CULTIVATE A GREEN COMMUNITY
ENVIRONMENTAL MASTER PLAN 2014



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City of St. Albert Cultivate Life

May 5, 2014

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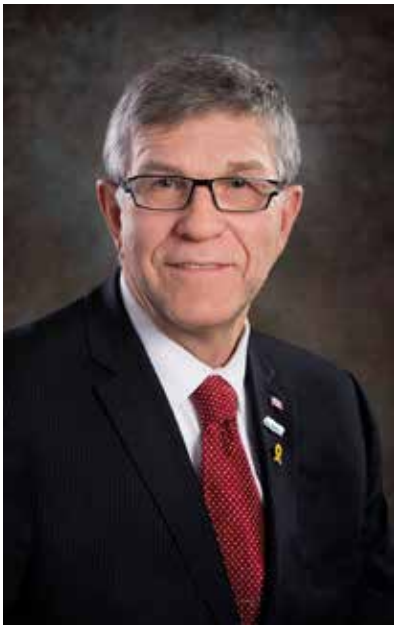
ACKNOWLEDGEMENTS

The City of St. Albert acknowledges with deep gratitude the contributions made by many individuals who assisted with this Environmental Master Plan.

WITH SPECIAL THANKS TO:

- The Environmental Advisory Committee
- Public at large who chose to comment through the Environmental Master Plan workshops and surveys
- Numerous individuals stakeholders who offered their time and knowledge to update and enhance this plan
- Internal City staff from across the corporation
- City Council members

MESSAGE FROM THE CITY MAYOR



St. Albert is surrounded by and is part of a spectacular natural environment, which includes our trees, wildlife, parks and river. It is the pride of many, and preserving, protecting and celebrating it is ranked by our residents as one of the most important goals of our community. Over the last few years, water, energy and waste reduction have also played a more significant role in our environmental commitment to future generations. Together, these goals are a shared responsibility amongst residents, businesses, City Council and City staff.

City Council has set a priority to be a leader in environmental stewardship, and we are moving toward that goal thanks to the dedication and actions of our residents. Public input is and has always been fundamental in helping to shape and guide our community's environmental priorities. This year's update of the Environmental Master Plan is evidence of this shared commitment. For the very first time, 'People' have been incorporated into the plan to show that a combined effort is required to achieve our grandest expectations as a community.

The update to the Environmental Master Plan outlines the goals, targets and initiatives of four elements: air, land, water and people, which contribute not only to our economic foundation, but to a safe, healthy, inclusive community. The plan is based on public input, built on previous actions, and strives toward new heights in environmental stewardship.

On behalf of City Council, thank you for the dedication and commitment of the many people who were involved in the development of this plan, including residents, staff and the City's Environmental Advisory Committee. Your passion is helping to cultivate a greener community that we can enjoy today and future generations tomorrow.

On behalf of Council
Nolan Crouse, Mayor
City of St. Albert – The Botanical Arts City



MESSAGE FROM THE CITY'S ENVIRONMENTAL ADVISORY COMMITTEE

The City of St. Albert's Environmental Advisory Committee (EAC) has appreciated the opportunity to continue working with the City on completing the five-year review and update of the Environmental Master Plan (EMP). The EAC wishes to congratulate Council for their commitment and support in the development of the original plan and the outcomes we as a community were able to achieve in the last five years. St. Albert and its citizens have been acknowledged for their strong commitment to environmental stewardship. The community has been pivotal in advancing the leadership necessary to achieve the stewardship outcomes beneficial to current and future generations of St. Albertans. As such, the EAC felt compelled to recognize the role of the public in the City's environmental performance through the addition of a fourth strategic element: people.

The Environmental Master Plan is a dynamic document providing general direction yet endeavours to be specific enough in establishing performance outcomes to enable St. Albert residents and others to gauge progress and benefits. The EAC believes it is important to focus on what we have learned as a community through annual progress reports on each major goal stated with the EMP. Maintaining a five-year review cycle allows the City to reassess the goals of the plan and adjust these based upon citizen and Council input.

The EAC is proud to have helped develop a document that represents citizens and the City by providing strategic input on environmental objectives.

MEMBERS:

- Malcolm Parker, Councillor (2013)
- Cam Mackay, Councillor (alternate, 2013)
- Gilles Prefontaine, Councillor (2014)
- Tim Osborne, Councillor (alternate, 2014)
- Ludmilla Rodriguez, Alberta Health Services
- Derek Alexander, Alberta Environment and Sustainable Resource Development
- Wendy Vanderwel, Post Secondary representative
- Brent Korobanik, Citizen
- Tom Mumby, Citizen
- Neill Thompson, Citizen
- Ken Crutchfield, Citizen
- Paul Radchenko, Citizen
- Victoria Neary, Citizen
- Bill Marsh, Citizen (2014)
- Tanya Doran, Citizen (2014)

Purpose:
Provides strategic advice and expert information between and among the public, City Administration and Council, with an ongoing focus on best practices and the development and implementation of the City's environmental policies, strategies and initiatives.

EXECUTIVE SUMMARY

The City of St. Albert has developed a strategic planning model to illustrate the interrelationships between the processes used to establish strategic direction and achieve organizational goals. The Environmental Master Plan (EMP) has been created with this model in mind.

The Environmental Policy provides the City of St. Albert with the overall direction for its environmental performance and provides the framework for the setting of its environmental objectives and targets. Within the policy, the City's mission for the future is to protect the natural environment so that it remains an integral part of maintaining the long-term economic and social wealth of our community.

POLICY:

The City of St. Albert is committed to maintaining a healthy natural environment and ensuring its sustainability for future generations.

As an essential component of the City's integrated approach to environmental management, the Environmental Master Plan is a long-term plan to improve environmental performance and achieve tangible environmental outcomes for both the City and the community. The EMP is an integral component that aligns the broader suite of formal City planning documents to manage environmental health. More importantly, the EMP is linked closely with the corporate Environmental Management Systems that exist to monitor and reduce the environmental impacts of the City's day-to-day activities. Together, they support the achievement of the shared environmental mission for St. Albert.

The Environmental Master Plan provides guidance to the City and the community for environmental action in the near and distant future. The EMP framework is presented in four elements: Air, Land, Water, and People. Each element begins with a vision for the year 2020, which provides a view of what we hope to achieve.

Nine goals are identified within these elements and each has defined targets. These targets are measurable objectives that can be used to monitor progress and will be used in the annual reporting to the community on the EMP. A number of existing and proposed initiatives are also listed for each goal. These initiatives form the framework for action that will guide the Environmental Master Plan in the future.

1. Manage air quality
2. Reduce energy consumption and greenhouse gas emissions
3. Promote sustainable neighbourhoods and transportation choices
4. Preserve and manage trees, parks and natural areas
5. Reduce solid waste generation
6. Protect and improve the Sturgeon River Watershed
7. Improve water quality of the Sturgeon River
8. Reduce water consumption
9. Foster community environmental stewardship

AIR

GOAL #1: **MANAGE AIR QUALITY**

Targets:

- Establish baseline of St. Albert's air quality by 2020.
- Maintain air quality below Level 2 triggers (nitrogen dioxide, sulphur dioxide, fine particulate matter, and ozone) as outlined in the Capital Region Air Quality Management Framework completed by Alberta Environment and Sustainable Resource Development.

Initiatives:

- 1.1 Alberta Capital Airshed (ACA)
- 1.2 Air quality monitoring
- 1.3 Initiatives from other St. Albert plans
- 1.4 Community education and incentive initiatives

GOAL #2: **REDUCE ENERGY CONSUMPTION AND GREENHOUSE GAS EMISSIONS**

Targets:

- Achieve 20 per cent reduction of total corporate greenhouse gas emissions from 2008 levels by 2020.
- Achieve six per cent reduction of total community greenhouse gas emissions from 2008 levels by 2020.

Initiatives:

- 2.1 Partners for Climate Protection
- 2.2 Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions
- 2.3 Initiatives from other St. Albert plans
- 2.4 Community education and incentive initiatives

LAND

GOAL #3: **PROMOTE SUSTAINABLE NEIGHBOURHOODS AND TRANSPORTATION CHOICES**

Targets:

- Achieve a minimum density of 30-45 dwelling units per net residential hectare for new neighbourhoods.
- Achieve a minimum of 30 per cent medium and/or high-density residential units for new neighbourhoods.
- Increase transit ridership equal to or greater than the overall rate of population growth for St. Albert.

Initiatives:

- 3.1 Capital Region Board Growth Plan
- 3.2 Initiatives from other St. Albert plans
- 3.3 Community education and incentive initiatives

GOAL #4: **PRESERVE AND MANAGE TREES, PARKS AND NATURAL AREAS**

Targets:

- Measure existing tree canopy cover and set future target.
- Protect top three priority natural areas in the undeveloped areas of St. Albert.

Initiatives:

- 4.1 Corporate programs and protection mechanisms
- 4.2 Initiatives from other St. Albert plans
- 4.3 Community education and incentive initiatives

GOAL #5: **REDUCE SOLID WASTE GENERATION**

Targets:

- Reduce solid waste generation to 105 kilograms or less per person per year by 2020.
- Increase diversion rate to 75 per cent by 2020.

Initiatives:

- 5.1 Alberta Capital Region Integrated Waste Management Plan
- 5.2 Solid Waste Management System Review
- 5.3 Hazardous sites and materials clean up
- 5.4 Initiatives from other St. Albert plans
- 5.5 Community education and incentive initiatives

WATER

GOAL #6: **PROTECT AND IMPROVE THE STURGEON RIVER WATERSHED**

Targets:

- Create watershed group by 2015.
- Complete a watershed management plan by 2020.

Initiatives:

- 6.1 Sturgeon River Watershed Alliance
- 6.2 Recommendations from the Sturgeon River State of the Watershed Report
- 6.3 Watershed Management Plan
- 6.4 Initiatives from other St. Albert plans
- 6.5 Community education and incentive initiatives

GOAL #7: **IMPROVE WATER QUALITY OF THE STURGEON RIVER**

Targets:

- Reduce nutrients, pesticides and bacteria levels detected in the Sturgeon River by 2020 as measured by future River Water Quality Index.
- Capture 75 per cent or greater of municipal winter sanding material by 2020.
- Reduce municipal pesticide use to 0.25 kg of active ingredient (ai) per hectare or lower by 2020.
- Reduce residential pesticide use to 0.5 kg of active ingredient (ai) per hectare or lower by 2020.

Initiatives:

- 7.1 Sturgeon River floodplain and riparian habitat protection
- 7.2 Stormwater management
- 7.3 Erosion control projects
- 7.4 Biodiversity protections and enhancement
- 7.5 Initiatives from other St. Albert plans
- 7.6 Community education and incentive initiatives

GOAL #8: **REDUCE WATER CONSUMPTION**

Targets:

- Reduce total water consumption to 200 litres or less per person per day by 2020.

Initiatives:

- 8.1 Water Conservation, Efficiency and Productivity Plan
- 8.2 Initiatives from other St. Albert plans
- 8.3 Community education and incentive initiatives



PEOPLE

GOAL #9: **FOSTER COMMUNITY ENVIRONMENTAL STEWARDSHIP**

Targets:

- Grow participation in Clean and Green RiverFest, Arbor Day and Naturalization projects to 1000 participants or more by 2020.
- Allocate funding to a total of 150 Environmental Initiatives Grant applications by 2020.
- Develop one or more new community and/or interdepartmental partnerships each year by 2020.

Initiatives:

- 9.1 Environmental Initiatives Grant Program
- 9.2 Regional and interdepartmental partnerships
- 9.3 Initiatives from other St. Albert plans
- 9.4 Community education and incentive initiatives

INTRODUCTION

As St. Albert continues to grow, the demands on our environment increase. In response to this continuing challenge, the City of St. Albert has taken a leadership role in ensuring the maintenance of a healthy natural environment now and in the future, so that it remains an integral part of maintaining the long-term economic and social wealth of our community.

CORPORATE PLANNING FRAMEWORK

The City of St. Albert follows an established framework to provide direction for strategic and business planning, identify strategic outcomes, define priorities, establish both long and short-term goals and develop performance measures to monitor progress.

This framework includes the following components as illustrated in the diagram below:

1. Community Vision and Values
2. Council's Strategic Directions
3. Community Long-Term Plans
4. Corporate Action Plans
5. Corporate Budgeting
6. Reporting

Community Long-Term Plans are developed to support the achievement of each of the community's strategic outcomes, identified through the community visioning process. The Environmental Master Plan is updated every five years, and informs the development of Council's strategic plan.



ENVIRONMENTAL FRAMEWORK

The City of St. Albert's pursuit of environmental excellence is realized through an environmental framework comprising of four critical components. These provide the essential elements of a structured and systematic process required to translate the City's environmental commitment into tangible environmental outcomes.

1. **Environmental Policy –** The policy adopted by Council establishes the overarching direction and sets the parameters of action required of the City, against which all decisions and actions are assessed.
2. **Environmental Management System –** The Environmental Management System links our Environmental Policy to procedures that help reduce environmental impacts in the corporation's day-to-day operations. The Environmental Management Systems adheres to the International Organization for Standardization (ISO) 14001 standards and is closely linked to the EMP.
3. **Environmental Master Plan –** The plan addresses current environmental challenges and opportunities facing St. Albert, and details goals, actions, targets and performance measures aimed at making it a more sustainable city.
4. **Environmental Reporting –** To ensure that we continue to make progress on our commitments and that we are identifying new environmental challenges and opportunities as they arise, the City will compile and report to the public each year on or before April 22, Earth Day.

The Environmental Master Plan and Environmental Policy are updated every five years.

FOCUS ON EDUCATION

Public education and community engagement is integral to meeting each of our goals and targets successfully. The City must lead by example, but must also provide its residents with the knowledge, opportunities, and encouragement to "do the right thing." The addition of a goal focused on St. Albert's people, to "foster community environmental stewardship," speaks to the importance the City places on this commitment. In this way, the City can effectively lead the community toward achieving its mission of maintaining a healthy natural environment that is sustainable for our community's future.

Environmental Policy

This environmental policy establishes an overall sense of direction and sets the parameters of action for the City of St. Albert

The City is committed to maintaining a healthy natural environment and ensuring its sustainability for future generations.

Administration shall use the environmental policy and its standards to guide the development of any plans, systems or procedures that will prevent or reduce environmental impacts in St. Albert

THE CITY SHALL FOLLOW THESE 5 STANDARDS:

Compliance

The City shall comply with all relevant environmental legislation and regulations and strive to set an example for the rest of the community;

Pollution Prevention

The City shall prevent the release of pollutants into the air, land or water and shall minimize the use of natural resources throughout its operations;

Continuous Improvement

The City shall manage its activities to continually improve its environmental performance;

Communication

The City shall communicate its environmental policy, objectives and targets to the corporation and the community by issuing regular updates such as an annual environmental report; and

Environmental Management Systems

The City shall employ environmental management systems and procedures specifically developed to prevent or reduce the environmental impacts from its operations.

THE CITY OF ST. ALBERT'S ENVIRONMENTAL MASTER PLAN

The first Environmental Master Plan was completed in 2009. As part of the City's commitment for continual improvement, the original EMP identified that City staff with input from the Environmental Advisory Committee and the public will review and update the Environmental Master Plan on a five-year basis. This review is to ensure that changing trends, conditions and the state of our environment are accurately captured and represented within the document on an ongoing basis. In 2013, the City of St. Albert began a comprehensive review of the EMP through background research, public consultation, as well as internal and external workshops. This document is a result of that process.

The EMP is built on a foundation of ongoing community input obtained through public consultation with the Environmental Advisory Committee (EAC), public and City staff. As the champion of the EMP, EAC was consulted on the public consultation process and methods. Public consultation activities for the review of the EMP included a Community Environmental Survey conducted by Bannister Consultants via telephone and an informal survey conducted at the St. Albert Lifestyle Expo. In addition to the surveys, workshops were held for the City's Environmental Advisory Committee, internal City staff and the public.

Approximately 800 residents participated in a statistically significant telephone Community Environmental Survey. Seventy-five per cent of respondents either agreed or strongly agreed that St. Albert is committed to maintaining a healthy natural environment. Sixty-six per cent of public workshop participants and 86 per cent of city staff workshop participants also agreed.

All three groups rated the preservation and protection of trees, parks and natural areas as the most important priority for the next five years. The protection of the watershed, reducing solid waste generation and balanced urban growth also emerged as top concerns among the groups.

Following public consultation activities, the EMP document was updated and provided to EAC for their input and to formulate their advice to Council. The Environmental Master Plan supports City Council Environmental Policy and as a result, requires Council approval.

INTEGRATED PLANNING

To maximize collaboration and minimize costs, the City of St. Albert works with many regional, provincial and federal environmental groups through organizations such as:

- Federation of Canadian Municipalities (FCM)
- Alberta Urban Municipalities Association (AUMA)
- C3 (formerly Climate Change Central)
- Alberta Environment and Sustainable Resource Development (AESRD)
- Alberta Stewardship Network
- Alberta Capital Airshed (ACA)
- North Saskatchewan Watershed Alliance (NSWA)

As part of the Capital Region, St. Albert also integrates its planning documents with regional plans such as:

- The Capital Region Air Quality Management Framework
- The Capital Region Ozone Management Plan
- The Capital Region Growth Plan
- Alberta Capital Region Integrated Waste Management Plan
- The Integrated Watershed Management Plan for the North Saskatchewan River in Alberta

As an essential component of the City's integrated approach to environmental management, the Environmental Master Plan acts as the long-term action plan that guides strategic implementation of the policy, thereby improving environmental performance and achieving tangible environmental outcomes.

The Environmental Master Plan is approved by City Council and provides a foundation for and aligns with other St. Albert long term plans. These include:

MAJOR CITY PLANS

City Plan – St. Albert's Municipal Development Plan (2007):

The Municipal Development Plan (MDP) articulates the community's vision, goals, objectives and policies to guide St. Albert's physical, social and economic development to the year 2029. The goals and objectives of the MDP are in concert with the Capital Region Growth Plan. Several sections within the Municipal Development Plan refer to key principles found within the EMP, such as Growth Management and Urban Form, Education, Recreation, Open Space and Culture, Environmental Management of Natural Areas and Transportation Demand Management.

Utilities Master Plan (2007, to be updated 2014):

This report describes the existing utility system and recommends future system improvements including water distribution, wastewater collection, and stormwater management systems. This report references the Stormwater Master Plan (2004) and the Big Lake Basin Stormwater Management Plan (2004) that both include environmental objectives and projects.

Transportation Master Plan (2008, to be updated 2015):

The Transportation Master Plan (TMP) is developed by the City of St. Albert to support and supplement the new Municipal Development Plan. The TMP has identified environmental stewardship, connectivity, additional modes of transit, maintaining a small town feel, upholding a high standard of excellence and maintaining facilities that are friendly, clean and safe as its core values on which to develop and expand our transportation network.



Downtown Area Redevelopment Plan (2010):

The Downtown Area Redevelopment Plan (DARP) will guide downtown public and private development over the next 25 years to ensure that downtown continues to respond to the needs of residents and visitors alike. It provides supporting objectives, policies and implementation recommendations designed to achieve the vision and physical concept in DARP. The plan describes nine key principles which will create infrastructure to better engage people such as creating public gathering places and linkages to trail systems and the Sturgeon River; increase access for multiple transportation modes including pedestrians, bicycles, public transit and personal vehicles; and promote high-density mixed-use development for a vibrant marketplace.

ENVIRONMENTAL PLANS

Red Willow Park Master Plan (1991) and Red Willow Park Master Plan West Update (2003):

The Red Willow Park Master Plan West Update provides background information about the park and existing Master Plan, followed by a detailed inventory update of the natural features, heritage, usership and development within and around the park. This document also highlights some immediate priorities and the financial implications associated with managing the Red Willow Park in accordance with the Master Plan.

ISO 14001 Environmental Management System (2005 & 2010):

ISO 14001 is an Environmental Management System (EMS) that provides a systematic approach for organizations to bring environmental considerations into decision-making and day-to-day operations and provides a framework for tracking, evaluating and communicating environmental performance. In essence, an Environmental Management System helps ensure that major corporate environmental risks and liabilities are identified, minimized and managed.

St. Albert Transit originally attained ISO 14001 certification in 2005 and has successfully maintained this certification through audits by a third party registrar. St. Albert Public Works attained ISO 14001 certification in 2012 and has also successfully maintained this certification.

Parks and Open Spaces Management Plan (2007):

This document outlines St. Albert's strategy to establish and maintain open, green, public spaces that are recognized as important in the MDP. Detailed descriptions of the key requirements identified for effective management of open spaces are given, including the benefits of following through with these recommendations, assigning roles for certain tasks, and identifying which City departments will be involved. Key requirements include:

- biophysical audit and Geographic Information System mapping
- natural areas definition, criteria, process and protocol
- canopy enhancement and maintenance program
- tree bylaw (green asset bylaw)
- turf maintenance service levels
- parks and trails categories, standards, organization and structure
- landscape standards

- integrated pest management
- planning process
- naturalization
- public education

Solid Waste Management System Review (2008):

The review examined St. Albert's Waste Management System successes and ongoing issues. As St. Albert grows, costs for solid waste collection will go up correspondingly. The review makes recommendations for reducing the production of solid waste thereby reducing costs of collection and delaying the need for new landfill sites.

Greenhouse Gas Inventory, Forecast and Target Report (2009):

The inventory was commissioned to meet milestone one and two of our commitments to Partners for Climate Protection (PCP). The inventory looked at both community and corporate sources of greenhouse gas emissions, forecasted emissions in relation to population growth, and then recommended targets for the reduction of emissions.

Integrated Pest Management Plan (2011):

The Integrated Pest Management Plan provides detailed information on how to prevent and manage pest matters within the City of St. Albert. It promotes healthy vegetation and guides pest control activities on all public land and within civic structures and facilities. One of the goals of this plan is to keep pests at acceptable levels through effective, economical and environmentally sound methods.

Sturgeon River: State of the Watershed Report (2012):

The purpose of the State of the Sturgeon River Watershed Report is to summarize the current knowledge of the Sturgeon River Watershed and to comment on its environmental integrity. Fifteen indicators of ecological health were graded as good, fair, poor or insufficient data and used to assess the overall condition of the watershed, which rated as fair. The report outlines eight recommendations with short-, medium- and long-term timelines. The most immediate recommendation is that a watershed group for the Sturgeon River be established to oversee and undertake watershed planning. Other municipal initiatives around planning and management for protection of wetlands and riparian buffers were also recommended.

Water Conservation, Efficiency and Productivity Plan (2012):

As a provincial initiative through the Alberta Urban Municipalities Association, the Water Conservation, Efficiency and Productivity (WCEP) Plan provides an in-depth review of historical and current water usage and recommends actions to reduce future water usage. The plan also outlines St. Albert's existing drinking water and wastewater systems and environmental initiatives.

Local Action Plan for Energy Conservation and Reducing GHG Emissions (2013):

The Local Action plan describes the current state of energy use and greenhouse gas emissions (GHG) in St. Albert, as well as a strategy for maximizing the benefits of non-renewable energy consumption and GHG emissions in the short-, medium- and long-term for the City of St. Albert, its residents and its businesses. This plan meets milestone three of the Partners for Climate Protection (PCP) program.

Grey Nuns White Spruce Park Management Plan (to be completed 2014):

As one of the last remaining stands of old growth forest dating back to the time of the original settlement of this area, the Grey Nuns White Spruce Park is of both historical and ecological significance to the City of St. Albert. The management plan outlines strategies and actions to balance keeping the forest healthy and sustainable, while still offering low-impact recreational opportunities for residents and educational opportunities about its ecology and historical significance.

ECONOMIC PLANS

Economic Development Master Plan (2004):

The Economic Development Master Plan focuses on current and future economic activities, reflecting the desire of St. Albert residents to maintain their high quality of life while enjoying amenities and advantages of a thriving business sector. The plan identifies "maintaining a top quality urban environment" as one of the key objectives to attracting and retaining new businesses to St. Albert, and that factor contributes to a high quality of life, including diverse and enhanced community recreational, cultural and environmental opportunities.

Tourism Master Plan (2007):

The Tourism Master Plan aims to develop enhanced downtown, riverfront, heritage, arts, culture, sports, natural areas and agricultural tourism assets, increased economic development opportunities, and improved quality of life for residents that is complemented, not compromised, by tourism.

The Economic Development 20-point Plan (2012):

The plan lays out 20 areas of focus to encourage commercial and light industrial growth in St. Albert. These range from specific projects to create infrastructure such as roadways, water and sewer, to creating more employment lands for new business development to addressing process and policy issues.

SMART City Master Plan (anticipated in 2015):

Modern technology and advanced data analytics offer cities unparalleled access to real-time information to improve efficiency of city operations, offer lifestyle benefits for residents and create or improve economic opportunities. The SMART City Master Plan will examine current technologies and their benefits, opportunities for economic development, and opportunities for organizational efficiencies. The Master Plan will offer detailed strategies to meet the plan's overall objectives.

SOCIAL PLANS

Recreation Master Plan (2012):

The Recreation Master Plan addresses all forms of recreation for all ages from casual activities such as dog walking to scheduled recreation classes to organized sports. It examines the infrastructure required for these activities and how these services are provided to the community. The recommendations are based around five priorities areas:

- Ensure community health and well being
- Intensify community development efforts
- Invest in recreation infrastructure
- Celebrate and communicate recreation
- Seek out new funding sources

Cultural Master Plan (2012):

The Cultural Master Plan examines the cultural fabric of St. Albert considering cultural participation, space and facilities, broad civic impact, and organizational sustainability. It identifies six priority areas and establishes a framework for meeting those priorities.

- Celebrate cultural aspects
- Increase and deepen cultural participation
- Promote cultural tourism
- Establish sustainable funding
- Ensure infrastructural strength
- Optimize cultural service delivery

Social Master Plan (2013):

The focus of the Social Master Plan is to ensure that St. Albert is a community where all its residents feel safe, have a strong sense of belonging, and have all their needs met. Four value statements are the backbone of the Plan and the goals set out in each section address the social matters identified by the steering committee through public consultation.

- Sense of community and connectedness
- Diversity and inclusion
- Social responsibility and engagement
- Healthy lifestyle and well-being

Heritage Management Plan (2013):

The Heritage Management Plan was developed to guide conservation of St. Albert's historical resources, raise public awareness of community heritage issues, identify partnership opportunities and develop policies surrounding the sites identified on the Heritage Inventory of private and public properties.

Summary table on the following page links the environmental goals and other City Plans.

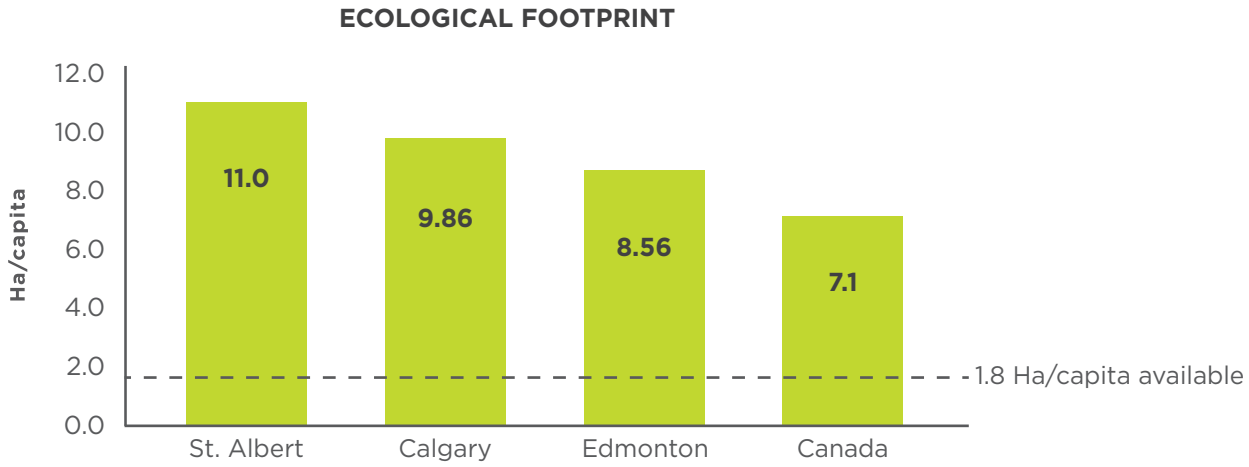
CONNECTIONS TO CITY PLANS AND ENVIRONMENT GOALS

GOAL / CITY PLANS	Maintain air quality	Reduce energy consumption & GHG emissions	Promote sustainable neighbourhoods & transportation choices	Preserve & manage trees, parks & natural areas	Reduce solid waste generation	Protect & improve the Sturgeon River Watershed	Improve water quality of the Sturgeon River	Reduce water consumption	Foster community stewardship
Municipal Development Plan									
Utilities Master Plan									
Transportation Master Plan									
Downtown Area Redevelopment Plan									
Red Willow Park Master Plan & Red Willow Park Master Plan West Update									
Parks and Open Space Management Plan									
Solid Waste Management System Review									
Greenhouse Gas Inventory, Forecast & Target Report									
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Grey Nuns White Spruce Park Management Plan									
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SMART City Master Plan									
Recreation Master Plan									
Cultural Master Plan									
Social Master Plan									
Heritage Management Plan									

ST. ALBERT'S ECOLOGICAL FOOTPRINT

There are many standards to measure a community's impact on the environment. The ecological footprint is one high level benchmark that measures the demand that people place on the environment, based on natural resource consumption and waste generation. The calculation takes into consideration factors like income, house size, energy and natural gas consumption, services used (entertainment, healthcare), food choices (packaged, local), and modes of transportation in a community. It is the complex relationships of all these factors and the cost of calculating this that prohibits St. Albert from determining our ecological footprint annually.

The ecological footprint is measured in hectares per person. In 2007, it was estimated that there was only 1.8 hectares of land and sea resources available to support each person on Earth.[1] Currently, people are consuming the world's resources much faster than the Earth can produce them. In 2010, Canada's average footprint was 7.1 hectares per capita, the eighth highest in the world.[2] St. Albert's footprint was last measured in 2003 at 11.0 hectares per person. By comparison, in 2005 Calgary's ecological footprint was 9.86 hectares per person and in 2008 Edmonton's was 8.56 hectares per capita.[3]



1. Global Footprint Network, Ecological Footprint Atlas 2010, (October 2010), 18
2. Ibid., 19
3. Anielski and Wilson, Ecological Footprints of Canadian Municipalities and Regions, (2005), 6; Anielski, Edmonton's Ecological Footprint, (2010), 2.

THE ENVIRONMENTAL MASTER PLAN

The EMP is organized around four elements with goals, targets and existing and proposed initiatives to realize these goals:

AIR

1. Manage air quality
2. Reduce energy consumption and greenhouse gas emissions

LAND

3. Promote sustainable neighbourhoods and transportation choices
4. Preserve and manage trees, parks and natural areas
5. Reduce solid waste generation

WATER

6. Protect and improve the Sturgeon River watershed
7. Improve the water quality of the Sturgeon River
8. Reduce water consumption

PEOPLE

9. Foster community environmental stewardship

For each of these elements, the EMP provides:

- A vision statement for the year 2020;
- Where we are now by summarizing current environmental conditions;
- Where we want to focus action through a series of goals and targets that help define our priorities for environmental activity, programs and monitoring; and
- How we will reach our targets through existing and proposed initiatives.

AIR

OUR VISION

In the year 2020, the air we breathe in St. Albert is clean and production of pollutants and greenhouse gases has been measured and minimized. St. Albert has fewer source of vehicles per capita on our roads, more walkers and cyclists, and transit is a competitive and convenient mode of travel. Our homes and businesses are energy-efficient, which has reduced our dependence on non-renewable energy sources, encouraged alternative energy sources, and thereby reduced emissions released into the atmosphere. This was achieved through a shared sense of responsibility among individual homeowners, vehicle owners, businesses and the City.



MANAGE AIR QUALITY

Where Are We Now?

Good air quality is important for our health. Air pollutants can cause breathing problems in the very young, older adults and people with respiratory conditions. If these levels get too high, they can even cause problems for healthy residents. The levels of pollutants in the atmosphere determine air quality. Pollutants can be gases or small solid or liquid particles suspended in the air.

The Alberta Air Quality Health Index (AQHI) is a 10-point scale that indicates the relative health risk of the local outdoor air quality – the higher the number, the greater the risk (1-3 low risk, 4-6 moderate risk, 7-10 high risk, 10+ very high risk). The AQHI measures air pollutants known to cause harm such as nitrogen oxides, sulphur dioxide, hydrogen sulphide and fine particulates. The Index also suggests steps to take to reduce one's exposure to pollutants.

In general, St. Albert's air quality is thought to be "Good" as measured on the AQHI. But we don't know for certain because the closest air quality monitoring station is approximately 10 kilometres away in northwest Edmonton. In order to make good decisions, St. Albert needs to know what its air quality is and so an air quality station will be established here in the near future.

St. Albert does not have heavy industry operating within its borders, so most air pollutants that are present here are the result of energy consumption – the combustion of fuel for vehicles, home heating, and electricity generation. The Capital Region Air Quality Management Framework (CRAQMF) identifies four main air pollutants of concern in the area: nitrogen dioxide, sulphur dioxide, ozone and fine particulate matter.

Alberta Environment and Sustainable Resource Development (AESRD) led the development of the CRAQMF with stakeholders from across the Capital Region including the Alberta Capital Airshed (ACA). The management framework uses a four-level scale for monitoring air quality with a set of criteria to trigger appropriate actions at each level. This scale is consistent with other systems proposed or already in use in other parts of Alberta and Canada.

It is important to note that air quality monitoring identifies potential health risks. Greenhouse gases in our air are also of concern, but not for health reasons. Not all air pollutants are greenhouse gases and not all greenhouse gases are pollutants. The risks from greenhouse gases are identified in goal number two.

Where Do We Want to Be?

Goal #1: Manage air quality

Targets:

- Establish a baseline of St. Albert's air quality by 2020.
- Maintain air quality below Level 2 triggers (nitrogen dioxide, sulphur dioxide, fine particulate matter, and ozone) as outlined in the Capital Region Air Quality Management Framework completed by Alberta Environment and Sustainable Resource Development.



How Will We Reach Our Targets?

1.1 Alberta Capital Airshed (ACA)

The City of St. Albert is an active member of the ACA, a non-profit non-governmental organization (NGO) that monitors and shares air quality information for the Capital Region. The ACA's membership comprises of multiple stakeholders from industry, government and other NGOs. The ACA currently uses a combination of continuous monitoring stations and intermittent monitors to measure air quality around the Capital Region. Data from the monitoring stations is available on their website in real time.

1.2 Air quality monitoring

The Capital Region Air Quality Management Framework identified St. Albert as a priority location for the Capital Region's 12th air quality monitoring station. A working group, including representatives from AESRD, city staff, members of the Environmental Advisory Committee and air quality experts from the community, identified a number of potential sites that meet AESRD's stringent requirements. These preliminary sites will be discussed in early 2014. The final location for the station will balance the potential for the quality of the data it can collect with potential impact on residents. The City of St. Albert will have baseline data for local air quality established by 2020.

1.3 Initiatives from other St. Albert Plans

Many of the objectives within the City's other plans will also improve air quality. The plans include but are not limited to:

- **Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions (2009) –** Air pollution and greenhouse gas emissions are mutually linked to energy consumption as a result initiatives to reduce greenhouse gases will also improve air quality. Refer to discussion under Goal #2.
- **Transportation Master Plan (2008, to be updated 2015) –** Initiatives include encouraging a variety of housing options to increase non-motorized travel within residential and commercial developments which will reduce emissions and improve air quality.
- **Parks and Open Spaces Management Plan (2007) –** Initiatives include protection and management of trees, parks and natural areas. A healthy population of trees and vegetation can sequester carbon dioxide emissions.

1.4 Community education and incentive initiatives

The City of St. Albert will only be successful at meeting its air quality targets with the participation of the community. Through education and incentive programs, both individuals and businesses will assume increased personal responsibility for emissions.

- Share AQHI data on the City website when the air quality monitoring station is established in St. Albert.
- Continue to promote an Idle-Free St. Albert with awareness and education campaigns, encouraging idle-free zones around public buildings such as city facilities and schools and ensuring vehicles are operating in accordance with the idle-free bylaw.

REDUCE ENERGY CONSUMPTION AND GREENHOUSE GAS EMISSIONS

Where Are We Now?

Greenhouses gases (GHGs), such as water vapour, carbon dioxide, methane, nitrous oxide and ozone occur naturally in our atmosphere and reflect and absorb the sun's rays which contribute to the Earth's hospitable climate and biological productivity. However, concentrations of GHGs have increased exponentially in the last 300 years, largely due to the use of fossil fuels. The increased concentrations cause the Earth's atmosphere to warm and this increased warmth leads to a change in climate. In recent years, the world has experienced many extreme weather events from heat waves to ice storms believed to be a result of climate change. Steps must be taken immediately to reduce the production of GHGs from human activity to slow the progress of climate change. Reducing GHG emissions not only benefits the planet, but also reduces operating costs by using fuels more efficiently.

The primary sources of GHGs and other environmental pollutants result from the burning of non-renewable fossil fuels, including coal-fired electricity generation, natural gas from home heating, and fuels for transportation. Energy is also required to treat municipal water. Water conservation efforts will also reduce energy use. In the City of St. Albert, there are few major industrial emitters of GHGs or other pollutants. Therefore, the greatest reduction in GHG emissions will result from both corporate (the City of St. Albert) and community (residents and local businesses) actions.

In 2010, the City of St. Albert joined the Partners for Climate Protection (PCP) program. As a member, the City committed to completing five milestones. The first three milestones have been accomplished: 1) create a GHG emissions inventory and forecast; 2) set GHG emissions reduction targets; and, 3) develop a local action plan. The City must now implement the Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions and then monitor progress and report results.

The Greenhouse Gas Emissions Inventory Project report recommended that community emissions be calculated every three to five years and corporate emissions be calculated annually. In 2012, the City's GHG emissions decreased by 3.1 per cent, putting its emissions at only 1.8 per cent over 2008 levels.

In 2011, Fire Hall No. 3 became the first fire hall in Western Canada to receive Gold Leadership in Energy and Environmental Design (LEED) certification. Innovations in its design significantly reduced energy consumption for both electricity and heating resulting in a substantial reduction in GHG emissions.

The Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions recommends right-sizing vehicles for efficiency. In 2011, automated landfill waste collection trucks were introduced and offered substantial savings in operating costs. The trucks more effectively compact the solid waste and consequently can carry larger loads. This results in 600 fewer trips to the landfill per year and 2,600 fewer kilometres driven. Costs for gas and vehicle maintenance are reduced as well as greenhouse gas emissions.



Where We Want to Be?

Goal #2: Reduce energy consumption and GHG emissions

Targets:

- Achieve 20 per cent reduction of total corporate greenhouse gas emissions from 2008 levels by 2020.
- Achieve six per cent reduction of total community greenhouse gas emissions from 2008 levels by 2020.

How Will We Reach Our Targets?

2.1 Partners for Climate Protection (PCP)

The Partners for Climate Protection is a program offered through the Federation of Canadian Municipalities (FCM), and is an internationally recognized process for commitment to reducing greenhouse gases and acting on climate change.

The City has completed the first three milestones:

- Create a greenhouse gas emissions inventory and forecast
- Set emissions reduction targets
- Develop a local action plan

The following two remain:

- Implementing the Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions
- Monitoring progress and reporting results

2.2 Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions (2012)

To reduce energy consumption and greenhouse gas emissions the City of St. Albert will work towards prioritizing and accomplishing the actions outlined in the Local Action Plan for the community and corporation. Upcoming initiatives include but are not limited to:

- Perform energy-efficiency audits and benchmarking to identify cost-effective retrofits for existing buildings
- Adopt a corporate Green Building Policy that includes minimum energy performance for new City buildings
- Formalize the City's vehicle purchasing policy to assess vehicle needs and ensure high-efficiency vehicles are selected for purchase
- Upgrade to energy efficient ballasts and bulbs on municipal-owned lights
- Work with FortisAlberta to ensure street lighting incorporates the most efficient opportunities available such as LED lighting
- Explore options for introducing customer feedback systems such as electronic billing and smart meters
- Work with others to engage the Provincial Government regarding energy efficiency standards for new buildings
- Continue regional planning with neighbouring communities through the Capital Region Board with respect to densification

2.3 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will reduce greenhouse gases indirectly. The plans include but are not limited to:

- **Transportation Master Plan (to be updated in 2015) –** Initiatives will include strategies to increase transit ridership and discourage use of personal vehicles as St. Albert grows. Decreasing single occupancy vehicles driving in and out of St. Albert will help minimize GHG emissions.
- **Smart City Master Plan (anticipated in 2015) –** Initiatives will include use of technologies to increase efficiency of many City operations and facilities thereby reducing costs and energy consumption. Refer to the discussion under Goal #3.
- **Water Conservation Efficiency and Productivity Plan (2012) –** Initiatives will conserve water which will reduce use of energy to treat, distribute and heat water. Refer to the discussion under Goal #8.
- **Municipal Development Plan (2007) –** Initiatives include increasing opportunities for alternative transportation by providing access to trails and transit within 400 metres of their homes which reduces GHG emissions. Refer to discussion under Goal #3.
- **Economic Development 20-point Plan (2012) –** Initiatives include employment opportunities in St. Albert reducing the number of residents commuting outside of St. Albert for work.
- **Social Master Plan (2013) –** Initiatives include ensuring residents have access to an affordable and well-coordinated transportation system which encourages use and reduces GHG emissions.
- **Parks and Open Spaces Management Plan (2007) –** Initiatives include enhancing St. Albert's tree canopy, which will increase absorption of GHGs. Refer to discussion under Goal #4.

2.4 Community education and incentive initiatives

The City of St. Albert will only be successful at reducing greenhouse gas emissions with the participation of the community. Through education and incentive programs, both individuals and businesses will take on increased personal responsibility for reduction of emissions. These initiatives include but are not limited to:

- Continue to pursue incentive programs with C3 (formerly Climate Change Central), such as the 2012 Toilet Rebate Program. C3 is an Alberta non-profit group that operates municipal rebate programs.
- Continue to host the City's community-wide Clean Air Day initiative. It encourages the community to promote clean air and good health by offering free City bus service all day. Bus transportation produces 65 per cent less greenhouse gas emissions than traveling by automobile.
- Continue to offer the incentives of the Universal Transit Pass (U-Pass). The pass program promotes the use of mass transit by offering lower-fare access to transit in St. Albert, Edmonton and Strathcona County to 46,000 post-secondary students at the University of Alberta, MacEwan University, NAIT and Norquest College.
- Encourage participation in Carpool Month, a month-long awareness program held in October each year to promote carpooling. St. Albert is a regional sponsor of Carpool Month.
- Promote and encourage community participation in Earth Hour held at the end of March each year.

LAND

OUR VISION

In the year 2020, our older neighbourhoods are revitalized while still maintaining their character and feel. Neighbourhoods are revitalized and designed to protect sensitive natural features and reduce the overall ecological footprint of the community. People are connected to parks and open spaces through walking and biking trails. Neighbourhoods are transit-oriented with a range of housing options to meet the needs of the whole community. City programs work to maintain and expand green space, biodiversity and connectivity for wildlife. The City supports and encourages voluntary involvement in stewardship activities such as Partners in Parks, Clean and Green RiverFest and naturalization projects.

St. Albert has a good balance of light industrial and residential land use and a thriving economy is evident by the range of successful businesses in the employment lands. Residents are effectively working toward waste reduction goals through the continued use of the curbside blue bag program and the organic and automated waste collection systems. All schools are actively engaged in organic waste collection.

Our goals are being met through sustainable urban planning, protection of natural areas, and active waste minimization and by a shared sense of responsibility among individual homeowners, car owners, businesses and the City.



PROMOTE SUSTAINABLE NEIGHBOURHOODS AND TRANSPORTATION CHOICES

Where Are We Now?

Neighbourhood planning and transit planning are intimately linked to sustainability. A well-designed neighbourhood is sustainable and offers a variety of transportation choices. The Capital Region Growth Plan recommends a sufficient supply, choice and diversity of housing and transit services that are convenient and competitive.

St. Albert's current residential density is not sustainable over the long-term considering its projected growth over the next two decades. Compact neighbourhoods with higher-density mixed-use housing that are designed around Neighbourhood Activity Centres will achieve a smaller ecological footprint. The Municipal Development Plan outlines a more sustainable approach to development that will reduce the overall environmental impacts of this anticipated growth.

In 2006, the St. Albert Land Use Bylaw was amended to add on the Established Neighbourhood Overlay District, a set of regulations and guidelines for quality infill developments within existing neighbourhoods. In 2007, the St. Albert Land Use Bylaw was amended to permit secondary suites within single detached homes.

A revision to the MDP in 2011 recommends developing guidelines and regulations for transit-oriented development. Connecting transit stops or stations to Neighbourhood Activity Centres ensures transit, biking and other forms of transportation are a convenient option for residents.

Where Do We Want to Be?

Goal #3: Promote sustainable neighbourhoods and transportation choices

Targets:

- Achieve a minimum density of 30-45 dwelling units per net residential hectare for new neighbourhoods.
- Achieve a minimum of 30 per cent for medium and/or high-density residential units for new neighbourhoods.
- Increase transit ridership equal to or greater than the overall rate of population growth of St. Albert.



How Will We Reach Our Targets?

3.1 Capital Region Growth Plan (2009)

The Capital Region Growth Plan outlines integrated strategies to approach municipal planning in the Capital Region. The plan is divided into four main components: land use, public transit, geographic information service and housing. Each component uses a set of guiding principles for planning which municipalities are required to follow. These include protecting the environment and resources, using land efficiently by increasing density and minimizing development footprints, and providing good access to amenities such as transit.

3.2 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will promote sustainable neighbourhoods and transportation choices. The plans include but are not limited to:

- **Downtown Area Redevelopment Plan (2010) –** Initiatives include increased access for multiple transportation modes including pedestrians, bicycles, public transit and personal vehicles; and promoting high-density mixed-use development.
- **SMART City Master Plan (anticipated in 2015) –** Initiatives include the use of technologies for gathering and analyzing data about City services in real time. This information provides the opportunity to govern more efficiently by making informed decisions that will improve City programs and services such as transit services.
- **Transportation Master Plan (updated 2015) –** Initiatives will improve the quality of and promote the use of transit service and integrate transit-oriented design principles into municipal planning decisions.
- **Economic Development 20-point Plan (2012) –** Initiatives will sustain the high quality of life that the community offers including transit services and affordable housing.
- **Transit Long-Term Department Plan 2013-2027 (2013) –** Initiatives include recommendations to improve local and commuter transit services such as real-time signage, reducing route and schedule deviations and bus route integration with NAIT light rail transit.
- **Recreation Master Plan (2012) –** Initiatives include developing and adopting an infrastructure management plan for all recreation spaces that consider issues such as life-cycle planning for sustainability and investment in community-integrated recreation infrastructure such as trail development in new neighbourhoods.
- **Social Master Plan (2012) –** Initiatives include advocating for mixed-density housing in new neighbourhoods and sufficient resources for the development of a variety of housing options.
- **Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions (2012) –** Initiatives include encouraging the development of compact, mixed-use, transit-oriented neighbourhoods and encouraging transit use to reduce GHG emissions. Refer to discussion under Goal #2.
- **Economic Development Master Plan (2004) –** Initiatives include maintaining appropriate, cost effective services that support expansion and attraction of desired business/industry through an effective transport network and a range of housing options for varying income levels.

3.3 Community education and incentive initiatives

The City of St. Albert will only be successful at promoting sustainable neighbourhoods and transportation choices with the participation of the community. Through education and incentive programs, both individuals and businesses will take on increased personal responsibility. These initiatives include but are not limited to:

- Encourage participation in Carpool Month, a month-long awareness program held in October each year to promote carpooling. St. Albert is a regional sponsor of Carpool Month.
- Continue to host the City's community-wide Clean Air Day initiative. It encourages the community to promote clean air and good health by offering free City bus service all day. Bus transportation produces 65 per cent less greenhouse gas emissions than traveling by automobile.
- Continue to offer the incentives of the Universal Transit Pass (U-Pass). The pass program promotes the use of mass transit by offering unlimited lower-fare access to transit in St. Albert, Edmonton and Strathcona County to 46,000 post-secondary students.



PRESERVE AND MANAGE TREES, PARKS AND NATURAL AREAS

Where Are We Now?

In survey after survey, the residents of St. Albert rank parks, open spaces and trail systems as the most important factors contributing to their overall quality of life. But quality of life is not the only reason natural spaces are important for us. The tree canopy of a city reduces the urban heat island effect, improves air quality, removes carbon dioxide from the atmosphere, produces oxygen, and reduces stormwater runoff and soil erosion.

The preservation of trees, parks and natural areas, which include forested areas and bodies of water, also contribute to biodiversity. Biodiversity is the range in variety of plant and animal life in an ecosystem and is vital to that ecosystem's success. The components of an ecosystem — plants, animals, soil and water — are interconnected and dependent upon one another. Natural areas provide food, habitat and movement corridors for animals.

It is necessary to measure and analyze the environmental effects, value, structure and extent of a municipality's urban forest to determine the effectiveness of the tree canopy to clean the air, sequester carbon and reduce stormwater runoff. St. Albert does not currently have adequate information recorded about our tree canopy.

The City's Municipal Development Plan (2007) endorses strengthening sustainable natural areas and minimizing the negative impacts of development. Doing so not only addresses the need to maintain the health of our physical ecosystem, but it also links directly to goal number two, reducing greenhouse gas emissions.

The MDP states that the City of St. Albert shall preserve and protect the Sturgeon River Valley and Carrot Creek corridors. Specifically, the Carrot Creek corridor includes a 50-metre wide development buffer from the top of the bank of the creek.

The City runs a number of successful annual events that serve to both educate about and engage the community in stewardship activities. These include Clean and Green RiverFest, River Edge Enhancement Project, and Arbor Day.

Where Do We Want to Be?

Goal #4: Preserve and manage trees, parks and natural areas

Targets:

- Measure existing tree canopy cover and set future target.
- Protect top three priority natural areas in the undeveloped areas of St. Albert.

How Will We Reach Our Targets?

4.1 Corporate programs and protection mechanisms

Continue with existing programs that support the management of trees, parks and natural areas:

- Regulatory tools such as the Land Use Bylaw, development guidelines and enforcement of existing regulations will provide additional protection for trees, parks and natural areas for future generations.
- Complete Urban Forest Policy and Plan

- High-resolution air photos of the City and surrounding areas taken every five years will inventory and monitor trees, parks and natural areas.
- Continuing development of a corporate geographic information services (GIS) system will aid long-term monitoring of the natural environment.
- A complete analysis of the tree canopy cover expressed as percentage of total area will provide data for informed decision-making.

4.2 Initiatives from other St. Albert Plans

Many of the objectives within the City's plans will preserve and protect trees, parks and natural areas. The plans include but are not limited to:

- **Grey Nuns White Spruce Park Management Plan (anticipated in 2014) –** Initiatives will protect this old growth forest and ensure it is healthy and sustainable for generations to come.
- **Parks and Open Spaces Management Plan (2012) –** Initiatives include recommendations for protecting and managing the city's trees, parks and natural areas such as canopy enhancement and maintenance program, a biophysical audit and GIS mapping, and natural areas definition, criteria, process and protocol.
- **Red Willow Park Master Plan (1991) and Red Willow Park West Master Plan Update (2003) –** Initiatives include the conservation of environmentally sensitive and significant natural areas within this priority natural area of St. Albert.
- **Integrated Pest Management Plan (2011) –** Initiatives include an approach to pest management that reduces reliance on pesticides while maintaining the integrity of trees, parks and natural areas as habitat and wildlife corridors for healthy biodiversity.
- **Heritage Management Plan (2013) –** Initiatives include the preservation of the natural area portion of the heritage sites on River Lot 23 and 24.

4.3 Community education and incentive initiatives

Working in partnership with the community on opportunities for education and stewardship of the natural environment in St. Albert is central to achievement of the City's environmental mission. Some examples include regional partnerships with organizations such as:

- North Saskatchewan Watershed Alliance
- Edmonton Natural Areas
- Lois Hole Centennial Provincial Park
- Big Lake Environment Support Society
- Riverlot 56

And Community events and programs such as:

- **Spruce Up St. Albert program –** an initiative to get residents involved in stewardship activities around the city from April to October each year.
- **River Edge Enhancement Project (REEP) –** An initiative to increase native plant species and biodiversity along the river's edge.
- **Partners in Parks –** A program for individuals and groups interested in volunteering to take care of public green spaces such as a community garden or a park or natural area.
- **Clean and Green RiverFest –** An annual event for river clean-up and riparian planting projects.
- **Naturalization projects –** A new program for schools and community groups to plant native trees and shrubs on City property.
- **Arbor Day –** A national, annual tree-planting event for Grade 1 students.
- **Cultivating Front Yards –** an awards program to recognize residents or businesses who put extra effort into the beautification of their front yard.

REDUCE SOLID WASTE GENERATION

Where Are We Now?

In 2004, the province of Alberta disposed of more municipal solid waste than any other province in Canada.[4] In response to provincial targets for the minimization of waste, the Alberta Urban Municipalities Association (AUMA) has adopted a goal and philosophy of Zero Waste. The Zero Waste International Alliance describes Zero Waste as "designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them." For St. Albert to reach this goal we will have to collaborate closely with the region on energy to waste projects that will eliminate the need to landfill our waste.

In 2008, the City conducted the Solid Waste Management System Review (SWMSR). The report made several recommendations including:

- Development of a Zero Waste Plan with established interim goals
- Retaining a Pay-As-You-Throw (PAYT) approach as a fundamental element of its waste management system
- Adopting a simplified PAYT approach using three service level options rather than six
- Implementing full curbside recycling
- Implementing a fully automated waste collection program
- Implementing a curbside organics collection program
- Targeting the Industrial, Commercial and Institutional (ICI) sector for waste reduction

To date, St. Albert has successfully implemented weekly curbside recycling, automated bi-weekly garbage collection, automated seasonal curbside organics collection and household hazardous waste collection through the recycling depot.

The Environmental Master Plan set ambitious targets in 2009 and the residents of St. Albert not only met them, but also exceeded them. In 2008, solid waste generation was 195 kilograms (kg) per person. The EMP set a target of reducing waste to 125 kg per person, but the rate of solid waste generation in 2013 is 112 kg per person. St. Albert's diversion rate increased from 37 per cent in 2008 to 67 per cent in 2012 exceeding the target by two per cent. Together, the recycling depot and curbside blue bag program diverted 4,932 tons of waste.

Also in 2011, the recycling depot was upgraded to provide a more functional and aesthetically pleasing facility. Efficiencies were achieved by incorporating cardboard compaction and full-time staffing. Expansion of the depot included introducing the collection of household hazardous waste. Items accepted include paint, household cleaning products, used oil, and scrap metal.

Several community engagement programs have also contributed to our success. Shred-it Day, Take It or Leave It, Fall Leaf Collection and Large Item Drop Off are annual events that help divert waste from the landfill. The City's A-Z Sorting Guide provides information on how best to dispose of various household items.

In recognition of our innovative and successful waste reduction program, St. Albert won the 2012 Municipal R's of Excellence award from the Recycling Council of Alberta.

To achieve Zero Waste, both residents and businesses in St. Albert must continue to reduce our solid waste generation.

4. Government of Alberta, Waste Facts, (2007) 6.

Where Do We Want to Be?

Goal #5: Reduce solid waste generation

Targets:

- Reduce solid waste to 105 kg per person per year by 2020.
- Increase diversion rate to 75 per cent by 2020.

How Will We Reach Our Targets?

5.1 Alberta Capital Region Integrated Waste Management Plan

An analysis of the existing waste systems within the Alberta Capital Region was completed in order to determine key aspects that need to be addressed in the establishment of a regional solid waste management system. This resulted in a list of programs and policies recommended to be implemented within the next five years. This unified approach to waste minimization will create efficiencies for St. Albert and the entire region as a whole.

5.2 Solid Waste Management System Review

In 2008, the City of St. Albert conducted the Solid Waste Management Systems Review (SWMSR). Many of the recommendations from that report have already been implemented. For St. Albert to retain its position as a leader in waste reduction and diversion, it is important to continue to reduce the production of solid waste. As households produce less solid waste to meet the new waste diversion target, the City intends to utilize the existing waste program and increase communication material to residents to encourage waste minimization and diversion. The City will also continue to provide opportunities and programs outlined in the report which include:

- **Increasing Organic Collection Services –** The City will begin to introduce more organic collection options at City facilities as well as community events (such as the Farmer's Market). The City will also introduce curbside organics for all elementary schools in St. Albert, which will further integrate the program within the community.
- **Commercial Recycling and Organic Collection –** Although the City does not currently require commercial businesses to adopt waste minimization programs, the City will develop programs to communicate and promote the benefits of waste minimization directly to the business community.
- **Construction and Demolition (C & D) waste –** Through regional partnerships and increased communication, the City will promote the responsible disposal of construction and waste materials from residents and businesses.
- **Review Existing Systems –** The City will continue to evaluate existing waste program services as a result of developing opportunities such as large item pickup, compost giveaway, frequency of pickup, and expand services at the Recycling Depot.



5.3 Hazardous Sites and Materials Clean-up

In 2013, the Environment and Sustainability branch conducted a review to determine which city-owned properties might be contaminated. The review identified six properties that do not have adequate data collected. Site assessments will be conducted on each property to determine the level of contamination of hazardous substances and recommend plans for clean up. At this time, complete remediation of the former landfill site and Public Works yard has been recommended. Related to this work, the City is developing a Public Works Sites Policy.

5.4 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will reduce solid waste generation. The plans include but are not limited to:

- **Local Action Plan for Energy Conservation and Reducing Greenhouse Gas Emissions (2012) –** Initiatives include the development of a sustainable procurement policy which will guide purchasing decisions of products, services and contractors for all City departments to reduce waste and GHG emissions. Refer to discussion in Goal #2.

5.5 Community education and incentive initiatives

The City of St. Albert will only be successful at reducing solid waste generation with the participation of the community. It is important that the community be directly involved. Through education and incentive programs, both individuals and businesses will take on increased personal responsibility for the reduction of solid waste.

In the fall of 2014 organic waste collection will begin at elementary schools, which will remove more organics from the solid waste stream, but also provide an opportunity for educating school students about organic waste.

In addition, the City offers several successful community programs including:

- **A-Z Waste Guide –** One of several educational tools for residents to use to learn how to properly dispose of waste and recycling.
- **Take It or Leave It –** An annual event to give residents a chance to unload items and to pick up items that they may want.
- **Large Item Event –** An annual event for residents to dispose of oversized or hard to get rid of household items.
- **Compost Pick Up –** Each spring and fall, compost is made available for residents to pick up at the Recycling Depot.
- **Hazardous waste collection –** Household hazardous waste can be disposed of at the Recycling Depot.
- **Christmas Tree pick-up program –** Each January the City will pick up Christmas trees to ensure that they are composted and not landfilled.
- **Leaf Pickup –** Each fall the City offers both a curbside pick up service and a drop off service at the Recycling Depot.
- **City Wide Clean-up/Clean and Green RiverFest –** An annual volunteer-based event to clean up city streets, trails, parks and neighbourhoods, and the riverbank.
- **Shred-It Day –** An annual event for residents to safely discard sensitive documents to be recycled.

WATER

OUR VISION

In the year 2020, the Sturgeon River and its entire watershed are showing healthy and sustainable improvements. The water is clear and free of pollutants and sustains a healthy population of plants and animals. The residents of St. Albert appreciate the Sturgeon River and its riparian areas for their natural beauty and the aquatic biodiversity and habitat that they support, as well as the services it provides to us such as recreation, irrigation and stormwater drainage. The municipal corporation and the community of St. Albert respect water resources by employing many conservation techniques to reduce the amount of potable water required for day-to-day living. The Sturgeon River Watershed partnership is successful and this regional cooperation has been the foundation of these achievements.



PROTECT AND IMPROVE THE STURGEON RIVER WATERSHED

Where Are We Now?

A watershed is a large area of land whose geological features cause the ground and surface water to flow toward a larger body of water. Everything that happens in that watershed has the potential to impact the health of the watershed and all the plants, animals and people in it. The City of St. Albert commissioned the first comprehensive study on the state of the Sturgeon River Watershed, which was published in the spring of 2012.

Prior to that study several small-scale studies existed, but there were many gaps in our knowledge about the watershed. There was no comprehensive inventory of wetland areas to help us understand the impact of the loss of wetlands on the overall watershed. There was only one riparian health study conducted on only a single body of water within the watershed. Information about surface water quality has not been collected consistently creating a gap for the evaluation of long-term effects. We have little or no understanding of the plants and bottom-dwelling animals who inhabit the watershed and are a crucial part of the ecosystem. And finally, there is limited information about the status of fish populations from only a few of the water bodies in the watershed.

The study grades the overall health of the watershed as "Fair," with insufficient data to give a grade for riparian health, wetland inventory, aquatic plants, bottom-dwelling invertebrates, and surface water quality. Nitrogen and phosphorus levels, vegetation types, and biodiversity of fish populations were all graded as "Poor." The information from this report will inform the creation of a watershed management plan.

Where Do We Want To Be?

Goal #6: Protect and improve the Sturgeon River Watershed

Targets:

- Create watershed group by 2015.
- Complete a watershed management plan by 2020.

How Will We Reach Our Targets?

6.1 Sturgeon River Watershed Partnership

The Sturgeon River Watershed partnership comprises of representatives from each of the stakeholder municipalities in the Sturgeon River Watershed: Lac Ste. Anne County, Parkland County, Sturgeon County, Westlock County, City of Spruce Grove, City of St. Albert, City of Edmonton, Town of Onoway, Town of Stony Plain, Town of Bon Accord, Town of Gibbons, Town of Morinville and Alexis 133 and Alexander 134 First Nations Reserves.

The primary responsibilities of the group will be to create a Management Plan for the Sturgeon River Watershed and collaborate on implementing the recommendations.

6.2 Recommendations from the Sturgeon River State of the Watershed Report

The key recommendation from the Sturgeon River State of the Watershed Report is the creation of a municipal Sturgeon River Watershed Group who will work in partnership with the North Saskatchewan Watershed Alliance. Other recommendations include:

- Harmonize inter-municipal planning for wetland preservation, riparian area and floodplain protection, and stormwater best management practices
- Encourage and support Sturgeon River watershed research to address data gaps
- Promote sustainable urban development such as higher density developments, improved transit systems, reduced dependence on vehicles and preservation of natural areas
- Undertake a drained wetland inventory for future restoration projects
- Identify and prioritize environmentally sensitive areas in the watershed for protection
- Implement sub-basin recommendations from North Saskatchewan Watershed Alliance Integrated Watershed Management Plan
- Promote watershed education and outreach programs such as Shoreline Cleanup, Yellow Fish Road, Cows and Fish, and Project Webfoot

6.3 Watershed Management Plan

One of the key recommendations from the Sturgeon River State of the Watershed Report is the creation of a Watershed Management Plan. The plan is intended to guide future decisions with respect to the management of the watershed and address water quality issues, ecosystem health, and land use planning. The plan also aligns with the actions and goals in the Integrated Watershed Management Plan for the North Saskatchewan River in Alberta.

6.4 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will protect and improve the Sturgeon River Watershed. As natural systems are interconnected, the initiatives focused on the natural areas in St. Albert ultimately have an effect on the watershed. The plans include but are not limited to:

- **Water Conservation, Efficiency and Productivity Plan (2012) –** Initiatives include incentives and education programs for water conservation that will benefit the entire watershed. Refer to discussion under Goal #8.
- **Integrated Pest Management Plan (2011) –** Initiatives consider pest management options that protect surface and groundwater quality and consequently the watershed. Refer to discussion under Goal #7.
- **Parks and Open Spaces Management Plan (2007) –** Initiatives include recommendations for protecting and managing the city's trees, parks and natural areas which are effective buffers for improving water quality in the watershed. Refer to discussion under Goal #4.
- **Red Willow Park Master Plan (1991) and Red Willow Park West Update (2003) –** Initiatives include conservation of environmentally sensitive and significant areas and restoration of disturbed lands and river edge.

6.5 Community education and incentive initiatives

The City of St. Albert will only be successful at protecting and improving the Sturgeon River Watershed with the participation of the community. Through education and incentive programs, both individuals and businesses will take on increased personal responsibility for the protection of the watershed by actively conserving water and participating in engagement projects such as:

- **City Wide Clean-up/Clean and Green RiverFest –** An annual volunteer-based event to clean up city streets, trails, parks and neighbourhoods, and the riverbank.
- **River Edge Enhancement Project (REEP) –** An initiative to increase native plant species and biodiversity along the river's edge.
- **Partners in Parks –** A program for individuals and groups interested in volunteering to take care of public green spaces such as a community garden or a park or natural area.
- **Naturalization projects –** A new program for schools and community groups to plant native trees and shrubs on City property.
- **Arbor Day –** a national, annual tree-planting event for Grade 1 students.
- **Good Growing Neighbours –** A campaign to encourage residents to use less pesticide in their lawn care by practicing alternate methods of pest control.
- **Weed of the Week** and **Weed Warrior Event –** Programs to educate residents about invasive species — how to identify them and what to do to remove them.
- **Yellow Fish Road –** An education program about the hazards of discarding toxic substances in the stormwater system.
- **Alberta Water Quality Awareness Day –** Promotes awareness of water quality through hands-on water testing activities.
- **Big Lake Environment Support Society Summer Nature Program –** provides the opportunity for elementary school aged kids to learn about the wildlife around Big lake and the Sturgeon River.



IMPROVE WATER QUALITY OF THE STURGEON RIVER

Where are we now?

Water quality of the Sturgeon River is of great concern. Pollution from stormwater runoff has a major impact on water quality whether it is from road sand and salt, oil and gasoline leaks from vehicles, animal waste, fertilizers and pesticides, or various types of metals and bacteria. Unlike wastewater from our homes, stormwater runoff is not treated before it enters the water system.

In 2006, the City began a water-quality monitoring program for the Sturgeon River with guidance from Alberta Environment and Sustainable Resource Development and the North Saskatchewan Watershed Alliance. The City tests water quality in approximately 10 of its stormwater ponds, eight of its stormwater outfalls and at six locations along the Sturgeon River two to four times per year to assess the impact of our urban development on the aquatic environment. The water is tested for pH levels, sediment levels, nutrients, bacteria, pesticides and metals. Currently, the overall health of the watershed is rated as "Fair."

The City and residents have been successful at reducing pesticide use below 0.5 and 0.93 kg of active ingredient respectively before its target of 2020, however pesticide use varies from year to year based on the weather and types of infestations.

The accumulation of sediments around the City's 36 stormwater outfalls was a serious concern as it impacts water habitat and the appearance of the river. There is now a 10-year plan in place to mitigate these effects and strategies include placing grit interceptors at key locations and using constructed wetlands to filter sediments and pollutants from the water before they reach the river. The St. Anne Street grit receptor collects 82 per cent of sediment greater than 75 microns.

The City cleans out all of its catch basins on a regular basis, which also collect smaller amounts of sediment, and sweeps up accumulations of winter sands and sediments from the roads each spring so they do not reach the river. This further reduces contaminants flowing to the river. At present, the City manages to capture between 50 to 80 per cent of winter road sanding materials through the spring sweeping program.

Developers are required to build large stormwater ponds that help trap and filter sediments and contaminants and commercial developments must build and maintain their own grit interceptors. New road developments, such as Ray Gibbon Drive, also have their own grit interceptors and stormwater ponds.

In 2011, St. Albert's Land Use Bylaw was amended to prohibit any residential or commercial development below the 1:100 year floodplain line to protect the riparian area. The protection of the riparian area is important because it also filters pollutants from surface water.

Where do we want to be?

Goal #7: Improve water quality of the Sturgeon River

Targets:

- Reduce nutrients, pesticides and bacteria levels detected in the Sturgeon River by 2020 as measured by future River Water Quality Index.

- Capture 75 per cent or greater of municipal winter sanding material by 2020.
- Reduce municipal pesticide use to 0.25 kg of active ingredient (ai) per hectare or lower by 2020.
- Reduce residential pesticide use to 0.5 kg of active ingredient (ai) per hectare or lower by 2020.

How will we reach our targets?

7.1 Sturgeon River floodplain and riparian habitat protection

The Sturgeon River floodplain and riparian habitats will continue to be protected through the planning and development process with the amendment of the Land Use Bylaw to prohibit development in the 1:100 year floodplain.

7.2 Stormwater management

Stormwater brings many pollutants into the river including toxic substances, such as gas and oil from vehicles, to nutrients, such as fertilizers, to particulates, from road sanding in winter. The following stormwater management strategies will reduce the amount of these substances entering the river:

- Continue the catch basin cleaning program and increase spring road sand removal to continuously improve the percentage recovery of sand and grit applied to our streets in winter
- Complete outfall retrofits such as the one at the Children's Bridge to reduce sediment entering the river system

7.3 Erosion control projects

Erosion from stormwater flow in the Grandin and Forest Lawn ravines is a serious problem. This leads to increased sediment entering the outfalls and potentially overwhelming the grit receptors. Erosion control strategies are necessary in these ravines to reduce sediment flowing into the grit receptors.

7.4 Biodiversity protections and enhancement

Biodiversity is the range in variety of plant and animal life in a habitat or ecosystem and is vital to that ecosystem's success. Continuing these strategies to protect and enhance biodiversity along the Sturgeon River are essential:

- Continue the riparian biodiversity improvement of the Sturgeon River through the Red Willow Park System as initiated by the cooperative program involving the City with volunteers from the River Edge Enhancement Project (REEP).
- Design stormwater ponds to mimic natural riparian systems so that they provide more effective water quality treatment and contribute to the connectivity and biodiversity of the City's parks and natural areas.



7.5 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will protect and improve the water quality of the Sturgeon River. The plans include but are not limited to:

- **Integrated Pest Management Plan (2011) –** Initiatives include continuing the practice of using the lowest impact pesticides possible when application is required on City property, controlling restricted and noxious weeds, reducing overall pesticide use, and promoting public education and encouraging residents to use environmentally friendly or alternative methods of pest control.
- **Sturgeon River State of the Watershed Report (2012) –** Initiatives focus on planning and development issues, watershed research and education and outreach programs. Refer to discussion under Goal #6.
- **Water Conservation, Efficiency** and **Productivity Plan (2012) –** Initiatives include encouraging residents to use less water on lawns and in gardens to reduce runoff into the Sturgeon River. Refer to discussion under Goal #8.
- **Tourism Master Plan (2007) –** Initiatives include improving the health of the Sturgeon River to enhance the potential as a tourist destination.

7.6 Community education and incentive initiatives

The City of St. Albert will only be successful at improving the water quality of the Sturgeon River with the participation of the community. It is important that the community be directly involved. Through education and incentive programs, both individuals and businesses will take on increased personal responsibility for the improvement of water quality.

There are several successful education and engagement programs in St. Albert including:

- **Good Growing Neighbours –** A campaign to encourage residents to use less pesticide in their lawn care by practicing alternate methods of pest control.
- **Weed of the Week** and **Weed Warrior Event –** Programs to educate residents about invasive species — how to identify them and what to do to remove them.
- **River Edge Enhancement Program –** An initiative to increase native plant species and biodiversity along the river's edge.
- **Yellow Fish Road –** An education program about the hazards of discarding toxic substances in the stormwater system.
- **Alberta Water Quality Awareness Day –** Promotes awareness of water quality through hands-on water testing activities.

Other education initiatives include:

- Working with Ducks Unlimited Canada and the Province to develop education activities and signage for the John E. Poole Wetland.
- Working with City School Boards, teachers and students to develop curriculum-support packages and resource materials for the study of the Sturgeon River and other aquatic environments such as stormwater ponds, Big Lake, Riel Wetlands, Grandin Pond, Lacombe Park Lake, and John E. Poole Wetland.

REDUCE WATER CONSUMPTION

Where Are We Now?

Canada, and particularly northern Alberta, is blessed with an abundance of water. But this abundance is misleading; less than one per cent of the world's water is potable. Climate change models for Alberta predict a drier climate in this region in the next 50 years due to changes in precipitation patterns. We must carefully conserve our water supply for both the quality and quantity. Communities downstream are affected by water use upstream. If we take more than our fair share here, there is less water available downstream. Additionally, water treatment processes for both potable supplies and wastewater are costly and energy intensive. The demand for water will grow as the population of the Capital Region grows.

Over 75 per cent of water use in St. Albert is in the residential sector. This means the responsibility for water conservation is largely up to individual households. St. Albert's water education programs are having a positive effect. Water consumption continues to decrease. Even as the City's population has increased over the last several years, total water consumption has steadily gone down. Water use in 2013 was 252 litres per person per day.

This is encouraging, but we can do better. Water conservation research suggests that a typical Canadian household of four people in a single-family dwelling could reduce their water consumption to as low as 150 litres per person per day through the use of water-efficient fixtures and appliances and reducing or eliminating their lawn and garden water use.

Installing water-efficient appliances is an important step towards conservation. Through the 2012 Toilet Rebate program, offered in partnership with C3, the City offered rebates to 453 residents who purchased water-efficient toilets.

A large proportion of the potable water households regularly use is for services that do not require high quality, chlorinated water. A good example of this is water used for lawn and garden watering. The City of St. Albert has been offering rain barrels at a reduced cost to residents since 2006 and has sold over 3,500 since the program's inception.

Where Do We Want to Be?

Goal #8: Reduce water consumption

Targets:

- Reduce total consumption to 200 litres per person per day by 2020.

How Will We Reach Our Targets?

8.1 Water Conservation, Efficiency and Productivity Plan (Water CEP Plan)

The Water CEP Plan addresses a number of challenges affecting the supply and treatment of water in St. Albert. As our population grows, demand will also grow stretching our resources. The Water CEP Plan makes recommendations for planning and development, incentives, and education programs that will help us meet water conservation goals.

- **Water Conservation Bylaw –** The Bylaw will require all new developments and retrofits to use only water-efficient fixtures and appliances.
- **Water Conservation stepped rates –** Stepped rates will encourage residents to conserve water by rewarding consumers who use less water with lower rates. Households that consume high water volumes will pay a premium for water.
- **Spatial Water Consumption Analysis and Benchmarking –** Analysis will determine average household water use by neighbourhood to develop targeted education and outreach initiatives for high water users.
- **Water conservation education –** School-based water conservation programming will educate students about the need for water conservation.

8.2 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will reduce water consumption. The plans include but are not limited to:

- **Local Action Plan for Energy Conservation and Greenhouse Gas Emissions (2013) –** Initiatives include Corporate Green Building Policy that includes minimum water performance for new City buildings and incorporating water saving options as part of the energy-efficiency audits and benchmarking to identify cost-effective retrofits for existing buildings. Refer to discussion under Goal #2.

8.3 Community education and incentive initiatives

Since many water conservation practices occur, and can be modified, at the scale of the individual, encouraging community water conservation is well served by public awareness initiatives and incentives. These include:

- Continuing with the summer and winter water conservation campaigns that focus, respectively, on 'One inch a week keeps your lawn at its peak' and detecting and repairing leaks in toilets. Other education campaigns that will be implemented will focus on the appropriate time of day to water, types of irrigation, xeriscaping, shower timers, and toilet dams
- Continuing to promote the use of rainwater for lawn and garden irrigation through the annual sale of rain barrels at wholesale costs
- Demonstrating xeriscape (water-efficient landscape) techniques at Botanic Park and City facilities
- Participating in the province-wide, municipal-based rebate program through C3 (formerly Climate Change Central). This program offers rebates on energy- and water-efficient fixtures or appliances such as furnaces, water heaters or washing machines
- Exploring alternate incentives with retail outlets to promote water savings in the home such as rain barrels or a low-flow kit including a low-flow showerhead, a rain gauge, and faucet aerators
- Providing support for local educational resource development related to water use by humans that is linked to the provincial curriculum



PEOPLE

OUR VISION

In the year 2020, the residents of St. Albert take ownership of the environment and are actively engaged in environmental stewardship as part of their daily lives. There is a culture of thinking and living green that permeates all aspects of life. Residents, businesses and community groups who lead by example are recognized for their contribution to a sustainably operating 21st century city. The Environmental Initiatives Grant Program has funded at least one project in every neighbourhood in the city. Every school has an active environment club that coordinates projects and events to raise awareness in their school. The majority of residents use a rain barrel, a backyard composter and grasscycle and have nearly eliminated the use of pesticides. The community regularly celebrates environmental successes together.



FOSTER COMMUNITY ENVIRONMENTAL STEWARDSHIP

Where Are We Now?

Education and community engagement is central to our ability to successfully meet the goals and targets of the EMP. St. Albert has a high rate of volunteer engagement and community participation in the various programs and educational initiatives it offers. Spruce Up St. Albert is an annual campaign encompassing a number of events from spring until fall. In 2013, the Clean and Green RiverFest saw the participation of over 271 people plus 494 Grade 1 students participated in tree planting and other activities on Arbor Day. Other events include natural area clean ups, schoolyard clean ups, Partners in Parks and the City-Wide Clean Up.

Some initiatives encourage residents to focus on their home or property. Cultivating Front Yards is an awards program to recognize homeowners and businesses who beautify their front yards. Weed of the Week and Weed Warrior are education programs to help residents identify invasive plants and remove them effectively without little or no herbicide.

The Environmental Initiatives Grant Program has helped fund a number of important resident-led projects in the City. Projects have ranged from the installation of solar panels on the St. Albert United Church to J.J. Nearing School's environmental club organizing an organics collection in their school to reduce solid waste, to a citizen-science project at St. Albert Catholic High School where grade 11 biology students use digital probes to collect and share data about the health of the Sturgeon River.

Where Do We Want to Be?

Goal #9: Foster community environmental stewardship

Targets:

- Grow participation in the Clean and Green RiverFest, Arbor Day and Naturalization projects to 1000 participants or more by 2020.
- Allocate funding to a total of 150 Environmental Initiatives Grant applications by 2020.
- Develop one or more new community and/or interdepartmental partnerships each year by 2020.

How Will We Reach Our Targets?

9.1 Environmental Initiatives Grant Program

The Environmental Initiatives Grant Program engages and supports the community by funding appropriate environmental projects. The projects are organized by community groups or schools who have an idea for an environmentally focused project that would benefit the community. Grants are awarded on an annual basis each fall. Since 2007, the City has allocated an average of 11 grants each year. If this rate continues we will reach our target by 2020.

9.2 Regional and interdepartmental partnerships

Systems are all interconnected whether it is the environment around us, or departments within our own City. Our decisions and actions affect those around us and, in turn, their decisions and actions affect us too. Cooperation is essential for success and the following strategies will ensure that success:

- Maintain ongoing regional partnerships that benefit the natural environment such as Capital Region Sustainability Group and North Saskatchewan Watershed Alliance.
- Maintain ongoing interdepartmental partnerships and seek synergies among Environment and Sustainability projects and other department projects.

9.3 Initiatives from other St. Albert plans

Many of the objectives within the City's plans will foster community environmental stewardship. The plans include, but are not limited to:

- **Transportation Master Plan (2008, to be updated 2015) –** Initiatives include encouraging higher quality urban design to increase non-motorized travel options and strategies to increase transit ridership.
- **Water Conservation, Efficiency and Productivity Plan (2012) –** Initiatives include incentives and education programs for water conservation such as encouraging residents to reduce the use of treated water on lawns and in gardens, use water-efficient fixtures, and economic incentives to reduce overall water use.
- **Integrated Pest Management Plan (2011) –** Initiatives include promoting public education and encouraging residents to use environmentally friendly or alternative methods of pest control to protect surface and groundwater quality and consequently protect trees, parks and natural areas.
- **Local Action Plan for Energy Conservation and Reducing GHG Emissions (2012) –** Initiatives include strategies and incentives to improve water conservation and encourage use of transportation options to save energy and reduce emissions.
- **Parks and Open Spaces Management Plan (2007) –** Initiatives include opportunities for the public to be involved in design and maintenance of open spaces, and develop public awareness and education initiatives to engage residents in naturalization programs.
- **Cultural Master Plan (2012) –**Initiatives include integrating culture into citywide efforts by identifying opportunities for interdepartmental collaboration such as the artistically designed fence around the outfall adjacent to Perron Street Bridge.
- **Heritage Management Plan (2013) –** Initiatives include the education and awareness programs in the natural area portion of the heritage sites on River Lot 23 and 24. As a result of the proximity of these heritage sites to the Sturgeon River there is also an opportunity to highlight wildlife and habitat connections.

9.4 Community education and incentive initiatives

The City of St. Albert will only be successful at meeting its goals with the participation of the community. Through engagement activities, individuals and businesses learn about environmental stewardship and take on greater personal responsibility for meeting the goals of the EMP. Engagement activities include:

- Exploring various avenues to connect schools and community groups with the City's Environmental Initiatives Grant Program
- Providing recognition to schools, community groups and businesses for their green efforts and projects
- Continuing to involve youth volunteers in spring environmental programs (Arbor Day, Clean and Green RiverFest, Garbage Can Contest)
- Continuing to promote and engage students through school visits and classroom presentations
- Seeking input and participation from all members of the community and the corporation in projects and plans
- Using various media tools to reach the public through an "open door" philosophy

ENVIRONMENTAL MASTER PLAN

HIGH LEVEL ACTION PLAN

The following is a tentative action plan and will depend on department resources and funding.

GOAL 1: **MANAGE AIR QUALITY**

Targets:

- Establish baseline of St. Albert's air quality by 2020.
- Maintain air quality below Level 2 triggers (nitrogen dioxide, sulphur dioxide, fine particulate matter, and ozone) as outlined in the Capital Region Air Quality Management Framework completed by Alberta Environment and Sustainable Resource Development.

Ongoing/existing initiatives:

- ✓ Member of Alberta Capital Airshed (ACA)
- ✓ Promote an Idle-Free St. Albert with seasonal awareness and education campaigns

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Establish an air quality monitoring station								M, O, C	$	Existing budget
Start collecting air quality baseline data								M, O	$	Existing budget
Share Alberta Air Quality Health Index (AQHI) on City website								M, O	$	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 2: **REDUCE ENERGY CONSUMPTION AND GREENHOUSE GAS EMISSIONS**

Targets:

- Achieve 20 per cent reduction of total corporate greenhouse gas emissions from 2008 levels by 2020.
- Achieve six per cent reduction of total community greenhouse gas emissions from 2008 levels by 2020.

Ongoing/existing initiatives:

- ✓ Partners for Climate Protection member
- ✓ Implement community design strategies to encourage compact, mixed use, transit-oriented neighbourhoods
- ✓ Ensure City vehicles are maintained to ensure peak operating efficiency
- ✓ Review timing and usage settings for street lights
- ✓ Traffic light signal improvements
- ✓ Develop green procurement policy
- ✓ Advance water demand management programs
- ✓ Regional planning with neighbouring communities through the Capital Region Board
- ✓ Encourage employers to locate to St. Albert
- ✓ Upgrade municipal-owned lights to energy-efficient ballasts and bulbs
- ✓ Remove barriers to developing compact, mixed use, transit-oriented neighbourhoods
- ✓ Work with others to engage the provincial government regarding energy-efficient standards for buildings and policies that shift the make-up of Alberta's electricity grid
- ✓ Clean Air Day
- ✓ Universal Transit Pass
- ✓ Carpool Month
- ✓ Earth Hour
- ✓ Idle Free Bylaw and education

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Develop a Green Building Policy for new City facilities	■	■						M	$	Existing budget
Complete energy-efficient benchmarking and management systems for existing City facilities	■	■						M	$	Existing budget
Pilot a corporate behaviour change campaign					■	■		M	$	Existing budget
Re-investigate fuel alternatives for City fleet vehicles	■	■	■	■				M	$	Existing budget
Develop City fleet fuel management strategy			■					M	$	Potential Future Business Case
Investigate opportunities to pilot new technologies for street lights	■	■	■					M, O	$	Potential Future Business Case
Complete recommendations from the energy audit of the water and wastewater distribution facilities		■	■					M, O	$	Potential Future Business Case

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 2: CONTINUED

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Investigate opportunities for renewable energy generation in City buildings					■	■	■	M	$	Existing budget
Investigate feasibility of purchasing green power in City facilities		■						M	$$	Potential Future Business Case
Conduct energy audits for existing City buildings	■	■	■					M	$$	Future business case
Explore options for introducing a consumer feedback system		■	■	■				M, C, O	$$$	Existing budget
Provide incentives for home retrofits and energy-efficient equipment/buildings for homeowners and large facilities					■	■	■	M, C	$$	Future business case
Investigate energy management training workshops					■	■	■	M, C, O	$	Existing budget
Investigate a bylaw requiring energy-efficient standards for new buildings							■	M, C, O	$	Existing budget
Investigate distributed energy in new neighbourhoods (incentives, bylaw)					■	■	■	M, C, O	$	Existing budget
Investigate incentives and disincentives for efficient vehicles or alternative fuels					■	■	■	M, C, O	$	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 3: PROMOTE SUSTAINABLE NEIGHBOURHOODS AND TRANSPORTATION CHOICES

Targets:

- Achieve a minimum density of 30-45 dwelling units per net residential hectare for new neighbourhoods.
- Achieve a minimum of 30 per cent for medium- and/or high-density residential units for new neighbourhoods.
- Increase transit ridership equal to or greater than the overall rate of population growth of St. Albert.

Ongoing/existing initiatives:

- ✓ Continue to apply the principles for planning from the Capital Region Growth Plan
- ✓ Implement Downtown Areas Redevelopment Plan
- ✓ Transit Long Term Department Plan
- ✓ Light Rail Transit (LRT) Functional Alignment Study
- ✓ Campbell Park and Ride

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Develop SMART City Master Plan								M, C, O	$	Existing budget
Update Transportation Master Plan								M, C	$	Existing budget
Update Utility Master Plan								M	$ $ $	Existing budget
Update Municipal Development Plan								M	$ $	Future business case

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 4: **PRESERVE AND MANAGE TREES, PARKS AND NATURAL AREAS**

Targets:

- Measure existing tree canopy cover and set future targets.
- Protect top three priority natural areas in the undeveloped areas of St. Albert.

Ongoing/existing initiatives:

- ✓ Regulatory tools such as the Land Use Bylaw, development guidelines and enforcement of existing regulations
- ✓ High resolution aerial photos of the City and surrounding areas taken every five years
- ✓ Continue to develop corporate GIS system
- ✓ Follow principles and guidelines outlined in the Integrated Pest Management Plan
- ✓ Continue with regional partnerships (North Saskatchewan Watershed Alliance, Big Lake Environment Support Society, etc)
- ✓ Spruce Up St. Albert
- ✓ River Edge Enhancement Project
- ✓ Partners in Parks
- ✓ Clean and Green RiverFest
- ✓ Naturalization projects
- ✓ Arbor Day
- ✓ Cultivating Front Yards

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Complete an analysis of tree canopy cover								M	$	Existing budget
Develop Grey Nuns White Spruce Park Management Plan								M, C	$	Existing budget
Complete Urban Forestry Policy and Plan								M	$	Existing budget
Complete Natural Areas Assessment								M	$ $ $	Existing budget
Complete Red Willow Park West Master Plan								M	$ $	Future business case

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 5: **REDUCE SOLID WASTE GENERATION**

Targets:

- Reduce solid waste to 105 kg per person per year by 2020.
- Increase diversion rate to 75 per cent by 2020.

Ongoing/existing initiatives:

- ✓ Implement Alberta Capital Region Integrated Waste Management Plan
- ✓ Review existing systems and investigate new opportunities
- ✓ Take It or Leave It
- ✓ Large Item Event
- ✓ Compost Pickup
- ✓ Hazardous waste collection
- ✓ Christmas tree pickup program
- ✓ Leaf pickup
- ✓ City Wide Clean-up
- ✓ Shred-It Day

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Expand organics collection to City facilities, events and elementary schools								M, O	$	Existing budget & Future business case
Investigate commercial recycling and organics collection								M, O	$ $	Future business case
Develop waste program policy								M	$	Existing budget
Complete contaminated sites assessment								M	$ $ $	Existing budget
Complete remediation of the Former Landfill site and Public Works Yard								M	$ $ $	Existing budget
Complete Public Works Sites Policy								M	$	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 6: **PROTECT AND IMPROVE THE STURGEON RIVER WATERSHED**

Targets:

- Create watershed group by 2015.
- Complete a watershed management plan by 2020.

Ongoing/existing initiatives:

- ✓ Continue with recommendations from the Sturgeon River State of the Watershed Report
- ✓ Promote watershed education and outreach programs

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Establish Sturgeon River Watershed Partnership								M, O	$	Existing budget
Develop Watershed Management Plan								M, C, O	$ $	Potential Grant

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000,) $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 7: **IMPROVE WATER QUALITY OF THE STURGEON RIVER**

Targets:

- Reduce nutrients, pesticides and bacteria levels detected in the Sturgeon River by 2020 as measured by future River Water Quality index.
- Capture 75 per cent or greater of municipal winter sanding material by 2020.
- Reduce municipal pesticide use to 0.25 kg of active ingredient (ai) per hectare or lower by 2020.
- Reduce residential pesticide use to 0/5 kg of active ingredient (ai) per hectare or lower by 2020.

Ongoing/existing initiatives:

- ✓ Protect riparian area and floodplain through planning and development processes
- ✓ Catch basin cleaning program and spring road sand removal
- ✓ Stormwater outfall retrofit project
- ✓ Sedmimentation erosion control projects
- ✓ Design stormwater ponds to mimic natural riparian systems
- ✓ Good Growing Neighbours campaign
- ✓ Weed of the Week and Weed Warrior event
- ✓ Yellow Fish Road Program
- ✓ Alberta Water Quality Awareness Day

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Develop River Water Quality Index for St. Albert								M, O	$	Existing budget
Work with Ducks Unlimited Canada and Province to develop education activities for John E. Poole Wetland								M, O	$	Existing budget
Develop curriculum-support packages and resource materials for the study of the Sturgeon River and other aquatic environments in St. Albert								M, O	$ $	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000), $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 8: **REDUCE WATER CONSUMPTION**

Targets:

- Reduce total water consumption to 200 litres per person per day by 2020.

Ongoing/existing initiatives:

- ✓ Summer and winter water conservation campaigns
- ✓ Rain Barrel Program
- ✓ Demonstration of xeriscape techniques at the Botanic Park

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Develop Water Conservation Bylaw								M	$	Existing budget
Investigate water conservation block rates								M	$	Existing budget
Develop Industrial, Commercial and Institutional (ICI) programs: schools								M, O	$	Existing budget
Develop ICI programs: Industrial and Commercial								M, O	$	Future business case
Complete spatial water consumption analysis and benchmarking								M	$	Existing budget
Expand winter and summer water conservation campaigns								M	$	Existing budget
Demonstrate xeriscape techniques at City facilities								M	$	Existing budget
Explore alternative incentives with retail outlets to promote water saving in the home								M, O	$	Future business case
Provide support for water use education resources linked to curriculum								M	$	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000,) $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

GOAL 9: **FOSTER COMMUNITY ENVIRONMENTAL STEWARDSHIP**

Targets:

- Grow participation in the Clean and Green RiverFest, Arbor Day and Naturalization projects to 1000 participants or more by 2020.
- Allocate funding to a total of 150 Environmental Initiative Grant applications by 2020.
- Develop one or more new community and/or interdepartmental partnerships each year by 2020.

Ongoing/existing initiatives:

- ✓ Environmental Initiatives Grant Program (EIGP)
- ✓ Ongoing regional partnerships such as Capital Region Municipal Sustainability Group and North Saskatchewan Watershed Alliance
- ✓ Interdepartmental partnerships and synergies between Environment and Sustainability and other departments
- ✓ Involve youth volunteers in environmental programs
- ✓ Promote and engage students through school visits and classroom presentations
- ✓ Seek input and participation from all members of the community and corporation in projects and plans
- ✓ Use various media tools to reach the public and public reach the City

New Initiatives	Time Frame							Roles & Resp	Costs	Funding Source
	2014	2015	2016	2017	2018	2019	2020+			
Explore alternative avenues to connect schools and community groups with the EIGP								M	$	Existing budget
Investigate opportunities to recognize schools, community groups and businesses for their green efforts								M	$	Existing budget

Costs: $ (less than $50,000), $$ (between $50,000 and $100,000,) $$$ (Over $100,000)
Roles & Responsibilities: Municipality (M), Community (C), Other NGO or government organization (O)

City of St. Albert **Environment and Sustainability**

Green by nature