

**Piedmont Valley
Neighborhood Area - DRAFT**

FUTURE LAND USE PLAN



in conjunction with the
Rapid City Area Metropolitan Planning Organization
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Piedmont Valley Neighborhood Area

Future Land Use Plan

Executive Summary

The Future Land Use Plan is an indispensable tool for all sectors of the community. Local government can invest public infrastructure dollars more wisely if the location and magnitude of anticipated growth is identified. Private sector businesses can use the Plan to make more accurate growth projections and better position themselves to meet the needs of the future population. The Plan will provide developers and landowners with a clear idea of the location and type of development desired by the community thus saving time and money in assembling development plans. The Plan will enable individual citizens to be more aware of how the community and their specific neighborhoods will develop, assisting them in making more informed decisions about where to live and work.

The Piedmont Valley Neighborhood Area Future Land Use Plan includes land in the incorporated communities of Piedmont and Summerset, South Dakota. All land in the study area is located in Meade County and the Metropolitan Planning Organization (MPO) planning jurisdictions. The Piedmont Valley Neighborhood Area encompasses approximately 38,700 acres and is located in the southern portion of Meade County. The following points summarize the intent of the Piedmont Valley Neighborhood Area Future Land Use Plan.

- Residential growth patterns will increase, primarily as single family dwelling units
- Extension of infrastructure is identified to support the anticipated growth patterns
- Interstate 90, South Dakota Highway 231 (Sturgis Road) and Haines Avenue are entryway corridors into Rapid City, with close proximity to the Canadian Pacific Railroad. Commercial and industrial uses have been identified along these corridors to accommodate and encourage business development.

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PIEDMONT VALLEY NEIGHBORHOOD AREA FUTURE LAND USE PLAN

Introduction

The Piedmont Valley Neighborhood Area encompasses approximately 38,700 acres and is located in the southern portion of Meade County, adjacent to the Pennington County border. The northern limit of the Neighborhood area is bounded by Elk Creek. The western boundary is western limit of Township 3 North 6 East, Black Hills Meridian (BHM). The eastern boundary is North Haines Avenue which runs north/south. The southern limit of the study area is the Meade County/Pennington County border, Sturgis Road and northern boundary of Township 3 North, 6 East, BHM. The Future Land Use Neighborhood Area Map included within this text identifies the Piedmont Valley Neighborhood Area in geographic relation to the other neighborhoods in the Future Land Use Neighborhood Area.

The 2008 Rapid City Area Future Land Use Plan Overview provides the background information used in preparing some of the calculations for the Piedmont Valley Neighborhood Area Land Use Plan as well as describes the process in developing the Future Land Use Plan. A copy of the Plan Overview is available in the Rapid City Growth Management Department.

The Future Land Use Committee developed this Plan through public input in the form of Public Open Houses and land owner meetings.

Neighborhood Profile

Physical Characteristics

The Piedmont Valley Neighborhood Area includes a range of topography extending from approximately 3,070 feet above mean sea level in the northeast corner of the Neighborhood area to approximately 4,980 feet in the northwestern portion of the study area. One major creek, Elk Creek, passes through the Neighborhood area serving as its northern boundary. There are other several other notable drainage ways located throughout the study area including Box Elder Creek and tributaries. The Federal Emergency Management Agency (FEMA) has defined several different flood zones within this neighborhood. Flood Zone A (nondetailed study) has been defined for Elk Creek and one of its tributaries as well as Box Elder Creek. Flood Zone AE (detailed study with Base Flood Elevation) has been defined for that portion of Elk Creek that is located in the Piedmont area as well as one of its tributaries. Localized engineering flood studies have also been completed in the study area.

Portions of the study area are heavily forested with rugged topography, making it vulnerable to wildland fires. In 2005, the Ricco fire burned an area approximately 3,900 acres in size on heavily forested land located west of Interstate 90. The fire was largely contained to land owned by the U.S. Forest Service. However, many residential properties in close proximity were threatened resulting in widespread evacuations.

The East Ridge fire started in 2006 and burned an area approximately 3,200 acres in size. The fire was located east of Interstate 90, in the center of the study area on privately held property, and threatened many homes. Extensive evacuations were ordered and aggressive firefighting measures taken in an effort to protect the numerous residences located in the area.

Residential Characteristics

Between 2000 and 2007, the number of dwelling units in the Piedmont Valley Neighborhood Area increased by 7 percent. This 7 percent increase amounts to a 1 percent average annual increase in total dwelling units in the Piedmont Valley Neighborhood Area, an increase of approximately 26 dwelling units per year.

Figure 1 below identifies the number of residential units in the Piedmont Valley Neighborhood Area. This information was taken from the 2000 U.S. Census and supplemented by approved building permits between 2000 and 2007.

Figure 1

***Piedmont Valley Neighborhood Area
2000-2007 Residential Growth***

<u>Dwelling Units</u>	<u>2000 U.S. Census</u>	<u>2000- 2007 Increase</u>	<u>2007 Total</u>
Single Family	2,482	183	2,665
Multi-Family	26	0	26
Total	2,508	183	2,691
Percent of Total in Future Land Use Neighborhood Area	2.8%	3.12%	3.2%

Source: Rapid City Growth Management Department

Group homes are included in a category other than the single family homes and the multi-family units because there are not separate kitchen facilities in the group home units. Group home units are identified as assisted living facilities, dormitories, and jails.

At 2007 year end, there were no group home units in the Piedmont Valley Neighborhood Area.

Non-Residential Characteristics

Non-residential land uses in the Piedmont Valley Neighborhood Area are summarized in Figure 2, as outlined in the *Plan Overview*. During 2006 there were four commercial building permits issued and six issued in 2007.

Figure 2

Meade County Commerical Building Permits

Future Land Use Neighborhood Area	Commercial Permits		% of Total	
	2006	2007	2006	2007
Black Hawk	5	4	21.7%	19.0%
Ellsworth	1	0	4.3%	0.0%
Piedmont Valley	4	6	17.4%	28.6%
Outside Study Area	13	11	56.5%	52.4%
Totals	23	21	100.0%	100.0%

Source: Rapid City Growth Management Department

Existing Land Use Profile

To identify future land uses, it is first essential to determine the existing land uses within a neighborhood area. There are three (3) residential and four (4) non-residential categories of uses identified in this Neighborhood. Single family residential, multiple family residential, group homes and mobile homes are evaluated based on number of units. Retail, office/service, industrial and public uses are evaluated based on the gross square foot floor area.

Figure 3a below identifies the existing uses according to various land use categories for **platted property**. Figure 3b below identifies the existing uses according to various land use categories for **unplatted property**. Each category, i.e., residential use, commercial use, industrial use, and public use is further subcategorized to provide the basis for anticipated density information. These designations correspond to the future land use designations identified on Figure 4, the Piedmont Valley Neighborhood Area Future Land Use Map.

Figure 3a

**Piedmont Valley Neighborhood Area
Existing Land Use Compilation for PLATTED Property**

Area Wide Proposed Land Use	Existing OCCUPIED Platted Land					
	Existing Occupied Platted Parcels	Gross Sq Ft Floor Area	SF Dwell Units	MF Dwell Units	Group Homes	Mobile Homes
Residential Uses						
Agricultural	2,126	12,051	46	0	0	1
Single Family Residential	8,209	192,282	2,583	40	0	331
Multiple Family Residential	54	5,321	17	36	0	17
Commercial Uses						
General Commercial	530	423,912	45	4	0	23
Industrial Uses						
Light Industrial	50	181,000	0	0	0	0
Heavy Industrial						
Other Uses						
Public	85	97,718	0	0	0	0

Figure 3b

**Piedmont Valley Neighborhood Area
Existing Land Use Compilation for UNPLATTED Property**

Area Wide Proposed Land Use	Existing OCCUPIED Unplatted Land					
	Existing Occupied Platted Parcels	Gross Sq Ft Floor Area	SF Dwell Units	MF Dwell Units	Group Homes	Mobile Homes
Residential Uses						
Agricultural	1,750	0	16	0	0	2
Single Family Residential	1,016	7,572	21	0	0	4
Multiple Family Residential	.30	0	0	0	0	1
Commercial Uses						
General Commercial	66	31,024	1	0	0	4
Industrial Uses						
Light Industrial	0	0	0	0	0	0
Heavy Industrial	0	0	0	0	0	0
Other Uses						
Public	0	0	0	0	0	0

Growth Profile

Because there are multiple jurisdictions operating in the study area with differing ordinances and density constraints, the Future Land Use Study Committee identified seven generalized categories within this Plan for planning purposes. They include agricultural, single family residential, multiple family residential, general commercial, light industrial, heavy industrial and public.

Single family residential designations include only single family homes, typically with only one family per unit. Land areas designated for current and future residential use should be located close to public services such as fire protection, schools, and parks. Low density residential designations should have some type of buffer from commercial and/or industrial land use activities. This land designation should also have access to an adequate local road system.

Multiple family residential designations include all residential complexes in which one or more family reside in the same structure with each unit having independent kitchen facilities. Land areas designated for current and future multiple residential uses should also be located close to public services and near collector or arterial streets to address neighborhood traffic safety concerns and provide a buffer between non-residential uses and single family residential uses.

Infrastructure. The Rapid City Area Major Street Plan identifies several north/south and east/west arterial and collector streets. These roadways will enhance the existing road network and provide road connections, which will adequately move traffic to the major roadways.

One improvement currently being considered is the reconstruction of Elk Creek Road. Elk Creek Road is located in the northern portion of the Piedmont Valley Neighborhood Area and has experienced increased traffic flow from development growth in the neighborhood. A corridor study was completed and an alternative selected to realign and widen the road to address safety and capacity concerns.

Many other infrastructure improvements are being or have also been made in the study area including expanding regionalized water and sanitary sewer systems.

School Sites. School sites within the study area include Piedmont Elementary School. A new 77,000 ft² school is under construction and will replace the existing Piedmont Elementary School.

Parks. The Piedmont Valley Neighborhood Area includes a variety of potential park sites which could provide a range of recreational opportunities. The principal criteria for future park sites include size and proximity of population to be served, access, topography, and presence of environmental factors such as drainage ways.

Public Facilities. The western one-third of the study area is home to a large expanse of public property managed by the U.S. Forest Service. Recreational opportunities are abundant and its proximity to major roadways makes it desirable to outdoor enthusiasts. There are also numerous other public facilities throughout the study area including local fire departments, sanitary sewer and water districts and the like.

Truck and Rail Traffic. Truck traffic is expected to remain primarily on Interstate 90 with some localized access on Sturgis Road. The Interstate 90 corridor bisects the study area approximately in the middle and is recognized as a major regional transportation artery.

The Canadian Pacific Railroad, formerly known as the Dakota, Minnesota and Eastern railroad, also runs through the central portion of the Piedmont Valley Neighborhood Area with close proximity to Interstate 90 and Sturgis Road. Access to rail line and truck routes was a significant factor in identifying parcels with potential industrial uses.

Capacity. The Future Land Use Study Committee is also cognizant of neighborhood concerns regarding the capacity of the road system and the perception that many of the existing roads already carry more traffic than the roads can handle. The Committee has addressed these concerns by identifying additional collector and arterial streets to handle the traffic flows and proposing those land uses that generate more traffic along those collector and arterial routes as described earlier.

Density

To arrive at the anticipated development density of the Piedmont Valley Neighborhood Area, the Committee compared the existing density of the various uses to selected representative densities throughout the neighborhood area. For areas largely undeveloped, the Committee also considered gross density in surrounding and adjacent neighborhood areas for additional comparison. Figure 5 below provides the options used in determining the anticipated development densities. The anticipated density value for dwelling units or square footage per acre is used as a multiplier to determine the total number of dwelling units or total square footage for the undeveloped property within the Piedmont Valley Neighborhood Area.

The anticipated densities under each type of land use are influenced by representative existing densities, the topography, available utilities, and compatibility with surrounding development. Two residential land use classifications are used to accommodate housing demand, provide housing choices, and protect existing residential neighborhoods. Additionally, several non-residential uses were also identified to provide development flexibility in addressing the area's commercial and industrial growth needs.

Figure 5

**Piedmont Valley Neighborhood Area
Land Use Density Comparisons**

	Option A Existing Density	Option B Representative Density	Option C Anticipated Density
Residential Uses			
Agricultural	.007 du/ac	.02 du/ac	.02 du/ac
Single Family Residential	.19 du/ac	1.0 du/ac	1.0 du/ac
Multiple Family Residential	.38 du/ac	5.4 du/ac	5.4 du/ac
Commercial Uses			
General Commercial	589 sf/ac	6,900 sf/ac	6,900 sf/ac
Industrial Uses			
Light Industrial	2702 sf/ac	8,500 sf/ac	8,500 sf/ac
Heavy Industrial	.27 sf/ac	N/A	2,000 sf/ac
Other Uses			
Public	5.56 sf/ac	2,300 sf/ac	2,300 sf/ac

Figure 6 identifies the remaining Piedmont Valley Neighborhood Area Land Use Compilation totals. This land use compilation provides a summary of all anticipated land uses as identified on the Piedmont Valley Neighborhood Area Future Land Use Map.

Figure 6

**Piedmont Valley Neighborhood Area
Vacant Land Use Compilation Totals**

Area Wide	Vacant Platted Land			Vacant Unplatted Land		
	Vacant Platted Parcels (ac)	Antic. DU or Gross SF	Projected DU or Gross SF	Vacant Unplatted Parcels (ac)	Antic. DU or Gross SF	Projected DU or Gross SF
Residential Uses						
Agricultural	2,419	.02 du/ac	48	3,722	.02 du/ac	74
Single Family Residential	3,049	1.0 du/ac	3,049	3,400	1.0 du/ac	3,400
Multiple Family Residential	26	5.4 du/ac	140	15	5.4 du/ac	81
Commercial Uses						
General Commercial	353	6,900 sf/ac	2,435,700	59	6,900 sf/ac	407,100
Industrial Uses						
Heavy Industrial	67	2,000 sf/ac	134,000	829	2,000 sf/ac	1,658,000
Light Industrial	16	8,500 sf/ac	136,000	0	8,500 sf/ac	0
Other Uses						
Public	680	2,300 sf/ac	1,564,000	9,929	2,300 sf/ac	22,836,700

It should be noted that the projected gross square footages for Public are not realistic purely as calculated because the majority of the Public designation is held by the U.S. Forest Service and will likely not experience much, if any, additional square footage development.

Residential Build-Out

Build out is when all developable land parcels have reached anticipated density. The Piedmont Valley Neighborhood Area build out scenario as proposed under this Plan is based on an analysis of existing patterns of development, physical constraints, access to municipal water and sewer, and existing plans for the area.

Figure 7 below identifies the anticipated total dwelling units at build out categorized by the various proposed residential land use categories within the Piedmont Valley Neighborhood Area.

Between 2000 and 2007, the Piedmont Valley Neighborhood Area grew by 183 dwelling units. Residential growth in this area is expected to continue because the area is readily accessible by three major transportation corridors and is situated between the communities of Sturgis and Rapid City.

Figure 7

***Piedmont Valley Neighborhood Area
Build Out Projected Dwelling Units at Anticipated Densities***

Proposed Land Use	Gross Neighborhood Acres	Anticipated Density per Acres	Total Dwelling Units	
<u>Residential Uses</u>				
Agricultural	10,146	0.2	2,029	DU
Single Family Residential	16,212	1.0	16,212	DU
Multiple-Family Residential	118	5.4	637	DU
Total Residential Family Units			18,878	DU

Source: Rapid City Growth Management Department

Non-Residential Build Out

The Piedmont Valley Neighborhood Area gross square foot floor area build out expectations at anticipated densities are identified in Figure 8. The size of the parcels significantly impacts the total amount of acreage available for development.

Figure 8

***Piedmont Valley Neighborhood Area
Non-Residential Gross Square Foot Floor Area
Build Out Projections at Anticipated Densities***

Proposed Land Use	Gross Neighborhood Acres	Anticipated Density per Acres	Gross Sq. Foot Floor Area
<u>Commercial Uses</u>			
General Commercial	1,375	6,900 sf/ac	9,487,500
Total Gross Square Foot Floor Area			9,487,500
<u>Industrial Uses</u>			
Light Industrial	97	8,500 sf/ac	824,500
Heavy Industrial	77	2,000 sf/ac	154,000
Total Gross Square Foot Floor Area			978,500
<u>Other Uses</u>			
Public	10,693	2,300 sf/ac	24,593,900
Total Gross Square Foot Floor Area			24,593,900

Source: Rapid City Growth Management Department

Summary

The Piedmont Valley Neighborhood Area Future Land Use Plan anticipates that the residential growth patterns will continue, primarily as single family units. It also anticipates some additional general commercial and industrial development to occur. Additionally, the Plan identifies extension of infrastructure (illustrated by the major street plan) in support of the anticipated growth patterns. Given the neighborhood's close proximity to several prominent transportation corridors and the larger communities of Sturgis and Rapid City, it is anticipated that this area will continue to thrive.