LAKEVIEW VILLAGE

SUSTAINABILITY STRATEGY DRAFT

LAKEVIEW
COMMUNITY PARTNERS LIMITED

DECEMBER 2018

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Greenpark™

CCI DEVELOPMENT GROUP OF COMPANIES

BRANTHAVEN HOMES

ARGO LAND DEVELOPMENT

TABLE OF CONTENTS

Forward

As identified by a local resident at the Lakeview Village Public Consultation meeting in April 2018, ***"This can be more than one of the greatest lakefronts in the GTA".*** We couldn't agree more.

The size, location, surroundings, and history of the Lakeview Village site makes it an extremely unique property. When combined with the Vision of the LCPL Ownership and their team of creative consultants, Lakeview Village is ideally suited to become a special destination for many generations to come.

This was very important for the late Jim Tovey (former City Councilor) who's passion and vision for Lakeview was both infectious and endearing. His goal was for Lakeview to become a model sustainable development, and he insisted that features such as vacuum waste collection and renewable district energy be considered.

The Lakeview Village team shares Jim's vision for a model sustainable development. The team believes that it is important, for a project of this nature, to set the bar sufficiently high for the world to take notice but also at an achievable height for Lakeview to become an inspiration for others to follow.

The challenge thus becomes for all politicians, City staff, and stakeholders to view Lakeview Village as not just another mixed-use development seeking approvals, but rather to look at Lakeview Village as an opportunity to do something special, something not done at this scale before in Mississauga, something which will become a legacy project.

Legacy projects require that all those involved throughout the planning, design, approvals, and construction phases look at the project through a different lens. Legacy projects do not become so by taking the Vision and morphing that Vision to fit a standard set of traditional municipal design guidelines. Legacy projects become so by stakeholders working together to define the challenges, to work through the constraints, and to find creative and realistic ways to make it work while keeping the Vision intact.

Can this be achieved in Mississauga? We believe so, and this document sets the stage for the dialogue, ingenuity, and commitment that will lead us to the creation of a community that is truly special, with a unique value that will long outweigh the effort and cooperation needed along the way.

– David Scott, P.Eng.
President, The Municipal Infrastructure Group Ltd.

Figure i - Sustainable landscape features within the public realm

SUSTAINABILITY INTRODUCTION

1

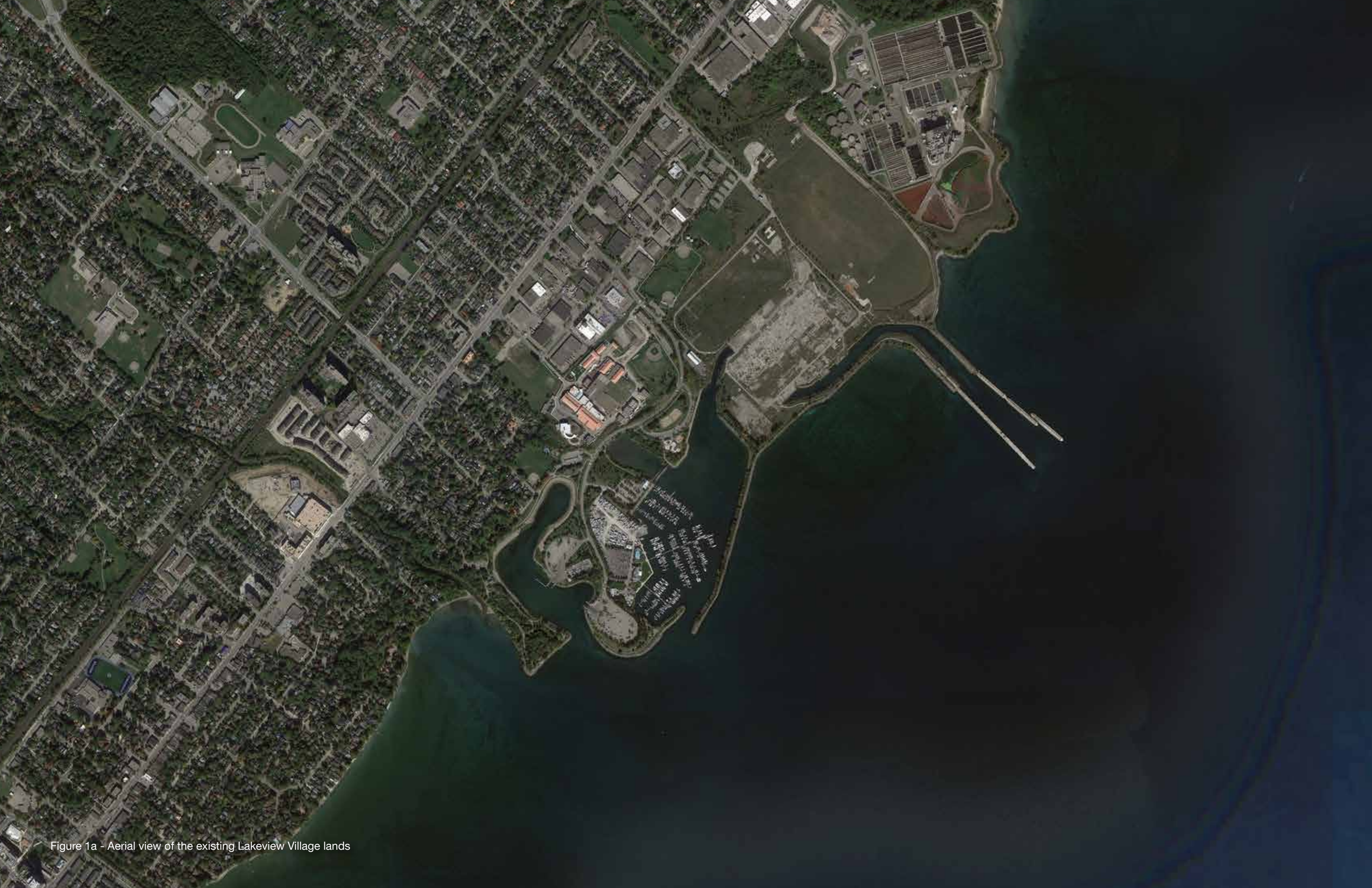


Figure 1a - Aerial view of the existing Lakeview Village lands

Sustainability Introduction

1.1 SCOPE / INTENT

This separate stand-alone Lakeview Sustainability Strategy report has been prepared by The Municipal Infrastructure Group with input from AB Consulting Inc., FVB Energy, Glen Schnarr & Assoc. Inc., McMurray Environmental, Buildability, and Re-Imagining Cities Foundation.

The Lakeview Sustainability Strategy report provides a detailed commentary on the sustainable opportunities and possibilities for this project as well it looks at the financial impact of this strategy on the City of Mississauga, and it provides a roadmap to ensure implementation of the strategy is achieved. This study focuses on adding value and economics to the Lakeview Village project by targeting sustainable issues such as energy, water, environment and human well-being.

It should be noted that everything discussed in this first draft report should be considered as a preliminary starting point which needs to be further tested prior to finalization.

Our Vision for the Future

Mississauga will inspire the world as a dynamic and beautiful global city for creativity and innovation, with vibrant, safe and connected communities; where we celebrate the rich diversity of our cultures, our historic villages, Lake Ontario and the Credit River valley.
A place where people choose to be.

1.2 GUIDING PRINCIPLES

The following documents provided the foundation for the Lakeview Village Sustainability Strategy and provided guidance in the selection of the Lakeview Sustainability Framework structure:

move
belong
connect
prosper
green

strategicplan
Our Future Mississauga

Strategic Plan: Our Future Mississauga

In 2007, Mississauga Council initiated a conversation called Our Future Mississauga which became the City's most comprehensive public engagement process to-date, connecting over 100,000 people. This conversation culminated in a report released in 2009 entitled Strategic Plan: Our Future Mississauga. In this strategic planning document, the City shared their Vision Statement which states:

This Vision Statement was supported by five Strategic Pillars for Change, namely, MOVE, BELONG, CONNECT, PROSPER, and GREEN. These five Strategic Pillars for Change have their own unique direction statement and principle, along with specific strategic goals to ensure that the City's Vision is achieved. These Pillars are summarized in the following table:

The Strategic Pillars for Change

Developing a Transit-Oriented City	**Direction –** Our Future Mississauga is a city where people can get around without an automobile, and where transit will directly influence and shape the form of the city. Transit will be a desirable choice that connects people to destinations, and will underpin an environmentally responsible, inclusive, vibrant and successful city. **Principle –** Mississauga is a city that values clean air and healthy lifestyles through the promotion of transit as a preferred, affordable and accessible choice.
Ensuring Youth, Older Adults and New Immigrants Thrive	**Direction –** Our Future Mississauga is a city where people can spend their entire lives - where teenagers want to be, where young professionals choose to locate, where immigrants are welcomed and their cultures become a visible part of the city's fabric; and where people can age in place gracefully. **Principle –** Mississauga is a city that thrives on its social and cultural diversity.
Completing our Neighbourhoods	**Direction –** Our Future Mississauga is a beautiful, sustainable city with safe neighbourhoods that support a strong, connected and vibrant community - a place where all can live, work and prosper. People can play as a child, walk to meet a friend, fall in love, raise a family and grow old. **Principle –** Mississauga is a city that nurtures a unique quality of life within each neighbourhood, where residents value the beauty and variety of the natural environment, engage in active transportation and support a rich, healthy and prosperous social and cultural mosaic through all stages of the life cycle.
Cultivating Creative and Innovative Businesses	**Direction –** Our Future Mississauga is a global hub of creative and innovative activity where talent and business thrive. **Principle –** Mississauga is a city that values a strong global business future, fostering a prosperous and sustainable economy that attracts and grows talent.
Living Green	**Direction –** Our Future Mississauga is a city that co-exists in harmony with its ecosystems, where natural areas are enhanced, forests and valleys are protected, the waterfront connects people to Lake Ontario, and communities are nurtured so that future generations enjoy a clean, healthy lifestyle. **Principle –** Mississauga is a city that values its shared responsibility to leave a legacy of a clean and healthy natural environment.

Figure 1.2 - The City of Mississauga's Strategic Plan's 'The Strategic Pillars for Change'

Within the Strategic Plan, each Strategic Pillar for Change is connected to specific action items which propels the plan forward. These action items are outlined in the City's complementary Action Plan document that identifies targets, actions, and funding options for each Strategic Pillar for Change.

Living Green Master Plan

In 2012, the City of Mississauga released the City's first environmental master plan. This plan was built on the 2009 Strategic Plan: Our Future Mississauga vision of a clean and healthy natural environment with healthy people, clean air and water, all in a sustainable energy-efficient urban form.

The Living Green Master Plan (LGMP) identified the actions that the City will take to address its environmental challenges and goals for the following 10-year period. These goals are:

1. ***Implement the Strategic Plan Vision***
2. ***Choose Priorities and Allocate Resources***
3. ***Support Better Integration Among City Departments***
4. ***Develop Baseline Information, Targets and Indicators to Measure Success***
5. ***Provide Education, Public Awareness to Help Residents Live Green***
6. ***Foster Partnerships and Collaboration***

Through this Living Green Master Plan, it was determined that of the five Strategic Pillars for Change, as identified in the Strategic Plan: Our Future Mississauga, MOVE, CONNECT, and GREEN are the most relevant to the LGMP.

The objectives of these three Strategic Pillars, as they relate to the LGMP are:

MOVE – Developing a transit-oriented city by:

- Reducing private automobile use and developing compact mixed-use development;
- Building a reliable and convenient transit system that is frequent, clean, safe, reliable, and convenient and within walking distance of every home; and
- Adding capacity through strategic investment in transit, streets and active mobility options.

CONNECT – Completing neighbourhoods by:

- Developing walkable, connected neighbourhoods that give residents the ability to engage safely in all aspects of their everyday lives; and
- Providing transportation mobility choices.

GREEN – Living green by:

- Promoting technologies and tactics to conserve energy and water, reduce emissions and waste, improve air quality, and protect the natural environment;
- Conserving, enhancing, and connecting natural environments; and
- Promoting a green culture by changing behaviours to minimize the impact on the environment and contributing to reversing climate change.

Figure 1.2 - City of Mississauga Living Green Master Plan, January 2012

1.3 PROPOSED SUSTAINABILITY GOALS

The following are the proposed Sustainability Goals for Lakeview Village:

- To become the City of Mississauga's first Master Planned Net Zero Energy Ready Community and strive to become a Net Zero Energy Community. In addition, this will assist in meeting the Government of Canada's goal "under the Paris Agreement, Canada has committed to reducing Greenhouse Gas (GHG) emissions by 30% below 2005 levels by 2030."

- To provide Climate Change leadership by minimizing Lakeview Village's dependence on fossil fuels.

- To support the City of Mississauga's Strategic Pillars for Change as outlined in the Strategic Plan: Our Future Mississauga (2009) and the City's Living Green Master Plan (2012) by establishing a sustainability strategy which builds upon the MOVE, CONNECT, and GREEN pillars.

- To support the City of Mississauga's Smart City Strategy by working closely with the City to implement key initiatives.

- To support the Region of Peel's goal of 75% diversion of solid waste by 2034 through an efficient waste management strategy which strives towards Net Zero Waste.

- To reduce consumption and to promote reuse of water (domestic, stormwater).

- To make walking, cycling, and transit the preferred transportation option within the Lakeview Village.

- To optimize the people experience within Lakeview (relaxed experience).
  - Walkable community
  - Access to nature
  - Effective Public Realm spaces
  - Indoor and outdoor thermal comfort
  - Indoor and outdoor air quality

- To set the bar sufficiently high for Lakeview to become an inspiration for others to follow.

1.4 PROJECT CONTEXT

Lakeview Village will be located on the former 177-acre site of the Lakeview Generating Station, a coal fired power plant that operated from 1962 to 2005. Following the closure of the plant and eventual decommissioning of the site, Ontario Power Generation (OPG) and the City of Mississauga began to explore options for repurposing the land to best serve the public.

The City undertook a Master Planning process (2010-2014) for the Lakeview Village lands along with the adjacent employment lands (Inspiration Lakeview) which involved significant public consultation. Following completion of the Master Plan and extensive negotiations between the OPG and the City, OPG sold the lands, through a competitive bidding process, to the Lakeview Community Partners consortium in 2018. The purchase and sale agreement for these lands includes a provision which will ensure the conveyance of 67.1 ha of the OPG lands to the City of Mississauga.

Lakeview Community Partners Ltd (LCPL), a partnership of the Greater Toronto Area's leading community builders, shares the City's vision for Lakeview Village. Both the City and LCPL recognize that Lakeview Village will breathe new life in Mississauga's waterfront, reconnecting the community though a diverse mix of residential offerings as well as institutional, cultural, office, retail, and public realm spaces.

Sustainability will be at the core of the Lakeview Village. LCPL is committed to seeing the City's achieve their goal of creating *"a model sustainable creative community on the waterfront…all built to world-leading standards for urban and green design"*.

Figure 1.4 - Lakeview Village site and local context

Figure 1b - View from Lakefront Promenade Park with the Lakeview Village site across the water

SUSTAINABILITY FRAMEWORK

2

Figure 2 - Rendering of Lakeview Square and Inspiration Park's recreation pond

Sustainability Framework

2

The structure of the Lakeview Sustainability Framework will follow the EcoDistricts Protocol (see www.ecodistricts.org) . This protocol puts a comprehensive lens on every urban regeneration decision, drives the delivery of meaningful performance outcomes, and sets the conditions for sustainable, collective impact. Above all, the EcoDistricts Protocol is designed as a flexible performance framework, rather than a prescriptive standard, recognizing that every community has the ability and need to advance a place-based sustainability agenda. Design teams tailor the Protocol to local circumstances, set performance targets based on local conditions and aspirations, and measure progress against the Protocol's Imperatives and Priorities.

The EcoDistricts Protocol provides:

a. A tool for fostering neighbourhood and district scale sustainability.

b. A rigorous certification standard which marks industry leadership and connects certified districts with a global peer-to-peer learning network pursuing continuous improvement.

The EcoDistricts Protocol is centered around three Core Elements:

3 Imperatives: Equity, Resilience, and Climate Protection

6 Priorities: Place, Prosperity, Health and Wellbeing, Connectivity, Living Infrastructure, and Resource Regeneration

3 Implementation Phases: Formulation, Roadmap, and Performance Monitoring / Reporting

2.1 IMPERATIVES

Equity – Cities that embrace equity identify and acknowledge the communities most vulnerable to change. These cities experience stronger and longer-lasting growth. District Teams must ensure that their community has the opportunity to meaningfully participate, lead, and thrive.

Resilience – Resilience is the capacity of cities to function so that all people are able to withstand the shocks and stressors they encounter. District teams must address resilience with a broad approach that prepares for social, economic, and environmental shocks and stressors.

Climate Protection – Cities are responsible for the majority of global carbon dioxide emissions, the dominant greenhouse gas contributing to climate change. District teams must build a pathway towards carbon neutrality.

2.2 PRIORITIES

Place – The goal is to create inclusive and vibrant communities that are complete in services and facilities, affordable, and accessible to all; places with identities rooted in local history and culture; and places where livability is the product of engaged stakeholders.

Prosperity – The goal is to support education and economic opportunities that build prosperity and accelerate innovation and business start-ups. Local resources and neighbor investors are used to enhance economic opportunities while improving social conditions and supporting locally owned and produced goods and services.

Health & Wellbeing – The goal is to nurture people's health and happiness. Health and safety are key contributors to a sense of wellbeing among residents and workers. Fresh healthy food contributes to better health outcomes as does active living based on walkability and recreation, and reduced exposure to toxins and pollutants.

Connectivity – The goal is to build effective connections between people and places through a street network that accommodates diverse ages and abilities by using multiple travel modes and shared mobility options, and a high-quality digital network providing equitable connectivity and leveraged community data.

Living Infrastructure – The goal is to create a community which supports indigenous flora, fauna, migratory species and pollinators; conserves and replenishes fresh water, protects and restores fertile soils, and regenerates food; connects people to nature; and employs strategies to eliminate or mitigate impacts to climate and natural hazards.

Resource Regeneration – The goal is to work towards net positive energy, water, and waste where energy and water are conserved and protected, waste is minimized and reused, and greenhouse gas emissions are reduced.

2.3 IMPLEMENTATION

Formation – Formation focuses on shaping the necessary leadership, collaboration, and decision-making governance to support effective action through all phases of development and implementation. Formation is the key stage in exercising a district's commitment to procedural and structural equity in engagement and decision-making.

Roadmap – The Roadmap is a performance-based action plan that outlines a comprehensive set of projects and programs to create/improve a district's sustainability. The Roadmap sets performance targets and implementation milestones based on the Imperatives and Priority indicators.

Performance – Performance focuses on measuring impact and gauging a district's progress toward strategy implementation. A biennial progress report becomes the basis for measuring impact over time.

The selection of the EcoDistricts Protocol for Lakeview Village considered the City's Strategic Pillars for Change as outlined in the Strategic Plan: Our Future Mississauga document, as described above.

It was found that the Priorities for this EcoDistricts Protocol not only closely matched the City's Strategic Pillars, but it also provides an enhanced emphasis on Health and Wellbeing.

The following table summarizes the EcoDistricts Protocol and provides a correlation to the City's five Pillars for Change:

Note: Notwithstanding the use of the EcoDistricts Protocol for the Lakeview Sustainability framework, the Lakeview Sustainability team may also choose to seek LEED Certification in the future.

IMPERATIVES	EQUITY		RESILIENCE		CLIMATE PROTECTION	
PRIORITIES	PLACE	PROSPERITY	HEALTH + WELLBEING	CONNECTIVITY	LIVING INFRASTRUCTURE	RESOURCE REGENERATION
OBJECTIVE CATEGORIES	Engagement + Inclusion Culture + Identity Public Spaces Housing	Access to Opportunity Economic Development Innovation	Active Living Health Safety Food Systems	Street Network Mobility Digital Network	Natural Features Ecosystem Health Connection with Nature	Air Water Waste
IMPLEMENTATION	FORMATION		ROADMAP		PERFORMANCE	
OUR FUTURE MISSISSAUGA	BELONG	PROSPER		CONNECT	GREEN	GREEN
		BELONG		MOVE		

SUSTAINABILITY STRATEGY

OVERVIEW

3

Figure 3 - View of the Lakeview Village site and the two piers

Sustainability Strategy - Overview

3

Utilizing the **EcoDistricts Protocol** described above, the Lakeview Sustainability Strategy is outlined below:

3.1 PLACE

The goal is to create an attractive, inclusive, and vibrant community which is complete in services and facilities, and accessible to all; a place with identities rooted in local history and culture; and a place where livability is the product of engaged stakeholders.

This will be achieved through a focus on:

- Public Spaces
  - High quality, engaging, and active public spaces.
  - Mixture of destinations and programming opportunities.
  - Spaces which are accessible to all.
  - Connecting people to the lake, the Lakefront Trail system, and to local ecology.
- Culture and Identity
  - Historic and culturally significant places are preserved and celebrated through public art and other programmed spaces.
  - Building social capital for Lakeview's residents and workers through Community Programming.
- Diverse and Affordable Housing
  - Housing which is close to amenities that offer a complete set of daily needs.
  - A diverse mix of housing types which will attract a diverse mix of residents with varying levels of affordability.

Figure 3.1a - Vibrant community with a mixture of destinations

Figure 3.1b - High quality and engaging public spaces accessible to all

Figure 3.1c - Significant places preserved and celebrated through public art

Figure 3.1d - A diverse mix of housing types

3.2 PROSPERITY

The goal is to support education and economic opportunities that build prosperity and accelerate innovation and business start-ups. Local resources and neighbor investors are used to enhance economic opportunities while improving social conditions and supporting locally owned and produced goods and services.

This will be achieved through a focus on:

- Economic Development
  - Creation of new employment opportunities which presently do not exist on these lands.
  - Diversity of employment within the retail, office, institutional, and restaurant land uses, providing opportunities for local business startups.
  - Attract quality high-tech employment opportunities within the Serson Innovation Corridor.
- Innovation
  - The Serson Innovation Corridor will target and attract learning / business / employment opportunities and will bring together educators, researchers, social scientists, entrepreneurs, and business experts.
  - In conjunction with Mississauga's Smart City Strategy, the Innovation Corridor is anticipated to house mobile workforce spaces called "The Hub". The Hubs are co-working facilities where people can learn, work, meet, and succeed. Hubs provide a safe, open, and inclusive space with access to high speed internet, community amenities, information, and support.
- Education
  - The Serson Innovation Corridor will target and attract higher education institutions with an emphasis on research and innovation.

Figure 3.2a - Creation of new employment opportunities


Figure 3.2b - Diversity of employment and economic opportunities


Figure 3.2c - Co-working facilities where people can learn, work, meet, and succeed

Figure 3.2d - Higher education institutions

3.3 HEALTH & WELLBEING

The goal is to nurture people's health and happiness. Health and safety are key contributors to a sense of wellbeing among residents and workers. Fresh healthy food contributes to better health outcomes as does active living based on high quality exterior environments, walkability, and recreation.

This will be achieved through a focus on:

- Active Living
  - High walkability level through introduction of trails, parks, and public realm open spaces throughout the community. These trails will connect locations within the community as well as to the external Waterfront Trail System and the new Jim Tovey Lakeview Conservation Area currently under construction.
  - Introduction of Lakeview Square, Waterway Common, The Marina, and Inspiration Point will create destinations which will draw residents, workers, and visitors down to the water.
  - Active transportation will be encouraged through the introduction of bike lanes and pathways as well as through shared bike facilities.
- Health
  - Healthy air and soil will be achieved through the environmental remediation of the soil remaining on site from the previous coal fired hydroelectric plant activities.
  - Healthy water will be utilized in the Waterway Common water park using stormwater and/or lakewater which has been treated to suitable levels for public contact.
  - Low Green House Gas emissions (GHG) will be encouraged and achieved through various innovative and sustainable approaches discussed in this strategy.
- Local Food Systems
  - Healthy and affordable fresh food will be available within walking distance of all residents.
  - Local food sources for both residents and local restaurants will be encouraged through the introduction of shared community gardens.

Figure 3.3a - High level of walkability throughout the community

Figure 3.3b - Destinations to draw residents, workers, and visitors down to the water

Figure 3.3c - Local food sources for residents and restaurants

Figure 3.3d - Shared community gardens

3.4 CONNECTIVITY

The goal is to build effective connections between people and places through a street network that accommodates diverse ages and abilities by using multiple travel modes and shared mobility options, and a high-quality digital network providing equitable connectivity and leveraged community data as part of the Smart City concept.

This will be achieved through a focus on:

- Street Network
  - Street network designed to accommodate all modes of transportation with a strong emphasis on pedestrian and bicycle corridors.
  - Street network designed to accommodate people with a diverse range of age and ability.
  - Connecting residents and visitors to the lake, the Lakefront Trail system, the Jim Tovey Conservation Area, and to local ecology.
- Mobility
  - Shared mobility options are to be available through shared car and shared bicycle facilities.
  - Public transit is to be extended into the heart of Lakeview Village along a route which is within walking distance of all residents and employees.
  - An electric shuttle bus service will assist residents and workers in accessing the higher order public transit on Lakeshore Road until such time when public transit is extended into the community.
- Smart City Technologies
  - Attract global talent and investors into the development of “smart sustainable future districts” to spur economic prosperity and quality of life for its citizens.
  - Broadband / Fibre Optic Network / Wi-fi to be provided throughout the community within the public realm spaces and roadways.
  - In conjunction with Mississauga’s Smart City Strategy, the Serson Innovation Corridor is anticipated to house indoor mobile workforce space called “The Hub”. The Hubs are co-working facilities where people can learn, work, meet and succeed. Hubs provide an open and inclusive space with access to high speed internet, community amenities, information and support. Hubs are a safe space to make connections and to learn.
  - In conjunction with Mississauga’s Smart City Strategy, the Waterway Common and Lakeview Square districts are to house Outdoor “Mini-Hubs” workspaces.

Figure 3.4a - Street network designed to accommodate all modes of transportation

Figure 3.4b - Connecting residents and visitors to the lake

Figure 3.4c - Shared mobility options including shared bicycle facilities

Figure 3.4d - Outdoor “mini-hubs”

3.5 LIVING INFRASTRUCTURE

The goal is to create a community which supports indigenous flora, fauna, migratory species and pollinators; conserves and replenishes fresh water, protects and restores fertile soils, and regenerates food; connects people to nature; and employs strategies to eliminate or mitigate impacts to climate and natural hazards.

This will be achieved through a focus on:

- Ecosystem Health
  - Contaminated land, from previous industrial land use, to be remediated to residential quality standards.
  - The impact of development on stormwater will be managed through various Low Impact Development (LID) measures.
  - Air quality and greenhouse gas emissions will be significantly reduced, from previous land use, through the implementation of various measures identified in this strategy.
- Connection to Nature
  - Trails, parks, and public realm open spaces throughout the community will connect people to both internal and external natural habitats including Lake Ontario, the Waterfront Trail System, and the new Jim Tovey Lakeview Conservation Area.
  - Recreational water activities such as paddle boats, kayaking, and canoeing will not only draw people to the water but to nature within and around the water features.
- Natural Features
  - The quality and function of habitats within the site will be drastically enhanced through the conversion of the site from a largely barren industrial site to a multi-use development with an integrated natural heritage system.
  - Serson Creek will be realigned and rehabilitated to provide an enhanced natural feature.
  - Indigenous tree/plant species to be incorporated into all public realm spaces.

Figure 3.4a - Creation of a community that conserves and replenishes water

Figure 3.5b - Connecting residents and visitors to nature

Figure 3.5c - Trails and parks connecting people to natural habitats

Figure 3.5d - Parks with integrated natural heritage systems

3.6 RESOURCE REGENERATION

The goal is to work towards net zero energy, water, and waste where energy and water are conserved and protected, waste is minimized and reused, and greenhouse gas emissions are reduced significantly.

This can be achieved through a focus on:

- Energy
  - Net zero energy ready building construction methodology will be incorporated throughout Lakeview providing both active and passive measures to reduce energy demand (EUI Target 100kwh/m2).
  - Recycle all energy and resource waste as much as possible before generating energy.
  - Renewable power and thermal energy are produced and distributed on site. Enough renewable energy will be planned so this development will eventually become a Net Zero Energy Community with zero GHG emissions.
- Water
  - Stormwater capture combined with sustainable storm water treatment prior to discharge to Serson Creek and Lake Ontario.
  - Stormwater re-use to be encouraged through rooftop capture and cistern storage.
  - Various Low Impact Development (LID) measures will be incorporated including:
    - Greenroofs, urban rain gardens, bioswales, tree cells, permeable pavements, etc.
- Waste
  - Efficient waste sorting and collection program to be incorporated to encourage waste reduction and diversion from landfill.
  - Existing onsite concrete slab foundations to be removed and repurposed as fill material in support of the creation of the new Jim Tovey Lakeview Conservation Area currently under construction.
  - Incorporation of a vacuum waste system to be analyzed and considered for Lakeview Village, which if implemented could reduce GHG emissions.

Figure 3.6a - Greenroofs as part of LID measures

Figure 3.6b - Net zero energy measures to reduce energy consumed

Figure 3.6c - Sustainable stormwater capture

Figure 3.6d - Bioswales as part of LID measures

Figure 3.6e - Unique permeable pavement

SUSTAINABILITY STRATEGY

DETAILS OF TECHNOLOGY / APPROACHES

4

Figure 4a - Rendering of Lakeview Village looking west

Sustainability Strategy - Details of Technology / Approaches

4

Building on the Sustainability Strategy Overview in the previous section, the following provides greater detail regarding the major approaches / technologies referenced as well it identifies what items are standard development items provided through the normal course of development and which items are considered beyond the normal course of development.

4.1 ENERGY

Lakeview Village will strive towards being a Net-Zero Energy community. This will reduce greenhouse gas emissions to below national levels for this scale and type of community development. The project will serve as an example for how a development on a community scale can possibly achieve the World Green Building Council's requirement that all building must be Net-Zero or Carbon Neutral by 2050.

This goal will be achieved through an approach comprising three components; namely:

- **Energy conservation** through efficient building design using aggressive building standards;
- **Energy distribution** through a combination of district energy heating / cooling pipes in conjunction with a Grid-Connected Microgrid;
- Efficient energy supply generated by a local **District Energy** system.

Energy Technologies / Approaches

Technology / Approach	***Performance Target***	***Standard Development Item?***	***Likelihood of Implementation in Lakeview Village?***	***Requirements for Decision on Implementation?***
Net Zero Ready Buildings	EUI Target 100kwh/m2 on average across all buildings	No	Medium	Confirmation of Economic Viability by LCPL. Draft Plan conditions to ensure implemented on building by building basis.
Grid-Connected Microgrid	Advance discussions with Alectra	No	Medium	Confirmation of Economic Viablity by Alectra
Community District Energy	Advance Business Case and RFP Process with District Energy Industry	No	Medium	Confirmation of Economic Viability by LCPL and determination of suitable funding/ownership/ operational partnerships with LCPL.
Energy Conservation	Reduction in energy usage through sub-metering strategy	No	Medium	In collaboration with Alectra and confirmation of economic viability by LCPL.

Figure 4.1 - A grid-connected microgrid network

Net Zero Energy Ready building construction methodology will be incorporated throughout Lakeview providing both active and passive measures to significantly reduce energy consumed (EUI Target 100kwh/m2 on average across the development).

A Grid-Connected Microgrid network forms a self-contained power network which combines multiple sources of power generation (District Energy, wind, solar) with battery storage. While the microgrid normally operates connected to and synchronous with the traditional macrogrid, it can also disconnect and function autonomously should power from the macrogrid be unavailable due to natural disaster or grid disturbances. A microgrid of this nature would provide Lakeview Village with a much higher level of reliability, resiliency and redundancy not currently found in communities elsewhere in Mississauga.

District Energy systems provide an energy-efficient and cost-effective option for heating and cooling many buildings from a central plant location. They typically use a network of underground pipes to pump steam / hot water / chilled water to multiple buildings. These localized heating and cooling systems require less power and avoid the need to install separate heating and cooling and hot water systems in each building. Often, DE systems are connected to combined heat and power plants (CHP), also known as cogeneration plants, which generate electricity in addition to heating and cooling.

There are over 700 DE plants operating within the US and over 130 DE plants operating within Canada.

Many different technologies can be used to generate the thermal and power energy within a District Energy system. These include Ground Source Geothermal, Surface Water Geothermal, Wastewater Heat Recovery, Energy from Waste, Solar technologies, Wind technologies, Natural Gas Cogeneration, etc.

The Lakeview Community Partners have issued a call for Expression of Interest (Request for Qualification) to the District Energy Industry which has led to the shortlisting of firms who have been invited to respond to a Request for Proposal. This RFP process will confirm the preferred DE technology, the preferred DE supplier, and will advance discussions regarding funding, ownership, and operation/maintenance arrangements. This RFP process is anticipated to be wrapped up in early 2019.

4.2 SMART TECHNOLOGIES

Smart City Technologies are being used around the world, using data, technology, and innovation to both improve existing communities and to enhance new communities. The overall goal of Smart Cities is to create more livable, workable, and sustainable communities. These smart city ideas can provide solutions which:

- Increase Operational Efficiency
- Ease Traffic Congestion
- Assist in Locating Available Parking
- Ensure Public Safety
- Protect the Environment
- Enhance Access to Services
- Improve Quality of Government Services
- Improve Quality of Life; and
- Allow People and Things to Connect Together

The City of Mississauga has already implemented many smart city initiatives including free public wi-fi, open data, hackathons, fibre-optic network, Advanced Traffic Management, LED streetlighting, mobile apps, and more.

Smart City Technologies within Lakeview Village are anticipated to fall into one of two categories; Community Based and Building Based.

4.2.1 COMMUNITY BASED SMART CITY TECHNOLOGIES

The implementation of Community Based Smart City Technologies will be driven by Lakeview's desire to support the City of Mississauga's Smart City Master Plan which is currently being developed. The City anticipates that the Smart City Master Plan will be available for circulation in February 2019.

In addition, the City's bid through the Federal Government's Smart City Challenge, identified the City's desire to develop a digital ecosystem which comprises:

- 50 co-working hubs (The Hub), anchored in the City's 23 neighborhoods, where people can work remotely, connect to a wide range of services, and connect with other people.
- 100 indoor/outdoor accessible connection kiosks (The Connection).
- 5000 digital kits (The Kit) to bridge the digital divide for citizens unable to afford system access.
- Adaptive transportation (The Ride) that helps people stay connected and move easily between communities.
- Digital Services (The Community) that provide support at the community level, such as free wi-fi, connected parks and main streets.
- Open, transparent, connected data portal (The Data) that connects the digital ecosystem providing easy access to services including The Hub, The Kits, The Connections, and The Community.

While the City was not successful in advancing through to the next stage of the Smart City Challenge, it is anticipated that a number of the initiatives identified in their Smart City Challenge bid will be incorporated into the Smart City Masterplan

Figure 4.2 - Word play indicating the solutions of Smart Technologies.

The Lakeview Village community will support Mississauga's Smart City Masterplan strategy by working with the City to implement the following Community-Based Smart City features:

1. A co-working hub is anticipated to be located within one of the office/innovation centres within the Serson Innovation Corridor. Alternatively, a co-working hub could be integrated into the public parking structure adjacent to Lakeview Square. This hub will provide an opportunity for mobile employees, who live near the hub, to work/research/collaborate in a supportive workspace.
2. A Living Lab could be created within the Innovation Corridor to permit the monitoring and data sharing around energy consumption, waste diversion rates, indoor/outdoor air quality, etc.
3. A connection kiosk (a mini-hub) installation within Lakeview Square and within the Waterway Common Precinct, both of which will connect residents to information services, providing easy and equitable access. These kiosks are anticipated to have voice first information services, interactive digital screens, free wi-fi hot spots, device charging stations, digital public art, security lighting and cameras.
4. Free wi-fi within the public realm spaces.
5. Wi-fi connected Smart LED streetlights throughout the Lakeview Village.
6. Fibre-Optic Infrastructure to enable broadband internet access to all residents and visitors.
7. Incorporation of Smart City controls to allow the brightness of the lights to be adjusted before / during / after community events, as well as the incorporation of Smart City sensors to assist visitors in finding public parking spaces or for signaling authorities if a resident/visitor is in distress.

4.2.2 SMART CITY TECHNOLOGIES / APPROACHES

Smart City Technologies / Approaches

Technology / Approach	*Performance Target*	*Standard Development Item?*	*Likelihood of Implementation in Lakeview Village?*	*Requirements for Decision on Implementation?*
Co-Working Hub for Mobile Employees	A minimum of one installation in either Innovation Corridor or Innovation Square	No	High	In Collaboration with City and private organizations Use zoning by-laws to permit use
Living Lab	Installation within Innovation Corridor	No	High	In collaboration with City and private organizations
Connection Kiosk in Public Spaces	Two installations. One in Waterway Common and one in Innovation Square	No	High	To be Implemented by the City with City funding
Free Wi-Fi in Public Spaces	Throughout Community	No	High	To be implemented by the City with City funding
Wi-Fi Connected Smart LED Streetlights	Throughout Community	Yes	High	None
Fibre-Optic Broadband Spine Infrastructure	Advance discussions with potential suppliers	No	Medium	Confirmation of interest by Supplier
Smart City sensors for Public Parking Availability Assistance	Advance discussions with City	No	Medium	To be Implemented by the City with City funding
Smart City Panic Buttons for public safety	Advance discussions with City	No	Medium	To be Implemented by the City with City funding
Smart City sensors for notification to City staff regarding full public garbage receptacles within public spaces	Advance discussions with City	No	Medium	To be Implemented by the City with City funding
Other Smart City sensors for traffic management, environmental monitoring, gunshot detection etc.	Advance discussions with City	No	Low to Medium in short term	To be Implemented by the City with City funding

Figure 4.2.2a - Connection kiosk in public spaces


Figure 4.2.2b - Smart LED / wi-fi street lights

Figure 4.2.2c - Co-working hub for mobile employees

4.2.3 SMART BUILDING TECHNOLOGIES

The implementation of Building Based Smart Technologies will be driven by Lakeview Village's desire to enhance the living and working spaces within the community. Smart building-based technologies are available which not only integrate the security system, fire protection system, and HVAC systems but they also provide:

- Building management systems which monitor energy usage and actively report this data to utilities which result in reduced costing.
- Energy consumption displays which lets all occupants know how much energy/carbon the building is using/saving.
- Advanced lighting control to ensure the right amount of light is provided and only where needed.
- For office buildings where work spaces are shared, smart technologies can direct and assign a workspace to an employee when he/she arrives, perhaps based on their personal preference regarding climate, lighting, workspace type, etc.
- For office buildings, advanced parking control may be implemented which directs the employee to a parking space hence reducing the need for employees to drive around searching for parking while creating unnecessary emissions.

Smart Building Technologies / Approaches

Technology / Approach	***Performance Target***	***Standard Development Item?***	***Likelihood of Implementation in Lakeview Village?***	***Requirements for Decision on Implementation?***
Smart Building Management System	Implementation of SBM as a minimum within the Office Buildings located in Serson Innovation Corridor Advance discussions with residential builders to promote/encourage usage	No	Medium	Confirmation of Economic Viability and interest of builders/LCPL
Free wi-fi in all buildings to provide structure for smart technologies	Implementation of SBM as a minimum within the Office Buildings located in Serson Innovation Corridor Advance discussions with residential builders to promote/encourage usage	No	Medium	Confirmation of Economic Viability and interest of builders/LCPL

4.3 WASTE MANAGEMENT

Because Lakeview Village will be a unique community with a range of unique waste producing activities, we know there is no “one size fits all” solution. Decades of experience in managing waste in the province have shown that in order to build and manage a site like Lakeview Village with a wide range of waste producing sectors in a truly sustainable fashion will require careful and strategic planning and must deliver across a broad range of metrics, including and especially financial ones.

Lakeview Village will model its waste planning and programs to achieve, at a minimum, the Region of Peel’s waste diversion goals, outlined in the Region’s 2015-2034 Strategic Plan document, which commits to achieving a 52% diversion (from landfill) target by 2019 and a longer-term goal of 75% diversion by 2034.

Effective programs, like those required for Lakeview, promote waste minimization, reuse and recycling and clearly delineate responsibility for waste transfer from the point of generation to centralized storage to point of removal and beyond to either processing for market or disposal to landfill.

If waste programs in a diverse community are to be effective, we need to be able to deliver programs that remove barriers and enhance benefits for large segments of the client community, whether they are householders, students, workers or visitors.

Potential barriers to deliver on an effective waste program include:

- ***Space:*** Unless waste management experts are consulted during the design phase, operating a cost effective, operationally efficient waste management collection program throughout the village will be difficult. Dedicated space for proper waste management is often trumped for other leasing considerations, especially in commercial and institutional settings. However, with a few strategic “tweaks” at the design phase, programs can be put in place that have a much better chance of being operationally efficient and cost effective while meeting the targeted diversion goals.
- ***Non-Recyclable Waste Streams:*** Retail and restaurant tenants will bring branded packaging and products into the village that are not designed for recyclability, such as paper coffee cups, single use drink cups of all types and polystyrene take-out food containers. These materials have the potential to contaminate the acceptable material streams; it is vital that proper and instructive signage be in place, particularly in public space, to ensure divertible material streams are kept relatively contaminant free.
- ***Cost:*** Many restaurants for example believe separating organic waste is too time consuming and expensive. Engaging potential tenants early in the process and embedding diversion expectations into lease agreements and contracts will be essential to reaching diversion goals.

Success requires that we embed our diversion goals and the operational expectations of best practices into all of our tenders and contracts; to only partner with those suppliers and service providers who demonstrate a willingness to be innovative in their approach to waste minimization and to hold our partners to account through effective auditing, reporting and other KPI’s throughout the design and development phase.

Best practices in this context are based on a source separated model where key waste classes for which stable recycling markets exist are sorted at the point of generation by householders, employees or visitors.

Best practices also dictate that our plan must be sufficiently flexible to adapt to future changes, to reflect new discoveries, innovative practices, the changing environmental landscape and evolving stakeholder preferences.

A detailed Waste Management Strategy will be prepared in support of the Plan of Subdivision, detailing best practices and approaches to be implemented into the various land-uses within Lakeview.

4.3.1 VACUUM WASTE COLLECTION TECHNOLOGIES

As an alternative to traditional waste collection methodologies, Vacuum Waste Collection is being considered for Lakeview Village.

Vacuum (pneumatic) Waste Collection technologies have been discussed in the context of Lakeview Village for many years, including through the City's development of the Inspiration Lakeview Masterplan. Vacuum Waste Collection was of particular interest to the late Jim Tovey, who was a local Councillor in the City of Mississauga and a strong proponent for the sustainable development of Lakeview Village.

Vacuum waste collection uses airflow to transport waste under the streets to a waste collection station located on the outskirts of a development. Instead of daily waste collections by multiple vehicles from various locations throughout the community, one waste collection vehicle collects a container of waste from a single location (Waste Terminal), when full, and takes the container to a recycling center, waste processing facility, or directly to landfill.

While vacuum waste collection in Lakeview would be the first of its kind in Ontario, similar installations have been successful in Quebec City, New York City, and many cities throughout Europe.

Some of the many benefits of Vacuum Waste Collection include:

- Improves recycling and other waste diversion rates
- Creates cleaner and more attractive cities, residential areas, and work environments
- Litter bins in public realm spaces are never full, eliminating bad smells and unwanted pests
- Significantly reduces the amount of garbage collection traffic and noise
- Waste Terminal can potentially incorporate a central drop off location within the community for bulk and hazardous waste
- Odours associated with conventional waste collection are significantly reduced if not eliminated
- Reduces the amount of carbon emissions created by waste collection vehicles
- Each collection cycle is quicker and requires fewer resources
- Accessible by the user 24/7

Discussions are underway between LCPL and the Region of Peel to confirm interest, capital costs, operational costs as well as potential funding/ownership/operational partnership arrangements.

Figure 4.3.1a - Diagram illustrating vacuum waste collection system and technologies

Figure 4.3.1b - Vacuum waste collection technologies

Waste Management Technologies / Approaches

Technology / Approach	***Performance Target***	***Standard Development Item?***	***Likelihood of Implementation in Lakeview Village?***	***Requirements for Decision on Implementation?***
Comprehensive Waste Management Plan Preparation and Implementation	60% residential waste diversion 75% construction waste diversion	No	High	Subject to approval of the Region of Peel and City of Mississauga
Kitchen cabinetry which provides separate storage bins for waste, organics, and recyclables	All residential units	No	High	Subject to commitments/ agreements with Builders
Vacuum Waste Collection	Advance Vacuum Waste Business Case and discussions with Region of Peel	No	Medium	Considered and analyzed but not found to be economically feasible to be driven by LCPL alone. To be implemented, the Region of Peel must be interested in ultimately owning and operating the facility.

4.4 TREATED STORMWATER AS A SOURCE FOR WATER PLAY FEATURES

At the heart of Waterway Common is a large water feature / reflecting pool which will allow residents and visitors to get up close and interact with the water. Unlike the nearby Lake Ontario, this shallow water feature will provide a destination for people of all ages to escape to, to splash around in, and to cool off in on a hot summer day. It will not be impacted by waves / tides, algae, or fish / aqua-habitat and it will be much less impacted by adverse weather conditions, than that of Lake Ontario.

Also, unlike the nearby Lake Ontario, the public will have a much higher expectation for clean, clear, safe, odour free water within this play feature. The public expectation for water quality will not be that different than that for a public swimming pool.

Traditionally, a water feature of this nature would be constructed much like a shallow swimming pool, incorporating re-circulation pumps and chlorinators to treat the water which is supplied by a municipal water source (i.e. local watermain) and ultimately discharged to a municipal sanitary sewer.

Due to the nature of the integrated Lakeview Village development, the opportunity exists for the re-use of stormwater runoff and / or lakewater as a supply of water for the Waterway Common water feature. This stormwater / lakewater would still need to be treated to ensure clean, clear, safe, odour free water within the water feature, however using treated stormwater runoff and / or lakewater would have the following additional benefits:

- Rainwater captured from rooftops and roadways would be viewed as a renewable resource as it is being re-purposed for public enjoyment within the water feature, prior to discharge to Lake Ontario.
- The need to supply this water feature from a metered municipal watermain would be eliminated.
- If Ultra-Violet (UV) treatment is used as the primary purification process, the quality of stormwater discharge to Lake Ontario will be much higher than that from traditional stormwater management methodologies.
- Opportunities may exist to incorporate a public education kiosk within Waterway Common to inform the pubic of how stormwater is being treated to provide the source of water for the play feature.

Treated Stormwater Technologies / Approaches

Technology / Approach	***Performance Target***	***Standard Development Item?***	***Likelihood of Implementation in Lakeview Village?***	***Requirements for Decision on Implementation?***
Treated Stormwater/ Lakewater as a Source for Water Play Features	98% TSS Removal Other targets as established through the Functional Servicing Report (FSR) Public Education Kiosk to be incorporated	No	Medium	Confirmation of Economic Viability by LCPL. Approval by Mississauga Public Works and Peel Region Public Health
Re-use of existing concrete chambers	Investigate for re-use as water storage	No	Medium	Confirmation of Economic Viability by LCPL. Approval by Mississauga Public Works and Peel Region Public Health

Figure 4.4a - Interactive water features for residents and visitors

Figure 4.4b - Re-use of stormwater runoff as a supply for water features

4.5 INTEGRATED LOW IMPACT DEVELOPMENT (LID) FEATURES

A comprehensive stormwater management strategy has been developed for Lakeview Village which is detailed in the Lakeview Functional Servicing Study, jointly prepared by TMIG and Urbantech. This strategy includes incorporation of several Low Impact Development (LID) measures including:

4.5.1 BIORETENTION

Bioretention is a Low Impact Development practice that is designed to provide temporary storage, filtration and infiltration of stormwater runoff. Although the physical design of a bioretention facility can vary, the construction profile generally consists of the following: a gravel storage layer, a choker layer (optional), a bioretention media layer, a mulch layer and a vegetation layer.

A critical component of any bioretention facility is its drainage system. Proper design of the drainage system will depend on the infiltration rate of existing native soils. Sites with highly permeable soils (>15mm/hr) can facilitate bioretention practices that are designed with no underdrain to provide full infiltration. Bioretention facilities designed for sites with less permeable soils (<15mm/hr) will require an underdrain for partial infiltration. In cases where contaminated soils exist or where the water table is high, an impermeable liner and underdrain can be integrated into the bioretention cell to create a facility designed for filtration only. This type of bioretention facility is also known as a biofilter.

Bioretention practices are designed to capture and treat runoff from small storm events. The maximum ponding depth after a storm event should be 150 - 250 mm with larger events handled by an overflow/ bypass. Bioretention facilities can also serve as areas for snow storage and snowmelt treatment.

The physical form of bioretention practices can vary to provide a complementary aesthetic within any street type from rural to ultra-urban contexts. Types of bioretention facilities include:

- Bioretention / Stormwater Planters;
- Bioretention Curb Extensions / Bump-outs;
- Bioretention Cells; and,
- Rain Gardens

Within Lakeview, Bioretention facilities are anticipated to be located within certain public roadways as well as public realm areas such as Lakeview Square and Waterway Common.

Figure 4.5.2a - Temporary storage of stormwater

4.5.2 BIOSWALES

Bioswales are similar to grass swales in their linear and cross-sectional surface geometry, however their subsurface profile is more reflective of a bioretention cell, with filter media and / or a storage gallery and optional underdrain (depending native soil permeability) below. Bioswales can either be planted with grasses or finished with more elaborate combinations of plant and aggregate materials. These additional components help to slow the velocity of runoff and assist in sedimentation, filtration evapotranspiration and infiltration. As a result of their bioretention profile, bioswales have the potential to be more effective at removing pollutants, reducing runoff and protecting downstream channels from erosion than grass swales. Bioswales are also referred to as dry swales or infiltration swales.

Within Lakeview Village, bioswales are anticipated to be located within the private site plan blocks as well as within the public green corridors.

Figure 4.5.2b - Bioswales to help slow the runoff of stormwater and increase stormwater filtration

4.5.3 TREES IN SOIL CELLS

Soil cell systems can be used when street trees are desirable in locations where surface areas are limited. Soil cells are rigid modular systems that increase the soil volume under paved surfaces in ultra-urban areas. Soil cells can be used under conventional concrete or unit pavers as well as under pervious interlocking concrete pavers. In addition, given their structural integrity, soil cells be used under vehicular load bearing sidewalks, parking lay-bys or cycling infrastructure to increase soil volumes.

They provide the structural integrity required to support vehicular load on paved surfaces while offering up to 92% porous space in order to accommodate tree root growth as well as underground services and utilities.

Within Lakeview, Trees in Soil Cells are anticipated to be located within certain public roadways as well as public realm areas such as Lakeview Square and Waterway Common.

Figure 4.5.3 - Trees in soil cells to increase soil volumes

4.5.4 PERMEABLE PAVEMENT

Unlike traditional impervious surfacing materials, permeable pavement allows stormwater to infiltrate through the surface into a subsurface stone reservoir rather than collecting and being conveyed as surface runoff. Stormwater is temporarily detained and, in most cases, infiltrated into the native subsoils. Similar to other infiltration-based practices, the requirement for an underdrain relates directly to the permeability of underlying native soils.

Permeable pavements are suited to several applications within streets including: Decorative Paving, Cycling Infrastructure, Parking Lay-Bys and On-street Parking areas, as well as on the surfaces of low traffic streets such as Lakeview Square and The Esplanade, as well as public realm areas such as Waterway Common.

4.5.5 RAINWATER CISTERNS

Rainwater cisterns intercept convey and store rainfall for future use. This stored rain water may be re-used for parking lot cleaning, car washing, or landscape irrigation.

The extent of rainwater capture is outlined in the separate Functional Servicing Report for Lakeview Village.

Within Lakeview, rainwater cisterns are anticipated to be installed in the lower parking structures of the mid-rise and high-rise residential buildings.

4.5.6 GREEN ROOFS

Green roofs, also referred to as vegetated roofs, living roofs, or eco roofs duplicate nature by assisting in cleaning the air, cooling down air temperature (reducing heat island effect), and assisting in the management of stormwater. Green roofs typically comprise a vegetation layer, growing medium layer, retention layer, drainage layer, and root barrier.

Green roofs are generally classified into two types; extensive green roof and intensive green roof.

"Extensive" green roofs typically feature low-growing drought-tolerant plants such as sedums and mosses. These systems are lighter in weight than intensive green roofs, as well they require less maintenance, yet they provide an effective, economical stormwater management solution.

"Intensive" green roofs typically feature a variety of plants, shrubs, and trees. These systems require a deeper and heaver sub-structure to allow for the growth of the larger sized vegetation. Intensive green roofs are also typically incorporated into a landscaped amenity space comprising walkways, decks, sitting areas, and in some cases include barbecue cooking areas.

Whether the green roof is an "extensive" green roof or an "intensive" green roof, much success has been seen incorporating green roofs on buildings within the Southern Ontario area, when these systems are appropriately designed, correctly installed, regularly inspected, and properly maintained.

Within Lakeview Village, as a minimum, "extensive" green roofs are anticipated to be installed on the mid-rise and high-rise residential buildings. "Intensive" green roofs may be implemented at the discretion of the owner / builder of individual buildings, subject to approval by the City of Mississauga.

Integrated Low Impact Development (LID) Technologies / Approaches

Technology / Approach	***Performance Target***	***Standard Development Item?***	***Likelihood of Implementation in Lakeview Village?***	***Requirements for Decision on Implementation?***
Bioretention	Part of LID treatment train to achieve 80% T.S.S. removal	No*	High	Subject to approval by City of Mississauga and CVC
Bioswales	Part of LID treatment train to achieve 80% T.S.S. removal	No*	High	Subject to approval by City of Mississauga and CVC
Trees in Soil Cells	Part of LID treatment train to achieve 80% T.S.S. removal	No*	High	Subject to approval by City of Mississauga and CVC
Permeable Pavement	Part of LID treatment train to achieve 80% T.S.S. removal	No*	High	Subject to approval by City of Mississauga and CVC
Rainwater Cisterns	All high and mid-rise buildings with targets as determined through the FSR	No	High	Subject to approval by City of Mississauga and CVC
Green Roofs	Part of LID treatment train to achieve 80% T.S.S. removal	No	High	Subject to approval by City of Mississauga and CVC

* Typically provided as part of the stormwater treatment train but individually not required to be implemented

4.6 OTHER COMMUNITY TECHNOLOGIES / FEATURES

4.6.1 WIND TURBINES

Wind studies undertaken for the Lakeview Village lands have identified that extensive wind conditions are anticipated along the western edge of Waterway Common and the Marina District. While the urban design in these areas will need to consider the impacts of wind, and mitigation measures will need to be incorporated into the building and public realm spaces, the opportunity also exists to recognize the presence of wind in this area as a renewable resource through the implementation of power generating wind turbines.

Combined with battery storage, it is anticipated that wind turbines installed at the inlet just west of Waterway Common will generate sufficient power to provide a back-up power feed for the Smart LED Streetlighting system. This feature will provide a basic level of redundancy and will assist in public safety during unplanned power outages.

The wind turbines envisioned for this area will not resemble the rural industrial wind turbines which are often opposed by the public. The Lakeview Village wind turbines will rather serve dual purposes, providing both power generation and public art. As a public art feature, the wind turbines may also pay homage to the historical power generation operation, and specifically the four emission stacks (i.e. Four Sisters), which formerly occupied the occupied the Lakeview Village lands.

4.6.2 SOLAR ROOF PANELS

Photovoltaic solar panels absorb sunlight as a source of energy to generate electricity. Most solar panels are either ground-mounted or roof-mounted and the majority of solar modules use wafer-based crystalline silicon cells while some use amorphous silicon (thin film) cells. Sunlight conversion rates for crystalline silicon cells are in the order of 20% efficiency while sunlight conversion rates for amorphous silicon cells are in the order of 10% efficiency. Since crystalline silicon cells are more efficient, they have typically been the technology of choice for rooftop installations. Thin film amorphous silicon cells are currently less efficient but more aesthetic, and hence are used in areas of higher visibility.

Within Lakeview, solar roof panels are anticipated to be installed on the roofs of the office/ institutional buildings within the Serson Innovation Corridor district. Combined with battery storage, it is anticipated that these solar roof panels will serve as a supplemental power supply for these buildings and potentially serve as a redundant back-up power feed for the potential adjacent Vacuum Waste Collection System during power outages.

4.6.3 BUILDING INTEGRATED PHOTOVOLTAIC GLASS PANELS/ FEATURES WITHIN PUBLIC REALM

Photo-voltaic Glass Panels have come a long way from what most people think of as being modular panels mounted on the top of building rooftops or being installed in the middle of open fields. Building Integrated Photo-voltaic (BIPV) Glass Panels now come in a wide array of shapes, sizes, and colors, and can be incorporated into building facades, curtain walls, sunroofs, public pavilions, public art features, canopies, etc. with the intention of creating an aesthetic integrated local energy source.

BIPV glass panels are typically produced using thin filmed amorphous silicon cells.

While the energy harnessing capabilities of these architectural glass components are not as efficient as the traditional Solar Roof Panels, the combination of power production and aesthetics makes this technology well suited as components within buildings and public realm features.

For Lakeview Village, it is anticipated that local public realm features within the Waterway Common, Lakeview Square, and the Inspiration Point will incorporate some form of solar glass panels, not only for creating local energy sources for features within the public park areas but also to pay homage to the historical power generation operation which formerly occupied the Lakeview Village lands.

A potential opportunity exists within the Waterway Common and Lakeview Square districts to integrate an architectural solar panel feature with the City's Connection Kiosk (mini-hub) described in the Community Based Smart City Technologies section above. The solar panel could be used to provide power for mobile devise charging, lighting, and the interactive multi-media kiosk display.

Figure 4.6.1a - Wind turbines providing both power generation and public art

Figure 4.6.1b - Wind turbine public art can pay homage to historical past / themes

Figure 4.6.2 - Solar roof panels

Figure 4.6.3 - Photovoltaic glass features in the public realm

Figure 4.6.4 - Smart LED Streetlights

Figure 4.6.5a - Residential and office EV charging stations throughout

Figure 4.6.5b - Publicly accessible EV charging stations within municipal parking lots / structures

4.6.4 SMART LED STREETLIGHTS

Smart LED Streetlights, as noted above, will be implemented as part of the Lakeview Village development in support of the City of Mississauga initiative to extend Smart LED Streetlights throughout the City. The implementation of this initiative started in 2012 and the switch over of 50,000 High Pressure Sodium (HPS) street lights to LED streetlights was completed in late 2015.

LED (light emitting diodes) lights represent the latest in lighting technology. They are long lasting (30,000-60,000 hours) and are extremely energy efficient (up to 90% more efficient than conventional incandescent bulbs). In addition, they generate very little heat and are made of non-toxic materials that can be recycled. LED lights provide superior visibility with more even light dispersion and can reduce light pollution through targeted placement.

Excessive light stray from street lights can impact wildlife and wildlife habitats. Limiting light dispersion at night can assist in maintaining native wildlife populations, habitats and ecological functions. The LED Streetlights can greatly assist in this regard as well they can greatly assist in reducing light pollution often referred to as “lighting of the sky”.

In addition to being very energy efficient, these Smart LED Streetlights are wi-fi connected which allows the City to control the exact amount of light needed. This would allow the City to increase the brightness immediately after a community event and gradually dim the streetlights as the crowds disperse. The City would also be able to add smart sensor modules to the system which will enable the City to eventually monitor traffic, parking, weather, environmental conditions, sewer levels, snow accumulation, pollution, automobile accidents, and even gunshot detection.

4.6.5 EV CHARGING STATIONS

The Province of Ontario released building code changes related to the charging of electric vehicles on December 19, 2017 which responded to an action set out in the Ontario Climate Change Action Plan to create Electric Vehicle-ready homes and workplaces.

These Building Code changes provide for the following:

- Where a house is served by a garage, carport, or driveway, such house constructed after January 1, 2020 shall be “electric vehicle ready”, provided the house is connected to an electrical distribution system and is not deemed a seasonal recreational building. Electric vehicle ready means that the house should be designed to permit the future installation of electric vehicle supply equipment. This requires the installation of a minimum 200-amp panelboard, a 27mm electrical conduit, and a 4-11/16 inch electrical outlet box. The electrical outlet box is to be installed in the garage, carport, or adjacent to the driveway.
- Where vehicle parking spaces are provided in a building (apartments excluded) constructed after January 1, 2020, not less than 20% of the parking spaces shall be provided with electric vehicle supply equipment. The remaining vehicle parking spaces shall be designed to permit the future installation of electric vehicle supply equipment

As a result of these changes, the low rise and office / institutional buildings in Lakeview Village will either be designed to incorporate electric vehicle charging equipment or be designed to be “electric vehicle ready”.

The mid-rise and high-rise apartment buildings will not be required by building code to provide for electric vehicle charging, however, it is anticipated that electric vehicle charging parking spaces will be provided at each building.

While the EV charging stations noted above will provide for the residents and employees within Lakeview Village, additional publicly accessed EV charging stations are also anticipated to provide service for visitors to Lakeview Village.

The installation of public accessed EV charging stations are anticipated within the municipal public parking lot / structure which is to be located in the south-eastern portion of the development within Inspiration Square.

The installation of publicly accessed EV charging stations in this location will ultimately be at the discretion of the City of Mississauga and Alectra Utilities and could be operated in conjunction with the municipal parking system.

4.6.6 ON-SITE BIKE SHARING HUBS

City bike share programs have exploded in most major cities across North America and Europe. There are many benefits to bike share programs which include the health benefits to those who leave their car at home, reduced auto traffic, reduced emissions, increased tourism, and overall increased happiness of those who participate. Bike sharing programs benefit not only the users but also the community and City as a whole.

Bike share programs, however, do come at a cost which includes the initial capital expense as well as ongoing billing/payment systems and ongoing maintenance of the bikes themselves. In many cases, the City takes on the implementation ownership and operation of the bike share program in partnership with a bike share company such as Motivate who was instrumental in working with the City of Toronto to successfully operate and expand their Bike Share Toronto program. In other cases, privately run programs are launched with the assistance of corporate sponsorship.

Lakeview Village's Development Plan identifies potential locations and space for bike share hubs, however, it is anticipated that the implementation of a bike share program will need to be driven by the City of Mississauga, perhaps in partnerships with firms such as Motivate, or Toronto Bike Share.

In Lakeview Village, space for bike share hubs are anticipated to be located within Waterway Common, Inspiration Square, and Inspiration Point, as well as near public transit stops within Lakeview and at Lakeshore Road.

4.6.7 ON-SITE CAR SHARING HUBS

Car Sharing programs are a form of car rental where people take cars for short periods of time, often by the hour. They are attractive to customers who make only occasional use of a vehicle. Car sharing is part of the larger trend of shared mobility.

Unlike municipally run bike sharing programs, car share programs are generally privately run and operated by firms such as Zipcar, car2go, or Enterprise. The implementation of a car share program within Lakeview Village will be subject to the approval of the City and the interest of a private company specializing in this service.

4.6.8 ON-SITE BIKE PARKING

While bike parking / storage will be provided within the individual residential and office buildings for use by the residents, visitors, and employees, publicly accessed secure bike storage will also be provided within several of the public realm areas for use by both residents and visitors. The areas incorporating bike parking/ storage include Waterway Common, Inspiration Square, and Inspiration Point.

4.6.9 ON-SITE SHUTTLE TO LAKESHORE HIGHER ORDER TRANSIT

A key component to the transportation strategy for Lakeview Village involves encouraging Lakeview Village residents, workplace employees, and visitors to Lakeview Village to use public transit. The most effective way to encourage transit usage is to make access to public transit easy. A public transit route has been planned and incorporated into the Development Master Plan and this route will be located within Lakeview Village along the major collector roads comprising Lakefront Promenade, Street A, and Hydro Road. This transit route will tie into the existing route on Lakeshore Road which is planned to be expanded to incorporate a rapid-bus system.

While the public transit route has been planned for and will be implemented in the fullness of time, it is not anticipated that the roads and transit route within Lakeview Village will be in place in the early stages of development. As a result, consideration is being given to the incorporation of a shuttle vehicle within Lakeview Village to shuttle transit users to and from the existing Lakeshore Road transit route.

Figure 4.6.8 - Publicly accessed bike parking

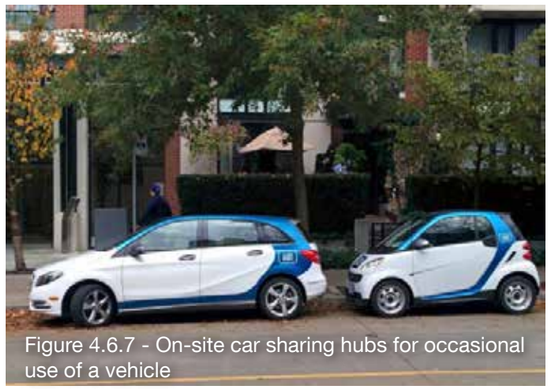


Figure 4.6.7 - On-site car sharing hubs for occasional use of a vehicle

Figure 4.6.6 - On-site bike sharing hubs to increase mobility, happiness, and tourism

Figure 4.6.9 - Incorporation of shuttle vehicles

4.6.10 COMMUNITY GARDENS

Community Gardens are not new to Mississauga, as several have been incorporated throughout the City including Garden of the Valley, Hillside Garden, Malton Garden, Parkway Green Garden, Forest Glen Garden, the recent installation at the Small Arms Community Garden located just east of Lakeview Village, and the most recent Burnhamthorpe Community Demonstration Garden which opened on August 16th, 2018.

As identified on the City of Mississauga web-site, “Community Gardens connects residents with gardening spaces that encourage active, healthy living while keeping Mississauga green.” To bring community gardens to neighbourhoods around Mississauga, the City has partnered with Ecosource which is an environmental education charity in Ontario serving children, youth, adults, and families with a focus on improving access to environmental engagement for marginalized communities.

While the concept of community gardens is widely embraced, the challenge often becomes the integration of these gardens into the community in a way that enhances and does not detract from the community aesthetics.

In Lakeview Village, LCPL will partner with the City of Mississauga and potentially Ecosource to ensure that community gardens are integrated in an aesthetic way while providing the opportunity to promote waste reduction, urban agriculture, sustainability education, nature connection, and youth leadership. This will include reviewing the opportunity for identifying a portion of these community gardens for the purpose of growing fruits and vegetables.

In Lakeview Village it is anticipated that community gardens will be developed both within the public park space as well as within the private highrise/midrise residential blocks. Potential public locations have been identified on the Development Master Plan within the Ogden Green District.

4.6.11 RECYCLE OF EXISTING ON-SITE CONCRETE FOUNDATION

Prior to the sale of the Lakeview land, OPG demolished and removed all above grade structures. A significant quantity of below ground concrete foundations remained on site at the time of sale. The opportunity exists to reuse the concrete material and to recycle the metal re-bar material.

Other Sustainable Community Technologies / Approaches

Technology / Approach	*Performance Target*	*Standard Development Item?*	*Likelihood of Implementation in Lakeview Village?*	*Requirements for Decision on Implementation?*
Wind Turbines	One installation within Waterway Common	No	Medium	Confirmation of economic viability by Alectra and/or District Energy Provider
Solar Roof Panels	All buildings within the Innovation Corridor	No	Low to Medium	Confirmation of economic viability by Alectra and/or District Energy Provider
Building Integrated PV Glass Panels within Public Realm		No	Medium	Confirmation of economic viability by Alectra and/or District Energy Provider
Smart LED Streetlights	Throughout Community	Yes	High	Subject to approval by City of Mississauga
Residential and Office EV Charging Stations	To exceed OBC requirements	No	High	Updated Ontario Building Code will require for certain building types
Communal EV Charging Stations	Advance discussions with City	No	Low to Medium	To be Implemented by the City in public parking garage in collaboration with Alectra
ON-Site Car Sharing Hubs	Advance discussions with potential suppliers	No	Low to Medium	Subject to approval by City of Mississauga and Interest of Car Share Company such as Zipcar or car2go
On-site Bike Sharing Hubs	Advance discussions with potential suppliers	No	Low to Medium	To be implemented by the City of Mississauga subject to the Interest of Bike Share Companies such as UTM Bike Share, Bike Share Toronto, Motivate, or a corporate sponsor.
On-site Bike Parking / Storage	Locations within Waterway Common and The Square	No	High	Subject to approval by City of Mississauga
On-site Shuttle to Lakeshore Transit	Advance discussions with Mississauga Transit	No	Low to Medium	Subject to timing of transit route into Lakeview and subject to approval by City of Mississauga
Community Gardens	One garden within each residential block and one garden within Ogden Green park.	No	High	Subject to approval of City of Mississauga in coordination with Ecosource
Re-use of Existing Concrete Foundations	Recycle 120,000 tonnes concrete, 4000 tonnes re-bar	No	High	None. Concrete currently being transported to Jim Tovey Lakeview Conservation Area

Figure 4b - Aerial view of Lakeview Village, and Mississauga's and Toronto's shoreline

SUMMARY CHECKLISTS AND POTENTIAL FEATURE LOCATIONS

5

Figure 5a - Preliminary concept of Lakeview Square

5.1 SUMMARY CHECKLISTS

5.1.1 PLACE

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Place	**Public Spaces**						
	Public Spaces are high quality, engaging, and active	Waterway Common Water Feature and Public Space, Ogden Vista Park	Waterway Common	No	High	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model. Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
		Lakeview Square Public Space	Lakeview Square	No	High	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model. Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
		Amphitheatre	Lakeview Square	No	High	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model. Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
		Inspiration Park, Pier, Channelside Park, Panorama Point Park	Inspiration Point	No	High	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model. Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
		Ogden Green Park, Aviator Greenway	Ogden Green	No	High	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model, Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
	Public Spaces Accessible to All	100% of dwelling units and businesses within 0.5km walk of a public space	Throughout Community	No	High	LCPL	Demonstrated through Sustainability Implementation Plan.
	Culture & Identity						
	Historic and Culturally Significant Places celebrated through Public Art	Public Art Installations in Waterway Common and at Pier.	Waterway Common, Inspiration Point	No	Medium	LCPL	Subject to approval by the City of Mississauga and appropriate City funding/financial recovery model. Municipal Agreement to specify what works may be installed within lands to be dedicated to the City. Implementation through Draft Plan condition.
	Build Social Capital through Community Programming	Potential for Community Programming to be created in multiple locations	Waterway Common, Innovation Square, Inspiration Point, Ogden Green	No	High	LCPL	Subject to approval by the City of Mississauga and the ultimate assumption of the programming by the City/Community.
	Nurture a New culture of Sustainability	Showcase sustainable features through public education and art. Encourage participation in community programming such as Community Gardens	Throughout Community	No	Med	LCPL	Subject to approval by the City of Mississauga and the ultimate assumption of the programming by the City/Community.
	Housing						
	Diverse and Affordable Housing	Diverse mix of Townhouse, Midrise, and Highrise units with affordability target to be determined	Throughout Community	No	High	LCPL	Identified through Development Agreement and implemented though Draft Plan condition. Demonstrated through Sustainability Implementation Plan.
	Housing is close to facilities that offer complete set of daily needs	80% of daily essentials (food, shopping, education, recreation) is within 0.5km walk of 50% of residential dwellings	Throughout Community	No	High	LCPL	Demonstrated through Sustainability Implementation Plan.

5.1.2 PROSPERITY

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Prosperity	**Economic Development**						
	New employment opportunities are created in the community	Variety of employment opportunities catering to mixture of skill/education abilities	Serson Innovation Corridor, Lakeshore Gateway, Lakeview Square	No	High	Mississauga Economic Development	Assisted by LCPL. Implemented though Re-zoning.
	Innovation						
	Attract innovation in production of local foods	Target vertical farming companies such as TruLeaf, or AeroFarm	Serson Innovation Corridor	No	Medium	Mississauga	Assisted by LCPL. Implemented though Re-zoning.
	Interaction between entrepreneurs is fostered	Attract incubation type work environments and co-working hubs	Serson Innovation Corridor or Lakeview Square	No	Medium	Mississauga	Assisted by LCPL. Implemented though Re-zoning.
	Education						
	Quality education available within the Community	Attract education institutions with emphasis on research and innovation. Attract tutoring, Career Pathway, Skills Enhancement training businesses	Serson Innovation Corridor or Lakeview Square	No	Medium	Mississauga	Assisted by LCPL. Implemented though Re-zoning.
	Develop educational displays/learning kiosks	Develop a permanent education display regarding District Energy, Vacuum Waste, or Treated Stormwater	Waterway Common or Lakeview Square	No	Medium	LCPL	Subject to approval by the City of Mississauga and the ultimate assumption by the City/Community. Identified through Development Agreement and implemented though Draft Plan condition.

5.1.3 HEALTH & WELLBEING

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Health & Wellbeing	**Active Living**						
	High walkability level	High walkability score with 100 % of street length with sidewalks on both sides	Throughout Community	Yes	High	LCPL	Subject to approval of City of Mississauga. Demonstrated through Sustainability Implementation Plan.
	High level of access to recreation facilities	80% of residential units within 0.5km walk of a public indoor or outdoor recreation space	Throughout Community	No	High	LCPL	Subject to approval of City of Mississauga. Demonstrated through Sustainability Implementation Plan.
	Emphasis on incorporation of multiple bicycle routes	Recreation bicycle routes provided through incorporation of trails Commuting bicycle routes provided through dedicated bike lanes within Major Collector Roads	Throughout Community	YES	High	LCPL	Subject to approval of City of Mississauga. Demonstrated through Sustainability Implementation Plan.
	Community Gardens	One garden within each residential block (private) and one garden within Ogden Green park (public)	Throughout Community	No	High	LCPL	Subject to approval of City of Mississauga perhaps in coordination with Ecosource, and the ultimate assumption by the City/Community. Identified through Development Agreement and implemented though Draft Plan condition.
	Health						
	Quality soil and air	Toxic environmental conditions left from previous coal fired hydro electric plant activities to be remediated prior to commencement of development	As necessary Throughout Community	Yes	High	LCPL	Remediation in conjunction with Risk Assessment and Record of Site Condition. Identified through Development Agreement and implemented though Draft Plan condition.
	Air Quality Monitoring	Incorporate Smart City environmental monitoring devises to monitor and provide alerts regarding levels of smog (good and bad)	Throughout Community	No	Medium	Mississauga	To be implemented by the City in collaboration with LCPL.
	Public Safety	Incorporate Smart City public safety features such as Emergency Panic Buttons or Noise Detection sensors which detect vehicle accidents or gun shots.	Throughout Community	No	Medium	Mississauga	To be implemented by the City in collaboration with LCPL.
	Local Food Systems						
	Support resident-based growth of local fruit and vegetables	Identify a portion of the community gardens which can be used for local food production	Within community gardens	No	High	LCPL	Subject to approval of City of Mississauga perhaps in coordination with Ecosource, and the ultimate assumption by the City/Community.
	Support agriculture industry-based growth of local fruit and vegetables	Attract vertical farming businesses to the Community	Serson Innovation Corridor	No	Medium	Mississauga	Assisted by LCPL. Implemented though Re-zoning.
	Support local farmers	Provide opportunities for Local Farmers Markets	Lakeview Square	No	High	LCPL	Subject to approval by the City of Mississauga and the ultimate assumption by the City/Community. Implemented though Re-zoning.

5.1.4 CONNECTIVITY

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Connectivity	**Mobility**						
	Promote usage of alternative mobility options	Prepare comprehensive Transportation Plan which promotes walking, cycling, and transit	Community Wide	Yes	High	LCPL	Subject to approval by City of Mississauga. Demonstrated through Sustainability Implementation Plan.
	Encourage use of shared mobility facilities	Provide for On-site Car Sharing Hubs	Combined with the Public Parking structure	No	Low to Medium	Mississauga	Subject to approval by City of Mississauga and Interest of Car Share Company such as Zipcar or car2go.
		Provide for On-site Bike Sharing Hubs	Waterway Common, Innovation Square, Inspiration Point	No	Low to Medium	Mississauga	To be implemented by the City of Mississauga subject to the Interest of Bike Share Companies such as UTM Bike Share, Bike Share Toronto, Motivate, and/or a Corporate Sponsor.
	Encourage use of bicycles	Provide for On-site Bike parking/storage	Waterway Common and Innovation Square	No	High	LCPL	Subject to approval by City of Mississauga. Demonstrated through Sustainability Implementation Plan.
	Encourage use of Public Transit	Extend Mi-Way transit service into Community Provide On-site Shuttle to Lakeshore Transit	Along Major Collector Roads Throughout Community	Yes No	High Low to Medium	Mississauga LCPL	Subject to timing of transit route into Lakeview and subject to approval by City of Mississauga.
	Smart City Technologies/Approaches						
	Co-Working Hub for Mobile Employees	Minimum one installation	Innovation Corridor or Innovation Square	No	High	LCPL	In Collaboration with City and private organizations. Zoning by-laws to permit use.
	Living Lab	Data/Research lab for utility usage, environmental monitoring, etc.	Innovation Corridor	No	High	LCPL	In Collaboration with City and private organizations.
	Connection Kiosk in Public Spaces	Two installations.	One in Waterway Common and one in Innovation Square	No	High	Mississauga	To be Implemented by the City with City funding.
	Free Wi-Fi in Public Spaces	Throughout Community	Throughout Community	No	High	Mississauga	To be Implemented by the City with City funding.
	Wi-Fi Connected Smart LED Streetlights	Throughout Community	Throughout Community	Yes	High	LCPL	
	Fibre-Optic Broadband Spine Infrastructure	Advance discussions with potential suppliers	Throughout Community	No	Medium	LCPL	Confirmation of interest by Supplier.
	Smart City sensors for Public Parking Availability Assistance	Advance discussions with City	Throughout Community	No	High	Mississauga	To be Implemented by the City with City funding
	Smart City sensors for notification to City staff regarding full public garbage receptacles within public spaces.	Advance discussions with City	All public realm spaces	No	Medium	Mississauga	To be Implemented by the City with City funding.
	Other Smart City sensors for traffic management, environmental monitoring, gunshot detection etc.	Advance discussions with City	Throughout Community	No	Low to Medium in short term	Mississauga	To be Implemented by the City with City funding.
	Smart Building Technologies						
	Smart Building Management System	Implementation within all office buildings and potentially all residential	Serson Innovation Corridor	No	Medium	LCPL/Builders	Subject to interest of Builders.
	Free Wi-Fi	Implementation within all office buildings and potentially all residential	Throughout	No	Medium	LCPL	Confirmation of economic viability and interest of Builders/LCPL.

5.1.5 LIVING INFRASTRUCTURE

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Living Infrastructure	**Ecosystem Health**						
	Rainwater managed to mitigate impact of development	Implement a stormwater management strategy which achieves a minimum of 80% TSS removal	Throughout	Yes	High	LCPL	Subject to approval by City of Mississauga. Identified through Development Agreement and implemented though Draft Plan condition.
	Remediate contaminated soils	All contaminated land to be remediated prior to development	Throughout	Yes	High	LCPL	Subject to approval by City of Mississauga and Ministry of Environment Conservation and Parks. Identified through Development Agreement and implemented though Draft Plan condition.
	Connection to Nature						
	Connect people to natural habitat	New trails to connect residents and workers to nature habitat and to existing trail systems	Throughout community to Serson Creek, SE Pond, Lake Ontario, Waterfront Trail system	Yes	High	LCPL	Subject to approval of City of Mississauga, Credit Valley Conservation. Identified through Development Agreement and implemented though Draft Plan condition.
	Connect people to the water	Recreational water activities to be introduced including paddle boats, kayaking, canoeing Celebrate water connection through an interactive water feature	SE Pond, Inspiration Point Waterway Common	No	High	LCPL	Subject to approval of City of Mississauga and the ultimate assumption of the programming by the City/Community.
	Natural Features						
	Protection and enhancement of existing natural habitat	Serson Creek to be re-aligned and re-habilitated	Serson Creek	Yes	High	LCPL	Subject to approval of City of Mississauga, Credit Valley Conservation. Identified through Development Agreement and implemented though Draft Plan condition.
	Creation of new natural habitat	New wetland habitat to be created in conjunction with the SE Pond water feature	Lakeview Square	Yes	High	LCPL	Subject to approval of City of Mississauga, Credit Valley Conservation. Identified through Development Agreement and implemented though Draft Plan condition.

5.1.6 RESOURCE REGENERATION

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Resource Regeneration	**Energy**						
	Development of a Smart Micro-grid Hydro Electric system	Advance discussion and business case with Alectra	Throughout Community	No	Medium	Alectra	Subject to approval by City of Mississauga and Alectra
	Net Zero Ready Buildings	EUI Target 100kwh/m2 on average across development	All Buildings	No	High	LCPL	Confirmation of Economic Viability by LCPL. Draft Plan conditions to ensure implemented on building by building basis. Identified through Development Agreement and implemented though Draft Plan condition.
	Community District Energy	Advance Business Case and RFP process with DE Industry	Plant in Serson Innovation Corridor	No	Medium	LCPL	Confirmation of Economic Viability by LCPL and determination of suitable funding/ownership/operational partnerships with LCPL
	Energy Conservation	Reduction in energy consumption to be facilitated through sub-metering strategy	Throughout Community	No	Medium	Alectra or DE Provider	Subject to confirmation of Economic Viability by Alectra or District Energy Provider
	Wind Turbines	Implemented in conjunction with Smart Microgrid	West limit of Waterway Common	No	Medium	LCPL/Alectra	Confirmation of Economic Viability by Alectra and/or District Energy Provider
	Solar Roof Panels		Serson Innovation Corridor	No	Low to Medium	LCPL/Alectra	Confirmation of Economic Viability by Alectra and/or District Energy Provider
	Building Integrated PV Glass Panels within Public Realm			No	Medium	LCPL/Alectra	Confirmation of Economic Viability by Alectra and/or District Energy Provider
	Promote use of energy efficient infrastructure	Implement Smart LED Streetlights	Throughout Community	Yes	High	LCPL	Subject to approval by City of Mississauga through Plan of Subdivsion
	Residential and Office EV Charging Stations	To exceed OBC requirements		No	High	LCPL	Updated Ontario Building Code will require for certain building types. Implemented through Site Plan Approval process
	Communal EV Charging Stations	Advance discussions with City	Public parking lot	No	Low to Medium	Mississauga	To be Implemented by the City in public parking garage in collaboration with Alectra
	Water						
	Treated Stormwater and/or lake water as a Source for Water Play Features	98% TSS Removal Other targets identified in FSR Public Education Kiosk to be incorporated		No	Medium	LCPL	Confirmation of Economic Viability by LCPL. Approval by Mississauga Public Works and Peel Region Public Health
	Bioretention	Part of LID treatment train to achieve 80% T.S.S. removal		No	High	LCPL	Subject to approval by City of Mississauga and CVC. Identified through Development Agreement and implemented though Draft Plan condition requiring Streetscape Plan approval.
	Bio-swales	Part of LID treatment train to achieve 80% T.S.S. removal	Private Lands Public Open Spaces/Roads	No	High	LCPL	Subject to approval by City of Mississauga and CVC. Identified through Development Agreement and implemented though Draft Plan condition requiring Streetscape Plan approval.
	Trees in Soil Cells	Part of LID treatment train to achieve 80% T.S.S. removal		No	High	LCPL	Subject to approval by City of Mississauga and CVC. Identified through Development Agreement and implemented though Draft Plan condition requiring Streetscape Plan approval.
	Permeable Pavement	Part of LID treatment train to achieve 80% T.S.S. removal		No	High	LCPL	Subject to approval by City of Mississauga and CVC. Identified through Development Agreement and implemented though Draft Plan condition requiring Streetscape Plan approval.
	Rainwater Cisterns	All high and midrise buildings with target as identified through FSR		No	High	LCPL	Subject to approval by City of Mississauga and CVC. Requirement of Site Plan approval.
	Green Roofs	"Extensive Green Roofs" to be specified as a minimum requirement on all high-rise and mid-rise residential buildings.		No	High	LCPL	Subject to approval by City of Mississauga and CVC. Requirement of Site Plan approval.
	Building based water conservation appliances		All buildings	No	High	LCPL/Builders	
	Waste						
	Comprehensive Waste Management Plan Preparation and Implementation	60% residential waste diversion 75% construction waste diversion	Community Wide	No	High	LCPL	Identified through Development Agreement and implemented though Draft Plan condition.
	Vacuum Waste Collection	Advance Vacuum Waste Business Case and discussions with Region of Peel	Community Wide	No	Medium	LCPL / Peel	Considered and analyzed but not found to be economically feasible to be driven by LCPL alone. To be implemented, the Region of Peel must be interested in ultimately owning and operating the facility.
	Building based Waste Diversion	Kitchen Cabinets to be designed to incorporate storage bins for the three waste streams (general, organic, recyclables)	All residential buildings	No	High	LCPL/Builders	Identified through Development Agreement and implemented though Site Plan condition.
	Re-use and recycle existing concrete foundations	120,000 tonnes concrete 4000 tonnes re-bar	Community wide	No	High	LCPL	Concrete currently being exported for use in Jim Tovey Lakeview Conservation Area

5.1.7 CERTIFICATION

Priority	Sustainability Feature	Performance Target	Potential Location	Standard Development Item?	Likelihood of being Implemented in Lakeview?	Lead Party	Implementation
Certifications	Demonstrate Commitment to Sustainable Development through Third Party Certification	Pursue and Achieve EcoDistrict Certification	Community Wide	No	High	LCPL	Subject to Approval by LCPL. Identified through Development Agreement and implemented though Draft Plan condition.
		Pursue and Achieve Leed ND Certification	Community Wide	No	Medium	LCPL	Subject to need identified by Sustainability team and subject to Approval by LCPL. Identified through Development Agreement and implemented though Draft Plan condition.

5.2 POTENTIAL FEATURE LOCATIONS

WATERWAY COMMON - SUMMARY OF SUSTAINABILITY FEATURES

1 Wind Energy / Art Element

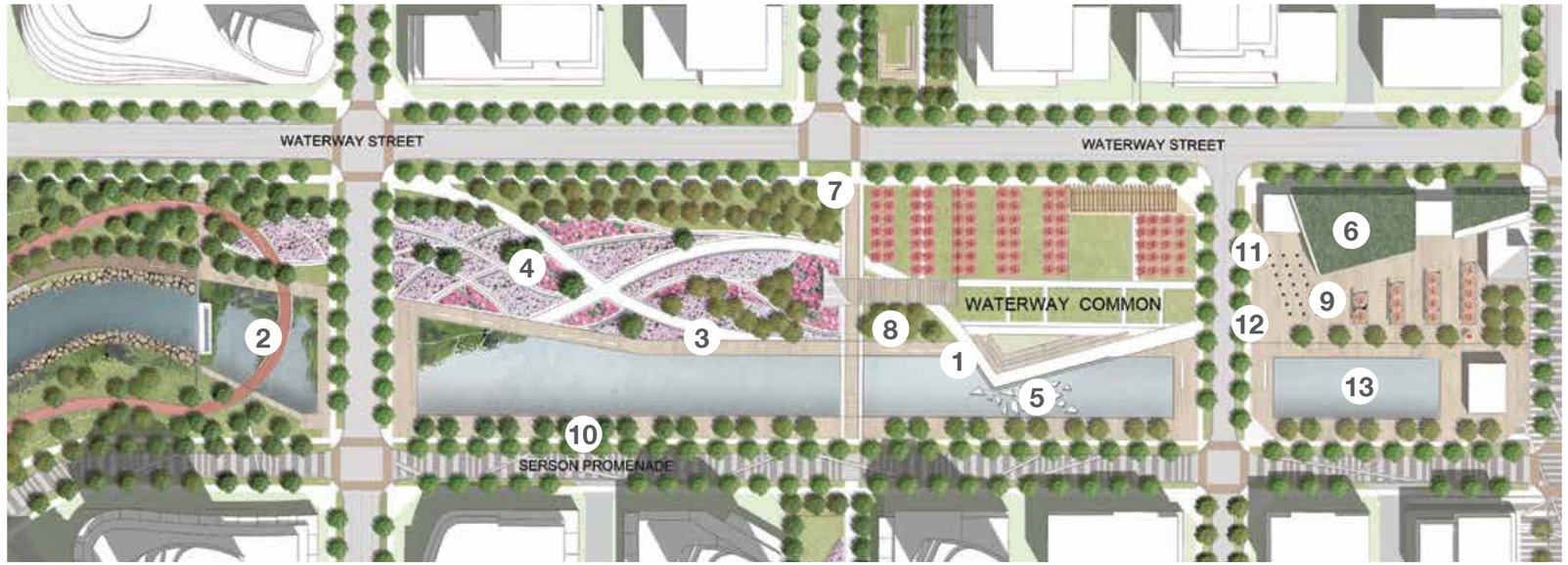
2 Aquatic Planting Bio Filtration

3 Walking & Cycling Trails

4 Wildflower Gardens

5 Treated Stormwater for Re-Use

6 Cultural Facility



13 Interactive Water Feature & Ice Skating

7 Interactive Information Kiosks

12 Bike Share Hubs

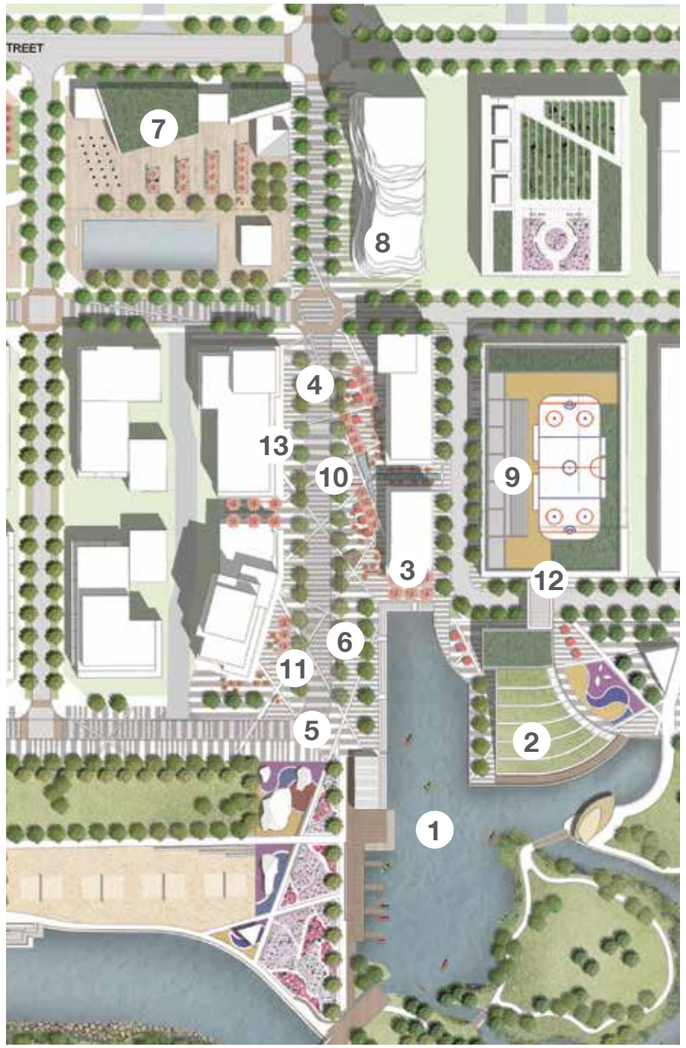
11 Bike Storage

10 Tree Cells & Other LID's

9 Public Meeting / Place of Destination

8 Wifi Throughout Public Realm

LAKEVIEW SQUARE - SUMMARY OF SUSTAINABILITY FEATURES




1 Recreation / Nature Pond


2 Amphitheatre


3 Restaurants / Patios & Other Meeting Spaces


4 Pedestrian Circulation


5 Permeable Pavement


6 Tree Cells & Bioretention Planters


7 Cultural Facilities


8 Employment Opportunities


9 Public Parking


10 Interactive Information Kiosks


11 Wifi Throughout Public Realm


12 “Hub” Shared Work Spaces


13 Business Startups

OGDEN GREEN - SUMMARY OF SUSTAINABILITY FEATURES

1 Passive & Active Parkland

2 Walking & Cycling Trails

3 Dog Park

4 Community Gardens

5 Bike Storage

6 Bike Lanes

7 Transit

8 Green Roofs

9 Roof Rainwater Capture for Re-use

10 Bioswales

11 Smart Wifi Streetlights

SERSON INNOVATION CORRIDOR - SUMMARY OF SUSTAINABILITY FEATURES

1

Renewable Energy Source / District Energy Plant

2

Vacuum Waste Transfer Station

3

Rooftop Solar

4

Education / Research Campus

5

Employment Opportunities

6

“Hub” Shared Work Spaces

7

Serson Creek Re-Alignment & Rehabilitation

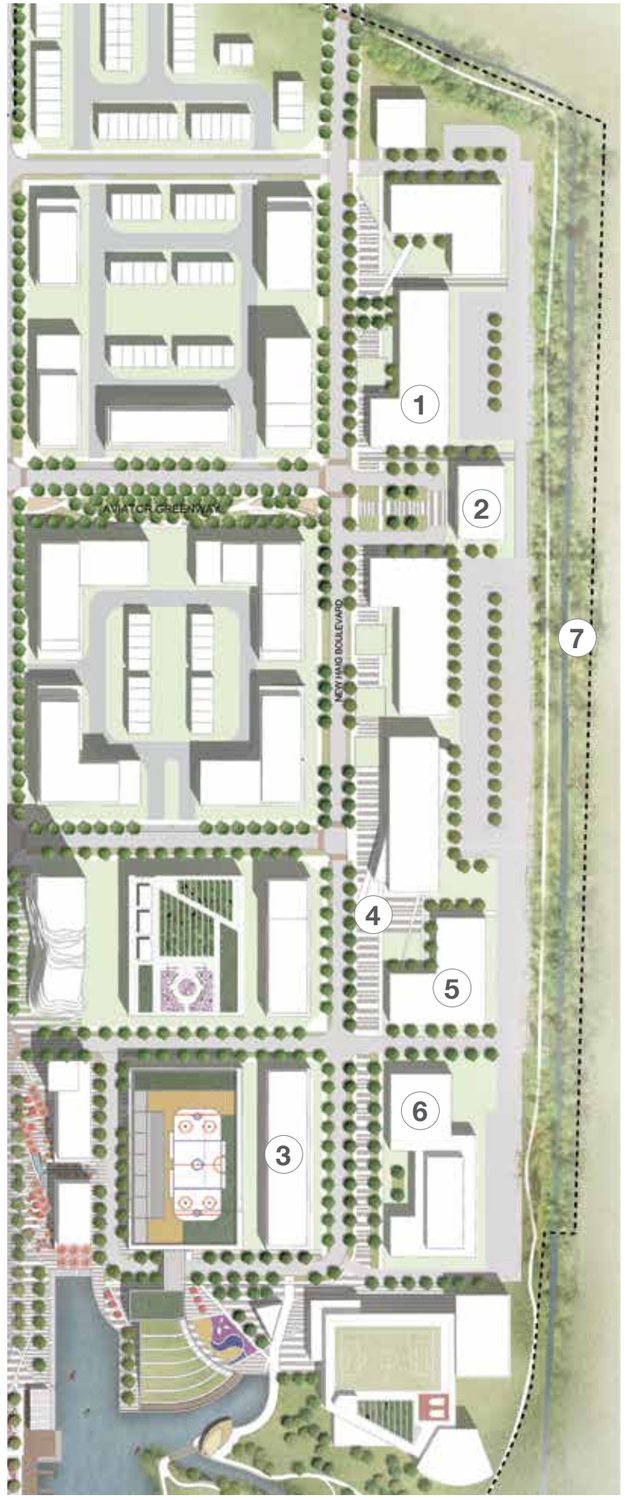


Figure 5b - Preliminary concept of Serson Creek rehabilitation

IMPLEMENTATION

6

Figure 6a - View looking south towards Lake Ontario

Implementation

6

The following section provides a commentary on mechanisms or potential tools that can help ensure the Lakeview Village area achieves its goal of creating a sustainable community. As noted below, the Mississauga OP (MOP) has a framework which allows for sustainable elements, and we can use existing mechanisms (i.e. site plan, development agreement, subdivision conditions of approval, etc) to ensure the agreed to sustainable elements are incorporated.

6.1 OFFICIAL PLAN POLICY (CITY OF MISSISSAUGA OFFICIAL PLAN - MOP)

The current MOP details specific requirements in the Lakeview Major Node Character Area relating to sustainability as a result of the City's approval of OPA 89. This OPA emphasized a principle of development was to promote a green sustainable innovative model community. There is no policy framework applying to any other part of the City with such similar policies. The specific policy vision and details for this model community are noted under section 13.4.5 Value the Environment. The MOP also specified an area-wide study that is required to fulfill the sustainable requirements of the plan under section 13.4.11.6 b. "Financial/Sustainability Strategy (e.g. mechanisms to achieve sustainable best practices)". Again, this strategy requirement does not exist anywhere else in the City and is unique to the Lakeview Major Node Character Area policy framework. This enclosed report fulfills this City requirement. It should be noted that this area-wide study is also to be considered in conjunction with the previously submitted Development Master Plan and Traffic Impact Study. All of these studies will be used to guide the overall review of the development proposal for the LCPL lands. More refined development applications will be submitted separately including rezoning and draft plan of subdivision applications.

To address the findings of this report, a separate Sustainability Implementation Plan will be prepared for the LCPL lands that will demonstrate how the actual development is consistent with the sustainable vision for this community as well as to address the findings of this report. This requirement is detailed in the MOP under section 13.4.11.8.

The Sustainability Implementation Plan will document the applicable City mechanisms in place to ensure appropriate financial considerations reflecting cost – sharing between LCPL and the City/Region or other jurisdictions will be captured to ensure the sustainable technologies are implemented. The plan will also document the City mechanisms which already exist to ensure the City and public are confident that LCPL is committed to delivering this sustainable community within a framework of existing, documented, and reliable processes at the City. The plan will:

- Outline at what stage in the process LCPL will reference certain sustainable innovations under consideration;
- Outline the logical point for commitment by LCPL to certain sustainable innovations determined to be feasible at that time;
- Outline when LCPL is expecting the sustainable innovation to be finalized in terms of drawing/report details;
- Outline when LCPL will confirm the sustainable innovation's in-field implementation throughout the development.

Further details on the existing City mechanisms or processes that will implement the sustainable initiatives noted here are seen in the chart in Section 5.0 labeled "Lakeview Sustainability Strategy Summary/Checklist" .

It should be noted that while other municipalities have Official Plan policies speaking to sustainability, they too can take advantage of the same processes which the Planning Act permits to deliver sustainability. The LCPL project team believes there is sufficient direction in the MOP as well as with the terms of reference for the Strategy to prescribe what is being pursued, and that existing City processes typical to the rezoning and particularly the draft plan of subdivision process that affords for a reliable mechanism to ensure execution of the sustainable elements for this project. Part of the sustainability plan will also be to document where potential Section 37 payment requirements, special area-specific charges, etc. can be used to offset the sustainability elements noted for implementation.

6.2 ZONING BY-LAWS

The LCPL team will be preparing a zoning by-law amendment application and draft implementing zoning by-law for the subject lands including typical development standards in keeping with the mixed-use nature of the development. At this time, the following is to be included in the draft zoning by-law specific to sustainability elements:

Parking:

- Car share parking provided on private property. This is envisioned mainly for the higher density developments. Our vision at this time is to use the zoning by-law as a mechanism to further reduce car dependency by providing the opportunity for car sharing. The rate of car share vehicle supply will impact overall parking supply by reducing typical vehicular requirements;
- Car share parking provided on public property. This is seen as part of public parking structures/lots and potentially as overflow to meet area resident car share requirements or for visitors to the development that may want to explore beyond the LCPL lands and use a car on a temporary period;
- Reduced parking standard (noted below in greater detail).

6.3 PARKING STANDARDS

The City has recently reviewed and approved development applications with reduced parking standards for various forms of development. This trend is expected to continue with overall attitudes regarding personal automobile use as well as the improvements in existing transit network changing personal habits. In certain locations, this dependency on a personal vehicle will likely also be reduced with increased transit service being contemplated throughout key corridors in the City of Mississauga.

LCPL intends on utilizing reduced parking standards which are justified in the upcoming TMIG Traffic Impact Study. This study will detail the extensive list of TDM measures which go beyond typical site and building development standards to reinforce reducing car dependency. This aligns with the City's desire for a model sustainable community. The TDM measures include, but are not limited to, the following:

- Reduced standards for owner/tenants in residential developments;
- Reduced standards for visitors to residential development;
- Shared parking formulas including co-mingling of visitor and non-residential (i.e. commercial) use parking supply;
- Reduced standards and centralized parking supply (public lands and potentially part of private parking lots) for overall visitor parking demand to non-residential uses such as the cultural or institutional uses.

It should be noted that while not part of the implementing zoning by-law standards, the rezoning review process will also be provided with plans by LCPL indicating both short-term and long-term bicycle parking/locker arrangements which contribute to reducing car dependency. The implementation of this rezoning process review will likely be through requirements in the Development Agreement for the subject lands.

6.4 HOLDING PROVISIONS

As noted above, the existing framework of legal agreements which form part of the development approvals process at the City allows for commitments to be made for the sustainability elements. Most if not all of the green elements of the development are part of finalizing site work or building design, each of which is controlled by the draft plan of subdivision and site plan/ building permit approvals process respectively. If any technology does not fit within the approvals process and needs to be dealt with separately, alternative mechanisms to implement that technology can be pursued. While the City has used holding provisions elsewhere in the City (i.e. City Centre), these have been under specific circumstances. The City's Zoning By-law notes in City Centre that the holding provision is applied to ensure "…delivery of an executed Servicing Agreement and/or Development Agreement in a form satisfactory to The Corporation of the City of Mississauga, addressing and agreeing to the installation or placement of all required municipal works, including municipal walkways, the provision of land dedication for future public road widenings, and transit rights-of-way and easements, including the provision of parkland, the provisions of required securities, and related provisions…". It should be noted that the holding prefix in City Centre is being used in recognition of two distinct planning processes not required: first, the lands are pre-zoned and no zoning approvals are necessary to build in conformity with the MOP vision, and second, the road/ infrastructure network is for the most part created and thus does not require a plan of subdivision application to create parcels of land and deal with other technical considerations. In other words, the City does not have the same ability to control

contributions for various technical requirements in the absence of typical approvals processes. In contrast, the LCPL lands require both rezoning and draft plan of subdivision applications and thus are subject to the development approvals process and agreement requirements. It is expected that the holding provision will not need to apply for the LCPL lands.

6.5 DRAFT PLAN APPROVAL CONDITIONS

Section 5.0 includes a chart indicating when various sustainable technologies could be implemented and through which process. It is evident that the majority of the input requirements could successfully be reviewed, approved, and then implemented through the Development Agreement which forms part of the conditions of draft plan approval. It is anticipated that any requirements could be subject to timing dependent upon building permit issuance. In some cases, it may be necessary that the milestones for completion of the approval may be tied to the development of the subdivision. In these cases, the clearances might be tied specifically to subdivision grading, servicing, or registration. The appropriate milestones in the development approval process will need to be reviewed with the City and Region to assure success for the implementation of the proposed technologies. Some exceptions to this might apply as there may be separate agreements unique to the LCPL lands which will address other requirements by LCPL.

6.6 SITE PLAN CONTROL AND BUILDING PERMITS

As noted above, section 6.1 includes a chart indicating when various sustainable technologies could be implemented and through which process. It is evident that the majority of the input requirements for technologies which are building specific, or for privately-developed parcels of land, could be successfully reviewed, approved, and then implemented through the site development plan review process or the building permit review process. Each regulatory framework requires detailed plans and other technical information to document the final proposed development for each parcel of land. Further, each process has a mechanism to ensure compliance with the approved plans: first, the site development plan has various notations on plans with commitments by professional staff, and includes a secondary process of financial securities held by the City only returned when development is deemed in conformity with the plans, and second, the building permit process which also has various notations as part of the design/report package but also includes a commitment form by the various disciplines in charge of on-site inspections. The City and/or Region can reference these key milestones as part of either the rezoning or draft plan of subdivision Development Agreement process.

6.7 BONUS PROVISIONS

This document has revealed the cost implications for the noted sustainable technologies. In some cases, the costs are prohibitive and are proposed to be shared through cost-sharing arrangement or offsets to other anticipated costs imposed by the City and/or Region.

The LCPL plans are indicating an increase in height and units (or density) beyond the prescribed limits as noted in the MOP. As a result, there is opportunity to use the Section 37 provisions from the Planning Act which require providing community benefits as compensation for the MOP exceedances. The community benefits could include the provision of sustainable technology with a specific value being placed on that technology as a component of the total required community benefit value. It is proposed that this be discussed as part of finalizing the development review and approval of the initial planning applications to be submitted to the City.

6.8 NON-PLANNING ACT MECHANISMS TO ENSURE SUSTAINABILITY COMPLIANCE

Development Charges:

- The LCPL Team will be requesting that the upcoming City and Regional Development Charge By-laws be updated reflecting Area Specific DC's for Lakeview Village. The Area Specific DC approach would recognize Lakeview Village's unique location at the southerly most tip of both the City and the Region and that this results in Lakeview Village not benefitting from the majority of services covered by the typical area wide DC. An Area Specific DC approach would also provide an opportunity for DC funds collected from Lakeview Village to be utilized directly within the community, perhaps funding specific sustainability features, which in turn would ensure their implementation.

Alternative Development Standards:

- The City has typical development standards which apply as a gauge to ensure development plan comply with City and/or Regional standards. It is possible that these typical standards do not meet or may even conflict with sustainability initiatives. As a way to address the innovation proposed by the LCPL lands, the team is in discussion with the appropriate approval authorities may prepare alternative development standards which are to be used as a guide for the physical development of buildings and infrastructure to support the development. It is expected that these development standards recognize the unique nature of the subject development, and the principle of a model sustainable community.

Community Benefit Agreements (CBA):

- For the purposes here, a CBA would be something separate from a Planning Act Section 37 agreement but could potentially be a sub-component of a Section 37 agreement or potentially may not overlap with requirements of that agreement. For example, the CBA could include a broader community-based goal such as addressing social inequalities by including measures designed to provide employment and training opportunities for members of the community. LCPL could commit to certain targets for local hiring and training, employment opportunities will be created for people (i.e. youth, women) who may not otherwise typically receive benefits from a project like the one proposed by LCPL. The construction unions in Toronto have already created programs to reach out to young people from marginalized communities. These include CHOICE (Carpenters Union) and Hammer Heads (Central Ontario Building Trades Council) that offer skill and employment-based training leading to good careers within the construction industry. Those programs are well-designed to ensure that hiring under a CBA would be successful and comprehensive. There is opportunity here to explore the possibility of expanding this model for a CBA associated with this development. There is clearly a community benefit by using a CBA for the LCPL project.
- The CBA could also be tailored to some sort of long-term commitment (possibly in partnership with City/Region) for a programme that would:
  - Promote environmental stewardship: use of area residents to do something on the systems in place (monitoring performance, looking at ways to improve energy use, etc.).
  - Promote environmental understanding: join up with local school (and/or the PDSB or DPCSSB) for programmes/site visits, etc… to enlighten children on the possibilities for sustainable development. There may be specific opportunities considering some of the local schools have specialized regional programmes such as Peel Board's Port Credit Secondary School with a Science and Technology programme.
  - Promote environmental research: join up with a post-secondary school or group of schools, or some research organization to study the community and look at long term value derived from the project, maybe what has worked best, what could be improved for future projects like this one.
  - Provide a working space/building (maybe even just leasehold improvements) to house an organization on site permanently for any of the ideas noted above.
- Provincial/Federal Government Grants.

FINANCIAL ANALYSIS

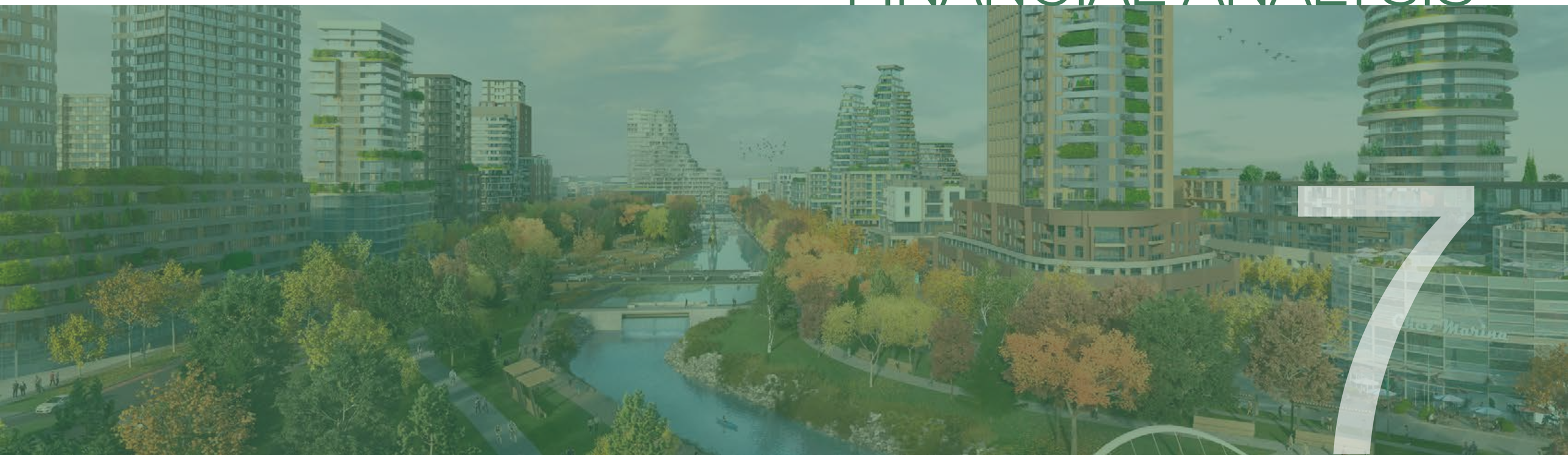


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Figure 7a - Preliminary Inspiration Point district concept

Financial Analysis

7

7.1 FINANCIAL ANALYSIS – TERMS OF REFERENCE

Fundamental to the Lakeview Sustainability Strategy is the financial analysis that will demonstrate the planned community is financially sustainable.

As outlined in the City of Mississauga's Draft Terms of Reference (TOR) dated March 2018, "it is important for the City to understand the potential investments required and methods of financing initiatives associated with development of the community".

In addition to the comprehensive review of infrastructure associated with all possible "green initiatives", the Draft TOR also articulates the importance of assessing the financial implications of infrastructure and lands anticipated for conveyance to the City. This would include:

- Active and passive parklands including Ogden Green and the linear parks along Ogden Road and Aviator Road.
- Public Realm spaces such as Waterway Common including the proposed water feature
- Public Realm spaces such as Lakeview Square including the proposed recreation pond and amphitheater in the south-east area of Lakeview Square
- Proposed Cultural facilities
- Proposed Parking structures
- Inspiration Point, the Marina, the Pier treatment, and associated structural accesses to the Lake
- Serson Innovation Corridor and costs to attract higher education facilities and/or high-tech employers
- Public roadways and trail systems
- Serson Creek
- Etc.

The financial analysis must consider the capital costs associated with all of these features, the costs associated with their continued operation and maintenance, the costs associated with any proposed facility programming, and conversely, any potential revenue sources that could offset some of these costs.

Some of the sustainable infrastructure features under consideration will entail significant capital and long-term operational investment. In particular, the scale of District Energy and Vacuum Waste Collection solutions may require third party or public ownership and operation. As a result, the financial analysis/strategy must explore the possible role of the City and Region for these features, and the associated financial implications.

The Draft TOR anticipated that the financial analysis will answer the following questions:

1. "To what extent can the sustainable vision be achieved without municipal intervention?" In other words, "What initiatives are developers already incorporating in new development or are prepared to undertake in the Lakeview Waterfront area as a basic standard and what initiatives are associated with incentives"?

2. "If developers are not able to fully achieve certain aspects of the sustainable vision, then what additional steps should be taken to bridge the gap – identify what is necessary to realize the goal of creating the most sustainable development possible"

3. "What are the financial implications of development for the City and any additional investments necessary to achieve the Vision?"

4. "Is there general congruence between the scale of development, likely receivables for the City, and understanding of municipal budgetary commitments necessary to achieve the Inspiration Lakeview Vision? "

Essentially, this financial analysis will assist the City of Mississauga in understanding the financial implications to the City associated with the Lakeview Village development.

The earlier sections of this report comprehensively describe the various sustainability initiatives that may ultimately form part of the Lakeview Village development. But these sections also reveal a number of questions that must be answered, and the need for dialogue between the Lakeview team and the City/Region, to inform the financial analysis. Some of the questions include:

- What community features are very important to the City?
- What community features are very important to the LCPL team?
- What community features are not desired by the City?
- What is the expected base condition for the lands to be conveyed to the City?
- What infrastructure is the City prepared to have LCPL front end and what infrastructure is to be left for the City to implement in the future? How far in the future?
- Is the City open to establishing Area Specific Development Charges for Lakeview Village?

The current draft of the Sustainability Strategy provides the basis for engaging in the discussions that will answer these and other key questions.

As a result, and following this process, the financial analysis component of the Sustainability Strategy will be presented in the next draft of this report.