Village of Big Valley
Municipal Development Plan
Background Report
Table of Contents

1. INTRODUCTION .................................................................................................................. 1

2. WHAT IS A MUNICIPAL DEVELOPMENT PLAN AND WHY IS IT IMPORTANT? .......... 1

3. PROVINCIAL LEGISLATION AND PROVINCIAL LAND USE POLICIES .......................... 3

4. VILLAGE OF BIG VALLEY PLANS, POLICIES AND BYLAWS ........................................... 5

4.1. VILLAGE OF BIG VALLEY LAND USE BYLAW (2005) .................................................... 5

4.2. VILLAGE OF BIG VALLEY STRATEGIC PLAN 2018 – 2021 ........................................... 7

5. DEMOGRAPHICS, POPULATION AND DEVELOPMENT TRENDS ........................................... 9

5.1. HOUSEHOLD SIZE .......................................................................................................... 9

5.2. POPULATION TRENDS ................................................................................................. 9

5.3. POPULATION PROJECTIONS ...................................................................................... 10

5.4. RESIDENTIAL BUILDING TRENDS ............................................................................. 11

6. SOCIO-ECONOMIC PATTERNS ............................................................................................ 13

6.1. EMPLOYMENT STATISTICS ....................................................................................... 13

6.2. COMMUTER STATISTICS ............................................................................................. 13

7. DEVELOPMENT INFLUENCES AND USES ......................................................................... 15

7.1. NATURAL AND MAN MADE FEATURES .................................................................. 15

7.2. EXISTING USES ........................................................................................................... 15

7.3. MUNICIPAL WATER AND SANITARY SEWER ......................................................... 16

7.4. STORM WATER MANAGEMENT AND DRAINAGE .................................................... 17

8. FUTURE TRENDS AND OPPORTUNITIES ............................................................................ 18

9. PLAN ISSUES ...................................................................................................................... 19

Table 1: Age Demographics ........................................................................................................ 9

Table 2: Historic Populations ................................................................................................... 9

Table 3: Population Change ..................................................................................................... 10

Table 4: Projected Population Growth ...................................................................................... 10

Table 5: Additional Dwelling Unit Requirements .................................................................... 11

Table 6: Future Land Requirements ....................................................................................... 11

Table 7: Employment Rates ................................................................................................... 13

Table 8: Average Commute ................................................................................................... 14

Table 9: Commute Destination ............................................................................................... 14

Map 1: Significant Natural Features

Map 2: Significant Features

Map 3A: Existing Land Uses

Map 3B: Air Photo
1. Introduction

The Village of Big Valley has initiated the process of creating a Municipal Development Plan (MDP). This report provides background information and context for the review of planning in the Village of Big Valley, as well as contemplating future growth outside of the existing village boundary. It includes a summary of key provincial planning legislation and existing Village plans and policies that will influence the policy direction and content of the MDP. Recent and anticipated growth and development trends are also summarized. The report also summarizes the potential opportunities for land uses and extensions of urban services. It concludes with a discussion of the various issues that the MDP should seek to address.

2. What is a Municipal Development Plan and Why is it Important?

The Municipal Government Act requires all municipalities to prepare and adopt a municipal development plan (MDP). The Act states that an MDP must address such issues as future land use and development in the municipality, the provision of municipal services and facilities, and inter-municipal issues such as future growth areas and the co-ordination of transportation systems and infrastructure.

The overall purpose of the Village of Big Valley Municipal Development Plan (MDP) is to guide future growth and development to ensure that it is sustainable, orderly, appropriate, complementary, efficient, and that it enhances the quality of life for the citizens of Big Valley. The MDP is primarily a policy document that can be utilized as a framework for the physical development of the community within which both public and private sector decision making can occur. As a policy document it is, for the most part, general in nature and long range in its outlook. The MDP provides the means whereby Council can evaluate immediate situations or proposals in the context of a long range plan.

This Municipal Development Plan embodies the community goals and aspirations contained in the vision statement. Goal statements have been provided to guide future planning and development. These goal statements appear at the beginning of each policy section and provide a framework for the objectives and policies within each section. The goals of the community are enabled through key objectives which in turn are supported through the MDP policies and guidelines.
Some of the benefits, or reasons, for having a municipal development plan include:

- To make the most efficient use of limited resources with the primary resource being our land base;
- To minimize conflict between differing types of land uses and associated users;
- To ensure that growth and development occurs in the most efficient and effective manner;
- To preserve those features in a community which may have important environmental, social, or cultural significance;
- To acknowledge not only physical and economic factors, but social needs within a community;
- To create certainty between neighbouring municipalities and community members about what will develop and where growth will occur; and
- To become more resilient and able to respond to changing circumstances and emerging challenges.
- To create and maintain aesthetically appealing, orderly and comfortable communities containing the amenities desired by the public;
- To consider ecological and environmental impacts of proposals in an effort to maintain a clean and healthy environment;
- To protect and promote the health, safety and welfare of the public at large through the provision of key facilities and services and avoiding hazardous situations and undue risk;
- To consider development impacts on culture and heritage resources valued by the community;
- To build an inclusive community able to accommodate and respond to the needs of individuals and a variety of household types; and
- To create confidence for private investors in knowing what the community is prepared to accept and where to confidently invest.

It is also important to bear in mind that the MDP works best as a comprehensive whole and should be interpreted in a holistic manner. While the Plan is constructed by topic area it is important to view all of the policy directions in context with one another rather than as individual parts.

The Plan Area map (see appendix) is a snap shot of the current land uses in the Village, and shows the locations of the major facilities in the Village.
3. Provincial Legislation and Provincial Land Use Policies

*Bill 21, Modernized Municipal Government Act* states several amendments made to the Municipal Government Act, Revised Statutes of Alberta 2000, Chapter M-26. The amendments applicable to this report are in section 632 – Municipal Development Plans.

632(1) Every council of a municipality must by bylaw adopt a municipal development plan.

(2.1) Within 3 years after the coming into force of this subsection, a council of a municipality that does not have a municipal development plan must by bylaw adopt a municipal development plan.

(3) A municipal development plan

(a) must address

(i) the future land use within the municipality,

(ii) the manner of and the proposals for future development in the municipality,

(iii) the co-ordination of land use, future growth patterns and other infrastructure with adjacent municipalities if there is no intermunicipal development plan with respect to those matters in those municipalities,

(iv) the provision of the required transportation systems either generally or specifically within the municipality and in relation to adjacent municipalities, and

(v) the provision of municipal services and facilities either generally or specifically,

(b) may address

(i) proposals for the financing and programming of municipal infrastructure,

(ii) the co-ordination of municipal programs relating to the physical, social and economic development of the municipality,

(iii) environmental matters within the municipality,

(iv) the financial resources of the municipality,

(v) the economic development of the municipality, and

(vi) any other matter relating to the physical, social or economic development of the municipality,

(c) may contain statements regarding the municipality’s development constraints, including the results of any development studies and impact analysis, and goals, objectives, targets, planning policies and corporate strategies,

(d) must contain policies compatible with the subdivision and development regulations to provide guidance on the type and location of land uses adjacent to sour gas facilities,

(e) must contain policies respecting the provision of municipal, school or municipal and school reserves, including but not limited to the need for, amount of and allocation of those reserves and the identification of school requirements in consultation with affected school boards,

(f) must contain policies respecting the protection of agricultural operations, and
(g) may contain policies respecting the provision of conservation reserve in accordance with section 664.2(1)(a) to (d).

(4) A municipal development plan must be consistent with any intermunicipal development plan in respect of land that is identified in both the municipal development plan and the intermunicipal development plan.

The Village is located within the Red Deer Region within Alberta’s Land-Use Framework. The process for developing this plan has not yet started, with no indication as to when public consultation will begin. The intention of the plan, once in place, will be to establish guidelines for making decisions that will help address growth pressures on our land, environment and communities, while respecting the private property rights of Albertans. Until such time a plan is adopted for the Red Deer Region, the 1996 provincial Land Use Policies remain in effect. These policies provide a general framework and direction for land use planning and development from the Province.
4. Village of Big Valley Plans, Policies and Bylaws

4.1. Village of Big Valley Land Use Bylaw (2005)

The Village’s Land Use Bylaw (LUB) provides the detailed regulations for the use of various properties and development of various types of land uses. For each major land use category, the types of uses and development standards and the relevant LUB Districts are briefly described below.

Low Density Residential District (R-1)

The purpose of this district is to provide areas for low density residential development consisting predominantly of detached dwellings and uses that are complementary to and do not conflict with the residential use and character of the properties within the district. Permitted uses include detached dwellings, home occupations class 1 and accessory buildings and uses. Discretionary uses include adult care housing, bed and breakfasts, child care facilities, home occupations class 2, manufactured homes, secondary suites, social care housing, and a range of public uses. Minimum development standards for parcels in this district include a 550 m² (5,920 ft²) and 50% maximum parcel coverage.

Low Density District (R-1A)

The purpose of this district is to provide areas for low density residential development in the form of detached dwellings and manufactured homes and uses that are complementary to and do not conflict with the residential use and character of the properties within the district. Permitted uses include detached dwellings, manufactured homes, home occupations class 1 and accessory buildings and use. Discretionary uses include adult care housing, bed and breakfasts, child care facilities, home occupations class 2, secondary suites, social care housing and a range of public uses. Minimum development standards for parcels in this district are a 550 m² (5,920 ft²) minimum parcel area and 50% maximum parcel coverage.

Tiny House Residential District (R-1T)

The purpose of this district is to provide areas for low density residential development consisting predominantly of small sized or tiny detached dwellings and uses that are complementary to and do not conflict with the residential use and character of the properties within the district. Permitted uses include tiny houses, home occupations class 1, parks and accessory buildings and uses. Discretionary uses include playgrounds, public uses and utilities. Minimum development standards for this district include a minimum parcel size of 222 m² (2,400 ft²) interior parcels and 260 m² (2,800 ft²) corner parcels. Orientation of houses is to be toward the street with no front driveways or garages, the minimum front yard has been reduced to 3 m (10 ft), and the minimum floor area for dwellings is 27.87 m² (300 ft²). The maximum site coverage in this district is 75%.

General Residential District (R-2)

The purpose of this district is to provide areas for medium density residential development with a mixture of housing types and complementary uses. Permitted uses include detached
dwellings, duplexes, manufactured homes, home occupations class 1 and accessory buildings and uses. Discretionary uses include apartments, fourplexes, multiple housing developments, row housing, secondary suites, adult care housing, bed and breakfasts, boarding and rooming houses, child care facilities, home occupations class 2, social care housing and a range of public uses. Minimum development standards for this district include minimum parcel areas of 550 m² (5,920 ft²) for detached dwellings and manufactured home, 330 m² (3,552 ft²) for duplexes, 280 m² (3,013 ft²) for row housing, 200 m² (2,152 ft²) for fourplexes and 82 m² (882 ft²) per unit for apartments. Maximum parcel coverage is 55% for all uses except fourplexes and apartments which have a maximum coverage of 45%.

Manufactured Home District (R-3)

The purpose of this district is to provide areas for low to medium density residential development in the form of manufactured homes and complementary uses within a comprehensively designed park on a single site. Permitted uses include manufactured homes, manufactured home parks, home occupations class 1, and accessory buildings and uses. Discretionary uses include home occupations class 2, child care facilities and a range of public uses. This district has a maximum density of 17 manufactured homes per hectare (2.45 ac) with a site area between 2 ha (4.9 ac) and 4 ha (9.9 ac). The minimum lot area for a manufactured home is 370 m² (3,982 ft²) with a maximum lot coverage of 45%.

Commercial District (C)

The purpose of this district is to facilitate the development of a unique area which includes a wide variety of commercial, institutional, cultural and residential development intended to serve the village and surrounding region. Permitted uses include alcohol sales, car washes, financial services, gas bars, mixed use developments, offices, personal services, restaurants, retail sales, private club or lodge, parks, playgrounds, accessory buildings and uses and parking facilities. Discretionary uses include apartments, commercial recreation and entertainment, drinking establishments, drive-in businesses, funeral homes, hotels and motels, light repair services, child care facilities, dwelling units above ground floor, home occupations and public uses. The minimum development standards for this district include a 360 m² (3,875 ft²) minimum parcel area and 89% maximum parcel coverage.

Light Industrial District (I-1)

The purpose of this district is to provide for a limited range of light industrial and service commercial businesses that may have limited outdoor storage and carry out their operations such that no nuisance is created or apparent outside an enclosed building. In addition, this district will provide for businesses which may be incompatible in commercial districts. Permitted uses include auction markets excluding livestock, light manufacturing, light repair services, repair and contracting services, veterinary clinics, warehousing and accessory building and uses. Discretionary uses include caretaker suites, offices, private club or lodge and parking facilities. The development standards for this district are a 580 m² (6,243 ft²) minimum parcel area and 85% maximum parcel coverage.
Heavy Industrial District (I-2)

The purpose of this district is to provide for wide range of manufacturing, assembling, fabricating, processing and storage of goods in which nuisance factors are likely to occur. Permitted uses in this district include auction markets excluding livestock, heavy equipment assembly sale and service, heavy manufacturing, light manufacturing, light repair services, municipal shops and yards, repair contracting services, veterinary clinics and warehousing. Discretionary uses include auction markets, auto wreckers, feed mills and grain elevators, freight depot, open storage yards, railway uses, sanitary landfill, seed cleaning plants, and sewage treatment facilities. Development standards in this district are a 580 m$^2$ (6,243 ft$^2$) minimum parcel area and 85% maximum parcel coverage.

Public Open Space District (POS)

The purpose of this district is to provide areas for the development of facilities and uses intended for the general benefit and enjoyment of the public at large and to protect environmentally sensitive areas by restricting development to minimal and environmentally compatible uses. Permitted uses include natural environment preservation areas, parks and recreation facilities. Discretionary uses include cemeteries, public signs, public uses, public utility buildings, railway uses, religious assemblies and accessory buildings and uses. There are no development standards for this district, except those outlined in the General Regulations section.

Reserved for Future Development District (RD)

The purpose of this district is to ensure that development on lands required for growth is restricted to ensure that future development may proceed in an orderly and well planned fashion, premature subdivision is avoided, and existing agricultural use of lands is accommodated until development if a non-agricultural land use is imminent. Permitted uses include existing agricultural operations, and existing uses. Discretionary uses include uses and buildings which will not materially alter the use of the land, public utility buildings and signs. Minimum parcel area in this district is the total area of land contained in the current title.

4.2. Village of Big Valley Strategic Plan 2018 – 2021

The Strategic Plan is intended to provide direction to Village Council and Administration, to guide future strategies and actions in decision making for the community. The vision for this plan is, “A safe and welcoming, thriving heritage community with a sustainable future.” The goals of the plan are to encourage businesses and organizations to become more involved in the community and work together and with the Village. The plan seeks to actively engage with the Alberta Prairie Steam Train in creating an active and thriving community, and to boost business attraction, retention and marketing.

The plan seeks to attract more families to the area with recreational opportunities and communications with the school, and engage youth in community planning. The Village seeks to diversify communication methods with the public for increased engagement. Having strong leadership
through Council and Administration is an aspiration of the plan, through succession planning, training and updating bylaws and procedures.

A major aspect of the plan is to increase public safety and attractiveness of the Village. Fixing roads and sidewalks, and tree replacement programs are top of the list of goals. Maintenance of private and public property is encouraged for overall aesthetics of the Village. Safety is intended to be achieved through increased communication with the RCMP, C.O.P program and staff safety training.

A strong Municipal Council is identified, through development of municipal plans and documents aligned with new provincial legislation. Accessing more housing to attract more residents is identified and addressing potential zoning issues to achieve this goal. The development of an IDP/ICF and a MDP is specifically identified.
5. Demographics, Population and Development Trends

The age distribution for the Village of Big Valley is provided in the table below. Approximately half of the Village’s population is between the ages of 20 and 65 years old, being the cohort of people who will likely still be engaged in the workforce. At either end of the spectrum, approximately twenty percent of the Village’s population is under the age of 20, and thirty percent being over the age of 65. Almost half of the Village’s population may not be actively engaged in the workforce, with retirees being the majority of the group.

<table>
<thead>
<tr>
<th>Age Cohort</th>
<th>Population</th>
<th>Percentage of Population Big Valley</th>
<th>Provincial Population Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 19 years of age</td>
<td>65</td>
<td>18.1</td>
<td>25.1</td>
</tr>
<tr>
<td>20 to 34 years of age</td>
<td>50</td>
<td>13.9</td>
<td>22.3</td>
</tr>
<tr>
<td>35 to 49 years of age</td>
<td>55</td>
<td>15.3</td>
<td>21.0</td>
</tr>
<tr>
<td>50 to 64 years of age</td>
<td>85</td>
<td>23.6</td>
<td>19.3</td>
</tr>
<tr>
<td>Over 65 years of age</td>
<td>105</td>
<td>29.2</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Table 2: Historic Populations

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>280</td>
</tr>
<tr>
<td>1955</td>
<td>524</td>
</tr>
<tr>
<td>1960</td>
<td>419</td>
</tr>
<tr>
<td>1965</td>
<td>450</td>
</tr>
<tr>
<td>1970</td>
<td>378</td>
</tr>
<tr>
<td>1976</td>
<td>344</td>
</tr>
<tr>
<td>1981</td>
<td>360</td>
</tr>
<tr>
<td>1986</td>
<td>295</td>
</tr>
<tr>
<td>1991</td>
<td>303</td>
</tr>
<tr>
<td>1996</td>
<td>308</td>
</tr>
<tr>
<td>2001</td>
<td>340</td>
</tr>
<tr>
<td>2006</td>
<td>351</td>
</tr>
<tr>
<td>2011</td>
<td>364</td>
</tr>
<tr>
<td>2016</td>
<td>346</td>
</tr>
</tbody>
</table>

5.1. Household Size

The average household size reported for the Village of Big Valley in the 2016 census was 2.1 persons per household. This average has stayed relatively constant for the period of 2006 to 2016. The average household size reported in 2006 was 2.1 persons per household, with the 2011 average increasing slightly to 2.2 persons per household.

5.2. Population Trends

The Village of Big Valley has seen significant population variations over the 110 year history of the village. The population of the village reached 1,000 people by 1925, driven primarily by coal mining in the area. By the year 1950 the population had dropped to 280 people as a result of the surrounding coal mines closing, however the oil and gas boom saw new growth in the village through the 1950’s to a population of 450 by 1965.

The tables below outline the historic populations in the Village over a 66 year period. The second table outlines the changes in the Village population over a 40 year period, derived from the population data. The annual percentage change values are what will be used when determining the potential future growth rates for the Village.
Table 3: Population Change

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01%</td>
<td>-0.11%</td>
<td>0.53%</td>
<td>0.53%</td>
<td>0.58%</td>
<td>0.12%</td>
<td>-0.14%</td>
<td>-1.01%</td>
<td></td>
</tr>
</tbody>
</table>

The population trends describe the population fluctuations the Village has seen over the last 40 years or so. These fluctuations make it difficult to predict exactly what the future population of the Village may look like. However, the trends established in the above table can be used to calculate an educated estimate.

5.3. Population Projections

Population growth is anticipated in the future, with an outlook estimated to for 30 years to the year 2046. Population projections through to the year 2046 are provided in the table below, as well as the anticipated additional dwelling units required for the projected populations. The population projections that are being used are the values established in the above table, with 4 values being chosen that can represent the growth rates previously seen in the Village. The anticipated additional dwelling units are based on the average household size for the Village.

Table 4: Projected Population Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Very Low (0.01% per yr)</th>
<th>Low (0.12% per yr)</th>
<th>Medium (0.53% per yr)</th>
<th>High (0.58% per yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>346</td>
<td>346</td>
<td>346</td>
<td>346</td>
</tr>
<tr>
<td>2021</td>
<td>346</td>
<td>348</td>
<td>355</td>
<td>356</td>
</tr>
<tr>
<td>2026</td>
<td>346</td>
<td>350</td>
<td>365</td>
<td>367</td>
</tr>
<tr>
<td>2031</td>
<td>347</td>
<td>352</td>
<td>375</td>
<td>377</td>
</tr>
<tr>
<td>2036</td>
<td>347</td>
<td>354</td>
<td>385</td>
<td>388</td>
</tr>
<tr>
<td>2041</td>
<td>347</td>
<td>357</td>
<td>395</td>
<td>400</td>
</tr>
<tr>
<td>2046</td>
<td>347</td>
<td>359</td>
<td>405</td>
<td>412</td>
</tr>
</tbody>
</table>
Table 5: Additional Dwelling Unit Requirements

<table>
<thead>
<tr>
<th>Year</th>
<th>Very Low (0.01% per yr)</th>
<th>Low (0.12% per yr)</th>
<th>Medium (0.53% per yr)</th>
<th>High (0.58% per yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2021</td>
<td>0</td>
<td>1.0</td>
<td>4.3</td>
<td>4.8</td>
</tr>
<tr>
<td>2026</td>
<td>0</td>
<td>1.9</td>
<td>9.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2031</td>
<td>0.5</td>
<td>2.9</td>
<td>13.8</td>
<td>14.8</td>
</tr>
<tr>
<td>2036</td>
<td>0.5</td>
<td>3.8</td>
<td>18.6</td>
<td>20.0</td>
</tr>
<tr>
<td>2041</td>
<td>0.5</td>
<td>5.2</td>
<td>23.3</td>
<td>25.7</td>
</tr>
<tr>
<td>2046</td>
<td>0.5</td>
<td>6.2</td>
<td>28.1</td>
<td>31.4</td>
</tr>
</tbody>
</table>

Average annual population growth of 0.53% during the 30 year planning period is considered a reasonable expectation for the Village of Big Valley, based on previous growth. Using this growth rate, the population of the Village is expected to exceed 400 people by 2046 if this population growth rate is realized.

The following table identifies the future land requirements to accommodate the Village’s needs. These estimates are based on the ratio of currently developed land to the current population of the Village of Big Valley.

Table 6: Future Land Requirements

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Land/Unit Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Land</td>
<td>2.81 ha (6.9 ac)</td>
</tr>
<tr>
<td>Residential Units</td>
<td>28.1 dwelling units</td>
</tr>
<tr>
<td>Commercial</td>
<td>0.28 ha (0.69 ac)</td>
</tr>
<tr>
<td>Industrial</td>
<td>2.03 ha (5.0 ac)</td>
</tr>
</tbody>
</table>

5.4. Residential Building Trends

The 2016 federal census identified 170 private dwellings in the village, with single detached dwellings being the predominant housing form representing 70% of the existing structures. Moveable dwellings, defined as mobile homes, were the second most common housing type accounting for 24% of existing structures. Multiple family housing, in the form of row housing, made up the smallest portion of housing stock at approximately 6%.
The 2006 federal census indicates 140 dwellings were constructed before 1986, of the 170 dwellings that existed in 2006. In the 20 year period between 1986 and 2006, 25 dwellings were constructed. Census data from 2016 indicates the available housing stock has not changed, with 170 private households reported. This information indicates that approximately 85% of the current housing stock in the village is at least 30 years of age, constructed prior to 1986.

The demand for residential development is not expected to change over the next 30 years. Assuming a medium growth scenario with 0.53% population growth per year and assuming residential densities of 10 dwelling units per hectare as proposed in Section 5.0(9), it is anticipated that an additional 2.81 ha of land will be required to accommodate residential growth between 2016 and 2046.
6. Socio-Economic Patterns

The Village of Big Valley has a role as a small local service provider for the surrounding region nestled between the larger service centres of the Towns of Stettler and Drumheller. Residents in the area gravitate to these larger centres for shopping, work and recreation. There are a number of small shops located in the downtown, with a grocer, several restaurants and a bank located in the central commercial corridor. The commercial presence in the Village has largely been driven by tourism, which has enabled many of the commercial ventures to succeed, as well as an online presence.

There is also a kindergarten to grade 9 school located in the Village, operated as part of the Clearview School Division. The school has approximately 80 students enrolled, and also offers programming for children aged 3 to 5 years. The Village population under 19 years of age is 65 people, which likely makes up the majority of the student population, with the remainder coming from the surrounding rural community.

6.1. Employment Statistics

Employment statistics for the population of the Village over 15 years of age are reported from the 2016 Census. The figures show that the unemployment rate reported for the Village was substantially higher than the provincial average. With the participation and employment rates much lower as well. This may be partially attributed to the percent of the total population over 65 years of age, who are not participating in the workforce any longer as well as the age cohort below 15 years. The table below outlines the labour force status for the Village of Big Valley.

Table 7: Employment Rates

<table>
<thead>
<tr>
<th>Number of Persons</th>
<th>Big Valley</th>
<th>Alberta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population over 15 years</td>
<td>315</td>
<td></td>
</tr>
<tr>
<td>In the Labour Force</td>
<td>145</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Not in the Labour Force</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Participation Rate</td>
<td>46%</td>
<td>71.8%</td>
</tr>
<tr>
<td>Employment Rate</td>
<td>38.1%</td>
<td>65.4%</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>17.2%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

6.2. Commuter Statistics

The 2016 census also collected data regarding the commute duration. Approximately 90% of the employed labour force population that commutes drives less than 45 minutes to work. This commuting duration is sufficient to capture both the Town of Stettler and the Town of Drumheller as commuter destinations. The remaining population that commutes reported a commute of less than 60 minutes. The table below shows average commute duration.
Table 8: Average Commute

<table>
<thead>
<tr>
<th>Commute Duration</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total - aged 15 years and over</td>
<td>110</td>
</tr>
<tr>
<td>Less than 15 minutes</td>
<td>40</td>
</tr>
<tr>
<td>15 to 29 minutes</td>
<td>25</td>
</tr>
<tr>
<td>30 to 44 minutes</td>
<td>35</td>
</tr>
<tr>
<td>45 to 59 minutes</td>
<td>10</td>
</tr>
</tbody>
</table>

Commute duration was captured as part of the census collection, as well as the census divisions people commuted to. Of the 65 responses recorded, 77% indicated they were commuting within Stettler County, with 23% indicating they commuted outside of Stettler County. It is possible to infer from this information, that of those people reporting the majority are commuting to the Town of Stettler rather than Drumheller, as Drumheller is outside of Stettler County.

Table 9: Commute Destination

<table>
<thead>
<tr>
<th>Commute Destination</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total aged 15 and over</td>
<td>65</td>
</tr>
<tr>
<td>Commute to a different census subdivision</td>
<td>50</td>
</tr>
<tr>
<td>Commute to a different census division</td>
<td>15</td>
</tr>
</tbody>
</table>
7. Development Influences and Uses

7.1. Natural and Man Made Features

Map 1 and Map 2 attached identify the significant features that influence the future growth pattern of the Village of Big Valley. These features represent constraints to urban development as well as opportunities for the creation of an attractive, interesting urban community.

Map 1 identifies the significant natural constraints within the community, these being the naturally occurring features. The first of these features being the steep slopes identified in the northwest portion of the village. The most prominent area of the slopes is the escarpment that follows the boundary of the existing development. The areas identified are those that have a slope of 15%, representing areas where unstable slopes may be an issue and further investigation will be required to determine the suitability for development. The second significant feature identified is the Big Valley Creek corridor. Two main concerns associated with this feature are, the 1:100 year floodplain of the creek, as well as the wetlands and riparian areas surrounding the creek. Though no floodplain mapping is available for Big Valley Creek, a development setback will be required to avoid potential flood hazards. The wetlands adjacent to the creek also present a barrier, and should be avoided in order to maintain the ecological integrity of the riparian zone.

Map 2 identifies the significant human development constraints, mainly oil and gas facilities and coal mines. There are multiple active oil and gas wells within the Village boundary, which all have a 100 m development setback. In addition, there are sour gas pipelines at the south end of the Village which have a 500 m development setback. These facilities restrict the type of development that may be located within these setbacks. In addition there is an underground coal mine in the north portion of the Village which will also restrict development potential. The waste transfer station and its related setback limits the form of development northeast of the golf course. The wastewater treatment/sewage lagoons and related setback influences the types of land uses that could be considered for the lands south of the highway.

The surrounding land uses are primarily agricultural, which offer little future development conflict. However, the existing natural constraints to the west in the form of steep slopes and to the east in Big Valley Creek, and human constraints such as the sour gas facilities in the south and the underground coal mines in the north, will severely limit the growth potential of the Village outside of the current boundary.

7.2. Existing Uses

Map 3A Existing Land Uses identifies the currently existing uses on each parcel within the Village. These existing uses do not necessarily reflect what the zoning for each parcel is in the Land Use Bylaw. Commercial uses are concentrated on Main Street in the central commercial core. There is a mix of uses south on Railway Avenue, with several institutional type uses such as museums, existing residential and limited commercial and industrial use. North on Railway Avenue is predominantly industrial uses. A large amount of institutional uses can also be found in the south end of the Village, where the recreational facilities and school are located. The east side of Railway Avenue is also entirely institutional due to the historic nature and use of the lands for the tourism associated with
the rail line. The central area of the Village is dominated by residential uses; no distinction has been made between types or intensity of residential use.

### 7.3. Municipal Water and Sanitary Sewer

Tagish Engineering completed an Infrastructure Assessment for the Village of Big Valley in 2012. This assessment was written based on the Village’s status and population in 2011. The population of the Village has dropped since the assessment was written and the population projection as well. The data, however, is still helpful regarding the required upgrades in the future for growth within the Village and for servicing the existing population.

The Assessment has outlined the annual water allocation for the Village from the Shirley McClellan Regional Water Services Commission. The water supply capacity for the Village is 48,577 m$^3$. The Village’s estimated water consumption of 100 m$^3$ per day is an estimated 32,500 m$^3$ per year.

The Village’s water storage and pumping systems are deficient for the Village’s needs. The minimum storage recommended for the 2011 population of 364 people is 688 m$^3$, with a recommended storage of 816 m$^3$ for the projected 25 year growth population of 572. The Village has one 500 m$^3$ water storage tank, which is sufficient to serve the 2011 population for the maximum day demand, but is deficient for fire storage. Dedicated fire storage is needed to meet 4.5 m$^3$ per minute fire flow for a 2 hour duration, or 540 m$^3$. The existing reservoir would be out of water in less than 2 hours, with no storage left available for peak hour demand and average day flow. The reservoir is not capable of meeting the demands to service the existing population. It was recommended that additional water storage by means of upgrading or replacing the existing water tank be considered.

The hydrant buffer analysis revealed there are areas within the Village that are not fully covered by the fire system. Recommended safe distance between hydrants is 180m in residential areas and 120 m in commercial and industrial areas. The most prominent areas without coverage are at the north end of the village and the south end. Because the distribution system is gravity fed, flow is lost the closer to the reservoir hydrants are located. An increase in main size is required to achieve the required flow rates for adequate fire supply. It is recommended to add hydrants at locations where coverage is lacking. A 300mm main on First Street South is recommended; to be the beginning of a 300mm looped system to achieve industrial fire flow.

The wastewater treatment facility capacity was analyzed using existing annual flow rates. The analysis shows that the Anaerobic cells at 866 m$^3$ exceeded the required volume of 160-212 m$^3$, the Facultative cells at 10,635 m$^3$ also exceeded the required volume for the existing population at 4,800 – 6,360 m$^3$. The Storage cells are near capacity, with existing storage of 37,223 m$^3$ and a required storage of 29,200 – 38,690 m$^3$. The Anaerobic cells and Facultative Cells are sufficient size to meet the needs of the Village in the future; the Storage cells will need to be increased in size within the next 10 years. The Village has two release periods per year, which is not standard for most municipalities. There may have been special provisions made for this to happen, such as timeline for the Village to upgrade the lagoons or if two release periods will always be allowed.

The wastewater collection system has capacity to handle normal flows. The line along Railway Avenue should be able to handle up to 60 hectares of development with minimal infiltration. The
Village presently has approximately 40 hectares of development, leaving space for another 20 hectares of development capacity. When the existing 250mm trunk line needs to be replaced, a 300mm line should be used. There is one lift station in the system that pumps effluent under Big Valley Creek to the lagoons.

7.4. Storm Water Management and Drainage

The Village of Big Valley has very few underground storm water mains. Due to the general topography of the Village, overland runoff and drainage can be achieved quite easily. During large storm events large volumes of surface water is being directed to the railway where the flow is restricted by two 500mm culverts. Culverts should be used to direct surface runoff under Railway Avenue and then directed to the outlet. The Village has a licensed open channel system to direct storm water from Big Valley to Big Valley Creek. The license should be checked for the volume of discharge and the rate. If the rate can be increased, an additional culvert under Railway Avenue will help in the events with excessive surface runoff. New developments will need to direct storm water runoff to storm ponds and attenuate flows to predevelopment rates. There are a number of naturally occurring springs within the Village that flow throughout the year, which contributes to surface water runoff.
8. Future Trends and Opportunities

Big Valley is advantageously located close to the Highway 56 corridor, within commuting distance of both the Town of Stettler and the Town of Drumheller which provide excellent opportunities for future growth and economic development. The Village boasts comfortable living within a rural setting with great views of the surrounding agriculture lands, a wide range of recreational activities and some business services, all of which contribute to an excellent quality of life for its residents. The share of future regional population growth and development attracted to Big Valley will be dependent on several factors including:

- people’s preference for small town, rural setting living;
- the availability of affordable housing relative to other opportunities in the region;
- economic and employment opportunities in the region or within commuting distance;
- availability of recreation and leisure opportunities;
- the level of services and amenities contributing to a high quality of life available in the community; and
- Tourism related industry can still expand and diversify.

There are several future land use scenarios that can be considered for the Village area. In developing these scenarios the following items should be considered:

- Protection of natural features that provide wildlife areas, perform vital environmental functions and contribute to the beauty of the area;
- Opportunities for new lagoons for future upgrades;
- Future upgrading of the water storage system;
- Locations for industry that meet site requirements, but will not conflict with surrounding uses;
- Locations of existing sour oil/gas facilities and how they may impact the future growth of the Village and existing development potential;
- Future urban expansion needs as the Village grows, will the existing boundaries be sufficient;
- Locations for commercial development that will meet site requirements and development trends;
- Recreation opportunities and linkages through the community between various facilities.
9. Plan Issues

A preliminary list of issues has been identified. This list may be expanded through Steering Committee meetings, stakeholder issue identification and further research.

(1) Future of the existing sewage treatment facility. It has been identified that the storage cells are not sufficient for future demand which could restrict growth of the Village.

(2) Oil and Gas infrastructure poses a significant restriction to future development and growth, both within the existing Village boundary and beyond. The majority of the lands in the south area of the Village are encompassed within the setback for the sour gas pipelines, and the entire Village boundary is within the 1.5 km setback of sour gas wells. Future oil and gas development within the vicinity of the Village should be discouraged to prevent further limitations to potential growth areas.

(3) Hazardous lands in the northwest consisting of steep slopes need to be addressed with appropriate policies to prevent unsuitable development.

(4) Underground coal mines in the north end of the Village must also be addressed, as they pose a hazard to future development and may require additional policy support.

(5) Land use patterns must be developed in a way that preserves natural areas and environmental features. Development in proximity to Big Valley Creek should be limited, as floodplain mapping is not currently available and it is a significant environmental feature within the Village.
1. Village Boundary has been shifted for visual purposes.
1. Village Boundary has been shifted for visual purposes.
2. The Oil/Gas features were provided by Alberta Energy Regulator, and any setbacks have been determined from information that was provided by the Oil/Gas infrastructure Company in August 2017.

Date Saved: Jul. 25, 2018
LAKE
SW1/4 26, 35-20-4
NW1/4 26, 35-20-4
SE 1/4 SEC 27, 35-20-4
BIG VALLEY CREEK
NE 1/4 SEC 27, 35-20-4
SE 1/4 SEC 35, 35-20-4
NW 1/4 SEC 23, 35-20-4
NE 1/4 SEC 23, 35-20-4
NW 1/4 SEC 25, 35-20-4
SW 1/4 SEC 25, 35-20-4
C of T
GOLF COURSE
RAILWAY AVENUE
FIRST AVENUE
SECOND AVENUE
MAIN STREET
FOURTH AVENUE
THIRD AVENUE
FIRST STREET NORTH
SECOND STREET SOUTH
THIRD STREET SOUTH
FIFTH AVENUE
HIGHWAY 590
FOURTH STREET SOUTH
FIRST STREET SOUTH
FOURTH STREET SOUTH
THIRD STREET SOUTH
CENTRAL WESTERN RAILWAY
Waste Transfer Site
300m Setback
Sewage Lagoon
300m Setback

0.05 Kilometers
0.1
0.2
0.3
0.4
0.5
0

VILLAGE OF BIG VALLEY
MUNICIPAL DEVELOPMENT PLAN

MAP 3A: EXISTING LAND USE

Streams
Lakes/Open Water
Existing Land Use
Rural/Agricultural
Residential
Commercial
Industrial
Public/Institutional
Open Space
Vacant
F Fire Hall
S School
W Place of Worship
C Cemetery
Senior Drop-in Centre
Library
V Village Office
Baseball Diamond
Campground
Golf Course
Ice Surface
Rodeo Grounds
Playground
W Waste Transfer Site
Water Well & Pumphouse

1. This map shows generalized indications of land use and is not intended for scaling or detailed design.
2. The land use patterns must be interpreted with the text of this plan. Detailed land use and boundaries will be identified through area structure plans.
3. Village Boundary has been shifted for visual purposes.
4. The land uses shown beyond the village boundary are intended as information only. The policies of this plan do not apply to lands outside the village boundary.

Date Saved: Jul. 25, 2018

MUNICIPAL DEVELOPMENT PLAN
This map shows generalized indications of land use and is not intended for scaling or detailed design.

2. The land use patterns must be interpreted with the text of this plan. Detailed land use and boundaries will be identified through area structure plans.

3. Village Boundary has been shifted for visual purposes.

4. The land uses shown beyond the village boundary are intended as information only. The policies of this plan do not apply to lands outside the village boundary.