



**City of Kingston
Report to Council
Report Number 24-070**

To: Mayor and Members of Council
From: Paige Agnew, Commissioner, Growth & Development Services
Resource Staff: Brandon Forrest, Director, Business, Real Estate & Environment
Date of Meeting: January 23, 2024
Subject: St. Lawrence Business Park Expansion

Council Strategic Plan Alignment:

Theme: 5. Drive Inclusive Economic Growth

Goal: 5.1 Ensure an adequate supply of "ready-to-go" employment lands.

Executive Summary:

Staff updated Council on the shortage of the City's supply of serviced employment lands at the November 16, 2021, and February 21, 2023, Council meetings.

On February 21, 2023 ([Report Number 23-079](#)), staff presented information on how best to bring the lands north of the St. Lawrence Business Park (SLBP) expansion lands (Exhibit A) into the City's employment lands inventory. This report provided information on the three land use planning tools that are available as options to bring the lands into the City-owned employment lands inventory. The report included the following recommendation which was amended by Council during the meeting.

"That Council direct staff to initiate a community and indigenous engagement process, and report back to Council in Q2 2023, with a recommendation on how best to bring the St. Lawrence Business Park Expansion Lands into the City's inventory of shovel-ready employment lands."

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There were several delegations by the members and partners of the Indigenous Food Sovereignty Garden Group (IFSGG) that neighbour the SLBP expansion lands. The delegates requested Council to adopt a “shovel-worthy approach” instead of a “shovel-ready approach” to develop these lands. Council amended the original recommendation and approved the following motion:

“That Council direct staff to initiate a community and indigenous engagement process, including consultation with the Indigenous community and organizers of the Indigenous Food Sovereignty and report back to Council with a recommendation on how best to bring the St. Lawrence Business Park Expansion Lands into the City’s inventory with a “shovel worthy” approach”.

The purpose of this report is to update Council on the status of ongoing engagement with the Indigenous Food Sovereignty Garden Group and the development of a Shovel-Worthy Evaluation Framework. The report also seeks Council’s direction to initiate the *Planning Act* process for applications for an Official Plan amendment and a zoning by-law amendment to bring these lands into the urban boundary and to re-designate and rezone them to appropriate land use designations and zones.

Recommendation:

That Council direct staff to initiate applications for an amendment to the City of Kingston Official Plan and Kingston Zoning By-Law Number 2022-62 to facilitate an adjustment of the urban boundary and to re-designate and rezone the St. Lawrence Business Park Expansion Lands to bring them into the City’s employment lands inventory; and

That Council endorse in principle the Shovel-Worthy Evaluation Framework, attached as Exhibit B to Report Number 24-070, and staff will continue to work with partners to refine the model and report back to Council with an update on the Framework and proposed development plans for the expansion lands.

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Authorizing Signatures:

ORIGINAL SIGNED BY COMMISSIONER

**Paige Agnew, Commissioner,
Growth & Development Services**

ORIGINAL SIGNED BY CHIEF

ADMINISTRATIVE OFFICER

**Lanie Hurdle, Chief
Administrative Officer**

Consultation with the following Members of the Corporate Management Team:

Jennifer Campbell, Commissioner, Community Services

Neil Carbone, Commissioner, Corporate Services Not required

David Fell, President & CEO, Utilities Kingston Not required

Peter Huigenbos, Commissioner, Major Projects & Strategic Initiatives Not required

Brad Joyce, Commissioner, Infrastructure, Transportation
& Emergency Services Not required

Desirée Kennedy, Chief Financial Officer & City Treasurer Not required

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Options/Discussion:**Background:**

In the November 2021 report, staff updated Council on the status of the City's inventory of employment lands; at that time the City had little to no City-owned employment lands available for sale. This continues to be the case and is a growing concern as there is regular interest for businesses looking to establish in Kingston. To address this short supply, Council directed staff to come back with viable policy recommendation(s) that appropriately, and expeditiously, increase the City's supply of employment lands.

At the February 21, 2023 Council meeting, staff presented information on how best to bring the City-owned lands north of the St. Lawrence Business Park expansion lands (SLBP expansion lands) into the City's employment land inventory ([Report Number 23-079](#)). The SLBP expansion lands are currently outside the urban boundary and are not serviced; these lands were purchased by the City in 2012 as a planned northerly expansion of the existing business park. These lands were included in the urban boundary of the previous Official Plan update approved by City Council but were subsequently removed by the Ministry of Municipal Affairs & Housing at that time. The actual land holdings of the City are 90 acres and span across Butternut Creek. However, it was decided that the developable parcel would be reduced to 60 acres, in order to preserve Butternut Creek and its environmental functions. This linear 60-acre parcel in turn is adjacent to the current Indigenous Food Sovereignty Garden Group (IFSGG) lands to the north.

To bring the SLBP expansion lands into the inventory, a land use planning process is required, and the following three, land use planning tools were identified in [Report Number 23-079](#) to bring the lands into the City-owned employment lands inventory:

1. Traditional Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) – which may propose an urban boundary adjustment;
2. A Minister's Zoning Order (MZO); and
3. Community Infrastructure and Housing Accelerator (CIHA).

At that meeting, there were several delegations by the members and partners of the Indigenous Food Sovereignty Garden Group (IFSGG). The delegates asked Council to adopt a "shovel worthy approach" versus a "shovel ready approach" to developing these lands. There was a desire to ensure that the new lands would be sensitive and respond to the abutting lands of the Indigenous Food Sovereignty Garden Group, while respecting the climate and biodiversity crisis.

Council approved the following motion:

"That Council direct staff to initiate a community and indigenous engagement process, including consultation with the Indigenous community and organizers of the Indigenous Food Sovereignty and report back to Council with a recommendation on how best to bring the St. Lawrence Business Park Expansion Lands into the City's inventory with a "shovel worthy" approach."

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Engagement with the members of the IFSGG

Following the February 21, 2023 Council meeting, staff from Business, Real Estate & Environment and Heritage Services met with members of the IFSGG (and partners) on February 24, 2023. Subsequently, there were three other meetings through March and April 2023. In these four meetings, various topics were covered outlined as follows:

- The indigenous members of the IFSGG informed staff and other participants on the indigenous values and principles; a discussion was held on how to incorporate these in the shovel worthy definition.
- There was also a detailed discussion regarding shovel worthiness information that was presented by the delegates in the Council meeting.
- In addition, staff provided detailed information on the background and current status of the City-owned employment lands, information on the SLBP expansion lands, as well as typical planning and development process for development of employment lands to the group.

In these initial four meetings, while exploring the definition for shovel worthy development and how to achieve it in the proposed development, it was recognized that to move this project forward efficiently and get meaningful results, we would need some technical expertise. Considering this, staff retained Spruce Lab Inc and J.L. Richards & Associated Limited (JLR) in May 2023. Spruce Lab was recommended by the IFSGG members. Spruce Lab is a landscape planning and urban design consultancy that is indigenous and women-owned and operated with expertise in facilitating indigenous engagement and green infrastructure.

The development process of the City-owned business park can be divided in three main phases – the first phase is the layout of the proposed lots, road and services, the second phase consists of surveyed drawings of lots and roads as well as detailed engineering drawings of the road and services, this is followed by construction of roads and services, and the third phase is individual lot development which is undertaken by the future purchaser of the lots. The role of JLR for this project is to provide planning and engineering expertise and prepare concept plans for the SLBP expansion lands which is phase one of the development process. Staff also retained an ecologist to undertake natural heritage study of the SLBP expansion lands.

On June 12, 2023, an in-person introductory meeting and engagement session was held between the consultants and members/partners of IFSGG. The main goal of this meeting was to build a mutual understanding and respect among all the participants. Lunch was organized by the IFSGG for all participants; it also included a visit to the Indigenous Food Sovereignty Garden and a discussion was held on what shovel worthy means for various participants.

Subsequently two visioning exercises were held which were followed by two follow-up meetings to go over the conclusions of the visioning exercises. The first visioning exercise was in-person, it included a walk on the SLBP expansion lands, and the other was virtually held on September 22, 2023. The visioning exercises included presentations by the consultants, followed by

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questions and discussion by all participants. The presentations done by the consultants provided an overview of planning and technical consideration for the site which included site-specific information on the existing and proposed planning policies, as well as an analysis of the existing condition such as site topography, natural heritage features, existing services in the surrounding, primarily water, sanitary and storm water management, and transportation network. Based on this analysis, a concept plan that was created using the site-specific analysis as well as the input received so far from the participants on the features that are important for a shovel worthy development. The concept plan included a road layout, high level layout of water and sanitary mains, location of stormwater ponds, a road cross-section per shovel worthy principles and a connection for wildlife to the existing creek to the east with the IFS Garden (an ecological corridor) to support biodiversity.

Principles of Shovel-worthy Development

Spruce Lab presented various themes or priorities that emerged from the June 12, 2023 meeting for shovel worthy development input from various participants. Using examples from other development projects, Spruce Lab presented various images showing how each of the themes can be implemented.

The collective work of the consultants and the group led to a document known as “Shovel Worthy Framework for the St. Lawrence Business Park Lands, Kingston, Ontario” which is attached as Exhibit B to this report.

As this is the first example in Kingston, it’s important to appreciate that this framework is a “living document” that will be adapted overtime based upon lessons learned, new science and approaches. Additionally, requirements for accessibility, safety, and technical viability are not included as objectives because they are understood to be inherent requirements of all plans.

The following is a high-level overview of the Shovel-Worthy Framework, see Exhibit B for the full document.

Vision statement:

A shovel-worthy business park seeks to achieve a seven generations stewardship model that encourages people to consider their responsibilities in caring for the land, water, air, and community – now and for the next seven generations (a shared wisdom of Indigenous Knowledge) while also fulfilling the core purpose of the business park in its form and function.

Principles:

1. Ecological Health and Sustainability
2. Economic Resilience
3. Community well-being
4. Indigenous Place keeping

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Concept Planning

The following green design strategies were identified essential for a shovel-worthy development - these guided the conceptual layout of the site. The objectives of these design strategies are to support biodiversity, improve air quality, reduce urban heat island effects from the proposed development, improve water balance, and create recreational and educational opportunities.

- A connection for non-humans between the existing creek to the east with the IFS Garden (an ecological corridor) that will support biodiversity by creating habitat, foraging opportunities, refuge for small animals, birds, pollinators, insects etc. The members of the IFSGG identified it as their preference that this corridor connects the Butternut Creek with the IFS Garden. A 20-metre-wide green space or ecological corridor is proposed which will have a stone dust pathway for humans to walk, meandering swale to slow water flow from precipitation and support diverse non-human life; it will have diverse range of native plant species.
- A road cross-section which is more rural in character with trees proposed along both sides of the road, a swale along the road.
- Keep 15% to 20% of the total site as municipally owned softscape area relative to 3% to 5% if this business park was designed in a conventional manner.
- Considering the natural grading of the lands, two stormwater ponds are proposed on either side of the site proposed. These stormwater ponds will help absorb rainwater and water from melted snow, and will have aquatic plants living in and around the pond.

Staff along with JLR developed a few options for conceptual layout of the site taking into consideration the existing site conditions, future needs of the business park and the above design strategies. A financial analysis has been completed for each option to anticipate approximate cost of investment versus the revenue. An environmental analysis is yet to be completed to illustrate tangible benefits of a business park designed with the proposed green strategies versus a traditional/conventional business park design. This analysis will also evaluate and contrast the ecological consequences for the shortlisted concept plans. For this purpose, staff recently retained Greenscale Inc. who will be undertaking this critical assessment of environmental impacts.

The Planning Process

The SLBP expansion lands are located outside of the urban boundary and are designated Rural Lands in the City's Official Plan and zoned General Rural Area Zone (RU) in Kingston Zoning By-Law Number 2022-62. As noted previously, [Report Number 23-079](#) identified three land use planning tools to bring the SLBP expansion lands into the City-owned employment lands inventory, being the traditional Official Plan amendment and zoning by-law amendment process, a Minister's Zoning Order (MZO), and a Community Infrastructure and Housing Accelerator order (CIHA). An MZO or a CIHA do not need to be consistent with the Provincial Policy

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Statement or a municipal Official Plan and there are no appeal rights associated with either of these. The issuance of an MZO or a CIHA are at the discretion of the Minister of Municipal Affairs and Housing. Both of these tools that can be used to rezone land, however, cannot be used to amend the urban boundary in an Official Plan. Once an MZO is in place, municipalities do not have the authority to amend the zoning of the lands subject to the MZO. Any amendments or minor variances to an MZO are at the discretion of the Minister of Municipal Affairs and Housing.

For transparency and to ensure that future planning decisions related to the SLBP expansion lands remain within the City's jurisdiction, staff are seeking Council's direction to proceed with the traditional Official Plan amendment and zoning by-law amendment process to bring the SLBP expansion lands within the urban boundary and to designate and rezone the lands to an appropriate land use designation and zone. While this process is longer than the MZO and CIHA processes, it is comprehensive and ensures that the zoning permissions are aligned with the Official Plan. This process also includes public consultation opportunities and public appeal rights.

As per the Provincial Policy Statement, 2020 (PPS, 2020) an expansion of the urban boundary can only be permitted at the time of a comprehensive review of the Official Plan. However, PPS, 2020 includes some flexibility for municipalities to make urban boundary adjustments at any time, as per the following policy:

"1.1.3.9 Notwithstanding policy 1.1.3.8, municipalities may permit adjustments of settlement area boundaries outside a comprehensive review provided:

- a) there would be no net increase in land within the settlement areas;
- b) the adjustment would support the municipality's ability to meet intensification and redevelopment targets established by the municipality;
- c) prime agricultural areas are addressed in accordance with 1.1.3.8 (c), (d) and (e); and
- d) the settlement area to which lands would be added is appropriately serviced and there is sufficient reserve infrastructure capacity to service the lands."

To bring the SLBP expansion lands into the urban boundary, an equivalent amount of land in another location would need to be removed from the urban boundary, along with changes to the land use designation as appropriate. Staff have undertaken a preliminary review of potential lands that can be removed from the urban boundary to facilitate an adjustment and identified 60 acres along the eastern portion of the Collins Creek valley lands as an area that could be removed from the urban boundary (Exhibit C). These lands are designated Environmental Protection Area and Open Space in the Official Plan. No change to the land use designation of these lands would be necessary after their removal from the urban boundary and the removal would continue to ensure that these lands are maintained in their natural state.

Staff anticipate the Official Plan amendment and zoning by-law amendment process to take approximately six months after a complete application has been submitted. This will be followed by draft plan of subdivision and final plan of subdivision approvals. This process may take an

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additional 12 to 18 months. Based on this, it is anticipated that it could take up to two years to get SLBP expansion lands into the City's inventory of serviced lands.

Existing Policy/By-Law:

Provincial Policy Statement, 2020

City of Kingston Official Plan

City of Kingston Zoning By-Law Number 2022-62

Notice Provisions:

None

Financial Considerations:

At this point in the process there are no financial considerations. Budget has already been allocated to develop and service the Employment Lands.

Contacts:

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Other City of Kingston Staff Consulted:

Sukriti Agarwal, Manager, Policy Planning, Planning Services

Kevin Gibbs, Director, Heritage Services

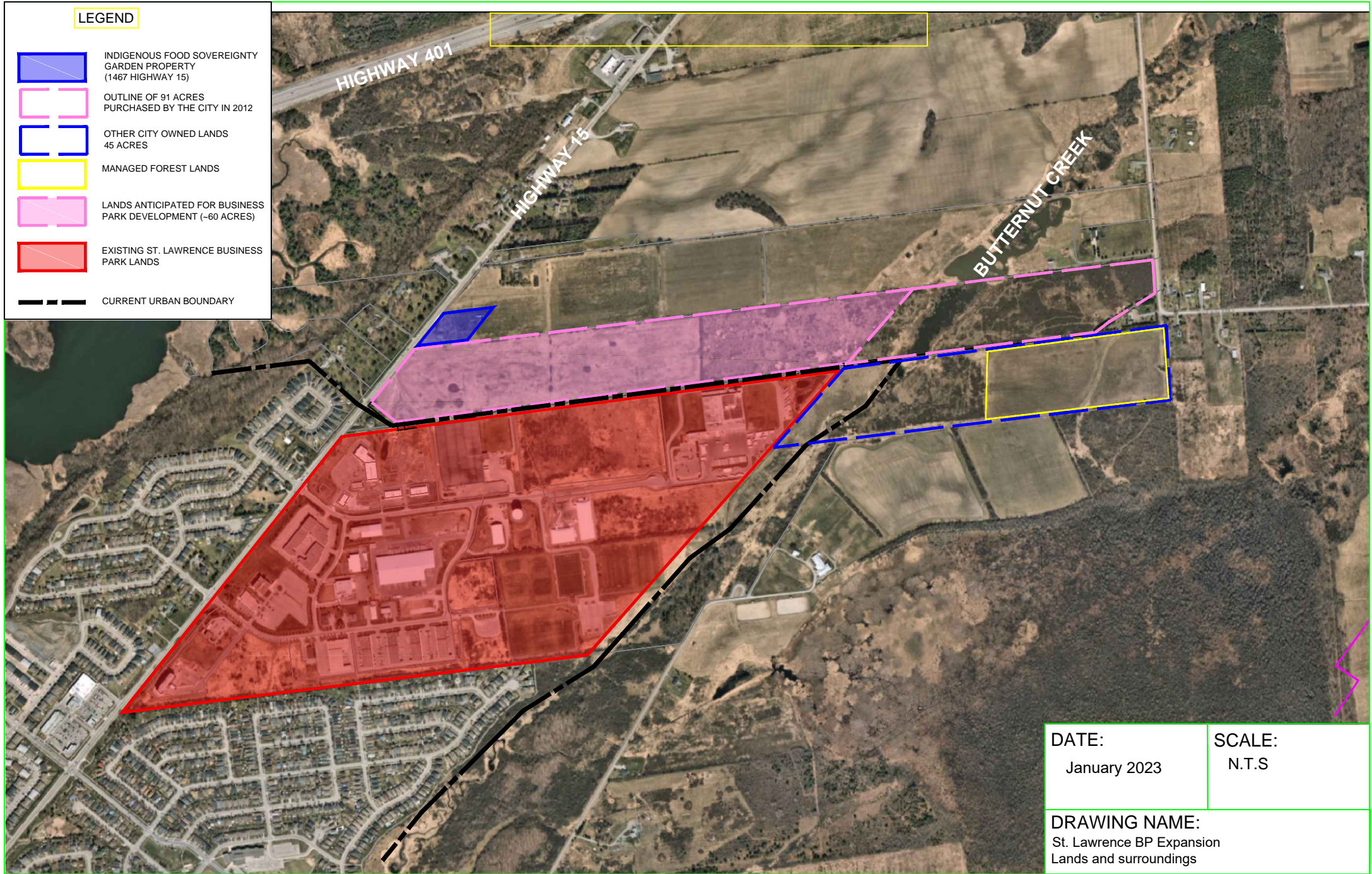
Exhibits Attached:

Exhibit A St. Lawrence Business Park Expansion Lands

Exhibit B Shovel Worthy Framework for the St. Lawrence Business Park Lands, Kingston, Ontario

Exhibit C Lands proposed to be removed from the Urban Boundary

St. Lawrence Business Park Expansion Lands and surroundings



DATE: January 2023	SCALE: N.T.S
DRAWING NAME: St. Lawrence BP Expansion Lands and surroundings	

A WORKING DOCUMENT
SHOVEL-WORTHY EVALUATION FRAMEWORK FOR THE
ST. LAWRENCE BUSINESS PARK EXPANSION LANDS, CITY OF KINGSTON
January 12, 2024

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Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON



Photo: Google Streetview

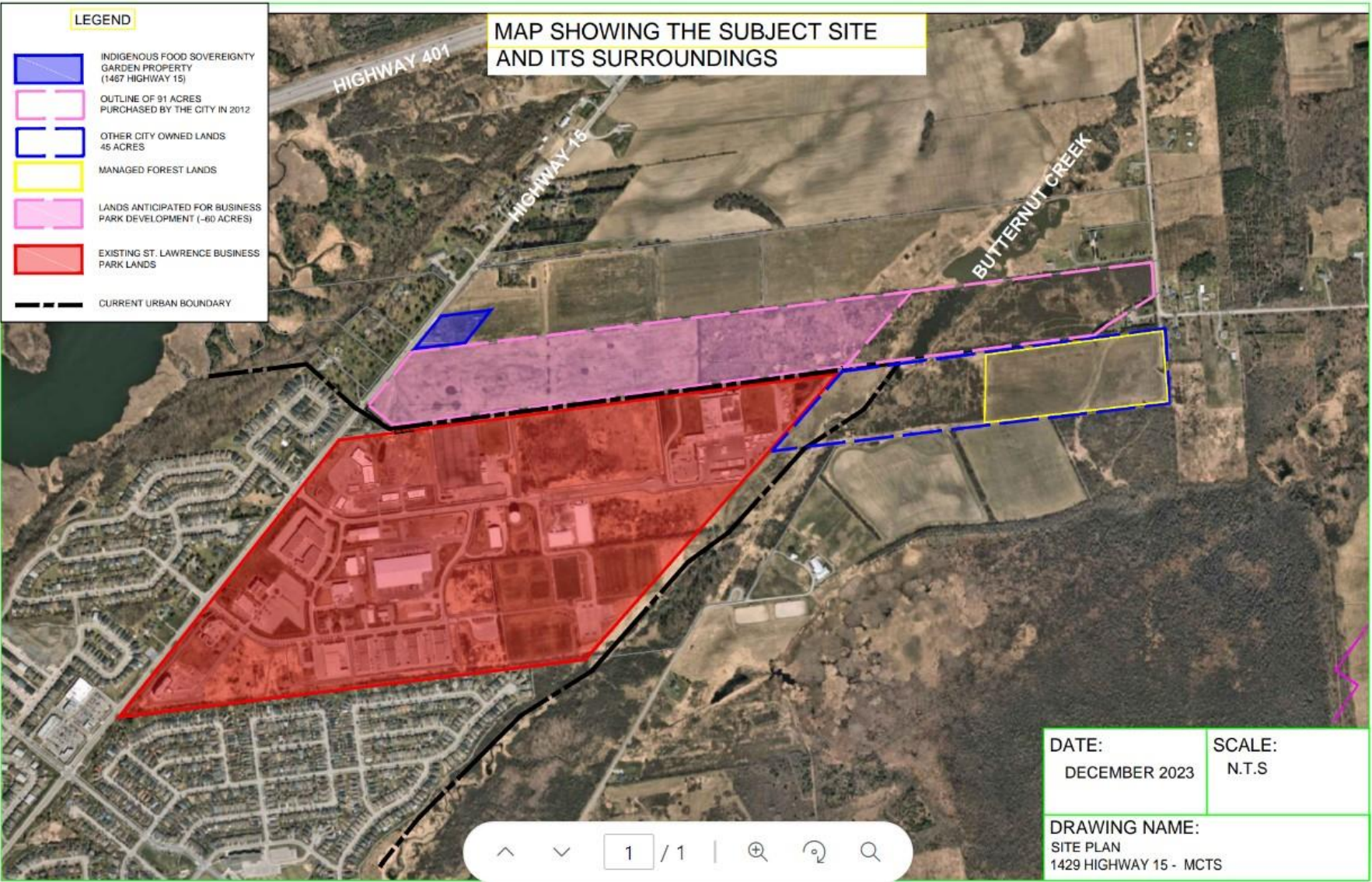
1. BACKGROUND

The City of Kingston's [St. Lawrence Business Park](#) is located on Highway 15 in the east end of the City, approximately 2 km south of Highway 401. It is home to many businesses including distribution, logistics, scientific, medical and technical services plus commercial uses. These lands *"...are vital to the local economic development growth and job creation of Kingston. The City ensures the availability of serviced industrial land for immediate development and secures land for future growth."* ([City of Kingston](#)).

The lands north of the St. Lawrence business park were purchased by the city in 2012 as a planned northerly expansion of the existing business park. The actual land holding of the city is 90 acres, and spans across Butternut Creek. However, it was decided that the developable parcel would be reduced to 60 acres to preserve Butternut Creek and its environmental functions. This linear strip of land is also adjacent to the existing Indigenous Food Sovereignty Garden Group (IFSGG) lands, located north-west of the site.

On February 21, 2023, the proposal to develop the expansion lands into a business park was identified in a Council Report. At the February 2023 Kingston Council meeting, the IFSGG and community partners requested that the city consider a "shovel-worthy" versus a "shovel-ready" approach to the expansion lands. There was a desire to ensure that the new lands would be sensitive and respond to the abutting lands of the Indigenous Food Sovereignty Garden Group, while respecting the local ecology of the area, including Butternut Creek to the east.

Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON



Aerial photo with map: St. Lawrence Business Park, proposed expansion lands, IFSGG lands, and other city lands (Source: City of Kingston)

2. INTRODUCTION

To support the proposal to expand the business park, the city’s real estate team engaged the consulting firms of SpruceLab Inc. and JL Richards & Associates Limited to undertake community engagement, research, and a technical analysis of the proposed expansion. This included an evaluation of the site’s context, including relationships and potential impacts to adjacent lands, such as the Indigenous Food Sovereignty Garden. It also involved an archaeological study and a natural heritage study to understand the cultural and natural history of the lands. This document was prepared by SpruceLab for discussion purposes with the city and the IFSGG to help advance this work. It is intended to support the creation of a “shovel-worthy” concept plan for the business park expansion lands, in a way that respects Indigenous knowledge, while helping to inform future development. In addition, it offers a suggested new model for the city: an evaluation framework for business park expansion lands that embody an “eco-business park” approach.

Much of the information in this document was generated in collaboration, ongoing dialogue and reflection with the project collaborators from May 2023 to the present day. Additionally, a case study analysis was undertaken by SpruceLab as background research to support this work (Refer to Appendix B – Case Study Analysis). Following further review by the City and the IFSGG, the understanding is that this document will be advanced through internal discussions with City stakeholders to better align with City systems, programs and initiatives, and to improve upon what is suggested herein. While this document focuses on sustainable developments to support an “eco-business park” model, the use and impacts of this evaluation framework may be farther reaching across other lands where the city has investments and land to steward.



Images: Indigenous Food Sovereignty Garden (left); Little Forests planting (middle), expansion lands (right). (Photos: SpruceLab)

3. SHOVEL-WORTHY PRINCIPLES FOR BUSINESS PARKS

Vision Statement

A shovel-worthy business park seeks to achieve a seven generations stewardship model that encourages people to consider their responsibilities in caring for the land, water, air, and community – now and for the next seven generations (a shared wisdom of Indigenous Knowledge) while also fulfilling the core purpose of the business park in its form and function.

Document structure

This document presents an approach for the economic development of business park lands that are in keeping with the above vision statement. The following four principles are proposed as foundational to achieving this goal, and were informed by the in-depth engagement undertaken with IFSGG and the City by SpruceLab in 2023. They are also supported by the case study analysis of relevant “eco-business park” projects and similar evaluation frameworks (refer to Appendix B – Case Study Analysis).

The four principles are distinct enough to warrant that they be addressed separately, without any hierarchy. It is also understood that there are many areas where these principles intersect and are mutually supportive. For this evaluation framework to respond successfully to the City of Kingston’s changing needs (e.g. climate change and population growth modelling), it is essential that approaches towards innovation and “learning-to-adapt” are also consistently applied. These principles are as follows:

- **Ecological Health and Sustainability**
- **Economic Resilience**
- **Community Well-being**
- **Indigenous Placekeeping**

In addition, considering the existing site conditions, the future needs and function of the proposed business park, the concept plan developed by the City of Kingston for the expansion lands must be informed by these principles in a way that is relevant and measurable. By evaluating the concept

Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON

plan through this framework, it will create a strong underlying foundation for future shovel-worthy developments at the site/ lot level, where urban design guidelines will be developed to help to guide this work.

Each of these principles requires a set of key objectives with realistic strategies to help achieve them, work that must be grounded in research and seek to achieve a “made in Kingston” approach. Considerations for sustainable business parks and industrial lands are emerging. As this is the first example in Kingston, it’s important to appreciate that this framework is a “living document” that will be adapted overtime based upon lessons learned, new science and approaches. Additionally, requirements for accessibility, safety, and technical viability are not included as objectives because they are understood to be inherent requirements of all plans. All of this information is formatted into an Evaluation Checklist, which can be found at the end of this report as Appendix A – Shovel-worthy Evaluation Framework.

The Shovel-worthy principles begin with a description that introduces the essence of the principle. This is followed by key objectives that must be met for it to be realized. The next section, “Future urban design guidelines to consider” is provided as a tie-in to the next phase of the expansion lands project. This section touches upon topics and areas to consider in the preparation of urban design guidelines for the development of both the public lands, and parcels that will be privately sold to businesses. The last section of each principle provides additional resources which were utilized to inform the respective principle. These resources provide information to those interested to learn more about the respective topics.



3.1 PRINCIPLE #1: ECOLOGICAL HEALTH AND SUSTAINABILITY

Description:

Biodiversity is prioritized, and sustainability is central to all decisions related to land development by including ecological corridors and habitat creation (e.g. linking Butternut Creek to the IFSGG site). Considerations are holistic, adaptive, and far-sighted, and embrace innovative nature-based infrastructure solutions that work with the systems of Mother Earth. Lowering the carbon footprint of the project and an overall commitment to planning for a Learning and adapting includes future-proofing and creating capacity, to respond effectively and efficiently to climate change stressors and to population growth for Kingston. Ideally, the business park should achieve the requirements of the [City of Kingston's Green Standard Community Improvement Plan](#).

Objectives and strategies for the concept plan:

Objective: Climate Resilience

Strategies:

- Design landscapes and green infrastructure (“nature-based solutions”) to respond and adapt to climate change
- Plan for a landscape that decreases urban heat, and helps address a changing climate with extreme weather events
- Protect and enhance natural features and functions to support the ecology of the business park and surrounding lands

Objective: Enhanced Biodiversity

Strategies:

- Create opportunities for primarily native plant species to be planted in landscaped areas
- Provide landscape spaces for native pollinator species (bees, butterflies, birds, etc.)
- Provide landscapes that support wildlife habitat and food throughout the seasons

Objective: Landscape connectivity

Strategies:

- Ensure that ecological corridor and road network function to support wildlife suitable for business parks which are complementary to the ecological lands of Butternut Creek
- Provide a minimum of 20% natural / soft landscape space within the business park to be maintained as public lands
- Design business park to function as a cohesive place that is not compartmentalized
- Create a stormwater management pond that can function as passive recreational space (e.g. a constructed wetland)

Objective: Water Balance

Strategies:

- Direct stormwater runoff to the stormwater management pond, natural spaces and soil volumes for tree plantings
- Adopt green stormwater infrastructure where possible (e.g. recharging of water table and improving storage capacity for heavy rains, also known as “low impact development” or LID practices)
- Re-use and recycle water where possible

TENTIAL SITE DESIGN GUIDELINES FOR PRIVATE LANDS:

Waste Reduction

- Recycling
- Composting
- Up-cycling, material re-use and waste diversion

Air Quality

- Reduction of fossil fuel emissions
- Control of dust and air quality emissions
- Mitigation of noise and vibration impacts on adjacent lands
- Life-cycle carbon assessments, including sourcing local materials where possible
- Use of materials that don't contribute to urban heat (e.g. high albedo (lighter coloured surfaces), reduction of dark asphalt paved surfaces)
- Protect nature to preserve carbon sequestration ability (e.g. soil conservation, growing conditions for “little forests”)

Sustainable buildings and reduced greenhouse gas emissions

- Renewable energy (e.g. rooftop solar panels, green roofs on buildings, geothermal heating)

Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON

- Reduced energy consumption – use of energy efficient fixtures, appliances, etc.
- Reduce water consumption
- Energy-efficient buildings
- Energy storage and distribution - for energy systems providing heat and power
- Bird-friendly architectural design (e.g. specialized window treatments to decrease bird collisions)

Sustainable landscapes

- Creation of “little forests” between parcels as linear connections to the trail system and ecological corridor
- Enhance biodiversity with the planting of native plants, especially pollinator species and designing for winter habitat
- Maintain a minimum of 20% natural areas / greenspaces to help cool the environment and to improve water balance
- Reduction of water use for landscapes, also known as “xeriscaping”
- Design low maintenance landscapes to reduce energy use (e.g. “low mow” in place of traditional lawn areas)
- Use of Low Impact Development (LID) techniques
- Provide permeable paving where possible, to reduce the amount of impervious surfaces

Outdoor Lighting

- Use of night sky compliant lights
- Use of lights with cut-off shields to prevent light spillage into natural areas
- Use of energy efficient/solar powered lights

Additional Resources:

Existing evidence-based certification programs for development of designs which promote ecological health and sustainability include:

[Toronto Green Standard v4](#)

[CAGBC – Canadian Green Building Council, LEED – Leadership in Energy and Environmental Design AND ZCB - Zero Carbon Building Standard v3:](#)

3.2 PRINCIPLE #2: ECONOMIC RESILIENCE

The development of a business park requires a financially sound economic model that addresses the needs of both the City of Kingston and the purchasers of the respective development parcels. Opportunities for local employment for quality jobs is encouraged. Development must also be balanced with creating a diversity of business types and a short timeframe for the return on investments.

Objectives and strategies for the concept plan:

Objective: Financial sustainability

Strategies:

- Total development costs should break even based on investment; the cost of development should be recouped through the sale price of the serviced lots.
 - A reasonable buffer between anticipated cost and projected purchase price is important to address contingencies and unknowns related to land development.
- The sale price of serviced land must offer competitive prices and be aligned with the market value.
- Provide commercial uses along Highway 15 that cater to both the community and the business park, to attract revenue.

Objective: Functionality

Strategies:

- The road layout informs the servicing layout, as services are typically installed within the right-of-way. To be efficient, maximum lots should be serviced along a minimal road length to reduce cost and hard surfaces.
- Two entry/exit points to the site are important for efficient traffic movement: One from Highway 15, and the other to connect to the existing business park.
- Provide an efficient servicing layout which includes:
 - The ability to loop watermain service lines.
 - Sanitary discharge that follows existing grades, which generally drains towards Highway 15.
 - Storm drainage that follows existing grades (i.e. 70% of the site slopes towards Highway 15, and 30% slopes easterly)

Objective: Affordability

Strategies:

- Deliver “ready to develop” lots, i.e. pre-serviced parcels of land with access from a public road to allow businesses to become established in a short time frame.
- Offer the land at competitive market rates, and support lot development with minimum time, effort and investment required for planning approvals and development.

Objective: Local Economic Development

Strategies:

- Provide a variety of parcel sizes to attract businesses of different sizes and uses, for an economically diverse business park.
- Encourage businesses to locate in the park that support other existing businesses in and around Kingston, including providing industrial matchmaking opportunities.
- Encourage the creation of quality jobs for Kingston and area residents.
- Market the “eco-park business park model” to attract companies that support values of ecology, community, etc., thereby creating synergies within the business park community.

POTENTIAL SITE DESIGN GUIDELINES FOR PRIVATE LANDS:

- Sustainability:
 - Design built form to be adaptable as the businesses grow and evolve over time
 - Encourage green infrastructure, green energy sources and green building standards into the design, wherever possible
- Consider financial incentive programs to support the creation of green initiatives noted above
- Affordability:
 - Recovery of waste heat to save on energy costs

Additional Resources:

Below are examples of economic models that are supportive of enhanced environmental and social benefits in projects:

[Triple Bottom Line](#) (Investopedia.com)

[Life Cycle Triple Bottom Line Cost Analysis of High Performance Building Investments – 2020 Case Studies](#) (Construction Industry Institute)

3.3 PRINCIPLE #3: COMMUNITY HEALTH AND WELL-BEING

Description:

Developments are designed with the needs of the community in mind, and purposeful investments are made to develop high quality places to live, work, learn and play, especially when informed by community engagement. Well-being is foundational for a livable city – and every choice made affects future generations (See: "[The Infrastructure of Wellbeing](#)"). The built environment shapes our sense of who we are, what we are connected

to, and can help to create a sense of belonging. Opportunities for learning about a place can help to enrich this connection. Places must be safe and accessible to all ages, abilities, and socio-economic status.

Objectives and strategies for the concept plan:

Objective: Interface with Community

Strategies:

- Design the park to have a strong visual presence from the street to create a sense of place. For example, provide an entry feature, wayfinding/ signage and enhanced landscape spaces
- Create a permeable boundary to the business park so that it integrates with the surrounding neighbourhood including:
 - Sitting and resting areas
 - Pathways internal to the park that connect to the surrounding neighbourhood and the IFSGG lands

Objective: Active Transportation

Strategies:

- Within the road and trail network of the business park, provide opportunities for
 - Active transportation (e.g. walking, cycling, and micro-mobility)
 - Access to public transit

Objective: Public Realm design

Strategies:

- Within the public spaces of the business park (e.g. boulevards, trails, open spaces, SWM pond), strive to create:
 - Design for all ages and abilities (e.g. universal access)
 - Welcoming environments that encourage a sense of belonging to a community
 - The right to roam, to forage, to harvest
 - Connections to place, the land and water, including listening/experiencing spaces of nature integrated into ecological corridors
 - Places for gathering with others, for passive recreation, play, relaxation and education

POTENTIAL SITE DESIGN GUIDELINES FOR PRIVATE LANDS:

- Building design
 - Encourage a high-quality building to be placed at the entrance to the business park to serve as a gateway into the park
 - Ensure that building facades that are visible from the public roads are animated with high quality building materials, colours and architectural design
 - Provide ample glazing where possible for facades facing public roads and public spaces to improve eyes on the street and eyes on the park
- Site design
 - Screen the view of garbage and loading areas from the public realm to enhance the pedestrian experience
 - Orient buildings and outdoor spaces to capture sunlight, based upon the function of the space
 - Provide landscape areas within large parking lots to reduce the heat island effect
 - Design parking areas to encourage car-pooling, EV parking, and bike parking
- Landscape design
 - Establish an adequate tree canopy to contribute to the urban forest and to communicate to well being
 - Include shaded, seating areas for employees and visitors of the business park
 - Encourage a network of pedestrian and cycling routes for passive recreation and the ability to walk/bike/ take transit to work
- Culture and Community
 - Provide art installations on private lands
 - Provide educational/interpretive information about the business, and its contributions to the eco business park model

Additional Resources:

Existing evidence-based certification programs that can be referred to in the development of designs that promote community health and well-being include:

[Community Wellbeing Framework \(DIALOG\)](#)

[“What are the Social Determinants of Health?” \(CPHA - Canadian Public Health Association\)](#)

[The WELL Building Standard, WELL Version 2 \(from IWBI - International WELL Building Institute\)](#)
[fitwel](#)

[International Living Future Institute](#)

[Rick Hansen Foundation Accessibility Certificate](#)

[CPTED Canada – Crime Prevention Through Environmental Design
Projects for Public Spaces](#)

Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON

Image: SpruceLab



3.4 PRINCIPLE #4: INDIGENOUS PLACEKEEPING

Description:

The City of Kingston is located in Treaty 57 territory, following the 1783 Crawford's Purchases (signed by several Indigenous Nations with the British), in the traditional territories of the Anishinaabe, Haudenosaunee, and Huron-Wendat Nations and now home to many Inuit, Métis, and people from many different First Nations. Of the Truth and Reconciliation Commission of Canada's Calls to Actions, Action #43 is quite relevant:

"We call upon federal, provincial, territorial, and municipal governments to fully adopt and implement the [United Nations Declaration on the Rights of Indigenous Peoples \(UNRIP\)](#) as the framework for reconciliation."

There are many articles from this document that can be seen as having relevance to the development of municipal lands for a business park. For example, "Article 15: Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information". For the purposes of this document, it's important to stress the need for ongoing relationship building with First Nations that are local to the Kingston area (e.g. Mohawks of the Bay of Quinte, and Alderville First Nation), to honour the interests of the treaty and interest rights holders for the area, and to work towards reconciliation.

The [Engage for Change](#) program is an example of meaningful collaboration with the local Indigenous community to respectfully integrate Indigenous voices, language and cultures into City work, and to respond directly to the needs of the community.

The changing of land that includes the development of public realm offers great opportunities to create space for Indigenous voices and narratives. In this work, there is also the importance of telling the "truth" as part of "truth and reconciliation" efforts, to describe how the First Peoples were harmed and displaced through colonization, and the impacts of this even today. In this document, the term "Indigenous Placekeeping" is used and is described by Wanda Della Costa, a Cree architect and professor, as follows: *"...it prioritizes the traditional and cultural setting, negotiates an expanded role of citizen experts and knowledge brokers, and utilizes Indigenous methodologies as a means of accessing local narrative."* (In: *Indigenous Placekeeping: Campus Design and Planning*, 2018, Arizona State University). The creation of meaningful places with interpretive art and signage with narratives specific to the Kingston area, as well as identifying opportunities for Indigenous organizations and businesses to flourish, are critical elements of shovel-worthy principles. With the guidance of the First Nations and the support of the local Indigenous community, Indigenous placekeeping can be a genuine demonstration of efforts to work towards reparative and regenerative justice.

Objectives and strategies for the concept plan:

Objective: Indigenous Design

Strategies:

- Art and designs by Indigenous artists located throughout the public lands of the concept plan (e.g. public road, stormwater management pond, wildlife corridor)
- Designs that respect and show directionality (the four sacred directions)
- Public realm that represents circularity, holistic, interconnected, and respects that “all voices matter”

Objective: Indigenous Narratives

Strategies:

- Interpretive signage with storytelling narratives (e.g. Treaty, wampum belts, Butternut Creek watershed)
- Supportive of land-based teachings such as 7 generations thinking, Medicine Wheel, etc.
- Celebrates the four seasons (e.g. spring planting, summer/fall harvest, etc.)
- Prioritizes land and water and the First Peoples of these lands

Objective: Caring for Mother Earth

Strategies:

- Stewardship agreement with All Our Relations Land Trust (e.g. to tend the medicine gardens)
- Restoration efforts to support All Our Relatives (all creatures, land and water)
- Opportunities for Indigenous gardening practices
- Potential for training programs (e.g. for youth, or adult land-based job skills training)

POTENTIAL SITE DESIGN GUIDELINES FOR PRIVATE LANDS:

Indigenous Spaces

- Provide art and designs by Indigenous artists where possible within the development parcels (e.g. sculptures, installations, murals.)

Indigenous educational programming

Provide interpretive signage with storytelling narratives (e.g. within landscape areas, art installations)

Provide information on "Little forests" that tell the ecological / relations story (past, present, future)

Additional Resources:

[First Nations Information Governance Centre \(FNIGC\), Canada](#)

[City of Auckland Design Manual "Te Aranga Principles", \(Project led by Māori peoples in Aotearoa, New Zealand\)](#)

[Canadian Council for Aboriginal Business \(CCAB\), Member Directory](#)

[Indigenous Business Directory, Government of Canada](#)



Image: Sweetgrass Braid (Photo: SpruceLab)

4.0 SUMMARY

The city seeks to expand their supply of industrial and business park lands, and purchased the lands to the north of the existing St. Lawrence Business Park with the intention of expanding this park. Through consultation with the community including the IFSGG, it was identified that a “shovel worthy” approach to the business park expansion lands should be sought. This includes applying an ecological and community-based lens to the development of these lands. Through a series of consultations with IFSGG and community partners, four principles were identified as “shovel worthy principles”. In no specific order, they are: Ecological Health and Sustainability; Economic Resilience; Community Well-being; and Indigenous Placekeeping.

The evaluation chart below (Appendix A) will assist the City of Kingston in evaluating not only these expansion lands but could serve as a tool to evaluate future lands to be purchased for industrial and business park purposes. The future design guidelines suggested in this document may also provide a shovel worthy evaluation of individual parcels within the park at the site plan application stage. Lastly, the additional resources noted throughout the document and the case study analysis (Appendix B) may assist with further reading on key topics related to the ecological business park model that underly this work.



Image: View across the expansion lands to south and the existing business park (Photo: SpruceLab).

APPENDIX A – **DRAFT** SHOVEL-WORTHY EVALUATION CHART

OBJECTIVE	STRATEGY	Potential Score	Score	Evaluation Criteria (TBD)
1. ECOLOGICAL HEALTH & SUSTAINABILITY				
CLIMATE RESILIENCE	<ul style="list-style-type: none"> • Design landscapes and green infrastructure to respond and adapt to climate change • Create a planting design that decreases urban heat, and addresses a changing climate with extreme weather events • Protect and enhance natural features and functions to support the ecology of the business park and surrounding lands 			
ENHANCED BIODIVERSITY	<ul style="list-style-type: none"> • Provide primarily native species in landscape areas • Provide landscapes for native pollinator species (bees, butterflies, birds, etc.) • Provide landscapes that supports wildlife habitat and food throughout the seasons 			
LANDSCAPE CONNECTIVITY	<ul style="list-style-type: none"> • Ensure that ecological corridor and road network function to support wildlife, human recreational and business activity • Provide approximately 15 to 20% landscape space within the business park to be maintained as public lands • Design business park to function as a cohesive place, and not compartmentalized • Create an ecological corridor • Create stormwater management to also function as passive recreational space 			
WATER BALANCE	<ul style="list-style-type: none"> • Direct stormwater runoff to SWM pond, natural spaces and soils • Adopt green stormwater infrastructure where possible (e.g. recharge water table; improve storage capacity for heavy rains) • Re-use and recycle water where possible 			

Shovel-Worthy Framework for the St Lawrence Business Park Expansion Lands, Kingston, ON

2. ECONOMIC RESILIENCE				
FINANCIAL SUSTAINABILITY	<ul style="list-style-type: none"> • Total development costs should be able to break-even based upon the investment to service the lands and development parcels • The sale price of serviced land must offer competitive prices and be aligned with the market value 			
FUNCTIONALITY	<ul style="list-style-type: none"> • The road layout should inform the servicing layout. To be efficient, maximum lots are serviced along a minimal road length to reduce cost and hard surfaces • Provide 2 entry points to the site for efficient traffic movement • Provide an efficient servicing layout which includes: <ul style="list-style-type: none"> ○ Ability to loop water main ○ Sanitary discharge to follow existing grades ○ Storm drainage to follow existing grades 			
AFFORDABILITY	<ul style="list-style-type: none"> • Deliver “ready to develop” lots i.e. pre-serviced parcels of land with access from public road to allow businesses to become established in shorter time frame • Sell land at competitive market rates; lot development should require minimum time, effort and investment for planning approvals and development. 			
LOCAL ECONOMIC DEVELOPMENT	<ul style="list-style-type: none"> • Provide a variety of parcel sizes to attract businesses of different sizes and uses, to create an economically diverse business park • Encourage businesses to locate in the park that support other existing businesses in and around Kingston, including providing industrial matchmaking opportunities • Encourage the creation of quality jobs for Kingston residents • Eco-park business park model can attract companies that support values of ecology, community, etc., creating synergies 			

3. COMMUNITY WELL-BEING				
<p>INTERFACE WITH COMMUNITY</p>	<ul style="list-style-type: none"> • Design the park to have a strong visual presence from the street to create a sense of place. For example, provide an entry feature, wayfinding/ signage and enhanced landscape spaces • Create a permeable boundary to the business park so that it integrates with the surrounding neighbourhood including: <ul style="list-style-type: none"> ○ sitting/resting areas ○ pathways internal to the park that connect to the surrounding neighbourhood and the IFSGG land 			
<p>ACTIVE TRANSPORTATION</p>	<ul style="list-style-type: none"> • Within the road and trail network of the business park, provide opportunities for <ul style="list-style-type: none"> ○ active transportation (e.g. walking, cycling, and micro-mobility) ○ access to public transit ○ Potential bus route crossing the Wabban, for easy transportation between east and west parts of the city 			
<p>PUBLIC REALM DESIGN</p>	<ul style="list-style-type: none"> • Within the public spaces of the business park (e.g. boulevards, trails, open spaces, SWM pond), strive to create: <ul style="list-style-type: none"> ○ Design for all ages and abilities (e.g. universal access) ○ Welcoming environments that encourage a sense of belonging to a community ○ The right to roam, to forage, to harvest ○ Connections to place, the land and water, including listening/experiencing spaces of nature integrated into ecological corridors ○ Places for gathering with others, for passive recreation, play, relaxation and education 			

4. INDIGENOUS PLACEKEEPING				
INDIGENOUS DESIGN	<ul style="list-style-type: none"> • Art and designs by Indigenous artists throughout public lands of the concept plan (e.g. public road, SWM pond, ecological corridor) • Designs that respect and show directionality (the four sacred directions) • Public realm that represents circularity, is holistic, interconnected, and respects that “all voices matter” 			
INDIGENOUS NARRATIVES	<ul style="list-style-type: none"> • Interpretive signage with storytelling narratives (e.g. Treaty, wampum belts, Butternut Creek watershed). • Supportive of land-based teachings such as 7 generations thinking, Medicine Wheel, etc.) • Celebrates the four seasons (e.g. spring planting, fall harvest) • Prioritizes land and water and the First Peoples of these lands 			
CARING FOR MOTHER EARTH	<ul style="list-style-type: none"> • Stewardship agreement with All Our Relations Land Trust (e.g. to tend the medicine gardens) • Restoration efforts to support All Our Relatives (all creatures, land and water) • Opportunities for Indigenous gardening practices • Potential for training programs (e.g. for youth, or land-based job skills training) 			
	Total score			

APPENDIX B – CASE STUDY ANALYSIS

A series of four papers/ guidelines on the design of industrial/business parks that promote an ecological and sustainable design model were reviewed and analysed by SpruceLab. These are summarized below with an example of how they relate to the St. Lawrence Business Park expansion lands.

Case Study #1: Green Business Parks Toward Sustainable Cities		
Atwa, S., Saleh, A., Ibrahim, M.: Conference Paper in WIT Transactions on Ecology and the Environment, April 2017, DOI: 10.2495/ECO170021		
CASE STUDY OVERVIEW	CATEGORIES	EVALUATION SYSTEM
<p>Article findings are applicable to all in the world of green business park planning and design. While the focus of the article is on the improvement of business parks in Egypt, the principles may be applicable to business parks globally.</p> <p>Authors reviewed 9 green business park case studies across the UK, Canada, Australia, China, Poland, and Netherlands to highlight the design strategies they used to meet their sustainability targets. Outcome of the above work is a recommended checklist for consideration during all stages of the design process.</p>	<ul style="list-style-type: none"> ▪ Environment and Landscape Design ▪ Water ▪ Waste ▪ Building Design ▪ Energy ▪ Materials ▪ Connectivity and Transportation ▪ Social ▪ Services <p>Sub-categories relate to specific design suggestions are also provided.</p>	<p>Points are allocated for each of those subcategories for environment, economic, and social indicators.</p>
<p><i>Case Study #1’s applicability to the Business Park Expansion Lands: Evaluation model as well as the indicators of success or failure can be applied to this project.</i></p>		

Case Study #2: Innovista Eco-Industrial Park Development Guidelines (2011)

Development guidelines created and adopted by the town of Hinton, Alberta Council [Case Study 2](#)

CASE STUDY OVERVIEW	CATEGORIES	EVALUATION SYSTEM
<p>Guidelines are meant to function more as guidance than prescription - allowing for optionality in design. It takes the form of a checklist with criteria split between Required and Optional.</p> <p>Some of the criteria are subjective, that could be more direct and quantifiable. If certain systems are being recommended, then options could be provided in convenient ways so there are more assurances that this can be achieved.</p> <p>Developers have a sense of control and freedom, however, also have the ability to choose the easiest and cheapest options. Municipal reviewers of proposals would require support, to ensure that developers are committed to working towards achieving the guidelines that are developed.</p>	<ul style="list-style-type: none"> ▪ Pre-Development Planning ▪ Parcel Layout & Organization ▪ Access + Movement ▪ Landscaping & Open Space Design ▪ Energy Systems ▪ Water, Wastewater, and Stormwater systems ▪ Design Character & Materials ▪ Construction ▪ Innovation in Sustainable Development 	<p>The checklist is a series of questions on design criteria relating to the categories shown in the column to the left. There is space for those submitting proposals to provide answers as to how they are addressing each criteria.</p>

***Case Study #2's applicability to the Business Park Expansion Lands:
The guidelines can be used as a starting point. They can be tailored to suit the municipality and the goals that they strive to achieve.***

Case Study #3: Singapore: Planning for Biodiversity in Business Parks

Written by: Sng, M. Published by the Centre for Urban Greenery and Ecology [Case Study 3](#)

CASE STUDY OVERVIEW	CATEGORIES	EVALUATION SYSTEM
<p>This article highlights the corporation’s approach to sustainable development, with a focus on Singapore’s first eco-business park, “The CleanTech Park”. It is not a set of guidelines, but more of a conceptual framing of their approach to design. The article has no checklists.</p> <p>Design centers around a “Green Lung”, taking the form of a swamp type ecosystem which doubles as stormwater management, with green ‘fingers’ reaching out along pathways and between buildings to bring people closer to nature.</p> <p>The intention to preserve the natural environment and promote biodiversity are cited numerous times. It also notes 3 things that make business parks uniquely situated for sustainable development: Large open spaces for green space, large flat roofs (for constructing ecologies/habitat), and; Quiet at night.</p> <p>Specific intentions, with measurable and quantifiable criteria are included that will identify if the project was a success. There are opportunities for researchers to monitor commitment to initial proposals, which could contribute to successful eco-business park guidelines in the long term.</p>	<ul style="list-style-type: none"> ▪ Environmental ▪ Economic ▪ Social 	<p>None: The article provides a design framework only.</p>

***Case Study #3’s applicability to the Business Park Expansion Lands:
The focus on designing the park as an ecosystem with many sustainable features is applicable to this project.***

Case Study #4: United Nations International Guidelines for Industrial Parks (2019)

Produced by United Nations Industrial Development Organization (UNIDO) Cross-Disciplinary Team on Industrial Parks (Zhao, J., Gebremenf A, E., Ridlovschi, R., Ding, H., and Zhang, M.) under general guidance of Philippe Scholtès. [Case Study 4](#)

CASE STUDY OVERVIEW	CATEGORIES	EVALUATION SYSTEM
<p>This extensive (130 page) document is a reference framework written for all stakeholders involved with industrial parks. It is intended for use at all stages of park development. Document is applicable for industrial parks around the world, although the precedents analyzed are primarily from Ethiopia, Peru, and China.</p> <p>At the planning stage, it is encouraged there be a focus on:</p> <ul style="list-style-type: none"> ▪ Long-term vision with strong collaboration between all stakeholders ▪ Integrated infrastructure, inclusive social infrastructure ▪ Synergy between industries on site, mixed land uses ▪ Conservation of natural features, enhancement of environment and landscape areas ▪ Renewable energy sources, energy conservation, maximizing passive solar design ▪ Suitable, and diverse, plot sizes for future expansion <p>Of interest are the quantitative sub-indicators as well as the grading framework for industrial business park evaluation. Compared to other sources, this document provides clear, objective, criteria for success or improvement, rather than being subjective.</p>	<ul style="list-style-type: none"> ▪ Sustainable site development ▪ Sustainable transportation ▪ Water conservation ▪ Energy efficiency ▪ Sustainable material and resource management ▪ Health and well-being ▪ Green education and public consultations ▪ Waste management 	<p>The article cites three main principles with performance indicators for each. Indicators have a series of ‘composite indicators’ using quantitative inputs that are either met / not met. Quantitative inputs are intended to be comparable against national performance outside the park.</p> <p>Overall performance scores within each principle of economic, social, and environmental are assigned and graded for an overall percentage. Unfulfilled inputs are meant to reveal opportunities for improvement, not failure.</p>

Case Study #4 - Applicability to the Business Park Expansion Lands:

The article encourages those who use this evaluation framework as a precedent to adapt it to their needs.

Exhibit C: Lands proposed to be removed from the Urban Boundary

