

REPORT NO.: 161-02769-00-07

# ARBORG BIFROST- RIVERTON SUSTAINABLE COMMUNITY ACTION PLAN

GROWTH MANAGEMENT PLAN

SEPTEMBER 2017





# ARBORG BIFROST-RIVERTON SUSTAINABLE COMMUNITY ACTION PLAN

## GROWTH MANAGEMENT PLAN

**Arborg Bifrost Riverton CDC**

### **Confidential**

Project No.: 161-02769-00-07

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# 1 INTRODUCTION

The Growth Management Plan is one of four documents that support the Arborg Bifrost-Riverton Sustainable Community Action Plan (the Plan). The historic population of Arborg, Bifrost and Riverton (the Plan Area) was analyzed and projected to the year 2040. The population projections are used to estimate the potential future demand for housing and land required for residential development. Historic information on population change for the Plan Area was obtained from two sources: Statistics Canada data for census years from 1991 to 2016 and Manitoba Health insurance registration records for consecutive years from 2010 to 2015. It should be noted that discrepancies exist between the two data sets because the data are derived from different sources. Statistics Canada bases their population numbers on a census that is completed every five years, and obtains data through mail and online. Manitoba Health obtains their population data based on records of residents registered with *Manitoba Health, Seniors, and Active Living* in the Province per Municipality.

For information purposes, the Plan Area population data from both sources is shown in table form and discussed in the following sub-sections. In addition to population counts for given years, the population tables also provide information on the Plan Area population change in terms of both absolute numbers and percentages on an actual and averaged basis. It is important to note that at the time this document was written the most recent Statistics Canada census, completed in 2011, was prior to the municipal amalgamation of the Municipality of Bifrost and the Village of Riverton. Therefore, the data for these municipalities were available as separate data sets, have unique data, and will be mostly presented as individual municipalities. As this document was being completed, the 2016 census population data was released and has been incorporated as supporting data.

# 2 POPULATION CHANGE

## 2.1 STATISTICS CANADA CENSUS DATA (1991-2016)

**Table 2-1** provides Statistics Canada census counts for the Plan Area municipalities pre-amalgamation and the most recent population data from the 2016 Census. Table 2-1 indicates that the pre-amalgamation Municipality of Bifrost grew by +8% between census years 1991 and 2011. While modest, this growth is contrary to the experience of most rural municipalities and smaller farming communities across Manitoba that witnessed steep declines in population due to the rural-to-urban migration over the later part of the 20th century; a decline largely due to such factors as farm consolidations, an aging population, and the centralization of services and facilities within larger communities and regional trade centres like Arborg. Over this same period, Riverton's population declined by just under -8% overall, but appears to have stabilized between census years 2006 and 2011 with the population remaining virtually unchanged at 538 residents.

As a whole, the Plan Area population grew by 293 individuals between 1991 and 2011, according to the census counts, which amounts to an overall growth rate of +6.7% and an average annual growth rate\* of +0.3%. While some might consider the population to be virtually "static" given the small increase, the Plan Area has nonetheless fared much better than most rural parts of the Province far removed from the bigger population centres. This may be attributable to the underlying strength and resiliency of the agricultural sector as well as the ability of the area to attract newcomers, some of whom have located in the rural parts of the Plan Area. That being said, the majority of the Plan Area's population growth occurred in the Town of Arborg, especially since 2001.

**Table 2-1 Population Change by Municipality 1991 - 2016 (Statistics Canada)**

MUNICIPALITY	CENSUS YEAR	POPULATION	POPULATION CHANGE	% CHANGE BY PERIOD	% ANNUAL CHANGE**	OCCUPIED PRIVATE DWELLINGS	PERSONS PER UNIT
Bifrost	1991	2,750					
	1996	2,851	101	3.7%	0.72%		
	2001	2,967	116	4.1%	0.80%		
	2006	2,972	5	0.2%	0.03%	1,016	2.9
	2011	2,976	4	0.1%	0.03%	1,008	3.0
Riverton	1991	584					
	1996	566	-18	-3.08%	-0.62%		
	2001	594	28	4.95%	0.97%		
	2006	537	-57	-9.60%	-2.00%	218	2.5
	2011	538	1	0.19%	0.04%	213	2.5
Bifrost-Riverton*	1991	3,334					
	1996	3,417	83	2.49%	0.49%		
	2001	3,561	144	4.21%	0.83%		
	2006	3,509	-52	-1.46%	-0.29%	1,234	2.8
	2011	3,514	5	0.14%	0.03%	1,221	2.9

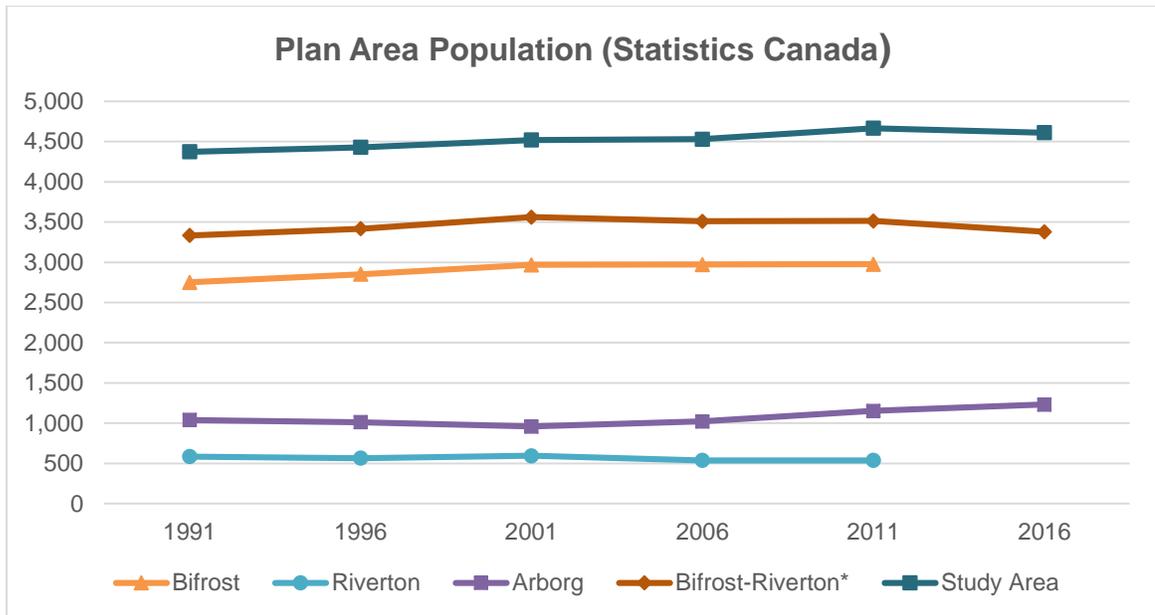
MUNICIPALITY	CENSUS YEAR	POPULATION	POPULATION CHANGE	% CHANGE BY PERIOD	% ANNUAL CHANGE**	OCCUPIED PRIVATE DWELLINGS	PERSONS PER UNIT
	2016	3,378	-136	-3.87%	-0.79%	1,225	2.8
Arborg	1991	1,039					
	1996	1,012	-27	-2.60%	-0.53%		
	2001	959	-53	-5.24%	-1.07%		
	2006	1,021	62	6.47%	1.26%	456	2.2
	2011	1,152	131	12.83%	2.44%	467	2.5
	2016	1,232	80	6.94%	1.35%	498	2.5
Plan Area	1991	4,373					
	1996	4,429	56	1.28%	0.25%		
	2001	4,520	91	2.05%	0.41%		
	2006	4,530	10	0.22%	0.04%	1,690	2.7
	2011	4,666	136	3.00%	0.59%	1,688	2.8
	2016	4,610	-56	-1.20%	-0.24%	1,723	2.7

\* 1991-2011 are combined Bifrost-Riverton populations.  
\*\*The Compound Annual Growth Rate formula was used to determine average annual growth rates

Based on the Canada Census period between 1991 and 2011, the population of Arborg grew by just over +10% which translates to an average annual growth rate of +0.5%. Arborg experienced a decline in population over the 10 year period from 1991 to 2001, and began to grow again from 2001 to 2011 at an average annual rate of +1.9%; well above the provincial average of +0.8% for the same time period. In the 2011 census period, Arborg experienced a comparatively strong average annual growth rate of +2.4% between 2006 and 2011. In the most recent Census period, 2011-2016, Arborg once again experienced positive growth of 6.9% which is an average annual growth rate of 1.35%.

**Table 2-1** also presents census year dwelling unit counts that reveal the ratio of persons-per-occupied dwelling unit (PPU); information that is needed for estimating future housing and the associated land requirements. By and large, PPU rates have decreased over time while remaining higher for rural areas, signifying larger families within the farming community as well as a higher proportion of single-person households within Arborg and Riverton. According to the 2011 Canada Census, the PPU for both Arborg and Riverton was 2.5 PPU and for Bifrost it was 3.0 PPU.

Figure 2-1 graphs the population of each municipality in the Plan Area based on the population for the Canada census years from 1991. For comparison, the Plan Area population change between 2010 and 2015 based on Manitoba Bureau of Statistics data is discussed in the next section.



**Figure 2-1 Plan Area Population 1991-2016 (Statistics Canada)**

\* Combined Bifrost-Riverton populations.

## 2.2 MANITOBA HEALTH DATA (2010-2015)

**Table 2-2** presents the Plan Area population counts from the Manitoba Bureau of Statistics (MBS) for the 5-year period 2010-2015. The Bureau compiles demographic data on a yearly basis including population counts by municipality and health region which is useful for identifying recent population trends.

An examination of the Manitoba Bureau of Statistics (MBS) data from Table 2-2 indicates that since 2010 the post-amalgamation Municipality of Bifrost-Riverton experienced a -12.6% decline in population, amounting to a total of almost 400 people; an average annual decline of -2.7%. Fortunately, this population loss was more than offset by a gain in Arborg's population over the same period of 465 individuals; an overall increase of almost +27% or +4.9% per year. Overall, according to the MBS counts, the Plan Area experienced sporadic growth between 2010 and 2015 resulting in a net increase of 67 people. This amounts to an overall increase of +1.4%, or +0.3% annually; a number that is comparable to the growth rate of +0.3% derived from Statistics Canada census counts for the Plan Area from 1991 to 2011.

Based on the available data, the analysis points to the fact that population losses in the rural parts of the Plan Area have been offset by population gains in Arborg and, to a lesser extent, Riverton. At best, the Plan Area population can be regarded as "holding its own". While farm consolidations and mechanization may impact the rural population, it is hoped that the expansion and/or recovery of cultivated acreage will help to stabilize the rural population. In addition, it is anticipated that the Plan Area population will also receive a boost from the expansion of existing manufacturing enterprises,

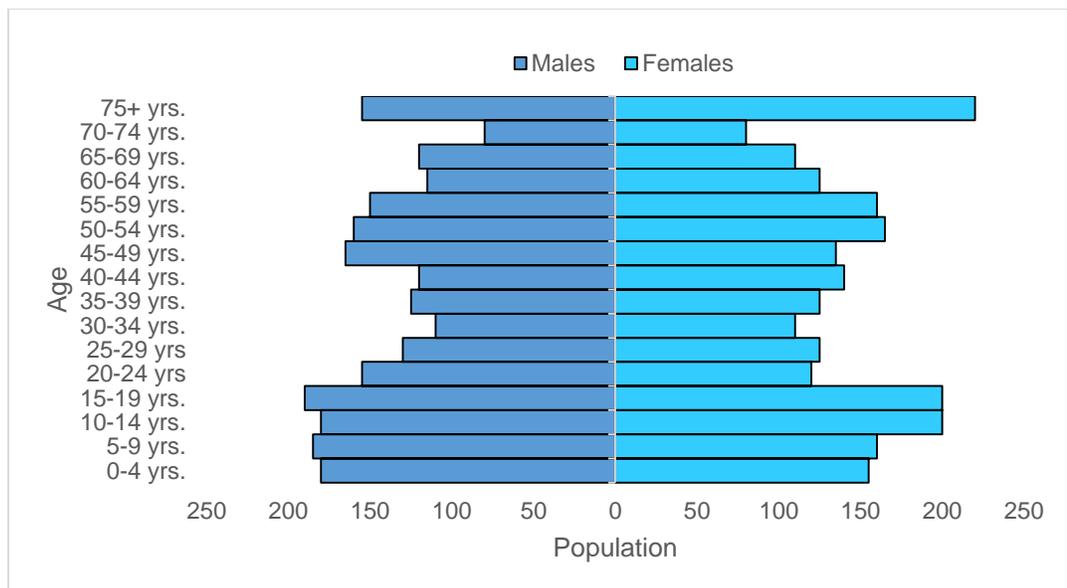
from new business start-ups and home-based businesses, and from employment growth related to staffing requirements at the new Arborg Personal Care Home (PCH).

**Table 2-2 Population Change by Municipality 2010-2015 (Manitoba Health)**

MUNICIPALITY	YEAR	POPULATION	POPULATION CHANGE	% ANNUAL CHANGE	% CHANGE SINCE 2010	AVERAGE ANNUAL CHANGE SINCE 2010
Bifrost-Riverton	2010	3,148				
	2011	3,047	-101	-3.2%		
	2012	2,975	-72	-2.4%		
	2013	2,888	-87	-2.9%		
	2014	2,799	-89	-3.1%		
	2015	2,750	-49	-1.8%	-12.6%	-2.7%
	2016	2,692	-58	-2.1%	-14.5%	-2.6%
Arborg	2010	1,731				
	2011	1,782	51	2.95%		
	2012	1,924	142	7.97%		
	2013	2,081	157	8.16%		
	2014	2,107	26	1.25%		
	2015	2,196	89	4.22%	26.9%	4.9%
	2016	2,241	45	2.05%	29.5%	4.4%
Plan Area	2010	4,879				
	2011	4,829	-50	-1.02%		
	2012	4,899	70	1.45%		
	2013	4,969	70	1.43%		
	2014	4,906	-63	-1.27%		
	2015	4,946	40	0.82%	1.4%	0.3%
	2016	4,933	-13	-0.26%	1.1%	0.2%

## 3 POPULATION AGE-SEX PROFILES

The Plan Area's population age-sex profiles, based on Statistics Canada for the year 2011 is presented in **Figure 3-1**. The numbers on the graph indicate the number of males and females within a particular age cohort. Population age-sex profiles, also known as a population pyramid, are primarily used to determine if a population is growing, static, or shrinking. A population pyramid with a wide base and narrow top means that the population is growing. Alternatively, a population that has a wide top and a narrow base means that the population is likely to shrink. Generally, the population pyramid for the Plan Area shows that the population is static. The population pyramid shows that there is a larger number of the population younger than 19 and older than 45. This can mean that a high proportion of the Plan Area's working population is currently moving towards retirement age, which could result in a number of implications for the Plan Area, such as a demand for alternative housing, i.e., multi-family homes (apartments, condominiums, small single-family homes), supportive housing, nursing homes, and a potential demand for increased services including age appropriate recreational opportunities and health care. It also means that a large number of youth could be looking for jobs in the area and the movement of some of the Plan Area's population from working age to retirement age could open up a number of jobs. However, the current indication of a reduced population in the 20 to 45 year age range could mean that a number of people have left for school or to find jobs elsewhere. This is an important age range to retain in the community because this is the age range that is typically engaged in the workforce and starting families. If younger individuals and families are retained in the area, it could have an impact on demand for municipal services such as schools and recreational facilities.



**Figure 3-1 Plan Area Age-Sex Distribution (Statistics Canada 2011)**

# 4 POPULATION PROJECTION – 2015 - 2040

Low, medium, and high population projections from the year 2015 to 2040 were completed for the Town of Arborg, the Village of Riverton, and the former Municipality of Bifrost. The population projections are used to estimate the potential future demand for housing and land for residential development.

For planning purposes, it is recommended that the moderate growth rate be used for calculating order-of-magnitude estimates of related housing and land requirements. The authors believe that there are reasons to be optimistic that these growth targets can be reached. Compared with many rural areas across the province, Arborg Bifrost-Riverton enjoys a relatively balanced economy, with agriculture and manufacturing leading the way. The area's population will also receive a boost from the staffing of the eminent construction of the Arborg PCH. Additionally, the ABCDC's proactive plans to participate in federal and provincial immigration programs should enable area employers to attract needed workers and their families.

## 4.1 TOWN OF ARBORG

Based on Statistics Canada population counts for Arborg from 1991 to 2011, Arborg experienced an average annual increase in population of +0.5%. Over the ten year period from 2001 to 2011, Arborg experienced an average annual increase of +1.9%, and over the five year period from 2006 to 2011, the average annual population increase was +2.4%. Additionally, in the most recent 2016 Census, the average annual increase was +1.35%. This provides the context for projecting the Plan Area's population for the 25 year period from 2015 to 2040 based on "low", "moderate" and "high" annual growth rates of +0.50%, +1.5% and +2.5%, respectively.

The "low" annual growth rate of +0.5% was selected because it falls in line with the actual annual growth rate of +0.5% experienced by Arborg over the 20 year period between 1991 and 2011. Although Arborg lost population between 1991 and 2001, the population has been growing every year since 2001 and it is expected that this trend will continue as Arborg continues to grow as a service center. In addition, and although the population numbers are different, the MBS growth rates support the upward growth trend. According to Statistics Canada, Arborg grew at an average annual growth rate of +1.26% between 2001 and 2006 and between 2006 and 2011, Arborg grew at an average annual growth rate of +2.4%. Based on these numbers, a "high" average annual growth rate of +2.5% was selected and a "moderate" annual growth rate of +1.5% was selected as it splits the difference between the "high" and "low" growth rates. **Table 4-1** presents, and **Figure 4-1** illustrates, the population projection for the Town of Arborg in 5-year time intervals over the planning period assuming a base population of 1,152 in 2011 from the Statistics Canada data.

Table 4-1 Population Projection – Arborg (2015-2040)

PERIOD	LOW GROWTH SCENARIO (+0.50%)		MODERATE GROWTH SCENARIO (+1.50%)		HIGH GROWTH SCENARIO (+2.50%)	
	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD
2011	1,152		1,152		1,152	
2015	1,175	23	1,223	71	1,272	120
2020	1,205	30	1,317	94	1,439	167
2025	1,235	30	1,419	102	1,628	189
2030	1,267	31	1,529	110	1,842	214
2035	1,298	32	1,647	118	2,084	242
2040	1,331	33	1,774	127	2,357	274

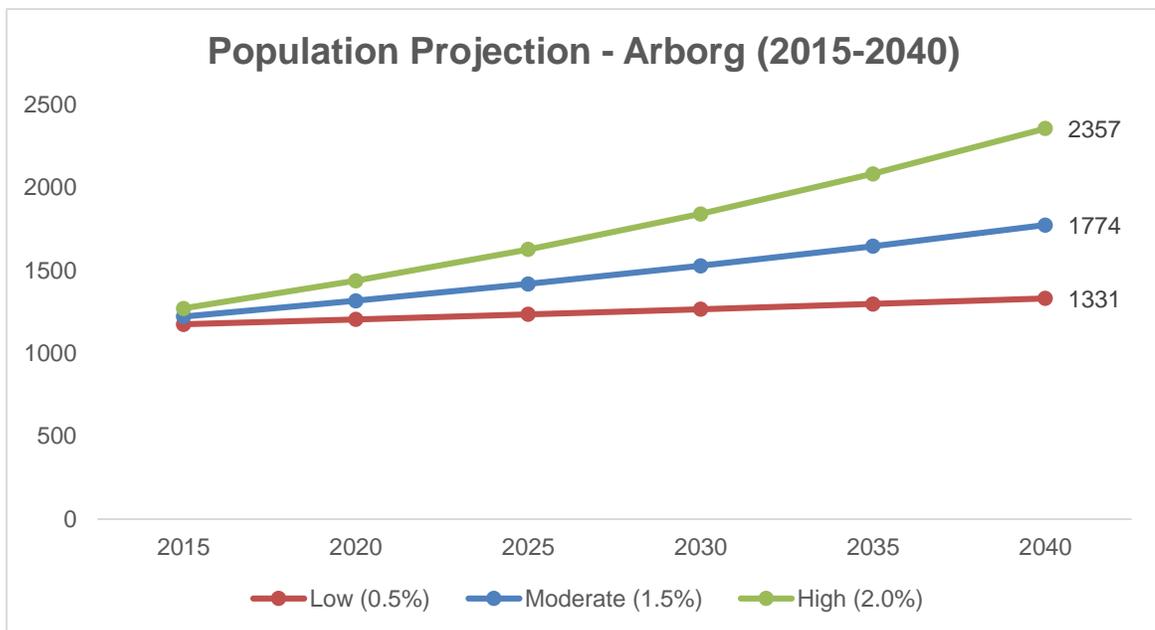


Figure 4-1 Population Projection – Arborg (2015-2040)

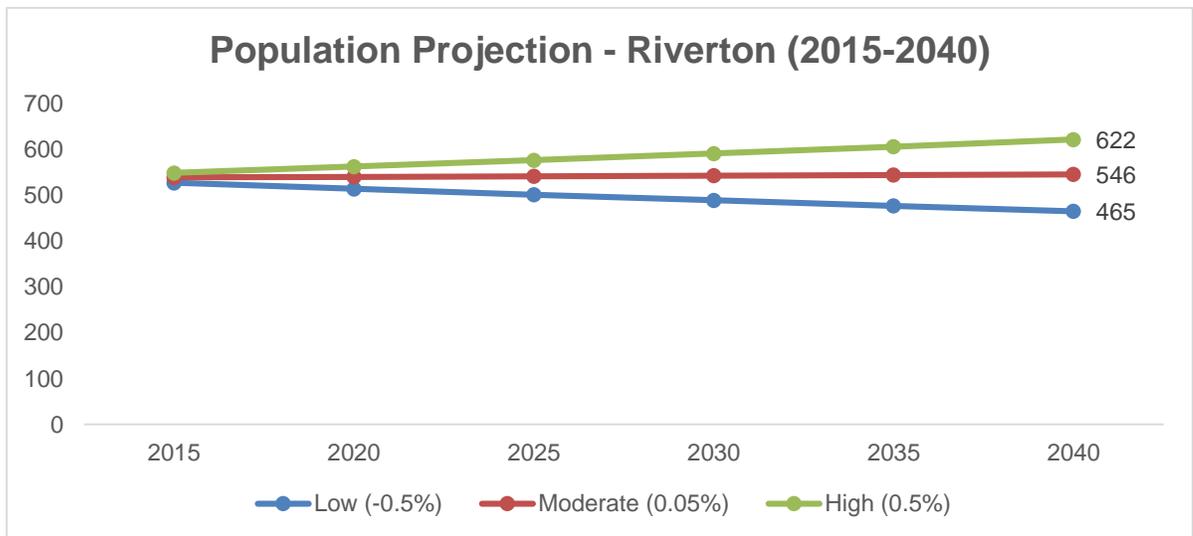
## 4.2 VILLAGE OF RIVERTON

The population of the Village of Riverton slowly declined at an average annual growth rate of -0.4% in the 20 year period between 1991 and 2011. The largest positive population change was from 1996 to 2001 when the average annual population change rate was +1.0%. The largest negative population change was from 2001 to 2006 when the average annual population change rate was -2.0%. In the most recent census period between 2006 and 2011, the average annual population change was +0.04%. Given the small population size of the Village of Riverton, relatively minor changes in the population can have a significant impact on the average annual population change. Given the rather irregular population change in the Village of Riverton, which between 1991 and 2011 experienced population decreases, increases, and an overall population decrease, a “low” annual growth rate of -0.5%, a moderate annual growth rate of +0.05%, and high annual growth rate of +0.5% were selected

for the Village of Riverton population projection. **Table 4-2** presents, and **Figure 4-2** illustrates, the population projection for the Village of Riverton in 5-year time intervals over the planning period assuming a base population of 538 in 2011 from the Statistics Canada data.

**Table 4-2 Population Projection – Riverton (2015-2040)**

PERIOD	LOW GROWTH SCENARIO (-0.50%)		MODERATE GROWTH SCENARIO (+0.05%)		HIGH GROWTH SCENARIO (+0.50%)	
	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD
2011	538		538		538	
2015	527	-11	539	1.1	549	11
2020	514	-13	540	1.3	563	14
2025	502	-13	542	1.4	577	14
2030	489	-12	543	1.4	591	15
2035	477	-12	544	1.4	606	15
2040	465	-12	546	1.4	622	15



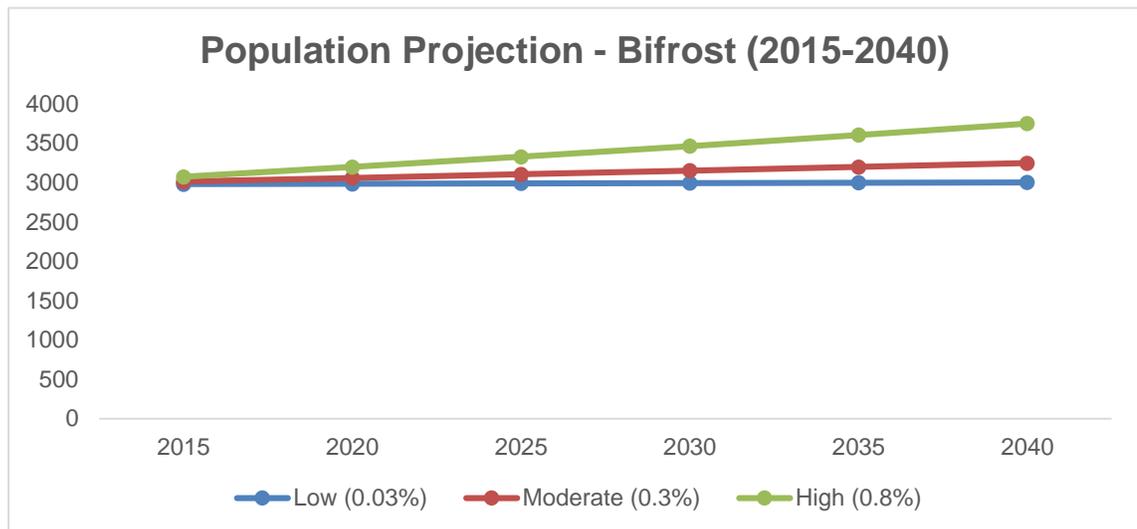
**Figure 4-2 Population Projection – Riverton (2015-2040)**

### 4.3 MUNICIPALITY OF BIFROST

The population of the Municipality of Bifrost increased by 226 people between 1991 and 2011 which amounts to an average annual growth rate of +0.4%. Most of the population growth occurred between 1991 and 2001 at an average annual growth rate of +0.8%. Between 2001 and 2011, the population increased at an average annual rate of +0.03%. Taking into account that the population saw higher growth in the 1990s and has leveled off in the past ten to fifteen years, the Bifrost population projection used a “low”, “moderate”, and “high” annual growth rate of +0.03%, +0.3%, and +0.8%, respectively, were used. **Table 4-3** presents, and **Figure 4-3** illustrates, the population projection for the Municipality of Bifrost in 5-year time intervals over the planning period assuming a base population of 2,976 in 2011 from the Statistics Canada data.

**Table 4-3 Population Projection – Bifrost (2015-2040)**

PERIOD	LOW GROWTH SCENARIO (+0.03%)		MODERATE GROWTH SCENARIO (+0.30%)		HIGH GROWTH SCENARIO (+0.80%)	
	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD	POPULATION ESTIMATE	POPULATION CHANGE BY PERIOD
2011	2,976		2,976		2,976	
2015	2,980	4	3,012	36	3,072	96
2020	2,984	4	3,057	45	3,197	125
2025	2,989	5	3,103	46	3,327	130
2030	2,993	4	3,150	47	3,462	135
2035	2,998	5	3,198	48	3,603	141
2040	3,002	4	3,246	48	3,750	147



**Figure 4-3 Population Projection – Bifrost (2015-2040)**

# 5

## HOUSING AND RESIDENTIAL LAND REQUIREMENTS

The moderate population growth scenarios were used to estimate potential housing units and related land requirements for the Plan Area over the 25 year planning period from 2015 to 2040. The estimates of land consumption are based on the assumption that the predominant housing format will be single-detached housing. Therefore, the estimates of land consumption for future housing should be regarded as a worst-case scenario in terms of needed acreage. Ideally, some of the required housing in the Town of Arborg and Village of Riverton could be accommodated in multiple-family housing of various formats and densities ranging from semi-detached units at 10+ units per acre, to townhouses at 15-20 units per acre, and apartments at 30-40 units per acre. This would reduce land consumption while ensuring a wide range of housing types for people and families across all income groups and life-cycle stages.

Accurate predictions of the nature and distribution of future growth cannot be easily accounted for in such a high level analysis. Accordingly, the estimates of future housing and land requirements should be regarded as order-of-magnitude estimates. The main purpose in presenting this information is to provide some basis for aligning the potential demand for residential land across the Plan Area with the amount of land currently designated for such development or available on an as-needed basis. The analysis will also promote discussion, taking into consideration servicing capacity, as to how future residential development can or should be accommodated within the Arborg Bifrost-Riverton area in a cost-efficient, fiscally responsible and environmentally sustainable way. The estimates are based on the following assumptions:

- The moderate growth scenario for the municipalities provide a reasonable predictor of the future population range.
- In estimating housing requirements, a persons-per-housing unit (PPU) ratio of 2.5 was applied to the Town of Arborg and Village of Riverton and a PPU ratio of 2.8 was applied to the Municipality of Bifrost based on the Statistics Canada ratio from the 2011 and 2016 Canada Census.
- The estimates of future land requirements assume that the predominant housing format will be single-detached housing in both urban and rural settings, which is the worst-case scenario in terms of land consumption.
- In order to estimate future residential land requirements for Arborg and Riverton, a yield of 4.0 units per gross acre was assumed which represents an average lot size of 60 feet by 120 feet with a 30% allowance for roads, land drainage facilities and open space.
- In order to estimate future Bifrost residential land requirements, an average unit yield of 2.0 units per gross acre was assumed, a figure that, theoretically allows for smaller lots of ½ acre or less to larger lots of 2 acres or more for both rural and cottage development.
- Cottage development in the Municipality of Bifrost is assumed to require land that is not captured in the population projections. Land required for cottage development was estimated based on permit data. Based on the Bifrost Zoning By-law, 3.0 units per gross acre was assumed.

## 5.1 TOWN OF ARBORG

Arborg would require construction of 221 housing units over the 25-year planning period, an average rate of almost nine units per year. If the housing was provided solely in a single-detached format, 221 units would require approximately 55 gross acres of land. **Table 5-1** shows the estimated demand for housing and the associated amount of land based on the population projections and assumptions.

**Table 5-1 Arborg Housing & Residential Land Demand (2015-2040)**

PERIOD	POPULATION INCREASE	NEW HOUSING UNITS (2.5 PPU)	ACRES REQUIRED (4 DU/ACRE)
2015-2020	94	38	9
2021-2025	102	41	10
2026-2030	110	44	11
2031-2035	118	47	12
2036-2040	127	51	13
<b>Total</b>	<b>551</b>	<b>221</b>	<b>55</b>

## 5.2 VILLAGE OF RIVERTON

Riverton would require approximately 3-5 new housing units over the 25-year planning period, an average of about one unit per every five years. Based on the assumption that all new units will be single-detached, approximately one to two acres of land would be required at an assumed density of 4 units per acre. Riverton has a number of vacant subdivided lots that could accommodate growth in Riverton. **Table 5-2** shows the estimated demand for housing and the associated amount of land based on the population projections and assumptions.

**Table 5-2 Riverton Housing & Residential Land Demand (2015-2040)**

PERIOD	POPULATION INCREASE	NEW HOUSING UNITS (2.5 PPU)	LAND REQUIRED (ACRES) (4 DU/ACRE)
2015-2020	1	0.5	0.13
2021-2025	1	0.5	0.14
2026-2030	1	0.5	0.14
2031-2035	1	0.5	0.14
2036-2040	1	0.5	0.14
<b>Total</b>	<b>5</b>	<b>3</b>	<b>1</b>

### 5.3 MUNICIPALITY OF BIFROST

The Municipality of Bifrost has different residential land requirements than the Town of Arborg and Village of Riverton because it includes agricultural areas, cottage areas, settlement centres, and rural residential development, etc. This makes it slightly more difficult to determine how much land will be required because a farm split for example could be multiple acres. Therefore population projections were used to estimate the number of new housing units, excluding cottages that will be required. It is assumed that these housing units will be accommodated by farm yard splits and other rural residential outside of the Village of Riverton and Town of Arborg. Based on this assumption and the population projection, the Municipality of Bifrost will require 83 housing units, or an average of about three units per year, over the 25 year planning period. It is assumed that these new housing units can be accommodated through current land use designations and, if not, land should be re-designated and re-zoned to accommodate the growth.

**Table 5-3 Bifrost Housing & Residential Land Demand (2015-2040)**

PERIOD	POPULATION INCREASE	NEW HOUSING UNITS (2.8 PPU)
2015-2020	45	16
2021-2025	46	16
2026-2030	47	17
2031-2035	48	17
2036-2040	48	17
<b>Total</b>	<b>234</b>	<b>83</b>

Although population growth is assumed to contribute to some demand for land, it is assumed that most of the land demand in the Municipality of Bifrost-Riverton is likely to come from cottage development. To determine the amount of land needed for cottage development building permit stats were used. **Table 5-4** presents residential building statistics for Bifrost Riverton from 2005 to May 2016. The numbers indicate that the Municipality of Bifrost-Riverton averaged 1.1 residential permits per month, or approximately 13 permits per year, for the period in question. Based on a persons-per-housing unit (PPU) ratio of 2.8, this would equate to 36 additional seasonal residents per year. However, this is not consistent with the census population data. In roughly the same period as the building permit stats, the population of the Municipality of Bifrost increased by approximately ten people and based on the amalgamated population data for the Municipality of Bifrost-Riverton the population decreased. Therefore, we could assume that the majority of these permits were for cottage development and that the amount of land required for cottage development is not captured by the population projection.

Table 5-4 Bifrost-Riverton Residential Permits (2005-2016)

YEAR	PERMITS	MONTHLY AVERAGE
2005	17	1.4
2006	17	1.4
2007	26	2.2
2008	18	1.5
2009	12	1.0
2010	14	1.2
2011	11	0.9
2012	11	0.9
2013	9	0.8
2014	9	0.8
2015	11	0.9
JAN - MAY 2016	5	1.0
<b>OVERALL</b>	<b>160</b>	<b>1.2</b>
Source: East Interlake Planning District 2016		

The Bifrost Zoning By-law states that the “SRG” Seasonal Recreation General Zone is intended for cottages. Additionally, the “SRR” Seasonal Recreation Residential Zone is likely to accommodate cottage development although it is mainly intended for residential uses. The minimum site area permitted for these zones is 15,000 sq. ft., or 0.34 acres. Based on the permit data, we assume that there will be approximately 12 permits per year for cottage development. Therefore between 2015 and 2040, there is approximately 100 gross acres required for cottage development

Table 5-5 Bifrost Cottage Land Demand (2015-2040)

PERIOD	COTTAGES	LAND REQUIRED (ACRES) (3 DU/ACRE)
2015-2040	300	100

# 6 LAND SUPPLY

## 6.1 METHODOLOGY

An analysis of vacant land within the Town of Arborg and Village of Riverton that is designated residential in the Development Plan was undertaken in order to assess the amount of land available for future residential development. Lands designated residential in the Development Plan were overlaid on an aerial map to identify areas that were vacant. The vacant parcels were also verified as vacant through data that was available from the tax assessment and verified by local knowledge.

## 6.2 LAND INVENTORY AND PROJECTED SUPPLY AND DEMAND ANALYSIS

There are approximately 88 gross acres of vacant land designated residential in Arborg and approximately 74 gross acres of land designated residential in Riverton that is presumably available for development (**Table 6-1**). In addition, there is approximately 5 gross acres of land adjacent to the southwest boundary of Arborg that is available for development. Vacant land for the Municipality of Bifrost was not available at the time this report was written. **Figure 6-1** shows that most of the available land in Arborg is in the northwest and northeast areas of town. In Riverton, most of the vacant residential land is located on the west side of town and north part of town (**Figure 6-2**).

**Table 6-1 Plan Area Residential Land Supply and Demand (2015-2040)**

	RESIDENTIAL LAND SUPPLY (GROSS ACRES)	LAND DEMAND (GROSS ACRES)
Arborg	88	55
Riverton	74	1-2
Bifrost	N/A	100+

According to the moderate population projection, the overall amount of land that will be needed to accommodate growth in the Plan Area over the study period is more than 100 gross acres.

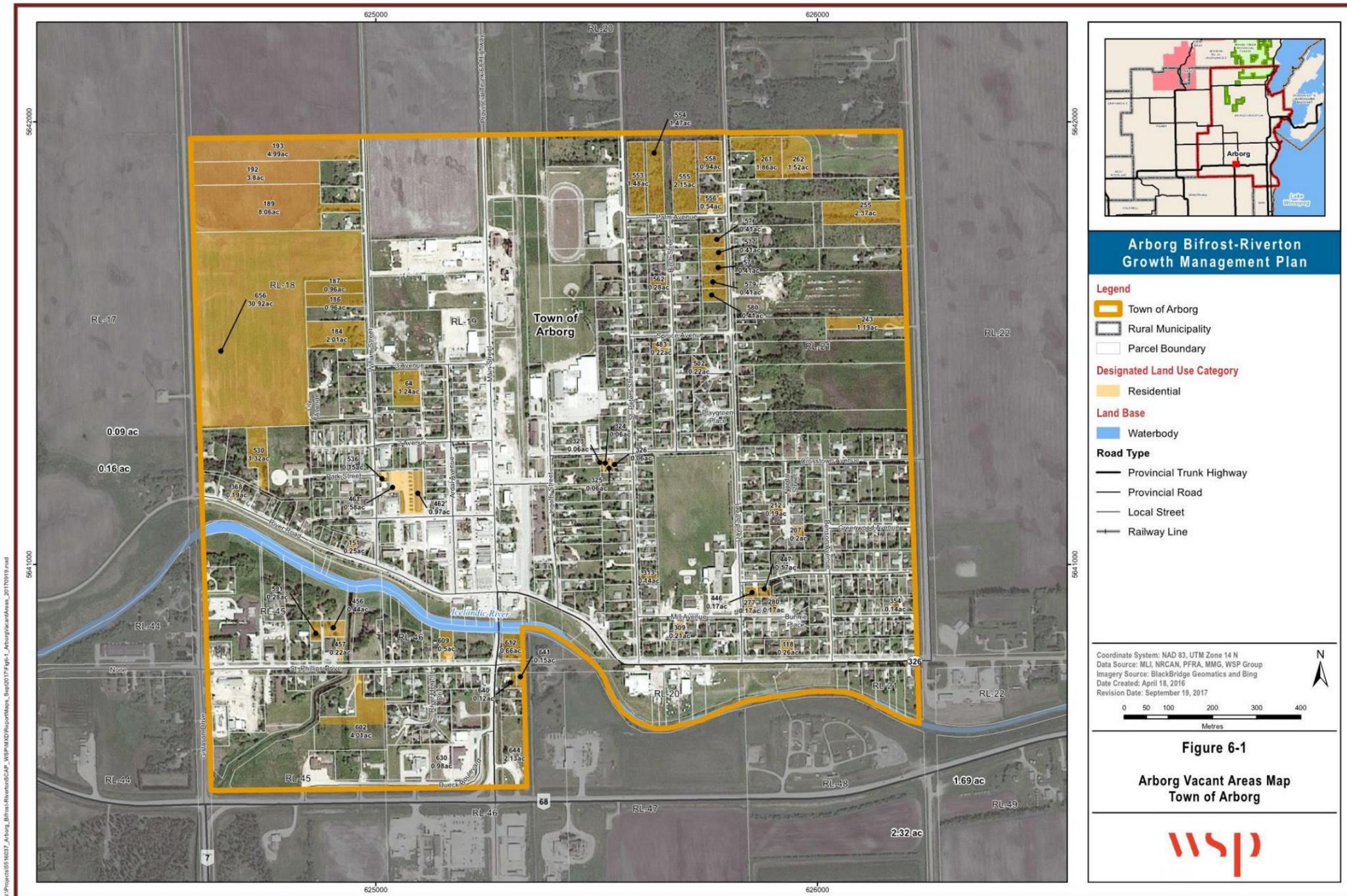


Figure 6-1 – Arborg Vacant Areas Map

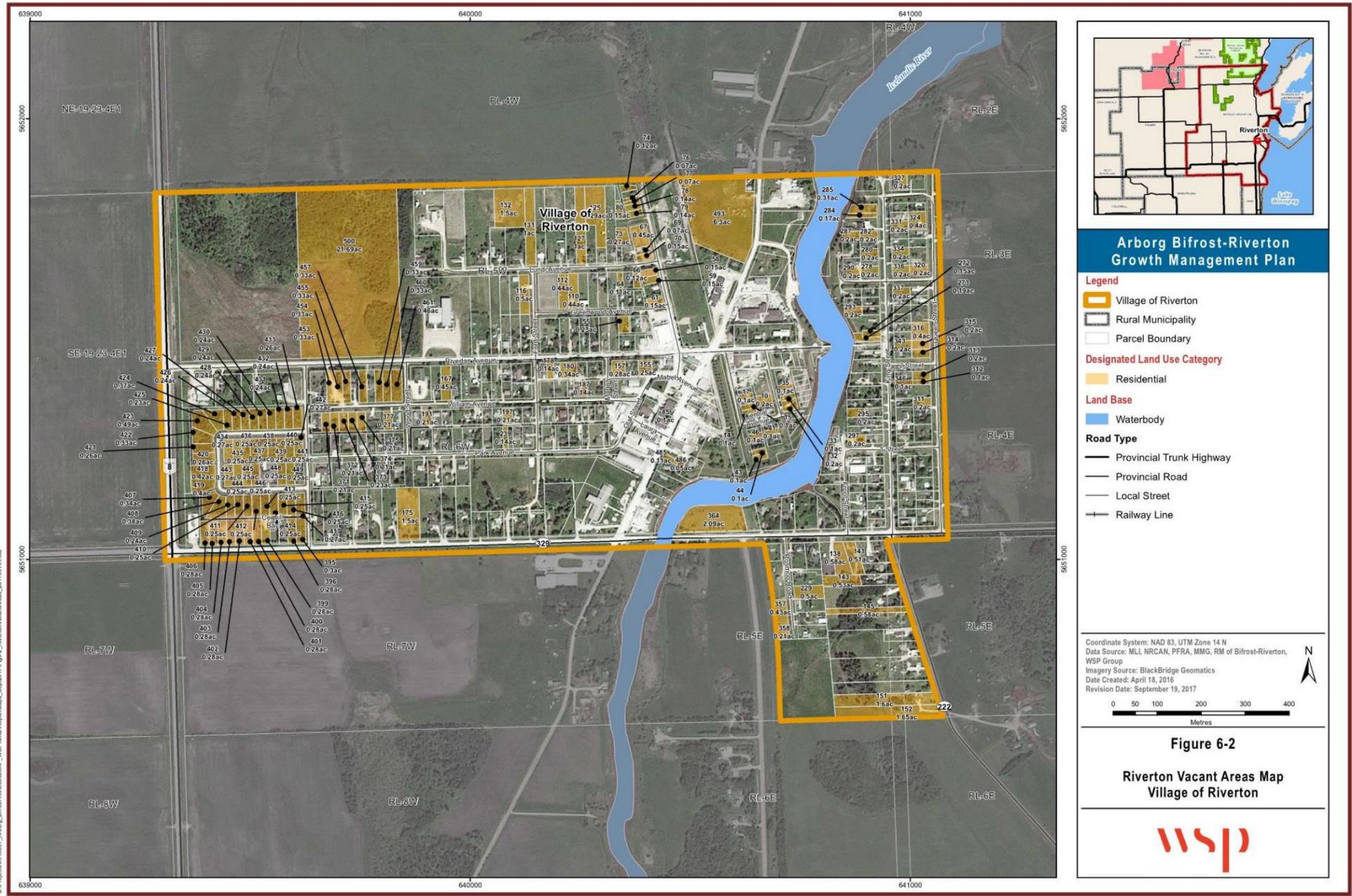


Figure 6-2 – Riverton Vacant Areas Map

Historically Arborg has experienced the highest growth rates in the Plan Area and it is anticipated that Arborg will continue to experience more growth than the Municipality of Bifrost-Riverton because it has established itself as the main service centre for the northern Interlake area and has municipal infrastructure such as a public water system that could attract residential, institutional, and industrial growth. This underlines the importance of strengthening Arborg as a well-serviced and well-functioning town in order to attract newcomers while reducing the voluntary out-migration of people and families to communities and regions perceived as offering better services, more jobs and business opportunities, and a better quality-of-life. Riverton also has significant potential to serve the Plan Area as an attractive alternative to Arborg for residents and retirees wanting to live in a smaller community.

From a land use perspective only, and based on the moderate growth population projection, Arborg has enough available land to support residential growth to 2040 and beyond; there are an additional 33 gross acres available for single family residential development than what is needed.

The Municipality of Bifrost-Riverton, which includes the Village of Riverton, requires more than 150 gross acres of land to accommodate population growth, based on moderate a growth projection, and cottage development. It is anticipated that most of the growth in the Municipality will be for cottage development within the Village of Riverton and the surrounding area. On its own, the Village of Riverton has experienced relatively low growth over the years and has more than enough land available to accommodate future growth which is projected to remain quite low. If the Village of Riverton does experience unexpected growth, there will be enough land to accommodate that growth. This growth could come as a result of the potential cottage and recreation industry, and also from growth in Arborg. At this time, there is no data on vacant land in the remaining areas of the Municipality of Bifrost-Riverton, but it is expected that most of the growth in the municipality will occur as a result of cottage development, farm yard splits, and other rural residential outside of the Village of Riverton and Town of Arborg.

# 7

## SERVICING NEW DEVELOPMENT

The vacant inventory and projected supply and demand analysis found that there is enough vacant land in the Town of Arborg and Village of Riverton to accommodate future population growth. In addition, there is some room for growth outside of the urban centres of Arborg and Riverton. The following section outlines the cost to service the lands that have been designated for residential development and that would be most likely to accommodate future growth.

The following assumptions were used to estimate the cost of servicing:

- The quantities shown are approximate;
- The size of
  - Water mains are 150mm.
  - Sewer mains are 200mm.
  - Water/sewer service connections is 20mm/100mm.
- New roads are assumed to be asphalt paved with curb and gutter to existing drains or surface ditches;
- All cost figures are approximate orders-of-magnitude. More refined budgets will require specific investigations prior to development and actual costs will vary based upon site conditions and construction market conditions;
  - Linear costs for water mains: \$300/m including pipe, valves, hydrants, fittings (tees etc.)
  - Linear costs for sewer mains: \$300/m including pipe and manholes
- Unit costs for lot service connections: \$3500/ea. for water/sewer in subdivisions, \$5000/ea. W&S on existing roads (incl tunneling or asphalt repair); \$2000 sewer only (Riverton);
- Linear costs for roads: \$800/m incl excavation, base, asphalt, curb & gutter (Arborg). As most roads in Riverton are not paved (including the newer Coghill Bay development), it is assumed that additional developments needing roads would incorporate open ditch drainage and gravel surfacing, at a cost of \$300/m;
- Per acre cost of water, sewer, paved roads (@ 4 lots per acre): \$80,000/acre; sewer & gravel roads only: \$38,000/acre; and
- Sewage lift stations: \$300,000 installed, including prefab fiberglass barrel with all mechanical & electrical but no standby generator (another \$75,000).

### 7.1 TOWN OF ARBORG

According to available plans, the following parcels are contiguous to existing water mains, sewer mains and roads, so servicing would involve only construction of service connections (W&S: \$5000/lot including either tunneling or road restoration):

184,186,187, 189, 192, 193, 243, 255, 261, 262, 456, 530, 553, 554, 555, 558, 591, 640, 641, 656

The following parcels require services. In many cases, contiguous or neighbouring parcels must be serviced concurrently:

#### North-West District

William Street, Parcels 184, 186, 187: require WM & WWS extensions N of 3<sup>rd</sup> Avenue (100m water and sewer mains @ \$600/m = \$60,000); road exists; internal servicing (water, sewer, road) for 15 lots on 4ac \$320,000 for a total **\$380,000** (less if they are not urban/single family lots; if the site is occupied by a three storey walk-up, internal servicing costs would be less).

Gislason Drive, Parcels 189, 192, 193, 656: this area requires extension of water and sewer mains from William Street and along Gislason Drive (\$60,000 + potentially another \$60,000 if 184/186/187 are not also developing along William Street), as well as a sewage lift station (\$300,000). The internal servicing of this area will be (46ac @ \$80,000/ac) \$3,680,000, for a total **\$4,040,000-\$4,100,000**. Due to the size of the area, servicing can be done in phases.

#### North District

- North District (i.e., north of Palm Avenue and to the east and southeast of Palm) requires a sewage lift station (\$300,000)
- Palm Avenue, parcels 553, 554, 555, 558: require water and sewer mains and service connections on St. Peter Street, Birch Street and David Street (600m @ \$1000m equivalent) \$600,000 plus road on Birch Street (200m @ 800/m) \$160,000 for a total **\$760,000**, plus a share of the new north end lift station.
- North end of David Street, Parcels 261 & 262 require 200m of water and sewer mains to be built back to Palm Avenue (@ \$600/m = \$120,000) plus internal servicing (9ac @ \$80,000/ac) \$720,000, for a total **\$840,000** plus a share of the new north end sewage lift station.

#### North-East District

- East Boundary Road, parcels 243 & 255: these appear too narrow to create a conventional cul-de-sac; 243 will only be developable as one single family lot or as a multi-family running east-west, 255 might accommodate a road with lots on one side. Either one will need a sewer running west to the new north end lift station, plus a watermain running south to Crosstown Avenue. The sewer to service 255 from the lift station will cost (300m @ \$300/m) \$90,000, plus road (200m @ \$800/m) \$160,000, plus internal water & sewer (\$155,000, with lots only on one side of the road), plus the watermain down to Crosstown (550m @ \$300) \$165,000, for a total **\$570,000**, plus a share of the new north end sewage lift station, less any contributions from the developer of lot 243 which would piggy-back on those services. There is no point considering 243 on its own, but the incremental *additional* cost for servicing 243 once 255 is serviced, would be 200m of sewer (\$60,000).

#### South-West District

- Parcels 640 & 641 (east of Main Street): Approx. 50m sewer and 75m watermain need to be extended, plus service connections, at a cost of about **\$40,000**. The road already exists.
- Parcels 456 & 591 (north of St. Phillips): Approx. 75m of water and sewer main and services for each parcel, are needed at a cost of about **\$50,000**.

### Miscellaneous

For those parcels contiguous to existing water and sewer mains but without service piping to the property line, the estimated cost is **\$5,000**.

## 7.2 VILLAGE OF RIVERTON

According to plans provided by the Municipality, the following parcels are contiguous to existing sewer mains and roads, so servicing would involve only construction of service connections (\$1750/lot excluding either tunneling or road restoration):

16, 32, 33, 35, 55, 58, 61, 64, 66, 110, 112, 116, 127 (south half), 138, 141, 155, 157, 167, 175, 178, 180, 187, 229, 239, 278, 280, 282, 284, 285, 324, 331, 334, 336, 337, 343, 346, 357, 358, 395, 396, 399, 400, 401, 407-449 (inclusive; "Coghill Bay")

The following parcels require services. In many cases, contiguous or neighbouring parcels must be serviced concurrently:

### South-West District

- PR329/ Thompson Drive: parcels 402-406 require a sewer main and servicing to property lines (100m & 6 services) **\$40,000**. The PR road is asphalt paved.
- William Avenue west of Wood Street: sewer main and street exist; 13 parcels, sewer service lines **\$30,000**.
- William Avenue: 15 parcels (371-375, 377, 453-461), between Wood Street & Tanis Street: street exists, sewer main and sewer service lines required, **\$100,000**.

### North-West District

- Riverton Avenue, parcel 500: approx. 22 acres, all internal servicing (sewer, roads, drainage) (\$725,000) plus a lift station \$300,000, for a total **\$1,025,000**.
- Lundi Avenue, south half of parcel 131 is serviceable from the Lundi Avenue sewer, **\$1750**; 132 and north half of 131 need to be serviced by a new sewer on Larus Avenue, along with the north halves of parcels 125 and 127: possibly 6 lots, **\$100,000**; but a sewer to service parcels 73-80 on Thorvaldson Street needs to be constructed first.
- Thorvaldson Street, parcels 73-80, sewer and service lines, **\$74,000**.

### Central District (east of old rail line, west of river)

- Parcel 493, 6 ac, internal sewer servicing for 24 lots, **\$186,000**.
- Parcels 10, 14, 15, 17, 41, 43, 44, 46, sewer and service lines, **\$74,000**.

### East District (east of river)

- Thompson Drive, Parcel 364, possibly 6 lots, **\$70,000**.
- King Street SE, Parcel 145, short sewer extension & service line, **\$14,000**.
- King Street SE, Parcels 151 & 152, possibly 10 lots, sewer & service lines, **\$168,000**.
- Queen Street, parcels 311-316 & 320 7 lots, sewer & service lines, **\$117,000**.

- Front Street, parcels 295 & 297, sewer & service lines, **\$33,000**.
- Front Street, west side of parcel 273, extended service line, **\$8000**; east side of lot already serviceable from existing King Street sewer.
- Front Street, parcels 287 & 290, sewer & service lines, **\$63,000**.