ENOCH CREE NATION INTEGRATED LAND USE PLAN BYLAW NO. 2018-01



Enoch Cree Nation PO Box 29 Enoch, AB, T7X 3Y3 Tel: 780 470 4505 enochnation.ca



ENOCH CREE NATION INTEGRATED LAND USE PLAN BYLAW No. 2018-01

PREAMBLE

WHEREAS the Enoch Cree Nation has inherent aboriginal and Treaty rights and authority to govern relations among its members and between the Enoch Cree Nation and other governments.

AND WHEREAS the Enoch Cree Nation people are the Maskêkosak nehiyowak, proud and avowing of our language, tradition and history, passed from ancestors, to those of today, for the benefit of Maskekosihk iyinowak oti nikanihk.

AND WHEREAS the aboriginal and Treaty right of the Enoch Cree Nation to govern itself was recognized and affirmed in Treaty No. 6 entered into on September 28, 1877 between Her Majesty the Queen and the Enoch Cree Nation and confirmed by section 35 of the *Constitution Act*, 1982.

AND WHEREAS in accordance with the September 13, 2007 UN Declaration on the Rights of Indigenous Peoples, Enoch Cree Nation members have the right to participate in decision—making in matters which would affect their rights, through representatives chosen by themselves in accordance with their procedures, as well as to maintain and develop their own decision making institutions.

AND WHEREAS in accordance with the September 13, 2007 UN Declaration on the Rights of Indigenous Peoples, Enoch Cree Nation members have the right to own, use, develop and control lands, territories and resources they possess by reason of traditionally ownership or use as well as those they have otherwise acquired.

AND WHEREAS the Enoch Cree Nation has historically managed its lands and resources according to traditional laws and its inherent right of self-government, which includes the right to designate, allocate and assign lands for different purposes and to regulate use of Enoch Cree Land.

AND WHEREAS the Enoch Cree Nation Council also has the power under section 81(1)(g) of the *Indian Act* to make bylaws not inconsistent with the *Indian Act* or with any regulation made by the Governor in Council or the Minister, for the dividing of Enoch Cree Land or a portion thereof into zones and the prohibition of the construction or maintenance of any class of buildings or the carrying on of any class of business, trade or calling in any zone.

AND WHEREAS the Enoch Cree Nation Council also has the power under section 81(1)(h) of the *Indian Act* to make bylaws not inconsistent with the *Indian Act* or with any regulation for the construction, repair and use of buildings whether owned by the Enoch Cree Nation or by individual members of the Enoch Cree Nation.

AND WHEREAS it is considered necessary for the interests and integrity of the Enoch Cree Nation to adopt an Integrated Land Use Plan (the "Plan") as the primary planning document for the Enoch Cree Nation to be used by Chief and Council,



Administration and Membership as a framework for growth and development and a decision making guide.

AND WHEREAS after consultation with the Enoch Cree Nation membership this Integrated Land Use Plan has been prepared to set a seven generation /100 year vision for community growth and economic development by:

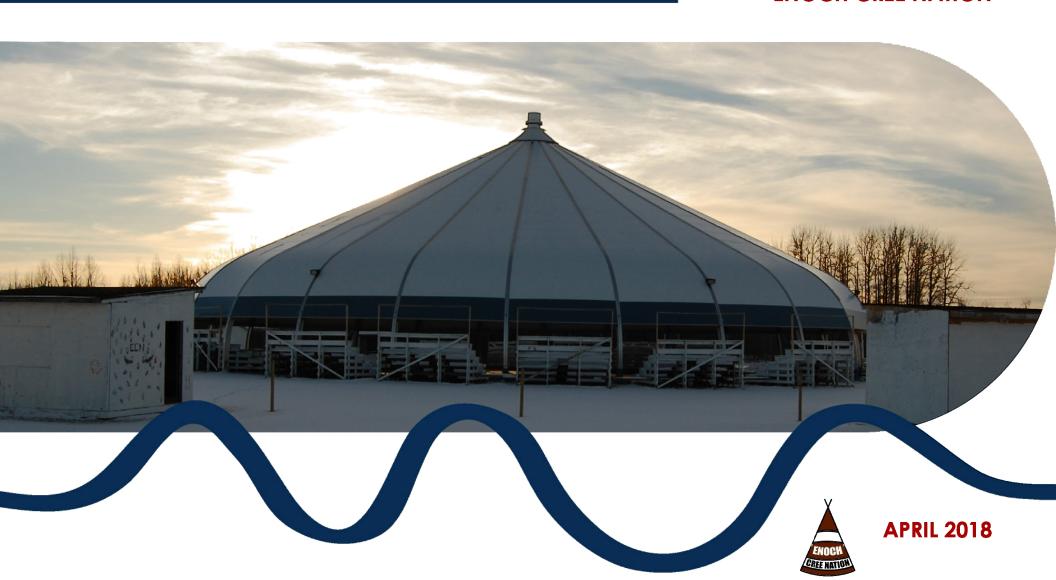
- Projecting community growth and estimating land requirements;
- Protecting cultural and environmental significant areas;
- · Identifying the type, location and servicing of development;
- Coordinating Nation and member initiatives;
- Negotiating with surrounding municipalities, governments and industry;
- Setting the stage for more detailed area and site planning;
- Building capacity and creating an ECN Planning and Development Department.

AND WHEREAS the Enoch Cree Council believes it is in the best interests of the Enoch Cree Nation to exercise its inherent right of self-government and its power under sections 81(1)(g)(h) of the *Indian Act* to enact this *Enoch Cree Nation Integrated Land Use Plan Bylaw No. 2018-01*.

NOW THEREFORE we the Enoch Cree Council proclaim:

INTEGRATED LAND USE PLAN

ENOCH CREE NATION





Enoch Cree Nation Integrated Land Use Plan

Enoch Cree Nation P.O. Box 29 ENOCH, AB T7X 3Y3

Attention: Don Morin River Cree Development Corporation

Prepared by

URBAN

April 2018

This report is prepared for the sole use of Enoch Cree Nation. No representations of any kind are made by Urban Systems Ltd. or its employees to any party with whom Urban Systems Ltd. does not have a contract. Copyright © 2018.

Contents

	Plan	Summary	1
	d. Ir	troduction	2
þ	1.1	INTEGRATED LAND USE PLAN (ILUP) DEFINITION AND PURPOSE	2
	1.2	VISION, MISSION AND VALUES	3
	1.3	ILUP GUIDING PRINCIPLES	4
	1.4	ILUP PREPARATION PROCESS	5
	2. II	LUP Context	7
	2.1	ECN HISTORY	7
	2.2	REGIONAL CONTEXT	9
	2.3	ECN LANDS	10
	2.4	ECN PEOPLE	20
	2.5	PROJECTED LAND USE NEEDS	22
	3. L	and Use Plan	29
	3.1	CONSERVATION AREA	32
	3.2	CULTURALLY SIGNIFICANT	33
	3.3	RESIDENTIAL	34
	3.4	INSTITUTIONAL	35
	3.5	INDUSTRIAL	36
	3.6	COMMERCIAL	37
	3.7	MIXED USE	38
	4. S	ervicing	39
	4.1	WATER	39
	4.2	SANITARY	40
ľ	4.3	STORMWATER	44
	4.4	TRANSPORTATION	51
è	4.5	SHALLOW UTILITIES	53
Ĺ	5. Ir	mplementation and Action Plan	55
	6. S	iummary of Actions	57
			- 1 1 TO 1 to



Maps

Map 1: Location Map	€
Map 2: Regional Context	8
Map 3: Existing Housing Map	. 11
Map 4: Land Tenure	. 12
Map 5: Development Constraints	.14
Map 6: Existing Topography	. 15
Map 7: Existing Land Use	. 17
Map 8: Future Land Use Concept	30
Map 9: Water Servicing	41
Map 10: Sanitary Servicing	43
Map 11: Major Pre Development Drainage	45
Map 12: Major Post Development Drainage	46
Map 13: Transportation Network	50
Map 14: Future Land Use Concept Phasing	. 5€

Appendix

Appendix A: Engagement Summary

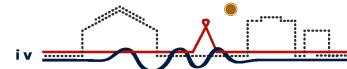
Appendix B: Career Option Details

Appendix C: 2015 Context Summary Report

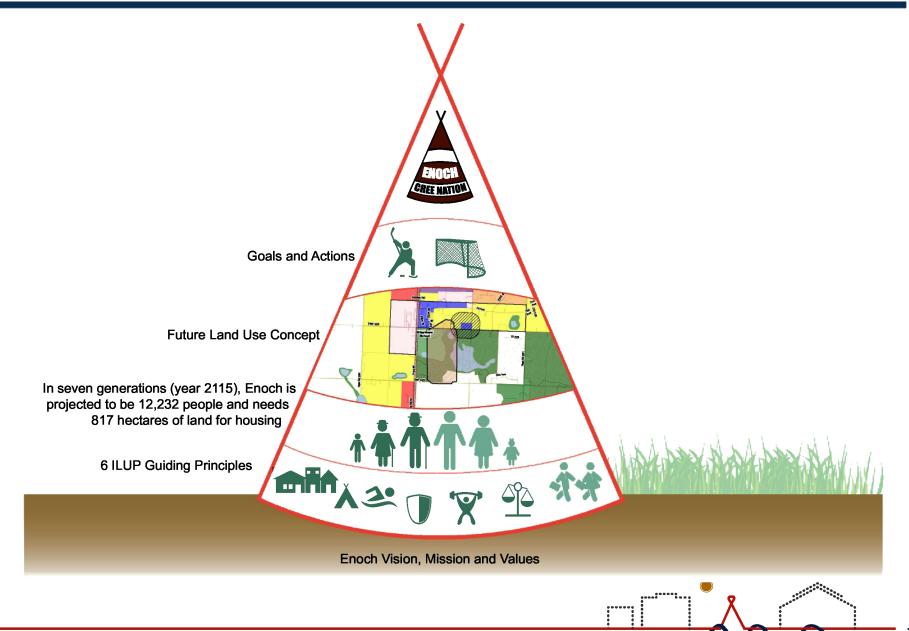
Appendix D: Development Opportunity Study by Site Economics Inc

Appendix E: NEDA Concept Plan Report (2011)

Appendix F: Environmental Overview Prepared by Urban Systems in July 2015



Plan Summary



Introduction

1.1 INTEGRATED LAND USE PLAN (ILUP) DEFINITION AND PURPOSE

Continuing more than seven generations of community building, the Enoch Cree Nation (ECN) Integrated Land Use Plan (ILUP) leads a new cycle of community planning and economic development that will contribute to achieving the Nation's vision of self-sufficiency, unity and prosperity for its Members.

The current journey began in response to concerns following the unsuccessful 2011 land designation for additional economic development land in the Northeast Development Plan. It was also in response to soil dumping and other unauthorized uses of the reserve lands. In 2014, River Cree Development Corp connected with Urban Systems. In early 2015, Chief and Council approved a review and analysis of the planning and engineering work done to date (both within and surrounding ECN), an examination of current challenges and opportunities, and an outline of development possibilities. Chief and Council then authorized the preparation of the ILUP, which included extensive community engagement as described in Section 1.4.

Comments at the first elders session early in the project included:

'we should never become Edmonton reserve'

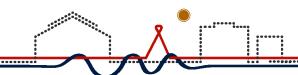
'we are not a municipality'

This ILUP is the primary planning document for ECN. It has been prepared for use by Chief and Council, Administration and Membership as a framework for growth and development and a decision making guide. It sets a seven generation/100 year vision for community growth and economic development by:

- Projecting community growth and estimating land requirements
- Protecting culturally and environmentally significant areas
- Identifying the type, location and servicing of development
- · Coordinating Nation and member initiatives
- Negotiating with surrounding municipalities, governments and industry
- · Setting the stage for more detailed area and site planning
- Building capacity and creating an ECN Planning and Development Department

This Plan fully recognizes the importance of ECN's culture, language, traditions and history to its Members and its future. This Plan is one of the tools available to pursue and accomplish this mission.

The ILUP has reviewed and incorporated material from the 2005 ECN Community Development Plan and replaces that document. The ILUP is a living document that must be nurtured through consistent application, regular review and periodic revision. As other studies, reports and initiatives are completed, such as the Traditional Land Use and Occupancy Study, the incorporation and update of these plans into the ILUP will help to lead to the successful implementation of these initiatives.



1.2 VISION, MISSION AND VALUES

The ECN's Vision, Mission and Values are as follows:

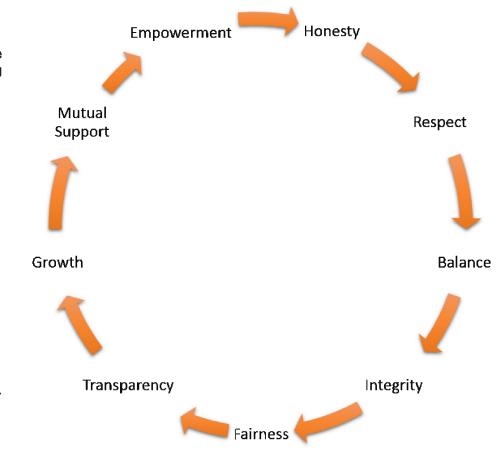
Vision - We strive to be self-sufficient, unified and prosperous Nation

Mission - We, the ECN, proud member of Treaty 6, actively seek to preserve and promote our culture, language, history, and spirituality while advancing our economic, education, health, and social well-being of our people.

Values

- Honesty ka kwayasksihcikêwinik or kwayask itâtisiwin
- · Respect kihcêyihtowin or manâcihtowin
- Balance mîyo pimâtisiwin
- Integrity kwayaskâtisîwin
- Fairness peyakwan êsi kanawâpamat ayisîynîw
- Transparency ê kanawapatêhiwêhk
- Growth ê akamêmototamihk
- Commitment asotâmawin
- Mutual Support sîtoskâtowin
- Empowerment mâmawi wîcihitôwin

The Vision, Mission and Values guide the ILUP and all associated processes.





1.3 ILUP GUIDING PRINCIPLES

The following guiding principles are the foundation for the ILUP and should be considered in Plan implementation and amendment.

Protect Natural and Cultural Areas for Member Use and Enjoyment



Maintain and Strengthen ECN's Unique Culture and Identity



Balance Community Growth and Economic Development



Develop Cultural and Recreational Facilities

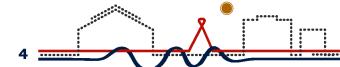


Support Job Creation and Business Development On Reserve



Provide a Variety of Housing Options According to Members Needs





1.4 ILUP PREPARATION PROCESS

The first phase of the ILUP began in April 2015 following ECN's discussions with Urban Systems in late 2014 and early 2015. This important stage focused on information gathering, analysis and reporting. The result was the ECN Context Summary Report, which included:

- Project Understanding and Vision
- Population and Housing Projections
- Environmental Overview
- Land Use, Infrastructure and Transportation Context
- Communications and Engagement Plan
- Market Analysis

This report was presented to Chief and Council following the 2015 election.

The second phase of the ILUP was initiated by Chief and Council in October 2015. To guide and inform the Plan, the following sessions and meetings were held:

- Project Start-Up with Project Committee November 3, 2015
- Meetings with a Former Chief and with Administration – November 17, 2015

- Project Introduction at Council Meeting with Elders – November 20, 2015
- Introduction to Planning Session December 1, 2015 at River Cree Resort and Casino
- Presentation and Surveys at Annual General Band Meeting – December 17, 2015
- Project Committee Meetings December 9, 2015, January 20, February 17 and April 20, 2016
- Members Roundtable January 14, 2016
- Student Engagement January 19, 2016 and February 3, 2016
- Firesides member input gathered by Liora Morin and Lorna Ward
- Elders Session February 3, 2016
- Sessions with Certificate of Possession and Certificate of Occupation Holders – February 11 and May 16, 2016

More information about these sessions can be found in the Engagement Summary in Appendix A.

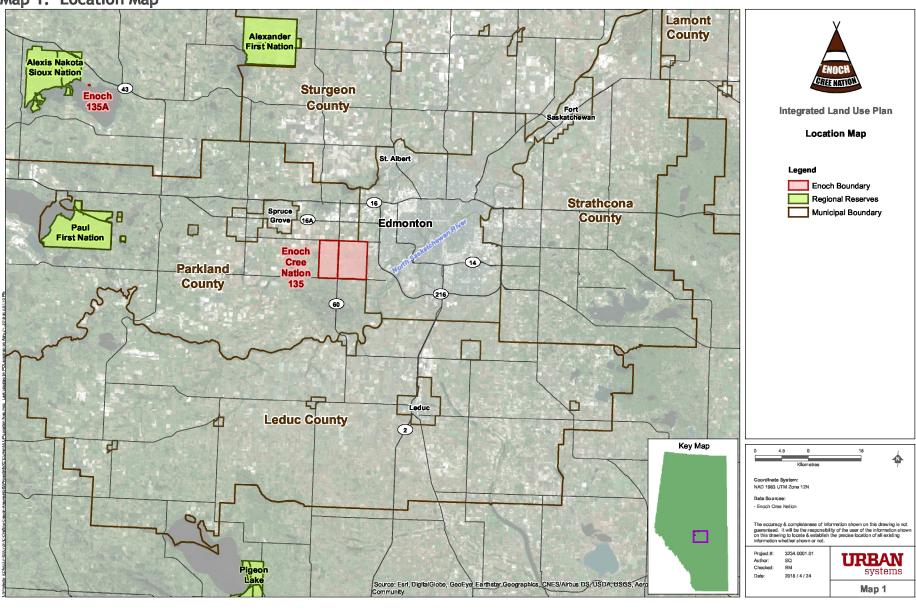
'Career Options' boxes appear throughout the Plan and indicate potential career opportunities for ECN youth and members as planning and development occurs. Appendix B identifies the training required and a local school that provides it.

Career Options:

- Land Use Planner
- Community Engagement Specialist



Map 1: Location Map

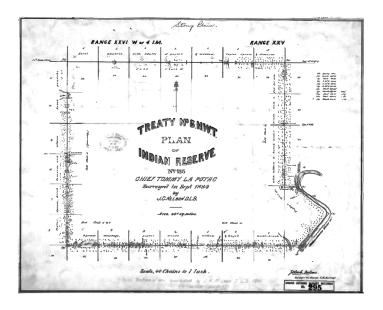


2. ILUP Context

2.1 ECN HISTORY

The earliest known band leader, Chief Lapotac, was likely descended from the Strongwood Cree, the original people of the Beaver River area since 1670. Chief Lapotac's band was linked to the Asino Wachi Cree and Amisk Wuchee people all of whom gathered in the Beaver Hills east of Fort Edmonton.

The Lapotac Band was recognized in 1842 and had a primary economy of fur trading with the Hudson's Bay Company. Chief Lapotac was a well-respected leader who provided a solid basis



1884 Survey Map

for coexistence between the white and native peoples until his death on February 9, 1861. Two of Chief Lapotac's sons would become Chief in their adult years. Thomas Lapotac became the Chief of the "Tommy's Band" and in 1880 joined the Bobtail's Band to form Tommy's Band. The reserve was formally recognized with the condition that Chief Lapotac accepts band members from the Pahs-Pahs-chase Band which was being dissolved.

In 1883 Chief Tommy Lapotac passed away and his brother ECN Lapotac became chief with councilors Lazarus Lapotac, Pierre Mah-minawa-tah, Nah-pay-sis and William Ward. In 1884 when Chief Enoch was in power the reserve was created and is now known as the ECN.

Chief Enoch Lapotac accepted the formal survey and the Enoch Reserve's land mass was formed in 1889. In 1894, 79 members of the Pahspahs-Chase band formally joined the Enoch Band. Unfortunately, the band's land mass was reduced by "forced surrenders" in 1902 and 1908 to nearly half of its original size.

Since 1908, the band economics were primarily farming based. In 1947, Oil was discovered on the Cree Nation and became a new source of administrational funding to coincide with Government operational funding programs. From the 1950's to 2006, the ECN had 3 primary

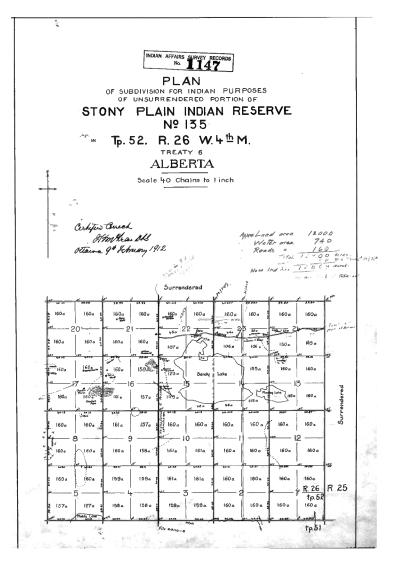
sources of funding, INAC Funding and grants, Band Business and Oil & Gas Revenues. Although the ECN enjoyed Oil & Gas Royalties from the 1950's to current date, the Oil crash in 1986 lead to the need for alternate sources of revenue. This event helped stimulate the establishment of more band owned business, entrepreneurial business and eventually the River Cree Resort and Casino (RCRC). The establishment of the RCRC has expanded that funding portfolio to include charitable funds from Casino operations. (source: http://www.enochecdev.ca/ecn-community-profile/ecn-history (May 2016))

Career Options:

- Archivist
- Land Surveyor
- Mapping Technologist



Map 2: Regional Context Strathcona Sturgeon County County CREE NATION 16 Integrated Land Use Plan Acheson Industrial Area **Regional Context** Strathcona Rosenthal County Legend Granville ILUP Boundary Enoch Municipal Boundary Cree Planned Roadway Upgrades Nation Urban Residential **Parkland** Parkland 135 Neighbourhood Airport County Country Residential Neighbourhood Industrial 60 Woodbend-Graminia Edmonton (2) International Airport **Leduc County** NAD 1983 CSRS UTM Zone 12N - Enoch Cree Nation The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not. Project#: URBAN Author: Checked: systems Date: 2018 / 4 / 24 Source: Earl, DigitalGlobe, GeoEye, Earthster Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Map 2



2.2 REGIONAL CONTEXT

As shown on **Map 1** ECN is bordered by the City of Edmonton to the east and northeast and Parkland County to the north, west and south. Map 2 shows the regional context of development around ECN, which includes a combination of existing, developing and planned suburban neighbourhoods in Edmonton including the Rosenthal, Granville, The Hamptons and Edgemont neighbourhoods in Edmonton. North of ECN is the proposed Whitemud Drive upgrade/realignment and Acheson Industrial Area, which is Parkland County's growing economic development hub with 4,000 ha of land and over 200 businesses. To the west of ECN is the agriculture land including the recently opened Parkland Airport. To the south is the Woodbend-Graminia area within Parkland County, which consists of primarily of country residential development. More information can also be found in the 2015 Context Summary Report (Appendix C).

At the Introduction to Planning session in December 2015 members were asked to describe their ideal community, responses included:

- well planned and good management
- proper services
- living in harmony
- sustainable development
- plentiful
- economic opportunities
- family oriented



ECN is part of of Alberta's Capital Region, but not the Edmonton Metropolitan Region Board (EMRB) (formerly Capital Region Board). The EMRB is made up of the region's 13 largest municipalities. These partner municipalities have adopted a Regional Growth Plan to promote integrated and strategic approach to planning for growth in the Region, identify overall development patterns and key future infrastructure investments as well as coordinate decision in the region to sustain economic growth and strong, healthy communities. ECN was not part of the process to develop the EMRB's Growth Plan, and is not beholden to its policies, however this plan does provide context regarding the development and growth anticipated in the neighbouring municipalities, which help to identify anticipated land uses within ECN and helped to inform the market assessment report prepared by Site Economics Inc (Appendix D).

ECN continues to build government to government relationships in order to become a regular participant in matters of local, regional, provincial and national significance to the Nation. Discussions have begun to better coordinate and communicate between ECN, the City of Edmonton and Parkland County regarding land use and servicing along their shared boundaries.

2.3 ECN LANDS

ECN's Stony Plain Reserve 135 (see Map 1) was surveyed in 1884 and officially established in 1889. It was 44.5 square miles (115.25 km²) and ran from what is now Highway 16A to its current south boundary and from its current west boundary to what is now 184th Street in Edmonton and to the North Saskatchewan River, in what is currently known as Cameron Heights.

In 1902 and 1908, ECN was forced to sell and surrender significant portions of their reserve lands along the north and east sides. Reducing their reserve lands to their current size of 20.5 square miles (53.06 km²).

ECN also has Stony Plain Reserve 135A (see Map 1), which is a 2 ha parcel (5 ac) of forested land on the north shore of Lac Ste Anne between Alexis Nakota Sioux Nation and the Summer Village of Ross Haven. This parcel is commonly referred to as West of Gunn by community members. While these lands are important part of ECN, they have not been included in the preparation of this ILUP. It is anticipated that these lands will be re be retained as is, with no significant development proposed.

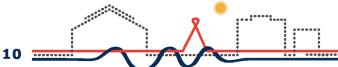
Historical Development

ECN's land mass was formed in 1889. In the past, many families were located in the north half of the reserve lands. ECN continued to grow with lots of activity around Yekau Lake, in the Sand Hills, on and off reserve. Members have gradually spread out and now live throughout the reserve. ECN has a well-developed Housing Authority with over 440 units and a successful mortgage program. The Housing Authority currently has 184 rental properties on reserve.

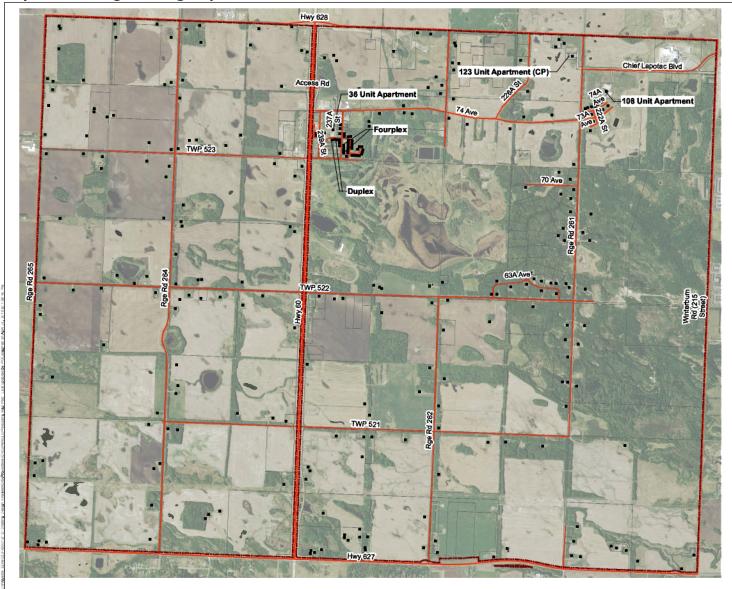
Most of the Nation's detached housing is evenly distributed throughout the reserve at rural density as shown on **Map 3: Housing**, however a few planned, higher density developments have occurred over time.

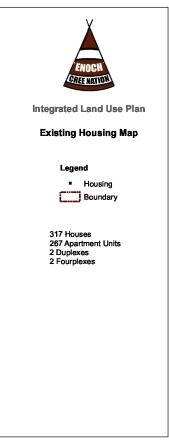
In 1965, a plan for the Village or New Town was laid out in SW 22-52-26-W4 with seventeen (17) lots with dimensions of approximately 50 m \times 80 m. The most central and eastern lots of that Plan currently have single and semi- detached dwellings on them.

In 1973-4, a Conceptual Development Plan was prepared for the development of a new town (referred to as Ketuskeno) of up to 40,000 people in the Sand Hills area. This did not proceed beyond the study stage. More information about the concept can be found in the Public Works Canada's Report.



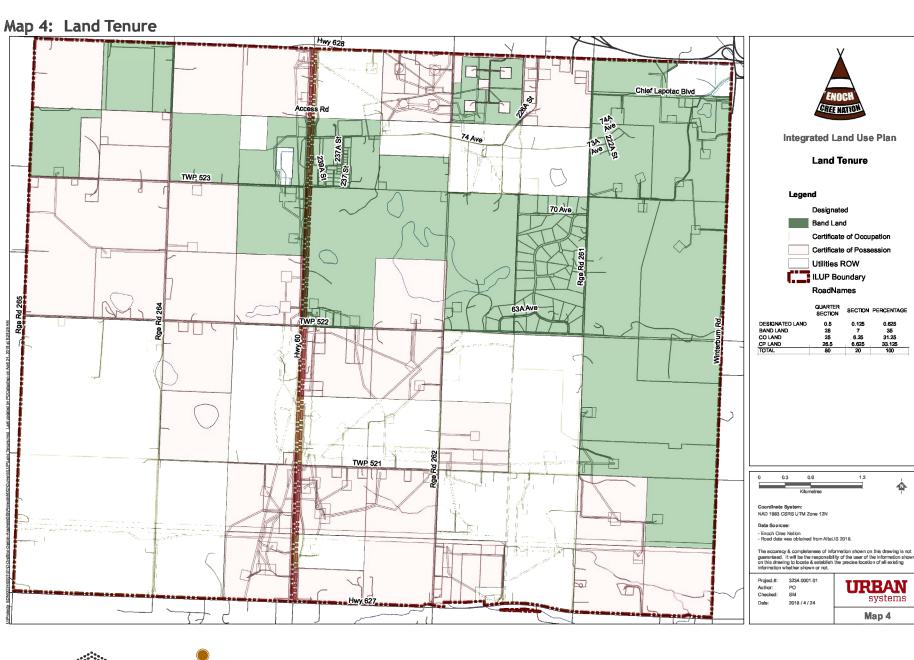
Map 3: Existing Housing Map











In 1979, a 16 lot subdivision for the lands north of Township Road 522 was registered. These 2 to 3 ha lots are occupied by homes today. In 1980, this was expanded in 1980 by another 32 lots of similar size for the remainder of the east half of Section 14-52-26-W4. The area's topography and high water table makes connecting a through road difficult. As a result, development of the subdivision is limited to the lots on the periphery.

In 1983, the Village/New Town was expanded with an additional sixteen (16) lots measuring 30 m x 50 m. The majority of these lots have been developed with homes or structures. The remaining undeveloped lots have recently been selected for the new school site, which construction was underway at the time this ILUP was adopted.

Three apartment buildings currently exist at ECN. The three storey 36 unit apartment located in the Village, the five storey 108 unit near River Cree (opened in 2015) and the 123 unit, which is located on Certificate of Possession land in the north portion of the reserve. Just south of the 108 unit apartment are 15 detached houses with more expected to be built in this area as indicated in the 2011 NEDA Concept Plan Report (Appendix E).

Land Tenure

The ECN reserve lands are divided into four different types of land tenure: Band Land, Designated Land, Certificate of Possession (CP) Land and Certificate of Occupation (CO) Land (See Map 4: Land Tenure). All development within the reserve is subject to approval under the rules and regulations of the Indian Act, however CP Holders and CO Holders have greater autonomy over their lands and are able to propose development on their lands without needing to obtain and Band Council Resolution (BCR). As all of the lands were considered and included in this plan preparation, CP Holders and CO Holders were engaged as part of the preparation of this Plan. As part of the implementation of this plan, all future development within ECN will be expected to conform with this plan, regardless of land tenure.

Development Constraints

ECN lands are greatly impacted by both natural and man-made constraints, as can be seen on Map 5: Development Constraints. An Environmental Overview of the entire reserve, prepared by Urban Systems in July 2015 (Appendix F), identified several areas of significant habitat and environmental functions for potential conservation. In addition to areas of conservation, this Environmental Overview identified several utilities right of ways that may greatly impact future development. A large transmission line runs eastwest across the southern portion of the reserve

as well as significant oil and gas activity has been identified throughout the reserve. While some of these wells and pipeline facilities are still active, many have been suspended and abandoned. All of these utilities have potential to impact development and appropriate setbacks or remediation may be required prior to any development occurring in proximity to these utilities.

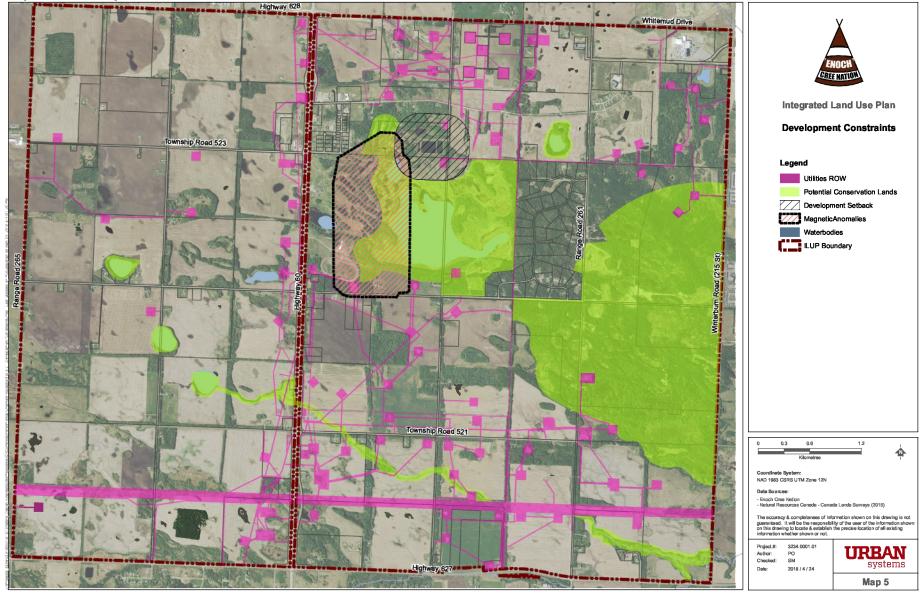
From 1940 to 1945, Sections 14 & 15 were used by the Federal government for the Yekau Lake Practice Bombing Range. Studies over the last ten years, including the DefConstr geomagnetic survey, have revealed that anomalies and potential hazards remain as a result. The location of clusters of anomalies are identified on Map 5, however it should be noted that additional potential anomalies may be present further west than anticipated. Lands in proximity to these anomalies should be investigated prior to development. The Nation is pursuing a claim with the Federal government on this matter.

Future development throughout ECN will need to consider the impacts of these potential contaminants and, if required, remediation prior to development.

Finally, there is a 300m development setback around the wastewater lagoon. Dwelling units and areas where food is being prepared are not permitted in this setback area.



Map 5: Development Constraints



Map 6: Existing Topography Highway 628 **CREE NATION** Arena Road Integrated Land Use Plan **Existing Topography** Carpenter Shop Road (TWP 523) ILUP Boundary Elevation (m) High: 735 - Low : 690 Road Peacock Road (TWP 522) McGillis Road (TWP 522) Callingbull Road (TWP 521) Thomas Road (TWP 521) Coordinate System: NAD 1983 CSRS UTM Zone 12N Data Sources: - Enoch Cree Nation The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not. Garden Valley Road (TWP 520) URBAN Highway 627 Author: Checked: systems



2018 / 4 / 24

Map 6

Topography

As shown on Map 6, ECN elevations range from 690 m above sea level (ASL) in the southeast corner of the reserve to 735 m ASL in the Sand Hills and northern parts of the reserve. Much of the south, northeast and Yekau Lake areas of the reserve are at elevations in the middle of this range.

Existing Land Uses within Stony Plan Reserve 135:

Today, there are serval land uses existing across ECN Stony Plain Reserve 135. These land uses are identified in **Map 7: Existing Land Uses** and described below.

Agricultural

The majority of the land area within ECN Stony Plain Reserve 135 has been cleared and used for agricultural purposes. In most cases, this land is rented out to non-members for agricultural use. Within this rural, agricultural area, ECN has developed over 200 dwellings for its members, which equates to approximately 50% of the overall housing.

Natural Areas

Throughout the Reserve there are a number of "Natural Areas" identified. These areas include tree stands, low lying wetlands, other surface water bodies (including wetlands, drainage ditches, small streams and prairie potholes), and other relatively undisturbed naturally vegetated areas. A large area on the eastern portion of the Reserve, known as Sand Hills, and the area around Yekau Lake are the largest cohesive natural areas located on the reserve.

The Sand Hills are two sections of forested sand dunes located on the east side of the reserve, directly adjacent to the City of Edmonton.

Yekau Lake and the surrounding marshland, scientifically known as the Yekau Wetland Complex, cover approximately 180 ha of land, 4 ha fen on the north east edge of the marshes. Yekau Lake itself is approximately 50 ha in size. This wetland complex is located within a shallow basin that receives most of its water from groundwater discharge and some from surface runoff originating to its northwest.

The upper reaches of Wedgewood Creek run northwest from the southeast corner of the reserve.

All of the above natural areas provide important ecological services in the Alberta Capital Region.

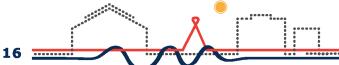
Culturally Significant

The forested sand dunes of Sand Hills have both environmental and cultural significance to the Nation. ECN members continue to use this area for a variety of activities including:

- Ski Hill
- Sand Pits
- Trails
- Berry and Medicinal Plant Harvesting
- Rifle Range
- Tomahawk Park
- Former Swimming Pool

Inappropriate uses of the Sand Hills have occurred in the past, including trespassing and illegal dumping. Members would like the Nation to better control activities in the Sand Hills, so that the lands are protected for future generations.

Yekau Lake has cultural and traditional land use significance for ECN. Sections 14 & 15 are considered high risk due to the Federal Government activities associated with the Yekau Lake Practice Bombing Range from 1940 to 1945. No ground disturbance should occur prior to the completion of the necessary safety and clearance procedures by qualified professionals.





A Traditional Land Use and Occupancy Study (TLUOS) for both the Sand Hills and Yekau Lake lands was initiated in March 2016. At the time of writing, the Traditional Land Use Study had not been completed, however it is important to note that this Plan and the TLUOS are linked, and traditional land use will directly impact this implementation of this Plan. Once the TLUOS is complete, any amendments necessary to the plan will be made accordingly.

The ECN lands that are dedicated for cultural use include Enoch Park/Ta-Wow Cultural Grounds (accessed from Highway 60) and the cultural grounds located along Township Road 522.

The main Cultural Grounds include the Enoch Arbour (where Pow-Wow is held) along with the 'Handgame' structure, washrooms and out buildings. Beside this, there is the Enoch racetrack and modern barn.

The old cultural grounds also have an arbour, out buildings and access to Yekau Lake.

Rural Residential

Centrally located between the Sandy Hills area and Yacka Lake is a large lot rural residential subdivision. Lot sizes are generally around the 2-3 ha (5-7.5 ac). While the land has technically gone through the subdivision process, only the southern portion of this site has been developed with homes and an access road as per the subdivision plan. The balance of the subdivision has seen some housing development, however geotechnical constraints made the access road proposed by the subdivision plan difficult to construct and full build out of this subdivision was never realized.

Urban Residential

Of the over 440 housing units on Reserve, approximately 80 of those units are located within the Village Centre located approximately 1 km south of Highway 628 and just east of Highway 60. With a density calculated at approximately 2.3 units/ha, the Urban Residential area within the Village Centre is the highest density of housing within ECN. While the majority of housing within the Village Centre is single detached there are also 2 duplexes, 2 fourplexes and a 36-unit apartment building. Dwellings in the Village Centre are connected to piped water and sanitary services, with water currently being provide from the Nation's Water Treatment Plant and sanitary services connecting into the lagoon located approximately 1km east of the Village Centre.

A second, urban residential area has started to develop within the Northeast Development Area (NEDA) on the eastern portion of 74th Ave and includes 16 detached dwelling units and a 108 units apartment building for ECN members. This concentration of dwelling units is serviced by piped water and sanitary services from the City of Edmonton.

Approximately ½ km northwest of this second core urban residential area is a second large apartment building. Constructed on CP lands, this 123 units market apartment building houses both ECN members and non-members. This apartment is private and not included in the ECN housing count.



Institutional

All of ECN's Institutional Uses are currently concentrated in the Village Centre area and include:

- Kitaskinaw School (preschool to Grade 12)
- Health Centre
- Administration Office
- Day Care
- Our Lady of Mercy Church
- Elders Centre
- Public Works/Mechanic Shop
- RCMP building
- Playgrounds
- Ta Wow Cultural Grounds
- Fire Hall
- Recreation Centre

A new K-12 school is being constructed in the southern side of the Village Centre Area. This new school is anticipated to be opened for the 2019/2020 school year.

Commercial

River Cree Development Corporation is responsible for economic and land development of Band lands and resources. This includes River Cree Crossing and other emerging projects and opportunities.

Currently, ECN is home to the following businesses:

- River Cree Resort and Casino
- Oskya
- North of 60
- Alberta Indian Investment Corporation
- Certificate of Possession Businesses

River Cree Resort and Casino occupies 19.9 ha (49.2 ac) with an additional 6.9 ha available for development adjacent to the casino. The existing and former gas stations occupy approximately 6 ha for a total of 32.8 of existing (or designated) commercial land use.

Industrial

Currently there are two areas identified as industrial land within the Nation, an area of land located on the west side of Highway 60 which is designated for business purposes and is currently being used as a transfer station by the Nation. This site is leased until 2046. Alternative use of this designated site, including leasing for other uses, would require an Environmental

Assessment is completed indicating the site is "clean" (as per the Economic Opportunities Analysis – Industrial Park (2013)).

In addition to these lands, a Certificate of Possession holder operates approximately 38.5 ha (98 ac) of industrial land on Reserve as shown on Map 7.

Former Recreational

The site identified as the "Former Recreational Site" was previously developed by ECN as a golf course. The former golf course was abandoned after discovery of the magnetic anomalies remnants from the Practice Bombing Range. ECN hopes that future remediation will allow for the reopening of this golf course.



2.4 **ECN PEOPLE**

ECN's population since 1972 has grown from 520 persons to over 2,660 in 2017. Historically the population has been split approximately 70% on-reserve and 30% off-reserve.

Table 1: ECN Population 1972-2017

Year	Total	On Reserve	Off Reserve
1972	520	337	183
1974	559	369	190
1975	571	395	176
1976	596	447	149
1977	619	474	145
1978	641	491	150
1979	665	510	155
1980	714	570	144
1981	761	607	154
1982	792	631	161
1983	848	683	165
1984	882	713	169
1985	946	745	201
1986	1036	773	263
1988	1138	818	320
1990	1184	835	349
1991	1253	955	298
1992	1303	1051	252
1993	1348	1083	265
1994	1395	1129	266

Year	Total	On Reserve	Off Reserve
1995	1426	1155	271
1996	1484	1221	263
1997	1528	1287	241
1998	1558	1304	254
1999	1596	1327	269
2000	1652	1372	280
2001	1701	1346	355
2002	1764	1390	374
2003	1830	1433	397
2004	1917	1478	439
2005	1967	1493	474
2006	2007	1502	505
2007	2063	1525	538
2008	2101	1528	573
2009	2165	1557	608
2010	2211	1579	632
2011	2271	1601	670
2012	2370	1627	743
2013	2432	1634	798
2014	2476	1655	821

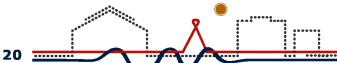
Career Options:

- Statistician
- Data Administrator

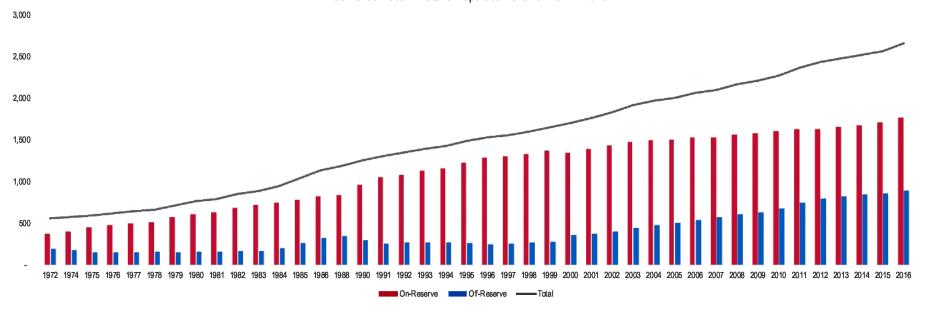
Year	Total	On Reserve	Off Reserve
2015	2518	1673	845
2016	2,564	1,706	858
2017	2,660	1,768	892

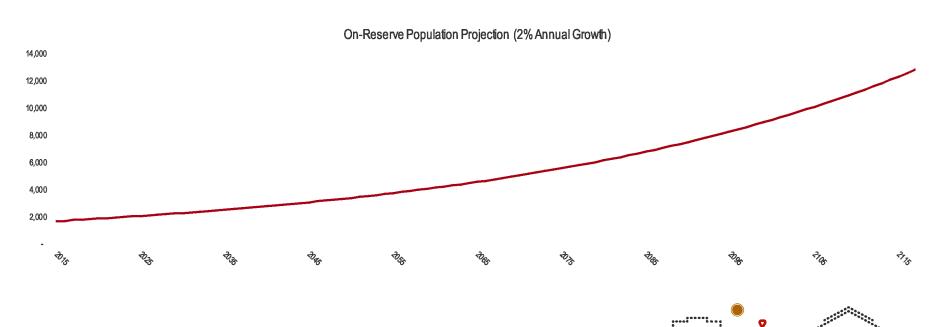
On-Reserve Population **Projections**

An Annual Average Growth Rate of 2% has been selected by ECN as the most appropriate means of calculating the Nation's population and land needs over the next 100 years. Using a 2% Average Annual Growth Rate, ECN's population is estimated to reach over 19,260 by 2015, with the on-reserve population estimated to reach over 12,800. This growth will increase the onreserve population by over 11,000 from the current 2017 population.









2.5 PROJECTED LAND USE NEEDS

An ILUP is a forward-looking document used to guide growth and development and is based on the economic, social and cultural needs of the community. Using information available on how the land is currently being used, population projection, economic development opportunities and the community values we are able to project future land consumption needs and identify where development should be located.

The following sections address the residential, industrial, economic development, community, institutional, and cultural land required to meet the needs of ECN's projected 2115 on-Reserve population.

uprh (units per residential hectare): the total dwelling units divided by the net total of land that is identified as residential. This does not include supporting service lands such as parks, stormwater management or roads.

Residential Land

At the anticipated Average Annual Growth Rate of 2% the on-Reserve population will increase by over 11,000 people, in the next 100 years. To accommodate this growth ECN will need to identify and protect lands most suitable for housing this growing population.

Currently, the Nation has 440 housing units on Reserve located on approximately 5,306 ha of land. This results in a per unit density of 0.075 units per ha (with the village approximately 2.3 units/ ha). Moving forward, ECN has identified the need to shift away from this existing development model toward an approach that incorporates increased residential density.

To calculate the future residential land requirements to support ECN's anticipated 100 year population growth the following assumptions where made:

Assumption 1: ECN's existing housing, which currently accommodates 1,673 residents, will remain in its current form. However, this does not preclude the possibility of redeveloping these lots in the future.

Assumption 2: Residential land uses will only be used to accommodate the anticipate growth of the on-Reserve member population. It does not consider the land requirements for any anticipated non-member populations.

Assumption 3: Future rural detached housing will have an approximate area of 43,056 ft2 (4,000 m²), resulting in a density of 2.5 units per net residential ha or roughly 1 ac lots. A standard lot dimension could be 50 m x 80 m (or 164 ft x 262 ft).

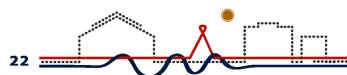
This area is the current minimum size standard (by provincial regulation) for private domestic water well and private sewage disposal system.

Assumption 4: Future urban residential development, including detached, semi-detached and apartment dwellings, will be based on 20 units per net residential ha (uprh) population density. This is based on a comparable target densities for greenfield development in Villages and Hamlets within the Edmonton Metropolitan Region Growth Plan.

Assumption 5: Future housing will consist of 50% rural detached housing and 50% urban residential.

Assumption 6: ECN is targeting an average of 4 persons per unit at ECN by 2115. This is based on the current ECN household size of approximately 4.2 persons per dwelling unit.

Assumption 7: An additional 20% of the land required for rural detached and urban residential housing allocated for roads, stormwater management, lift stations and other aboveground servicing.



Assumption 8: An additional 10% of the land required for housing will be allocated for parks and open space above and beyond protected environmentally and culturally significant areas.

Table 4: On-Reserve Residential Land Needs

100 year population increase	+11,000
Total number of units required (4 people per unit)	2,750 units
Urban Residential Housing:	
50% Urban residential housing units	1,375 units
Urban residential land required (20 units per gross residential ha)	68.75 ha
+20% for roads, stormwater management, servicing	13.75 ha
Urban Residential subtotal land required for housing, roads, and servicing	82.5 ha
+10% for parks	8.25 ha
Urban residential total land required	90.75 ha
Rural Residential Housing:	
50% Rural residential housing units	1,375 units
Urban residential land required (2.5 units per gross residential ha)	550 ha
+20% for roads, stormwater management, servicing	110 ha
Rural Residential subtotal land required for housing, roads, and servicing	660 ha
+10% for parks	66 ha
Rural residential total land required	726 ha
Total residential land required	816.75 ha

Based on the above assumptions / calculations, it is estimated that ECN will require approximately 816.75 ha (2,018 ac) or 3 Sections of land to accommodate the increase in on-Reserve population anticipated over the next 100 years. As such, it is appropriate that ECN allocate additional residential land to provide the Nation with flexibility over the long-term. Taking into consideration the Nation's identified residnetial land needs (Table 4) ECN has allocated a total of 862 ha for urban residential development and 2,321 ha for rural residential development. Community growth only requires 10% of the urban residential land allocated and 28% of the rural residential.

Industrial Land

With an expected increase in population, the Nation will need to expand its industrial land base. A best practice standard for projecting industrial land requirements is approximately 4.86 ha (12 ac) per 1,000 residents¹. It is also recommended that an additional 20% of land be allocated to accommodate roads and related above-ground servicing for the industrial uses.

Based on the above standard, to accommodate a 2115 on-Reserve population of 12,323, ECN will require approximately 72 ha (178 ac) of total industrial land (including 20% for roads and servicing). The Nation plans to re-purpose its existing industrial area within the context of the current designation. Furthermore, the

Nation does not directly control the other existing industrial development. Therefore, the Nation will require the full 72 ha of additional industrial land to meet its needs. However, as the Nation's industrial needs may shift over time, it is recommended that ECN allocate an additional portion of industrial land to ensure flexibility over the long-term. As such, is appropriate for ECN to allocate an additional 20 ha (49 ac) of land to meet its industrial land needs over the next 100 years.

The Development Opportunity Study (done by Site Economics for ECN in 2015) recommends 121.4 ha (300 ac) of light industrial constructed in two equal phases, subject to market demand. This is 10 ha less than the above analysis. Further study will be done to confirm the amount and determine the most suitable industrial uses for ECN.

1 Land Use Planning Made Plain (2nd Edition), 1999 - Hok-Lin Leung.



Table 5: Industrial Land Needs

2115 On- Reserve Population	Total Industrial Land Needs	Existing ECN Industrial Land	Additional Industrial Land Allocated
12,323	72 ha (178 ac)	0	20 ha (49 ac)

Table 6: Potential Industrial Land Uses

Potential Uses for Additional Land	Development Area ² [Comparable Example]
Light Industrial Park	
	[Acheson Industrial Area] 134 ha
	[East Campsite Business Park]

2 Development Area' includes the building footprint, parking / access, landscaping, and any other built / natural features associated with the site.

Economic Development Land

Economic development land uses are important to the Nation as they provide revenue andemployment generating opportunities for the Nation and its membership. Additionally, these uses can also provide opportunities for expanded access to goods and services for community members. Potential uses can range from industrial opportunities, to commercial development, to recreational and tourism projects.

The non-industrial economic development land needs have been identified based on the specific types of projects that the Nation will be pursuing. Based on consultation with ECN, Table

7 identifies desired future economic development activities proposed within the Nation. Comparable examples in surrounding communities have been used to calculate the specific land requirements.

It is also recommended that an additional 20% of land be allocated to accommodate roads and related above-ground servicing for the economic development uses.

Table 7: Economic Development Land Needs

Land Use	Development Area [Building Footprint]	Comparable Example
Phase 1 - Large format with local retail	20.3 ha (50 ac) [60,000 m²]	Mayfield Common
Phase 2 – Auto mall and service commercial	20.3 ha (50 ac) [60,000 m²]	Wetaskiwin Auto Mile
Grocery Store	2.4 ha (6 ac) [8,800 m ²]	Save on Foods (Hampton Market)
Logistics Warehouse	7 ha (18 ac)	
To be Determined through Further Study Market	469 ha (1,159 ac)	
+ 20% for roads / servicing		
Total Land Required: 623 ha (1,539 ac)		

As noted above, ECN has identified a mix of future economic development uses on Reserve.

Through the engagement process, the following businesses were suggested by members:

RV Park

Salon

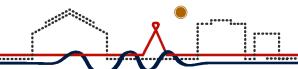
Mechanic

Restaurant

Drug Store

Bingo Hall

This is based in part on the Development Opportunity Study done by Site Economics for ECN in 2015. This Study recommends 40.5 ha (100 ac) divided into 2 - 20.3 ha components, subject to market demand and further study. In particular, it indicates:



Commercial

One portion could be large format retail and could consist of approximately 650,000 square feet of retail. Tenants could include department stores, home improvement retailers, sporting goods, and clothing outlet stores. This part of the retail development could include more local retail as well, such as grocery, medical dental businesses, and other personal services.

The second major retail development could be used for an auto mall and a service commercial cluster that could include auto parts dealers, businesses that support the construction and home renovation sector such as flooring, lighting, and appliance wholesalers. This part of the development could also include some highway commercial such as gas stations and fast food outlets.

Further study will be done to determine the land uses for the proposed commercial areas in the Northeast Development Area (640 ac of land that forms the northeast corner of the reserve lands) and along Highway 60.

As its on-Reserve population grows over the next 100 years, ECN may find that its economic development needs grow, shift, or change, resulting in the need for additional land.

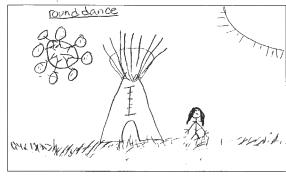
Furthermore, ECN may also find that, as its population and economic development activities grow that the Nation starts to become a social and economic hub (i.e. due to its 'critical mass'). Should this occur, it is likely that additional users will gravitate to the reserve to access services and amenities offered, resulting in additional (i.e. 'spin-off') economic development opportunities for ECN.

Commercial/Industrial

The Nation intends to re-purpose and expand its existing industrial area to a combination of commercial and industrial uses to be determined. This land use has also been proposed for the lands between the existing Certificate of Possession industrial use and the east extension of the village as a buffer and to create limited flexibility. The total proposed land area for these uses is 129 ha. See Map 8: Future Land Use for a visual representation.

Marvelous Memories

Task: Draw a picture of a special memory you have of a time you spent in the outdoors.



1. Tell us about your picture (Where were you? Who were you with? What were you doing?)
I am standing outside of inv
to and I'm with how moni but
She is at the round drive I'v
at the Powlabile
2. Why did you choose this memory?
becase its for and you column
aet to pra and have lot
BC 6000 6000 600 98
aristal bin Encount Tony
If you could re-live this memory, would you change anything?
NO I WIND IT TO be THE SAME
all the time its I am done
memory to never a chonge and
manda al



Mixed Use

It is also recommended that the Nation allocate 248 ha of land for mixed use economic development on the east side of the reserve. These areas could be developed in a similar manner to River Cree Resort and Casino, wherein several different uses are present on one parcel or in one building. This has a number of advantages:

 It is a more efficient use of the land than a single land use and could enable transit opportunities

- It creates a well-connected and walkable development that can be designed to create an experience for residents and customers
- It creates the opportunity to differentiate from other developments in Alberta's Capital Region and there is a demand for it
- It could be the preferred form of housing and development for some community members (although the area is in addition to the Community's residential needs previously discussed)

This is intended to provide the Nation with the flexibility to achieve some of its economic development goals over the coming years.



Institutional Land

Institutional lands include all the lands that are deemed to help support the development of community and cultural land uses. Similar to commercial land, it is not possible to determine institutional land requirements based on projections, standards, and assumptions alone. Although they are informed by population projections, community and cultural land requirements are largely a reflection of needs as reported by community leaders and members. ECN's existing community land uses are shown on the following table:

Table 8: Existing Institutional Land Uses

Land Use	Development Footprint [Building Footprint]
Sand Hills, Yekau Lake, Creek and Ponds	939 ha (2,321 ac) [NA]
Former Golf Course	75 ha (185.3 ac) [550 m²]
Kitaskinaw School	4.9 ha (12 ac) [5,000 m ²]
New School	xxx
Cultural Grounds	69.6 ha (172 ac) [4,750 m ²]
Elders Centre, Church & 2 Cemeteries	3.6 ha (8.9 ac) [1,100 m²]
Administration Office	0.94 ha (2.3 ac) [1,370 m ²]
Day Care	0.44 ha (1.1 ac) [676 m²]
Other Village Uses (incl Health Centre)	20 ha (49.4 ac) [1,150 m²]
Lagoon and Setback	6.9 ha (17.1 ac) [NA]
Total Land: 1,121 ha (2,270 ac)	

Based on the direction of the ECN community and Chief and Council, the following additional institutional land needs have been identified (Table 9). Planning standards and comparable examples have been used to estimate the land required for each use. An additional 20% as been added on top of these land requirements to accommodate roads and related servicing.

It should be noted that it is the desire of ECN that there be adequate cemetery space on Reserve to accommodate the Nation's 2115 total population (i.e. community members living both on and off Reserve). As such, the total projected population of 18,515 has been used to calculate the cemetery-related land needs. It should also be noted that while parks have been included in Table 9 for planning purposes (due to their community use), they have not been included in the community, institutional, and cultural land needs calculations (due to their inclusion in the residential land needs calculations).`

Table 9: Additional Institutional Land Needs

Land Use	Development Footprint [Building Footprint]	Comparable Example / Planning Standard	
Cultural Centre	3 ha (7.4 ac) [10,000 m²]	Former Royal Alberta Museum	
Recreation Centre	7.9 ha (19.4 ac) [18,500 m²]	Terwillegar Community Recreation Centre	
Child Care Facility	9 x 0.44 ha (1.1 ac) = 4 ha [676 m²]	Existing ECN Day Care Facility	
Health Centre (with parking)	7.2 ha (17.8 ac) [6,900 m²]		
	Westview Health Centre		
Kindergarten – Grade 6 School (with Sports Field)	5 X 4.4 ha (10.8 ac) = 22 ha	Planners Estimating Guide: Projecting Land Use and Facility Needs	
Grade 7 – 9 School (with Sports Field)	2 X 8.4 ha (20.8 ac) = 16.8 ha	Planners Estimating Guide: Projecting Land Use and Facility Needs	
Grade 10 – 12 School (with Sports Field)	1 x 10.4 ha (25.8 ac) = 10.4 ha	Planners Estimating Guide: Projecting Land Use and Facility Needs	
Expanded Cemetery	3.65 ha (9 ac) of additional land [4.9 ha (12.1 ac) in total]	4 ha per 15,000 people (Regional Municipality of Wood Buffalo standard)	
Parks	Included in residential land needs	10% Municipal Reserve Dedication	
+ 20% for roads / servicing			
Additional Land Required: 90 ha (222 ac)			



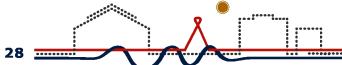
The following table summarizes the existing and proposed land use at ECN over the next 100 years. The intent is that the Integrated Land Use Plan is a living document that is reviewed and discussed by community leaders, administrators and members on a regular basis with changes made as required to reflect community needs, goals and opportunities.

Table 10: ECN Existing and Proposed Land Use

Land Use	Existing Area (ha)	Proposed Area (ha)
Natural	1,399.5	n/a
Conservation Area	NA	1,008.5
Agricultural	3,350	NA
Rural Residential	137.2	2,322
Urban Residential	30.6	882
Institutional	29.8	66.7
Commercial	32.5	246
Commercial/ Industrial	NA	164.2
Mixed Use	NA	248.2
Industrial	38. 5	82.7
Recreational	75	75
Existing Lagoon	6.9	6.9
Transmission/ Utility Corridor	93.9	93.9
Total	5,194	5,194

Grade 5 Community Engagement





3. Land Use Plan

The Future Land Use Concept (Map 8) is the culmination of many years of work by ECN and its allies. It builds on ECN's existing development and land use and looks 100 years into the future.

It protects natural and culturally significant areas. It includes areas for both community and economic growth including residential, institutional, commercial and industrial land uses.

The Integrated Land Use Plan has been created as a key component of the framework for the eventual division of the reserve into zones and the regulation of land use and buildings in form of a Zoning Bylaw (as per Section 81 of the Indian Act). This will provide clarity and certainty within ECN and to external investors, business owners, operators and tenants.

As a result, all plans for development of land at ECN should be submitted to and reviewed by a designated representative of Administration based on the content

of this Plan and all other relevant ECN policy and bylaw including the Master Servicing Plan and Area Structure Plans. Development plans should then be submitted to Council for approval based on criteria to be created. These review and approval requirements apply to all Nation Departments, Nation-Affiliated organizations and corporations, ECN Members including Certificate of Possession and Certificate of Occupation holders, and those external to ECN.

As indicated on Map 8, the land uses shown are prevailing. This means that as more detailed planning and development occurs that limited areas of complementary and compatible land uses will be included in areas currently shown as a single land use.

As discussed in Section 4, detailed infrastructure servicing concepts have been explored and developed and in the Master Servicing Plan. The results of this study have been incorporated into this Plan.

As discussed in the previous section, the development shown on the Future Land Use Concept will accommodate the projected 2115 ECN on reserve population of 12,323 including 1,512 ha of residential beyond projected needs. This provides the opportunity for a 248 ha of mixed use development. These lands could accommodate up to 35,200 housing units.

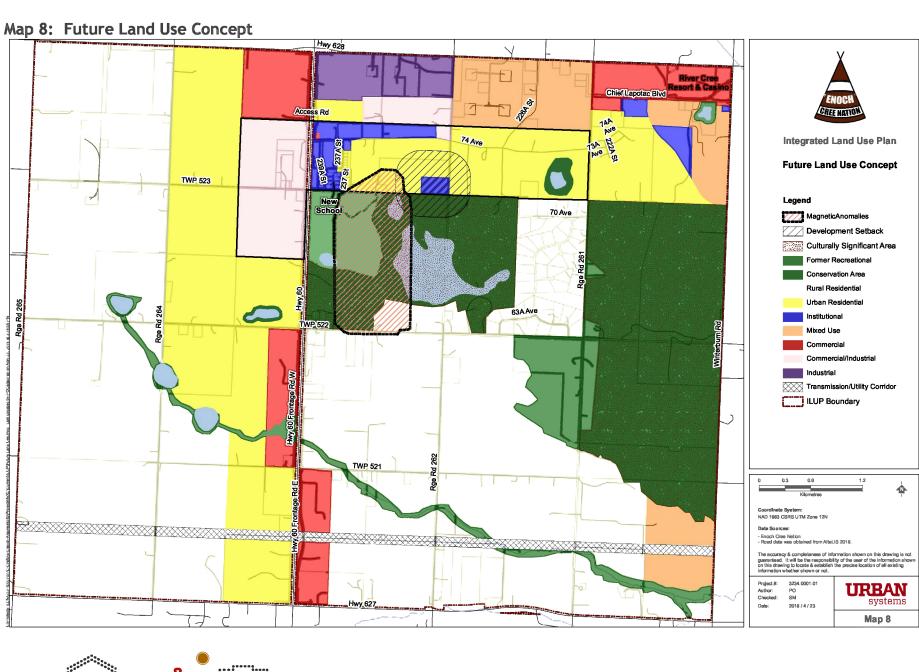
Developing residential land for non-ECN affiliated residents needs to be discussed in much more detail by ECN leadership and members before proceeding. Additional planning and several processes and services need to be developed and implemented prior to proceeding with this type of development (for example schools, mail delivery, recreation, potential advisory council).

In addtion, the Transmission/ Utility Corridor occupies valuable land that will be required for ECN community and economic development in the 75 - 100 year time. This area is expected to include a combination of rural and urban residential, commercial and mixed use land uses that will be critical to continued success of ECN at that time.

Career Options:

- Land Use Planner
- Civil Engineer





Land Use Actions

The following actions apply to all of the ECN lands. Appropriately addressing contaminated sites and soils and facilitating sustainable development are Nation priorities.

- Prior to proposed development, tenure holders shall identify and properly remediate hazardous materials and contaminated soils.
- As oil and gas leases in ECN approach endof-life, Phase 1 and Phase 2 Environmental Site Assessments shall be conducted by the leaseholder for each lease/ pipeline and the typical reclamation certificate process shall be followed to ensure reclamation to equivalent land capability and future land use.

- Locate reclaimed well sites for protection of human health and safety since the cut-andcapped wells are hidden below ground and may pose a hazard.
- Engage with Certificate of Possession and Certificate of Occupation Holders to understand their future plans, potential servicing needs and how that interrelates with the Nation's plans.
- Create ECN specific sustainable development guidelines.

According to the December 2015 survey of membership:

- 68% said more of ECN's lands should be developed for commercial and industrial purposes
- 34% of people would like to see more parks and trails
- 32% would like to see more sports fields

Career Options:

- Biologist
- Conservation Officer
- Landscape Architectural Technologist



3.1 CONSERVATION AREA

The relatively undisturbed forest/grassland Sand Hills area and Yekau Wetland Complex provide important ecological services in the Alberta Capital Region and are protected by this ILUP. These conservation areas are also identified as Culturally Significant to the ECN people. To protect the ecology of these areas, as well as the cultural use, development within the Conservation area should be extremely limited, with only environmentally sensitive development that support traditional use of these lands may be permitted. At the time of writing, the Traditional Land Use Study had not been completed or incorporated into this plan, however it should be noted that it is recommended that local knowledge be gathered and incorporated in the conservation planning process.

Career Options:

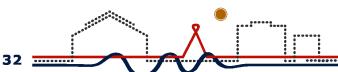
- Teacher
- Artist
- **Graphic Designer**

Goals

- Continue to discuss, study, understand, manage and use ECN's natural areas for cultural and recreational uses, including completion of Traditional Land Use and Occupancy Study.
- Direct controlled stormwater to Yekau Lake where possible to recharge the wetland and increase water levels
- Protect ECN's undisturbed forest areas and wetlands to preserve habitat and retain wetland functions.
- Limit development in the east-central and southeast portions of the reserve where permeable coarse-textured sand and gravel exist.
- Better monitor and restrict undesirable activities in natural areas
- Design development that positively interfaces with natural areas and enables community access
- Determine the parks, open space and trails' goals, needs and opportunities of ECN
- to minimize local risk associated with the Yekau Lake Practice Bombing Range.

Actions

- Prepare an Environmental Management Plan for the ECN reserve lands t
- Prepare a Conservation and Enhancement Plan for the Sand Hills that emphasizes conversation and enhancing of cultural and recreational uses as defined by ECN.
- Avoid development in wetland/riparian habitats. Where development of woodland, wetland/riparian areas is unavoidable, incorporate native trees and vegetation into the re-vegetation plan, wherever possible.
- Classify any wetlands located within 50 m of a proposed development and apply the Wetland Mitigation Decision Framework as necessary.
- Any development proposed within the 50 m of any body of water should be assessed by a qualified environmental professional to determine an appropriate setback. This includes the unnamed streams, fens, marshes and open water.
- Complete a Parks, Open Space and Trails Master Plan that focuses on both village needs and opportunities as well as the opportunity to connect all areas of the ECN lands.
- Develop land management policies, procedures and practices associated with the former Yekau Lake Practice Bombing Range while, and until, the claim is resolved to the Nation's satisfaction.



3.2 CULTURALLY SIGNIFICANT

In addition to having significant environmental functions, the Conservation Areas identified in this plan have also been identified as having cultural significance.

These lands are expected to continue being used by ECN members for traditional and cultural uses for the foreseeable future. Any new development is this area is expected to integrate appropriately with existing uses and practices.

Goals

- Facilitate the continued use of the Cultural Grounds for their current purposes
- Engage the Maskekosak Cultural Program, Elders and Members regarding the current and future needs for the Cultural Grounds and the activities that are held there
- Ensure that any development at or near the Cultural Grounds is complementary to current uses
- Continue to demonstrate ECN culture through development and built form including, but not limited to monuments, building design/ format and street layout

Actions

- Complete the Traditional Land Use and Occupancy Study for the reserve lands.
- Incorporate that traditional knowledge into the Integrated Land Use Plan through a formal Plan amendment.
- Consider developing and improving community access to significant local sites.
- Require that a Historical Resources
 Overview and, if required a Historical
 Resources Impact Assessment is prepared
 by the proponent for any development
 proposed on ECN lands.
- heritage resource inventory with statements of significance for key sites.



3.3 RESIDENTIAL

ECN will continue to develop housing and residential lands to support the Nation's growing population. It is anticipated that 50% of the housing constructed in the future will be developed to an urban standard, as Urban Residential, with piped water and sanitary services. It is anticipated that the remaining 50% will be developed as Rural Residential, with onsite servicing.

Goals

- Contribute to the continued success of the ECN Housing Authority.
- Collaborate to effectively locate, design, service and maintain a variety of housing for community members including provision of landscaping, parks, playgrounds, sidewalks and trails.
- Create walkable residential areas that reflect ECN's identity and culture, are fully serviced, meet high standards of energy conservation and sustainability and are surrounded by compatible land uses.
- Have ongoing discussion regarding residential development that is effectively regulated by ECN, may house non-ECN affiliated residents and generates revenue for the Nation.

Actions

- Locate, design and build a 50 unit apartment building
- Locate, design and build semi-detached housing including duplexs, fourplexs and townhouse style units
- Continue to build Non-Profit Housing on reserve (section 95), currently funded by Canada Mortgage and Housing Corporation
- Continue to encourage members to construct housing on reserve through the Ministerial Loan Guarantee (Section 10) and associated process
- Continue to maintain and renovate current Nation housing

Career Options:

- Carpenter
- Electrician
- Plumber

3.4 INSTITUTIONAL

The following uses are needed to accommodate the community growth of ECN. Lands are allocated for them on the Future Land Use Concept:

- Child Care Facilities
- Schools
- New or expanded cemetery

The following land uses were requested by the community during this project's initial community engagement:

- Cultural Centre
- Health Care Facility
- Recreation Centre

Development of these institutional land uses are anticipated to occur within the designated institutional land use areas, however specific sites have not been selected. The site specific location of these land uses should be discussed and analyzed at the Area Structure Plan stage based on population and need.

The following land uses were also requested by the community during the initial community engagement:

- Spray Park
- Skate Park
- · Community Garden
- Library
- Youth Centre
- Emergency Services
- Group Home
- Healing Centre
- Skills and Employment Centre
- Men's/Women's Shelter
- Animal Shelter
- Retreat Centre

Land has not been allocated for these land uses. It is possible that some of the existing development could be redeveloped to accommodate these or that an amendment could be made to this Plan to use land allocated to another proposed land use will provide flexibility for the community in choosing the ultimate site.

Goals

- Develop and maintain community facilities and lands that contribute to the selfsufficiency, unity and prosperity of the Nation.
- Explore shared service delivery and partnerships where it is of benefit to the Nation.
- Support two-way sharing of analysis including work completed by ECN organizations and partners responsible for institutional development and operation with those responsible for land use to enable holistic decision making.
- Design community facilities in locations so that they can be safely accessed by all members using a variety of modes of transportation.
- Co-locate facilities to create multi-use facilities where possible.

Career Options:

- Nurse
- Recreation Coordinator
- Heritage Interpreter
- Librarian



Actions

- Design, construct and operate the proposed Elders Centre
- Develop and implement a Community Process to Locate, Program, Design, Build, Construct and Operate a ECN Cultural Centre
- Locate new institutional uses in the areas shown on Map 8 and in the manner described above.

Career Options:

- Engineer
- Civil Engineering Technologist
- Site Inspector
- Construction Worker

3.5 INDUSTRIAL

Commercial and Industrial Use are seen as key areas of economic development for the nation. In the Future Land Use Concept (Map 8) it is expected that the existing industrial development along the north boundary of the reserve (lots 134 and 142) will expand along Highway 628. This area will predominantly be for higher impact, medium industrial uses.

Medium industrial uses typically conduct a part of their operations outside. However, any potential impacts, such as noise, smoke, dust, odour, heat, light, fumes, fire or explosive hazard, should not extend beyond the site boundaries. Furthermore, medium industrial should be separated from residential development by business industrial, light Industrial, commercial uses or appropriate buffering.

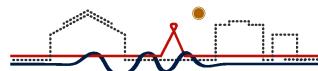
In addition to this industrial area, future commercial/industrial lands are identified west of Highway 60 and as a buffer south of the other industrial lands. These commercial/ industrial lands are expected to be business and light industrial uses. This means no nuisance is created outside, that the development is compatible with adjacent non-industrial areas, and can accommodate compatible non-industrial businesses. It can involve limited outdoor activities, such as loading and storage that are secondary to the main operation.

Goals

- Create an ECN and investment friendly environment on reserve
- Support collaboration between Nation and privately owned businesses on reserve where there are mutual interests
- Lease space and maintain ownership/ control of land and businesses for the benefit of the Nation
- Facilitate business viability and success through market study, thorough business case and plan preparation and other tools in developing, locating, establishing and operating businesses
- Proactively identify and mitigate any potential land use conflicts

Actions

- Locate, design and develop space for industrial development as shown on Map 8.
- Prepare market studies, business cases and plans for ECN run business.
- Request that member businesses demonstrate feasibility, servicing and other requirements prior to start-up.
- Develop the planning, policy and design tools that provide the clarity and certainty required for investment and for ECN.
- Complete required land designation and leasing processes.



3.6 COMMERCIAL

Future commercial land uses are anticipated to develop at strategic locations along major highways. To date, lands around the River Cree Resort and Casino have already seen some commercial development success and this is expected to expand more within this area as well as along Highway 60.

Local servicing commercial development is also anticipated within the Village Core area, to service residents living in this area.

Goals

- Create an ECN and investment friendly environment on reserve.
- Support collaboration between the Nation and privately owned businesses on reserve where there are mutual interests.
- Lease space and maintain ownership/ control of land and businesses for the benefit of the Nation.
- Facilitate business viability and success through market study, thorough business case and plan preparation and other tools in developing, locating, establishing and operating businesses.

Actions

- Locate, design and develop space for commercial uses as shown on the Future Land Use Concept.
- Prepare market studies, business cases and plans for ECN run business.
- Request that on-Reserve member businesses demonstrate feasibility, servicing and other requirements prior to start-up.
- Develop the planning, policy and design tools that provide the clarity and certainty required for investment and for ECN.
- Complete required land designation and leasing processes.
- Require a high standard of design for commercial development along major corridors, including but not limited to Whitemud Drive, Highway 60 and Garden Valley Road.

Career Options:

- Economist
- Architect
- · Management Consultant
- · Marketing Manager



Career Options:

- Property Manager
- Special Event Coordinator
- Retail Store Manager

3.7 MIXED USE

While there are no existing land uses at ECN that are defined as mixed use, three areas have been identified for this purpose on the Future Land Use Concept. Mixed Use development present a unique opportunity for the Nation and the corresponding Certificate of Possession holders. In particular, they:

- are typically a more efficient use of land than a single land use and could enable transit.
- can create a well-connected and walkable development that can be designed to create an experience for residents and customers.
- often differentiate development from regional competitors.

Goals

 To enable limited flexibility in selected areas of the reserve where a combination of land uses will benefit ECN and more detailed planning is needed to confirm the mixture of commercial, residential and other uses.

Actions

- Complete the Northeast Development Area Structure Plan including market study to determine the layout and specific land use mix in these areas of that section of the reserve.
- Create design guidelines that facilitate a cohesive and high quality development that can be a regional draw.
- Include these areas in a future land designation process prior to development.



4. Servicing

The following describes the current servicing context, concept and options for the ECN lands. A Master Servicing Plan was developed with ECN Leadership, Administration and Membership to create a long range servicing vision and examination of the community's short, medium and long term infrastructure needs.

The servicing goals and policies can be found after the context sections for water, sanitary sewer, stormwater management, transportation and shallow utilities.

4.1 WATER

The Northeast Development Area (NEDA) is serviced via a 300 mm water main which connects to EPCOR's 750 mm supply main in the Lewis Estates development area in west Edmonton. As shown in Map 9: Water Servicing, the 300 mm main fills an existing reservoir located south of the River Cree Resort & Casino and water is pumped from the reservoir to service the Casino and other developments. In July 2006, the ECDC, with the consent of EPCOR, assigned the water supply agreement to the Casino's ECN/Paragon Limited Partnership (EPLP). Currently, the agreement is for the provision of servicing to the Resort/Casino complex. Millennium subdivision and the 108/123 apartments. The current maximum supply limit from EPCOR to the Casino in the Master Servicing Agreement is set at 12.27 L/s (AECOM 2011) corresponding to an established annual quantity of 215 ML/yr in the year 2010.

Located in the west side of the Nation, ECN Village is handled via a separate system. At the time of preparation of this report, the raw water supply for the Village consisted of five shallow (production zone greater than 15 m below ground surface) aquifer wells. Raw water is pumped from the wells and held in a raw water tank before it is treated at the on-site water treatment plant. Post treatment, the water is stored in an underground reservoir until it enters the local distribution system. It was intended that the Village reservoir would serve as a source for rural areas in addition to the Village. However, the two ECN Public Works water trucks are currently filled at the Acheson Reservoir in Parkland County due to the lack of adequate treatment provided in the Village reservoir.

As indicated in the 2015 Context Summary Report, it is not feasible for future developments to connect to the existing Village system because of a number of deficiencies, which include the following:

- the aquifer is vulnerable to direct influence of surface water and may be contaminated
- the existing treatment plant is not suited to treat these types of contaminants posing a risk health to the community
- there are deficiencies with the size of the reservoir and its capacity to provide fire or domestic storage.

The feasibility level assessment considered various upgrade options including several treatment process modifications and the extension of service from either the City of Edmonton or Parkland County. This evaluation identified connection to the NEDA system and corresponding expansion of the existing agreement with EPCOR as the most viable and cost-effective choice.

As a result of the above, the Nation, is currently in the constructing a 300 mm transmission main to feed a new reservoir and pump station in the Village area from NEDA. New connections either east to the City or north to Parkland could serve as secondary feeds to service future, long-term phases and improve surety of supply. The Parkland water supply pipeline generally runs along the north side of Highway 16A and a possible connection could run south along Highway 60.

Servicing Concept

As with wastewater servicing, extending the Extending the existing system(s) from Edmonton via an expansion of the NEDA system will be the most feasible way to provide potable water to the ECN lands that are developing in the short- and medium-terms. Areas within and adjacent to the NEDA are expected to develop early on. These lands border the City of Edmonton and are already connected to the City system. Given this, it will be relatively straightforward to service near- term development here. However, the current servicing agreement will need to be expanded and infrastructure constraints will need to be assessed. The forthcoming Master Servicing Plan, Area Structure Plans and Master Servicing Agreement initiatives will investigate this.

It is also prudent to plan for a second connection from the CRPWSC transmission line for the long term. The provision of a secondary feed will improve surety of supply and further facilitate the development of lands along Highway 628 and/or in the northwest of the study area.



Initial discussions with CRPWSC indicate that the commission is not in favour of granting membership to any new entities. However, Parkland County is amenable to providing water to ECN as a customer and dialogue with the CRPWSC indicate that this would be the preferred supply option.

The County is currently carrying out a potable water study for Acheson and future services will be subject to further discussion around connection specifics, timing and costs. In addition, the County is considering a transmission main towards Devon along Highway 60; the timing of this main is currently unknown. It is recommended that ECN continue to engage CRPWSC, Parkland County and EPCOR to evaluate the viability of these water supply options for long term servicing

Another consideration is the poor water quality in the existing Village system. There are strong indications that the raw water supply is vulnerable to direct influence from surface water and the water treatment plant is not meeting current guidelines. Furthermore, a zone of influence analysis (AECOM 2012) determined that the groundwater in the aquifer beneath the sewage lagoon (including the area of continuous discharge) will start to be drawn toward the water supply wells. Due to the concerns of groundwater contamination and to provide a reliable source of potable water for the village, it is suggested that this facility be decommissioned as soon as construction of the NEDA feed and the new reservoir is completed. Infrastructure needs will be considered in conjunction with Economic Development initiatives. The development concept for ECN will consider a phased implementation which incorporates connection of the Village system within the early phases of development.

4.2 SANITARY

Existing System

Developments within the Northeast Development Area (NEDA) are currently serviced by a sanitary system that flows by gravity to the existing lift station located south of Chief Lapotac Boulevard and the River Cree Resort & Casino (shown in Map 10). The sewage is then pumped via forcemain into the City of Edmonton sanitary sewer system. Under the current servicing agreement (M-355) with the City, a maximum peak daily flow of 60.0 L/s is permitted. This includes servicing of the Resort & Casino (initially serviced under Agreement M-214), residential developments for the "First Development Phase" (initially serviced under Agreement M-271), and commercial developments included within the "Second Development Phase".

The Village has its own collection system with sewage lagoon treatment. Rural residents either (1) use sewage holding tanks with truck haul to the Village lagoon; or (2) use septic tanks with mound systems.

Map 9: Water Servicing Hwy 628 **Potential Future** Water Connection from Parkland County **GREE NATION** Integrated Land Use Plan 74 Ave **Water Servicing** TWP 523 Legend 70 Ave Existing Reservoir & Pumphouse Proposed Reservoir & Pumphouse Existing WTP Existing Water Main --- Future Water Main Boundary Peacock Road (TWP 522) RoadNames TWP 522 TWP 521 Potential Future Water Coordinate System: NAD 1983 UTM Zone 12N Connection from Edmontor Data Sources: - Enoch Cree Nation The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not. Project#: URBAN Author: Checked: systems 2018 / 4 / 23

Map 9

Outlet Options

A recent assessment (AECOM 2012) indicated that the Village lagoon provides insufficient treatment for the service area. Its design capacity has been exceeded and it currently discharges untreated sewage into a nearby wetland area just north of the lagoon with ultimate drainage to Yekau Lake. Several options to address this deficiency have been explored including modifications to the current treatment process (both mechanical treatment and an aerated lagoon were considered). The viability of these options will be evaluated as part of the Master Servicing Plan. As the lagoon is currently at capacity servicing existing lands, and operating conditions already present a significant environmental and public health risk, the existing lagoon cannot service existing lands let alone additional lands.

The current Servicing Agreement with the City of Edmonton facilitates wastewater discharge to the City system but limits the service area to designated lands within the NEDA. Future expansion of this system will require that additional discharge capacity be secured through negotiations with the City, but the City has indicated that it is unlikely that additional capacity can be provided.

To comply with the current Servicing Agreement with the City, wastewater must be stored when flows exceed the agreement upon discharge rate of 60 L/s. In light of the storage and pumping requirements, multiple connections to the City system are not anticipated unless (1) flows can be accommodated within a gravity system; or (2) a second connection is required due to capacity constraints. The southeast part of the Nation is the only area where flows could potentially be accommodated within a City- owned gravity system. If desired, this option should be explored as early as possible because infrastructure within the Edgemont neighbourhood will need to be oversized to facilitate any additional flow.

The Alberta Capital Region Wastewater Commission (ACRWC) represents another potential outlet option. The Commission operates a sewage transmission line that runs north of Highway 16, approximately 6.4 kilometers from the Nation. Adjacent to the Nation, Acheson Industrial Area currently discharges to this line via two trunks. The Acheson Trunk is a gravity sewer that runs in the Range Road 264 road allowance and the Bevington Road Trunk is a gravity sewer in the Range Road 262 road allowance.

Potential connection to the ACRWC system would require the construction of a forcemain to:

- Connect to the Acheson system (~2.4 km distance to Acheson Trunk and ~3.5 km distance to Bevington Road Trunk from Nation boundary); or
- Connect directly into the ACRWC line (~6.4 km distance from Nation boundary)

The commission has also indicated that wet weather flow storage will need to be provided within the nation, as their line does not have enough capacity to handle wet weather flow

Servicing Concept

It will be most practical and cost-effective to service new development in the ECN lands via extension of the existing system(s). Both the City of Edmonton system (currently servicing the NEDA) and the Acheson system represent viable outlets. However, because of natural topography, a gravity system will not be feasible; forcemains will be required to discharge sewage either east to the City outlet or north to Acheson.

Due to infrastructure in the NEDA and the existing MSA, discharge to the City outlet is the obvious choice for near term Development of this area. Further, lands in or adjacent to the NEDA are the most cost-effective to service and are expected to develop first. For the Village, remediation and possible expansion of the existing Lagoon must be addressed immediately to allow for servicing



Map 10:Sanitary Servicing **Potential Future Sanitary Connection** to ARCWC GREE NATION Integrated Land Use Plan **Sanitary Servicing** Carpenter Shop Road (TWP 523) Existing Lagoon Short Term Upgrades ■ Future Lift Station **Existing Lift Station** Required Existing Gravity Main --- Future Gravity Main Existing Forcemain -- Future Forcemain Boundary Peacock Road (TWP 522) McGillis Road (TWP 522) Callingbull Road (TWP 521) Thomas Road (TWP 521) NAD 1983 UTM Zone 12N Potential Future **Sanitary Connection** to Edmonton The accuracy & completeness of information shown on this drawing is not gueranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not. Project#: 3234.0001.01 **URBAN** Checked: systems 2018 / 4 / 24 Garden Valley Road (TWP 520) Map 10

of new developments. However, future sanitary sewer discharge to the ACRWC transmission main is another potential servicing opportunity for subsequent phases of development bordering Highway 628 or in the northwest part of the Nation. Preliminary discussions with ACRWC and the County indicate that there are several options as discussed in the Context Summary Report.

There are advantages and disadvantages to each of these options relating to costs (capital, operations and maintenance, administration), autonomy, and timing. Initial discussions with Parkland County indicate that the County is amenable to exploring cost-sharing options. While Acheson's east sewer line (Bevington Road Trunk) is adequate for the County's growth needs, the west sewer line (Acheson Trunk) will need to be upgraded to facilitate future development in the South Acheson Industrial Area. Further discussion with both ACRWC and the County is recommended to assess each party's long term needs, clarify system capacity constraints and explore opportunities and constraints (timing, capital requirements, etc.) cost-sharing. Continuing this dialogue will be integral to determining which option is the best fit for the ECN. Long term wastewater servicing through the use of alternative re-use technologies will also be explored as options for self-reliance or reduction of sewage volumes being pumped to neighbouring systems.

Another phasing consideration is the lagoon system which underservices the existing community. There are environmental and public health concerns associated with its performance and there is potential to address this in conjunction with economic development initiatives. The development concept for ECN will consider a phased implementation which extends service to the Village system within the early phases of development.

4.3 STORMWATER

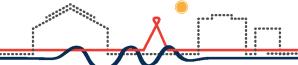
Existing Drainage

The ECN is located in the upper reaches of the Strawberry Sub-watershed in the North Saskatchewan River Watershed. The area is composed of typical prairie parkland with much of the land currently used for agriculture. As shown in Map 11: PreDevelopment Drainage, there is little topographical relief and drainage is not well defined. Runoff collects in various wetlands which are connected via poorly defined overflow channels.

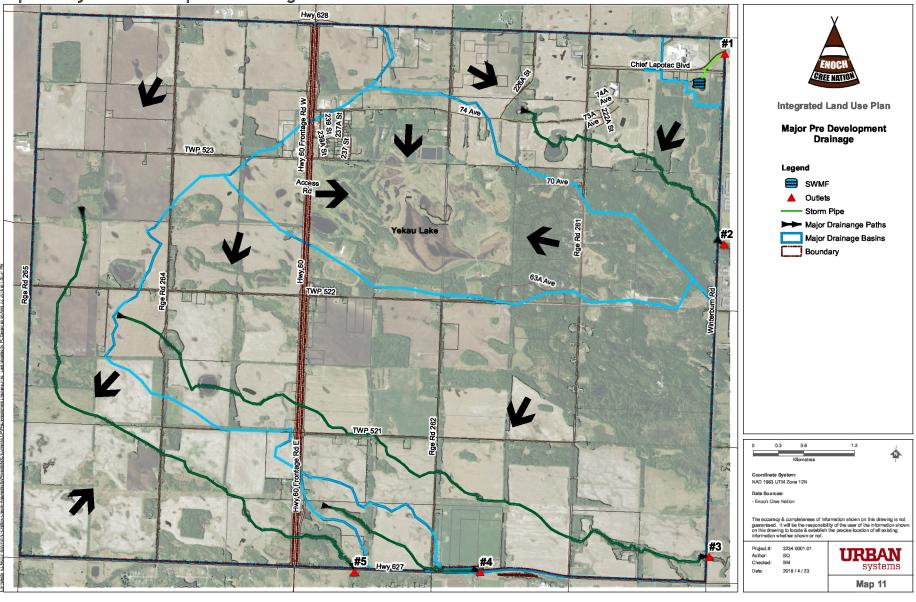
The overall area contains several distinct sub-basins:

- Yekau Lake, lies in an isolated basin near the center of the study area. It has a relatively small contributing basin with no clearly defined inlet or outlet.
- The northeastern portion of the Nation (comprising approximately 688 Ha) discharges east toward the City of Edmonton. An existing SWMF currently services the Casino lands. This SWMF pumps out via forcemain to the City of Edmonton at a maximum allowable rate of 2 L/s/ha.
- The northwest and southern sub-basins discharge to Wedgewood Creek via several overland channels.

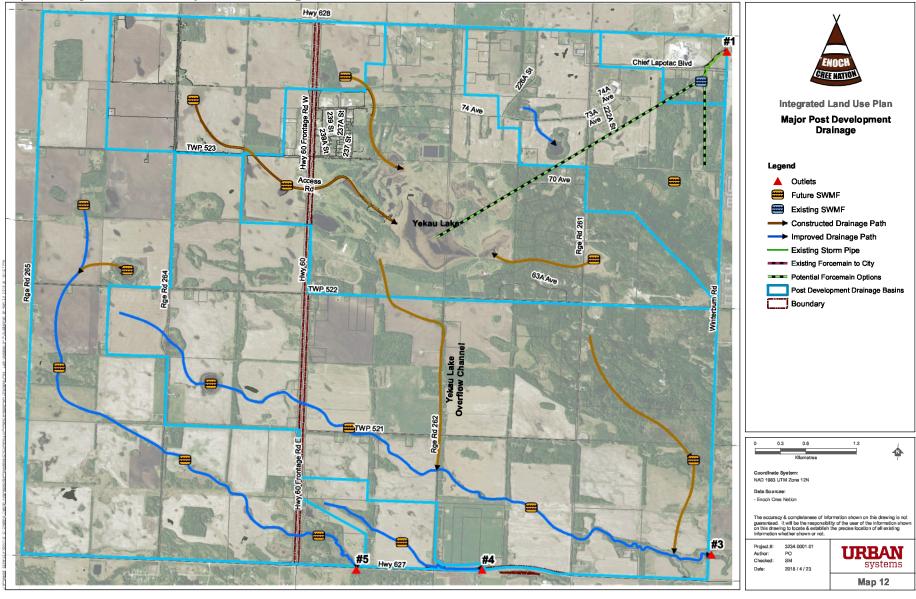
Because of its location and topography, the ECN receives relatively little drainage from offsite. Areas north of Highway 628 are located within the Acheson Industrial Area which drains northward (Sturgeon River Sub-watershed). However, agricultural lands (~2165 Ha) west of the boundary do discharge to ECN lands and will need to be considered.

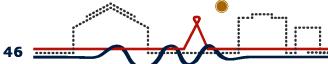


Map 11: Major Pre Development Drainage



Map 12: Major Post Development Drainage





Stormwater Management Objectives

Altering the natural landscape to facilitate urban development increases site imperviousness and increases the volume and intensity of stormwater runoff. Stormwater management practices serve to protect downstream systems from flooding, erosion, sedimentation and environmental harm. For ECN, stormwater management practices will need to support the key stormwater objectives:

- Respect and adhere to existing drainage as much as possible. This includes post-development basin delineation, identification and maintenance of drainage courses and preservation of wetlands.
- Control discharges to pre-development rates and volumes.
- Approximately 2165 ha of offsite land discharges eastward on to ECN lands. Constructed stormwater infrastructure will need to accommodate this discharge at predevelopment rates.
- Utilize green infrastructure to reduce stormwater runoff and enhance stormwater quality. This should include on-lot source control practices (e.g. rainwater collection, absorbent landscaping, bioretention, minimal use of fertilizers/pesticides/herbicides) and larger scale green infrastructure within the public ROWs (e.g. constructed wetlands, naturalized

channels, permeable pavement). Selection and implementation of suitable green infrastructure elements throughout the area will be critical to preserving the existing wetlands and maintaining overall watershed health.

- Avoid or minimize the use of piped infrastructure for stormwater servicing, particularly in the Village area, where current practices consist of overland drainage only. Avoid additional discharge to the City of Edmonton's stormwater system due to prohibitive costs.
- Size facilities and infrastructure to provide adequate flood protection.
- Plan a stormwater management approach that aids in recharging Yekau Lake.
- Protect and preserve riparian areas.
- Implement appropriate erosion mitigation works.

In addition, the feasibility of stormwater re-use applications will be evaluated and determined based on the needs of downstream users and the financial constraints associated with re-use infrastructure.

Outlet Options

As can be seen in Maps 11 and 12, there are a number of potential outlets for stormwater discharge from ECN. The landscape slopes gently towards the southeast with several discharge points on the eastern boundary (Winterburn Road) and southern boundary (Highway 627) of the study area. Along Winterburn Road, there are three defined outlets. These include (1) an existing storm main that pumps out to the City of Edmonton system; (2) an overland channel which discharges to the City of Edmonton from the northeast basin; and (3) an overland channel that discharges to Wedgewood Creek from the southeast basin. Along Highway 627, there are also several defined outlets. These include two overland channels (labeled 4, and 5 Map 11) which discharge to Wedgewood Creek.

Servicing Challenges

There are several significant challenges associated with provision of stormwater servicing to ECN. First, the area is characterized by flat topography which is challenging to drain. In addition, the potential outlets (highlighted above) are relatively shallow, making gravity sewers either impractical or impossible for much of the development area.

In addition, the existing drainage is poorly aligned with anticipated development phasing. The lands within or adjacent to the NEDA are likely to develop first but any additional discharge to the City of Edmonton sewer system will need

to be negotiated and included within a revised Master Servicing Agreement. While this alone is not a major barrier, discharge to the City system is likely to require stormwater pumping which will be costly to implement on an ongoing basis.

The Master Servicing Plan includes proposals for a number of alternatives to manage stormwater in the NEDA area, including the construction of an evaporation pond or pumping to Yekau lake. Even though these options are intended for long-term implementation, they do provide a long-term solution to the issue of pumping towards the City, while helping with the potential recharge of Yekau Lake.

The northwest portion of the Nation represents another key phasing challenge. If the post-development drainage paths roughly correspond with existing drainage routes, it will be challenging to service lands at the upper extent of the basin. While lands in the northwest (i.e. bordering Highway 628) have potential to develop in the near to medium term, the downstream conveyance system would need to be completed before these areas could drain efficiently. At the same time, the lack of topographic relief and viable outlets makes stormwater re-use a more attractive option.

Overview

A stormwater management plan that incorporates wetlands and naturalized drainage channels throughout the area would make best use of the existing natural and topographical features. For ECN, the primary overflow routes could be converted to vegetated drainage channels that conduct runonff towards Yekau Lake.. Further, this concept favours the use of vegetated swales as the primary means of stormwater conveyance throughout the area (i.e. in lieu of a traditional urban cross section with storm sewer, curb and gutter). This drainage concept has several distinct benefits:

- 1. It parallels the natural drainage regime.
- 2. It helps protect riparian areas and important wildlife habitat.
- Vegetated channels serve to minimize erosion, enhance runoff quality and mitigate flood risk.
- 4. The use of overland conveyance is a costeffective means of providing stormwater servicing. This circumvents stormwater pumping which would represent a major operational expense on a permanent basis.

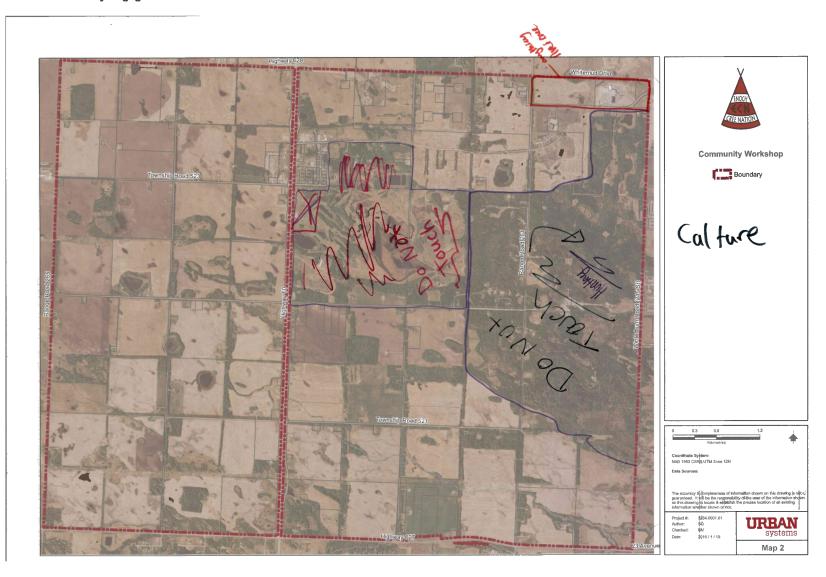
Facilitating Near Term Development

To support development along Winterburn Road and Highway 628 in the near term and address the servicing challenges outlined previously, several measures are proposed. Where feasible, lands within the northern part of the nation (see Map 10) will be routed towards Yekau Lake. This will necessitate the construction and/or enhancement of drainage channels both into and out of the Yekau Lake complex. However, this drainage concept supports a logical development phasing and reduces the amount of pumping which might otherwise be required.

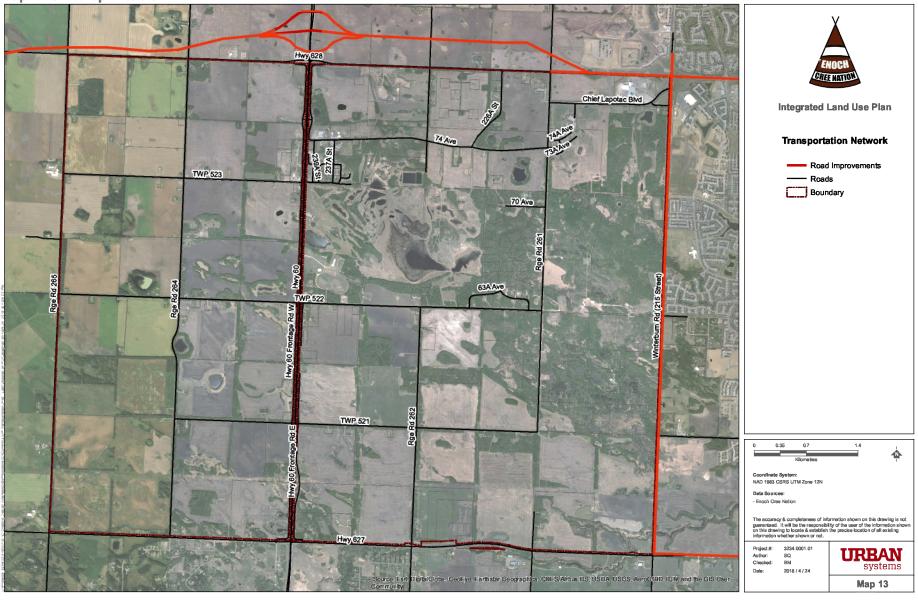
Furthermore, it may be possible to defer some of these works pending an assessment of water reuse potential and flood risk tolerance. For example, if stormwater runoff can be used for irrigation, some of the conveyance works to the lake could be deferred. Conversely, if flood risk is shown to be relatively low, the Nation may choose to accept the liability of paying for potential damage (i.e. crop loss) rather than complete all of the proposed channel construction.

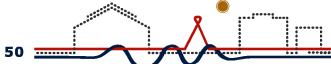


Grade 5 Community Engagement



Map 13:Transportation Network





4.4 TRANSPORTATION

As indicated in the Context Summary Report and as shown on Map 13, ECN is bordered by Highway 628 (Whitemud Drive) to the north, Highway 627 to the south, Range Road 265 in Parkland County to the west, and 215 Street (Winterburn Road) in Edmonton to the east. Highway 60 runs north-south and bisects the ECN lands. The following provides a description of the regional transportation network and planned upgrades as of the date of this report.

Highway 628 has an annual average daily traffic (AADT) of approximately 6,500 vehicles per day in the vicinity of the ECN lands. It is currently an unimproved two lane roadway with a cold mix surface between 215 Street and Highway 60 and a gravel surface west of Highway 60. This section of Highway 628 has a posted speed of 80 km/h. The intersection with Winterburn Road is signalized and the intersections with Highway 60 and Range Road 265 are currently stop controlled. There are a number of private accesses directly onto Highway 628.

Highway 628 between Anthony Henday Drive and Highway 60 is planned for upgrading to a six lane freeway cross section, with a posted speed of 100 km/h and interchanges at the 231 Street and Highway 60 intersections

Alberta Transportation mandates full access control on freeways, prohibiting at grade intersections. Local access to freeways is restricted within 3km of an existing or future interchange and prohibited within 1.6km of a freeway interchange. Development access is typically permitted greater than 1.6km away from an existing or future interchange provided the development is served by one way highway exit and entrance ramps. These developments may also be serviced by a two way service road providing the service road access is off an adjacent roadway, not off the highway. From Highway 60, west to Stony Plain. Highway 628 will be upgraded to a four lane expressway standard. Development access is generally limited to right-in right-out access off of an expressway. All directional access is restricted to the minor roadway. Highway access will be removed at Range Road 262 (Pinchbeck Road) with the old alignment of Highway 628 kept as a service road to provide access to the ECN lands.

Planning has been completed for the portion of Highway 628 between Anthony Henday Drive and Highway 60, but the construction is currently outside of AT's three year construction program. Planning of the first stage of upgrade from Highway 60 west to Highway 779 has been completed and includes widening, realignment, and access relocation / consolidation. Design and land purchase for this section is currently underway but the construction is currently outside of AT's three year construction program. The City of Edmonton's long term traffic model indicates that the construction of the interchange at 231

Street will not be warranted until after the year 2020. Development adjacent to Highway 628 (whether by ECN, Edmonton, Parkland County, or a developer) will require an assessment of the traffic volumes expected to be generated and whether improvements will be triggered by these developments. Through the servicing agreement dated August 6, 2009, ECN has committed to contribute towards the total cost of future construction of one lane of Highway 628 (Whitemud Drive) between 215 Street and 231 Street, estimated at \$3,900,000.

Highway 60 has an AADT of approximately 11,000 vehicles per day. Alberta Transportation had previously identified Highway 60 as a possible location for the future Edmonton Regional Ring Road. In recent conversations with AT, it has been indicated that this is no longer the case, and that the future Ring Road will be located further west, outside of ECN's lands, pending further review by the Province. The relocation of the Regional Ring Road generally means that traffic volumes on Highway 60 will remain lower over the long term. resulting in a lower standard of roadway and less stringent access management requirements imposed by AT. Given this information, it has been assumed that Highway 60 will remain a major arterial standard roadway in the short and medium term, with existing at-grade intersections remaining at the current locations. Additional atgrade intersections would be at the discretion of AT on a case-by-case basis. The parcels of land adjacent to Highway 60 will continue to be serviced by the existing accesses and service roads.



Highway 627 has an AADT of approximately 6,200 vehicles per day. It is a two lane undivided paved highway with a posted speed of 100km/h and signals at the intersection of Highway 60. The intersection of 215 Street is stop controlled in the northbound/southbound directions and the Highway turns into 23 Avenue within Edmonton City limits, east of 215 Street. There is no direct connection to Anthony Henday drive or the City of Edmonton from Highway 627.

215 Street (Winterbum Road) is a two lane undivided paved arterial roadway with a posted speed of 60km/h. It primarily provides access to the residential neighbourhoods in the City of Edmonton bordering the ECN lands, as well as to the River Cree Resort and the Costco development and future commercial development to the west. Existing accesses onto 215 Street include the Costco access and 45 Avenue, with future access at 69 and 62 Avenue, which have not yet been constructed. 62 Avenue could be an important connection from ECN at 215 Street to the Anthony Henday and Callingwood Road/west Edmonton.

The key connection to ECN is Lessard Road which is an Anthony Henday Interchange and connects into west Edmonton. 45 Avenue and two other to be named collector roads provide access to 215 Street. The Nation has mandated that the Sand Hills area immediately west of 215 Street between 35 Avenue and 62 Avenue is an area of historical and environmental significance and is to be protected from development. They

have therefore determined that they will not build a connection at the Lessard Road / 215 Street intersection and will plan for a future arterial eastwest connection to 35 Avenue instead.

Existing Servicing Agreements outline triggers for the construction of upgrades to 215 Street and Whitemud Drive and the responsibility of ECN for contributing a proportionate share of the cost of the capital improvements associated with the development. Specifically, the agreement states that ECN will bear the cost of a traffic study by an independent consultant when peak hour twoway development traffic volumes exceed 1,000 vehicles/hour on Whitemud Drive or 215 Street. The agreement also states that the cost for installation of traffic signals at the Chief Lapotac Boulevard / 215 Street intersection will be shared proportionately when peak traffic volumes reach 1,300 vehicles/hour and additional capital improvements will be required (and cost shared) once peak traffic volumes reach 1.971 vehicles per hour. A Traffic Impact Assessment (TIA) was conducted in March 2014 for the Northeast Development Area to quantify the traffic impacts of expected development adjacent to the 215 Street / Whitemud Drive intersection by ECN and adjacent developers. The study estimated that the ECN commercial development would include a bank, office buildings, a fast food restaurant, a gas bar with convenience store, retail centres, 231 apartment units, and 46 residential lots. Additionally, the Granville development to the east and the Rosenthal development to the

north, within the City of Edmonton are expected to be completed, with approximately 1,560 residential units and 6.5 ha of commercial development. The TIA results indicated that the 215 Street / Chief Lapotac Boulevard intersection fails under existing traffic conditions and requires signalization. The Whitemud Drive / 215 Street intersection will require modifications to the signal phase and timing length to accommodate the estimated development traffic.

ECN is currently planning to construct Chief Lapotac Boulevard between the existing limit of the roadway at the River Cree Casino and Range Road 261 to a two-lane gravel standard to enhance access to the apartment units in the area as well as provide a connection between the NEDA area and the Village. This will also serve as a secondary emergency access. It is anticipated that Chief Lapotac Boulevard will eventually be upgraded to a four-lane paved arterial standard and will serve as a major east-west connector within the ECN lands.

The Edmonton Metropolitan Region Board's Capital Region Intermunicipal Transit Network Plan, published in 2009, outlines a framework for the development and implementation of a public transit network for the Capital Region. An intermunicipal bus route between Edmonton and Stony Plain along Highway 628 is identified in the plan's long term network, as is a potential LRT connection to the west boundary of the City of Edmonton and a Park and Ride Lot near



Anthony Henday Drive and Whitemud Drive. The Edmonton Transit System (ETS) operates transit service to the Edmonton neighborhoods adjacent to ECN, including Rosenthal and Suder Greens north of Whitemud Drive and Glastonbury east of 215 Street. There is an existing transit centre and park and ride lot at Lewis Farms, on Webber Green drive west of Anthony Henday Drive. There is not currently a transit route along 215 Street adjacent to the ECN lands but there is an opportunity to discuss shared services with ETS if development occurs along 215 Street and the potential ridership demand warrants this service. ETS currently provides regional transit service to Fort Saskatchewan, Edmonton Garrison, and Spruce Grove, while St. Albert, Strathcona County. and Leduc operate their own local bus services with commuter bus service to and from Edmonton.

In general, there is extensive development ongoing and expected within ECN and the surrounding municipalities. Some responsibility for the pressures placed on the existing roadway network and the cost of future upgrades can be attributed to each neighbouring development. As development in the area occurs, the affected road

authority will require a TIA or similar traffic study to quantify the effects of the increased traffic generated by the development on the surrounding road network. A cost sharing framework should be developed to determine each municipality / developers share of the financial responsibility for funding upgrades to the offsite roadway infrastructure. The development of the ECN lands should include a well-planned roadway network consisting of arterial, collector, and local roadways that balance the need to move people and goods throughout the community with the need to access the developments and the surrounding roadway network.

4.5 SHALLOW UTILITIES

ECN is within the following shallow utility service areas:

- Electricity Fortis Alberta
- Natural Gas ATCO
- Telecommunications Telus

Service capacity and required upgrades should continue to be discussed with the utility providers early on as specific development projects move forward.

There may also be an opportunity for ECN Utilities Ltd to expand its service offerings and potentially provide and charge for some of the proposed utilities on reserve in the future. This should be investigated, but is beyond the scope of this report.





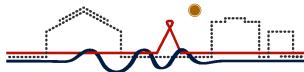
Servicing Goals (Water, Sewer, Stormwater, Transportation, Utilities)

- Establish a long term servicing vision and use that vision to guide infrastructure decision making and investment
- Plan, design, build, operate and maintain ECN infrastructure that contributes to the self-sufficiency, unity and prosperity of the Nation
- Create a well-planned roadway network consisting of arterial, collector, and local roadways that balance the need to move people and goods throughout the community with the need to access the developments and the surrounding roadway network.

Servicing Actions

- Development proposals on ECN lands must be submitted to Administration for review based on infrastructure provision. This information will be evaluated and recommendations made to Council for a decision.
- Develop and implement an Asset Management Plan that facilitates informed decision-making that considers current and future needs, manages risks and opportunities, and makes the best use of resources.

- Develop cost sharing frameworks and tools to fairly allocate the cost of on-site and off-site infrastructure improvements including collecting monies for the financing of infrastructure capital projects to ensure financial viability of future development and infrastructure requirements.
- Develop and maintain relationships with infrastructure service providers, including EPCOR, City of Edmonton, Parkland County and the surrounding regional service commissions.
- Renegotiate current agreements with service providers into a Master Servicing Agreement that accurately and fairly represents ECN and assigns obligations accordingly.
- Determine levels of service for water, sanitary, stormwater and transportation infrastructure.
- Integrate the results of the Master Servicing Plan into the ILUP once the MSPs are complete.
- Require that a Traffic Impact Assessment be prepared for any development proposed for ECN lands, unless determined otherwise by Council.
- Develop EUL processes and tools to manage ECN's infrastructure.



Implementation and Action Plan

As indicated above, the ILUP is one of the first steps in the coordination of community planning. growth and economic development of ECN. The work associated with implementing the Plan and achieving the Nation's goals has just begun. The collective efforts of ECN Leadership, Membership and Administration are essential to the continued success of the planning process.

This success includes:

- · prioritizing, resourcing and achieving the actions identified above
- relying on the Plan as a reference and a guide as ECN continues to more toward self-sufficiency, unity and prosperity
- · communicating and engaging with individuals and organizations within and around ECN to share plans and advance initiatives

The ECN ILUP is a living document that needs review and revision over time. It is anticipated that the Vision, Mission, Values and Guiding Principles of ECN and the ILUP will be consistent over time. It is also anticipated that the specifics of how the community reaches its goals could change considerably. This review and revision should be a community process that looks at the successes and challenges of decisions, actions and progress to that point. The intent is that the community can then make the adjustments and improvements needed to continue to move forward.

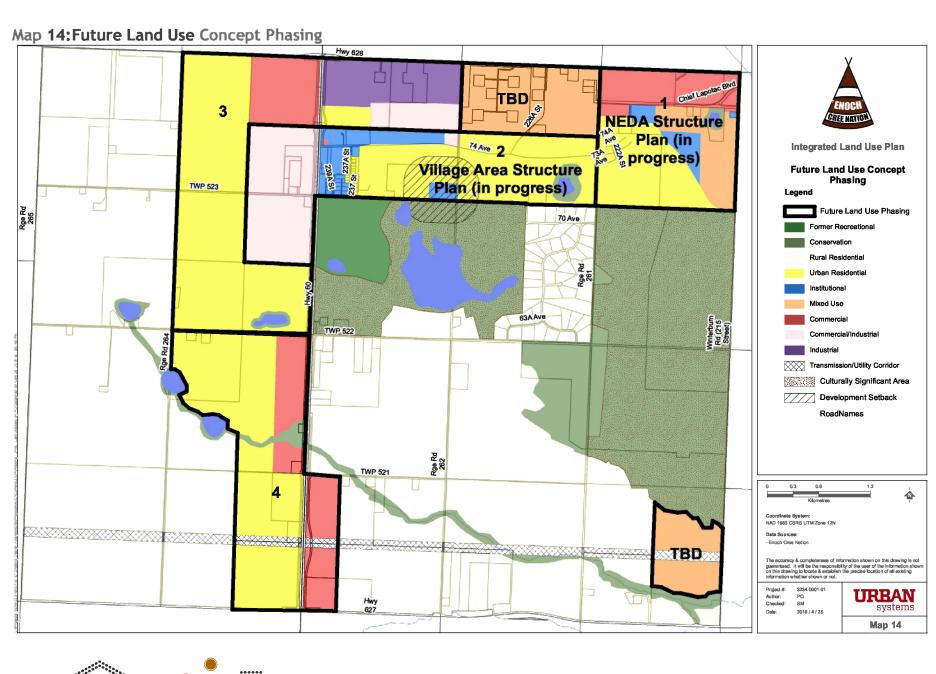
Immediate next steps include completing more detailed planning in the form of Area Structure Plans for development areas beginning with the Northeast Development and Village areas. As shown on Map 14, these areas are identified as Phase 1 and 2 respectively. As those near completion, it is expected that the other areas will be planned in more detail and begin to develop.

In 2017, it is proposed that an ECN Zoning Bylaw and Development Policy and Procedures Manual be developed. These will provide the development standards and steps that all parties will be required to follow as they develop on ECN lands. Significant community consultation will take place as the tools are prepared.

> Fireside chats (small group community discussions) were held in February 2016. Some of the comments included:

- Build business on the outskirts of ECN, eg. Highway 60
- Proper clean-up of oil wells
- landmarks on perimeter of nation.





6.

Summary of Actions

Land Use

- The following actions apply to all of the Enoch lands. Appropriately addressing contaminated sites and soils and facilitating sustainable development are nation priorities
 - Prior to proposed development, identify and properly remove hazardous materials and contaminated soils
 - As oil and gas leases in Enoch approach end-of-life, Phase 1 and Phase 2 Environmental Site Assessments should be conducted for each lease/ pipeline and the typical reclamation certificate process should be followed to ensure reclamation to equivalent land capability and future land use.
 - Locate reclaimed well sites for protection of human health and safety since the cut-and-capped wells are hidden below ground and may pose a hazard.
 - Engage with Certificate of Possession and Certificate of Occupation Holders to understand their future plans, potential servicing needs and how that interrelates with the Nation's plans.
 - Create Enoch specific sustainable development guidelines.

Conservation Area

- Prepare an Environmental Management Plan for the Enoch reserve lands
- Prepare a Conservation and Enhancement Plan for the Sand Hills that emphasizes conversation and enhancing of cultural and recreational uses as defined by ECN.
- Avoid development in wetland/riparian habitats. Where development of woodland, wetland/riparian areas is unavoidable, incorporate native trees and vegetation into the re-vegetation plan, wherever possible.
- Classify any wetlands located within 50 m of a proposed development and apply the Wetland Mitigation Decision Framework as necessary.
- Any development proposed within the 50 m of any body of water should be assessed by a qualified environmental professional to determine an appropriate setback. This includes the unnamed streams, fens, marshes and open water.
- Complete a Parks, Open Space and Trails Master Plan that focuses on both village needs and opportunities as well as the opportunity to connect all areas of the Enoch lands.
- Develop land management policies, procedures and practices associated with the former Yekau Lake Practice Bombing Range while, and until, the claim is resolved to the Nation's satisfaction.

Cultural

- Complete the Traditional Land Use and Occupancy Study for the reserve lands
- Incorporate that traditional knowledge into the Integrated Land Use Plan through a formal Plan amendment
- Consider developing and improving community access to significant local sites
- Require that a Historical Resources
 Overview and, if required a Historical
 Resources Impact Assessment is prepared
 by the proponent for any development
 proposed on Enoch lands.
- heritage resource inventory with statements of significance for key sites

Residential

- Locate, design and build a 50 unit apartment building
- Locate, design and build semi-detached housing including duplexs, fourplexs and townhouse style units
- Continue to build Non-Profit Housing on reserve (section 95), currently funded by Canada Mortgage and Housing Corporation
- Continue to encourage members to construct housing on reserve through the Ministerial Loan Guarantee (Section 10) and associated process
- Continue to maintain and renovate current Nation housing



Institutional

- Design, Construct and Operate the proposed Elders Centre
- Develop and Implement a Community Process to Locate, Program, Design, Build, Construct and Operate an ECN Cultural Centre
- Locate new institutional uses in the areas shown on the Future Land Use Concept and in the manner described above.

Commercial

- Locate, design and develop space for commercial uses as shown on the Future Land Use Concept.
- Prepare market studies, business cases and plans for ECN run business.
- Request that on-Reserve member businesses demonstrate feasibility, servicing and other requirements prior to start-up.
- Develop the planning, policy and design tools that provide the clarity and certainty required for investment and for ECN.
- Complete required land designation and leasing processes.
- Require a high standard of design for commercial development along major corridors, including but not limited to Whitemud Drive, Highway 60 and Garden Valley Road.

Mixed Use

- Complete the Northeast Development Area Structure Plan including market study to determine the layout and specific land use mix in these areas of that section of the reserve
- Create design guidelines that facilitate a cohesive and high quality development that can be a regional draw
- Include these areas in a future Land Designation process prior to development

Industrial

- Locate, design and develop space for industrial development as shown on the Future Land Use Concept
- Prepare market studies, business cases and plans for ECN run business
- Request that member businesses demonstrate feasibility, servicing and other requirements prior to start-up
- Develop the planning, policy and design tools that provide the clarity and certainty required for investment and for ECN
- Complete required land designation and leasing processes

Servicing

- Development proposals on ECN lands must be submitted to Administration for review based on infrastructure provision. This information will be evaluated and recommendations made to Council for a decision.
- Develop and implement an Asset Management Plan that facilitates informed decision-making that considers current and future needs, manages risks and opportunities, and makes the best use of resources.
- Develop cost sharing frameworks and tools to fairly allocate the cost of on-site and off-site infrastructure improvements including collecting monies for the financing of infrastructure capital projects to ensure financial viability of future development and infrastructure requirements.
- Develop and maintain relationships with infrastructure service providers, including EPCOR, City of Edmonton, Parkland County and the surrounding regional service commissions.



- Renegotiate current agreements with service providers into a Master Servicing Agreement that accurately and fairly represents ECN and assigns obligations accordingly.
- Determine levels of service for water, sanitary, stormwater and transportation infrastructure.
- Integrate the results of the Master Servicing Plan into the ILUP once the MSPs are complete.
- Require that a Traffic Impact Assessment be prepared for any development proposed for ECN lands, unless determined otherwise by Council.
- Develop EUL processes and tools to manage ECN's infrastructure.





PENALTY:

ANY PERSON WHO FAILS OR REFUSES TO COMPLY with this Bylaw commits an offence punishable on summary conviction and may be arrested in accordance with s. 495(2) of the Criminal Code (Canada) and is subject to a fine not exceeding \$1,000.00 or imprisonment for a term not exceeding thirty (30) days, or both for having committed an offence.

IN THE EVENT any person fails or refuses to comply with this Bylaw, the Enoch Cree Nation shall be entitled to the granting of equitable relief (including without limitation injunctive relief & specific performance) from any Court of competent jurisdiction concerning any threatened or actual breach of the provisions of this Bylaw.

AMENDMENTS:

Historical amendments to this Bylaw:

Date Of Amendment:	Section to Be Amended:	Amendment:



THIS BYLAW IS HEREBY enacted at a duly convened meeting of the Council of the Enoch Cree Nation this 26th day of April, 2018.

Signed by the following members of Council:

Chief William Morin

(Councilor()

Kelly Morin

Councilor) Shane Morin (Councilor) Lyle Morin

(Councilor) Lorna Morin (Councilor) Nola Wanuch

(Councilor) Michelle Wilsdon

(Councilor) John Thomas

(Councilor) Shane Peacock

(Councilor) Amanda Morin

being the majority of those members of the Council of the Enoch Cree Nation present at a duly called meeting of the Council.