Final Report - 24 April 2023


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## Revision Log

| Revision \# | Revised By | Date | Issue / Revision Description |
| :---: | :---: | :---: | :--- |
| 1 | FSL \& PINTER | 31 May 2022 | Preliminary Draft Report |
| 2 | FSL \& PINTER | 31 Jan 2023 | Preliminary Draft Report (post-CEE, Pre-Open House) |
| 3 | FSL \& PINTER | 06 Apr 2023 | Final Draft Report (post Open House) |
| 4 | FSL \& PINTER | 24 Apr 2023 | Final Report |

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## Executive Summary

This Community Development Plan describes a long-term land use concept reflecting the current initiatives and priorities of Zagime Anishinabek for the core community at IR 74. It also has content regarding Shesheep IR 74A, Little Bone IR 74B and Minoahchak IR 74C.

This document was created through the process of reviewing previous reports, analysing current information, ZA project team involvement and input through community member participation. This plan describes the physical environment, existing development pattern, infrastructure priorities, population projections, housing and capital schedules, and future development concepts.

Focus Group Community Engagement Events occurred in Yorkton on October 12 ${ }^{\text {th }}, 2022$ and at the Community Centre on October $13^{\text {th }}, 2022$. A community open house come-and-go event took place on March $27^{\text {th }}, 2023$. There were also multiple on-site meetings with the project team.

Over the next 20 years, the number of on-reserve residents is expected to increase from 325 in 2022 to 397 in 2042.
To accommodate existing and future residents a minimum of 23 additional housing units are required in order to satisfy an average household size of 3.2 over the next 20 years. The Residential Expansion Areas establish potential development sites for future housing.

Figures representing the physical geography, proposed land use, infrastructure and future growth areas are included in Appendix B.

The 5-Year Capital Plan in Appendix A lists projects to be commenced as soon as practicable and that are considered appropriate for the near future. Other development initiatives that are listed without an estimated budget or schedule are still included so they are not forgotten and can be scheduled at a later appropriate time.

Special thanks to Chief Bonnie Acoose and her Councillors and Staff for their knowledge and insight regarding the Reserve lands, Band membership and their goals for the future.

Also, thanks to Kay Lerat and Arielle Sparvier for their leadership and actions regarding the coordination of people and information within the community.

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## 1. Introduction

### 1.1. Purpose and Background

This is a Community Development Plan (CDP) that addresses future development for the next 20 years and provides associated development cost schedule within the 5 -Year Capital Plan. This CDP will identify and discuss development areas, population analysis, housing, facilities, provide a conceptual layout of potential land use, establish land use goals, objectives, development initiatives and infrastructure requirements.

This document considers the short, medium and long-term requirements for Zagime Anishinabek community development. CDP updates are required every 5 years to maintain accuracy and relevance for future projects. It is prudent that annual reviews take place to update population data, observe housing milestones and update the Capital Plan. This CDP should be used as a reference and resource during leadership discussions and throughout the decision-making process. Some content is included as an informational reference. Other sections provide conceptual explanations and some sections are intended to provide a specific direction regarding future growth. The overall objective of the CDP is to promote a built environment that will grow in an orderly, manageable and safe manner to suit the needs of existing and future generations.

The previous Community Plan for ZA was created in 2013/2014. It includes well thought out content and provided the membership with excellent consultation opportunities to provide their personal input. Some components of the previous plan are mentioned and carried forward in this report. A hardcopy of the "Sakimay First Nations Community Plan" may be viewed at the Band office for review or reference.

## Zagime Anishinabek Guiding Vision

Live well, on earth, with all our relations.

## Community Vision Statement

With respect for ourselves, the land, and our traditional teachings, we will work together to become a happier, healthier, and empowered Sovereign nation.

Hardcopies (bound colour prints) and digital PDF file of the CDP have been delivered to ZA staff for distribution.

Digital CDP and supporting data files are stored by PINTER \& Associated Ltd. and within the client files at Finch Services Ltd. in Saskatoon.

FSL Project File Number: 002-001-000 Zagime Anishinabek CDP 2022

### 1.2. Study Process

This planning report was prepared for the people of Zagime Anishinabek. Discussions and meetings with ZA staff developed a schedule and data collection process which was used to gather information and generate specific details of the document. Key community member focus groups provided their input regarding future development. Supporting data was gathered from government departments, provincial Ministries, Band staff and ISC. Comments received during the open-house event were integrated to give a comprehensive review of the community and provide an analysis of future growth requirements.

The CDP applies input from various information sources such as: the 2022 on and off-reserve surveys, the previous 2014 CCP, Council Mandates, Capital Planning Meeting summaries, the 2 day community focus group engagement events, the community open house, as well as other internal documents.

The community must continue the discussion regarding development and growth on a regular basis. There should be regularly scheduled meetings held to review this document and determine any required adjustments to suit the situation of the Reserve at that time. (review annually as a minimum)

This report is intended to apply to all members and residents of ZA, regardless of ancestry, status, current affiliation, age or Reserve of origin. These plans and guidelines are for the use of all people living in this community.

### 1.3. Project Team

Table 1.1 - Project Team
\(\left.$$
\begin{array}{|c|c|}\hline \text { Title } & \text { Staff } \\
\hline \text { Chief } & \text { Bonnie Acoose } \\
\hline \text { Councillors } & \begin{array}{c}\text { Dana Acoose } \\
\text { Paula Acoose } \\
\text { Amber Sangwais } \\
\text { Cynthia Sangwais } \\
\text { Rachel Sangwais } \\
\text { Randall Sparvier } \\
\text { Ruth Whitehat }\end{array} \\
\hline \begin{array}{c}\text { Executive Director } \\
\text { Governance Manager } \\
\text { Lands \& Infrastructure }\end{array} \\
\text { Lifelong Learning \& Wellness } \\
\text { Central Services } \\
\text { Community Navigator }\end{array}
$$ \quad \begin{array}{c}Ken Acoose <br>
Shadrack Ogedegbe <br>
Wanda Sangwais <br>

Gordon Burns\end{array}\right\}\)| Kay Lerat \& Arielle Sparvier |
| :---: | :---: |

### 1.4. Mapping Program

Maps and plans within this report are included in Appendix B as "Figures". Mapping is compiled from a variety of sources. Physical geography figures are based on National Topographic Survey, site visits and Land Directorate Mapping. Land use and Infrastructure development is established from site visits and the existing ZA data files. Refer to the title block on each figure for scale and orientation. Satellite images are taken from Google EarthPro imagery from 2022. Government of Canada mapping data has been included from "Canada Land Inventory, National Soil Database, Agriculture and Agri-Food Canada. 1998".

The Reserve is generally located in the centre of NTS 62L.

### 1.5. Community Consultation

From the beginning of the planning process, ZA department staff and the Community Navigator participated in discussions regarding development, activities and priorities of the Reserve. Their comments, local knowledge and perspective is reflected in this report content. Through an open forum of discussion, thoughts and ideas regarding current and future population growth was identified. The ZA project team had a strong awareness of the community members' current concerns and were able to provide insight regarding new development programs and action items.

Council representatives and administration were well aware of the issues that face the people of Zagime, Shesheep, Little Bone and Minoahchak Reserves. Their input on behalf of the residents has been well received and helped shape the content of this report.

The first Community Engagement Event, an on-site community consultation, took place on October $12^{\text {th }}$ and $13^{\text {th }} 2022$. The engagement events were held on-reserve at the Community Centre gym and also in Yorkton at the Gallagher Centre. The meetings in Yorkton were held as a more accessible option for the Little Bone and Minoahchak residents. Multiple meetings took place with focus groups over the 2-day period. Community members had knowledgeable and valid comments that are incorporated into the recommendations of this report. An open forum of guided discussion occurred with multiple groups:

- Chief
- Department Directors \& Managers
- Youth Council
- Little Bone \& Minoahchak Advisory Group

A third event, a Community Open-House presentation event, was held on March $27^{\text {th }} 2023$ again at the Community Centre gym. Community members received an overview of the report and were able to view reference mapping and figures outlining areas for future growth. Members provided feedback and comments that were included into the final report.

At all meetings, similar concerns were raised regarding: amount and quality of housing, public overall health, mental health, facilities, public safety, quality of life and social programs.

## 2. Location and Regional Context

### 2.1. Location and Access

Zagime Anishinabek IR 74 is located in south-east Saskatchewan. The Reserve is approximately 140 km east of the City of Regina along Highway 1 which is also the main access to the region. It is a wellestablished highway and open year-round. Highway 47 provides local access to the main Reserve. City of Melville is 30 km north along Highway 47 and Town of Grenfell is only 20 km south from the Reserve core area.

Neighbouring Cowessess FN IR 73 is directly east and shares the entire eastern border of Zagime Anishinabek IR 74 ..

The Qu'Appelle River, flowing west to east, forms the north boundary of ZA IR 74 and separating it from Shesheep IR 74A directly to the north. Crooked Lake is the nearest lake, forming part of the Qu'Appelle River Valley. Both Crooked Lake and the Qu'Appelle River allow water transportation to other nearby communities and the greater valley system.

The nearest airport is east of the City of Melville, TC LID: CJV9.
The Reserve is generally located in the centre of NTS sheet 62L.
Saskatchewan land description: Township 19, Range 07, west of the 2nd Meridian.
Zagime IR 74 village core site is located at: $50^{\circ} 31^{\prime} 41^{\prime \prime} \mathrm{N}, 102^{\circ} 47^{\prime} 36^{\prime \prime} \mathrm{W}$.
According to Indigenous Services Canada (ISC), the total Reserve area for ZA is 13,000 ha ( 32,125 acres). With the largest Reserve being IR 74 covering 8,751 ha ( 21,625 acres).

ZA is within the Treaty 4 area.
For location context also refer to Figure 1 \& 2 in Appendix B.

### 2.2. The Community

There is a relatively high amount of services available on-reserve. There is currently: a Band administration office, Machine Shop, Daycare, playground, Health Clinic, Goose Lake School (elementary grades) with classroom addition, Community Centre/Gym, business trailers, recreation grounds, fuel and convenience store, Powwow Grounds, Church, Culture Camp and beaches.

For other requirements, people are accustomed to traveling off-reserve. Most residents travel off-reserve to obtain services not locally available. City of Melville, City of Yorkton, City of Regina are the main urban centers that provide most of the required medical, dental, and grocery services.

Students travel to Town of Grenfell for high school and older students typically move off-reserve to urban centers for post-secondary training.

The Reserve has 3 main built up areas. The village core, within the central area of the Reserve. The north village cluster of housing, store, cultural area and sports fields. The lakeside cabins, beach and RV campground at Crooked Lake.

A common theme that surfaced during community consultation events was the feeling among membership of separation between the 4 Reserves within ZA. Many residents from Little Bone and Minoahchak feel isolated from the main Reserve that is larger, has the community service amenities and the core village site. Residents on all the Reserve housing areas agree that there must be ongoing effort to maintain and expand social and cultural connections so that the overarching concept of identity within ZA is not eroded more that it already has been.


## 3. Physical Environment

### 3.1. General

The ZA Reserves are located within the Prairies Ecozone. The general terrestrial makeup is Aspen Parkland due to its climate, vegetation, soil, water, and plant life. It is within Ecodistrict 752. The primary and dominant classifications are for agricultural production and waterfowl habitat. There is a special area surrounding Crooked Lake that is important for waterfowl migration. The local physical environment is heavily influenced by agricultural operations, the Qu'Appelle Valley, Crooked Lake and Ekapo Creek. The physical geography of the Reserve appears to be somewhat of a transition area between larger areas of classification. i.e., as opposed to being located well in the centre of a classification area.

Information reference: Canada Land Inventory, National Soil Database, Agriculture and Agri-Food Canada. 1998.

### 3.2. Soils and Agriculture

The soils in this area are generally drained by the Qu'Appelle River and its' tributaries. The natural landscape is mostly parkland vegetation of fescue prairie interspersed with groves of trees. The growing season ranges from approximately 164 to 174 days from about the end of April to mid-October. Roughly $60 \%$ or the moisture to the area falls within the growing season.

There are four distinct soil classifications on Reserve. A southern area along the south Reserve boundary, a large central area making up the prominent soil class on-reserve, a small north band, and a narrow swath that is parallel Crooked Lake shoreline. The edges of each area intermix with the adjacent areas. The soil zones roughly follow an east-west orientation.

The southern soil zone is mostly Class 4 mixed with small areas of Class 5 at the very south edge of the Reserve and a narrow section of Class 6 extending east into the Cowessess IR. This area has one or more soil limitations due to low permeability, a restricted rooting zone, low natural fertility, low moisture holding, and/or salinity.

The central soil zone of Class 2 soil dominates the majority of the Reserve. This area has desirable qualities that are favorable for farmland and is the best agricultural land on-reserve. It also has one or more soil limitations due to low permeability, a restricted rooting zone, low natural fertility, low moisture holding, and/or salinity.

The north soil zone is a combination of Class 4 and Class 3 with some small areas of Class 6 . And, like the other zones has one or more soil limitations due to low permeability, a restricted rooting zone, low natural fertility, low moisture holding, and/or salinity.

The northern most band is Class 6 soil that is parallel the south shore of Crooked Lake and also the north shore in Shesheep IR. This soil type is not unique to the Reserve and follows the entire Qu'Appelle River on the north and south banks. This soil type is only capable of producing perennial forage crops. Some grazing may be appropriate, but limitations are so severe that improvement by use of farm machinery is impractical. As may be expected, the limitations are due to steep topography, slopes, and erosion damage.

### 3.3. Recreational

The shore area of Crooked Lake and the Qu'Appelle River provide the best sites for recreation use and development. The steep wooded slopes and coulees add to the attractiveness of the site and are well suited for walking, camping and day use activities. The meandering River is navigable by canoe and small boats.

A defining feature of this region is the Qu'Appelle trench which cuts deeply into the surrounding plain from west to east. Upland birds are common the entire area, as are ducks and geese in the potholes and sloughs. Angling is very popular in the lakes of the Qu'Appelle Valley and many species of fish can be found.

Land can be classified into 7 categories of potential for outdoor recreation that could be sustained over a year. The rating system assumes perfect market conditions. The ZA main Reserve has three separate Classification zones.

The majority of the Reserve land is all Class 5. It has moderately low capability for outdoor recreation. Throughout the Reserve there are opportunities for viewing upland wildlife, general activities like hiking, nature study or for aesthetic appreciation and areas exhibiting cultural or social interest.

A small area of Class 6 extends from Cowessess IR into the southeast corner of Zagime IR following the Ekapo Creek. This Class has low capability for outdoor recreation. But this area does have sites for viewing wildlife and opportunities for hiking, nature study or aesthetic appreciation.

Along the lakeshore there is a combination of 3 classifications which are mirrored to the north in Shesheep IR. In approximately equal portions, the site has: high, moderately high and moderate capability for outdoor recreation. The main features of the area are: access and opportunity for angling, family beach activities, camping, cabins, hiking, nature study and boating.

### 3.4. Wildlife

The combination of rolling topography and abundant tree cover provide moderately good habitat for both upland and wetland wildlife.

Wildlife classifications are based on the sufficient quality and quantity of food, protective cover and space for survival and reproduction. The Reserve lands are Class 3 in the central-west area and Class 4 in the north, east and south areas. All areas on-reserve have similar and moderately high capability for wildlife. There are some limitations based on poor distribution of landforms necessary for habitat and possible lack of nutrients in the soil for food plant growth. Typical ungulate wildlife to this area include white-tailed deer and mule deer.

On the north shore of Crooked Lake in Shesheep IR, there is a portion of Class 5 having moderately low capability to support wildlife due to climate and wind that adversely affect animal habitat.

The west side of the Reserve has Class 2 high waterfowl habitat capability and is part of a much larger region that extends far to the west. Poor distribution of marshes is the main limitation that may prevent an optimum habitat environment.

The east side of the Reserve is Class 5, moderately low capability for waterfowl. Likely due to topography and poor interspersion of water areas.

Similar to the other lakes along the Qu'Appelle River, Crooked Lake is a special area that doesn't have capability for annual production but is an important area for migration and wintering.

Shesheep IR is Class 1 with very high capability for waterfowl production and habitat. There is a wide variety of important habitat elements such as topography, marshes, and open water.

ZA received 22 bison from Peepeekisis Cree Nation and Loko Loa on January $7^{\text {th }}$, 2020. As well, on October $4^{\text {th }}$, 2021 Zagime signed an agreement with Plains Bison from Grasslands National Park of Canada to transfer over 24 bison. They have been ranching and caring for them and there are now approximately 115 in the herd. The bison are a great source of interest and pride within the community. The intent is to raise sufficient stock and be able to gift approximately 22 to another First Nation that signs the Buffalo Treaty. A few bison are slaughtered each season for local food supply and to continue historical cultural practices. There is an opportunity for bison ranching to become a training program and also a commercial business.


## 4. Existing Land Use

The main Reserve has multiple land uses that are well established. Land uses that are common to most communities are also found here: Residential, Commercial, Community Service, Cultural, Recreational, Agriculture, Transportation and Infrastructure. These uses are prominent, important and have had a longterm role for the community.

There has been only minimal on-reserve development since the previous community plan was created and only a few of the previous development ideas have been started. The 8 lot cul-de-sac in the village core is the main housing development in recent years.

### 4.1. Residential

Housing is almost entirely established in a rural setting. Most houses are dispersed along the 2 main collector roads with some along the smaller grid roads. Lots have no defined boundaries and are typically surrounded by a buffer of natural open space. Each house has a large amount of surrounding buffer space and no immediate neighbour. The only instance of urban density housing is the new cul-de-sac in the village core.

There are 14 residential units within the village core with another 7 that are dispersed nearby.
There is a loose grouping of 18 residential units near the Powwow grounds. These lots are mostly along the main collector roads with some also along the roads extending north.

Approximately 30 rural housing developments are somewhat evenly distributed along the central road in the south half of the Reserve. Housing units are generally setback from the road with a buffer of trees, bush and/or grass.

The remaining houses are generally dispersed along the smaller local roads with relatively large spacing between the lots.

The village core area has experienced recent growth with the new residential cul-de-sac. These lots are suitable for people who want to be near the community facilities and activity of the core area. These lots are well suited for senior homes, or other specialty housing, due to the close proximity to services in the village core. Seniors generally require more frequent use of the Health Clinic and other services. As well, they may enjoy the activity and presence of young people in this area. It also allows family and friends to easily visit or 'check in' while they are in or passing through the village core.

However, this cul-de-sac has been placed close to the existing buildings in the core area and now restricts the flow of future development to the east. In the long-term, this site is better suited for community service or administration buildings because the core area is constrained by physical boundaries.

Based local knowledge estimates, approximately $10-20 \%$ of the housing is 'over' crowded i.e., having more than one family as residents, an intergenerational household, or simply having 6 or more occupants. This situation is a valid concern for the community. Additional housing to relieve demand pressure is a high priority.

Band reporting shows that the majority of housing is in good condition. This is a very positive contributor to the Reserve quality of life. As well, energy and attention can be spent on developing new housing and ongoing maintenance as opposed to housing repair programs. The quality of the existing housing is a great opportunity for the on-reserve population.

The surrounding cities are the main housing market for the majority of members living off-reserve. They are in relatively close proximity and migration between the Reserve and surrounding communities is very common. Some members also live in nearby towns and neighbouring Reserves.

### 4.2. Commercial

ZA has business operations under the Zagime Management Authority Ltd. and Basadinaa Property Management Ltd. Both of these operations have their own management, staff and business planning procedures. These businesses are excellent opportunities for the Band to provide employment, experience and income for members. The revenue is obviously a great advantage as well and can be used for funding future initiatives.

Basadinaa Property Management Ltd. is generally responsible for the on-reserve lot leases, RV park, Yellow Calf Place and Elk Point Beach areas.

Zagime Management Authority Ltd. is generally responsible for the off-reserve property management and businesses located in Regina, Yorkton and on-reserve Goose Lake Gas \& Confectionary stores.

ZA also has control over Four Horse Developments Ltd., Saulteaux Crossing Services Ltd. and Sakimay Retail Entities. More information on these can be obtained directly from the business contact or Zagime Management Authority.

There is minimal 'small business' commercial operations on-reserve. The market is relatively small and there is not a supply of retail/business floorspace. There are no existing 'store front' style properties.

The agricultural cropland is leased to local farmers. The cottage lots at Crooked Lake also generate property tax and rent from lease agreements.

The close proximity of nearby towns and cities make it challenging to establish new on-reserve business. Potentially with the increasing cost of travel more opportunities may arise for local commercial development that can compete in the surrounding market.

There are ongoing discussions regarding agriculture, ranching, gravel extraction, greenhouse food and plant production, bison ranching, commercial buildings and business expansion. The Band has multiple business plans and strategic plans to encourage local business.

The off-reserve properties are an outstanding opportunity to develop future commercial floorspace that can be either leased or used for ZA business ventures.

### 4.3. Community Service

Most community facilities are located in the village core area. The adjacent main road provides vehicular access and connection to all other parts of the Reserve and nearby communities. The facilities are grouped efficiently together in the core and it is easy to walk from one to another. All facilities have been assessed through the most recent ACRS-Buildings reporting system in 2019.

There is a relatively high number of facilities for community use on-reserve for the population size. The ZA Reserve community enjoys the use of the following:

- Band Office
- Machine shop
- Daycare
- Health Clinic
- Goose Lake School \& Addition
- Community Centre/Gym/gathering space
- Education Administration Office
- Kindergarten classroom
- Business trailers
- Crooked Lake
- Beaches
- Recreation and sports grounds

The Band Office is in fair condition with approximately 10 years of use remaining. This is a highly used facility and a focal point for the Reserve as whole. It is functioning for the intended purpose at a reduced capacity. It is also at a high profile location and should be used to maximise opportunity for local meetings, administration and programs. Plans should begin for a replacement facility.

The daycare is in very good condition. This facility is centrally located and well used. Ongoing maintenance should keep this facility a high-quality asset for the local children.

The Goose Lake School building and addition are assessed as 'fair' condition. A new school is currently being designed and these buildings will likely be repurposed for some other community service use.

The Health Clinic is assessed as being in very good condition. This is a busy and well used facility. Its location in the village core is very accessible to residents.

A the old skating rink / arena provides some space for equipment maintenance and storage. This is really an old steel shed that is an eyesore and somewhat of a hazard to the community. Plans should be created to demolish and remove this structure and select a new use for the site.

The Community Centre is located at the core area. The facility includes a gymnasium / gathering space, education administration offices, and the kindergarten classroom. The Community Center is used for numerous events including reunions, weddings, and other social gatherings.

### 4.4. Cultural

The cultural sites provide a particularly important role for the community. While each site is not used every day or at all times of the year, they are significant sites that must not only be maintained, but also improved as appropriate. Some of the sites include:

- Powwow grounds
- Church
- Culture Camp
- Plateau site
- Cemeteries

The Church is in the village core area and is used for religious events and ceremonies.
The Powwow grounds, arbour, and recreation grounds are located in the Reserve's north area at the main road intersection. While these are outdoor facilities, they do still require upkeep and maintenance. The grounds and arbour perform an important role for ZA's culture, memory and community fabric (for both on and off-reserve members). It is important to residents that these facilities be maintained and improved as necessary.

As well, the Culture Camp has an equally significant role for members. This area is located on the west shore of Goose Lake (the centrally located water body). It is secluded enough to be peaceful and have no distractions from traffic or neighbouring land uses. But it is still very accessible and close to the core area. This site is frequently used and is familiar to everyone in the community. Members that live offreserve also visit the site when they are on-reserve. This site has cultural importance and significance. Care should be taken that it is not over developed or expanded with inappropriate activities. It should be maintained and the road should be improved for car access and out of sight parking.

### 4.5. Recreational

Input and comments gathered from the Band membership indicate the youth are very active and are the main users of recreation sites. Overall, there is a good amount of recreational options on-reserve. However, there could certainly be more done to allow field sports (programed and non-programed) and outdoor activities and clubs.

The gym facility is the primary option for indoor sports and recreation use. An open gym can be used for formal sports or as an informal gathering place for youth to let their imaginations take over and play what they want. One of the greatest benefits of this facility is that it allows indoor sports. The local climate, with long cold winters and hot windy summers, discourages people from getting active. This gymnasium space is easily accessible and has sufficient parking for visitors attending events.

The outdoor recreation grounds are a great asset for structured recreation. The ball diamonds are relatively easy to maintain and can be used for full games or smaller groups playing a variety of scale or versions of 'diamond games'. The running track is a good option for people wanting to train, run, walk, etc. on a formal level and measured track. It is in a good location for residents in the north. But it is mostly a driving destination for residents elsewhere and in the south portion of the Reserve. Youth can potentially walk or bike to the grounds. But would be easily discouraged by harsh weather.

Crooked Lake offers great opportunities for recreation in both summer and winter. The lake is a valuable asset to develop beach activities, camping, picnic sites, and on water paddle sports or other activities. In the winter, it is an easily accessible destination for outdoor sports, walking, and motorized recreation. Access to fishing and other water activities are not always common in many communities and ZA has an opportunity to expand their resource. The lake and water sports in general, have inherent dangers. It is also a good opportunity for instruction on swimming and water safety.

To a lesser extent the central water body can also be used for paddle/boat recreation and passive enjoyment of the landscape. As it is close to the core area, it is a great spot for local people to have opportunity for peaceful time near the water. This 'lake’ should likely be restricted to non-motorized use.

The Band has a sports equipment loan program that should be continually funded and expanded to replace broken/lost items and purchase new equipment as needed.

Considering approximately $25 \%$ of the population is under the age of 10 , there is a definite lack of recreation resources and playgrounds for this community. Improving and increasing the choice of activities for young people is a priority for Band leadership.

### 4.6. Agricultural

Agricultural land has the largest dedicated land use on the Reserve. This also includes the pasture areas set aside for bison herd. The agriculturally productive land is almost entirely dedicated to crop production. The areas are leased to local farmers and they are encouraged to use organic and environmentally conscious practices as much as possible.

### 4.7. Transportation and Infrastructure

Highway 1 is the primary transportation route to the Reserve. It is well established and open year-round.
The main central gravel road bisects the Reserve in a general "S shape" route. It provides access to Highway 1 at the south via Provincial highway 47 and rural grid roads. The North Road connects the southern portion with the lake area, recreation and Powwow Grounds and Cowessess IR core area 15 km to the east. It is also the most used access to Shesheep IR by either traveling east around Crooked Lake on Highway 247 or west across the Qu'Appelle River along Highway 47.

All rural lots have their driveway access connect to a local road leading to the main collector roads. Ongoing assessments must be made to ensure that this road be maintained and improved for acceptable year-round service.

Residents are concerned with speeding traffic on the Highway and the local roads. In particular, parents are concerned for children walking to school. The dust, vehicle speeds and surface are not encouraging at all for pedestrians of any age. These hazards create an unsafe environment for everyone on-reserve. Many people walk, cycle, or use ATVs in the community and speeding vehicles must not be allowed. As a minimum, signs and lighting should be installed requiring an appropriate speed throughout the Reserve and a slow speed in certain areas like the village core. Other infrastructure such as controlled signal crossings and radar speed displays should be placed in effective locations.

It is possible for people to walk to all destinations within the Reserve. Village core area homes allow pedestrians to access services they require without use of a car. For rural areas, walking/biking is also still a viable option for those physically able. However, because housing is dispersed away from the core area, inclement weather makes vehicle travel the preferred option. It is easy to claim walkability and biking options during planning discussion and policy meetings. However, the truth is much different for residents due to physical restrictions, poor weather and the personal interpretation of distance. The motorized vehicles will be the primary method of travel until urban design practices are in place to allow more comfortable non-vehicular travel.

ZA roads require new signage, culvert cleanout, additional proper lighting, grading and pothole repair, pedestrian controlled crosswalks, radar speed signs, and general maintenance. For further information and details regarding roads and transportation, see ACRS-Roads last completed in 2020.

## 5. Existing Infrastructure \& Upgrades

### 5.1. Water System

This service is used to ensure members of the community have access to safe drinking water. The asset class encompasses linear assets, land, buildings, vehicles, and machinery and equipment. Some specific assets include the water treatment plant, reservoirs, two groundwater wells, supply mains, pumps, water distribution mains, and trucks for water delivery.

### 5.1.1. Raw Water Supply System

The community sources raw water through two groundwater wells from the Hatfield Valley Aquifer. Well \#1 located approximately 30 meters $(\mathrm{m})$ south of the water treatment plant is the primary source of raw water. It was developed and constructed in 1989 to a depth of 166.7 metres below ground surface ( m bgs) with a 200 millimeter ( mm ) diameter casing and was rehabilitated in 2004. A submersible pump with a 7.5 horsepower (hp), 230 -volt, single phase motor pumps out raw water from the well at a rated capacity of 3.4 liters per second (LPS). Approximately 40 m of 55 mm diameter HDPE DR11 piping connects the well to the water treatment plant.

Well \#2 is the secondary well, which is used when the required flow rate exceeds the main well's capacity. Located approximately 55 m east of Well \#1, the well was constructed in 2009 to an approximate depth of 160 m bgs with a 200 mm diameter PVC casing. A $7.5 \mathrm{hp}, 230$-volt, single phase motor submersible pump was reported to be set at a depth 140 m within the well. Raw water is piped to the water treatment plant through approximately 60 m of 100 mm HDPE DR11 pipes at a rated capacity of 2.52 LPS at 131 total dynamic head (TDH).

### 5.1.2. Water Treatment, Storage, Distribution

The current water treatment plant is located 60 m southeast of the band office, originally constructed in 1987 and most recently upgraded in 2004. It originally used two manganese greensand pressure filters as primary treatment. Prior to filtration, water is dosed with potassium permanganate, which aids in oxidation of iron and manganese, aerated and stored in a detention tank for a minimum of two hours to maximize its contact with the chemicals. The greensand filters are $1,066 \mathrm{~mm}$ in diameter with an original design rate at 2.5 Liters per second (L/s) ( $40 \mathrm{US} \mathrm{gpm} / \mathrm{ft}^{2}$ ) and loading rate of $1.40 \mathrm{~L} / \mathrm{s}\left(2.08 \mathrm{US} \mathrm{gpm} / \mathrm{ft}^{2}\right)$.

After filtration, water is chlorinated and stored in an underground concrete reservoir. There are two separate underground concrete reservoirs, providing the foundation for the water treatment plant. Reservoir \#1 was constructed with the original water treatment plant in 1987 with a total capacity of $82,440 \mathrm{~L}$, while Reservoir \#2 was constructed as the 2004 upgrade foundation, with an approximate capacity of $104,390 \mathrm{~L}$. The two reservoirs provide a total capacity of $186,830 \mathrm{~L}$.

Water is distributed through two streams: via water distribution pipes for the nearby core area and an outdoor distribution station for truck haul to rural housing. The plant is equipped with a dedicated truck fill/backwash pump, a standby pump, and two end suction distribution pumps.

A small reverse osmosis filtration unit is also located within the plant, supplying treated water to an externally accessible bottle fill station located at the front of the treatment plant. With a capacity of approx. $0.13 \mathrm{~L} / \mathrm{s}$, treated water is chlorinated and stored in an above ground poly tank within the water treatment plant. A similar treatment process is in use for temporary treatment as upgrades to the main unit take place in 2022/2023.

The water treatment system is currently undergoing major upgrades as records provided to PINTER in 2022 indicate the water treatment process has not been consistently removing manganese from the raw
water. Canadian Drinking Water Quality Guidelines dictate that a manganese aesthetic objective of 0.02 $\mathrm{mg} / \mathrm{L}$, and a max acceptable concentration is $0.12 \mathrm{mg} / \mathrm{L}$ must be met to minimize discoloration of water and avoid health risks associated with high concentrations such as deficits in memory, attention, and motor skills, especially for formula fed infants.

Another concern was the wide range of the average level of free chlorine leaving the facility, as too much chlorine affects the taste and smell of water and too little chlorine indicates ineffective disinfection of the water, potentially promoting bacterial growth and contamination of the distribution system.

### 5.1.3. Filtration and Backwash

Originally, filtration in the treatment plant was primarily done by greensand filters. Greensand filters typically uses $10 \%-15 \%$ of the total water usage for backwash, while, in clean-in-place systems, typically $25 \%$ goes into waste/is rejected. Anecdotal evidence indicates that backwashing of the filters is completed every second day.

### 5.1.4. Water Quality

The Saskatchewan and Canadian water quality Guidelines present maximum acceptable concentrations and aesthetic objectives for drinking water that is to be distributed. An evaluation of the current raw water indicates that future treatment designs must reduce arsenic, iron, manganese, and TDS levels in the water. Records for daily treated water quality analysis highlight that manganese removal requirements have not been met and that the water continuously exceeded Total Dissolved Solids levels. Other criteria are not of concern as they do not exceed limits in the raw water pumped from the wells. Reference requirements are as follows:

| 2. Parameter (mg/L) | 3. SK Guidelines | 4. Canadian Objectives |
| :---: | :---: | :---: |
| 5. Iron | 6. 0.3 | 7. 0.3 |
| 8. Manganese | 9. 0.05 | 10. $0.12 / 0.02$ |
| 11. Arsenic | 12. 0.01 | 13. 0.01 |
| 14. TDS | 15. 1500 | 16. 500 |
| 17. Hardness | 18. 800 | 19. - |
| 20. Uranium | 21. 0.02 | 22. 0.02 |
| 23. Lead | 24. 0.01 | 25. 0.01 |
| 26. Ammonia | 27. 1.0 | 28. - |
| 29. Sulfate | 30. 500 | 31. 500 |
| 32. Sodium | 33. 300 | 34. 200 |
| 35. Alkalinity | 36. 500 | 37. - |

### 5.1.5. Operator Monthly Reports

Monthly reports are completed by the water treatment plant operator, wherein multiple parameters are evaluated along with the amount of raw water extracted for treatment in the plant daily. Reported parameters include:

- Free and total r/o chlorine and treated water,
- rate of iron and manganese in the raw vs treated water,
- level and quantity of solutions used in the treatment of the water (CL2 Sol, potassium permanganate (KMNO4), anti-scalant, sodium hydroxide), and;

These records help identify the consumption rate of the plant and effectiveness of the treatment system.

### 5.1.6. Consumption and Capacity

In 2021, a total of approximately 28,102 cubic meters $\left(\mathrm{m}^{3}\right)$ of raw water was treated for distribution. This includes the water required to supply both the piped and trucked water distribution systems, as well as all the water that is wasted during backwash procedures. The treatment plant had no flow meters along the treated water line, nor the backwash line, therefore consumption records are based on raw water consumption. Evaluating the historical raw water consumption from the raw water meter resulted in an average of $24,415 \mathrm{~m}^{3}$ of water consumption per year.

The well pumps have a capacity of $3.4 \mathrm{~L} / \mathrm{s}$ and $2.52 \mathrm{~L} / \mathrm{s}$ for wells \#1 and \#2 respectively, while the storage capacity of the reservoirs combined is $186,830 \mathrm{~L}$. The current treatment plant treats water at a rate of $1.25 \mathrm{~L} / \mathrm{s}$.

### 5.1.7. Forecast Demand Estimates

The growth in total water consumption is primarily a function of population increases. As per the Indigenous Services Canada (ISC) First Nations Profile data ${ }^{1}$, the on-reserve population of Zagime Anishinabek was reported to be 303 in 2022. The table on the following page summarizers the historical population data of the Reserve:

Community buildings on the piped system are broken out separate from the residential per capita usage. However, their consumptions are expected to grow with the population. The per capita average daily usage flow based on the raw water consumption and population data from 2018-2022 was found to be $216 \mathrm{~L} / \mathrm{cap} / \mathrm{day}$. For a 20 -year design period, the daily raw water consumption rate was calculated to be $1.15 \mathrm{~L} / \mathrm{s}$, still within the capacity of the well pumps but nearing the current filter's loading rate.

### 5.1.8. Recommended Upgrades (also Class D estimates for upgrades)

The current water treatment system is already undergoing upgrades as it is no longer able to treat water effectively. A drinking water advisory set by Zagime on February 21, 2021 and is currently still in place as manganese levels fail to achieve safe target levels. In addition, a community-wide boil water advisory was put in place June 2021. Temporary treatment systems using reverse osmosis filters are being put in place until long-term upgrades are completed. The new system is projected to be completed in the next two years, increasing capacity, and ensuring the safety and quality of the distributed water.

[^0]Finch Services Ltd.


### 5.2. Sewer System

This service is used to ensure members of the community have access to proper sewage removal. The asset class encompasses linear assets, land, buildings, vehicles, and machinery and equipment. Specific assets include sanitary mains, a sewage lagoon, a lift station, force mains, sewage pumpouts, and private sewer connections.

The sewage pumping station and lagoon storage cell only services 14 houses, community buildings and water treatment plant backwash from the core area, but the lagoon's primary cell services an additional 69 houses, with sludge hauled from the individual mound systems within the Zagime and Shesheep communities. The sludge from the mound systems is reportedly hauled to the lagoons twice per year during routine maintenance.

### 5.2.1. Collection and Pumping

The sewage pumping station is located within the community, approximately 150 m east of the water treatment plant. 335 m of gravity sewer piping serve as the sanitary mains constructed in 1974 , leading to the sewage lift station operated with two submersible pumps, which is fenced and locked. The current lift station was added during the system upgrade in 2007, along with the addition of approximately 925 m of pressure piping that serve as the forcemains that carry sewage to the fenced, two cell facultative sewage lagoon.

Household septic tanks are equipped with sewage pumpouts, while sewer connections at residences and community buildings in the core area make up the private sewer connections asset.

A truck sewage collection service is also an option available for households outside of the serviceable area of the existing pipe network.

As mentioned, the system was upgraded in 2007 with the addition of new pumps and controls, and discharge piping and lifting chains. A $3.6 \mathrm{~m} \times 3.6 \mathrm{~m}$ building housing the electrical controls was also constructed in the same year to provide shelter for the electrical controls and provide ease of maintenance to the operators. A Flygt Mactec FMC 200 Controller serve as the pumping control for the
station, which houses two Flygt electric pumps (Model NP 3127 HT ) with 10 hp , 600-volt, 3 phase, 1750 rpm motors.

### 5.2.2. Sewage Lagoon

The sewage lagoon is a two-cell facultative sewage lagoon located approximately 900 m southeast of the core area. The primary cell has $95,000 \mathrm{~m}^{2}$ of treatment area, with an estimated storage cell capacity of $23,000 \mathrm{~m}^{3}$. The sewage lagoon also collects backwash water generated at the water treatment facility and hauled sewage from individual septic tanks via a truck dump structure. Treated effluent from the lagoon is typically only released once per year to the environment, typically in September.

### 5.2.3. Sewage Loading

According to the EPB 503 Sewage Works Design Standard ${ }^{2}$, the primary treatment cell should be design based on a maximum design $\mathrm{BOD}_{5}$ loading of $30 \mathrm{~kg} / \mathrm{ha}$-day to affect open water stabilization and minimize odour emission after ice breakup.

As the lagoon is reported to release once a year in September, lagoon effluent quality must abide by the Saskatchewan Water Security Agency effluent release limits for a Late Fall Release. Effluent testing results data was not available for review at the time of this assessment.

### 5.2.4. Existing Equipment Capacities

The pumping station shows adequate capacity for 20-year consumption projections; however, backwash from the water treatment plant should be minimized so as to not overwhelm the sewage pumping station especially during peak hour flows.

### 5.2.5. Wastewater Upgrades (also Class D estimates for upgrades)

With the anticipated and projected growth of the community, the sewage network will require an upgrade to accommodate the additional service load in the future. This will largely depend on the location of any additional residential housing units or core area infrastructure, as the serviceable area of the sewage pipe network is currently limited but could be expanded. The trucked sewage collection will likely be utilized for rural additions, however there are limitations to increased piped service, including risk and inconvenience when services to individual homes may not be completed in a timely manner. Evaluations dictate that the lagoon does not require immediate update but should be monitored and assessed again within 5 years.

### 5.3. Roads

This service is used to ensure a safe and easy way to drive, bike, or walk around the community. The asset class encompasses linear assets, land, and land improvements. Specific assets include curbs and gutters, roads, and sidewalks.

The community's road system consists of general roads, utility roads, and house access roads. In 2020 a total of 63.06 km of road were listed as assets of the Reserve. House access roads comprised 24.01 km of road, where most are covered and upkept with gravel, while some were dirt/grass roads that were recommended for reconstruction. General and utility roads comprised of roads to access communities, roads to the band office, to the health clinic, church, Powwow ground, etc. These made up the remaining 39.05 km of covered, gravel road. In a continuing effort to improve convenience and comfort in transportation within the Reserve, regular maintenance of the grass and gravelling of the roads is recommended. The condition and weight capacity of existing general and utility roads should be

[^1]evaluated if future commercial or industrial developments are planned to occur on Reserve lands. This will help to ensure that the roads are appropriate for any future increase in traffic volume or weights.

### 5.4. Storm \& Surface Drainage

This service is used to ensure members of the community and its assets are protected from the physical and health risks associated with flooding. The asset class encompasses linear assets, land, and land improvements.

General elevation of the ground suggests natural drainage to the East. Large, forested areas south of the community and open grassland all around provide a large surface area for surface runoff and infiltration. No issues with flooding were identified in the area. Grading of roadways is recommended to decrease runoff and pooling damage.

### 5.5. Solid Waste/Landfill

A Solid Waste Management Feasibility Study was completed for Zagime by PINTER in 2019. Active Zagime solid waste facilities are limited to the operating community landfill site. The main landfill contains domestic garbage, miscellaneous junk, and scraps. The main dump site is located approximately 1250 m southeast of the core area of the Reserve, which includes the band office and the Zagime Goose Lake School. Surrounding land is used for agricultural purposes. The nearest surface water is a slough located approximately 500 m south of the dump site and two of the reserve's lagoons located approximately 100 m , and 200 m West of the dump site.

The main dump site is set up as a trench-and-fill landfill operation, where trash is being placed in the low area in the earth. Trash has migrated to the sides, and portions of the cell have waste collecting above ground. Some loose waste debris was found scattered around the area.

An additional trench, and a sign indicating "solid waste disposal" was found to the east of the main dump site. This is likely a Reserve pit for when the current one reaches max capacity. Currently, the trench is storing groundwater.

A sign posted at the entrance of the landfill states the hours of operation, which are 8:00 am to 6:00 pm Monday to Friday, and 12:00 pm to 5:00 pm Saturday to Sunday. There is a security fence surrounding the proximity of the site. There is a gate that can be closed outside of hours of operations, however, at the time of the site visit, there was no lock attached on the gate.

A collection of illegal and unauthorized dumping locations or dumpsites are located across the community and their location and condition are noted in the 2022 Reserve-Wide Phase I Environmental Site Assessment report that Zagime completed as part of their progress into the Framework Agreement on First Nation Land Management. Evaluation of these historical dump sites is beyond the scope of this study; however, it should be noted that environmental monitoring of these dump sites and/or additional intrusive investigations may be required for decommissioning.

PINTER explored the feasibility of several solid waste management options for the Zagime Anishinabek. These options include the construction and operation of an on-reserve landfill, the construction and operation of a waste transfer station on the Reserve, the operational costs for the direct-hauling of solid waste to neighbouring community landfills, and the costs for a third party to provide direct pickup.

## 6. Population Analysis and Projections

### 6.1. Introduction

Population data covering the last 19 years was gathered from various sources: Indigenous Services Canada (Indian Registration System), Band Office counts and Statistics Canada. Saskatchewan Ministry of Health (eHealth) has some data records for public use. But as a credible reference, it is completely irrelevant. Annual Band data counts were available through ISC to determine an overview of total onReserve population history. The data sources are all independent of each other and there are discrepancies between them. The ISC IRS data collection represents most of all the residents for the community. It provides consistent data for the past 19 years (2003-2021). Statistics Canada data was reviewed for the 2001, 2006, 2011, 2016 and 2021 census. The Statistics Canada data is consistently lower than other sources and has intentionally applied errors. We have used it as a reference source for comparison.

Overall, ISC - IRS data is the most consistent and matches various components of data from the other sources. It is used as the primary source for current population count and historical growth trends. Data from other agencies and previous reports were used to build the overall framework for population assessment.

Population studies in this section are for the combined total for Zagime, Shesheep, Little Bone and Minoahchak Reserve areas. Demographic changes observed for the whole study group will also be seen to a smaller scale on each specific area. The larger determining factor for changes will be attributed to new development allowing a greater number of residents.

ZA has control of its own membership under Section 10 of the Indian Act. For this report direct membership count is relevant but not the only source of data to be relied upon because there are many non-registered and non-member residents that may be either permanent or temporarily living on-reserve.

### 6.2. Existing Population Trends

There was an overall gradual annual increase in population size from 2003-2021. There was a slight decrease in 2005, with a 5-year plateau during 2006-2011 and then a continued gradual increase into 2019. Recent minor increases and decreases do not amount to a significant change and the total population has again plateaued (or slightly decreased even) since 2018. Generally, a small increase to population total occurs each year.

Off-reserve Band population has consistently increased from 1,072 in 2003 to 1,519 in 2021. This indicates that as the overall Band membership count increases, there are proportionally fewer members living on-reserve each year. Average annual growth rate for off-reserve population is $2.0 \%$ over the last 19 years. As total registered population increases, the on-reserve proportionally decreases.

Overall, the on-reserve population increased from 247 in 2003 to 302 in 2021, a total change of 55 over 19 years. Based on changes of the last 5 years only, Zagime Anishinabek has experienced an average annual growth rate of $-1.0 \%$ and over 10 years, $2.3 \%$. (See Table 6.1 and Chart 6.1).

Table 6.1 - Population, 2003 to 2021

| Historical Population |  |  |  |
| :---: | :---: | :---: | :---: |
| ICS - IRS <br> Data |  |  | Statistics <br> Canada |
| 2003 | 247 |  |  |
| 2004 | 249 |  |  |
| 2005 | 248 |  |  |
| 2006 | 238 |  |  |
| 2007 | 235 |  |  |
| 2008 | 236 |  |  |
| 2009 | 239 |  |  |
| 2010 | 242 |  |  |
| 2011 | 242 |  |  |
| 2012 | 245 |  |  |
| 2013 | 250 |  |  |
| 2014 | 263 |  |  |
| 2015 | 269 |  |  |
| 2016 | 288 |  |  |
| 2017 | 302 |  |  |
| 2018 | 307 |  |  |
| 2019 | 306 |  |  |
| 2020 | 300 |  |  |
| 2021 | 302 |  |  |
| Total Change | $\mathbf{5 5}$ |  |  |
| Avg. Annual | 3 |  |  |
| Increase | 3 |  |  |

Source: ISC - IRS Data, retrieved 15Mar2022 \& StatCan, retrieved March 2022
Chart 6.1-On-Reserve Population, 2003 to 2021


A more detailed view of the Band population is seen when reviewing data within the age-sex categories (See Table 6.3 and Chart 6.2). There are minimal data sources available to review age-sex patterns. Statistics Canada continues to maintain the only relevant database, but also, includes intentional errors and omissions. To reflect on patterns of age-group size, Statistics Canada population pyramids were created for 2021 (the most recent Census). The overall proportions of age groups are quite different. There is a noticeably high proportion of people in the 5-19 age-groups. In 2021 there is an essentially balanced Male to Female ratio. The male category is larger in 3 of the 5 -year age groups and the Female category is larger in 6 of the 5 -year age groups.

People in the 0-4 age-group make up 10\% of the total population, the 5-19 age-group make up 31\%, 2064 age-group make up $51 \%$ and $65+$ make up $8 \%$. There are some significant characteristics within the age group structures: while the adult or workforce group is technically the largest (including 9 cohorts), the youth group is only 15 people lower (but with only 4 cohorts); very few people are older than 65 (in both number and proportion); while the percentage values reflect differences between groups, the relatively low count of people means that those differences are not extensive in the actual number of people as with a population much larger.

Table 6.2 - Population by Age Group \& Sex, 2021
Statistics Canada: Population by Age Group and Sex, 2021

| Age |  | Males | Females | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Group | Cohort |  |  | Group | (\%) |
| Pre-school | 0-4 | 10 | 15 | 25 | 10 |
| Students | 5-9 | 15 | 20 | 80 | 31 |
|  | 10-14 | 20 | 5 |  |  |
|  | 15-19 | 10 | 10 |  |  |
| Workforce | 20-24 | 10 | 5 | 130 | 51 |
|  | 25-29 | 10 | 10 |  |  |
|  | 30-34 | 10 | 15 |  |  |
|  | 35-39 | 5 | 5 |  |  |
|  | 40-44 | 5 | 5 |  |  |
|  | 45-49 | 0 | 5 |  |  |
|  | 50-54 | 5 | 10 |  |  |
|  | 55-59 | 5 | 10 |  |  |
|  | 60-64 | 10 | 5 |  |  |
| Seniors | 65-69 | 5 | 5 | 20 | 8 |
|  | 70-74 | 5 | 5 |  |  |
|  | 75-79 | 0 | 0 |  |  |
|  | 80-84 | 0 | 0 |  |  |
|  | 85+ | 0 | 0 |  |  |
| Total | 0-85+ | 125 | 130 | 255 | 100 |

Chart 6.2 - Age Distribution by Sex, 2021


[^2]
### 6.3. Population Projections

The following methodology was used to determine three population projection growth scenarios. Average annual growth rate and present age distributions were identified using population totals from ISC-IRS and Statistics Canada. The conclusions reached concerning historical data and age distribution were integrated to determine a future growth rate for the next 20 years.

Three growth scenarios are developed from the base historical growth rate. Three valid growth rates are identified for future planning purposes. Low rate at 0\%, medium rate at $1.0 \%$ and a high rate at $3.0 \%$. For planning purposes, we consider the medium range $1.0 \%$ growth rate as the most likely and most useful to forecast development. Over the next 5-10 years as growth continues, the population level should be monitored and planning decisions adjusted to suit the relevant growth scenario of that time.

These projections should be used with the knowledge that between now and some future time, there may be changes to the identified growth rate that will alter the overall population pattern. There are unique characteristics that affect migration on/off reserve and data is incomplete regarding births and deaths. In particular, the on-reserve population appears to be restricted by available housing supply and consistent migration to off-reserve centers.

Overall, a $1.0 \%$ growth rate represents a likely medium-range scenario for population increase that corresponds to existing data and growth patterns assuming a small amount of future housing product is made available and migration patterns continue. Over the previous 20 years, there are events with greater increase or decrease, but overall, the historical Average Annual Growth Rate is 1.0\%.

A higher rate of $3.0 \%$ is also applicable for future plans and development objectives. This is a conservative 'high' growth rate and has been seen to be even higher is some historic years. This rate reflects a realistic increase to the birth-rate or an even modest increase to in-migration.

The Low rate category is set at $0 \%$. A lower decrease to on-reserve population is very unlikely given the level of housing, infrastructure and services available. ZA anticipates further growth and a consistent decrease is unrealistic. Maintaining a consistent base population will be the minimum scenario for future planning purposes.

Chart 6.3 shows the growth patterns based on: a low growth rate $0.0 \%$, the forecast rate $1.0 \%$ and a high rate of $3.0 \%$.

The total population could potentially increase from 325 in 2022 to 397 in 2042, being a total change of 72. (See Table 6.4 and Chart 6.3). It will be prudent to review the projections and apply an updated growth rate in 5 years (2026), or after completing new residential development, or, if there is an observed increase to migration pattern.

Table 6.3 - Forecast Population, 2022 to 2042

| Forecast Population |  |  |  |
| :---: | :---: | :---: | :---: |
| Year | Projected Annual Growth Rate |  |  |
|  | (low) 0\% | (med) $1.0 \%$ | (high) $3.0 \%$ |
| $\mathbf{2 0 2 2}$ | $\mathbf{3 2 5}$ | $\mathbf{3 2 5}$ | $\mathbf{3 2 5}$ |
| 2023 | 325 | 328 | 335 |
| 2024 | 325 | 332 | 345 |
| 2025 | 325 | 335 | 355 |
| 2026 | 325 | 338 | 366 |
| $\mathbf{2 0 2 7}$ | 325 | 342 | 377 |
| 2028 | 325 | 345 | 388 |
| 2029 | 325 | 348 | 400 |
| 2030 | 325 | 352 | 412 |
| 2031 | 325 | 355 | 424 |
| $\mathbf{2 0 3 2}$ | 325 | 359 | 437 |
| 2033 | 325 | 363 | 450 |
| 2034 | 325 | 366 | 463 |
| 2035 | 325 | 370 | 477 |
| 2036 | 325 | 374 | 492 |
| 2037 | 325 | 377 | 506 |
| 2038 | 325 | 381 | 522 |
| 2039 | 325 | 385 | 537 |
| 2040 | 325 | 389 | 553 |
| 2041 | 325 | 393 | 570 |
| $\mathbf{2 0 4 2}$ | 325 | 397 | $\mathbf{5 8 7}$ |
| Total Change | 0 | 72 | 262 |

Chart 6.3 - Population Growth, by Growth Rate, 2022 to 2042


### 6.4. Implications for Housing

Many members live off-reserve in Regina, Yorkton, Melville and other surrounding Towns or other Reserves. Housing coordinators confirm that there is a relatively long waiting list of people wanting to reside on-reserve when new housing becomes available.

Housing development (and replacement) will have to proceed at a modest pace to maintain a desired average household size of approximately 3.2. Housing development will be a continual requirement as: young people form their own new families; there are many off-reserve members waiting to return; and there is a strong desire for seniors to remain in the community as long as possible. Older housing units will require replacement as they age or sustain damage.

The following methodology has been used to determine the level of required housing and lot development. A current average household size (AHS) was identified using available unit counts and population data. Based on discussions with band administration and community members, a target household size of 3.2 is accepted. The household size is then directly related to future population trends to determine the level of future housing requirements. It is important to note that a 'target' household size takes into account 'over' crowding, but it will not actually make the issue simply disappear through use of mathematical formulas. For example, even when the AHS of 3.2 is realised, there will very likely still be occasions where 7-10+ people (multiple families, multiple generations) live in the same residence and are offsetting the household counts with 3 or less.

The Housing and Infrastructure Annual Report and Capital Management Database assessed the majority of units to be in good repair and suitable for continued use. There were no units identified to require major repairs (which is quite unusual, but a very positive reflection of on-reserve housing). The database identifies 12 serviced lots for redevelopment/replacement.

According to the housing plan and ISC data, there are total of 101 housing units on-reserve. The Band count data lists 123 existing houses with 3 in need of repair. The proposed target household size of 3.2 was discussed and is accepted by the ZA leadership. Using these parameters, there is currently no housing surplus. This number is somewhat misleading because the average does not accurately display the fact that there are still some homes with more than one family residing in it. The Housing Coordinator and ZA leadership confirmed the ISC data (which follows a complex formula for household crowding) with common sense local knowledge that approximately 10-20\% of on-reserve houses are crowded with more than one family (or some other source of crowding).

Based on this target household size and an estimated growth rate of $1.0 \%$, by 20287 new houses are required. By 2033 there should be 11 new units in the community and by 2043, a total of 23 new units. In addition to the existing available 101 units, a total of 23 are required between 2023 and 2043 to maintain an AHS of 3.2. (See Table 6.4)

To put in another context, the average units required each year between 2023 and 2043 is 1. These housing growth requirements are completely reasonable considering the size of the current community. Based on the historical growth of the population and the amount of people wanting to move to the Reserve, the housing requirements should be updated periodically. The requirement described in this section is a minimum. It is a base target to accommodate continued trends in population growth. Further land development and a much greater amount of new housing is recommended to allow a higher growth rate and increased in-migration (as described in other sections)

Table 6.4 - Forecast Housing Requirement, 2023 to 2043

| Year | Population at <br> $\mathbf{1 . 0 \%}$ Growth Rate | AHS | Total Housing <br> Units Required | $\mathbf{2 0 2 3}$ Existing <br> Units | Construction <br> Required from <br> $\mathbf{2 0 2 3}$ | 5 Year <br> Housing <br> Change | Annual <br> Yearly <br> Average <br> Needed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2023 | 325 | 3.2 | 102 | 101 | 1 | n/a | n/a |
| 2028 | 342 | 3.2 | 107 | 101 | 6 | 6 | 1 |
| 2033 | 359 | 3.2 | 112 | 101 | 11 | 5 | 1 |
| 2038 | 377 | 3.2 | 118 | 101 | 17 | 6 | 1 |
| 2043 | 397 | 3.2 | 124 | 101 | 23 | 6 | 1 |

### 6.5. Residential Land Requirements

It is reasonable for ZA to accomplish construction of the required housing units over time. As described in Section 7 Proposed Land Use and Development Guidelines, there will have to be moderate expansion to the Reserves' built-up areas. Areas are set aside to accommodate future growth that is suitable for not only housing lots, but also: green space, infrastructure, streets, recreation and other community service land uses to support future generations. There is sufficient land on ZA IR 74 to accommodate growth for the next 20 years and beyond. Land surrounding the community core area to the west, north and east are all potential core development areas with further rural options throughout the Reserve.

Prior to any new subdivision there must still be detailed investigations to determine the status of geo-tech, drainage, infrastructure, environmental issues and many other aspects to the land development process.

### 6.6. Implications for Community Services

Existing and new community service programs must be identified, monitored and updated to suit changing social patterns of residents and not be based solely on the number of people in the community. It is important that services continue to be relevant to the health and wellbeing of the residents, not merely the number of residents. The population data review identifies two main concerns for community service development considerations.

First, a considerable portion of residents are in youth age-groups, with $41 \%$ being below the age of 20 . Careful attention to the unique program requirements that cater to children/teens must be planned. Community services should not only increase their quality of life, but also prepare them to be responsible to the larger generations that will surely follow. Future services will have to be anticipated and then commenced when appropriate as generations age and enter new stages of life. Programs will also have to be maintained and expanded as new users take the place of those 'aging out'. Decisions must also acknowledge the constant social and cultural changes taking place in the real and digital world around us. There are substantial distractions for the youth. Entire dedicated markets are competing for the attention of today's youth; mostly providing short-term enjoyment with negative consequence and for corporate profits. Continual action is required to provide young people with options and examples of healthy and rewarding lifestyles.

Second, the amount of people in the senior age-group will consistently increase. There is a common trend for aging seniors to move away even though they, and their friends and family, would prefer them to stay in the community. As the total amount of seniors increase, resulting from an aging population and better health service, community services should cater to their needs in order to allow aging-in-place to be a more realistic option. There is currently a demand for additional housing units so local seniors have an option to stay on-reserve if they chose. Services and housing should be provided in the near future and then assessed in 5-10 years to improve the process for the greater amount of people expected to use those services in 20-40 years. Depending on the off-reserve demand, appropriate housing should be developed to accommodate seniors who want to remain close to their community. Keeping seniors/elders in the area is a service to the community in itself. Only through their presence and availability will the experience and knowledge be passed on to new generations.


## 7. Proposed Land Use and Development Guidelines

### 7.1. Development Constraints

ZA IR 74 has manageable development constraints. Overcoming the constraints is possible and could be accomplished on a project-by-project basis.

A development constraint with impact on social wellbeing is the shortage of community facilities for increased population growth. The Reserve community is well suited for development of a youth centre, seniors' home or senior specific housing, additional educational facilities, recreation areas (indoor and outdoor) and cultural developments. ZA is not necessarily 'lacking' civic facilities. The issue is that further housing development and on-reserve population growth will require a corresponding increase to facilities for the use, enjoyment, and enhanced quality of life for residents. It is expected that new facilities will be a positive contributor to residents personal and social image of their home. As well, the activities taking place within the public spaces venture beyond "Reserve growth" and lay the foundation for "community building". The events and personal connections have much greater meaning than the facilities themselves and will create a stronger community fabric.

Similar to many other Reserve communities, a portion of the houses on ZA IR 74 are 'over' crowded with more than one family living in a house. Project meetings indicated that approximately $10-20 \%$ of housing have more than 6 people in them. Given a fairly low average annual growth rate, the community can comfortably maintain an AHS of 3.2. However, the individual cases of overcrowding must not be overlooked when averaged into a calculation total. Due to the multiple family houses and a strong housing waiting list, there is still a low housing supply. The level of housing required is not so much of a constraint as it is a challenge for growth. New housing, subdivision expansion and community services are all possible, but will require time for design and construction.

A similar constrain is a low selection of the type of housing. More housing design styles are required so people have options to suit their lives. i.e. seniors housing, care home, small independent living, family homes, multi generational homes, group living, temporary accommodations.

Future development is constrained by the natural physical characteristics surrounding the village core. Much of the land to the south is low and floods. This area is restricted with poor drainage, bush and flooding. Same restrictions exist to northwest of the core. The canal directly north of the core area is also a physical boundary. However, these areas with low topography, water, and flooding do also create the benefit of a natural overland drainage system that will be useful for future development.

Sites with higher elevation exist and good drainage exist throughout the Reserve. However, they are also far from the core, roads and infrastructure.

### 7.2. Development Opportunities

This Reserve has many advantages that can create a positive and successful pattern of growth.
Future growth should continue to take advantage of available sites in the village core and promote a centralized development for community service, administration and recreation. Services that most people use should be located near the centre of the community. There is land available around the core area to the west and north..

Project meeting discussions indicate that membership agrees with a centralized development pattern which surrounds the frequently used services. This is a positive outcome to have local support for the primary development area.

The Reserve has good road connections and transportation networks. The rural road provides straightforward access to the rural areas and connection to Highway 1. It provides the possibility for many types of future housing both to the north and south while acting as the primary link to the village core area. All developed sections of the Reserve are accessible by foot or bicycle in the summer. Because the main road is linear and covers a large part of the Reserve, there is potential for it to be used as a collector level road well into the future. During cold winter months, however, the temperature can get uncomfortable and unsafe for non-vehicular travel.

The proximity to nearby Cities/Towns/Reserve Centers creates opportunities on many levels. Nearby communities serve as both service centres and also customer base for future ZA business ventures. There are many social connections of friends and family living off-reserve in the surrounding area. The nearby cities are a frequent destination for sports, shopping and services. As sports/event/cultural facilities continue to improve, ZA will increasingly become an attractive destination for off-reserve members and people of the surrounding region.

### 7.3. Future Land Use Concept and Guidelines

Refer to Figure 15, 16 \& 17 Appendix B.
The Reserve has a no concentrated residential sub-divisions. The most efficient residential parcel is the new cul-de-sac in the village core. Almost all residential housing is dispersed rural housing along the central roads. The majority of residents live on a rural site. The village core area acts as the primary social node where the Band office, Health Centre, community center, and commercial buildings are all located. Main cultural sites are dispersed throughout the Reserve. Any future land use development should be placed in locations that benefit residents and do not negatively impact the surrounding/adjacent areas.

Through land use policies and development plans, ZA can control growth in a safe and efficient manner. As there are currently bylaws and enforcement documents, development policies should also be interpreted out of this report to maintain a safe, vibrant community and disallow development initiatives that are unwanted or inappropriate to the current beliefs of residents and leadership. Through discussions and reviews, this document, among other Band policies, provides the community with an ability to control future growth and disallow unwanted development.

The overall vision must be maintained to create a safe, healthy, and functioning community in order to provide positive impacts on future generations.

Neighbourhood and subdivision design can take many forms. For ZA, 3 suitable options for street layout and parcel placement are:

- Curvilinear: very efficient use of space and compliments the natural topography and landscape
- Grid: orderly, familiar feel, dispersed traffic, well suited for infrastructure development and can be easily expanded with future developments
- Cluster: allows courtyard grouping, high social interaction (can be undesirable sometimes), green space trails and a variety of connectivity

It is likely that a combination of all three will be the most appropriate for future housing development over the next 20-100 years. A variety of designs should be allowed as new development takes place. Regardless of the layout design, a variety of housing styles, densities and land uses must be provided.

### 7.3.1. Residential Development

There is a requirement for additional housing on-reserve. There is a necessity to have a variety of housing design styles. There is also the requirements to manage the residential development densities. If densities are not controlled, the Reserve will slowly be filled in with inefficient, expensive, large lot housing sites.

There are 3 suitable options that allow a selection of residential lot densities.
Rural Residential: a residential site can be selected anywhere on-reserve. Each site should be approved through an application process. The application is intended to identify why the unit is preferred at the selected site, why other higher density sites are not appropriate and outline the suitability for development. i.e. drainage, infrastructure connections, extent of landscaping, basic cost, and additional cost due to the location. Development of Rural Residential lots should be allowed and encouraged. But, this must not be the primary option for all development and has to be approved in a controlled and thoughtful manner. These RR lot sizes may be 20 acres or more.

Country Residential: a multi-lot residential subdivision that has shared infrastructure to all lots. An entire subdivision would be designed and built as one project. Housing units may be built to respond to demand after subdivision development is complete. These are large lot sites, generally with a natural buffer between neighbouring houses. This type of design creates approximately 5 acres per lot.

Village Residential: residential housing of many types are located in a more 'urban' density. This design style is most efficient for infrastructure and land usage. Lots typically connected to common infrastructure and roads, have a large yard space, and can easily see the neighbouring houses. Housing density for a VR subdivision would be approximately 2 Dwelling Units per Gross Acre (DUGA).

## Goals and Policies:

- Where possible use appropriate site design and building orientation to shelter homes from winter wind and have positive solar exposure in order to reduce heating/air conditioning costs and excessive weathering
- Encourage builders to use energy conserving (and cost saving) techniques in home construction/design
- Avoid the development of homes in low-lying areas that have high potential for flooding and poor drainage
- Avoid probable conflicts between residential and other land uses
- Non-residential development will be allowed in the residential areas only if the use is compatible with the existing surrounding residential use
- All homes will have sufficient access to water, power, heat and some form of wastewater management service
- Infill of existing serviced areas will be the primary means of residential development and should be supported to maximize the use of existing infrastructure
- Maintain a small community atmosphere, while allowing controlled development
- Promote a high standard of building construction and property maintenance
- Development sites must be reasonably well drained
- Permit seniors' housing (e.g., multi-unit single suite dwelling groups) as a higher density development option
- Allow a portion of all housing development as Rural Residential. This adds to the uniqueness of the Reserve geography and there are extensive areas for individual site development
- Give appropriate priority for new Village Residential housing
- Encourage a centralized development pattern to minimize reliance on vehicle travel and fuel expense
- Restrict residential development at Elk Point to maintain it as a public area
- Develop small housing units to accommodate people needing a temporary place to stay


## Development Initiatives:

As previously described in the constraints section, new housing is required. The following phases are not given specific priority at this time but are intended to follow the availability of infrastructure services and the demand for expansion. When developments are to proceed, specific locations should be reviewed, and conceptual designs prepared for each Residential Expansion Area (REA).

There is sufficient land available to accommodate housing expansion for the long-term. However, as each phase of development takes place, further layout, land use and infrastructure designs must still be done.

Membership mostly agrees with a centralized development core similar to what is already taking place. Other members wish to build in the more secluded rural sites, or allow it to available as an option. Rural Residential development should be allowed, but the focus must be on an organized urban community that brings people together. There are numerous positive social and economic reasons for people to live near the village core. While allowing opportunity for a rural setting, new housing development should be set around the village core area, or within Country Residential subdivision near the core. The core area functions as an effective central node for future growth. The surrounding homes create high visibility, movement, and sense of activity within the community.

All styles of development ( $R \mathrm{R}, \mathrm{CR}$ and VR ) are attractive for residents and are supported by the Band for future development. Many people prefer the large lots and natural space of the rural setting, while others prefer the convenience and relatively increased level of activity in the core.

Village core area housing is close to facilities and services while still being removed from the main traffic. This is an advantageous location for young families. Youth have convenient access to school and can use nearby sports fields, playgrounds or skating rink. All lots would be approximately equal size and have similar single detached housing units.

As development is proposed to take place, a neighbourhood design study must be done to ascertain the specific details for site design and the infrastructure details of the site in question.

Have sufficient housing available by family type and size of the household in an appropriate housing unit. The housing stock should be used efficiently, especially during periods of low supply.

Senior specific housing is an important issue that should be addressed immediately. Some options supported by the community are: build new, smaller, connected or grouped housing units in/near the village core; provide funding for renovations that improve the access and safety of a seniors' existing residence, or which allows them to move into another house with family or friends.

To have sufficient additional space available for members who primarily live off-reserve, but through desire or necessity, come to live on-reserve for a temporary period of time. These units could be small accommodations for stays of 1-14 nights and have a second supply of units for more short-term of 2-8 weeks. In addition to the house space, there could also be dedicated space for remote working, storage, and simple formalized outdoor areas.

There must be a variety of housing styles (and sizes) that accommodate people as they grow through their stages of life. Smaller units, grouped with others, closer to core, more focused on social and activity, may be more appropriate to single/young members who are on their own after moving out of their families house, and also seniors who may be on their own now after family has moved away.

New housing and neighbourhood design should also take into account Climate Resilience. Climate change causes unusual and sometimes extreme weather conditions. On the Reserve lands, extreme climate has always been common. This area, similar to anywhere in Saskatchewan, experiences hot summers, long cold winters, a high number of sunshine hours and continuous wind with periodic prairie fires. Housing must be constructed to withstand the local elements and be durable for generations of use. Examples may be to require metal roofs, fire resistant siding and flood resistant site design.

It would be useful to complete a housing study that determines the type and extent of housing styles required on ZA.

## Residential Expansion Areas

Refer to Table 6.4 and Figure 15, 16 \& 17 in Appendix B
West REA: approximately 80 acres. This area is intended for future residential development. There can also be individual Community Service, Recreational, and commercial sites mixed in to the overall neighbourhood if appropriate. The primary development density would be Village Residential with possibility of some Country Residential lots along the fringe or corners. There can also be higher density housing in this area (townhome, multi-unit). This site is well graded and has access to the natural drainage canal and local ponds. It is close to the village core area and has well established roads on 2 sides. There is infrastructure already adjacent the site and expansions are achievable. This REA can accommodate approximately 150 units.

Southwest REA: approximately 120 acres. This area is intended for future residential development. There can also be individual Community Service, Recreational, and commercial sites mixed in to the overall neighbourhood if appropriate. A site within this REA has been selected for the new school and surrounding school grounds. The primary development density would be Village Residential with possibility of some Country Residential lots along the south fringe. There can also be higher density housing in this area (townhome, multi-unit). This site is well graded and has access to the natural drainage canal and local ponds. It is close to the new school site and village core area and has well established roads on 3 sides. There is infrastructure already adjacent the site and expansions are achievable. This REA can accommodate approximately 200 units.

North REA: approximately 50 acres. This area is intended for future residential development. There can also be individual Community Service, Recreational, and commercial sites mixed in to the overall neighbourhood if appropriate. The primary development density would be Village Residential with possibility of some Country Residential lots along the fringe or corners. There can also be higher density housing in this area (townhome, multi-unit). This site is well graded and has access to the natural drainage canal and local ponds. It is close to the village core area and has a well established road on 1 sides. There is potential to have road connections south across the canal directly into the village core. There is infrastructure already nearby and expansions can be achievable. This REA can accommodate approximately 100 units.

North Road CR REA: This area is intended for Country Residential density development. These large lot sites can extend off the existing road or have an internal road as part of a subdivision layout plan. The area shown is approximate and should be confirmed at the time of site selection prior to layout design. As well, there are many other suitable locations for CR development. Specific sites can be proposed at time of site selection.

Rural Areas: Rural Residential site are allowed. There is no specific area or zone where these can be located. Each development proposal must be reviewed and approved on a case-by-case basis. The sites will have to have sufficient management of drainage, infrastructure, access, wastewater and be in a reasonably appropriate location.

### 7.3.2. Commercial Development

## Goals and Policies:

- Local (community) service commercial developments are to be located in the village core area or at the North Road intersection
- Buildings will have weather protection components to minimize impact of the heat, wind and snow that is common to this area (through trees, canopy, construction techniques, etc.)
- Commercial lot development will be prioritized based on benefits to the residents, local employment and economic potential
- Business proposals will assess the amount and type of employment opportunities that would be created
- Create business plan for Bison commercial business


## Development Initiatives:

- Identify small scale businesses that provide required services to residents and promote their establishment on Reserve
- There is an interest to identify potential Band owned business such as a restaurant, coffee and lunch bar, bakery or small local store. This should be investigated further
- Commercial development and employment generators will be investigated, identified and promoted if appropriate

There has been proposal created for bed-and-breakfast style business at Crooked Lake or potentially along the Qu'Appelle River. The location would take advantage of the beautiful landscape and seclusion of the valley. There is a growing industry regarding experiential travel, and nature destination tourism. The Qu'Appelle Valley has great access for canoeing, paddleboarding, hiking, biking and other individual sport/adventure activities that have become more popular in recent years. An overnight accommodation business may also be expanded to become more of a 'resort' style use that caters to local skiing, golfing, equestrian, or other outdoor business.

There are also opportunities for Band commercial establishments in the Town of Grenfell and/or at the Crooked Lake, Yellow Calf, or Shesheep areas. The locations have much higher level of passing traffic and local potential customers. They are also much more of a destination for people in the region and the travelling public. Band owned business have benefits from creating employment and profit for the Band. In addition, business owned/operated by individual members should also be encouraged.

There may be an opportunity to establish one or a few food truck businesses. Members supported the idea to have Band owned food trucks that can provide service at local events and gatherings. As well, people agree that between events, the food truck could be located in nearby towns, Yorkton, Regina, or other regional events.

There is an ongoing project to develop a greenhouse along Highway 47. This initiative is to provide: food sovereignty; affordable and stable food supply, flowers/garden plants, starter plants/vegetables; increase local food production knowledge and to act as an employment and training provider. The operation should first be established to meet local needs and food sovereignty, then be expanded as a commercial venture.

There are many appropriate locations for businesses providing outdoor, travel, experiential services. The Qu'Appelle River, Ekapo Creek and within the local forest and bush areas there are many opportunities for guided canoe or paddle sports, camping, hunting, equestrian trails, cycling and interpretive trail networks. Over time as trail networks and facilities are established, they will serve not only the local population, but can also be a draw for off-reserve customers.

The bison herd can be expanded to a practical size for sustained ranching business. There are many challenges to developing a ranching business. It will take time and effort. However, ZA already has much of the required infrastructure and land for such an operation. The main task may be to find skilled staff to develop and operate the beginning stages of the business and transition until it is stable and sustainable.

### 7.3.3. Community Service

Community service facilities improve the wellbeing of residents and provide services to those who need them. Further community involvement should be done to determine which facilities are most used and identify which new facilities are most required. The primary community service projects currently desired are seniors home (housing) and recreation opportunities. Also important are church repairs, and a vehicle storage site.

The existing Health Clinic and medical resources are substantially better than what was historically available. Immediate care has increased significantly, transport to nearby centers is available and efficient. Community Health Development Plans can also be created to act as explanations, policy, and job descriptions to promote health within the community.

## Goals and Policies:

- Expand service facilities within the core area
- Create new facilities in the core area
- Ensure there are available spaces for recreational and cultural activities
- Expand school opportunities and programs to match the requirements of population growth
- Develop and expand access to health and dental centers to better serve future populations
- Provide quality firefighting equipment and training
- Create short-term housing (shelter) for people needing a safe place to stay for a brief period
- Identify and allocate detox spaces for people recovering from, or impacted by, addictions
- Explore services that can be delivered to members with cognitive impairments to strengthen their quality of life
- Expand the basic amenities at the Goose Lake Culture Camp area in an appropriate manner


## Development Initiatives:

The new school planned for the core is greatly anticipated by members. The central location is well suited for future land development surrounding the school site. Areas of park, trails, housing and further CS are recommended to be developed around this community hub.

Transition the existing school to be used for more community gathering events and community services. As the new school is constructed and takes on a CS role of its own, again look at how this existing school can be utilized for the community's benefit. E.g., Business space, adult/trade training, rental space.

It is common for funerals and mourning events to take place in the Community Centre and spill over into the outdoor area. This space is also frequently used for celebrations, family gatherings, and cultural events. There is a desire to have a separate space for funeral and mourning ceremonies that also functions as a space for solemn reflection and remembrance. As a service typically provided in a church setting, this space should include design details reflecting the local culture and religion. It should be a space for thought and prayer. The facility should include both an indoor and outdoor formalized event space. The outdoor courtyard should also provide seating, some shelter and a fire pit.

A celebration event center was also discussed in meetings. This could very well be a facility similar to a typical community hall. It could likely be a housed as a temporary use in the Community Centre while a permanent design plan is created.

In order to encourage and assist people with their journey of recovery from addictions a detox treatment center should be created. This would be a medium sized facility with the primary mission to support people through their healing process and likely also provide mental health service or respite. The facility is intended to be designed as a 'home' environment, or camp/venue and not reflect an institutional setting. This would likely be best suited on Shesheep IR where staff and resources can be relatively close to the core offices and service, while also the patients have access to the peaceful setting, view and location of Crooked Lake and Elk Point. Many people expressed support that this facility should be 'away' from the main community so there is peace and quiet and some isolation from people who may either be contributing to, or being affected by, the issue.

Many residents also, supported the idea of a mental health retreat. Basically, a clean, safe place where people can have short-term stays to revive their mental health or receive treatment for depression, seasonal affective disorder or other difficulties. This would be a place for both day and overnight accommodation. There would be an outdoor component with simple components for sitting and gathering such as a small courtyard, garden or greenspace.

A workshop facility should be developed and located in the core area. This would be a medium sized shop with sufficient space for storage and project work ( $1,000-3,000 \mathrm{sq} \mathrm{ft}$ or greater). It will also require some outdoor storage and work areas with a fenced perimeter. As this is a workspace, is should also have appropriate lighting, air circulation, water, electricity, heat and security.

A new Community Centre being designed and planned for construction. In addition to finishing this project, Chief and Council would like to see the surrounding site grounds have a proper landscape designed area for gathering space, heritage 'storyboards', picnic sites, playground and a small camp/RV ground for people that have traveled to be at an event in the facility.

The Little Bone IR Community Center allows many great opportunities for future use. Programs and events should be scheduled in the facility that are attended by people from all the Reserves and offreserve members to maintain and strengthen social connections between the geographically separated groups.

### 7.3.4. Cultural

## Goals and Policies

- The 'Plateau' area is a culturally protected site and is restricted from development
- Elk Point is a culturally protected site and is restricted from development
- All cemetery sites are culturally protected and are restricted from development
- Goose Lake Culture Camp site is a culturally protected site and is restricted from development
- The Band will take action to identify and map archaeological sites that are currently known to members of community
- The Band will take action to seek out and discover additional archeological sites that may exist
- The Knowledge Keepers Lodge is a culturally protected site and is restricted from development
- The church and grounds will be maintained and improved for use by all residents
- Select and assist the recipient of bison herd as part of the signed Buffalo Treaty


## Development Initiative

Expansion improvements to the Goose Lake Culture Camp site should be designed and completed. This is a great space for members to participate in cultural gatherings and natural experiences. There should be a pavilion/cookhouse for all-season use. Dedicated parking area should be identified so vehicles are not spread randomly over the site. A semi-permanent, more formal, fire pit site should be selected and developed for safe year-round fire use. Small installations should be made for appropriate lighting, seating and bench sites and garbage collection bins. Green toilet facilities should be installed so there is always a washroom available without the need for rentals.

Goose Lake is the prominent view and destination. It makes a great impact on the site and mental state of the people experiencing it. It is contradictory however, that after all the effort and energy to get to the site and maintain it etc. people can't actually physically get down to the shoreline and water. A steep drop-off, thick brush and loose soil full of material make it a discouraging challenge for anyone other than a determined or fit person to get down to the waters edge. Viewing the lake from the plateau is absolutely fine, however, there should be a formal landscape plan done to design large wide terraced landings or steps with solid surfaces. This will allow access directly to the shore with useful space to rest, reflect and also open-up the view of the water from the interior of the site.

The Plateau area is a culturally significant site on Zagime IR. It is located at the north-west region of the Reserve and south of the Qu'Appelle River. It is a prominent shelf of open land that steps out from the rolling topography of the valley side. This site is historically and culturally significant as it has been the site for ceremonies, celebrations, battles, and has taken a key geographic element of the Band's formation.

The local church on-reserve is located conveniently in the village core. While not owned or directly managed by Zagime, completing the required maintenance and repairs should be encouraged so that it is a continued cultural resource for future people. Like other CS facilities, churches create benefits from activities that happen through the participating people and the events they perform. It takes on a role larger that just a building or gathering space.
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ZA signed the Buffalo Treaty along with other First Nations to receive bison, establish their own sustainable herd, and then gift a portion to another FN to establish their herd. This is a great initiative that is already underway. ZA should continue the effort to formalize the organization of the herd (in partner with the business aspects) and develop a working group or assign existing staff the tasks to manage the selection of the next recipient FN.

There are many locations in the community that are historically and culturally significant but that are not officially recorded. These include historical family burial sites, original homesteads and historical and current sun dance and rain dance grounds. These sites have unique meaning and must be avoided during future development. A specific project should take place to identify and record these sites in a mapping format.


### 7.3.5. Recreational

ZA has a large portion of young people, especially within the 'under 20' age group. Youth involved in sports and physical activity are far more likely to pursue healthy activities as adults. Young people are also more willing to participate in outdoor or physical activities when they are made easily available. Introducing the opportunity for physical activity will promote teamwork, self-confidence, and provide a healthy outlet for energy. Once people are active and find enjoyment in activities that interest them, participation should be self-sustaining.

Within the core area, very well-kept open areas have been left undeveloped. While too low for other developments, these areas are a prime location for picnic spots, playgrounds, horseshoes, fire pits, paved walking trail, and so on. There may be moisture and seasonal drainage issues, but with drainage management techniques this can be minimized. Depending on the level of landscaping conducted, the community can plan for parks that suit their need. Until formal development is done, there should be some interim action by the Band, organized volunteers, work projects etc. for small scale items that can be accomplished in the short-term.

## Goals and Policies:

- Community leaders must take an active role to introduce and maintain recreational activities that benefit all age groups
- Band leadership and recreation staff will play an important role to organize events and team/individual activities, particularly during the colder months when activities require indoor space
- Provide acknowledgement, rewards or compensation for the positive efforts of educators, Band leaders and local role models that promote public participation in recreational events
- Retain dedicated sites as usable green space for sports and activities
- Provide play structures in each development area to suit children under 10 (and possibly older)
- Experienced adults should be selected and approached to lead younger groups in activities. This local resource of people should be used to its full advantage
- Funding accounts will be set up to create and maintain a stock of basic outdoor sports equipment (baseballs, gloves, bats, hockey sticks, soccer ball, football, lacrosse, and any other...)
- The geography of the Reserve requires "team sport" activities take place on designated areas. But, there are still other individual activities such as: running or hiking trails/events, fishing, hunting, snowshoeing, winter survival skills, and simple open-space play areas (parks) that should be promoted.


## Development Initiatives:

- Competitive team sports may not always be the best way to involve young people in recreational activities and can often require expensive equipment. A short-term sports program should raise money for simple equipment (ball gloves, balls, hockey sticks, etc.)
- Identify a custodian/rec. director for sports gear and establish a loan program so youth can sign out equipment and put it back in a secure place for next time
- Adults should be approached to take part in simple physical activities of walking or park events
- Although there are areas set aside for recreational use, different or unique areas will likely present themselves as both youth and adult populations change their interest in selective activities, these areas should be identified and established as they occur
- Baseball diamonds will be improved and then maintained to control drainage and usability
- Improve the condition of the Elk Point Fish Camp: construct a fish cleaning shack, benches, tables, garbage collection, and other supporting infrastructure
- Provide Band funded or business operation for Yellow Calf Beach area: lake use amenities, rental/loan equipment, dock
- Swim Shack: for shade, seating, shelter, at the Yellow Calf and Elk Point beach areas
- Small playground structures throughout the Reserves: core area, beaches, sports grounds
- A spray park / splash park for children of all ages

A Winter Camp site should be selected. This would serve as a base for outdoor winter activities for school groups and members of all ages. The camp site is really just the place to allow other activities to happen. From here, people may do hiking, hunting, skiing, snowshoeing, stationary activities or simply gather around the fire. Site components would include: small cabins or formal pads for large, good quality tents, fire pits, small pavilion, seating, washrooms, potable water supply, and appropriate lighting.

The arena has fallen into hazardous disrepair. There should be action taken to either inspect and refurbish the facility or have it demolished and removed so the site can be used for a better purpose.

### 7.3.6. Agricultural \& Industrial Development

## Goals and Policies:

- Locate any industrial development outside, and away from, the village core and all other residential areas
- Only hold land that is intended for light industrial uses when required. Large scale industrial developments will follow a site selection process
- Council will carefully consider the social, environmental and economic effects of industrial development on the rest of the Reserve to determine the appropriate allowable intensity
- Industrial development must be placed in proper locations so that the inherent noise, visual and safety aspects of the operation do not have adverse effects on existing or future residents
- Band council will be involved in the decision process to establish manufacturing activities onreserve
- Construction and manufacturing operations will be encouraged in order to generate employment, experience and income
- Complete a case-by-case analysis of proposed projects to determine the benefits and negative effects that would be realized by residents

There is approximately 8,000 acres of suitable cropland on the Zagime IR alone, without taking into account recent Specific Claims acquisitions. This is a great opportunity for leases that create band revenue. Additionally, some land should be set aside for internal use to expose members to the skills and trade training related to crop production, mechanical maintenance, ranching, soil science and other related subjects.

The bison herd can be expanded to a practical size for sustained ranching business. There are many challenges to developing a ranching business. It will take time and effort. However, ZA already has much of the required infrastructure and land for such an operation. The main task may be to find skilled staff to develop and operate the beginning stages of the business and transition until it is stable and sustainable.

### 7.3.7. Environmental Development

Possibilities exist for the Reserve to become more self-reliant and self-sustaining with regard to energy consumption and waste reduction. New innovations of old ideas have embraced technology and now offer methods of providing energy to communities in all landscapes. There should be an assessment conducted to determine the availability and cost of exploiting unlimited renewable energy sources. Landforms and geographic location of the built areas may potentially have resources existing through wind power generation, water turbines, solar paneling, solar walls, geo-thermal and biomass heating. For houses in close proximity, a group boiler can provide heat to many units on one system.

Prior to developing new reliable energy sources, easy and inexpensive methods exist to save consumption costs. Energy efficient lights or LED lighting in the Community Centre, band buildings and homes reduce cost immediately. Weather-stripping, repairs to doors and windows, extra insulation placement create ongoing savings to heat costs. Proper furnace and water heater maintenance also saves costs, primarily during the winter.

Small repairs and alterations could substantially reduce a household's power and heat bill, while creating employment, skills and local knowledge for members.

Many vehicles travel through the Reserve every day. These vehicles (and travelers) are identified as causing an ongoing littering issue where waste is spread along the roadways and blows into the adjacent fields. Proper signage and a collection site at the Reserve entrances may be suitable to diminish the littering. These sites are not full transfer stations by any means, just a small pull-over site to encourage people to throw away garbage in the bins instead of the roadside.

There is a perceived issue of diminishing Elk populations in the area. This may be in part due to harsh winter climates and natural predatory pressure. However, it is likely that they may also be overhunted by local residents. The overhunting by surrounding communities also impacts the annual stock as the Elk migrate within a region and are not localized to human created boundaries. The restriction, or even monitoring, of hunting rights is a complicated subject. Some discussion and awareness should take place to at least determine the extent of herd populations, the amount of hunting in the area and the number/location/sex of harvested animals each season. Responsible hunting practices and harvests for not only Elk, but for all big game and game birds should be taught and encouraged for new and existing hunters.

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## 8. Community Engagement Summary

Focus Group Community Engagement Event took place in Yorkton on October 12 ${ }^{\text {th }}, 2022$ and on-reserve at the Community Centre on October $13^{\text {th }}, 2022$. Multiple on-site meetings also took place with the project team. The meetings in Yorkton were held as a more accessible option for the Little Bone and Minoahchak members. Multiple meetings took place with focus groups over the 2 day period. Community members had knowledgeable and valid comments that are incorporated into the recommendations of this report. An open forum of guided discussion occurred with multiple groups.

The third day of public consultation, a Community Open House come-and-go event, was held on March $27^{\text {th }} 2023$, again at the Community Centre. Community members received an overview of the report and were able to view reference mapping and figures outlining areas for future growth. Members provided feedback and comments that were included into the final report.

At all meetings people raised common concerns regarding: amount and quality of housing, overall public health, mental health, facilities, public safety, quality of life and social programs.

A frequent theme during community consultation events was the feeling of separation between the 4 Reserves within the ZA community. Many residents from Little Bone and Minoahchak feel isolated from the main Reserve that is larger, has the community service amenities and the core village site. Residents on all the Reserve housing areas agree that there must be ongoing effort to maintain and expand social and cultural connections so that the overarching concept of identity within ZA is not eroded more than it already is. This is a similar feeling to how people identify as being an 'on-reserve' member compared to those with an 'off-reserve' lifestyle.

Housing tenure is a concern for some residents. Some people feel a level of instability in their housing due to the reality that they can be asked to leave their current home and move to another area or into a shared living space with others. Other people had comments that some large housing units are only being used by 1 or 2 people and could be used more efficiently by a full family. Attendees to the engagement events also expressed an understanding that the Band leadership and staff do the best they can with the available housing stock. People believe leadership is applying effort to get new units built. Another related concern regarding housing space is that off-reserve family and friends who frequently return to Reserve need a temporary place to live.

Some public comments and responses voiced concern regarding the real and perceived plague of onreserve opioid, methamphetamine, and general drug use. The complete extent and harm to the community is difficult to be fully identified or understood. However, there is no question among the leadership that this is a very real and significant issue facing the community and that it affects all people who live here. Actions are being taken to provide safe space, detox environment, and guidance to those seeking help. ZA has dedicated staff to monitoring, understanding and creating solutions for the negative impacts from this issue. Additional focus on mental health, enforcement, legal and policing efforts are required to confront and defeat the suppliers and root sources that fuel the ongoing scourge to the community. (Important to note that ZA is not unique or isolated regarding this issue. Addictions, specifically the ongoing opioid and methamphetamine pandemic is a very large, well established and deeply rooted problem for most communities in North America.)

The Youth Group engagement meeting was very useful. The girls in attendance were knowledgeable and vocal about their experience living on-reserve and identified things they would like to see developed. Almost all comments were regarding 'things to do' and 'place to be'. The primary ideas that were brought up included: an area for field sports, outdoor rink and warmup shack, culture camp support and a shuttle (van or other) for on and off-reserve transport. Most attendees supported the idea of having a Youth Center that can provide space for gaming (digital and tabletop), meditation/quiet room, work/study space, exercise area, small kitchen. The youth also expressed concerns that the buildings in the village core area should get a 'facelift'. Majority of buildings are perceived to be run-down, dirty, old, and in need of some clean-up. There was great support for the idea of having a small coffee shop/snack shack/bakery on-reserve. Both for the employment and business benefits, but also, to have somewhere to go with friends.

Engagement meetings identified the desire for improvements and expansion of the Goose Lake Culture Camp site. This is a very highly respected and loved site by residents. The site is ideal for its main use for cultural gatherings. It has sufficient space and landscape views and natural shelter that make it an enjoyable place to be any time of year. Some ideas for improvement include: a pavilion shelter or cookhouse, permanent 'green' toilets, dedicated parking area, appropriate lighting, more established fire pit, connection to lake (steps, landings).

Many people are excited for the new Community Centre and new school. Beyond having a new facility, members are enthusiastic regarding the possibility of programs, clubs, events and gathering that will take place. Some ideas discussed include: potluck dinners, games night, tabletop games leagues, seniors night, youth night, celebrations, meetings, and generally, just reasons to get together with other members, friends, and family.


## 9. Historical

The historical information of this section is taken from open-source information online and from ZA documents. The majority of this content is a direct summary from the 'History' section in the previous Community Plan 2014, page 13-18 completed by the students in the University of Dalhousie Cities and Environment Unit.

Chief Sakimay was originally a member of a band from Manitoba led by Chief Waywayseecapo; this band used the area around Crooked Lake as a winter camping and hunting site. After the signing of Treaty 4, Sakimay and a group of followers decided to remain at Crooked Lake. They were granted their own Reserve site in 1876 on the north side of the lake near where it meets the Qu'Appelle River.

Chief Sakimay died in 1881, triggering a split between young and old in his new Band. Declining buffalo stocks meant hunting was no longer as reliable a food source as it had been. Younger band members wanted to shift to an agricultural lifestyle. Led by Yellow Calf, this group moved to the south side of Crooked Lake. The older members, led by Shesheep and Old Assiniboine, remained north of the lake and continued their traditional way of life.

Little Bone's band evolved separately, but in close proximity to Sakimay's. In the early 1880s, Little Bone's Reserve was surveyed and approved by Ottawa.

The construction of Crooked Lake Dam in 1942 proved an important moment for the band's modern history. The band was not compensated for flooded land. For decades, the band attempted to convince the provincial and federal governments that the dam had destroyed members' livelihoods.

In 1986, the band submitted a claim to the Department of Indian Affairs alleging the wrongful construction of the dam and the illegal flooding of Reserve lands. By 1992, the federal government had closed the file due to inactivity on the claim, effectively rejecting it. In 1994, Sakimay petitioned the Indian Claims Commission to conduct an inquiry into the claim based on this rejection; four years later, the ICC ruled that Canada had been at fault, and the Minister of Indian Affairs accepted the claim for negotiation. After over a decade of negotiations, the claim was finally settled in 2013.

For further in-depth information regarding ZA history, please refer to the Community Plan 2014. Included in that report are also colour images of previous Chiefs, deeper context, and a historic timeline from 1874 to 2013.

## 10. Education, Training and Labour

The Reserve residents and Band membership are the Reserve's most valuable asset. Education and skill development of all age groups should be a focus for future development. School/training classrooms maintenance, improvements and expansion must take place as required. Separate analysis and interviews should be done to further define what must be addressed to improve conditions and capacity for future students.

Beyond school, youth programs, cultural learning and extra-curricular groups build on their education and provide a broader foundation for adult education. Adults should also have opportunities for educational development through training programs. There could potentially be courses in: Driver's education, truck training, WHMIS, carpentry, environmental, life skills, agriculture, business, and various work experience programs. The band administration may be able to maintain a list of the training that members have completed.

The band administration staff should maintain an updated database of members' educational, training, experience and skills profile. This can be a useful tool to see how many people would be available for certain work/training opportunities. Almost half of the population is within the workforce age group. Training programs provide good preparation for employment opportunities on and off-reserve. A Band Director may be able to follow labour profiles and provide information to those seeking it regarding employment opportunities. This should be updated on a regular basis and used to determine what programs to keep, expand, or discontinue.

There is a significant shortage of skilled labour in ZA, Regina, and within Saskatchewan as a whole. There is a great opportunity for on and off-reserve members to be trained and find work in the trades or professional workforce. In particular, ZA has difficulty finding a stable supply of construction and trade labour for the development of new housing and business facilities. There would be compounding community benefits if a member was to be trained and then employed by a ZA business, doing development on-reserve.

There are many opportunities for employment either on-reserve or within one of the Band owned corporations. While the majority of on-reserve positions are with the administration and operation of the Band, new opportunities are very close to being available. Some new employment markets that may exist in the near future are: construction, trade jobs, ranching, farming, food production, facility maintenance, tourism, logistics, and general labourer.

## 11. 2014 Plan Summary

The previous Community Plan was completed in 2013/2014. The report was created over 18 months with a large team of approximately 23 people. The study was part of the educational program of the Cities and Environment Unit of Dalhousie University (Halifax). The planning project had extensive community consultation from members both on and off-reserve. The plan is a valuable reference tool and it is strongly recommended that the document be saved for future reference. It (and any future plans) should be mandatory reading for any new chief, councillor, management or key staff.

The report has an informative introduction regarding the planning process, the purpose of having a plan and how the content should fit into governance, decision making, and communication.

There is extensive land mapping figures and supporting descriptions regarding soil, vegetation, drainage and sensitive areas. This reference information is very useful when identifying development sites. The sensitive areas designation is over emphasised and results in almost the entire Reserve being restricted for future growth or development. The plan later does allow some development within the sensitive area designation where appropriate.

Resulting from the extensive public involvement, the plan has a very strong description of the communities strengths and issues. Within categories of: community, lands, and governance the subjects are thoroughly outlined and each have an insightful description of the 'root causes'.

The plan proposes a variety of high-quality design components. Some key elements that should be applied to future developments are: non-vehicular pathways that are separate and set back from the main road; covered walkways as primary connections between village core buildings and sites; establish many trees within the core and along roads.

The plan describes action items that reflect the ideas and concerns from the community. While the ideas are reasonable, none of them have actually taken place. A more important takeaway is the list of many Policy - Program - Project Ideas. There is a comprehensive listing of the ideas sourced from the community.

## 12. Five Year Capital Plan

This Capital Plan should be used as a budgetary guide for the Chief, Council, Administration and other agencies that are involved with the Reserve. Project items are not necessarily listed with prioritization. But have timelines for completion and a breakdown of cost sharing responsibilities, design and construction costs. The list placement of items should not be considered a rigid ranking. There may be changes in funding, needs and opportunities/constraints that will necessitate an alteration to the order that projects are shown in. Also, not all the items are given a priority rank as some projects will be done when the opportunity/funding is available. Refer Capital Plan 2023 - 2027 in Appendix A

## 13. Conclusion

ZA has an extensive library of fairly recent reports regarding planning, environment, social aspects, business plans, infrastructure designs, and more. The community should now move focus away from community consultation and report creation. ZA is now in a time when they should be focused on design and construction. It is more important to have physical housing, roads, infrastructure and places for things to happen than it is to have ongoing community engagement and ongoing studies.


## Appendix A

Capital Plan 2023-2027




## Appendix B

Figures \& Mapping



A
Zagime Anishinabek FN IR 74
Community Development Plan 2023
Local Context: Zagime IR 74




Zagime Anishinabek FN IR 74 Community Development Plan 2023 Agriculture Capability: Zagime IR 74 Overall Area


Zagime Anishinabek FN IR 74
Community Development Plan 2023
Agriculture Capability: Little Bone IR 74B \& Minoahchak IR 74C Area Figure 6





Zagime Anishinabek FN IR 74
Satellite Image village Core Area Figure 10








[^0]:    ${ }^{1}$ https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=364\&/ang=eng

[^1]:    ${ }^{2}$ https://pubsaskdev.blob.core.windows.net/pubsask-prod/110320/Brief\%252BDescription\%252Bof\%252BStandards.pdf

[^2]:    Source: StatsCan Community Profiles, retrieved March 2022

