with split land use designations, the density for the entire parcel may be applied to the portion of the land with the most intensive land use designation, which may result in that portion having a density greater than the land use designation recommends.
- Development rights may be transferred from one site to another, resulting in decreased density in one area and increased density in another. The property from which density is transferred must be legally constrained to preclude any subsequent development, absent a change in circumstances.

Density may be transferred from zoned lands with resource constraints, such as floodplain, to areas demonstrably capable of supporting the additional density without adversely impacting adjacent uses. Density transfers would generally be considered during the subdivision review process. Density transfers occur on parcels within the same ownership, parcels in different ownerships, and between non-contiguous parcels.

The land use recommendations meet the goals articulated in this Plan as a result of a value-based process of balancing the various goals of the Plan with already established community goals and policies. Several factors were considered when establishing the Plan goals, objectives, and strategies and ultimately the land use designations for each particular area**,** including:

- Land capability, including resource constraints and health regulations;
- Community input;
- Existing comprehensive plan designations and zoning;
- Existing land uses and development patterns; and
- Existing or potential infrastructure improvements.

While the mapped land use designations recommend the most appropriate uses for an area, generally, commercial and industrial uses are not recommended in residential areas. However, residential uses could be appropriate in some commercial areas. This represents a hierarchical approach of recommended uses at or below the intensity of the land use designation for the area.

Land use designations associated with 'extended approach/departure areas' off of the main and proposed second parallel runway address public health and safety plus consideration of other plan goals and objectives. See Map 6.4: *Airport Environs* for the delineation of the 'extended approach/departure areas,' Runway Protection Zones, and 65 dnl noise contours considered with the *Airport Layout Plan*.

OPEN AND RESOURCE AREAS

INTENT

This land use classification is intended to protect important resource land and areas of natural hazard. Primary objectives are:

- Preserving land for natural resources, drainages, riparian and wetland areas, agricultural activities;
- Maintaining wildlife corridors and cohesive open space systems; and
- Limiting development in hazard areas**,** such as floodplains or other flood hazard areas, steep hillsides, and in areas far from community services.
- Buffer areas between Commercial/Industrial and Residential.

The Open and Resource designation also provides protection of the river corridor, other drainages, and associated resources. Residential development is clearly intended as the secondary use of the land. While Open and Resource is not a residential designation, one dwelling per 40 acres may meet the intent of the classification in some cases if other Plan goals and policies are met. Any development that does occur should be grouped or clustered in order to minimize impacts to resources.

Gravel extraction operations within the Clark Fork River floodplain are considered a resource-based use. By State Law, gravel extraction is permitted in all zoning districts except residential. The *Community Design Guidelines* in Appendix 3.2 include recommendations for buffering to protect dissimilar uses, such as residential, that may be impacted by the gravel extraction.

Areas within the Zone A approximate Floodplain, such as an area east of Deschamps Lane, are considered Open and Resource land use in this Plan and may, with further detailed analysis be deemed to be outside the actual floodplain.

Additional density beyond what is recommended in the land use description may be appropriate if the land is not within a flood hazard area, development does not conflict with floodplain regulations, and other resource constraints do not apply. To establish an appropriate density, recommended land use designation for adjacent areas and similarly situated land should be considered.

Some areas recommended for Open and Resource use were previously designated as Parks and Open Space and are zoned for residential use at one dwelling unit per acre. Development in the floodplain is never recommended. Ultimately, zoning within the floodplain should be revised to reflect the land use designation.

PRIMARY LOCATIONS

- FEMA designated 100-year Floodway, 100-year Flood Fringe, and 500-year Floodplain
- DNRC mapped 100-year Floodway, 100-year Flood Fringe and 500-year Floodplain
- Wetland Areas of Riparian Resource
- Steep Slopes
- Conservation Easements
- Drainages not already identified by the above
- Greenway between dissimilar uses: light industrial and urban residential, south of the airport

Exceptions to the Open and Resource

Exceptions to designation in the floodplain are for some lands that will be affected by the Grant Creek Restoration Project. Some areas already zoned and developed within the DNRC-mapped Grant Creek floodplain have land use designations designed to match the existing residential pattern, but floodplain regulations still apply to development. Additionally, a portion of the FEMA-mapped Grant Creek floodplain has not been identified as Open and Resource based on the understanding that the true floodplain will be identified upon completion of the Grant Creek Restoration Project. (See the Water section for more information.)

RECOMMENDED USES

- Natural resource-based uses such as agriculture and accessory uses
- Residential uses at one dwelling unit per forty acres, if other Plan goals and policies are met
- Passive Recreation

DEVELOPMENT GUIDELINES

- Use *Conservation Design Guidelines* in Appendix 2.1
- Plant native vegetation around new development and encourage restoration with native plants.

FLOODWAY

INTENT

The Floodway designation is intended to reflect the FEMA-mapped floodway of the Clark Fork River to protect public health and safety. No development within the floodway should be allowed.

RECOMMENDED USES

- Natural resource-based use such as agriculture
- Passive recreation

RURAL RESIDENTIAL

INTENT

Rural Residential is intended to retain rural character with a maximum density of one dwelling unit per five acres. The Rural Residential recommendation describes: transitional areas between increased development and open and resource land; development moderately distant from services; and land where agricultural and other resource-based uses can be encouraged. Clustering to allow a variety of lot sizes can achieve the goal of protecting resources or agricultural uses.

PRIMARY LOCATION

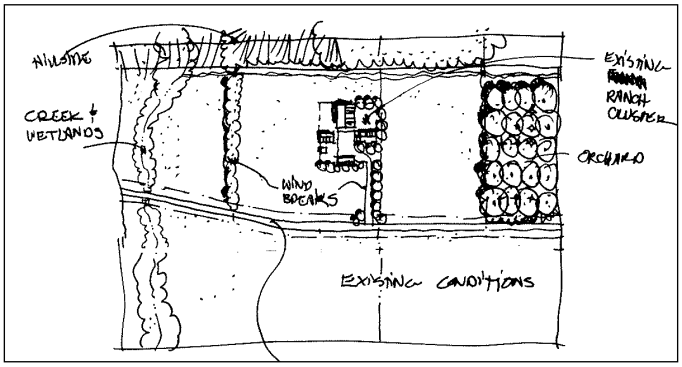
- Areas north of Mullan Road and east of Deschamps Lane
- Areas north of Kona Ranch Road

RECOMMENDED USES

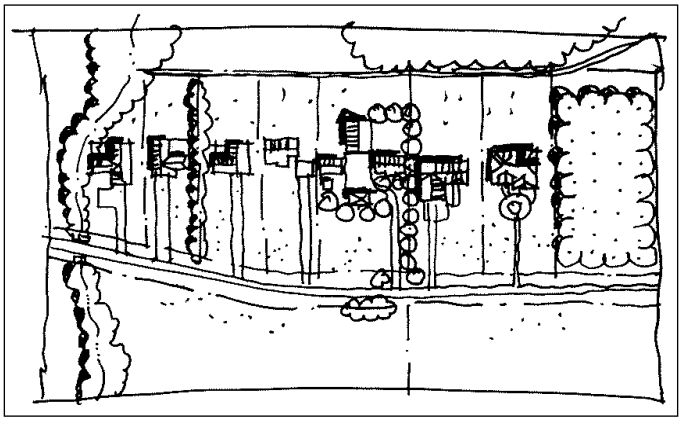
- Single dwelling residential
- Agriculture related uses, structures, and operations
- Home occupations
- Bed and Breakfasts

DEVELOPMENT GUIDELINES

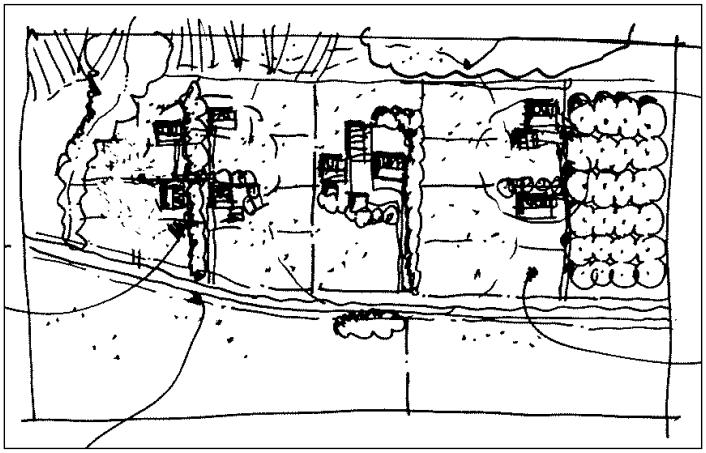
- Use development patterns established in traditional farmsteads where outbuildings and homes were clustered together in sheltered areas leaving larger fields available for agricultural use.
- Use variable setbacks from roads.
- For Bed and Breakfasts:
  - Limit to four rooms for rent;
  - Match the character of the surrounding area including compatibility with the mass and scale of adjacent uses;
  - Prohibit restaurant, bar, or commercial uses; and
  - Establish buffer from adjacent residential uses with increased setback and additional landscaping.



Existing Development



Typical Development Pattern



Rural Residential Cluster

SUBURBAN RESIDENTIAL

INTENT

This description recognizes existing development patterns, prioritized planning principles, areas close to urban services, and some constraints to development. Suburban Residential land uses are described as two separate densities on the *Land Use Map*: one dwelling unit per acre and two dwelling units per acre.

1. **One dwelling unit per acre** recognizes existing development patterns, matches existing zoning, and reflects existing private covenants. The land is suitable for further development because it has minimal resource constraints and is in close proximity to urban services. Potential for further development beyond one dwelling unit per acre may be considered. Clustering is encouraged in order to consolidate development in smaller areas and retain larger open areas between developments. A typical development pattern includes irregular spacing between buildings and road frontages.

   Primary Location
   - Area south of Mullan Road, south of El Mar Estates, and to the west of Hellgate Station, including the already developed areas.
   - Area of 44 Ranch Estates

   Recommended Uses
   - Single-dwelling residential
   - Accessory buildings and structures
   - Home occupations

2. **Two dwelling units per acre** recognizes land where the residential pattern is one of uniform lot sizes with urban services. It functions as a transitional area and recognizes existing land use patterns or the possibility of redevelopment. The recommended density may be clustered to allow open spaces between developments.

   Primary Location
   - Areas north of Mullan Road from Mullan Trail to Phantom Estates and south of the Old Milwaukee.
   - Areas west of Flynn Lane, south of Hellgate School, north of Mullan Road and including existing development areas.
   - 146 foot wide perimeter around 44 Ranch Estates.
   - Area around Tipperary Way

Recommended Uses

- Single-dwelling residential
- Two-dwelling residential
- Accessory buildings and structures
- Home occupations

DEVELOPMENT GUIDELINES

Site Development:

- For two dwelling units per acre, establish regular spacing between homes and consistent setbacks from street frontages.
- On lots one acre or greater, locate building footprints to one side of a lot in anticipation of potential future lot splits.

Transportation:

- Establish consistent and connected pedestrian systems including pedestrian walkway on both sides of the street.
- Incorporate pedestrian easements between developments when direct pedestrian connections via public right-of-way can not be established.
- Create opportunities for road connections.
- Design streets to complete, to connect, or to functionally enhance the existing or planned grid pattern as a means to connect subdivisions but not create through-route alternatives to arterials.
- Incorporate traffic calming and other bicycle/pedestrian safety measures in street design.

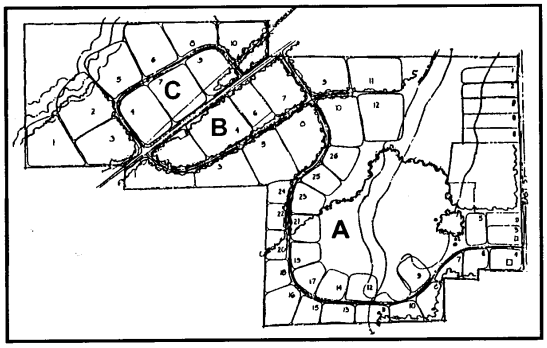
CLUSTER

INTENT

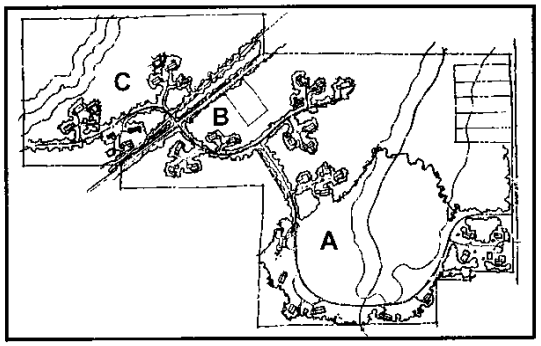
While clustering is encouraged in many land use designations there are specific areas where open space is an integral part of the recommended development pattern. The Cluster land use is recommended in areas where the need to establish open space is associated with the gross residential density and may be implemented optimally through a special zoning district. The land use designation is intended to encourage an appropriate balance between developable and non-developable areas. Generally, consideration should be given first to resource and open lands values, and development patterns should be designed to enhance those values. The developable areas should be concentrated so as to make efficient use of available infrastructure and minimize public costs associated with long-term maintenance and public safety response.

The site design process should begin with identification of resources to be conserved. Appendix 2.1: *Conservation Design Guidelines* provides a step-by-step process. Development design should allow contiguous open areas so as to conserve natural resources, provide wildlife linkages, and enhance recreational opportunities. Smaller lots with larger open areas established in common are preferred over larger lots that consume more land held in multiple ownerships. Structures should be clustered into individual neighborhoods or groupings. Neighborhood commercial uses may be permitted close to transportation arterials when part of a planned development.

When building lots are reduced in size and home sites are concentrated, sensitive resources can be protected, rural character can be retained and less infrastructure is needed. The following additional rationale for the Cluster designation and the criteria by which proposals will be evaluated are as follows:



Residential development **NOT** recommended



Clustered residential development that **IS** recommended

- Minimize site disturbance,
- Create or enhance neighborhoods with distinct identities and access to open space and other neighborhoods,
- Create or enhance neighborhoods with distinct identities and access to open space and other neighborhoods,
- Establish compatibility with surrounding development,
- Provide transitions between development areas to retain rural character with the focus on the landscape of the area,
- Encourage subdivisions that cluster groups of lots and building sites, while preserving large areas of open space,
- Provide contiguous open areas in common ownership,
- Discourage a development pattern of one acre lots or greater across the entire property,
- Protect and maintain environmentally-sensitive areas including steep hillsides, water courses, drainages, riparian, and wetland areas,
- Establish new and protect existing wildlife habitat and corridors,
- Provide visual relief along main travel corridors and the river corridor,
- Promote preservation of lands of agrarian importance for agricultural opportunities at different scales,
- Establish a network of parks (active and passive) and trails,
- Establish buffers between existing and new development,
- Provide for a diversity of lot size, housing types, or building densities in order to accommodate a variety of ages and income groups,
- Reduce infrastructure and service costs,
- Locate development close to existing infrastructure,
- Enhance sense of community by locating homes in close proximity.

PRIMARY LOCATION

- Areas west of the "clay hills," south of Mullan Road, west of Cote Lane to Kona Ranch Road, excluding areas of existing development – with a gross density of one dwelling units per acre.
- Areas south of Cote Lane, below the "clay hills," and north of the Clark Fork River floodplain – with a gross density of one dwelling units per acre.
- Areas south of Roller Coaster Road, east of Deschamps Lane and within the Urban Growth Area, – with a gross density of one dwelling units per acre.
- Areas north of the Old Milwaukee and west of the clay hills – with a gross density of two dwelling units per acre.
- Area west of Kona East residential district and south of El Mar Estates – with a gross density of two dwelling units per acre.

RECOMMENDED USES AND DESCRIPTIONS

1. **Residential density** is described as overall or gross density for an entire proposal. Two separate residential densities are described on the *Land Use Map*: one dwelling unit per acre and two dwelling units per acre. Both recommend an approximate target of 45% of the total acreage under consideration set aside as permanently dedicated aggregate open space. With greater amounts of open space set aside, proportionately greater density may be considered. The same criteria and guidelines apply to both residential densities.

   For the area generally west of El Mar Estates and east of Kona Ranch Road, between Mullan Road and the Clark Fork River that is currently one dwelling unit per acre Cluster, additional density could be considered up to two dwelling unites per acre based upon governing body review of specific development proposals and availability of sewer.

2. **Neighborhood Commercial** uses primarily serve the needs of local residents and function as the identifiable focal point of the area. Neighborhood commercial uses may be included as part of a residential proposal depending on the following specific criteria as well as the Cluster land use criteria:
   - Locate uses at a main intersection of roads functionally classified as a collector or higher such as the intersection of Kona Ranch Road and Mullan Road.
   - Locate uses one use deep.
   - Zone as part of a planned unit development.
   - Discourage development that dominates by scale or character the surrounding residential uses.
   - Sites should contain and mitigate all impacts ranging from natural resources impacts to transportation.

   Recommended Uses:
   - Deli or neighborhood cafés,
   - Small groceries,
   - Personal services,
   - Specialty retail stores,
   - Coffee kiosks,
   - Bed and breakfasts, and
   - Small professional offices.

   Uses that are not Neighborhood Commercial:
   Gas stations, automobile repair, casinos, and other drive-through facilities.

3. **Open Area Set Aside** is the open, permanently dedicated, and undeveloped areas that are established through the development process. Taken into consideration are: natural resources (such as wildlife movement, drainages, and vegetation), agriculture, development constraints (such as steep hillsides), park and trail needs, visual qualities, and buffering. See other sections for specific strategies pertaining to natural resource conservation.

   Recommended Uses:
   - Resource-based type uses such as agriculture (not gravel or mining),
   - Equestrian parks,
   - Passive or active recreation as described in the Parks section of this Plan,
   - Conservation areas.
   - Other Uses:
     - Accessory structures to agriculture.

DEVELOPMENT GUIDELINES

Site Development

- Refer to Appendix 2-1: *Conservation Design Guidelines*.
- The most appropriate configuration of the open area design should depend on the characteristics of the natural resources to be protected.
- Cluster groupings of lots within close proximity of each other with open area surrounding.
- Cluster building envelopes within close proximity to each other.
- Each cluster should be defined by a grouping of residential units with shared lot lines, generally with a minimum of five to ten residential units.
- Ensure that all lots have some sense of connection to the open space areas.
- Discourage linear lot development along arterials and collectors.
- Discourage development areas that are uniformly scattered across the subject property.
- Establish a variety of large undeveloped areas, inter-connected sub-areas, and trail systems.
- Establish recreational areas within the open area set aside in compliance with the parks level of serve needs associated with the proposed density. Refer to the Parks Section for more information.

Building Development

- Develop the residential uses as primarily single-dwelling detached, single-dwelling attached, two-dwelling, and townhouse.
- Limit the scale and mass of neighborhood commercial uses to be compatible with the adjacent residential uses.
- Recommend a maximum of six attached units per building for attached residential or townhouses.
- Plant native vegetation around new development and encourage restoration with native plants.
- Discourage pole-mounted signage and encourage monument-style signage for commercial development.
- Minimize exterior lighting to retain the rural character.
- Fencing may be used for agricultural purposes, but should also allow for wildlife movement.
- Refer to the Neighborhood Center land use description in this chapter and *Community Design Guidelines* in Appendix 3.2 for more information.
- For Beds and Breakfasts in location other than neighborhood commercial:
  - Limit to four rooms for rent;
  - Match the character of the surrounding area including compatibility with the mass and scale of adjacent uses;
  - Prohibit restaurant, bar, or commercial uses; and
  - Establish buffer from adjacent residential uses with increased setback and additional landscaping.

Open Area Set Aside

- Establish the open areas as permanent dedications such as parks, conservation easements; or conserve open space through other types of permanent development restrictions.
- Connect open areas by complying with natural resource and parks and open space strategies.
- Establish an Open Space Plan for pre-application review prior to further development review and approval. Refer to Appendix 2.1: *Conservation Guidelines*. After following Steps 1 through 6 of the *Conservation Guidelines*, seek planning and agency staff evaluation for an understanding of key open space values that a proposed development will attempt to conserve.
- Develop a single Open Space Management Plan for each overall ownership parcel prior to further subdivision, in order to address maintenance and improvements.

Transportation

- Provide an interconnected trail system.
- Design roads and pedestrian systems appropriate for the urban or rural context and the scale of development.
- Use internal roads to link the consolidated development areas and provide at least two access/egress points through road easements.
- Limit the use of cul-de-sacs.
- Provide a connected local street system within each consolidated development area.
- Consider topography and other resource constraints when establishing the local and collector transportation system.
- Provide for linkage and connectivity to nearby developments.
- Develop a street system master plan indicating conceptual local and collector routes.
- Well designed roads in cluster developments may be considered as exceptions to the guidelines in Appendix 6.1-A.

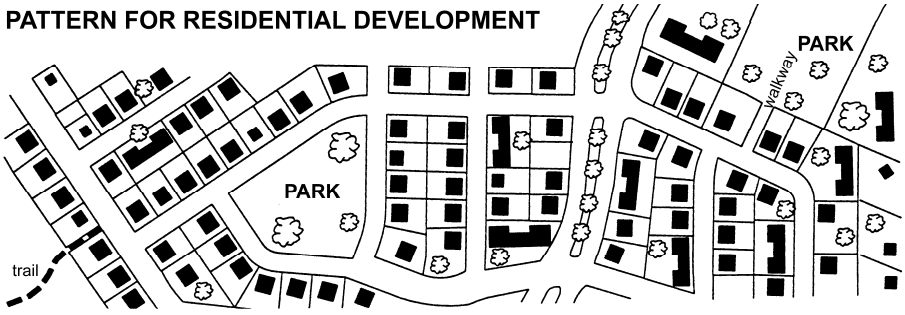
Parks

- Establish a variety of neighborhood and pocket parks for active recreation within the various neighborhoods, networked together through a trail system.

URBAN RESIDENTIAL

INTENT

Urban residential land use describes land where few development constraints exist: where public infrastructure and services are available, or anticipated in the near future; or where development has occurred at the recommended density. Urban residential development should have an interconnected local street grid and easy access from main collectors. A variety of residential building types is recommended to meet the need of a wide range of ages and income groups.



Urban Residential land use is designated as three separate densities on the land use map.

1. **Four dwelling units per acre** is recommended to reflect existing development patterns and as a transition from more intense land uses to lower density residential neighborhoods.

   Primary Locations
   - Areas east of Flynn Lane.
   - Area of Katoonah Lodges.
   - Areas south of Mullan Road from the existing gravel operations to the proposed Neighborhood Center (focusing around Hellgate Station).
   - Areas south of Mullan Road, west of Hellgate Station, and east of the area proposed for one dwelling unit per acre.

- Area north of the Old Milwaukee and south of the Light Industrial land use associated with airport operations, west of the Grant Creek Corridor.
- Areas around El Mar Estates.
- Areas north of Mullan Road, south and west of the Mixed Use land use designation.
- Areas east of the Grant Creek Open and Resource designation and near the Parks and Open Space designation.

Recommended Uses

- Primarily single-dwelling, two-dwelling, or multiple-dwelling residential with a maximum of four dwelling units per building.
- Accessory uses and structures.
- Home occupations.
- Neighborhood Centers if:
  - Part of a planned primarily residential development;
  - Limit to between two and five percent of the land use area;
  - Discourage development that dominates by size, scale, or character the surrounding residential uses;
  - Residential density remains four dwelling units per acre;
  - Consistent with the overall intent of the Urban Residential land use designation;
  - Locate adjacent to a park, central square, or main street;
  - Compliance with the Neighborhood Center land use designation; and
  - Limit hours of operation.

2. **Six dwelling units per acre** is recommended for an area that has direct access to existing and planned travel corridors; is within the Sewer District; is proximal to public water, and community facilities such as Hellgate School; and near the Reserve Street economic center.

   Primary Location

   - Areas north of Mullan Road, from the Grant Creek Corridor to west of West Ranch Estates with the exception of 44 Ranch Estates and its buffer.

3. **Eight dwelling units per acre** are specifically recommended as a transition from more intense land uses to lower density residential neighborhoods.

   Primary Location

   - Between areas recommended for Mixed Use and Urban Residential – four dwelling units per acre.
   - South of Mullan Road, between the area recommended for Highway/Heavy Commercial use and the existing gravel operation.
   - Westview Village.

   Recommended Uses

   - Primarily single dwelling, two-dwelling, townhouse, and multi-dwelling residential.
   - Accessory uses and structures.
   - Home occupations.
   - Neighborhood Center uses if:
     - Part of a planned primarily residential development;
     - Limit to between two and five percent of the land use area;
     - Residential density remains eight dwelling units per acre;
     - Consistent with the overall intent of the Urban Residential land use designation;

- Discourage development that dominates by size, scale, or character the surrounding residential uses;
- Locate adjacent to a park, central square, or main street;
- Compliance with the Neighborhood Center land use designation; and
- Limit hours of operation.

DEVELOPMENT GUIDELINES

Site Development

- Consider the prevailing pattern set by adjacent buildings as a tool for establishing setbacks.
- Establish a clear and easily recognized development pattern with a regular order to the lots, and a recognizable geometry to the spaces between buildings.
- Place larger lots or wider setbacks adjacent to existing lower density development for a buffer and transition.
- Design pedestrian and transit-friendly development.

Building Development

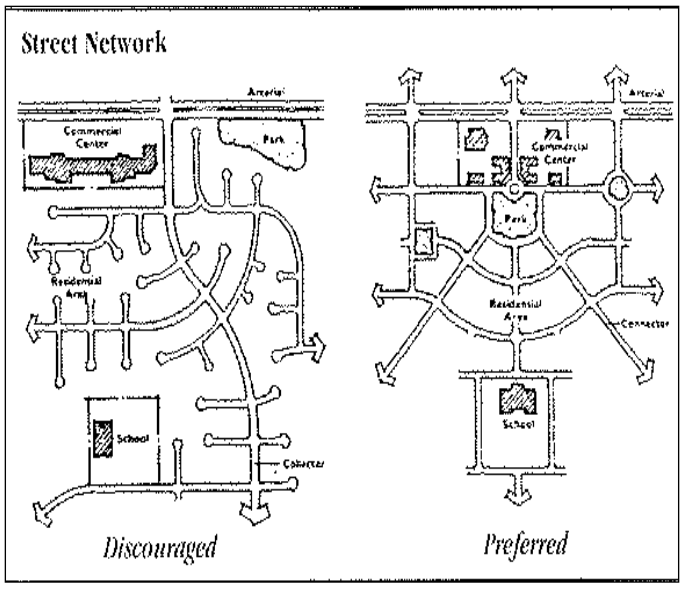
- Orient building to the public street with windows and entries facing and visible from the street and sidewalks.
- Establish architectural continuity between residential and neighborhood center uses with buildings that have similar alignment, setback, height, and materials.

Transportation

- Establish a connected street grid pattern with multiple choices for connections to the main collector routes.
- Public rights-of-way should provide for multi-modal connections and circulation.
- Limit block lengths to generally between 300 and 500 feet in any direction except where topographic conditions and/or unique lot configuration offers no practical alternative.
- Blocks over 400 feet long should include a pedestrian connection at mid-block.

Parks

- Establish a variety of connected neighborhood and pocket parks for activities within the various neighborhoods.



MIXED USE

INTENT

Mixed Use developments provide a complementary mix of land use and development types to serve as transitions between single use commercial or industrial areas and residential neighborhoods. Mixing residential and commercial uses within the same building or within the same development serves the residential as well as commercial and industrial uses, enabling people to live near their work and thereby greatly reducing vehicle miles traveled. Typically, within a Mixed Use area either commercial, residential development, or a combination of both, may be proposed with the hope that over time a mixture of complementary uses and walkable neighborhoods will occur. Overall, as development occurs, ensure that a mixture of uses is established in the mixed use area. Two maximum residential densities are recommended: sixteen dwelling units per acre and four dwelling units per acre. The commercial uses recommended are similar to those in the Community Commercial land use designation.

PRIMARY LOCATION

- Area between the Highway Heavy Commercial designation south of Old Highway 10 West and the medium density residential.
- Area at the northern end of Flynn Lane.
- Areas west of Westview Village and east of the Plan boundary.
- Area east of the existing commercial and industrial uses at the Wye, and north of Interstate 90.
- Area west of Reserve Street.

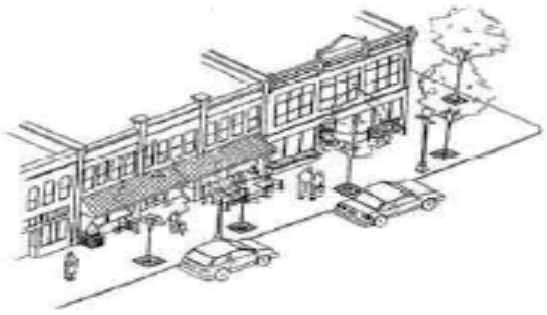
RECOMMENDED USES

The commercial uses recommended are similar to those in the Community Commercial land use designation.

- Business, professional, and government offices
- Restaurants
- Retail trade and services
- Small-scale indoor recreation, amusement, and cultural facilities
- Civic uses
- Financial institutions
- Lodging
- Residential – indicated on the *Land Use Map* with two separate land use categories:
    - Single dwelling, two-dwelling, and multi-dwelling residential at a maximum density of 16 units per acre.
    - Single dwelling, two-dwelling, and multi-dwelling residential at a maximum density of four units per acre.
- Work-live units; a combination of the above listed uses where the resident lives and works on the same parcel or in the same building.

USES NOT RECOMMENDED:

Residential and "assembly uses" including: schools, churches, large office complexes, big box retail, large day care center, hospitals, nursing homes, or large entertainment facilities in the "extended approach and departure area" off the main runway, for the area west of Flynn Lane.



Mixed Use Development Should Encourage Activity at the Street

DEVELOPMENT CRITERIA

Elements to consider within the Mixed Use land use designation include:

- Provide compatibility of residential and commercial uses;
- Develop a variety of residential building types to meet a variety of ages and income groups;
- Encourage pedestrian and transit-friendly development; and
- Encourage placement of residential units above commercial development.

DEVELOPMENT GUIDELINES

Site Development

- Reinforce a "main street" design with multi-story buildings developed close to the street, storefronts facing the street, and office or retail on the main level with residential above.
- Maintain a pedestrian-friendly scale of development, minimizing the number and width of curb cuts, providing continuous boulevard sidewalks, and main entrances facing the street.
- Design cohesive signage in large developments.
- Place the more intense commercial uses closer to main collectors, arterials, and adjacent higher intensity commercial or industrial land uses.
- Locate structures closer to the street, utilizing reduced setbacks.
- Incorporate outdoor rooms into the development design to provide small gathering places along the street such as sidewalk cafes, urban plazas, courtyard seating, etc.

Transportation

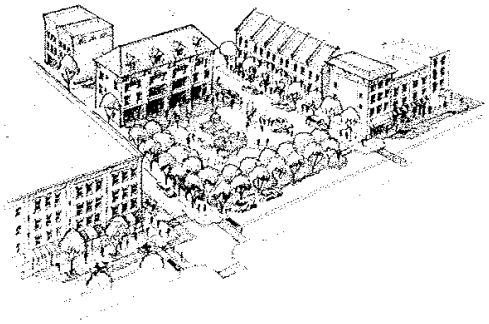
- Establish a connected street grid pattern with multiple choices for connections to the main collector routes including pedestrian connections to adjacent commercial or residential areas.
- Limit block lengths to generally between 300 and 500 feet in any direction except where topographic conditions and/or unique lot configuration offers no practical alternative
- Blocks over 400 feet long should include a pedestrian connection at mid-block.

NEIGHBORHOOD CENTER

INTENT

Neighborhood centers function as the identifiable core of a larger cohesive neighborhood and therefore should offer a variety of uses; from shopping for basic needs to recreating at a park. Uses should be oriented toward serving the needs of that residential area, rather than targeting a community-wide market. They are a place to hold neighborhood meetings and social gatherings. They serve as the community connection between Missoula's urban core and the Mullan Road area by incorporating civic uses. This designation balances the convenience of closely located services with a desire to preserve the residential character of neighborhoods. Locating neighborhood center uses within residential neighborhoods allows alternative modes of transportation including bicycle and pedestrian. The community gains the health and air quality benefits derived from a reduction in vehicle miles traveled.

The potential for Neighborhood Center uses is reflected in this Plan as a land use designation in some specific areas and, in other areas, as an indicator that is overlain on other land –use designations. The land use designation describes recommended uses for a particular geographic area. The indicator is a symbol that describes an intention to support or plan for neighborhood center uses, allowing for flexibility regarding their exact location, as long as they are established in proximity to the indicator and to residential development. Neighborhood Centers may be located at the interface of residential areas and other land uses. Employees from a work center have the same need for a quiet place to contemplate during a lunch break, get a hair cut or sit down for a healthy lunch as the inhabitants of a residential neighborhood. Locating a Neighborhood Center at an interface improves the economic viability of the Neighborhood Center.



Primary Locations

- An area zoned for Neighborhood Commercial use within the Hellgate Meadows special zoning district, north of Mullan Road.
- At the intersection of a proposed north-south collector and existing commercial uses on Mullan Road.
- Other areas where the neighborhood center is secondary to the primary residential land use (cluster land use and urban residential).
- In proximity to the Neighborhood Center indicator.

RECOMMENDED USES

- Retail goods and services that primarily serve the neighborhood such as video store, book store, specialty retail, small grocery, deli, bakery, small restaurant, day care, and personal services such as beauty salons and barber shops.
- Civic spaces such as satellite City service facilities including library, school, church, mail pick-up, community center, parks, and small-scale active recreation facilities.
- Home occupations or small professional offices.
- Residential at a maximum density of eight dwelling units per acre as a mixed use with commercial uses or as transition from the neighborhood center to less dense urban residential uses.
- Residential Building Types:
  Single-dwelling, two-dwelling, townhouse (maximum 6 attached units), multiple-dwelling (maximum 10 attached units), and dwellings above non-residential space.

Uses not recommended:
Commercial facilities or civic spaces larger than 3,500 square feet, automobile service, repair and sales (although a gas station currently exists as a core element of one of the neighborhood centers and is encouraged to continue), fast-food facilities, and casinos.

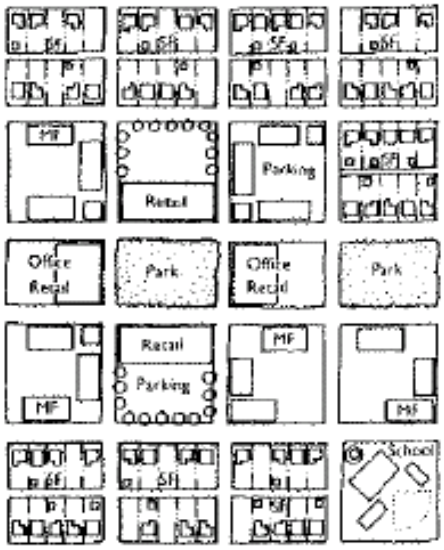
DEVELOPMENT GUIDELINES

Site Development

- Locate commercial uses one use deep at the crossroads of the neighborhood center, to discourage the "neighborhood center" from expanding into a strip of commercial development.
- Sites should contain and mitigate all impacts ranging from natural resource impacts to transportation.

Building Development

- Locate the retail goods and services and office functions adjacent to a main street, plaza, park, or central square.



- Limit hours of operation from 6 a.m. to 11 p.m. as a maximum.
- Discourage outdoor storage.
- Encourage development of uses within a single complex to prevent strip commercial growth.
- Limit the size of commercial uses and civic spaces to 3,500 square feet per establishment, with a combined maximum building footprint of 10,000 square feet and the scale and massing of the building reflective of the smaller individual uses.
- Use modulation and articulation to help break the scale into components compatible with the surrounding residential uses.

Landscaping and Buffering

- Use landscaping to create the illusion of a narrower road to slow traffic as it approaches a neighborhood center.

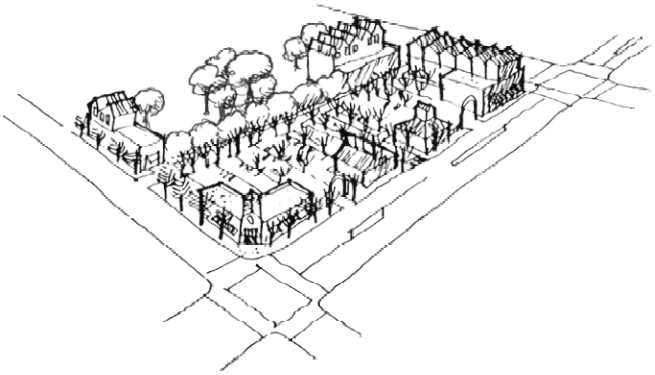
COMMUNITY COMMERCIAL

INTENT

Community commercial uses are retail goods and services, financial institutions, business and professional offices, and personal services, routinely used by residents throughout the community. These areas need to have convenient access.

PRIMARY LOCATION

- Area west of Flynn Lane, south of the Mixed Use land use.
- Area south of England Blvd, west of Flynn Lane.



Potential commercial development

RECOMMENDED USES:

- Small to medium size retail trade and service with no outdoor storage or display,
- Business, professional, and government offices,
- Civic, social, and fraternal organizations,
- Indoor recreation, amusement, and cultural facilities,
- Financial institutions,
- Personal services,
- Indoor entertainment facilities,
- Lodging,
- Restaurants,
- Bakeries,
- Printing and publishing establishments,
- Small appliance repair,
- Funeral homes or crematorium,
- Animal hospitals,

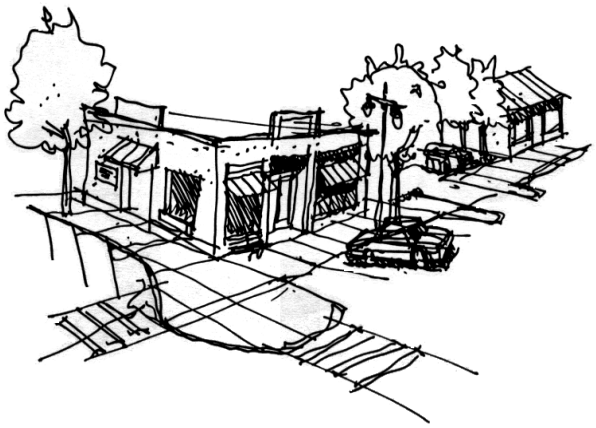
- Hospitals,
- Plant Nurseries,
- Residential above retail or office establishments, and
- Single dwelling, two-dwelling, townhouse, and multi-dwelling residential.

Uses not recommended:
Residential and "assembly uses" including: schools, churches, large office complexes, big box retail, large day care center, hospitals, nursing homes, or large entertainment facilities in the "extended approach and departure area" off the main runway.

DEVELOPMENT GUIDELINES

Building Development

- Limit the size of the building footprint to 50,000 square feet per establishment.
- Projects that are developed as employment centers or business parks should incorporate a common theme among the structures.
- Limit the height of development to 50 feet within 100 feet of residential areas.
- Use modulation and articulation to help break the scale into components compatible with the surrounding area.
- Encourage pedestrian-friendly development with buildings oriented toward the street and sidewalk.



Potential street front community commercial development

HIGHWAY/HEAVY COMMERCIAL

INTENT

The highway-oriented/heavy commercial designation accommodates those uses with special or extensive land use needs and impacts. It encompasses uses with large land requirements; uses which involve outdoor storage of merchandise or materials; uses which are automobile or heavy equipment related; uses which provide support services to business or industry; and uses which support highway travel. Performance standards should be applied.

PRIMARY LOCATION

- Areas along Reserve Street
- Areas along Old Highway 10 West close to Reserve Street

RECOMMENDED USES:

- Retail trade and services,
- Wholesale trades,
- Farm and garden supplies,
- Automotive, mobile home, marine, recreational vehicle, and accessories sale and service,
- Outdoor recreation facilities,
- Cultural facilities,
- Natural resource management offices,
- Construction Service offices and facilities,
- Eating and drinking establishments,
- Truck stops,

- Motels or Hotels,
- Shipping/Warehousing,
- Retail trade and services, and
- Professional, business, and governmental offices.

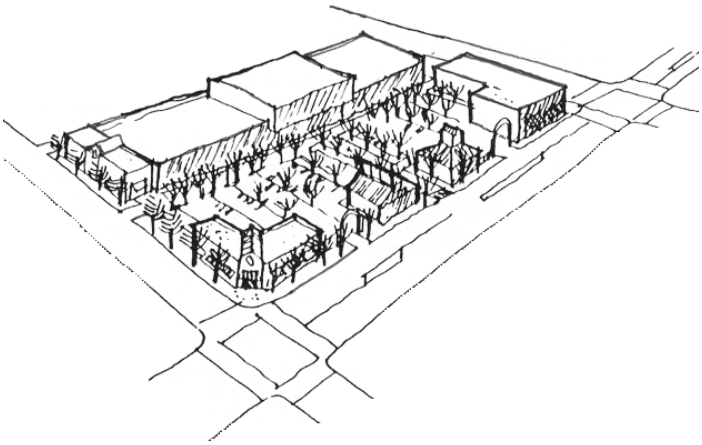
DEVELOPMENT GUIDELINES

Site Development

- Establish pedestrian and transit-friendly development.

Building Development

- Incorporate a common theme among the structures for projects that are developed as employment centers or business parks.
- Limit the height of development to 50 feet within 100 feet of residential areas.
- Use modulation and articulation to help break the scale into components compatible with the surrounding area.



Potential commercial development at street edge

Transportation

- Place loading, unloading and truck turn-around areas to the rear or side of a development.

LIGHT INDUSTRIAL

INTENT

The Light Industrial designation provides employment areas for residents of the community. They require large areas of land but, when clustered, services can be shared. Light Industrial uses should not require an operational permit from the Missoula City-County Health Department Air Pollution Control Program or a Water Quality District Permit. Heavy commercial may also be compatible.

PRIMARY LOCATIONS

- Areas south and east of the airport, accessible to proposed main collectors.
- Areas on the western fringe of the Wye.
- Areas south of Expressway.
- Areas east and north of Westview Village including existing gravel operations.

RECOMMENDED USES:

- Research facilities,
- Veterinary services, animal hospital, kennels,
- Mini-warehouses,
- Skilled trade businesses,
- Warehouses and light manufacturing,
- Shops and workshop for uses such as plumbing, electrical, sheet metal, upholstery, and signs,
- Industrial use which conforms to all of the Light Industrial Standards of Section 4.05 C excluding use whose principle activity is the processing, refining, transfer, distribution or bulk storage of flammable liquids, solids, or gas,
- Automobile, marine, trailer, and mobile home sale, rental, and services,
- Distribution and transportation facilities, excluding railroad facility, and
- Light manufacturing.

Uses not recommended:

- "Assembly uses" including: schools, churches, large office complexes, big box retail, large day care center, hospitals, nursing homes, or large entertainment facilities in the "extended approach and departure areas" off the main runway.

DEVELOPMENT GUIDELINES

Transportation

- Place loading, unloading and truck turn-around areas to the rear or side of a development.
- Plan for transit services.

COMMERCIAL/INDUSTRIAL

INTENT

Commercial/Industrial recommended land use is for those areas where both highway/heavy commercial and light industrial uses are compatible. Research and development, employment centers, and business park development are contemplated uses.

PRIMARY LOCATIONS

- Areas adjacent to the Industrial designation, east of the airport.
- Area southeast of the airport and north of England Boulevard.
- Areas along Old Highway 10 West to the west of the airport.
- Areas around the Wye.

RECOMMENDED USES

- Highway Heavy Commercial uses.
- Light Industrial uses especially those that are environmentally friendly.
- Regional freight and distribution facilities with direct or convenient access to the Interstate or Old Highway 10 West.

Uses not recommended:

- "Assembly uses" including: schools, churches, large office complexes, big box retail, large day care centers, hospitals, nursing homes, or large entertainment facilities in the "extended approach and departure areas" off the main runway.
- "Big Box" commercial uses are not recommended in areas further from arterials and highways.

DEVELOPMENT GUIDELINES

Building Development

- Incorporate a common theme among the structures for projects that are developed as employment centers or business parks.

Transportation

- Place loading, unloading and truck turn-around areas to the rear or side of a development.
- Plan for transit service to the facility.

PUBLIC AND QUASI-PUBLIC

INTENT

The Public and Quasi-Public designation is land with structures or uses, such as schools, community buildings, cemeteries, and utility facilities. Lands currently owned by public agencies, or held in reserve for future development of public facilities, also receive this designation. Federal lands administered by the United States Forest Service (USFS), State-owned lands administered by Fish, Wildlife and Parks, and conservation and recreation sites are also public lands but are designated Open and Resource or Parks and Open Space.

DEVELOPMENT GUIDELINES

- Use the *Community Design Guidelines,* Appendix 3.2.
- Limit signage.
- Screen unoccupied facilities from public view and design them to blend into the landscape.
- Locate utility offices in commercial areas.
- Share access with adjoining commercial, industrial, or public uses.

PARKS AND OPEN SPACE

INTENT

Parks and Open Space is designated for park areas that are within public ownership, private common areas that are intended for use by a group of residents, or conservation lands that indicate a partnership between a public group and the private landowner.

PRIMARY LOCATIONS

- Existing parks and common areas.
- Area with airport ownership adjacent to the Grant Creek corridor.

RECOMMENDED USES:

- Natural resource-based uses such as agriculture and accessory uses, and
- Passive or active recreation.

LAND USE OVERLAYS

POTENTIAL PARK

See the *Parks* Section for a description and Map 6A-6; *Potential Parks and Trails,* for recommended locations.

AIRPORT ENVIRONS AREA

- Area where development is limited by airport use, ownership, and potential future ownership.

NEIGHBORHOOD CENTER

The indicator is a symbol that describes an intention to support or plan for neighborhood center uses, allowing for flexibility regarding their exact location as long as they are established in proximity to the indicator and to residential development. Existing as well as potential neighborhood center indicators are shown on the land use map. Existing Neighborhood Center indicators reflect areas that either exist as such or are zoned accordingly. Potential Neighborhood Center indicators reflect the possibility of considering such uses when planning in those areas.

CHAPTER 8
PLAN IMPLEMENTATION

INTRODUCTION

Plans are implemented through the actions and decisions of those vested in realizing the goals, policies and objectives of the Plan. Ultimately, Plan implementation is achieved only if there is a sustained and cooperative effort to carry out the policies, goals and objectives of the Plan by area residents, governing authorities, government officials, public agencies, service providers, landowners and developers.

Chapter Four of the *Missoula County Growth Policy* generally describes planning tools that can be used to implement the Growth Policy and its amendments. Reference should be made to the Growth Policy when considering implementation strategies. Each chapter of this Plan contains objectives and strategies for implementing the goals of that chapter. Specific design guidelines are also found in the appendices. Implementation of this Plan occurs if those objectives and strategies are carried out and the design guidelines are followed.

Figure 8-1, *Plan Implementation Matrix*, indicates generally who is responsible or best situated to carry out the objectives and strategies of each chapter of this Plan.

GENERAL IMPLEMENTATION

Some implementation strategies are employed most effectively by the community through public/private partnerships that combine funding and program initiatives in creative ways. Other strategies rely entirely on choices made by individual landowners, or on actions taken by public or private agencies. The Board of County Commissioners and the City Council, as the governing authority in their respective jurisdictions, play a premiere role in Plan implementation. Consideration should be given to furthering Plan goals and objectives when adopting Capital Improvements Plans, approving grant requests, or making budget allocations. Likewise, a governing body can use the Plan to inform their administrative decisions, such as when reviewing and approving development proposals, considering zoning or re-zoning requests, annexing lands, accepting dedications of parkland, extending sewer service, obtaining rights-of-way and making road improvements, or when making any of the other infrastructure or land use decisions that come before them.

Using the Plan to demonstrate community interests, the local governing body can advocate for funds and other resources on behalf of the plan area before State and Federal government agencies. Local government, while reviewing and commenting upon State and Federal projects in the area, should use the Plan to inform and shape their opinions.

Perhaps the most important tool available to government for achieving plan implementation is their ability to adopt land use regulations that are consistent with the Plan.

REGULATORY TOOLS FOR IMPLEMENTATION

The most effective strategy for implementing a comprehensive land use plan is to adopt regulations designed to achieve its goals and objectives. On behalf of the community, the governing body can implement the Plan by adopting specific standards in subdivision, zoning, floodplain and other land use regulations to be used in shaping and reviewing development projects.

Local government should periodically review their land use regulations in light of the *Missoula County Growth Policy* and its amended area and neighborhood plans. They should determine if such regulations are effectively implementing the community's goals and objectives regarding growth and development. As necessary, and to the extent possible, land use regulations should then be amended to effectively implement growth policies and comprehensive plans.

SUBDIVISION

Though subdivision proposals cannot, under current State law, be denied based solely on whether or not they comply with an adopted growth policy or area plan, a plan can be used to inform such decisions and subdivision regulations can be enacted and used to implement certain specific goals and objectives of a plan. Also, a subdivision proposal can be reviewed for compliance with a plan and developers can be encouraged to conform their projects to the plan.

ZONING

Active implementation of the Plan can best be achieved if the plan area is zoned in conformance with the Plan. Under State law, the governing body may initiate the creation of zoning districts, of any size, on behalf of communities or landowners. Montana law requires that local government zone land in conformance with an adopted growth policy.

Montana law limits the application of zoning restrictions when agencies of State or local government propose land use on public land that are contrary to local zoning regulations.

State law also provides for the creation of zoning districts, 40 acres or larger in size, initiated by a petition of citizens. This is commonly referred to as citizen-initiated zoning. In either case citizen-initiated, or government-initiated, zoning district proposals may be defeated if their establishment is protested by a sufficient number of freeholders. Though not required to conform to an adopted Growth Policy, as in the case of government-initiated zoning, citizen-initiated zoning is less likely to meet with community disapproval if it conforms substantially to the goals, objectives, and policies of an adopted area plan.

The majority of land in the plan area is already zoned. Action should be taken to rezone where necessary to conform zoning to the land use recommendations of the *Wye Mullan West Comprehensive Area Plan* (*Wye Mullan Plan*). Requiring that all land within the plan area be zoned or re-zoned in accordance with the applicable land use plan and growth policy is the only way to ensure that growth occurs consistently with this Plan. The City is actively pursuing annexation in the plan area. Upon annexation, the City of Missoula should consider requiring zoning in conformance with this Plan.

FIGURE 8-1: PLAN IMPLEMENTATION MATRIX

Once a comprehensive plan is adopted, the important stage of plan implementation begins. The responsibility for implementation of the strategies outlined in the *Wye Mullan Plan* lies with a wide range of individuals, community groups, agencies, service providers, and governing bodies.

In this table, the goals of each chapter of the Plan are highlighted in gray and placed directly above the policies and implementation strategies that are intended to achieve these goals. Participating groups are suggested for each strategy. The reference to a participating group is typically general unless more information is known about the agency or group, in which case the more detailed reference is included. The list is not meant to be exclusive; other groups may be identified as implementation proceeds.

PARTICIPATING GROUPS

1. LOCAL, STATE, FEDERAL AND TRIBAL AGENCIES

a) Montana Department of Transportation
b) Montana Department of Fish, Wildlife, and Parks
c) Montana Department of State Lands
d) Montana Department of Natural Resources and Conservation
e) Natural Resource Conservation Service
f) Missoula County Weed District
g) Missoula City-County Health Department
h) Missoula County Water Quality District
i) Missoula County Public Works
j) Missoula City Public Works, including the Bicycle-Pedestrian Office
k) Missoula County Historic Preservation Advisory Committee
l) State Historic Preservation Office
m) Confederated Salish and Kootenai Tribes Cultural Resources Committees
n) United States Fish and Wildlife Service
o) Army Corps of Engineers
p) Missoula International Airport
q) Missoula County Parks
r) Missoula City Parks and Recreation
s) Missoula Public Library

2. CITY AND COUNTY PLANNING

a) Missoula Office of Planning and Grants (referred to as the Planning Office)
b) Missoula Consolidated Planning Board

3. GOVERNING BODY

a) Board of County Commissioners
b) Missoula City Council

4. SERVICE PROVIDERS

a) Missoula Rural Electric Cooperative
b) Missoula Rural Fire District
c) Missoula Fire Department
d) Frenchtown Rural Fire Department
e) Missoula County Sheriff's Department
f) Montana Highway Patrol
g) Missoula Emergency Services Inc.
h) St. Patrick's Hospital (Life Flight)
i) Missoula Urban Transportation District (MUTD, Mountain Line)
j) School Districts 4 (Hellgate), 20 (DeSmet), 40 (Frenchtown) and Missoula County Public Schools
k) Northwestern Energy
l) Mountain Water Company
m) Bresnan Communications
n) Qwest Communications
o) Browning Ferris Industries (BFI)
p) Missoula City Police Department

5. COMMUNITY AND OTHER GROUPS

a) Residents of the Wye Mullan Plan Area
b) Homeowners' Associations and Citizens Groups
c) Conservation Groups
d) University of MT Center for the Rocky Mountain West
e) Missoula Area Economic Development Corporation

6. LANDOWNERS

a) Individual
b) Corporate and Developers

CHAPTER 2: NATURAL RESOURCES

GOALS	▪ Protect natural resources in the plan area and improve them where degradation has occurred. ▪ Maintain and improve surface water and groundwater quality and quantity. ▪ Preserve sensitive habitat such as those found in the floodplain, wetlands, riparian areas, drainages, and riverbanks. ▪ Protect sensitive lands as development increases to enable the natural system to function.

GEOLOGIC RESOURCES

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Support agricultural opportunities.	
a) Map soils identified by NRCS as prime, state, or of local agricultural importance prior to development.	1b, e, f, 2, 3, 5
b) Identify existing agricultural uses on lands with important agricultural soils and monitor changes in use.	1b, e, f, 2, 3, 5
c) Encourage and support measures that promote continued agricultural land uses including:	1b, e, f, 2, 3, 5
i) Agricultural or other conservation easements,	
ii) Transfer of development rights,	
iii) Value-added agricultural operations that typically operate on smaller parcels of land, and	
iv) Community gardens.	
d) Consider cluster development in order to retain large tracts in agricultural areas.	1,2,3,5c,6
e) Participate in a County-wide Food Policy Council.	1,3,5,6
2. Protect hillsides and other areas from erosion.	
a) Evaluate soil type and slope as related to the type of development planned.	1e, q, r, 2, 3, 6
b) Map steep slopes and erosive soils prior to development in order to guide development away from steep slopes and evaluate potential impacts to adjacent development.	1e, I, j, 2, 3, 6
c) Follow hillside development, grading, and drainage regulations for new construction.	1e, 2, 3, 6
d) Minimize and mitigate potential erosion resulting from construction activity or other land uses that may affect the landscape and surrounding resources.	1e, 2, 3, 6
e) Avoid construction of roads on slopes greater than 25%.	1e, I, j, 2, 3, 6
3. Limit hillside and hilltop development.	2, 3, 6
a) Develop setbacks from hilltops.	2, 3
4. Preserve scenic open space qualities.	
a) New construction should not adversely impact the viewshed along the Clark Fork River and other important view points such as along main travel corridors.	2, 3, 5, 6
b) Preserve and enhance vegetation along the bank of the Clark Fork River.	2, 3, 5, 6

5. Protect development from geologic hazards.	
a) Place new development on stable underlying geology.	1i, 1j, 2, 3, 6
b) Unstable geology should be mapped and examined by a qualified specialist prior to development.	1i, 1j, 2, 3, 6

BIOLOGIC RESOURCES

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Protect significant ecological habitat areas.	
a) Integrate site specific analysis and development design to protect habitat areas.	1b,c,d,n,q,r, 2, 3, 5, 6
b) Leave resource areas undisturbed and unaffected by development near or adjacent to it.	1b,c,d,n,q,r, 2, 3, 5, 6
c) Assess whether special status species are likely to occur on a site.	1b,c,d,n,r, 2, 3, 5, 6
d) If special status species are found, consult with resource agencies for appropriate protection measures.	1b,c,d,n,r, 2, 3, 5, 6
e) Consider clustering development in order to retain large areas of grassland communities.	1b,c,d,n,q,r, 2, 3, 5, 6
2. Protect, preserve, and enhance wetlands and areas of riparian resources.	
a) Identify wetlands and areas of riparian resource prior to development.	
b) New development should establish a buffer area that is typically 50 feet back from existing wetland and riparian vegetation. When determining the optimal buffer width consider the following:	1b,c,d,n,q,r, 2, 3, 5, 6 1b,c,d,n,q,r, 2, 3, 5, 6
i) The existence of riparian vegetation on the property,	
ii) The existence of soil types, slope characteristics, groundwater levels, and other characteristics that would allow for the likely natural reestablishment of riparian vegetation following a change in land use practices,	
iii) The importance of the wildlife habitat and/or corridors on the property, especially when identified by Montana Fish, Wildlife and Parks,	
iv) The amount of impervious surfaces proposed in the development,	
v) The proposed density of development,	
vi) The likelihood of degradation of surface or ground water quality from the proposed development, and	
vii) The steepness of the slope to be developed.	
c) Promote the enhancement and restoration of degraded wetlands and areas of riparian resources.	1b,c,n,r, 2, 3, 5, 6
d) Maintain the riparian vegetation along drainages and riverfront for wildlife habitat, soil stabilization, and water quality.	1b,c,n,q,r, 2, 3, 5, 6
e) Incorporate grazing management techniques to minimize impacts to riparian and wetland areas and associated buffers.	1b, n, 2, 3, 5, 6
f) Development (e.g. roads, structures) through wetlands and areas of riparian resource should be minimized through the subdivision planning process.	1b,2,3,5,6
3. Preserve wildlife habitat and linkages to maintain healthy, viable wildlife populations within the area.	
a) Discourage development in wildlife habitat or linkages	
b) Establish buffer areas that are adequate to mitigate impacts from development on a case by case basis.	2, 3, 6
i) Refer to criteria for wildlife habitat and linkages in the Habitat and Linkage section.	2, 3, 6
c) Designate no-build areas and develop design standards for lands adjacent to wildlife habitat and linkages.	2, 3, 6
d) Development near habitat and linkage areas should be reviewed for habitat and linkage quality by Montana Fish, Wildlife and Parks. Further site-specific analysis may be necessary subsequent to the findings of Montana Fish, Wildlife and Parks and subdivision review.	1b, 2, 3, 6

4. Protect and enhance fish habitat. a) Support the Grant Creek Restoration Project efforts to reestablish fish passage and fish habitat including reestablishment of riparian vegetation.	 1b, n, 2, 3, 5, 6
5. Minimize wildlife-human conflicts within and adjacent to wildlife habitat. a) Address wildlife conflicts with traffic at frequent deer and other wildlife crossings. b) Consider the creation of safe wildlife crossings at key locations when transportation improvements are made. c) Follow the *Living with Wildlife* recommendations. d) Require new subdivisions to adopt covenants that establish measures to minimize wildlife-human conflicts. e) Encourage the use of wildlife-friendly fencing in, or near, wildlife habitat.	 1b, n, 2, 3, 5, 6 1b, n, 2, 3, 5, 6 1b, n, 2, 3, 5, 6 1b, n, 2, 3, 5, 6 1b, n, 2, 3, 5, 6
6. Establish land use practices that prevent the spread of noxious weed infestations. a) Require weed control in new subdivisions, including common areas. b) Require that new development successfully revegetate areas of ground disturbance with appropriate plant species. c) Require developers to prepare and implement a weed control program on land designated as parkland, common area, or open space. d) Prepare and implement a management plan to keep public lands weed-free.	 1b, h, 2, 3, 5, 6 1b, h, 2, 3, 5, 6 1b, h, 2, 3, 5, 6 1f,q,r,3,5c

WATER RESOURCES

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Improve and maintain surface water and groundwater quality and quantity. a) Minimize non-point source runoff. b) Limit impervious surfaces to the minimum area required for the development. Alternative surfaces should be considered and applied where appropriate. c) Devise a strategy for water resource protection and water conservation, including landscape use. Encourage the use of vegetation with low water requirements for landscaping. Limit turf lawns to areas immediately surrounding residences. d) Identify areas of high groundwater and potential groundwater contamination, during review of new developments. e) Limit non-sewered residential development in areas of groundwater concern. f) Support community-volunteer clean-up and maintenance of the riverfront. g) Continue efforts to connect septic systems within sewered areas to municipal sewer. h) Heavy commercial, industrial, and urban/high density residential development should be served by new or existing regulated public water supplies, which have construction, supply and monitoring requirements to ensure safe and adequate drinking water.	1b, 2a, 3, 5, 6 1b, n, 2, 3, 5, 6 1g, h, 2, 3, 4, 5, 6 1g, h, 2, 3 1g, h, 2, 3 2, 3, 5, 6 2, 3 1g,2,3,4b,c,d,l,6
2. Protect in-stream flows. a) Minimize disturbance and disruption of flow within creeks. b) Encourage the use of well or municipal water for residential irrigation.	 1b,d,i,j,e,o, 2, 3, 5, 6 2, 3, 5

3. Promote natural stream function and stability.	
a) Provide educational materials to suburban stream-front property owners regarding stock watering, vegetation management, and other stream stewardship issues.	1b,e, 2a, 3, 5, 6
b) Actively promote stream restoration efforts that establish naturally stable river systems and rely on long-term revegetation as opposed to engineered structural methods.	1b, e, i, j, o, 2, 3, 5, 6
c) Maintain and revegetate riparian areas and floodplains where necessary to hold soil in place, prevent erosion, and provide for flood and storm water storage.	1b, c, d, e, i, j, 2, 3, 5, 6
d) When necessary to artificially stabilize stream banks, use measures that do not cause impacts to other property owners or negatively impact fisheries or other wildlife habitat.	1b, d, e, i, j, o, 2a, 3, 5, 6
4. Ensure that new development is placed an adequate distance from watercourses to protect each watercourse and improve and maintain its associated habitats.	
a) Keep new development outside the identified 100-year floodplains.	1b, d, e, 2, 3, 5, 6
b) Establish specific setbacks for development from creeks and drainages.	1b, 2, 3, 5, 6
i) Keep development setback a minimum of 100 feet from the top of bank of LaValle and Butler Creeks.	
ii) Keep development setback a minimum of 50 feet from the centerline of other drainage channels that do not have FEMA-mapped floodplains.	
iii) Evaluate sites to determine whether additional setback or other mitigation techniques are needed to protect water quality, minimize flood risk, provide bank stability, preserve riparian and wildlife habitat, and preserve cultural and recreational values.	
c) Support and implement the Grant Creek Restoration Project.	1b, 2, 3, 5, 6
i) Discourage development within the Grant Creek 100-year floodplain.	
ii) Incorporate elements that reduce flooding and groundwater problems downstream while improving fish passage, animal habitat, and recreational and aesthetic opportunities.	
iii) Explore the need for additional setback, beyond the limits of the 100-year floodplain, with the completion of the Grant Creek Restoration Project.	
d) Evaluate proposed development within 300 feet of the ordinary high water mark of the Clark Fork River to address potential development impacts to water quality, flood risk, bank stability, riparian habitat, wildlife habitat or corridors, social, cultural, and recreational values. These factors will be utilized in defining specific setbacks and identifying other possible restrictions. Specifically, factors to be addressed may include:	1b, 2, 3, 5, 6
i) The importance of the wildlife habitat and/or corridors on the property and the roles they play in the larger habitat or migration context;	1b, 2, 3, 5, 6
ii) The existence of riparian vegetation on the property;	1b, c, d, i, j, o, 2, 3, 5, 6
iii) The existence of soil types, slope characteristics, groundwater levels, and other characteristics that would allow for the likely natural reestablishment of riparian vegetation following a change in land use practices;	1b, 2, 3, 5, 6
iv) The amount of impervious surfaces proposed in the development;	1b, d, e, o, 2, 3, 5, 6
v) The proposed density of development;	1b, 2, 3, 5, 6
vi) The likelihood of degradation of surface or ground water quality from the proposed development;	1, 2, 3, 5, 6
vii) The steepness of the slope to be developed;	
viii) Social, cultural, and recreational values;	

ix) The likelihood of river/stream migration toward the proposed development; x) The likelihood of flooding or surfacing groundwater on the property; and xi) Other relevant issues.	
5. Preserve the floodplain for flood attenuation, aquifer recharge, and natural filtration while protecting development from flooding and bank erosion.	
a) Establish a mechanism to allow transfer of development rights from flood hazard areas to sites outside flood hazard areas.	2, 3, 5, 6
b) Limit new development of homes, commercial, or industrial buildings in the 100-year floodplain to improving or replacing existing structures according to Missoula County Floodplain Regulations.	1d, g, 2, 3, 5, 6
c) Require that all lots in new subdivisions have a buildable area and road access located naturally outside flood hazard areas.	1a, i, j, 2, 3, 5, 6
d) Require detailed analyses to determine actual flood elevations and flood hazards before development is approved in or near the designated 100-year or 500-year floodplain, or other flood hazard area.	1d, g, i, 2, 3, 5, 6
e) Require that proposed development will be free from high groundwater hazards.	1d, g, 2, 3, 5, 6
f) Require that public infrastructure minimally impacts streams and floodplains.	1, 2, 3, 4, 5, 6o, p

AIR RESOURCES

OBJECTIVES AND STRATEGIES	**Participating Groups**
1. Establish land use practices and promote types of development that minimize impacts to air quality.	
a) Construction sites should use dust abatement and erosion control techniques to minimize impacts to neighboring sites.	1g, i, j, 2, 3, 6
b) Pave all new roads within the air stagnation zone.	1a, g, i, j, 2, 3, 6
c) Pave Deschamps Lane and Roller Coaster Road.	1g, i, j, 2, 3, 6
d) Avoid construction of roads on slopes greater than 25%.	1a, g, i, j, 2, 3, 6
2. Reduce traffic congestion and minimize vehicle miles traveled.	
a) Promote alternative transportation methods.	1, 2, 3, 4i
b) Incorporate effective transportation demand management techniques into development design.	1, 2, 3, 4, 5, 6

GOALS	▪ Protect and preserve historic and cultural resources in the plan area to safeguard the area's heritage. ▪ Integrate new development and infrastructure with existing land use patterns to achieve overall compatibility with the neighborhood character and uses. ▪ Preserve the diversity, integrity, and unique values of the area. ▪ Consider associated services, amenities, and methods of reflecting the character within each neighborhood. ▪ Enhance neighborhood character and the overall quality of life in the community with compatible and complimentary development and re-development.

OBJECTIVES AND STRATEGIES	**PARTICIPATING GROUPS**
1. Inventory, identify, and evaluate historical and cultural sites and structures.	
a) Develop means to protect cultural and historic sites, trails, and structures within the Planning Area.	1k, l, m, r, 2, 3, 5
b) Form a Mullan Road Historic Society to help evaluate and develop ways to preserve historic homes and heritage.	1k, l, m, 2, 5
c) Support historic, archeological, or architectural surveys of local historic resources in the Planning Region.	1k, l, m, r, 2, 5
d) Consider incentives for historic preservation.	1k, l, m, 2, 3, 5
2. Encourage the preservation and adaptive re-use of historic structures or systems.	
a) Support compatible uses for historic property that require minimal alteration of structure, site, and environment.	1k, l, m, 2, 3, 5, 6
b) Encourage repair rather than replacement of deteriorated architectural features whenever feasible by replicating the original design and materials.	1k, l, m, 2, 3, 5, 6
c) Encourage developers to avoid destroying, removing, or altering historic materials or distinctive architectural features.	1k, l, m, 2, 3, 5, 6
3. Protect and preserve archeological resources affected by or adjacent to any project.	
a) If cultural resources are uncovered during any earth moving, immediately halt activity and contact the Confederated Salish and Kootenai Tribe's Tribal Preservation Office in Pablo, the Missoula Historic Preservation Office, and the State Historic Preservation Office (SHPO) in Helena before further disturbance of the site occurs.	1a, b, i, j, k, l, m, 5, 6
b) Encourage SHPO file searches when appropriate during project review.	1a, l, j, k, l, m, 2, 5, 6
4. Support and provide educational opportunities on the area's history.	
a) Form a Mullan Road Historical Society to help develop commemorative signs, or interpretive programs.	1k, l, m, r, 5, 6
b) Support cross-cultural work on cultural, historical, and archeological sites in the area.	1k, l, m, r, 5, 6
5. Establish a balance between new development and existing character.	
a) Preserve open space, and sensitive environmental areas within high density housing areas by encouraging cluster housing development.	1c, q, r, s, 2, 3
b) Concentrate new higher intensity development in the eastern portion of the plan area proximal to the regional commercial uses along Reserve Street.	2, 3, 6
c) Recommend urban levels of development where services and amenities exist, while also fitting with the character of the area.	2, 3, 6 2, 3, 6
d) Create neighborhood centers anchored by existing uses or strategically placed at key intersections.	
e) Recommend suburban levels of development with increased non-motorized connectivity in areas where existing	2, 3, 6

development patterns are set. f) Recommend urban levels of development in the area between the Old Milwaukee and airport in order to function as a transition between existing development and airport uses. g) Retain the large-lot rural development pattern along the western end of the plan area near Deschamps Lane and Grass Valley Estates. h) Establish a clustered development pattern along the western end of the plan area to function as the gateway into Missoula.	 1p, 2, 3, 6 2, 3, 6 2, 3, 6
6. Create transitions between uses and buffer incompatible uses from each other. a) Establish buffer areas or less dense development adjacent to already established subdivisions that are of considerably different density than proposed development. b) Incorporate mixed use development as a method of transition between primarily commercial and primarily residential areas, where applicable. c) Development should transition in intensity from most intense closest to Reserve Street to least intense along the western part of the plan area.	 2, 3, 6 2, 3, 6 2, 3, 6
7. Include consideration of typical neighborhood characteristics when developing in particular neighborhoods. a) Urban neighborhoods should reinforce pedestrian-friendly development patterns with public amenities within accepted walking distance. i) Consider Neighborhood Center uses in proximity to the Neighborhood Center indicator. b) Non-urban neighborhoods should include small groups of clustered development and a majority of open space. See *Conservation Design Guidelines* in the Appendix. c) Existing neighborhoods should establish strengthened connectivity to reinforce a collective sense of place that goes beyond the bounds of each subdivision. d) Rural neighborhoods should continue to consider the variety of lot sizes in order to retain large open areas for rural purposes.	 2, 3, 5, 6 2, 3, 6 2, 3, 5, 6 2, 3, 6
8. Establish a system of vehicular and pedestrian movement that reinforces the sense of neighborhood. a) Major roadways need to include off-road non-motorized routes. b) Collector roadways should be designed to be pedestrian-friendly including limitations on curb cuts, permitting on-street parking, and incorporating boulevard sidewalks. c) Work with appropriate agencies to establish increased non-motorized connectivity between already established neighborhoods. d) Consider improved pedestrian crossings, off-road non-motorized routes, and transit pull-outs along Mullan Road. e) Reinforce the sense of gateway at key intersections along Mullan Road through techniques such as narrowing the roadway to slow traffic, increasing the landscaping, establishing pedestrian crossings, establishing signage, and creating public or inviting spaces adjacent to the gateway.	 1a, i, j, q, 2, 3, 6 1i, j, 2, 3, 6 1i, j, q, r, 2, 3, 5, 6 1i, j, q, r, 2, 3, 4i, 6 1i, j, r, 2, 3, 5, 6

9. Implement development guidelines for multi-family housing, mixed uses, commercial, industrial, and the interface between different uses. a) Commercial uses should use design concepts that integrate the development into the neighborhood context, where appropriate. b) Create guidelines for each type of commercial and industrial use (including scale, uses, site location, circulation, transition buffering). Apply performance zoning where appropriate. c) All residential neighborhoods should be buffered from higher intensity land uses (commercial, light industrial, and airport uses) and connected by well-designed multi-modal travel corridors. d) Implement the Community Design Guidelines found in the appendix through an overlay or other zoning tools.	 2, 3, 5,6 1i, j, 2, 3, 5, 6 1i, j, r, 2, 3, 5, 6 2, 3, 5, 6
10. Coordinate land use planning with Airport Planning.	1p, 2, 3,

CHAPTER 4: HOUSING

GOALS	▪ Enhance opportunities to develop diverse housing at appropriate densities to meet the community's needs. ▪ Increase neighborhood access to affordable, diverse, and high quality housing. ▪ Encourage residential land use that considers existing or anticipated growth of public services and facilities, preservation of natural resources, and compatibility with neighborhood character.

OBJECTIVES AND STRATEGIES	**PARTICIPATING GROUPS**
1. Encourage housing development that is compatible with neighborhood character. a) Build neighborhoods that are focused around community spaces such as the school or parks. b) Encourage use of the *Community Design Guidelines,* Appendix 3.2, and implement the *Community Design Guidelines* through a proposed overlay zone or other zoning tools to ensure compatibility.	 2, 3, 5, 6 2, 3, 5, 6
2. Provide an adequate supply and variety of housing types and densities within the planning area. a) Develop a mix of housing densities within close proximity of each other. b) Support variations in lot size while maintaining overall density. c) Implement this Plan through revisions to zoning in the area. d) Allow for densities to be flexible depending on master plan design, and compatibility with surrounding uses. e) Encourage clustering of lots and building locations. f) Develop tools to encourage medium and high-density residential development (8-16 units per acre) in the areas designated for such uses. g) Maximize the availability of community resources and provision of services.	 2, 3, 5, 6 2, 3, 5, 6 2, 3, 5, 6 2, 3, 5, 6 2, 3, 5, 6 2, 3, 5, 6 2, 3, 5, 6

3. Encourage a mix of housing types to meet the needs of various ages, incomes, abilities, and household sizes.	2, 3, 5, 6
a) Provide a range of housing opportunities for senior residents.	2, 3, 5, 6
b) Cluster development, minimum lot size, and zero lot line are encouraged as development standards for certain parts of the plan area.	2, 3, 5, 6
c) Aid and encourage private, governmental, and non-profit agencies in their efforts to develop affordable and diverse housing within innovative neighborhood design.	2, 3, 5, 6
d) Develop site design standards for manufactured homes.	2, 3, 5, 6
e) Support development that accommodates special accessibility needs.	2, 3, 5, 6
f) Support programs that assist with first-time homeownership.	2, 3, 5, 6
g) Support programs that assist with home improvements for low and moderate income households.	2, 3, 5, 6

4. Locate urban residential development within proximity to schools, parks, and convenience shopping.	
a) Encourage Traditional Neighborhood Design development.	2, 3, 5, 6
5. Design development with flexibility to adapt to infrastructure changes and future connections	
a) Include pedestrian linkages between neighborhoods and with nearby uses and natural features.	1a, i, j, q, r, 2, 3, 5, 6
b) Development that may in the future connect to the Missoula Wastewater Facility should be designed for the potential to be re-subdivided into smaller lots in the future.	1i, j, 2, 3, 5, 6
c) Provide opportunities for connection to a grid road system.	1a, i, j, 2, 3, 5, 6
6. Coordinate land use planning with Airport Planning.	1i, j, 2, 3, 6

CHAPTER 5: ECONOMY

GOALS	▪ Support sustainable economic development that allows for diverse business and employment opportunities and integrates with the natural environment. ▪ Cluster commercial and industrial development along major travel corridors and in appropriate land use areas. ▪ Establish compatibility between neighborhood commercial uses and the character of the surrounding residential neighborhoods. ▪ Establish mixed use areas allowing people to live, work, shop and recreate all within their own neighborhood.

OBJECTIVES AND STRATEGIES	**PARTICIPATING GROUPS**
1. Encourage a diversified economy.	
a) Establish areas for a range of commercial development types including light industrial, commercial, and other employment-related uses.	2, 3, 5
b) Continue to support home occupations that meet zoning standards for these uses.	2, 3, 5

2. Encourage entrepreneurship, reinvestment, redevelopment, and new business development. a) Consider trends towards changing economic needs when planning new development.	 2, 3, 5
3. Support community and regionally-based commercial uses in appropriate land use designated areas. a) Locate commercial and light industrial uses that are of a regional scale based on the following criteria: i) Planned as part of a business neighborhood; ii) Ensure that infrastructure needs are in place to support development; iii) Have direct access to principal arterial roadways; iv) Conduct a traffic analysis and mitigate associated issues; and v) Restrict 'big-box' (large) retail, large office complexes, and large entertainment facilities within the extended approach and departure areas of the existing main runway. b) Concentrate fleet trucking, freeway commercial and trucking-related uses at the Wye. c) Discourage the development of a commercial strip along Mullan Road. d) Coordinate the placement of commercial uses on select roads with the streetscape description established in the Appendix 6A-1: *Transportation Guidelines*.	 2, 3, 5, 6 2, 3, 5 2, 3, 5 1a, I, j, 2, 3, 5, 6
4. Encourage neighborhood-based commercial uses. a) Concentrate neighborhood centers with neighborhood commercial uses in areas indicated on the *Land Use Map* or as indicated in the Plan. b) Allow office space and other low intensity employment uses within neighborhood centers. c) Limit the scale and range of neighborhood commercial uses within neighborhood centers to be compatible with surrounding residential uses. d) Phase commercial development to coincide with residential development.	 2, 3 ,5, 6 2, 3 ,5, 6 2, 3 ,5, 6 2, 3 ,5 ,6
5. Consider natural resource qualities when locating and developing commercial or industrial uses.	1, 2, 3, 5, 6
6. Develop all commercial uses utilizing design concepts that integrate the development into the neighborhood context. a) Design and build commercial development with attention to site planning and design guidelines. b) Implement *Design Guidelines* found in Appendix 3.2 through zoning tools such as performance standards or overlays. c) Develop criteria for addressing traffic generation and noise concerns with development either through subdivision or zoning. d) Create transitions between uses and integrate buffers.	 2, 3, 5, 6 2, 3, 5, 6 1a, i, j, 2, 3, 5, 6 2, 3, 5, 6
7. Support local sustainable agriculture. a) Develop strategies for farmland preservation for areas outside the sewer district to include, but not be limited to, agricultural zoning and agricultural districts. b) Encourage value added industries utilizing local agriculture.	 1b, c, d, e, r, k, 2, 3, 5 2, 3, 5

CHAPTER 6: INFRASTRUCTURE

GOALS	▪ Collaboratively plan for cost effective public services such as transportation systems, sewer, police and fire protection, libraries, active recreation, and schools. ▪ Ensure that the impacts associated with development are fully addressed and that the costs of mitigating those impacts are fairly distributed. ▪ Coordinate and establish infrastructure services in a timely way, with the community in mind. ▪ Manage the impacts of growth on the existing infrastructure. ▪ Facilitate the use of all modes of transportation. ▪ Provide for safe, healthy, affordable, and efficient access to transportation systems. ▪ Provide community recreation opportunities that meet the diverse needs for community citizens. ▪ Develop an adequate sewer system.	
OBJECTIVES AND STRATEGIES		**PARTICIPATING GROUPS**
1. Encourage development to locate in areas where facilities are available and where the public costs of providing needed facilities and public services are lowest.		1g, I, j, 2, 3, 4, 5, 6
2. Coordinate infrastructure planning among government agencies, private sector groups, and the general public.		1g, p, I, j, 2, 3, 4, 5, 6
3. Plan and install infrastructure prior to development. a) New development should pay the full cost of public facilities extension and the pro rata share of the cost of infrastructure improvements resulting from the particular development.		1g, j, l, q, r, 2, 3, 5, 6
4. Explore financing options for infrastructure upgrades and expansions. a) Reduce costs to landowners by pursuing affordable financing programs and enhancement grants for extension of maintenance and infrastructure. b) Design cost sharing formulas and plans for infrastructure in cooperation with area property owners prior to the construction of each project in order to distribute cost equitably among existing users, future users, and those profiting from future development. c) Create Rural Special Improvement Districts (RSIDs) or Special Improvement Districts (SIDs). d) Through a Capital Improvement Program, identify, prioritize, and establish funding mechanisms for meeting the public service needs. e) Develop regulatory tools such as impact fees or mitigation measures, which encourage new development to fully address public costs and impacts associated with growth.		2, 3, 5, 6 2, 3, 5, 6 1i, j, 2, 3 1i, j, 2, 3 1i, j, 2, 3

CHAPTER 6A: COMMUNITY FACILITIES

TRANSPORTATION

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Provide for transportation connections between neighborhoods.	
a) Implement the *Collector Roadway System Resolution (#2001-005).*	1i, j, 2, 3, 6
b) Refer to the *Transportation Guidelines* in Appendix 6A-2 when reviewing subdivisions and other development.	1a, i, j, 2, 3, 6
c) Comply with *Missoula City and County Subdivision Regulations* that:	1i, j, q, r, 2, 3, 6
i) connects dead-end streets; and	1i, j, q, r, 2, 3, 6
ii) connects non-motorized facilities within and between neighborhoods.	1i, j, 2, 3, 6
d) Avoid cul-de-sacs and dead-end streets except when there is no opportunity for connection to another street due to topographic constraints.	1i, j, 2, 3, 6
e) Design streets to complete and connect the existing grid pattern.	1i, j, 2, 3, 6
f) Encourage a local street grid pattern that provides multiple connections to the collector grid system, yet discourages cut-thru traffic in residential neighborhoods.	1i, j, 2, 3, 6
g) Provide street stub-outs next to adjacent undeveloped land to allow construction of interconnecting streets once the adjacent land develops.	1i, j, 2, 3, 6
h) Consider providing street stubs with new development adjacent to existing development where opportunities exist for future connections.	1i, j, 2, 3, 6
i) Incorporate bicycle and pedestrian improvements identified in the *1994 and 2001 Non-Motorized Transportation Plan* and the *1995 Open Space Plan* into new development, including right-of-way acquisition.	1i, j,r, 2, 3, 6
j) Incorporate a trail along Grant Creek in coordination with the Grant Creek Restoration Project.	1i, j, q, r, 2, 3, 6
k) Develop standards to promote road network interconnectivity, including consideration of alternative modes, for the local and collector street level.	1i, j, r, 2, 3, 4i, 6
l) Design street connections to keep through trips on collector or arterial streets while keeping local trips within neighborhoods, using local streets.	1i, j, 2, 3, 6
m) Consider a mid-block pedestrian connection in blocks longer than 400 feet.	1i, j, q, r, 2, 3, 6
n) Limit block lengths to generally between 300-500 feet in any direction except where topographic-conditions and/or unique lot configuration offers no practical alternative.	1i, j, 2, 3, 6
2. Improve pedestrian, bicycle and vehicular safety.	1i, j, r, 2, 3
a) Use landscape boulevard areas to separate pedestrians from streets.	1i, 1j, 2
b) Incorporate traffic management tools into the design of new local streets to discourage speeding and cut-through traffic.	1i, 1j, 5
c) Encourage residents to work with City and County Public Works Departments to determine the appropriate traffic management tools for existing neighborhoods.	1i, j, r, 2a, 3, 4j
d) Encourage pedestrian, bicycle, and vehicular safety through school programs and media campaigns.	1i, j, r, 2, 3
e) The street network should allow bicyclists and pedestrians to travel on local streets to most locations within the neighborhood without having to follow arterials.	1i,j,r,2,3,5,6

f) Establish a separate bike and walking trail along Mullan Road. g) Trail easements need to be sized to meet certain standards.	1i,j,q,r,2,3
3. As development occurs, improve existing roads to meet current standards. a) Use Capital Improvements Program (CIP) projects, Special Improvement Districts (SIDs) or Rural Special Improvement Districts (RSIDs) to provide funding to improve road systems comprehensively or incrementally. b) Address pedestrian and bicycle safety concerns on Flynn Lane, especially near Hellgate Elementary School.	 1i, j, 3 1i, j, r, 3, 4j, 5
4. Coordinate with the Missoula County and City of Missoula Public Works Departments and other appropriate agencies including MDT to find and implement solutions to traffic problems in the plan area. a) Support consistent approaches for transportation improvements between County and City jurisdictions. b) The City and County of Missoula Public Works Departments should work with the Montana Department of Transportation (MDT) to incorporate bike lanes on Mullan Road and West Broadway.	 1i, j, 2, 3, 6 1a,I,j,2,3,6
5. Provide access management for the roadway system. a) Control access, especially onto and off of Mullan Road. b) Encourage shared driveways when appropriate. c) Require corner lot access to be on the street with the lowest functional classification; such as a collector instead of an arterial, or a local street instead of a collector.	 1a, i, j, 2, 3, 6 1i, j, 2, 3, 6 1i, j, 2, 3, 6
6. Facilitate the use of and expansion of public transit in the plan area. a) Coordinate with the Missoula Urban Transportation District (MUTD) to assure expansion of district boundaries to include new development. b) Coordinate with MUTD to assure inclusion of appropriate transit amenities such as bus pullouts, benches, and bus shelters in street and development design c) Ensure that sidewalks in new developments connect to transit stops. d) Coordinate with MUTD to encourage development that supports establishment of, and provides for, commuter Park and Ride points.	 1i, j, 2, 3, 4i 1i, j, 2, 3, 4i 1i, j, 2, 3, 4i 1i, j, 2, 3, 4i
7. Consider future growth when designing the area transportation system. a) Update the *Collector Roadway System Resolution* (#2001-005) to reflect current conditions. b) Extend planning for collector routes northwest of the area planned with *Resolution #2001-005*. c) Establish regulations requiring developers to conduct traffic studies appropriate for the level of development. d) Adopt provisions for mitigation of impacts of new development to pay the cost of transportation improvements, such as street and intersection improvements, pedestrian facilities, or transit amenities. e) Local government should make it a high priority to develop a build-out transportation infrastructure plan for the *Wye Mullan Plan* area to include the following: i. Conduct a traffic analysis; ii. Consider the future street network and use of mitigation fees to pay for needed improvements; iii. Plan neighborhood-connector and community trail systems; iv. Develop standards to promote road network connectivity, including consideration of alternative modes and mitigations; v. Show a local street system on a transportation system map as a priority implementation measure; and vi. Develop an Implementation Schedule.	 1i, j, 2, 3, 6 1i, j, 2, 3, 6 2, 3 1i, j, 2, 3 1a,I,j,r,2,3,4i,5

8. Maintain or improve existing levels of transportation services by reducing traffic congestion and vehicle hours traveled (VHT). a) Mitigate transportation impacts of new development by supporting the efforts of Missoula in Motion and Missoula Ravalli Transportation Management Association (MRTMA) to promote alternative modes of transportation. b) Incorporate effective Transportation Demand Management (TDM) techniques into development design.	 1g, 2, 3, 4i, 5 1i, j, r, 2, 3, 4i, 6
9. Coordinate planning efforts with the Missoula International Airport. a) Consider access needs of the Missoula International Airport.	 1a, i , j, r, 2, 3, 4i
10. Implement the goals and objectives of the most recent *Missoula Urban Transportation Plan Update* and this Plan by incorporating them into the review of new development in the *Wye Mullan Plan* area. a) Update subdivision regulations as needed to reflect issues raised in the Plan and current transportation standards.	 1i, 1j, 2, 3, 6
11. Prioritize the need to develop George Elmer Road and England Boulevard.	1, 2, 3, 6

PARKS, RECREATIONAL, AND OPEN SPACE AREAS

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Develop a full range of recreational activities, including site-specific recreation (ballparks, river recreation, etc.), community and recreational trails, open space and conservation lands, as well as community-based recreation (walking, bicycle, aquatics, athletic facilities, horse trails, etc).	
a) Establish parks and recreational facilities including community parks, multi-use facilities, neighborhood parks, playgrounds, and ball fields.	1, 2, 3, 5, 6
b) Identify the park needs based on *The Master Parks and Recreation Plan for the Greater Missoula Area*, *The 1997 Missoula County Parks Plan*, and other documents as appropriate or applicable.	1, 2, 3, 5, 6
c) Establish areas for active-recreation and passive-recreation.	1, 2, 3, 5, 6
d) Establish conservation parks on sensitive lands including wooded draws, gullies, wildlife habitat, and riparian areas.	1, 2, 3, 5, 6
e) Create public community garden sites.	5
f) Establish linear parkways that connect cultural and natural resources.	1, 2, 3, 5, 6
g) Link parks, public facilities, cultural resources, open spaces, and the urban areas with a network of paths, trails and sidewalks with tree-lined boulevards.	1, 2, 3, 5, 6
h) Prioritize neighborhood and community park needs first before integrating pocket parks and small open spaces into neighborhoods.	1q, r, 2, 3, 5, 6
i) Enhance the urban forest by complying with all applicable boulevard requirements including those listed in zoning and subdivision regulations.	1a, i, j, r, 2, 3, 5, 6
2. Implement the goals and recommendations of the *Master Parks Plan* by incorporating them into the review of new development in the *Wye Mullan Plan* area.	1i, j, q, r, 2, 3, 5, 6

3. Locate recreational open spaces (parks, ball fields, golf course, etc.) near areas where development already exists or where it is desired, and where the need for recreational space is established.	1c, q, r, 2, 3, 5, 6
4. Improve access to water resources and public areas, where appropriate. a) Determine the need for additional river access points, and boat launch areas on the Clark Fork River. b) Develop a river trail system.	 1, 2, 3, 5, 6 1, 2, 3, 5, 6
5. Establish funding sources for acquisition, improvement, and maintenance of parks. a) Explore the use of RSIDs, bond issues, park districts, cooperative agreements with State, Federal and private agencies, user fees for larger parks, developer assistance, and grants.	 1, 2, 3, 5
6. Incorporate areas with cultural, historic resources into parks and trail systems. a) Explore the potential for land acquisition, leases, and donations; partnerships with Federal and State agencies or private organizations or individuals.	 1c, k, l, m, q, r, 2, 3, 5, 6
7. Conserve significant open space resources. a) Encourage the use of conservation easements and other voluntary land use restrictions to preserve significant features in the area. b) Preserve views and open space along ridgelines, and watercourses. c) Encourage clustering development. d) Encourage working with other agencies to conserve open areas.	 1, 2, 3, 5, 6 1, 2, 3, 5, 6 1, 2, 3, 5, 6 1, 2, 3, 5, 6

UTILITIES

STRATEGIES AND OBJECTIVES	**PARTICIPATING GROUPS**
1. Coordinate sewer infrastructure planning with Plan objectives, growth projections for the area, and nutrient reduction goals of the Voluntary Nutrient Reduction Program. a) A detailed master plan for proposed development should be submitted and considered by the City's Contract Sewer Committee prior to extension of the Urban Growth Area and sewer service area.	 1b, d, g, h, i, j, 2, 3, 6
2. Provide for the timely installation and upgrading of public sewer in the plan area.	1i, j, g, 3
3. Ensure that household wastewater is adequately treated or connected to sanitary sewer to protect groundwater. a) Out of date septic systems should be improved.	 1b, d, g, h, i, j, 3
4. Explore financing options for infrastructure upgrades and expansions. a) Reduce costs to landowners by using affordable financing programs and enhancement grants for extension of maintenance and infrastructure. b) Create Rural Special Improvement Districts (RSIDs) or Special Improvement Districts (SIDs).	 2, 3 1i, j, 2, 3
5. Create a storm water management plan for the area.	1g, i, j, 2, 3, 6
6. Coordinate utility infrastructure planning. a) Coordinate with utility providers as new roadways are designed and constructed, so that consideration can be given to placement of utilities. b) Explore options for extending public water into the area including the potential for City extension of public sewer.	 1g, i, j, 2a, 3, 4 1i, j, 2, 3, 4l

CHAPTER 6B: COMMUNITY SERVICES

EMERGENCY SERVICES

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Encourage a land use pattern that facilitates provision of emergency services.	
a) Concentrate the location of urban residential development and commercial uses to facilitate the provision of fire and police protection at an urban level of service.	2, 3, 4b, c, d, e, f, p
b) Consider response times for emergency services when determining appropriate densities and locations of development.	2, 3, 4b, c, d, e, f, p
c) Encourage connected street routes for improved access throughout the plan area.	1i, 1j, 2, 3, 6
2. Continue inter-jurisdictional cooperation between public safety agencies.	2a, 3, 4
3. Maintain adequate fire and law enforcement protection and emergency medical services in the plan area by mitigating the impact of development on the providers of emergency services.	2, 3, 4

SCHOOLS

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Maintain the quality of existing schools.	4j, 5
2. Ensure that the pace of development does not exceed the ability of school systems to provide adequate resources for increased student enrollment generated by the development.	
a) Reserve adequate school sites, and link the sites to developing neighborhoods, transportation corridors, parks and open space	2, 3, 4j
b) Collaborate with school districts to determine appropriate site size and location.	2, 3, 4j
i. Engage in a cooperative planning effort with the Hellgate Elementary School District to identify potential school sites.	
3. New development should address the impact of development on the school district.	2, 3, 4j, 5, 6
4. Encourage location of school sites in Neighborhood Centers dispersed throughout the plan area.	2, 3, 4j, 5

LIBRARIES

OBJECTIVES AND STRATEGIES	PARTICIPATING GROUPS
1. Coordinate with the Missoula County Public Library regarding potential branch library locations.	
a) Collaborate with other agencies, such as the Parks Department or School District, regarding potential sites for a branch library.	
b) Consider incorporating branch libraries as a potential feature of multi-use facilities, community centers, neighborhood centers or other community-based public amenities	1r,s,3,4j,5a,b,6

APPENDIX 1.1
LIST OF ADDITIONAL RESOURCES

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CHAPTER 3: NEIGHBORHOOD

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APPENDIX 3.1: HISTORICAL ACCOUNT

Mathews, Allan and Joe Olson. *Historic Trails through the Missoula Valley,* (Unpublished Manuscript Helena, MT: Missoula Office of Planning and Grants-Montana State Historic Preservation Office, 1992).
Mathews, Allan James. *Montana Mainstreets: A Guide to Historic Missoula*, (Helena, MT: Montana Historic Society Press, 2002).
McKinnon, Kathleen. "The Story of Hell Gate, Montana" in *Montana Ghost Town Quarterly*, (Bozeman, MT: MT Ghost Town Preservation Society, 1997).
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CHAPTER 4: HOUSING

Missoula County. *Missoula Consolidated Plan,* (1999-2003, http://www.co.missoula.mt.us/opgweb/Documents.htm).
Missoula County Association of Realtors, (MT, 2003).
Montana Department of Revenue. *Assessor's Data,* (MT).
Montana Department of Revenue. IMPMOB, (MT, 2003).
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CHAPTER 5: ECONOMY

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APPENDIX 1.2
SUMMARY OF PLANNING PRINCIPLES

REFINED AND PRIORITIZED AT A COMMUNITY WORKSHOP, APRIL 12, 2003

The following list of Principles originated from earlier planning processes and adopted community plans, including the *County Growth Policy* and *Urban Area Plan.* These principles were then discussed and sometimes edited by citizens in the *Wye Mullan Plan* area. Other principles were added through community discussion.

Citizens were asked to vote for listed principles in two ways. First, those priorities which they favored most should receive a "Positive" vote. Second, those principles which should be considered with caution should receive a "Caution" vote. Citizens were encouraged to explain their Caution votes with a brief written clarification on Post-it notes that were attached to a flip chart with all principles listed.

For each bullet below, the number of Votes For are listed, followed by Caution Votes: and then followed by any edits, additions and comments. The key identifies how to decipher principles, deletions, additions, and refinements to principles.

HOUSING THEME

- 17 Votes For**:** Provide a mix of uses residential and others (uses that specifically serve the neighborhood) that combine to be a neighborhood and fit with the existing character, i.e. Housing and Airport don't mix. **Schools should not be near runways of airports.**
- 14 Votes For / 1 Caution Vote**:** Preserve natural resources.
- 11 Votes For: Provide a high quality and desirable living environment.
- 10 Votes For: Provide a mix of housing densities.
- 8 Votes For / 1 Caution Vote: Flexibility in street patterns to limit thru traffic in neighborhoods. *Caution: Limit traffic but not connectivity.*
- 7 Votes For: Encourage a variety of residential settings.
- 4 Votes For: Encourage lower density housing.
- 4 Votes For / 6 Caution Votes: Encourage medium & high-density housing. *Caution: Concerned that housing density bonus for developers will not be offset by open space, parks, etc.*
- 3 Votes For: Maximize availability of community resources & services.
- 1 Vote For / 1 Caution Vote: Minimize local government service costs. *Caution: Whose responsibility will schools, road maintenance, emergency services, etc. become? Strictly volunteer & Grants?*
- No Votes: Build a system of resources to fund services.

KEY:
- Standard Text = Base Principles
- ~~Strikethrough~~ = Language Deleted
- Underlined= Added through community discussion
- *Italicized= Refinement by Post-it note with a caution*
- **Bold= Refinement by Post-it note without a caution**

NEIGHBORHOOD THEME

- 13 Votes For / 2 Caution Votes: Development should promote ~~preserve~~ environmental and agricultural areas *Promote vs. Preserve recognizes that changes will occur*
- 13 Votes For / 1 Caution Vote: Non-motorized connections among neighborhoods.
- 10 Votes For: Reflect and respect the character of sub-districts; consider continuity in development.
- 9 Votes For: Provide a mix of uses – residential and others (uses that specifically serve the neighborhood) that combine to be a neighborhood and fit with the existing character.
- 8 Votes For: Respect, preserve and manage historic resources.
- 7 Votes For: Provide a mixture of household types and sizes.
- 6 Votes For: Provide good access to education, employment, social, recreational, and human services.
- 3 Votes For: Locate recreational space near neighborhoods.
- 2 Votes For: Accommodate growth while respecting & integrating neighborhood patterns.
- 1 Votes For: Sustain the area's rural character.
- 0 Votes For: Locate recreational space elsewhere as needed.

ECONOMY THEME

- 18 Votes For: Strategically locate and cluster local commercial; Reflect and respect character of sub-districts. **Limit the number of "local" commercial, i.e. not a string of them along Mullan.**
- 12 Votes For: Only allow environmentally friendly businesses and industry.
- 11 Votes For: Designate a place for regional commercial and industrial; reflect and respect character of sub-districts; similar to Missoula Development Parks**. Important to encourage light industrial development along Hwy 10 from the Airport to the Wye.**
- 10 Votes For: Protect the water resources.
- 6 Votes For / 1 Caution Vote: Support local sustainable agriculture. *Caution: Sustainable, what does that mean? Environmentally and economically?* **Cottage industries can include agriculture**
- 4 Votes For: Give priority to local jobs, allowing placement in appropriate areas.
- 3 Votes For: Allow for diverse business & employment opportunities.
- 3 Votes For / 1 Caution Vote: Encourage productive agricultural lands and uses.
- 1 Votes For: Provide for neighborhood commercial services.
- 1 Votes For: Maintain high quality of life to support economic values of properties.
- 1Caution Vote: Discourage Heavy Industry. *Caution: Define what heavy industry means. May not be all bad.*
- 0 Votes For: Encourage affordable housing.

KEY:
- Standard Text = Base Principles
- ~~Strikethrough~~ = Language Deleted
- Underlined= Added through community discussion
- *Italicized= Refinement by Post-it note with a caution*
- **Bold= Refinement by Post-it note without a caution**

NATURAL ENVIRONMENT THEME

- 16 Votes For: Value and protect wildlife habitat, natural open space, creeks and wetlands, water courses, historic and rural character. Control noxious weeds.
- 11 Votes For: Protect, monitor, and manage water resources and aquifer.
- 11 Votes For: Promote an adequate and appropriate sewer system.
- 9 Votes For: Development should promote (~~preserve~~) environmental and agricultural areas.
- 5 Votes For: Discourage light pollution.
- 5 Votes For: Mitigate environmental degradation.
- 4 Votes For: Identify & manage areas unsuitable for building (~~development~~).
- 3 Votes For / 2 Caution Votes: Respect private property rights. *Caution: While ensuring that private property activities don't invade surrounding properties, (with pollution, etc.).*
- 1 Vote For / 1 Caution Vote: Encourage productive agricultural lands and uses.
- ~~Protect critical lands.~~

INFRASTRUCTURE THEME

- 14 Votes For / 1 Caution Vote: Improve and maintain a transportation system that is safe, healthy, affordable, & efficient. Include a network of parallel road systems.
- 11 Votes For: Facilitate all modes of transportation. Enhance or create non-motorized system of pathways.
- 11 Votes For: Manage and build infrastructure systems strategically and collaboratively.
- 7 Votes For: Build a transportation network that provides appropriate (~~convenient~~) access to local land uses.
- 6 Votes For: Keep land uses compatible with Airport Master Plan.
- 5 Votes For: Integrate street improvement plans with land use plans.
- 5 Votes For: Encourage advanced telecommunications systems.
- 4 Votes For: Encourage underground utilities.
- 2 Votes For: Encourage development where public services are available.
- 1 Vote For: Provide good access to education, employment, social, recreational, and human services.
- 0 Votes For: Seek innovative and quality utility, transportation & emergency services.
- 0 Votes For: Allow for public input on improvement plans.
- 0 Votes For: Utility extensions should conform to urban growth area.

APPENDIX 2.1
CONSERVATION DESIGN GUIDELINES

The following guidelines are recommended in order to achieve development consistent with Plan goals and to preserve resources and regional character.

GOALS

Select areas for conservation before designing development.

Preserve significant geologic landforms and sensitive soil areas.

Place new development on stable soils and appropriate underlying geologic areas.

Limit hillside and steep slope development.

Discourage development and road construction on steep slopes (25% or greater).

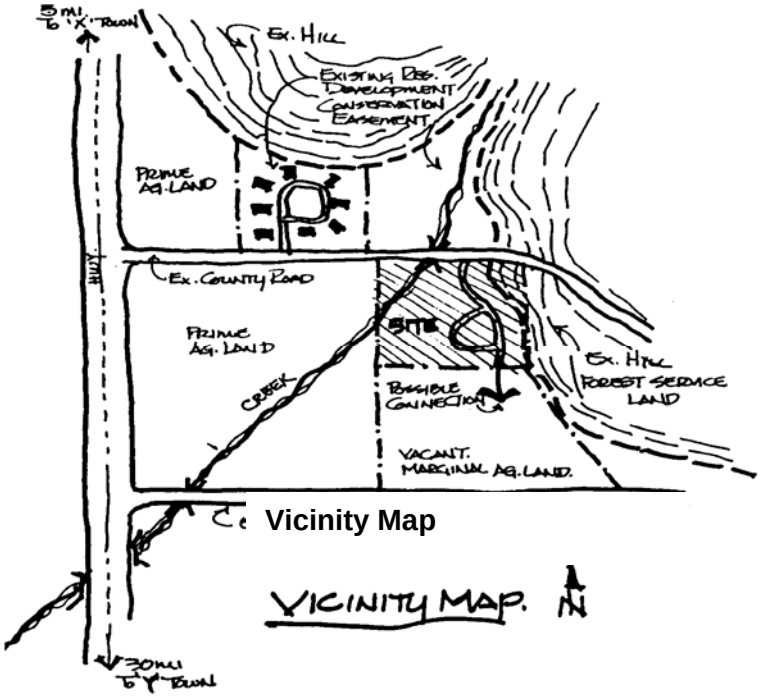
Avoid development in floodplains and floodway fringe areas.

Preserve significant habitats, forested areas and intact or re-established grasslands.

All land development, regardless of size, should be designed to take into account multiple elements for the long-range sustainability of land, character, and resource values. Site characteristics and features**,** as well as relationships with the nearby built and natural environment**,** should be considered. These steps should be followed whether starting a development or adding to existing development.

STEP 1: DEVELOP A VICINITY MAP

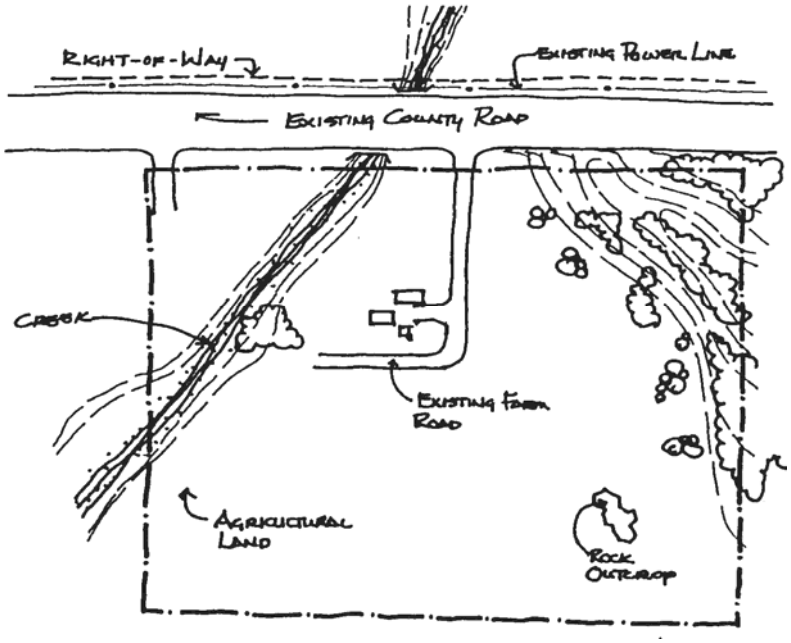
Develop a vicinity map of the surrounding area large enough to show the context of the site. Adjacent property sizes and uses should be shown, as well as proximity to services and transportation.



Vicinity Map

STEP 2: DEVELOP A BASE MAP

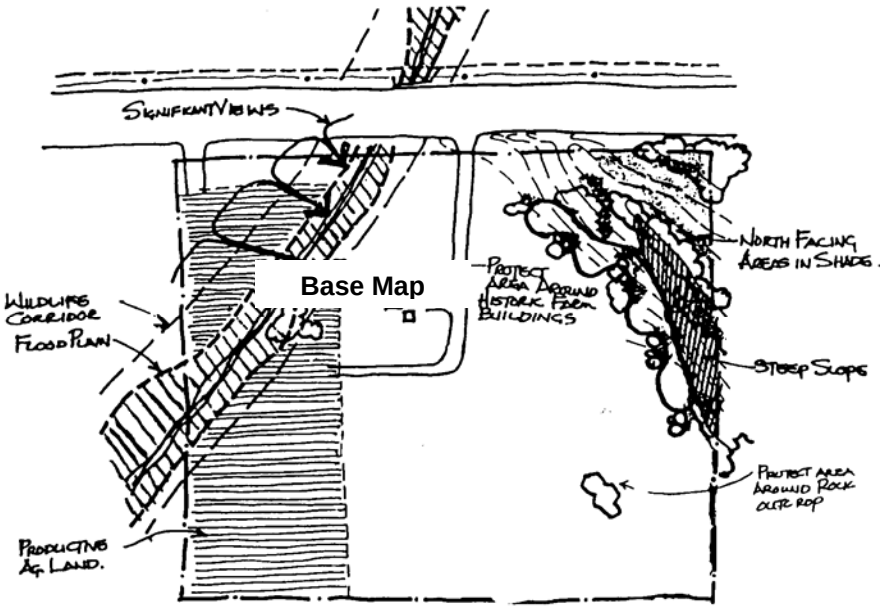
An accurate base map is crucial to this design method. It should clearly show property boundaries; existing features, such as structures, roads, railroads, fences, significant footpaths, irrigation ditches, and power lines; existing easements and rights-of-way; existing topography; and significant natural features such as surface water, hillsides, and vegetation. A base map may use the parcel boundaries shown on a previous Certificate of Survey or subdivision plat as a starting point.



STEP 3: IDENTIFY RESOURCES

Inventory the most severely constrained lands where development is already restricted such as steep slopes, wetlands and floodplains. Identify other significant features that may warrant protection, including:

- Open space, including scenic views, ridgelines;
- Significant wildlife habitat;
- Forested areas, including old growth or other unique stands;
- Native grasslands;
- Plant and animal species of special concern (see Appendix 2.2);
- Agricultural resources, such as prime farmland soils;
- Geologic features, such as outcrops;
- Faults or slumps; and
- Historic and cultural resources.



Resource Inventory Map

STEP 4: IDENTIFY OTHER SITE CONSTRAINTS

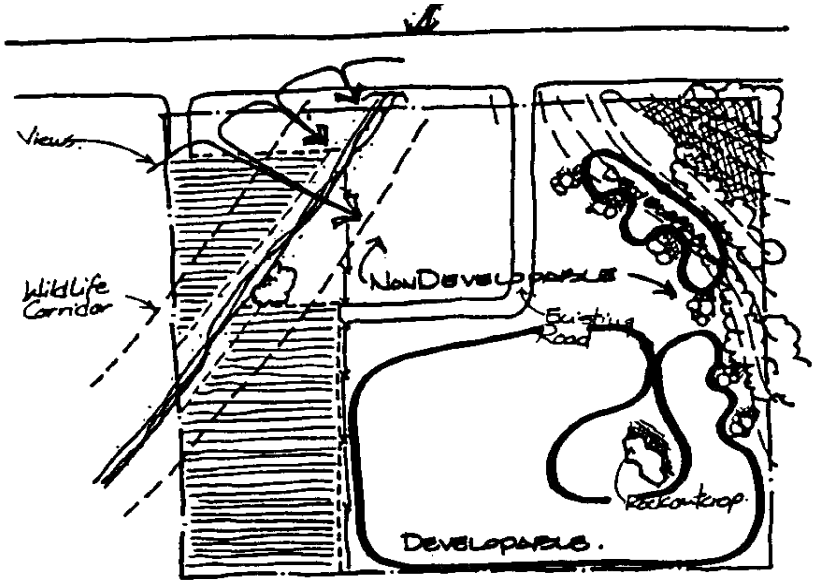
Identify other site constraints or restrictions**,** including land disturbances, soil conditions, septic limitations, zoning requirements, comprehensive plan land use and density designations, comprehensive plan goals, and adjoining land constraints that affect the parcel.

STEP 5: VISIT SITE TO CONFIRM CHARACTERISTICS

Verify and analyze site characteristics and resources identified earlier on the ground. Identify the boundaries of the parcel on site. Record any new observations about the site or unique circumstances.

STEP 6: IDENTIFY AREAS TO BE CONSERVED

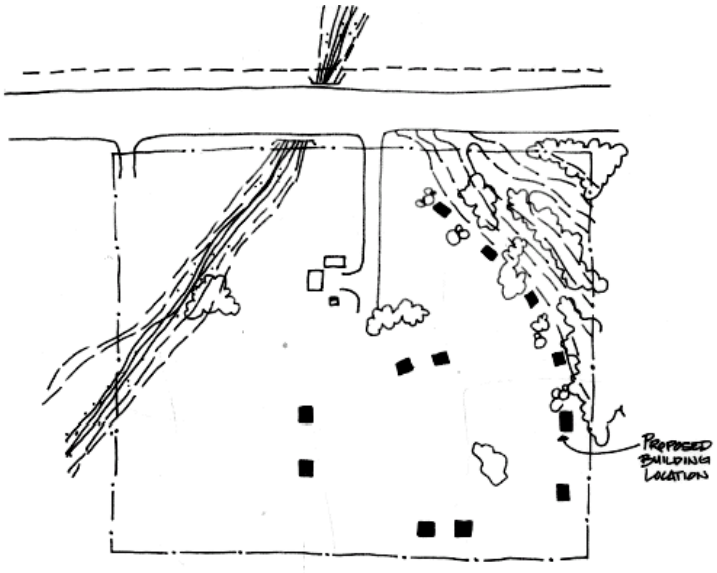
Establish developable and undevelopable areas on the property. Considerations include, but are not limited to, resource areas, other site constraints, density, setbacks, climate information, sun/shade, prevailing wind direction, etc.



Example of Developable and Non-Developable Areas

STEP 7: IDENTIFY BUILDING LOCATIONS

Locate building sites within the developable areas, keeping goals in mind: appropriate densities, buffers and setbacks.

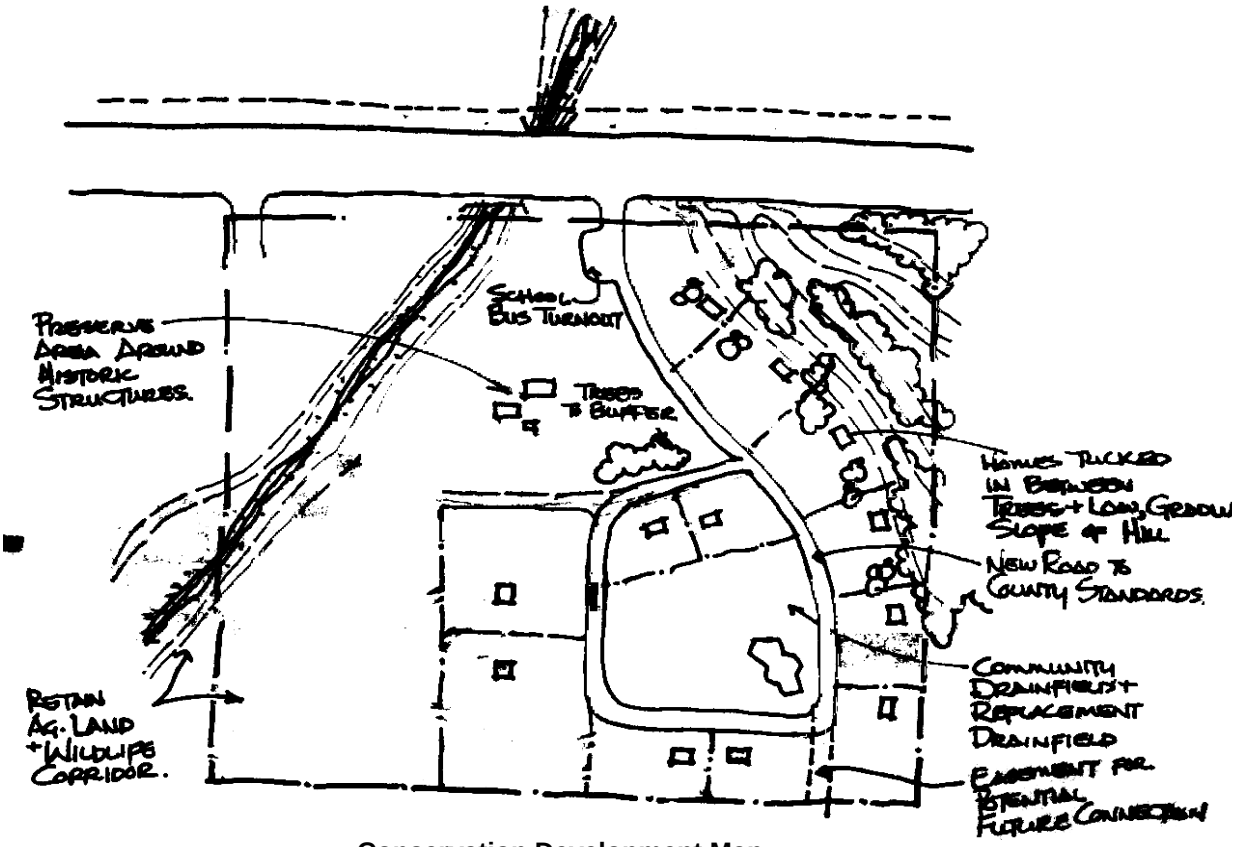


Building Location Map

STEP 8: PLAN INFRASTRUCTURE

Locate roads, greenways or trails, sanitation systems, water supply, and other needed infrastructure.

STEP 9: DRAW LOT LINES [1]



Conservation Development Map

[1] Arendt, Randall, *Conservation Design for Subdivisions* (Island Press, 1996).

APPENDIX 2.2
SPECIES OF CONCERN

The term "species of concern" includes Taxa that are at-risk or potentially at-risk due to rarity, restricted distribution, habitat loss, and/or other factors. The term also encompasses species that have a special designation by organizations or land management agencies in Montana, including: Bureau of Land Management Special Status and Watch species, U.S. Forest Service Sensitive and Watch species, and U.S. Fish and Wildlife Service Threatened, Endangered and Candidate species.

In the chart at the end of this appendix, Taxa are evaluated and ranked by the Heritage Program on the basis of their global (range-wide) status, and by National Heritage Programs based on their state-wide status. These ranks determine protection and data collection priorities, and are revised as new information becomes available.

For each level of distribution, global and state, species are assigned a numeric rank, from one (critically imperiled) to five (demonstrably secure), that reflects relative endangerment of a species. The rank is based primarily on the number of occurrences of that species globally (G) or within the state (S). However, other information such as date of collection, degree of habitat threat, geographic distribution patterns and population size and trends are considered when assigning a rank. The number of species occurrences listed below is a suggestion, not absolute criteria.

For example, the White-tailed prairie dog (*Cynomys ludovicianus*) is ranked G4, S2. That is, globally (G) it is ranked as a four, meaning the species is apparently secure, while in the state of Montana (S) it is ranked two, meaning the species is imperiled because of rarity, or other factors making it demonstrably vulnerable to extirpation.

GLOBAL AND STATE DEFINITIONS OF NUMERIC RANK

1	**Critically Imperiled** because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction.
2	**Imperiled** because of rarity (6 to 20 occurrences) or because of other factors demonstrably making it vulnerable to extinction throughout its range.
3	Either **Very Rare** and local throughout its range, or found locally (even abundantly at some of its locations) in a restricted range, or vulnerable to extinction throughout its range because of other factors; (21 to 100 occurrences).
4	**Apparently Secure**, though species may be quite rare in parts of its range, especially at the periphery.
5	**Demonstrably Secure**, though species may be quite rare in parts of its range, especially at the periphery.
U	**Possibly Imperiled**, but status uncertain; more information needed.
H	**Historically Known**; may be rediscovered.
X	**Believed to be Extinct**; historical records only.

OTHER HERITAGE CODES

G# Numeric range rank: A range between two of the numeric ranks. Denotes range of uncertainty
S#S# about the exact rarity of the species.

Sub-rank

T Rank for sub-specific taxon (subspecies, variety, or population); appended to the global rank for the full species, e.g. G4T3

Qualifiers

A Accidental in the state; including species (usually birds or butterflies) recorded very infrequently, hundreds or thousands of miles outside their usual range.

B Breeding status of a migratory species. Example: S1B,SZN - breeding occurrences for the species are ranked S1 (critically imperiled) in the state, nonbreeding occurrences are not ranked in the state.

E An exotic established in the state; may be native in nearby regions.

HYB Element represents a hybrid of species

N Non-breeding status of a migratory species. Example: S1B,SZN - breeding occurrences for the species are ranked S1 (critically imperiled) in the state, nonbreeding occurrences are not ranked in the state.

P Indicates the element may potentially occur in the state.

Q Taxonomic questions or problems involved, more information needed; appended to the global rank.

R Reported in the state; but lacking documentation which would provide a basis for either accepting or rejecting the report.

T Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species.

Z Ranking not applicable.

A modifier to SX or SH; the species has been reintroduced but the population is not yet established.

? Inexact or uncertain; for numeric ranks

BLM STATUS	
Sensitive or Special Status	Special Status animals or Sensitive plant species: proven to be imperiled in at least part of its range and documented to occur on BLM lands.
Watch	Watch species: either known to be imperiled and suspected to occur on BLM lands; suspected to be imperiled and documented on BLM lands; or needing further study for other reasons.
USFS STATUS	
Threatened	Listed as Threatened (LT) or Endangered (LE) under the Endangered Species Act or proposed for listing (P); and known or suspected to occur on national forests.
Sensitive	Sensitive species, subspecies, or variety for which the Regional Forester has determined there is a concern for population viability rangewide or in the region.

USFWS-ESA STATUS

Listed endangered	Listed as Endangered under the Endangered Species Act.
Listed threatened	Listed as Threatened under the Endangered Species Act.
Proposed endangered	Proposed for listing as Endangered under the Endangered Species Act.
Proposed threatened	Proposed for listing as Threatened under the Endangered Species Act.
Candidate	Candidate for listing under the Endangered Species Act.

SCIENTIFIC NAME	**COMMON NAME**	GLOBAL	STATE	BLM	USFS	USESA
ANIMALS						
Felis lynx	Lynx	G5	S3			PS:LT
Myotis thysanodes	Fringed Myotis	G4,G5	S3			
INSECTS						
Zapada cordillera	A Stonefly	G3	S2			
BIRDS						
Falco peregrinus	Peregrine Falcon	G4	S2B	SPECIAL STATUS	ENDANGERED	PS:LE
Haliaeetus leucocephalus	Bald Eagle	G4	S3B,S3N	SPECIAL STATUS	THREATENED	PS:LE, PDL
Histrionicus histrionicus	Harlequin Duck	G4	S2B	SPECIAL STATUS	SENSITIVE	
Otus flammeolus	Flammulated Owl	G4	S3B	SPECIAL STATUS	SENSITIVE	
FISH						
Oncorhynchus clarki lewisi	Westslope Cutthroat Trout	G4, T3	S3	SPECIAL STATUS		
Salvelinus confluentus pop 2	Bull Trout - Columbia River	G3, T2, Q	SNR			LT
PLANTS						
Camissonia andina	Obscure Evening-primrose	G4	S2	SENSITIVE		
Carex scoparia	Pointed Broom Sedge	G5	S2			
Cypripedium parviflorum	Small Yellow Lady's-slipper	G5	S3	WATCH	SENSITIVE	
Penstemon angustifolius	Narrowleaf Penstemon	G5	S2	WATCH		
Phlox kelseyi var missoulensis	Missoula Phlox	G2	S2	SENSITIVE	SENSITIVE	
Rotala ramosior	Toothcup	G5	S1			
Trifolium cyathiferum	Cup Clover	G4	S1			
State champion tree (2)	State Champion Tree	Z	SNR			

[1]

[1] Montana Natural Heritage Program, Natural Resource Information System, (Montana State Library).

APPENDIX 2.3
BASELINE SPECIES INVENTORY

Type	Common Name	In-Stream	Wetland	Riparian	Grassland
Animals*					
	Common or Masked Shrew			x	
	Vagrant Shrew			x	x
	Big Brown Bat			x	
	Silver-haired Bat			x	
	Hoary Bat			x	
	Long-eared Myotis			x	
	Western Small-footed Myotis			x	
	Little Brown Myotis			x	
	Long-legged Myotis			x	
	Yuma Myotis			x	
	Mountain Cottontail			x	x
	Northern Pocket Gopher				x
	Long-tailed Vole			x	x
	Meadow Vole			x	x
	House Mouse			x	x
	Deer Mouse			x	x
	Columbian Ground Squirrel			x	x
	Yellow-pine Chipmunk			x	x
	Western Jumping Mouse			x	x
	Bushy-tailed Woodrat			x	
	Muskrat			x	
	Northern Flying Squirrel			x	
	Yellow-bellied Marmot			x	
	Eastern Fox Squirrel			x	
	Red Squirrel			x	
	Beaver			x	
	Racoon				x
	River Otter			x	
	Short-tailed Weasel			x	
	Long-tailed Weasel			x	
	Mink			x	
	Porcupine			x	
	Striped Skunk			x	x
	Badger			x	
	Coyote			x	x
	Red Fox			x	x
	Bobcat			x	
	Mountain lion			x	
	Black Bear			x	
	White-tailed Deer			x	x
	Mule Deer			x	

Birds**					
	Pied-billed Grebe		x		
	Double-crested Cormorant		x		
	Great Blue Heron		x		
	Canada Goose		x		
	Wood Duck		x		
	Gadwall		x		
	American Widgeon		x		
	Mallard		x		
	Blue-winged Teal		x		
	Cinnamon Teal		x		
	Northern Shoveler		x		
	Northern Pintail		x		
	Green-winged Teal		x		
	Redhead		x		
	Ring-necked Duck		x		
	Lesser Scaup		x		
	Bufflehead		x		
	Common Goldeneye		x		
	Barrow's Goldeneye		x		
	Hooded Merganser		x		
	Common Merganser		x		
	Ruddy Duck		x		
	Osprey		x		
	Sora		x		
	American Coot		x		
	Killdeer		x		
	Wilson's [Common] Snipe		x		
	Wilson's Phalarope		x		
	Belted Kingfisher		x		
	Marsh Wren		x		
	Common Yellowthroat		x		
	Redwinged Blackbird		x		
	Yellow-headed Blackbird		x		
	Cooper's Hawk			x	
	Red-tailed Hawk			x	
	American Kestrel			x	
	Western Screech-Owl			x	
	Great Horned Owl			x	
	Vaux's Swift			x	
	Black-chinned Hummingbird			x	
	Lewis's Woodpecker			x	
	Red-naped Sapsucker			x	
	Downey Woodpecker			x	
	Hairy Woodpecker			x	
	Northern Flicker			x	
	Pileated Woodpecker			x	

	Western Wood-Pewee			x	
	Willow Flycatcher			x	
	Least Flycatcher			x	
	Dusky Flycatcher			x	
	Eastern Kingbird			x	
	Warbling Vireo			x	
	Red-eyed Vireo			x	
	Black-billed Magpie			x	
	American Crow			x	
	Tree Swallow			x	
	Violet-green Swallow			x	
	Northern Rough-winged Swallow			x	
	Bank Swallow			x	
	Black-capped Chickadee			x	
	White-breasted Nuthatch			x	
	Pygmy Nuthatch			x	
	House Wren			x	
	Swainson's Thrush			x	
	American Robin			x	
	Gray Catbird			x	
	European Starling			x	
	Cedar Waxwing			x	
	Yellow Warbler			x	
	American Redstart			x	
	Northern Waterthrush			x	
	MacGillivray's Warbler			x	
	Chipping Sparrow			x	
	Song Sparrow			x	
	Black-headed Grosbeak			x	
	Lazuli Bunting			x	
	Bullock's Oriole			x	
	Northern Harrier				x
	Swainson's Hawk				x
	Rough-legged Hawk (Winter Only)				x
	Prairie Falcon				x
	Ring-necked Pheasant				x
	Gray Partridge				x
	Long-billed Curlew				x
	Mourning Dove				x
	Long-eared Owl				x
	Short-eared Owl				x
	Western Kingbird				x
	Northern Shrike (Winter Only)				x
	Horned Lark				x
	Common Raven				x
	Mountain Bluebird				x
	Vesper Sparrow				x
	Savannah Sparrow				x

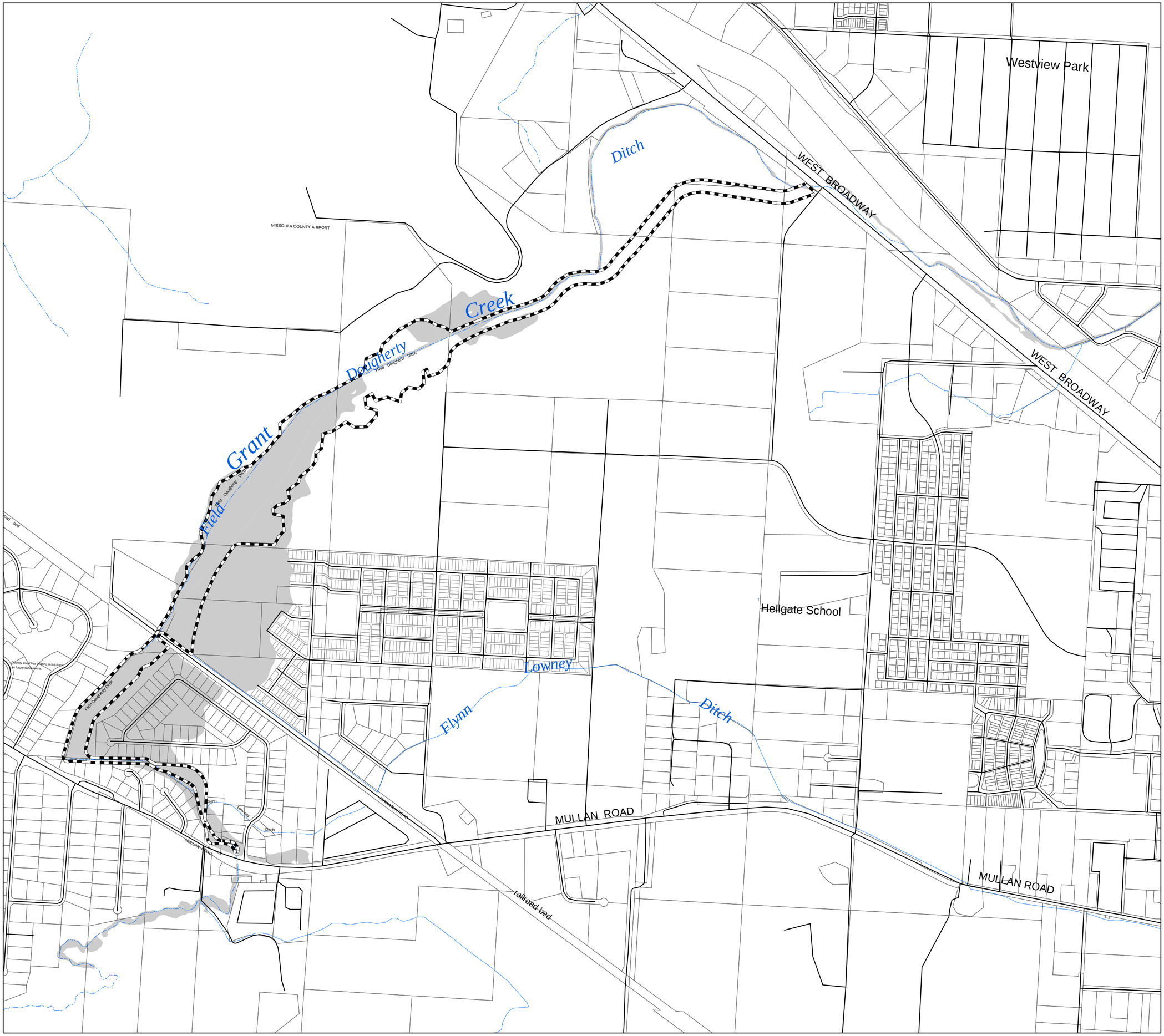
	Bobolink				**x**
	Western Meadowlark				**x**
	Brewer's Blackbird				**x**
	Brown-headed Cowbird				**x**

Fish***					
	Rainbow Trout	**x**			
	Brown Trout	**x**			
	Mountain Whitefish	**x**			
	Suckers	**x**			
	Pikeminnow	**x**			
	Sculpins	**x**			
	Redside Shiners	**x**			
	Northern Pike	**x**			

Sources: ** Biology Division, UM*
*** Montana Audubon Society, UM*
**** Fisheries Specialist, MT Fish, Wildlife and Parks*

Appendix 2.4

WYE-MULLAN WEST PLAN
(Portion of Plan Area)
Grant Creek Restoration Project
Post-project Proposed Floodplain



This map depicts the proposed post-project floodplain for the Grant Creek Restoration Project and existing DNRC Grant Creek 100-year floodplain.

The proposed post-project floodplain for the Grant Creek Restoration Project is derived from the preferred alternative model on page 39 of the Task 400 Hydraulics Report provided by HDR. The information is current as of February, 2005.

Sources: Office of Planning and Grants. Missoula County Surveyor's Office, HDR, Maxim, and the City of Missoula.

Legend

- Roads
- Ownership Parcels
- Proposed 44 Ranch
- Post-Project Proposed Floodplain
- Existing DNRC 100-Year Floodplain

Office of Planning & Grants

N

Prepared by: DLG, October 27, 2005
Filename: Final_GC_Restoration_110105.mxd

0 0.125 0.25 0.5 Miles

APPENDIX 3.1
HISTORICAL ACCOUNT

Early Native American tribes, adventurous trappers, traders, explorers, military troops, missionaries, and homesteaders slowly filtered through this region leaving traces of their passage. Some remained or returned to the area, etching a more permanent place in the historical development of the Wye Mullan Area. Narratives preserved in journal entries, military records, church records, and family stories offer modern day residents an animated perspective of the valley's history.

For generations, native tribes such as the Salish, Flathead, Pend d'Oreille and Kootenai traveled using a web of trails across Montana. In the spring the Salish used the trails to access and harvest bitterroot. One of these trails, known as the "Bitterroot North to Jocko Valley Trail," ran north to south across the Clark Fork River and through the Wye Mullan Plan Area, connecting the Mission Valley with the Bitterroot Valley. These trails later became vital transportation routes for Euro-Americans (see Figure a).[1]

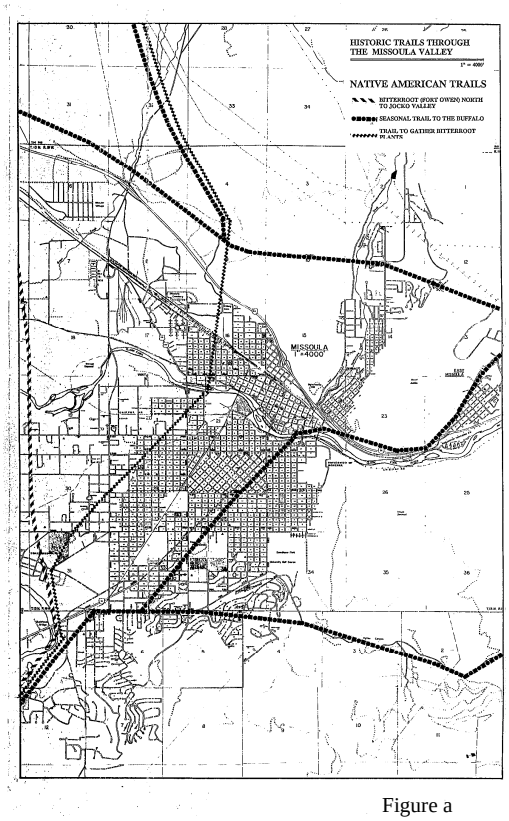


Figure a

In early July of 1806 Meriwether Lewis traveled through the Wye Mullan area on his return journey to St. Louis, Missouri. After the harrowing experience of crossing the Clark Fork River, Lewis and his party continued northeast. On July 3, 1806, they camped near Grant Creek in the area southeast of Missoula International Airport.[2]

Almost 50 years later the desire to construct a railroad led the U.S. government to draft a treaty that eventually relocated the Flathead, Pend d'Oreille and Kootenai tribes to a single reservation. The Hellgate Treaty was signed by the tribes at a place now known as Council Grove on July 15, 1855. The site of this treaty is now a State Park located six miles west of Missoula near the Clark Fork River.[3]

In 1858, construction began on one of the first engineered military roads extending from Fort Benton, Dakota to Walla Walla, Washington. The road came to be known as Mullan Road in recognition of Lieutenant John Mullan who led the crew of road builders. In the Plan Area, Mullan Road lies approximately along the path of the original Mullan Road. In 1978, Mullan Road was dedicated as a Historical Engineering Landmark by the American Society of Civil Engineers.[4]

[1] Mathews, Allan and Joe Olson, *Historic Trails through the Missoula Valley*, (Unpublished manuscript Helena, MT: Missoula Office of Planning and Grants, Montana State Historic Preservation Office, 1992).
[2] Mathews, Allan James, Montana Main Street: A Guide to Historic Missoula, publ. by Montana Historic Society Press, 2002, page 164.
[3] Ibid, page 10.
[4] Mineral County Pioneer, Volume 6, Summer, 1989.

By 1860 the road was completed and Lyman (Frank) Worden, along with Christopher Powers (C.P.) Higgins, established the first trading post in what was called Hell Gate Village. Located near a fjord in the river used by Indians to pass from the Bitterroot Valley to the Jocko Valley, this location captured east-west and north-south travelers. At the post, eight pounds of apples could be purchased for $4.80, a gallon of syrup was $7, and "You could sometimes barter a horse for a gallon of whiskey."[5] Other buildings emerged around the post including a stockroom, barn, boarding house, bunkhouse and cabin.[6] A blacksmith shop was opened by Hezekiah Van Dorn in 1860 and the area was later farmed as the Deschamps Ranch in Grass Valley.[7] (See Figure b.)[8]

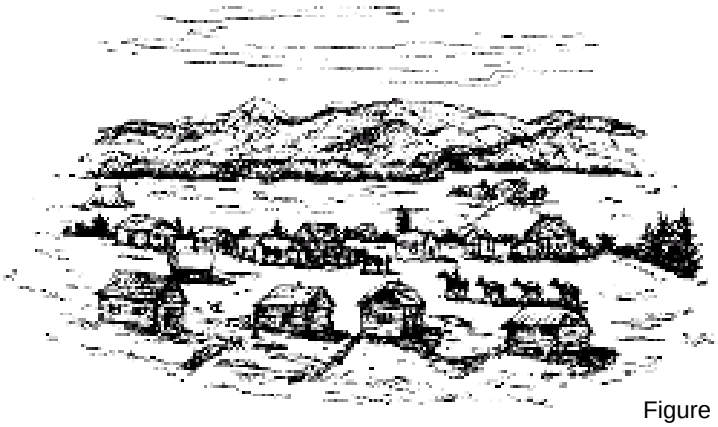


Figure b

One particular residence of Hell Gate Village has special notoriety. It is referred to as the "Three State House." This homestead of the White family had three sons born in the same cabin and in the same room but in three different states or territories. The 135 year old log house still stands sturdy and strong but has had several additions made to it. The Stahl family, as descendents of the White family, continues to live in the Mullan Road area.[9]

Between 1864 and 1865, Higgins, Worden, and David Pattee built a lumber mill and flour mill approximately four miles east of Hell Gate Village near the present location of the Higgins Avenue Bridge. The mill construction led to a shift in development and new buildings were established near the mill, along Front Street, and by 1866 residents of the area were moving east.

Hell Gate Village continued to serve adjacent ranch owners. As farming operations expanded, massive projects for harnessing water were needed along with improved transportation systems such as railways. Extensive irrigation ditch systems were constructed through this area beginning in 1901. Two of the oldest remaining ditches in the area are the Grass Valley French Ditch and the Flynn Lowney Ditch. Grass Valley French Ditch, established in 1901, runs through the western portion of the Plan Area and extends further west into the Frenchtown area. The Flynn Lowney Ditch was constructed in 1903 as a joint effort between the two landowners. This ditch runs east to west in the vicinity of Mullan Road in the eastern portion of the Plan Area. Both of these ditch systems "may be eligible for listing in the National Register of Historic Places given their association with early agricultural development in the Missoula Valley."[10]

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[5]McKinnon, Kathleen, "The Story of Hell Gate, Montana" *Montana Ghost Town Quarterly* (Bozeman, MT: MT Ghost Town Preservation Society, Fall 1997).
[6] Koelbel, Lenora, *Missoula, The Way it Was: A Portrait of an Early Western Town*, (Missoula, MT: Gateway Printing and Litho, 1972, page 18).
[7] McKinnon, Kathleen, "The Story of Hell Gate, Montana" *Montana Ghost Town Quarterly* (Bozeman, MT: MT Ghost Town Preservation Society, Fall 1997).
[8] Matthews, Allan James, *A Guide to Historic Missoula*, (Helena MT: Montana Historical Society Press p.14, 15).
[9] McKinnon, Kathleen, "The Story of Hell Gate, Montana" *Montana Ghost Town Quarterly* (Bozeman, MT: MT Ghost Town Preservation Society, Fall 1997).
[10] Beery, Derek, Historical Resource Associates, Inc., "Cultural Resource Inventory of the Are of Potential Effect Associated with the Proposed Missoula County Mullan Road Sewer Project (RSID No. 8474)," prepared for HDR Engineering, Inc. Missoula, Montana, May 9, 2003, page 10.

In 1909 the Chicago, Milwaukee St. Paul and Pacific Railroad Company completed the extension of its existing line from South Dakota to Seattle, Washington. The "Milwaukee Road," as the line was known, "was first recorded as a cultural resource property in 1995."[11] It bisects the Plan Area from southeast to west central. "Segments of the 'Milwaukee Road' have already been determined eligible for listing in the National Register of Historic Places."[12]

Throughout the years, substantial farm houses were constructed in the area. A few of them remain today. The Flynn farm house, built in 1883 using locally produced bricks, was listed as a National Registered Historic Landmark in 1983. The land around the farm house is preserved through a conservation easement placed on the property in 1999. The conservation easement limits use of the property to agriculture, ranching, outdoor education, and recreational activity. The house, coupled with an inventoried collection of tools, utensils, pictures, and the preserved landscape showcase this site as an important living record of Missoula history offering clues to past lifestyle, architectural style, and character. The parcel remains in private ownership.

Efforts to recreate, or restore, the Hell Gate Village began in 1950 and continued through 1957.[13] However, those efforts failed due to the complexity of the task.

[11] Beery, Derek, Historical Resource Associates, Inc., "Cultural Resource Inventory of the Area of Potential Effect Associated with the Proposed Missoula County Mullan Road Sewer Project (RSID No. 8474)," prepared for HDR Engineering, Inc. Missoula, Montana, May 9, 2003, page 12.
[12] Ibid.
[13] Andrew, Berenice M., "Hellgate, 1860: The Beginning of Missoula," 1957, page 7.

APPENDIX 3.2
COMMUNITY DESIGN GUIDELINES

INTRODUCTION

Community Design Guidelines provide a tool for developers, planners, community decision makers, property owners as well as citizens to ensure that development is compatible with the goals of this plan. These guidelines encourage innovative and individual design expression and should contribute to neighborhood richness. The purpose of these guidelines is more specifically to:

- Maintain and improve the overall quality of the built and natural environment;
- Maintain local character by encouraging development that is compatible with the existing built environment and maintains environmental resources;
- Provide sufficient flexibility necessary to encourage creative, imaginative design solutions; and
- Improve site planning to enhance the image of the area, reflect unique site characteristics, and provide strong neighborhood environments.

ORGANIZATION AND APPLICABILITY

There are seven guideline categories organized sequentially from the broader context of site design to more specific building placement. Broad scale guideline categories are Site Design and Compatibility, and are applicable to all types of development including single-dwelling residential. The more specific guideline categories are Landscaping, Parking, Building Design, Lighting, and Signage and are applicable to all new and redevelopment multi-dwelling, mixed use, commercial, or industrial projects.

Other development guidelines in this plan are:

- *Conservation Design Guidelines*; Appendix 2.1.
- *Transportation Guidelines*; Appendix 6A-1.
- Development guidelines related to land use types are an integral part of Chapter 7, *Land Use Descriptions*.
- Neighborhood Guidelines as a part of the *Neighborhood* Chapter 3.

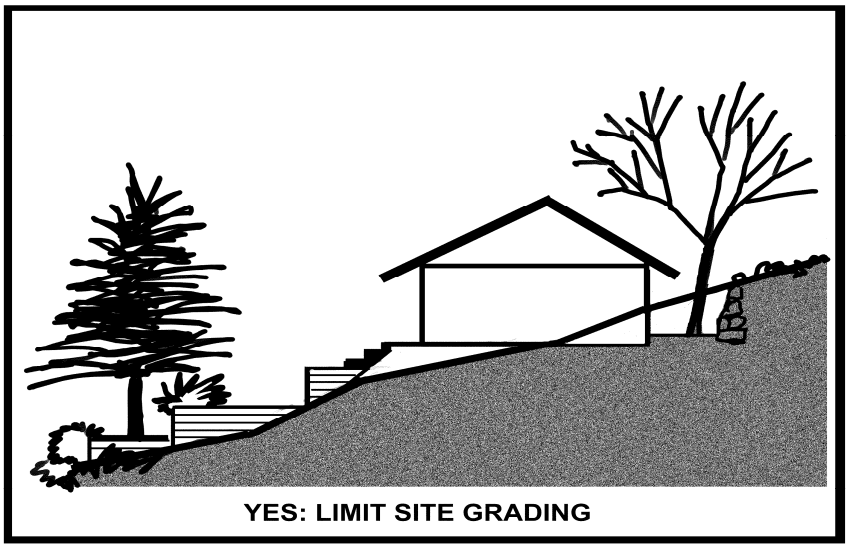
SITE DESIGN

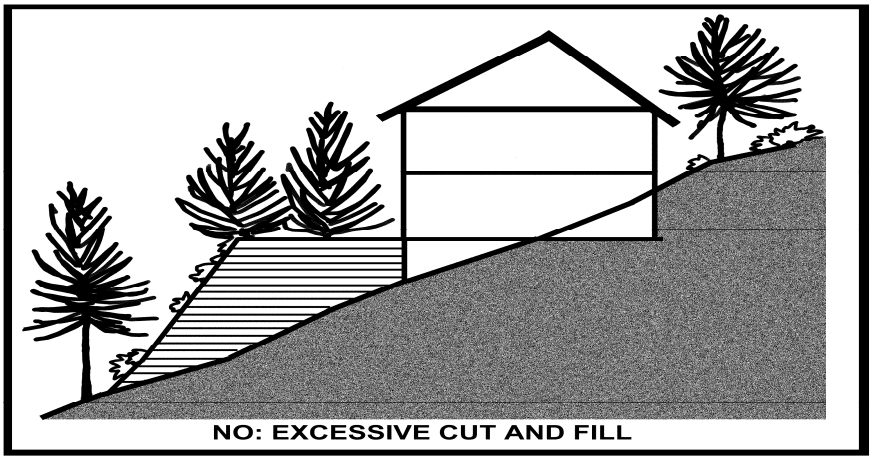
OBJECTIVE

Improvements and modifications to the site should consider the topography and unique characteristics of the area, preserve natural areas through innovative site design, create more harmonious transitions to adjacent development and encourage open space opportunities.

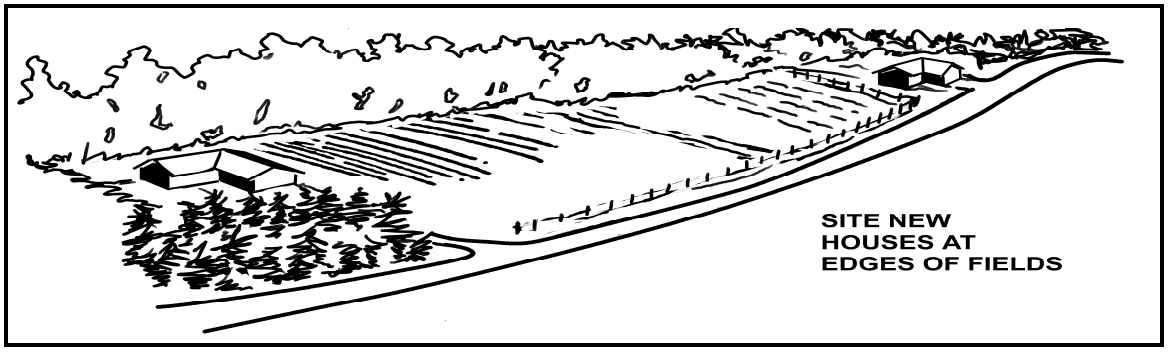
These guidelines apply to all types of development including single-dwelling residential.

- Avoid encroachment into important natural resource areas with roadways, driveways, and structures by following existing contours.
- Cluster development away from steep slopes, ridges, and natural drainage ways and near, or adjacent to, existing developed areas.
- Design structures to fit the natural topography. Use contour grading to retain and restore the existing land form and natural drainage.
- Roads and driveways should follow existing contours.
- Locate structures on already disturbed areas.
- Minimize the amount of cut and fill.

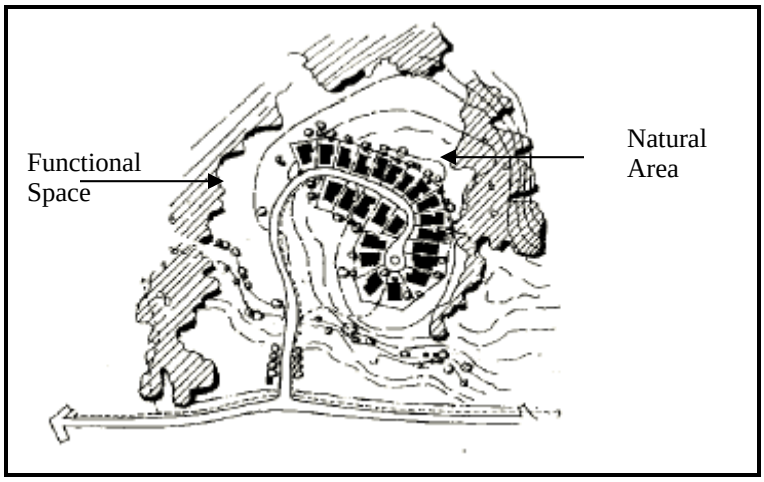




- Keep rooflines of structures below the ridgeline to preserve views.
- Avoid siting buildings on hilltops and ridgelines.
- Discourage placing structures in the middle of open fields.



- Use functional open space to buffer natural areas from built areas.



[1]

- Site structures to protect public views and reduce visual impacts as seen from roads, river corridors, parks and other public places.
- Use landscaping as a technique to reduce visual impact.
- All lots should share a frontage line with a street or park. Lots fronting a park should provide rear alley access.
- Prior to development, identify the areas to be left undisturbed and the desirable building locations, then layout an appropriate street system. See *Conservation Design Techniques* for more specific guidance.
- Minimize visual impacts from development by locating structures adjacent to roads, tree lines and wooded field edges.
- Avoid the creation of resource or fire concerns by placing development outside sensitive resource areas or fire prone areas whenever possible. If not possible, minimize impacts to the resources and use fire resistant materials.

COMPATIBILITY

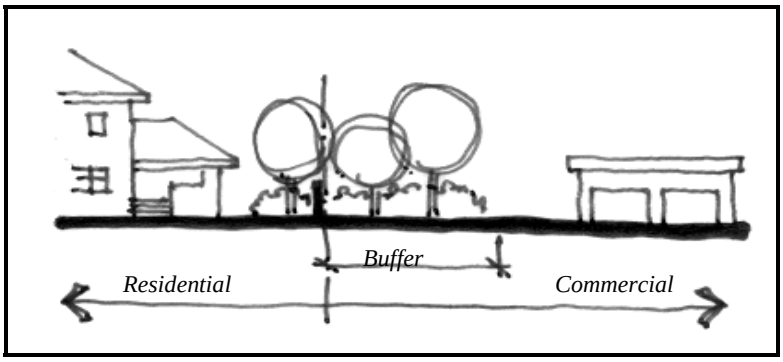
OBJECTIVE

Compatibility with surrounding developments and transition between new and existing uses occurs through a gradual shift in development patterns; through the reflection of certain characteristics of existing development; through buffering by means of additional distance and landscaping between developments; or through the screening of one use from another. These techniques help to reduce nuisance impacts such as dust, noise, light glare, signs, and unsightly buildings.

These guidelines apply to all types of development, including single-dwelling residential uses.

- Establish the size and bulk of a building so that it is similar to buildings in the immediate neighborhood.
- Enlarge buffers with additional width or increased landscaping including trees.

[1] City of Tuscan, Arizona, Design Guidelines Manual, January 14, 1999. pg. DG-3.



- Place larger lots and wider setbacks adjacent to existing lower density development.
- Screen with walls or fences to fulfill some of the need for buffer but should not be the exclusive approach.
- Face similar land uses across streets; transitions at the rear or alley line.

The following guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Encourage mixed use developments as a means of transition from urban residential to commercial uses.
- Use pedestrian-friendly buildings for transition along street frontages from mixed use, neighborhood center, and community commercial areas to the surrounding neighborhoods. Pedestrian-friendly buildings have street-level activities; are built to the edge of sidewalks; have windows and openings at the ground floor; use awnings and canopies over window displays and entries; provide pedestrian amenities along the street; and, extend building activities onto the sidewalks with outdoor seating, dining and sales displays.
- Place service-oriented uses such as loading and unloading areas, mechanical equipment, trash receptacles, outdoor storage, and truck parking, away from adjacent residential areas or public rights-of-ways or screen these areas with low walls, screens and landscaping.
- Establish dense landscape buffering between parking areas and adjacent residential areas or public rights-of-ways.

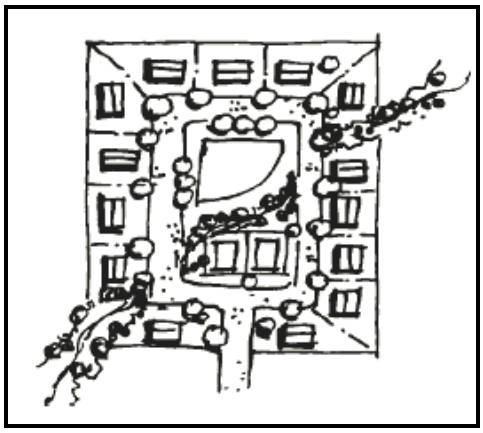
LANDSCAPING

OBJECTIVE

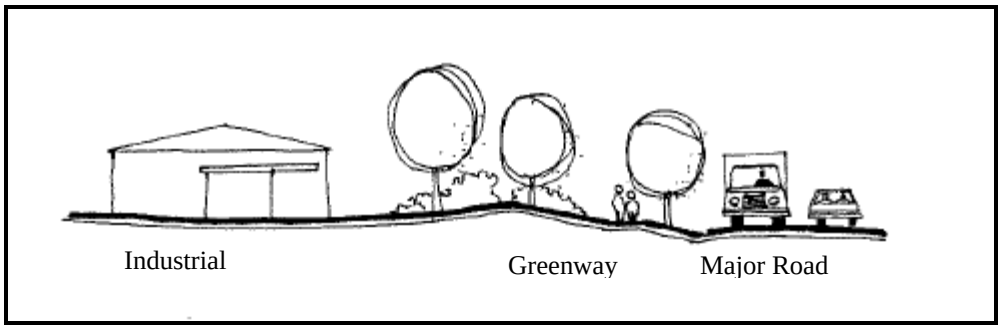
Landscaping softens the building's relationship to the site and harmonizes it into its existing surroundings. Landscaping should be an integral part of the overall site plan design. Landscaping enhances building design and public views and spaces, and provides buffers, screening, and transitions.

These guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Preserve existing trees and other vegetation whenever possible.
- Plant native vegetation around new development and encourage restoration with native plants.
- Define pedestrian pathways and open space areas with landscape materials, where appropriate.
- Link common areas to other open space within and outside the development through greenways, pathways, trails, and lanes.

 [2]

- Soften large expanses of asphalt with clusters of landscaped areas including shade trees.
- Develop a greenway-style landscape buffer along one side of a major roadway when dissimilar uses face each other.



PARKING

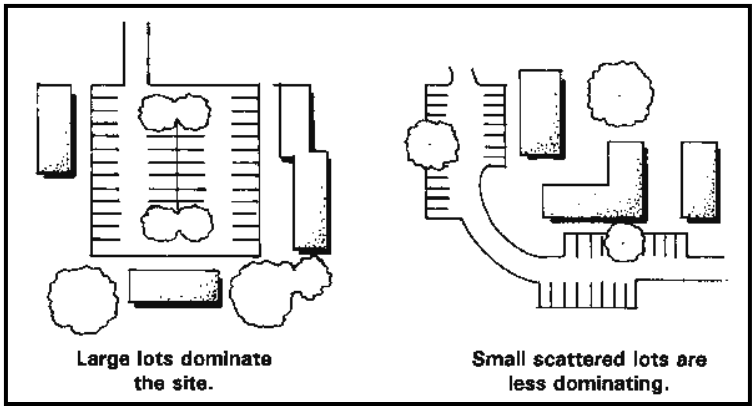
OBJECTIVE

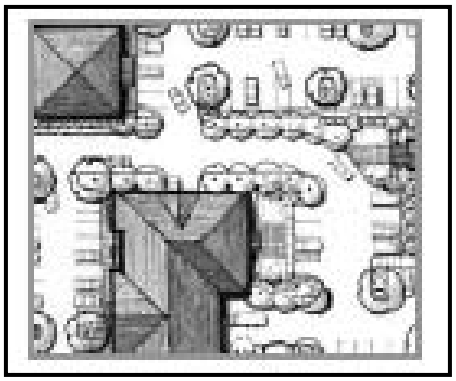
Parking areas should provide safe and efficient ingress and egress for vehicles with a clear physical separation between pedestrian and parking areas, and pedestrian walkways to the buildings. Parking should accommodate a minimum amount of impervious surfaces balanced with integrated landscaping that provides shade, moderate temperatures and enhances the visual effects of development.

These guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Driveways should be visually unobtrusive by minimizing the number and width of curb cuts.
- Place parking lots to the rear or side of new development.
- Develop multiple small parking lots in lieu of one large lot.
- Include landscaped islands with shade trees.

[2] City of Tuscan, Arizona, Design Guidelines Manual, January 14, 1999. pg. DG-22.





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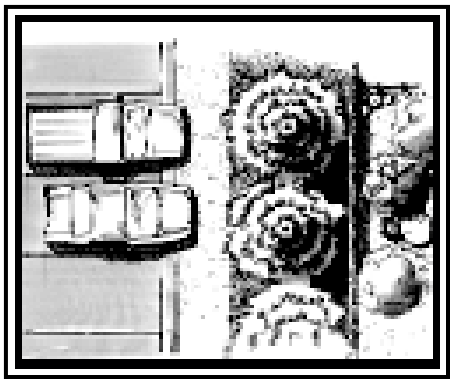

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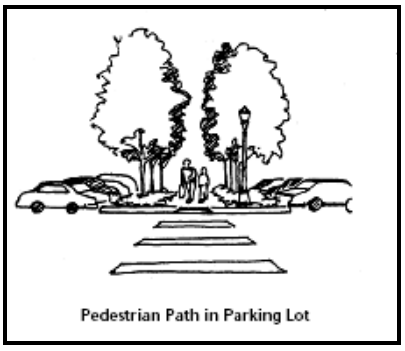
- Design for snowplowing and snow storage.
- Share parking between uses whenever possible.
- Define pedestrian pathway areas with landscaping.



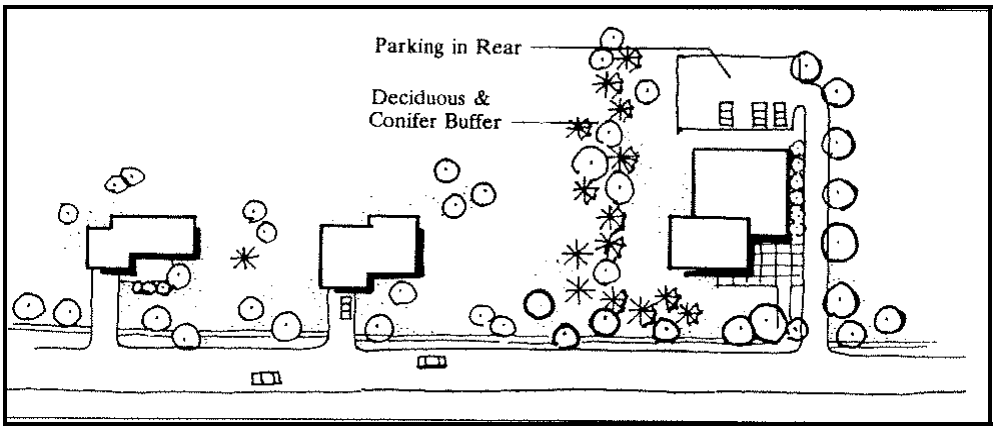
- Screen parking lots from surrounding public streets, sidewalks, and parks. Berms, walls, fences, plants, planters or similar means should be used to create the parking lot screen.

[3] Prepared by Design Studios for Saratoga - Sunnyville Road, Gateway Westline Design Guidelines, June, 2002. pg. 8.
[4] Prepared by Design Studios for Saratoga - Sunnyville Road, Gateway Westline Design Guidelines, June, 2002. pg. 10.

- Landscape areas within the perimeter of parking lots not used for parking, loading, circulation, transit or pedestrian facilities.
- Provide shade over walkways by combining landscaped islands and pedestrian walkways.
- Develop boulevards.

These guidelines apply to multi-dwelling uses.

- Preferably, locate parking within the structure.
- Locate parking so that headlights do not shine directly into living spaces.
- Buffer rear surface parking areas from neighboring dissimilar uses by incorporating dense vegetative cover and screening.
- Separate parking courts from each other by dwelling units or by landscaped buffers.



[5]

BUILDING DESIGN

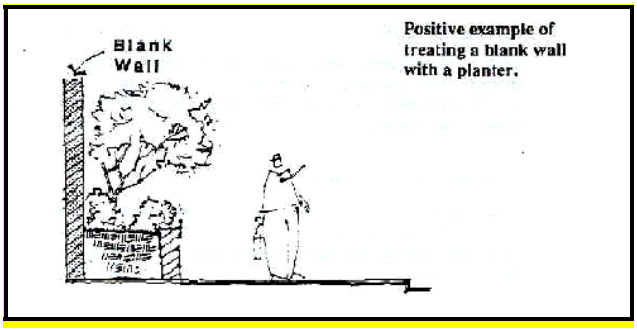
OBJECTIVE

Architectural forms and features are significant components of both the building and the neighborhood. A building's design should enhance and be compatible with the visual and architectural character of the neighborhood.

These guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Eliminate box-like forms with large, unvaried roofs by using a variety of building forms and roof shapes (This may be accomplished by creating clusters of units, variations in height, setback, and roof shape).
- Avoid blank walls facing the street on buildings with parking garages. If blank walls are unavoidable, decorate with artwork, display cases, vines, and use good quality durable materials.

[5] Fort Drum Land Use Team: Community Design Guidelines Manual, pg. 43.



[6]

- Step back the upper floors or increase the side or rear setback so that window areas are farther from the property line.
- Reduce the visual impact of large buildings with alternatives such as building façade modulation, changes in roof planes, or changes in building materials.
- Place principal entryways on the front façade.

These guidelines apply to multi-dwelling or mixed-use, or commercial projects.

- Orient buildings to the main public street with windows and entries visible from the street and sidewalks.
- Design outdoor open space as "outdoor rooms" and avoid undifferentiated, empty spaces.
- Provide common open space which can be used for play, recreation, social, or cultural activities.
- Locate common areas to be visible and accessible from a maximum number of units/homes and on-site locations.
- Provide each household with some form of useful private open space, such as a patio, porch, deck, balcony, yard, or shared entry porches or balconies.

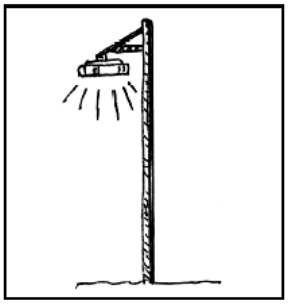
LIGHTING

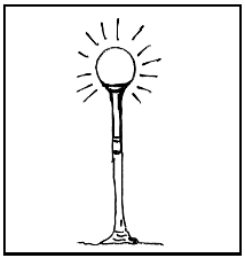
OBJECTIVE

The scale of lighting fixtures and the illumination provided should be appropriate for pedestrian and vehicular movements. Exterior lighting should highlight building elements, signs, or other distinctive features rather than attract attention to the light fixture itself or shed light beyond the property.

These guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Minimize off-site light trespass, light pollution, and glare.


SHIELDED LIGHT FIXTURE


LIGHT POLLUTION

- Limit the height and intensity of lights to the maximum necessary to provide safety.
- Limit lighting to security lighting and “coach” lights.
- Allow street lights primarily for safety.

[6] MAKERS, Architecture and Urban Design, 1992 Residential Development Handbook for Snohomish County Communities. Pg. G-67.

- Street and parking lot lighting should:
  - preserve dark night skies;
  - be energy efficient;
  - be aesthetically pleasing; and
  - be within the character of the neighborhood.

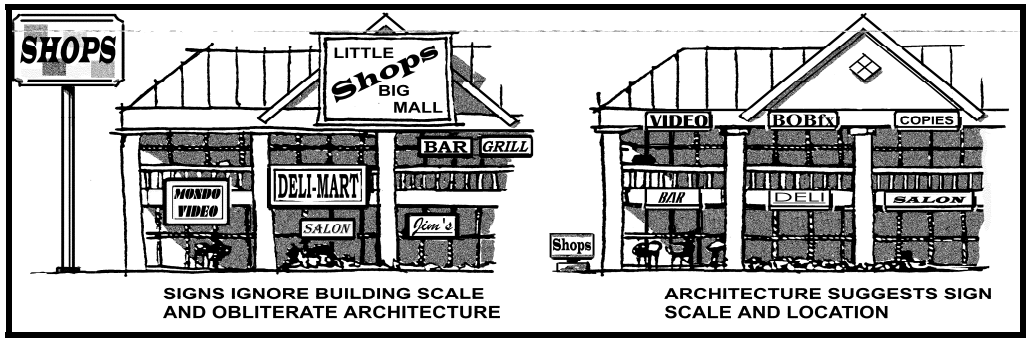
SIGNAGE

OBJECTIVE

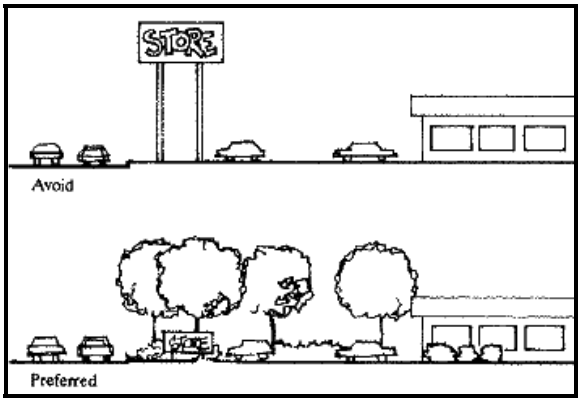
The design and placement of signs plays an important role in the visual character and identity of the area. Signs should be designed and placed so that the aesthetic appearance is improved and visual clutter along the streetscape is reduced.

These guidelines apply to multi-dwelling, mixed use, commercial, and industrial uses.

- Establish continuity and consistency in the design and location of public signage along the streetscape.
- Integrate signs into the surroundings in such a way that the message is clear but the sign is not the dominant feature.
- Signs should not be hung on buildings, but should be integral to the architectural form of the building.



- Use appropriate scale and height to integrate signs with new development.



[7]

- Position signs so as not to obscure views of oncoming traffic for motorists entering and exiting the premises.

[7] Drum Land Use Team: Community Design Guidelines Manual, pg 43.

- Ground signs should be low to the ground, located in landscaped areas. They should be small and should reflect the architectural form of the on-site business structure.
- Signs near parks or residential areas should not be lit after business hours.
- Keep externally lit signs to a minimum and encourage internally lit sign in order to reduce light pollution.
- Discourage off-premise signs.
- Discourage signage in residential areas.
- Integrate landscape elements with the signage.

[8]

[8] City of Tuscan, Arizona, Design Guidelines Manual, January 14, 1999. pg. DG-18.

APPENDIX 4.1
RESIDENTIAL DEVELOPMENTS AND MAJOR SUBDIVISIONS

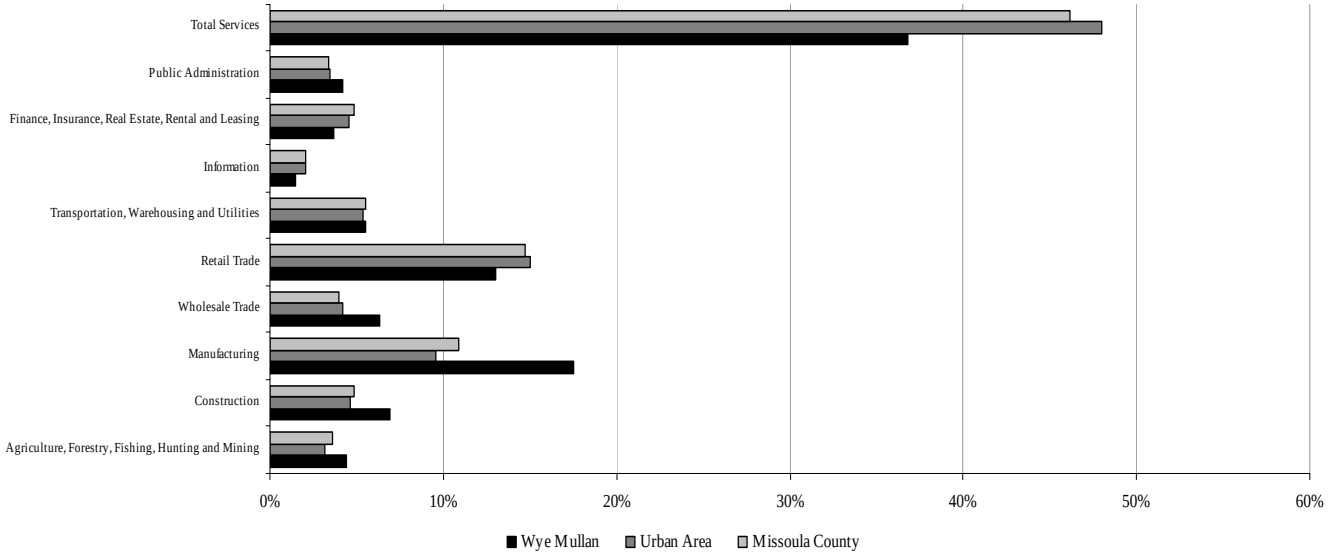
Development or subdivision name	Number of Units	Date approved	Development Type	Comments
Westview Village	382	1970	Mobile Home. Small Lot.	One of the oldest developments in the Plan Area.
El Mar Estates	229	1974	Single Family. Small Lot.	Extensive Common Area system functions as internal trail. 4 miles from Reserve Street.
Golden West	35	1975	Single Family. Large Lot	Utilized community sewer. Near El Mar Estates.
C.O.S 1159 (Grass Valley Farms)	38	1977	Single Family. Rural Lot.	Small scale agriculture.
New Meadows	47	1980	Single Family. Small Lot.	Utilized community sewer. Near El Mar Estates.
Clark Fork Estates	28	1982	Single Family. Large Lot	Several long cul-de-sacs off of Mullan Road.
Kona East	47	1985	Single Family. Large Lot.	Established a Special Zoning District. Includes drainage easement as park area.
Katoonah Lodge	103	1992	Mobile Home. Senior Living. Small Lot.	Utilizes community sewer. Part of a Transfer of Development Rights that shifted density from the floodplain.
Country Crest	80	1992	Single Family.	70 of these lots have the potential to further subdivide into lots a half acre in size.
River Heights	27	1993	Single Family. Large Lot	Includes drainage easements as park area.
Mullan Trail	92	1993	Single Family. Small Lot.	Utilizes community sewer.
44 Ranch Estates	27	1993	Single Family. Large Lot.	Incorporated. 100° dp. Building Restriction area on all lots.
Grizzly Peak	113 apartments	Opened in 1997	Senior Apartments.	Senior Citizen and assisted living. Studios, one and two bedroom apartments. Adjacent to Reserve Street.
Hunter's Glen	101 apartments, and studios	Opened in 1998	Assisted living.	Adjacent to Reserve Street.
Pleasant View	240 Phases I& II	2001	Single Family. Small Lot.	Adjacent to Reserve Street. Incorporated some alleys with a street grid.
Hellgate Meadows	98	2002	Mixture of Single and multi-family and townhouse Small Lot.	Adjacent to Reserve Street. Incorporates Traditional Neighborhood Design and Specific Design Standards.
Phantom Estates	363	2002	Single family and townhouses. Small Lot	Includes a Golf Course. Annexed in 2004.

Number of units is primarily based on subdivision and building permit research.

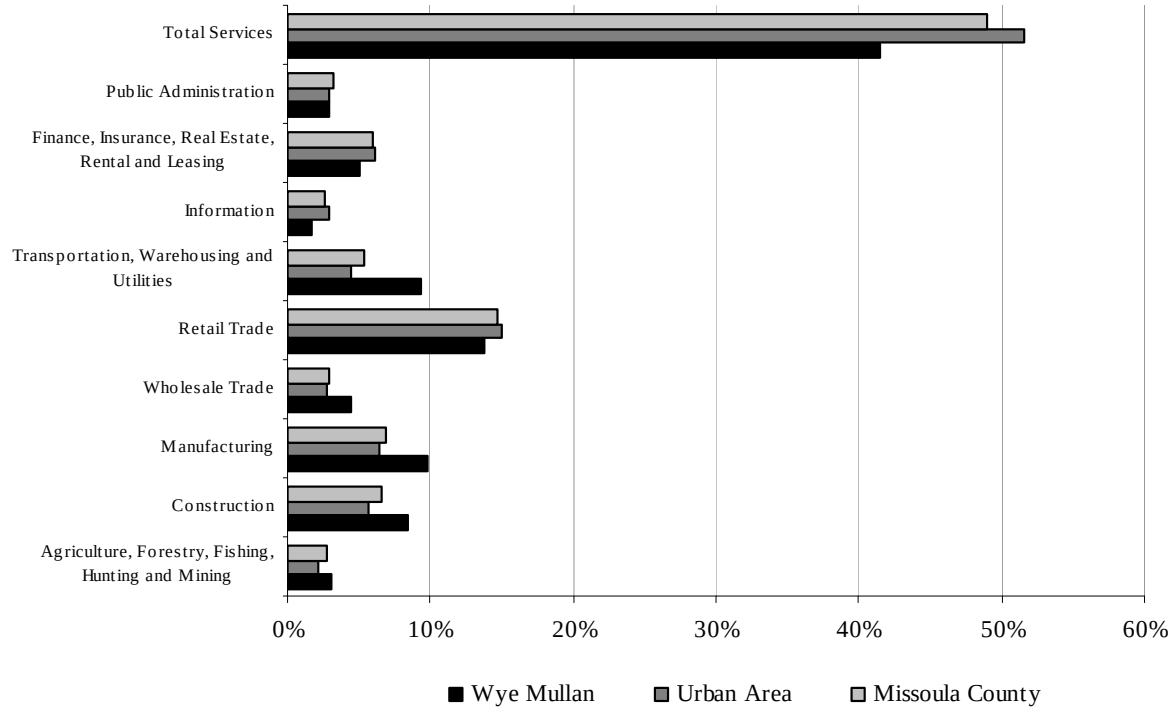
For the purposes of this table only:
Small Lot is ½ acre or smaller,
Large Lot is predominantly between 1 acre and 4 acres,
Rural Lot is predominantly 5 acres or larger.

APPENDIX 5.1
GRAPHS OF EMPLOYMENT BY INDUSTRY

GRAPH 5-1 PERCENT OF 1990 POPULATION EMPLOYED BY INDUSTRY



GRAPH 5-2 PERCENT OF 2000 POPULATION EMPLOYED BY INDUSTRY



APPENDIX 6A-1: COLLECTOR ROADWAY RESOLUTION

RESOLUTION 2001-005
ADOPTING COLLECTOR ROADWAY SYSTEM
AIRPORT AREA SOUTH OF OLD HIGHWAY 10,
NORTH OF MULLAN ROAD AND WEST OF RESERVE STREET

WHEREAS, the provision of adequate access circulation is essential for proper development, and

WHEREAS, different property owners will develop their properties at different times; and

WHEREAS, coordination of transportation/roads is required to assure adequate access and circulation, and

WHEREAS, a well-planned collector roadway system provides for essential emergency vehicle response, and

WHEREAS, the collector roadway system supports the types and intensities of land use anticipated for the area, and

WHEREAS, the collector roadway system is consistent with the 1996 Missoula Transportation Plan update, and

WHEREAS, the area between Old Highway 10 (West Broadway) and Mullan Road is a major portion of the area to which the Missoula Urban Comprehensive Plan, 1998 update (growth policy) directs growth as an urban growth area, and

WHEREAS, the Board of County Commissioners, after due notice, conducted a public hearing on the proposed collector roadway system between Old Highway 10 and Mullan Road West of Reserve Street on January 17, 2001, and

WHEREAS, it appears to be in the public interest to adopt the proposed

collector roadway system as a general guideline for establishing the transportation network as various properties in the area develop.

NOW, THEREFORE, BE IT RESOLVED that the collector roadway system as set out in the map attached hereto as Exhibit A is hereby adopted as a guide for the location and alignment of collector streets in the area between Old Highway 10 and Mullan Road west of Reserve Street. In the event that the airport elects to construct a parallel runway and the parallel runway is located more than 2,500 feet southwesterly of the existing runway, the collector roadway system shall be amended to reflect the design shown in Exhibit B attached hereto.

BE IT FURTHER RESOLVED that the collector roadway system is a concept and guideline and when used to evaluate proposed subdivisions and/or land development, the function of the collector roadway system as shown on the attached exhibits and not its precise location on the exhibits shall be controlling.

DATED this 23rd day of January, 2001.

BOARD OF COUNTY COMMISSIONERS
MISSOULA COUNTY

Barbara Evans, Chairman
Missoula County Commissioner

Bill Carey
Missoula County Commissioner

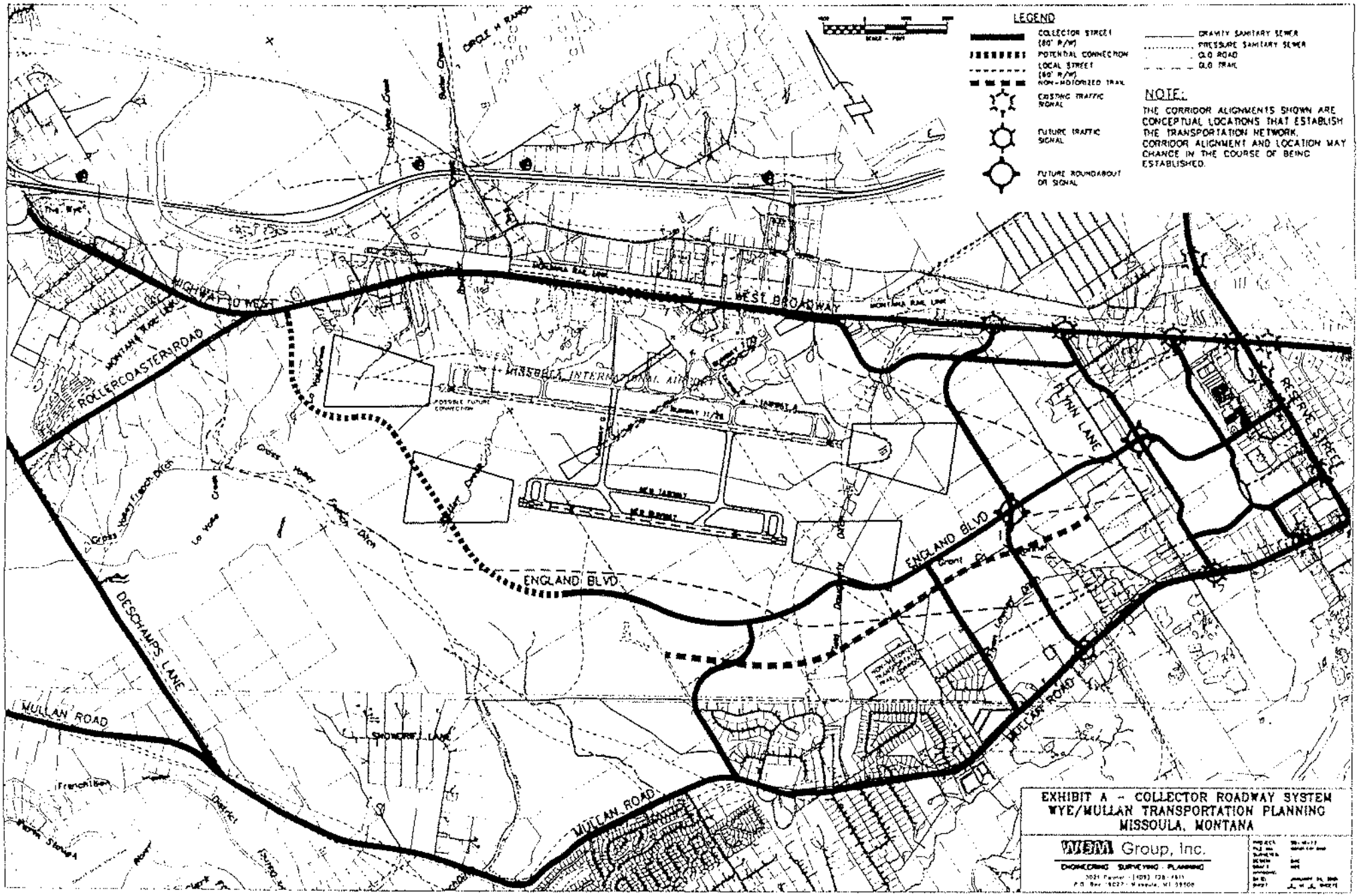
Jean Curtiss
Missoula County Commissioners

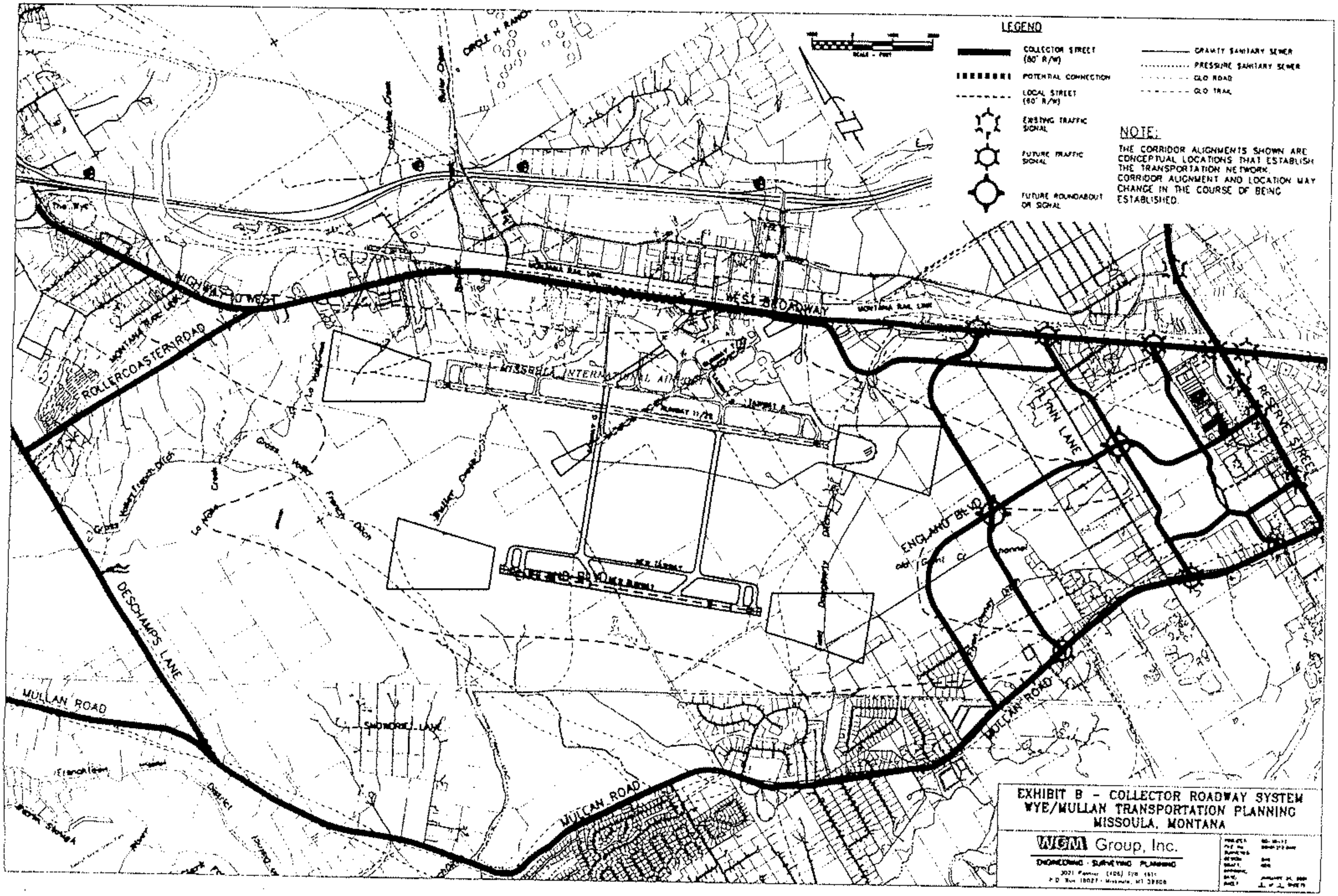
ATTEST:

Vickie M Zeier
Clerk and Recorder

APPROVED AS TO FORM
AND CONTENT:

Michael W Sehestedt
Deputy County Attorney


LEGEND
COLLECTOR STREET (80' R/W)
POTENTIAL CONNECTION
LOCAL STREET (60' R/W)
NON-MOTORIZED TRAIL
EXISTING TRAFFIC SIGNAL
FUTURE TRAFFIC SIGNAL
FUTURE ROUNDABOUT OR SIGNAL
GRAVITY SANITARY SEWER
PRESSURE SANITARY SEWER
CLO ROAD
CLO TRAIL
NOTE:
THE CORRIDOR ALIGNMENTS SHOWN ARE CONCEPTUAL LOCATIONS THAT ESTABLISH THE TRANSPORTATION NETWORK. CORRIDOR ALIGNMENT AND LOCATION MAY CHANGE IN THE COURSE OF BEING ESTABLISHED.
WEST BROADWAY
HIGHWAY 10 WEST
ROLLERCOASTER ROAD
MISSOULA INTERNATIONAL AIRPORT
ENGLAND BLVD
DESCHAMPS LANE
MULLAN ROAD
SHONROE LANE
FLYNN LANE
REVERE STREET
MULLAN ROAD
CIRCLE H RANCH
EXHIBIT A - COLLECTOR ROADWAY SYSTEM
WYE/MULLAN TRANSPORTATION PLANNING
MISSOULA, MONTANA
WGM Group, Inc.
ENGINEERING SURVEYING PLANNING


LEGEND
COLLECTOR STREET (80' R/W)
POTENTIAL CONNECTION
LOCAL STREET (60' R/W)
EXISTING TRAFFIC SIGNAL
FUTURE TRAFFIC SIGNAL
FUTURE ROUNDABOUT OR SIGNAL
GRAVITY SANITARY SEWER
PRESSURE SANITARY SEWER
OLD ROAD
OLD TRAIL
NOTE:
THE CORRIDOR ALIGNMENTS SHOWN ARE CONCEPTUAL LOCATIONS THAT ESTABLISH THE TRANSPORTATION NETWORK. CORRIDOR ALIGNMENT AND LOCATION MAY CHANGE IN THE COURSE OF BEING ESTABLISHED.
HIGHWAY 10 WEST
WEST BROADWAY
ROLLERCOASTER ROAD
DESCHAMPS LANE
MULLAN ROAD
FLYNN LANE
ENGLAND BLVD
RESERVE STREET
MISSOULA INTERNATIONAL AIRPORT
SNOWDRIFT LANE
The Wye
CIRCLE H RANCH
EXHIBIT B - COLLECTOR ROADWAY SYSTEM
WYE/MULLAN TRANSPORTATION PLANNING
MISSOULA, MONTANA
WGM Group, Inc.
ENGINEERING · SURVEYING · PLANNING

APPENDIX 6A-2
TRANSPORTATION GUIDELINES

The following Transportation Guidelines consist of Figure 6.1-A: *Typical Standards for Functional Classifications*, Figure 6.1-B: *Streetscape Matrix*, and an accompanying Map 6A-5: *Streetscape Types* showing the location of select existing or planned roads along with potential streetscape types. This set of guidelines and descriptions encourages planning for a cohesive streetscape along main travel corridors. The streetscape is made up of the area between structures on both sides of a street as well as the overall character along a segment of road, depending on the potential land uses.

Figure 6.1-A: *Typical Standards for Functional Classifications* describes general road standards that are consistent for each functional classification: arterials, collectors, or local streets in the Plan Area.

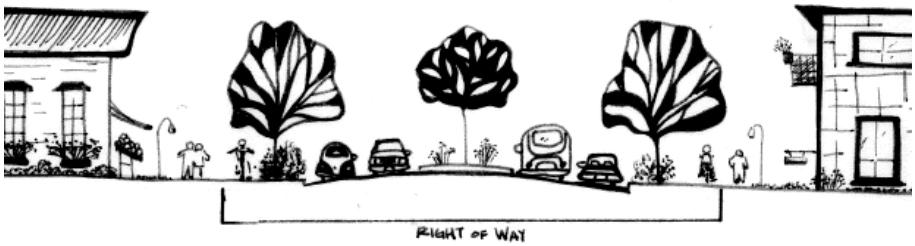
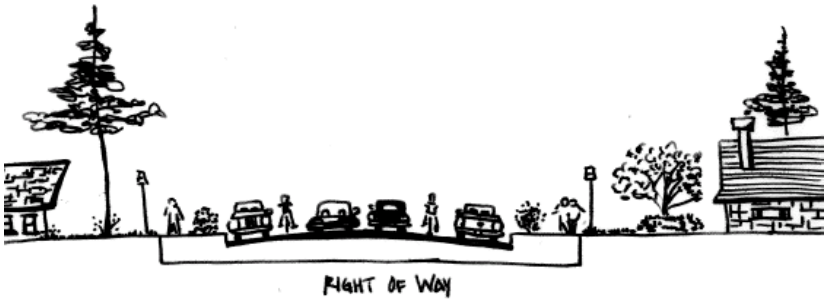
While each road in the Plan Area has a single functional classification, the character of the road changes depending on adjacent land uses. Figure 6.1-B: *Streetscape Matrix* describes select roads by their functional classification – either arterial (A), collector (C), or local (L). The length of the road is divided into segments and then described using five different streetscape types S1-S5, depending on land uses and the desirable design characteristics. The resulting streetscape type is not necessarily linked to adjacent land uses but instead may summarize a variety of land uses along any particular segment. For example: a segment of 'S1: Rural' is considered along England Boulevard. Land use of one side of that segment is Rural or Open and Resource, while land use on the other side is Public/Quasi Public for purposes of Airport ownership. On balance, the open and rural character of development will prevail, although one side of the road will likely serve Airport uses.

Consideration should be given to the phasing of elements described in the matrix. It may not be possible to immediately create the streetscape vision described, but with the appropriate right-of-way (ROW) and understanding of eventual participation in RSID's for road improvements as development occurs, the streetscapes will evolve.

The transportation guidelines primarily restate and consolidate regulations that are already in place for road design. These guidelines do not supersede subdivision regulations already in place, but they may suggest exceptions to the regulations in order to accommodate the desirable characteristics for this area. For specific road/street design requirements refer to the *Missoula County and City Subdivision Regulations*. Note that all road plans shall be subject to approval by the County or City Public Works Directors and the governing body. In addition, construction projects on State-designated routes such as Mullan Road must be approved by the Montana Transportation Commission.

FIGURE 6.1-A: TYPICAL STANDARDS FOR FUNCTIONAL CLASSIFICATIONS (REGARDLESS OF STREETSCAPE)

Figure 6.1-A describes standards that are consistent for all existing and proposed arterials, collectors, or local streets in the Plan Area regardless of streetscape. For a definition of functional classifications refer to the transportation chapter in this document.

	R.O.W.	On-street Parking	Controlled Access	On-Street Bike Lanes	Street Lighting	Transit facilities
ARTERIAL	*80'- 200'	Not Recommended	Very	Required	Encouraged and Coordinated with Neighborhood	As Needed in Coordination with MUTD
						
Street Examples	Mullan Rd, Reserve St, Hwy 10 West					
COLLECTOR	60'- 80'	Required	Moderate	Required	Encouraged and Coordinated with Neighborhood	As Needed in Coordination with MUTD
						
Street Examples	Northern Pacific, American Way, Union Pacific St, Camden St., Connery Way, O'Leary St., England Blvd, Cote Lane, Kona Ranch Rd, Deschamps Lane, Rollercoaster Rd, Turnberry St, Mary Jane Blvd., Flynn Lane (temporarily) , Roundup, E-W Unnamed 1, 3,and 4, N-S Unnamed 2, 5 and 6					
LOCAL	40'- 70'	Required	Least	Not Required	Encouraged and Coordinated with Neighborhood	As Needed in Coordination with MUTD
						

*Subdivision Regulations state a minimum 120' right-of-way for arterial, but 80' is often established.

ADDENDUM TO APPENDIX 6A-2

FIGURE 6.1-B
STREETSCAPE MATRIX

STREETSCAPE TYPES

S1: **Rural**- Primarily residential with open resources areas or airport land nearby.

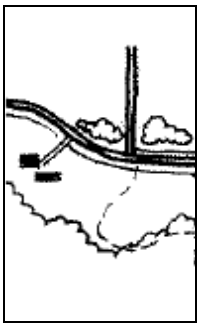
S2: **Suburban**- Primarily residential with a variety of densities including urban or suburban land use balanced with adjacent open areas and clustered development.

S3: **Urban**- Primarily residential with a variety of densities typically of an urban scale and includes some intersections with Neighborhood Center uses.

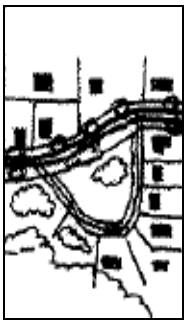
S4: **Mixed Use**- Includes areas that are either urban residential, mixed use, or medium intensity commercial such as community commercial or neighborhood center areas.

S5: **Heavy Commercial**- Includes areas with higher intensity such as highway/heavy commercial or industrial. Residential has also been considered because City zoning that would be equivalent to the recommended land use permits residential uses in commercial zones.

A = Arterials **C** = Collectors **L** = Local



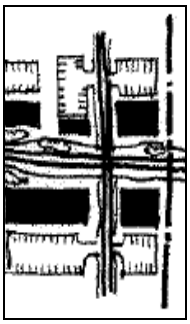
S1



S2

S3

S4



S5

Ref. #	Road Name	S1 Rural	S2 Suburban	S3 Urban	S4 Mixed Use	S5 Heavy Commercial
1	**Northern Pacific**				**C**	**C**
2	**American Way**				**C**	**C**
3	**Union Pacific St.**				**C**	**C**
4	**Camden St.**				**C**	
5	**Connery Way**				**C**	**C**
6	**O'Leary St.**			**C**	**C**	
7	**Mary Jane Blvd.**			**C**	**C**	
8	**E-W Unnamed 1**					**C**
9	**N-S Unnamed 2**				**C**	**C**
10	**Flynn Lane**			**C**		
11	**E-W Unnamed 3**	**C**	**C**			
12	**E-W Unnamed 4**					**C**
13	**George Elmer Road**			**A**	**A**	**A**
14	**Half Hitch Drive**			**C**		
15	**N-S Unnamed 6**		**C**			
16	**Turnberry St.**		**C**			
17	**England Blvd.**	**C**		**C**	**C**	
18	**Mullan Road**	**A**	**A**	**A**	**A**	**A**
19	**Cote Lane**	**C**	**C**	**C**		
20	**Hwy. 10 West**					**A**
21	**Reserve Street**					**A**
22	**Kona Ranch Road**	**C**				
23	**Deschamps Lane**	**C**				
24	**Rollercoaster Road**	**C**				

Streetscape Characteristic	S1 Rural	S2 Suburban	S3 Urban	S4 Mixed Use	S5 Heavy Commercial
INTERSECTION SPACING					
Between 300 and 500 feet [1]		**L**	**L**	**L**	**L**
Greater than 500 feet	**L**				
Approx. ½ mile or less	**C**	**C**	**C**	**C**	**C**
Approx. ½ to 1 mile	**A**	**A**	**A**	**A**	**A**
ROAD CONFIGURATION					
Number of lanes					
2 Lane	**A C L**	**A C L**	**C L**	**L**	**L**
2 Lanes and Auxiliary			**A**	**C**	**C**
2 to 4 Lanes and Auxiliary				**A**	**A**
Pathways					
5' sidewalk	**L**	**L**	**L**	**L**	**L**
6' sidewalk	**A C**	**A C**	**A C**	**A**	**A C**
15' sidewalk[2]				**C**	
8' - 10' off road multi-mode trail [3]	**A**	**A**	**A**	**A**	**A**
Boulevard Landscaping					
Min. 7' wide with street trees at 30' on center		**L**[4]	**L**[4]	**L**[4]	**L**[4]
10' wide with street trees at 30' on center		**AC**	**AC**	**A**	**AC**
Tree wells for street trees at 30' on center				**C**	
Ditch with grouping of trees[5]	**ACL**				
Channelization					
Central landscaped median or turning lane [6]			**A**	**AC**	**AC**
Other Road Configuration elements include on-street parking & bike lanes and are addressed in Figure 6.1-A					

SETBACKS	PR*	PR	PR	R*	M/C*	R	C*	I*
Per code; Typically 20 feet [7]	**A C L**	**A**[7] **C**[7] **L**[7]	**A**[7] **C**[7] **L**[7,8]	**C**[7]				
0'min-10' max. to encourage building closer to the street.[9]					**C L**			
10' min. with landscaping or urban plaza space				**L**[7]	**A**			
25' to 50' min. intended to create a landscaped buffer area as part of the streetscape [10]				**A**			**A C**	**A**
50' min. intended to create a consistent landscape buffer area with clusters of trees [10]						**A C**		

* **PR**: Primarily Residential, **R**: Residential, **M/C**: Mixed Use/Commercial, **C**: Commercial, **I**: Industrial.

[1] Except where topographic conditions or unique lot configuration offers no practical alternative.
[2] For a commercial street combined with tree wells.
[3] Located either in the boulevard or visual green space.
[4] For local streets serving more than 81 dwelling units provide 10' boulevards.
[5] When curb and gutter is not required.
[6] Components of the auxiliary lane.
[7] Establish consistent setback.
[8] 10' minimum recommended on a case-by-case basis.
[9] Used for landscaping or urban plaza.
[10] Not to be used for parking.