



**City of Kingston
Information Report to Council
Report Number 20-201**

To:	Mayor and Members of Council
From:	Paige Agnew, Commissioner, Community Services
Resource Staff:	Tim Park, Manager, Development Approvals
Date of Meeting:	September 15, 2020
Subject:	Supplementary Information Report
File Number:	D35-003-2019
Address:	2285 Battersea Road, 2311 Battersea Road, and Kingston Con 6 PT Lot 33 RP; 13R-15799 Part 1
Application Type:	Official Plan & Zoning By-Law Amendment
Owner:	BPE Developments Inc.
Applicant:	BPE Developments Inc. and Fotenn Consultants Inc.

Council Strategic Plan Alignment:

Theme: 1. Demonstrate leadership on climate action

Goal: See above

Executive Summary:

At the Council Meeting on August 11, 2020, City Council passed a motion to defer application, File Number D35-003-2020, for an Official Plan Amendment and zoning by-law amendment with respect to the subject site located at 2285 Battersea Road, 2311 Battersea Road, and Kingston Con 6 PT Lot 33 RP; 13R-15799 Part 1. The application proposes to redevelop the site with a rural tourist commercial development. The motion to defer contained direction to staff to consult with the Kingston Climate Hub and at least one other recognized climate focused organization on their review and recommendations on the application. This supplementary report provides the requested information.

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Meetings were set up with SWITCH, Kingston Climate Hub, and Sustainable Kingston on August 25th, 26th, and 27th respectively where the reviewers were able to ask questions, clarify the scope of the review, and discuss the deliverables. The organizations provided written feedback on September 1st.

Suggestions for improvements to the sustainability portfolio of the application, as well as considerations for the development of future planning policies were included in the written reviews. The applicant has been provided with a copy of the reviews and suggestions for their considerations.

The City's Manager of Climate Leadership, Manager of Policy Planning attended the meetings with the climate organizations to hear their questions and feedback on applications, and what considerations they had for future policy. They have received a copy of the written reviews.

Each organization was able to conclude that the application's proposed sustainability initiatives went above and beyond what the City's current policy requires. The combination of several common sustainability initiatives such as electric vehicle charging stations, solar, wind, and building construction practices, as well as the inclusion of a geothermal system, could yield significant positive environmental outcomes. If built out as proposed, the development could be an example on sustainable leadership and building envelope implementation.

Staff continue to recommend approval of the application as proposed as it is consistent with the Provincial Policy Statement, conforms to the City's Official Plan, and represents good land use planning. Additional sustainability features cannot be captured in the application for Official Plan amendment and zoning by-law amendment, or through a future Development Agreement, as the City does not have policies in place to guide such a requirement. Proposed sustainability features presented as part of a future site plan control application will be captured in the drawings and any applicable special conditions.

Recommendation:

This report is for information only.

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Authorizing Signatures:

ORIGINAL SIGNED BY COMMISSIONER

**Paige Agnew, Commissioner,
Community Services**

ORIGINAL SIGNED BY CHIEF
ADMINISTRATIVE OFFICER

**Lanie Hurdle, Chief
Administrative Officer**

Consultation with the following Members of the Corporate Management Team:

Peter Huigenbos, Commissioner, Business, Environment & Projects

Brad Joyce, Commissioner, Corporate Services

Not required

Jim Keech, President & CEO, Utilities Kingston

Not required

Desirée Kennedy, Chief Financial Officer & City Treasurer

Not required

Sheila Kidd, Commissioner, Transportation & Public Works

Not required

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Background

An application for Official Plan and zoning by-law amendment was filed on April 9, 2019 to re-designate and re-zone lands located at 2285 Battersea Road, 2311 Battersea Road, and a landlocked parcel north of 2311 Battersea Road to allow for a rural tourist commercial use. Two Public Meetings were held in June of 2019 and February of 2020. Planning Committee recommended approval of the application to Council on July 16, 2020. At their meeting on August 11, 2020, City of Kingston Council passed the following motion:

- **That** Council defer Report 62, Clause 1, Received from the Planning Committee, regarding File # D35-003-2019 at 2285 Battersea Rd, 2311 Battersea Rd and Kingston Con6 PT Lot 33 TP; 13R-15799 Part 1, so that staff can consult with Climate Action Hub and at least one other recognized Climate focused organizations to hear their recommendations and review of this application and report back to council for the Sept 15 /2020 Council meeting.

The City of Kingston declared a Climate Emergency on March 5, 2019. Both the Provincial Policy Statement and the City's Official Plan contain policies on climate change and sustainable development that must be reviewed as part of any *Planning Act* application to the City. These policies have been formally addressed by Planning Staff in the Comprehensive Report for the Official Plan amendment and zoning by-law amendment for File Number D35-001-2019 ([available at this link](#)).

In response to the motion, staff reached out to three climate focused organizations: Kingston Climate Hub; SWITCH; and Sustainable Kingston. Meetings were held on August 25th, 26th, and 27th respectively. In attendance at the meetings were representatives of each climate focused organization; staff from the City's Planning Services; Manager of Climate Leadership for the City; Malroz Engineering; Cataraqui Conservation; and representatives from BPE Developments Inc (the applicant). BPE Developments Inc. provided a chart detailing the sustainability initiatives of the project (Exhibit A – Sustainability Initiatives).

Each of these organizations provided written feedback on September 1, 2020, which are attached as exhibits to this report. As part of their review, the climate organizations were asked to provide feedback on the application itself, and to also consider the broader application of sustainability measures to future applications as the City is undergoing a thorough review of its policies.

Climate Focused Organization Review

Switch

Switch is an organization that is dedicated to improving the environmental and economic sustainability of Southeastern Ontario through promoting development and commercialization of energy efficient and alternative energy technologies, products, processes, and services. The scope of their reply is focused on the energy generation and efficiency components of the project, as relayed in the Sustainability Initiatives document. Input related to broader implementation impacts related to future applications of this type and the more general building

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development sustainability interests of the city has also been provided. Due to the limited time available for review, they were not able to consult with their full network.

The use of wind, solar, and improvements to the building envelope are mainstream technologies commonly employed on projects, but the inclusion of geothermal heating stands out as being significantly more than business as usual. Their review concluded that the “breadth of technologies outlined is impressive for a single-location development”, as the combined use of the technologies is not standard, and the sum-total of the energy impacts would be significant.

Switch recommends that the applicant consider the use of solar hot water to heat water for use in the spa, restaurants, and hotel rooms to potentially minimize even further the use of a gas boiler. This would combine water heated by the sun in arrays attached to roof surfaces with solar panels for electricity generation, increasing overall efficiency and use of the installations. Even if the technologies are applied separately, their review concluded that there is enough roof surface at full build out to install both systems.

In their opinion, this development sets a new standard by which future evaluations can be evaluated as they relate to sustainable energy and building envelope implementation. Switch concluded in stating that support for the monitoring would help ensure the long-term viability of the sustainable energy aspect and provide for a great learning opportunity for those looking to work in sustainable development. SWITCH's letter and review spreadsheet are attached as Exhibit B to this report.

Kingston Climate Hub

Kingston Climate Hub's mission is to catalyze a global solution to the climate crisis by making urgent action a necessity across every sector of society. The Kingston Climate Hub supports the target set out in the Intergovernmental Panel on Climate Change (IPCC) Summary for Policymakers of reducing emissions by 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050.

Kingston Climate Hub concluded that the Unity Spa as proposed goes above and beyond the current requirements of the City. They provided in their review is a specific set of recommendations that apply to the project and for further consideration in new policy to apply to all future development applications.

Project Specific

1. That the City of Kingston address outstanding sections of the Provincial Policy Statement and Official Plan regarding the development's conformity with the policies as outlined under Kingston Climate Hub comments in Appendices B and C.
2. That the City of Kingston require Greenhouse Gas (GHG) accounting as part of the Development Agreement with BPE.

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3. That BPE be directed to offset any on site energy consumption and offsite transportation that is not 100% renewable.
4. That the City of Kingston make a request to the Ministry of the Environment that BPE acquire a Permit to Take Water.
5. That the City's Peer Review team be directed to assess the potential impact of the 35 boreholes at 500 feet depth for the geothermal system be assessed regarding ground water interference.

All Future Development Proposals

1. Require GHG accounting as part of every development proposal.
2. Require a "plan to zero" from each development on how they will achieve zero emissions no later than 2040.
3. Update the Official Plan to strengthen language around GHGs and climate change.
4. Include a climate impact section in each comprehensive report to Council regarding Council decisions.

The reviewers noted that the current regulatory context does not require developers to consider GHGs in their applications to the City of Kingston and if Kingston intends to meet the zero-by-2040 emissions target, GHG accounting must be mandatory for all development applications.

Kingston Climate Hub urge closer scrutiny into the proposed project including energy requirements, impact on transportation, grid connection and gas burning backups, plus a full analysis of scope 3 carbon accounting. Furthermore, they provided their opinion on the applications conformity to the Provincial Policy Statement. Their review is attached as Exhibit C to this report.

Sustainable Kingston

Sustainable Kingston is a community organization that specializes in assisting businesses in reducing their carbon footprint and greening their operations, and their review comments on the business sustainability of the proposed application. Sustainable Kingston noted that they are not able to comment on whether the proposal is good land use planning, whether the site is suitable for the proposed use, or what the effect of the development will be on the neighbouring community.

In review of the application, Sustainable Kingston applied the criteria of their badge system. Sustainably.eco was created using the United Nations Sustainable Development Goals and is used to highlight local businesses that are taking measurable actions in sustainability. The 12 badges of sustainably.eco that businesses can be awarded include: the Climate Action badge; Community badge; Cruelty Free badge; Sustainable Transportation badge; Food Recovery

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badge; Carbon Footprint badge; Local badge; Organic badge; Recycling badge; Reusable Friendly badge; Plant-based badge; and, the Living Wage badge.

Sustainable Kingston currently has 47 business members who have collectively been awarded a total of 87 badges. The average business member has earned 1.8 badges, with Queen's University and Tara Foods earning the most with 6 each.

Based on their review, Sustainable Kingston concluded that the development would be eligible for five badges if it was constructed and operated in the manner as proposed. The five badges include: the Local badge, the Sustainable Transportation badge; the Community badge; the Reusable Friendly badge; and the Food Recovery badge.

It was also determined that the application could be eligible for two additional badges (Plant Based badge and the Climate Action badge), but there was not enough information presented as part of the review to determine if the criteria was met.

Sustainable Kingston concluded that the application is an ideal candidate for membership in the sustainably.eco program, with the potential to earn 5 to 7 badges upon joining the program. The projects outlined in the sustainability initiatives chart position the development as a leader in smart, efficient, and eco-friendly business. Their full review is attached as Exhibit D to this report.

Analysis and Application to the Planning Process

The application as proposed and further detailed in the sustainability initiatives chart provided by the applicant (Exhibit A) demonstrates that the application meets and exceeds the City's current policies for sustainable development. Each organization concluded that the application as proposed goes above and beyond what is currently required and could be an example of sustainable development for future developments.

With the limited scope of the policies within the Official Plan, the proposed Official Plan amendment and zoning by-law amendment cannot capture additional sustainability elements. Therefore, they cannot be requirements to be implemented at the time of Site Plan Control. Staff, as part of the review can request certain elements, but any sustainability elements proposed by the developer at the time of Site Plan Control will be at their own discretion. Elements that are proposed will be captured on the site plan drawings and within the agreement.

Kingston Climate Hub proposed that the City use a Development Agreement to require Greenhouse Gas emissions accounting. The City does not have a policy in place that establishes a target/requirement that new developments must meet. In order to apply such a requirement, the City would need to establish policies to make it actionable in specified circumstances, along with a process to implement and monitor progress. This is also applicable to the recommendation to require BPE Developments Inc. to offset any onsite energy consumption and offsite transportation emissions that do not come from 100% renewable sources.

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Kingston Climate Hub recommended that the City make a request to the Ministry of the Environment Conservation and Parks (MECP) to have the applicants obtain a Permit to Take Water. Under Section 34 of the *Ontario Water Resources Act*, the Director has the ability to require someone to obtain a Permit to Take Water and be reviewed through that process, even if they are taking under 50,000 litres per day. This process is only enacted if there are extraordinary circumstances where some type of hydrogeological condition would result in interference on adjacent wells from a water taking. Anyone can make the request to the Ministry to have this process considered.

In the 30 + years the provision has existed, it is staff's understanding based on communications with the Ministry that a Director has never imposed a Permit to Take Water through Section 34 of the *Ontario Water Resources Act*.

In speaking with MECP, they have mentioned they do not see any evidence to suggest that such a process is necessary. There is a hydrogeological study prepared by a licensed professional that has been peer reviewed which concludes there is sufficient water to support the new development and that interference on adjacent wells is unlikely. The City is establishing a Water Monitoring Program through a Development Agreement to require the applicants to keep detail water-logs. The MECP has an established process to review any concerns around water quality and quantity in the rural area.

Kingston Climate Hub recommended that the hydrogeological peer review assess the impacts of a geothermal system on groundwater interference. The details of a geothermal system have not been fully proposed or evaluated as part of the application for Official Plan Amendment and zoning by-law amendment. The City's peer reviewer has indicated that the professionals who install geothermal systems are licenced by the MECP. Any vertical closed loop geothermal system that extends more than 5 metres into the ground must obtain an Environmental Compliance Approval (ECA) from the Ministry (Ontario Regulation 98/12 – Ground Source Heat Pump). When the system is brought forward for consideration in the future, the system will be reviewed by the Ministry's technical experts.

In conclusion, the application meets or exceeds all policies that are in place. The application is consistent with the Provincial Policy Statement as demonstrated through technical review and Exhibit K of Report PC-20-045. The application conforms to the policies of the Official Plan as demonstrated through the technical review and Exhibit M of Report PC-20-045.

Existing Policy/By-Law:

Provincial

Planning Act

Provincial Policy Statement, 2020

Municipal

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City of Kingston Official Plan

Zoning By-Law Number 76-26

Notice Provisions:

None

Accessibility Considerations:

None

Financial Considerations:

None

Contacts:

Tim Park, Manager, Development Approvals 613-546-4291 extension 3223

James Bar, Senior Planner 613-546-4291 extension 3213

Other City of Kingston Staff Consulted:

Julie Salter-Keane, Manager, Climate Leadership

Exhibits Attached:

Exhibit A Sustainability Initiatives Provided by Applicant

Exhibit B Switch Review

Exhibit C Kingston Climate Hub Review

Exhibit D Sustainable Kingston Review

On August 11, 2020, Kingston City Council passed the motion to defer their decision on zoning bylaw and Official Plan amendments for 2285 Battersea, to consult with climate activists and environmental groups and determine whether the development was aligned with the City of Kingston's Climate Emergency Motion.

As sustainability has been a central focus of the Unity Farm, Inn, and Spa project from its inception, there have already been many actions taken and plans developed for sustainable initiatives at the site. There has been an effort to communicate those sustainability initiatives through technical reports and impact studies conducted by scientific experts.

This document represents an effort to consolidate some of those initiatives to inform interested parties. It is not exhaustive, but it does represent a starting point for stakeholders to understand the sustainability-related implications of the project. There is a lot of work ahead to develop a truly robust sustainability plan. As our knowledge and experience sustainability grows, so too will our capacity to integrate best practices measuring, monitoring, reporting, and reducing emissions.

To categorize sustainability in the context of Unity Farm, Inn, and Spa, the 'four pillars' approach put forward through the Sustainable Kingston Plan, and the five action themes in the City of Kingston's Climate Action Plan were implemented. The methodologies are convenient, effective, and based on the best available knowledge supported by extensive academic research and community engagement. These documents provide a framework that will inform sustainability-related initiatives at Unity Farm, Inn, and Spa moving forward.

Action Description (Qualitative vs. Quantitative)

Quantitative: Actions for which it **is possible** to estimate associated impacts on GHG emission reductions

Qualitative: Actions for which it **is not possible** to estimate associated impacts on GHG emission reductions

Status

Concept:

- New action
- No commitment to deliver this action
- Uptake of this action will be dependent on availability of resources

Proposed:

- Part of the organization's mandate, but implementation has not started

In-Progress:

- Part of the organization's mandate, and implementation is in progress

Environmental Responsibility

- Protection and restoration of natural environment
- Enable ecology to thrive
- Provide enjoyment and sustenance to Kingstonians

Pillar Theme and Statement	Topic	Action	Goals	Action Description / Status	Associated KCAP Categories
Energy, Air, and Climate Change <ul style="list-style-type: none"> • Self sufficient renewable energy production • Minimize and offset GHG emissions 	Passive Heating	<ul style="list-style-type: none"> • Implementation of solarium in main building for cultivation of ornamental flowers 	<ul style="list-style-type: none"> • Reduce energy consumption 	<ul style="list-style-type: none"> • Quantitative • Proposed 	<ul style="list-style-type: none"> • Energy • Climate Resilience
	Geothermal Heating and Cooling	<ul style="list-style-type: none"> • Combination of vertical and horizontal closed ground loops • Electric pumps powered by solar circulate water through the loops, exchanging heat and coolness from buildings with consistent ground temperature (i.e. exchanging cool air from buildings with relatively warm ground in winter and hot air from buildings with relatively cool ground in summer) • Gas boiler backup used rarely during coldest weeks in winter 	<ul style="list-style-type: none"> • Reduce energy consumption up to 80% relative to traditional HVAC systems • Completely renewable heat source / heat sink 	<ul style="list-style-type: none"> • Quantitative • Proposed 	<ul style="list-style-type: none"> • Energy • Climate Resilience
	Solar Electricity Generation	<ul style="list-style-type: none"> • Full project requires estimated 150-200 kW of electricity, requiring ~10,000 sqft of prime panel roof space with current solar technology • Current estimates of prime panel roof space at full buildout are >31,000 sqft, which could generate >650 kW of renewable energy 	<ul style="list-style-type: none"> • Reduce dependence on municipal electricity • Potential to contribute renewable energy to municipality • Lower GHG emissions than fossil fuel heat source 	<ul style="list-style-type: none"> • Quantitative • Proposed 	<ul style="list-style-type: none"> • Energy • Climate Resilience
	GHG Inventory and Environmental Management Plan	<ul style="list-style-type: none"> • Determine the quantities and types of beneficial and deleterious environmental effects related to operation of the site • Ongoing project that will continue year-over-year 	<ul style="list-style-type: none"> • Use information to continually measure, monitor, and reduce, and report emissions 	<ul style="list-style-type: none"> • Quantitative • Concept 	<ul style="list-style-type: none"> • Energy • Climate Resilience

	Water <ul style="list-style-type: none"> Responsible water use Returned to environment in as clean, safe, and potable condition as possible 	Water Use	<ul style="list-style-type: none"> Well water only used for showers, sinks, and restaurants Holding tanks replenished by well water only during periods of lowest demand Well and wastewater treatments are completely separated (i.e. well water cannot inadvertently be used for irrigation, toilets) Water for spa filling, brewery / winery will be imported from municipal source (<i>this is still included in the 48,000L/day estimate as 'worst case scenario'</i>) 	<ul style="list-style-type: none"> Mitigate any potential waste of groundwater Minimize impacts on surrounding wells 	<ul style="list-style-type: none"> Quantitative Proposed, In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems Climate Resilience
		Wastewater Treatment	<ul style="list-style-type: none"> Wastewater processed, treated using Norweco Modulair extended aeration system, and stored in holding tanks on-site Used for toilets and irrigation Eliminates need for septic beds Monitored remotely continuously to ensure compliance with Ministry guidelines and treatment standards 	<ul style="list-style-type: none"> Maximize the utility of water imported from municipal sources and pumped from wells 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Resources and Natural Systems Climate Resilience
		Stormwater Capture	<ul style="list-style-type: none"> Stormwater captured from structures is stored directly in cisterns located in the basement of each building Stormwater from landscape is directed through a system of drainage ditches (75% built) that empties into large irrigation ponds (50% built) 	<ul style="list-style-type: none"> Minimize the amount of water pumped from wells 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems Climate Resilience
		Water Monitoring	<ul style="list-style-type: none"> Water usage will be monitored, used to identify efficiencies and set targets to reduce consumption 	<ul style="list-style-type: none"> Minimize water usage Promote continual improvement 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems Climate Resilience
	Solid Waste <ul style="list-style-type: none"> Treat solid waste as a resource Move towards zero waste 	Organic Material	<ul style="list-style-type: none"> Composting as much organic matter as possible from farm and restaurant 	<ul style="list-style-type: none"> Divert waste from landfill Closed-loop system 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Food Waste	<ul style="list-style-type: none"> Partnership with community food recovery program 	<ul style="list-style-type: none"> Reduce food waste Contribute to local food security 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Resources and Natural Systems Agriculture and Food Security

		Packaging	<ul style="list-style-type: none"> Reducing packaging by encouraging market patrons to bring re-useable containers All necessary packaging is recyclable or compostable 	<ul style="list-style-type: none"> Eliminate single-use packaging products 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Resources and Natural Systems
Natural Areas <ul style="list-style-type: none"> Conserve, protect, restore, enhance, and expand natural areas 		Wetland	<ul style="list-style-type: none"> Identified in northern half of site Modest size and ecological value, could be developed Voluntary 7.5m setback 'no-cut zone' imposed 	<ul style="list-style-type: none"> Mitigates loss of habitat, ecosystem services 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Tree Preservation	<ul style="list-style-type: none"> One moderately healthy Butternut tree identified in northern parcel Minimum 30m cabin setback 	<ul style="list-style-type: none"> Mitigates disturbance of endangered tree species 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
			<ul style="list-style-type: none"> Preservation of mature trees and landscape features 	<ul style="list-style-type: none"> Retaining important wildlife habitat and ecosystem services 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Tree Removal	<ul style="list-style-type: none"> Minimized for protection of woodland habitat Undertaken only during fall and winter 	<ul style="list-style-type: none"> Precludes any adverse impacts to nesting birds in accordance with recommendation from the Ecological Impact Study 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Tree Replacement	<ul style="list-style-type: none"> 1:1 removal to replacement ratio Native species, mature trees 60mm (B&B) 	<ul style="list-style-type: none"> Mitigates loss of habitat, ecosystem services 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Woody Vegetation Removal	<ul style="list-style-type: none"> Undertaken only between April 15 and July 31 to comply with requirements of Migratory Birds Convention Act 	<ul style="list-style-type: none"> Mitigates loss of habitat, ecosystem services 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
	Land Use and Built Environment <ul style="list-style-type: none"> Strategic consideration of location, use, reuse and extent of natural areas community spaces, employment lands, commercial areas Efficient use of land, infrastructure and resources 	Wind Energy Generation	<ul style="list-style-type: none"> Small-scale wind turbines (e.g. XZERES Skystream 3.7, 2.4 kW) appended on proposed infrastructure (particularly hop poles) to optimize utility of energy from prevailing winds to power batteries and/or pump water for irrigation 	<ul style="list-style-type: none"> Add to resiliency of renewable energy generation systems Efficient, creative use infrastructure and unique site conditions 	<ul style="list-style-type: none"> Quantitative Concept 	<ul style="list-style-type: none"> Energy Resources and Natural Systems

Social Equity

- Help social agencies and residents to raise awareness about social needs
- Engage citizens and community partners to plan and act in response to social needs
- Improve well-being of whole community

Pillar Theme and Statement	Topic	Action	Goals	Action Description / Status	Associated KCAP Categories
Education and Learning <ul style="list-style-type: none"> • Learning is valued, education provided • Opportunity to develop full potential 	Educational Workshops	<ul style="list-style-type: none"> • Patrons will be invited to join educational workshops on sustainable agriculture and horticulture practices 	<ul style="list-style-type: none"> • Improve general knowledge of sustainability among patrons • Encourage active participation in outdoor activities 	<ul style="list-style-type: none"> • Qualitative • Proposed 	<ul style="list-style-type: none"> • Climate Resilience
	Educational Signage	<ul style="list-style-type: none"> • Signs describing sustainable practices implemented on site will be posted around the property for guests to read 	<ul style="list-style-type: none"> • Improve general knowledge of sustainability among patrons 	<ul style="list-style-type: none"> • Qualitative • Proposed 	<ul style="list-style-type: none"> • Climate Resilience
Health and Wellness <ul style="list-style-type: none"> • Promotes, protects, and enhances physical, mental, and spiritual well being • Provision of high-quality health and wellness services 	Tranquility Spa	<ul style="list-style-type: none"> • Includes outdoor hot tubs, cold pools, wet and dry sauna, quiet room, yoga studio, massage therapy, and spa treatments. 	<ul style="list-style-type: none"> • Private, tranquil retreat for self-care 	<ul style="list-style-type: none"> • Qualitative • Proposed 	
Food and Nutrition <ul style="list-style-type: none"> • Access to health and affordable food available through locally sustainable agriculture, local markets 	Farm-to-Table Restaurant	<ul style="list-style-type: none"> • Fruit, produce, eggs, etc. will be utilized at the on-site restaurant to prepare seasonal meals • Emphasis on plant-based meal options 	<ul style="list-style-type: none"> • Eliminate GHG emissions from food transport while optimizing nutrient value 	<ul style="list-style-type: none"> • Quantitative • Proposed 	<ul style="list-style-type: none"> • Agriculture and Food Security • Climate Resilience
	Local Produce Market	<ul style="list-style-type: none"> • Fruit, produce, eggs, value-added products, etc. will be available for purchase at on-site market 	<ul style="list-style-type: none"> • Eliminate GHG emissions from food transport while optimizing nutrient value 	<ul style="list-style-type: none"> • Quantitative • Proposed 	<ul style="list-style-type: none"> • Agriculture and Food Security • Climate Resilience

	Poverty and Homelessness <ul style="list-style-type: none"> Working towards long term solutions that break the cycle of homelessness and poverty 	Fresh Food Donations	<ul style="list-style-type: none"> Commitment to planting a portion of vegetable garden for Loving Spoonful's 'Grow a Row' program 	<ul style="list-style-type: none"> Supports local healthy meal program Improve community food security 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Agriculture and Food Security
	Comfort, Safety, and Inclusion <ul style="list-style-type: none"> Feeling welcomed, safe, and connected in their communities 					

Economic Health

- Opportunities for vibrant, diverse, and dynamic economy
- Attracts and retains businesses and skilled employees
- Contributes to global knowledge, incubates innovation
- Brings new goods and services to market

Pillar Theme and Statement	Topic	Action	Goals	Action Description / Status	Associated KCAP Categories
Economic Development <ul style="list-style-type: none"> Focus on vibrant, diverse and dynamic economy Incubates innovation Brings new goods and services to market 	Value-Added Products	<ul style="list-style-type: none"> Honey from apiary Maple syrup from woodlot area Sauces, pickles, etc. from fruit and vegetable gardens Wine, beer, and cider from vineyard, hopyard, orchard Beauty products, essential oils from herb garden 	<ul style="list-style-type: none"> Market goods that are produced locally and sustainably 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security
Community Economic Development <ul style="list-style-type: none"> Resilient and diverse economy that fosters local commerce and entrepreneurial growth 	Local Procurement	<ul style="list-style-type: none"> Inventory to supplement on-site fruit/vegetable stand will be procured from local suppliers, using existing relationships developed for The Grocery Basket 	<ul style="list-style-type: none"> Strengthen local economy by providing sales outlet for local producers 	<ul style="list-style-type: none"> Quantitative In-Progress 	

Labour Market Development <ul style="list-style-type: none"> Attract and retain skilled workers Fulfilling jobs with safe working conditions, living wage, and satisfying lifestyle 	Job Creation	<ul style="list-style-type: none"> Estimates approximately 80 or more employment opportunities to be created 	<ul style="list-style-type: none"> Valuable jobs for rural Kingston 	<ul style="list-style-type: none"> Qualitative In-Progress 	
	Green Team	<ul style="list-style-type: none"> Committee of employees capable of identifying and addressing sustainability issues 	<ul style="list-style-type: none"> Create team of knowledgeable and dedicated sustainability ambassadors 	<ul style="list-style-type: none"> Qualitative Proposed 	
	Building Envelope and Materials	<ul style="list-style-type: none"> 6mm commercial double-glazed windows 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer Minimize potential noise pollution 	<ul style="list-style-type: none"> Quantitative Proposed, In-Progress 	<ul style="list-style-type: none"> Energy Climate Resilience
		<ul style="list-style-type: none"> Green Roof (Hotel) 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer Improve air quality 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Energy Climate Resilience
		<ul style="list-style-type: none"> Reclaimed lumber salvaged from remodeled barn to be used for furniture, shelves, etc. on site 	<ul style="list-style-type: none"> Divert waste from landfill Preserves heritage look and feel 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		<ul style="list-style-type: none"> ICF Foundations 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer Less energy required to heat and cool 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Energy Climate Resilience
		<ul style="list-style-type: none"> Flat roof insulation R35 – code requires R25 Sloped roof insulation R60 – code requires R49 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer Less energy required to heat and cool 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Energy Climate Resilience
		<ul style="list-style-type: none"> Siding is PEFC certified 	<ul style="list-style-type: none"> Promotes sustainable forest management 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		<ul style="list-style-type: none"> Radiant floor heat with R21 below – code requires R5 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer Less energy required to heat and cool 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Energy Climate Resilience
		<ul style="list-style-type: none"> Spray-foam insulation for all wood-framed buildings 	<ul style="list-style-type: none"> Mitigate unwanted heat transfer especially through leakage Less energy required to heat and cool 	<ul style="list-style-type: none"> Quantitative In-progress 	<ul style="list-style-type: none"> Energy Climate Resilience

		Parking Lot	<ul style="list-style-type: none"> Gravel parking lot, possible inclusion of hearty low-growing grass 	<ul style="list-style-type: none"> Allow water infiltration and aquifer recharge 	<ul style="list-style-type: none"> Quantitative In-Progress 	<ul style="list-style-type: none"> Resources and Natural Systems
		Parking Roof Structures	<ul style="list-style-type: none"> Cover and protect electric vehicle charging stations Provide layout for parking stalls Solar panels and rainwater capture capability on upper face Bird nesting area on lower face 	<ul style="list-style-type: none"> Generate renewable energy to charge electric vehicles Assist stormwater capture Habitat creation 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Energy Resources and Natural Systems
		Electric Vehicle Charging Stations	<ul style="list-style-type: none"> 10 initially, capacity to increase to 40+ based on demand 	<ul style="list-style-type: none"> Promote and facilitate low-emission vehicles and associated infrastructure 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Transportation Energy
		Trolley	<ul style="list-style-type: none"> Potential to partner with Kingston Trolley Tours Bring guests from Unity to Kingston city centre and back Bring day-trip guests from Kingston to Unity and back 	<ul style="list-style-type: none"> Economic benefit to businesses in downtown core Unique tourism opportunity 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Transportation
		Self-Driving Electric Golf Carts	<ul style="list-style-type: none"> Used to shuttle guests around Unity site Charged using solar charging stations 	<ul style="list-style-type: none"> Minimize noise, emissions, and safety hazards from patrons' vehicles 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Transportation Energy
		Bicycles	<ul style="list-style-type: none"> Used for active transportation around the grounds 	<ul style="list-style-type: none"> Eliminate emissions Promote activity and exercise 	<ul style="list-style-type: none"> Quantitative Proposed 	<ul style="list-style-type: none"> Transportation Energy
	Tourism <ul style="list-style-type: none"> Preferred destination for visitors and business Support sustainable tourism for local residents 	Agri-Tourism	<ul style="list-style-type: none"> Niche tourism opportunity that centers on rural leisure and connection to land and food systems 	<ul style="list-style-type: none"> Promotes interest in and understanding of local agriculture operations 	<ul style="list-style-type: none"> Qualitative Proposed 	<ul style="list-style-type: none"> Agriculture and Food Security
		Bed and Breakfast, Cabins, Hotel	<ul style="list-style-type: none"> Multiple unique options provide tailored guest experience 	<ul style="list-style-type: none"> Encourages return visits to experience various accommodations 	<ul style="list-style-type: none"> Qualitative Proposed, In-Progress 	
		Business-Friendly	<ul style="list-style-type: none"> Serene venue provides sophisticated location for business meetings and small conferences 	<ul style="list-style-type: none"> Attracts desired investors 	<ul style="list-style-type: none"> Qualitative Proposed 	
	Agriculture <ul style="list-style-type: none"> Secure, co-ordinated, and integrated ecological and regional farm and food system 	Soil Health	<ul style="list-style-type: none"> Soil addition Remediating marginal agricultural areas with the addition of health topsoil rich in organic matter 	<ul style="list-style-type: none"> Improve water holding capacity, resistance to erosion 	<ul style="list-style-type: none"> Qualitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems

Exhibit A
Report Number 20-201

		<ul style="list-style-type: none"> Cover-cropping 	<ul style="list-style-type: none"> Protect soil from wind and water erosion 	<ul style="list-style-type: none"> Qualitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems
		<ul style="list-style-type: none"> Installation of vegetative buffer strips along riparian areas 	<ul style="list-style-type: none"> Minimize soil loss due to water erosion Filtration of runoff 	<ul style="list-style-type: none"> Qualitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems
		<ul style="list-style-type: none"> Organic soil amendments 	<ul style="list-style-type: none"> Improve nutrient availability, soil resilience, and aeration 	<ul style="list-style-type: none"> Qualitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems
		<ul style="list-style-type: none"> Windbreaks 	<ul style="list-style-type: none"> Reduce erosion from wind and minimize water loss from evaporation Viable solution to concerns about noise and light pollution 	<ul style="list-style-type: none"> Qualitative In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems
	Irrigation Reservoirs	<ul style="list-style-type: none"> Irrigation reservoirs in close proximity to agricultural areas Excavated limestone utilized on site as landscape features and/or road base 	<ul style="list-style-type: none"> Minimize pumping distance and associated energy usage 	<ul style="list-style-type: none"> Quantitative Proposed, In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems
	Irrigation Schedule	<ul style="list-style-type: none"> Infrastructure to support multiple low-volume drip irrigation zones, ensuring that the correct amount of water is applied to crops Automatically timed from night applications Soil moisture monitoring and rainfall sensors 	<ul style="list-style-type: none"> Minimize water loss from evaporation Reduce stress on aquifer Prevent unnecessary watering 	<ul style="list-style-type: none"> Quantitative Proposed, In-Progress 	<ul style="list-style-type: none"> Agriculture and Food Security Resources and Natural Systems

Cultural Vitality

- Promotion of human well-being
- Enhancing both Quality of Life and Quality of Place

	Pillar Theme and Statement	Topic	Action	Goals	Action Description / Status	Associated KCAP Categories
	Arts, Creativity, and Entertainment <ul style="list-style-type: none"> • Nurture, celebrate & value all forms of creative expression 	Fine Arts	<ul style="list-style-type: none"> • Venue provides exceptional location for local artists to exhibit and showcase collections 	<ul style="list-style-type: none"> • Exposure and income for local artists 	<ul style="list-style-type: none"> • Qualitative • Proposed 	
		Music	<ul style="list-style-type: none"> • Venue provides exceptional location for local musicians to perform 	<ul style="list-style-type: none"> • Exposure and income for local artists 	<ul style="list-style-type: none"> • Qualitative • Proposed 	
	History and Heritage <ul style="list-style-type: none"> • Including, protecting, respecting, and sharing unique cultural heritage 	Heritage Preservation	<ul style="list-style-type: none"> • Conservation and rehabilitation of stone farmhouse • Conceptual design sympathetic to heritage character of existing buildings 	<ul style="list-style-type: none"> • Minimal impact on heritage attributes 	<ul style="list-style-type: none"> • Qualitative • In-Progress 	
	Active Citizenship <ul style="list-style-type: none"> • Participatory environment where citizens contribute information, ideas, and opinions to decision make processes 	Ongoing Community Engagement	<ul style="list-style-type: none"> • Semi-Annual Community Stakeholder Survey • Distributed to local residents • Feedback will be reviewed to identify potential issues among community 	<ul style="list-style-type: none"> • Promote agreeability and understanding among community stakeholders • Promote mediation through collaboration 	<ul style="list-style-type: none"> • Qualitative • Concept 	
			<ul style="list-style-type: none"> • Regular Unity Far, Inn, and Spa newsletter / mailing list • Distributed to local residents to raise awareness and understanding of construction timelines and other relevant issues 	<ul style="list-style-type: none"> • Develop positive relationship with community stakeholders 	<ul style="list-style-type: none"> • Qualitative • Concept 	
	Diversity <ul style="list-style-type: none"> • Develop positive relationships between persons of differing races, ethnicities, cultural backgrounds, socioeconomic status, genders, sexual orientations, physical abilities, and/or religions 	Diverse and Inclusive Workplace	<ul style="list-style-type: none"> • Promote employment and opportunity for minorities • Zero tolerance policy for discrimination of any type • Mandatory diversity training for all new staff 	<ul style="list-style-type: none"> • Foster awareness and inclusivity among staff and patrons 	<ul style="list-style-type: none"> • Qualitative • In-Progress 	
		Accessibility	<ul style="list-style-type: none"> • Facilities will be accessible to patrons of all ability levels, including physical disabilities and elderly 	<ul style="list-style-type: none"> • Ensure safety and enjoyment of all patrons 	<ul style="list-style-type: none"> • Qualitative • Proposed 	



**SWITCH Ontario response to City of Kingston regarding Sustainable Energy components of the Unity
Spa development plan**

TO: James Bar
Senior Planner
City of Kingston

This letter is in response to the request from the City of Kingston for SWITCH input into the current development application by BPE Development for the property at 2285 Battersea Rd. The scope of this reply is focused on the energy generation and efficiency components of the project, as relayed in the Sustainability Initiatives document provided. There is also some input related to broader implementation impacts related to future applications of this type and the more general building development sustainability interests of the city. This summary and the accompanying Excel file containing more detailed comments comprise the response by SWITCH.

It should be noted that the time frame for input precluded any in depth analysis of the technologies outlined. This tight schedule also precluded outreach to the broader SWITCH membership or our extended technical network, where further technical expertise would have been available. SWITCH would be happy to make introductions to these resources at a future date. As such the comments are limited to those provided by some of our board members and are of a more general nature.

Overall, the breadth of technologies outlined is impressive for a single-location development. The inclusion of geothermal heating stands out as being significantly more than business as usual (BAU), particularly considering the geology of the location. Otherwise the technology mix, wind, solar, building envelope are mainstream, to a greater or lesser extent. As indicated the main observation is that the combined use of these technologies is still not standard and will make the sum total energy impacts significant. This development very much sets a standard by which future evaluations can be judged, as they relate to sustainable energy and building envelope implementation.

A notable exclusion from the technology mix is the absence of solar hot water. This would be a good combination with the proposed geothermal system, potentially minimizing even further the use of a gas boiler. Current technologies can combine solar hot water with PV electricity generation, thus increasing the overall efficiency of an installation. Even if there is separate solar electricity and solar hot water, the indicated roof capacity could accommodate a mix of both. The water heating for the spa, personal use water and restaurants could be partially met with solar hot water and appropriate heat exchanger technologies. This would be a good combination with the proposed geothermal system, potentially minimizing even further the use of a gas boiler during the coldest winter periods.

It should be noted that SWITCH is aware that the site water use and its impacts on the water table are high priority topics. This is not an area of SWITCH member expertise, and as such has not been addressed directly in our comments. We do know that climate models mostly agree on the long term

changes to Kingston's average precipitation and we are happy that the hydrogeologist has made note of that.

Overall, this proposal sets a new standard for the potential to embed energy efficiency and multiple sustainable energy technologies into a single integrated unit. The monitoring aspects, once the technologies are fully implemented, will be key to assessing their combined impact. City and local academic institution support for the monitoring would help ensure the long-term viability of this aspect and provide for a great learning opportunity for those looking to work in sustainable development.

Regards,

David Hyndman

SWITCH President and Board Chair, on behalf of the SWITCH board

Pillar Theme and Statement	Topic	Action	Project specific comments			General KCAP target comments		
			Pros	Cons	Comments	Pros	Cons	Comments
Energy, Air, and Climate Change • Self sufficient renewable energy production • Minimize and offset GHG emissions	Passive heating	• Implementation of solarium in main building for cultivation of ornamental flowers		GHG impact likely to be minimal.	implement a way to measure energy input, and potential heating impacts			No real KCAP implementation impacts. In other developments, a passive house design is something which could be considered as going beyond BAU. It is rather rare presently.
	Geothermal heating and cooling	• Combination of vertical and horizontal closed ground loops • Electric pumps powered by solar circulate water through the loops, exchanging heat and coolness from buildings with consistent ground temperature (i.e. exchanging cool air from buildings with relatively warm ground in winter and hot air from buildings with relatively cool ground in summer) • Gas boiler backup used rarely during coldest weeks in winter	If technical evaluation has been done, a great showcase for GHG reduction.	It is not indicated whether this is just for the main buildings, or for the cabins?	Enlist SLC students from ESET program to install energy measurement equipment. I think 80% of heating and cooling by geothermal would be a significant improvement from BAU because commercial geothermal is so rare. Planning department should check that remaining heating needs are provided by electricity and not propane/natural gas Former Switch members involved with Drake's Landing project in Alberta. Implementation lessons could be sought			City should look to implement a District Energy demonstration project. That is something which would represent a step beyond Business As Usual for Kingston
	Solar	• Full project requires estimated 150-200 kW of electricity, requiring ~10,000 sqft of prime panel roof space with current solar technology • Current estimates of prime panel roof space at full buildout are >31,000 sqft, which could generate >650 kW of renewable energy	Cost effective and routine to implement. The size of the rooftop project is relatively uncommon for a commercial installation and represents at least best practices	Storage? Battery walls are still expensive.	With this and the wind electricity component, need to specify storage capacity. How will evening and overnight demand be met? Will the batteries be used to meet peak demand when the generation mix includes natural gas plants? Will the buildings be paying time-of-day pricing of electricity to incentivize this? Could excess capacity be used to support local school operations? Because cost of batteries is still high, seems that usage of batteries represents a modest but real step beyond BAU. This project might be a good one for solar hot water. The problem is that the solar hot water industry has died out here in Ontario because of lack of incentives 10-15 years ago, and then lack of market and economy of scale. Any effort on this front could be viewed as an improvement on BAU. For legal			Solar PV with net-metering would represent best practices and an improvement on BAU
	GHG inventory and environmental management	• Determine the quantities and types of beneficial and deleterious environmental effects related to operation of the site • Ongoing project that will continue year-over-year	You cannot control what you do not measure.	Easily discarded aspect if becomes a labour intensive task. Automation will be key.	Look to organizations such as TRCA and their Archetype sustainable houses for guidance on monitoring			An easily forgotten aspect of improving GHG impacts. For new builds with monitoring tech embedded, is this a monitoring service that could be provided by city (long term interest and aggregate findings for future policy planning)?

Land Use and Built Environment • Strategic consideration of location, use, reuse and extent of natural areas community spaces, employment lands, commercial areas • Efficient use of land, infrastructure and resources	Wind Energy Generation	• Small-scale wind turbines (e.g. XZERES Skystream 3.7, 2.4 kW) appended on proposed infrastructure (particularly hop poles) to optimize utility of energy from prevailing winds to power batteries and/or pump water for irrigation	Turbine size appropriate for location. As an alternative horizontal turbines (The Power Collective Ridgeblade design) would have even less visual impact	need to specify how many to understand full impact on site. Optimal spacing versus free land available to protect people. Have bird, bat impact studies been done?	Brad Leonard or Christa Wallbridge could be consulted on whether bird and bat studies need to be done. probably depends on number of turbines. Plum Hollow and James Brown on Portsmouth Ave. have small wind turbines in an urban area. Battery recharging is probably not commercially viable, but of some cultural value. Also Ontario generation mix is pretty low GHG except during peak times. Venn Designs technical team previously developed small wind turbine tech.	Example of small turbine design that can be implemented in Urban locations		small scale wind turbines for irrigation is a best practice. Not big improvement on BAU, but could easily be left out of typical BAU projects.
Water • Responsible water use • Returned to environment in as clean, safe, and potable condition as possible	Water Use	• Well water only used for showers, sinks, and restaurants • Holding tanks replenished by well water only during periods of lowest demand • Well and wastewater treatments are completely separated (i.e. well water cannot inadvertently be used for irrigation, toilets) • Water for spa filling, brewery / winery will be imported from municipal source (this is still included in the 48,000L/day estimate as 'worst case scenario')			As water table impacts appear to be a contentious issue, the technical evaluations done need to be well articulated. Not an area of expertise for SWITCH. Solar hot water would also be a viable addition to the technology mix.			
	Wastewater Treatment	• Wastewater processed, treated using Norweco Modulair extended aeration system, and stored in holding tanks on-site • Used for toilets and irrigation • Eliminates need for septic beds • Monitored remotely continuously to ensure compliance with Ministry guidelines and treatment standards						
	Stormwater Capture	• Stormwater captured from structures is stored directly in cisterns located in the basement of each building • Stormwater from landscape is directed through a system of drainage ditches (75% built) that empties into large irrigation ponds (50% built)	What is old is new again.		Need to indicate if all hard surface water is redirected to cisterns. What will cistern water be used for? But good to have storm water capture, doesn't really go past BAU but this is a best practice not only for water conservation but as an energy saving tool as well.			Porous hard surface technologies exist. If paving required, would lower runoff, and thus infrastructure capacity costs for treatment
	Water Monitoring	• Water usage will be monitored, used to identify efficiencies and set targets to reduce consumption						
Solid Waste • Treat solid waste as a resource • Move towards zero waste	Organic Material	• Composting as much organic matter as possible from farm and restaurant						
	Food Waste	• Partnership with community food recovery program						
	Packaging	• Reducing packaging by encouraging market patrons to bring re-useable containers • All necessary packaging is recyclable or compostable						
Natural Areas • Conserve, protect, restore, enhance, and expand natural areas	Wetland	• Identified in northern half of site • Modest size and ecological value, could be developed • Voluntary 7.5m setback 'no-cut zone' imposed						
	Tree Preservation	• One moderately healthy Butternut tree identified in northern parcel • Minimum 30m cabin setback • Preservation of mature trees and landscape features						
	Tree Removal	• Minimized for protection of woodland habitat • Undertaken only during fall and winter						
	Tree Replacement	• 1:1 removal to replacement ratio • Native species, mature trees 60mm (B&B)						
	Woody vegetation removal	• Undertaken only between April 15 and July 31 to comply with requirements of Migratory Birds Convention Act						
Infrastructure (Including Transportation) • Well-maintained infrastructure and facilities • Flexible platform for strategic infrastructure investments in future	Building Envelope and Materials	• 6mm commercial double-glazed windows	A good compromise on cost versus effectiveness.	Triple glaze would be better.	An indication of expected Energuide rating for the main building, and other structures would be useful. How close to net zero will the structures get when combining home envelop and renewable energy input options?			Anything that pushes towards passive house levels of efficiency would be good.

	<ul style="list-style-type: none"> • Green Roof (Hotel) 	Becoming common, but certainly not business as usual	what are maintenance impacts?	A measure of reduced cooling requirements due to sun adsorption by plants would be ideal.			
	<ul style="list-style-type: none"> • Reclaimed lumber salvaged from remodeled barn to be used for furniture, shelves, etc. on site • ICF Foundations 	Better thermal protection in winter.		Technology well developed, and becoming more common due to advantages in mitigating thermal transfer.			
	<ul style="list-style-type: none"> • Flat roof insulation R35 – code requires R25 • Sloped roof insulation R60 – code requires R49 			As commented above, how close do these cumulative building envelop measures get to net zero?	Above code sets a benchmark that proves builders can operate above the bare minimum.	how to enforce this on a broader scale when most only build to code?	
	<ul style="list-style-type: none"> • Siding is PEFC certified 			New building design has not been outlined. Will cabins be designed to maximize winter passive heating ability (window direction) while minimizing summer heating (no direct sun entry due to overhang). Treatment technologies exist to coat walls to reflect sun heat. Would lower building energy costs even further.			
	<ul style="list-style-type: none"> • Radiant floor heat with R21 below – code requires R5 	Very efficient method. becoming common.					
	<ul style="list-style-type: none"> • Spray-foam insulation for all wood-framed buildings 	Best R-value per length (at least with closed cell).	potential for off-gasing during application should be considered. Short term GHG impacts?	Will attics also be spray foam? If not, treated cellulosic material shown to have better R value than synthetic (fibreglass) insulation.			
Parking Lot	<ul style="list-style-type: none"> • Gravel parking lot, possible inclusion of hearty low-growing grass 			Implement porous hard surface technologies, as a future option. Many options in place at TRCA.			
Parking Roof Structures	<ul style="list-style-type: none"> • Cover and protect electric vehicle charging stations • Provide layout for parking stalls • Solar panels and rainwater capture capability on upper face • Bird nesting area on lower face 						
Electric Vehicle Charging Stations	<ul style="list-style-type: none"> • 10 initially, capacity to increase to 40+ based on demand 	close to BAU, so no surprises on implementation. Does encourage the transition to electric vehicles and away from internal combustion engines	cost, but relatively inexpensive slow charging technology may be affordable and practical since visits to the Spa are not short	Make sure are a mix of Tesla and SAE J1772 charging standards.			this is another opportunity for development projects to be climate friendly and not too far beyond BAU
Trolley	<ul style="list-style-type: none"> • Potential to partner with Kingston Trolley Tours • Bring guests from Unity to Kingston city centre and back • Bring day-trip guests from Kingston to Unity and back 						
Self-Driving Electric Golf Carts	<ul style="list-style-type: none"> • Used to shuttle guests around Unity site • Charged using solar charging stations 	Self driving shuttles becoming common, especially in EU. CUTRIC has significant experience in compliance issues within Canada.	What will be infrastructure to guide self-driving vehicles? May drive up costs, or increase environmental impact to install. Weather impacts may mean not viable year round.	how will daytime demand fit with use by guests with EVs? Will grid backup be needed if reliant on night-time charging?	A city pilot in the downtown reagon would show significant leadership beyond BAU.	Up front cost to separate AV from current traffic streams	CUTRIC and Queen's University have done feasibility studies on autonomous electric vehicles between downtown and Queen's campus (or more specifically HDH and KGH).
Bicycles	<ul style="list-style-type: none"> • Used for active transportation around the grounds 						



KINGSTON
CLIMATE HUB

9/1/2020

Unity Spa

Considering Climate Impacts

September 1, 2020

Dear Mr. Bar:

Further to our meeting, attached is the report that we have prepared regarding the Unity Spa development as well as more general recommendations.

These recommendations can be summarized as follows:

- Every building adds GHGs to Kingston's inventory. Each building has a long lifespan with the potential to contribute to Kingston's target of zero emissions or contribute to increasing our emissions.
- As there is language in the OP and PPS supporting a reduction of GHG emissions, and the City has the ability to use a development agreement as a tool to require stricter requirements than is in either document, it would seem prudent to use this tool for all development as an interim measure until the climate action plan is developed.
- All new builds should be reviewed with criteria that include their impact on Kingston's emissions and, at a minimum, require a plan to get to zero emissions no later than 2050.
- The water study for this specific development should include a peer review of the geothermal plans for drilling 500-foot boreholes to ensure there is no negative impact on the water source for the area.

We are available to discuss further and look forward to contributing to the development of future plans for GHG emissions reduction.

Regards,

Emily Ferguson and Colleen Gareau

Unity Spa – Considering Climate Impacts

Council Motion

On August 11, 2020, City of Kingston Council passed the following motion:

That Council defer Report 62, Clause 1, Received from the Planning Committee, regarding File # D35-003-2019 at 2285 Battersea Rd, 2311 Battersea Rd and Kingston Con6 PT Lot 33 TP; 13R-15799 Part 1, so that staff can consult with Climate Action Hub and at least one other recognized Climate focused organizations to hear their recommendations and review of this application and report back to council for the Sept 15/2020 Council meeting.

About the Kingston Climate Hub

Our mission is to catalyze a global solution to the climate crisis by making urgent action a necessity across every sector of society. In politics. In business. In every aspect of our lives. Everywhere. As advocates for climate action, our role is to ask questions to keep deep decarbonization at the forefront of decision-making.

Climate Hubs have been established around the world to achieve practical clean energy policies. The Kingston Climate Hub supports the target set out in the Intergovernmental Panel on Climate Change (IPCC) Summary for Policymakers of reducing emissions by 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050¹.

We strongly support Council's more ambitious goal of zero by 2040 and look forward to working with the City of Kingston to achieve this goal, while encouraging local green businesses to thrive.

Review

Scope of Document Review

- Provincial Policy Statement, 2020
- Ontario Planning Act
- City of Kingston Official Plan
- City of Kingston Report to Planning Committee (PC-20-045)
- Recording of July 16th Planning Committee meeting²
- Sustainability Initiatives_2285 Battersea_08_19_2020 by BPE Developments

Local Context

Climate change is a global crisis. Locally, we are contributing to the problem through the release of greenhouse gas emissions. We are already witnessing the first impacts of these emissions through extreme rainfall events, prolonged drought, and intense summer heat waves. Locally, we also have an incredible

¹ <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/#:~:text=Global%20net%20human%2Dcaused%20emissions,removing%20CO2%20from%20the%20air.>

² <https://www.youtube.com/watch?v=pCHUu-kBU7w>

opportunity by becoming part of the global solution, rapidly moving to zero emissions, and focusing our Covid-19 recovery on the principles to Build Back Better³.

The City of Kingston has acknowledged both the climate crisis and the need to reconsider land use policies considering the challenge we face.

“In March of 2019, City of Kingston Council declared a climate emergency. That Declaration, which built on the foundation of sustainability goals set by previous Councils, requires a reconsideration of Kingston’s land use policies, discussions and decisions. Built form is powerfully related to climate change in many ways, as is the location of density relative to mobility options or car dependency.” – Density By Design Issues and Options Report⁴

According to the 2018 Kingston Community GHG Inventory Update⁵, total community greenhouse gas emissions went up from 2017 (1,172,016 tCO₂e) to 2018 (1,213,121 tCO₂e). This is an increase of 3.5 % in a single year. It is important to note that 2019 community emission numbers are not yet available. We certainly hope that the spike in emissions in 2018 was an outlier, but there is no guarantee. Our highest GHG emissions by source are gasoline and natural gas. We cannot ignore the urgent need to move away from these fossil fuels.

What is clear is that business as usual is no longer acceptable if we want to stay in line with the IPCC GHG reduction target of 45% below 2010 levels by 2030. Based on the 2018 numbers, we will need to reduce our community emissions by a further 39% by 2030 to meet the IPCC target. This decade, we must decrease emissions by nearly 4% every year. Lowering emissions from existing levels will require significant retrofits to existing buildings and a rapid transition to electrification of transportation and cleaner electricity grids. Any new built form that is not 100% renewable will make this challenge far more difficult.

Climate change may seem distant in time and space, but it is already happening right here in our backyards. The Climate Atlas Canada projects that Kingston’s mean Summer Maximum Temperature will increase by 4.6°C by 2051-2080 under a business as usual scenario. This will increase the demand for air conditioning and related energy requirements. The Climate Atlas also projects Kingston’s mean Heavy Precipitation Days (20mm or more) to increase to 9.7 days by 2051-2080. Although we may receive more rain overall due to climate change, if this extra precipitation falls on dry lands due to prolonged drought and heat waves, the water may just run off, doing little to recharge an already highly vulnerable aquifer.

Table 1 – Local Climate Change⁶

Variable	1976-2005	2021-2050	2051-2080
Projected change in mean Hot (+30°C) Season	28.2 days	68.5 days	98.5 days
Projected change in mean Annual Maximum Temperature	12.0°C	14.2°C	16.3°C

³ https://read.oecd-ilibrary.org/view/?ref=133_133639-s08q2ridhf&title=Building-back-better-A-sustainable-resilient-recovery-after-Covid-19

⁴ https://www.cityofkingston.ca/documents/10180/37723011/Planning_DensityByDesign_IssuesOptionsReport.pdf/69c55c6e-b5ac-49ac-a3b1-31e11c6f81d2

⁵ https://www.cityofkingston.ca/documents/10180/2304312/Environment_2018-Community-Greenhouse-Gas-Inventory.pdf/c0973e68-e51f-7cde-48dd-42d0bad650bf?t=1596047262191

⁶ https://climateatlas.ca/map/canada/summer_maxtemp_2060_85#z=7&lat=44.43&lng=-73.93&city=412&deltas=true

Projected change in mean Tropical Nights	6.2	18.9	40.1
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While the City works on its Climate Leadership Plan, there is language in the Official Plan that gives the City the ability to act on GHG reductions immediately including section 2.10.1.b which states that, “In order to improve the resiliency and ensure the long-term prosperity of the community the City intends to consider the potential impacts of climate change and extreme weather events when planning for infrastructure, including green infrastructure, and assessing new development.”

Once a building is constructed, it is there for a very long time. Without a plan to get to zero by 2040, these buildings will contribute to our emissions. Every new building must have a plan to zero for Kingston to meet this ambitious goal.

The City of Kingston should require a plan to zero-by-2040 through Development Agreements with proponents. This could be used as a stopgap Have a tool at their disposal – Development Agreement. In general, they need to be doing this for every development until the Climate Leadership Plan is in place.

Interest in the Unity Spa

Our interest in the Unity Spa project was piqued when the proposal went to planning committee on July 16th, 2020. We were excited that it could be a shining example of a viable local business operating in a sustainable way.

However, some questions arose during the July 16th meeting that seemed short on answers. Provided below is a summary of our outstanding concerns.

Ref.	Topic	Background	Concerns / Questions
1	Land Use and Future Expansion	<p>A small-scale commercial use in the Rural Lands designation would be permitted. However, due to the size of the proposed development, an amendment to the Official Plan is required to proceed.</p> <p>The developer owns the entire property at 2379 Battersea Road, of which only a portion is included in the proposed development. Section 3.14.7 of the Official Plan states that, “Additions or expansions that require land to be added to existing large scale rural commercial uses are discouraged, and any such proposal must be considered through an Official Plan</p>	<p>We are concerned that rezoning this property to Rural Commercial designation will open the door to further commercial development in the Glenburnie area. This area is not currently serviced by public transportation or safe active transportation routes. Any future development of this rural area will almost certainly rely on personal vehicles, further increasing transportation emissions.</p> <p>We feel there are risks with changing the Official Plan without clarity about some of the unanswered questions regarding the project.</p> <p>Would the developer be required to apply for another Official Plan Amendment should they choose to expand commercial operations into the northern section of 2379</p>

		amendment that addresses its impact on agricultural operations, conformity with the minimum distance separation formulae, and the Ministry of the Environment and Climate Change D-1 and D-6 Guidelines.”	Battersea Road not currently included in this rezoning application?
2	Energy and Water	<p>During the July 16th Planning Committee meeting, the developer stated an intention to reach 10% solar energy on site immediately, with the plan to be 100% solar in 10 years as the business develops. The developer also stated all buildings would be wired for solar during construction.</p> <p>BPE has been considering small scale wind on site but has stated that more due diligence is required.</p> <p>BPE has also expressed their intention to build a geothermal closed loop system. They have stated that this closed loop system would be entirely separate from the hydrogeologic infrastructure and separate from the ground water supply.</p>	<p>The geothermal system will not be capable of meeting all heating and cooling needs. BPE has stated natural gas backups would be required as well as a grid connection to HydroOne. Emissions from these sources must be included in a project GHG inventory.</p> <p>See comment about boreholes below.</p> <p>The City’s peer reviewer has not had the opportunity to consider the potential impacts of geothermal boreholes on the local water supply. At the time of review, BPE was considering a different type of geothermal system that would not drill holes to that depth.</p> <p>The 35 boreholes drilled to a depth of 500 feet each for the geothermal system have not been included in any hydrogeological study or peer review to date. While we strongly support geothermal in terms of emissions reductions, it must not come at the expense of local water security. The potential impact of geothermal drilling on local water must be considered.</p>
3	Transportation Emissions	The Unity Spa would transport laundry off site and back and truck water in and off site for the pools. This added transportation will increase the overall GHG emissions of the project.	<p>The Traffic Impact Study assessed the total traffic increase from staff and visitors, but did not include transportation to support the business including laundry and water.</p> <p>Transportation emissions should be included in a project GHG inventory.</p>

Recommendations

Project Specific

1. That the City of Kingston address outstanding sections of the Provincial Policy Statement and Official Plan regarding the development's conformity with the policies as outlined under Kingston Climate Hub comments in Appendices B and C.
2. That the City of Kingston require GHG accounting as part of the Development Agreement with BPE.
3. That BPE be directed to offset any on site energy consumption and offsite transportation that is not 100% renewable.
4. That the City of Kingston make a request to the Ministry of the Environment that BPE acquire a Permit to Take Water.
5. That the City's peer review team be directed to assess the potential impact of the 35 boreholes at 500ft depth for the geothermal system be assessed regarding ground water interference.

All Future Development Proposals

1. Require GHG accounting as part of every development proposal
2. Require a "plan to zero" from each development on how they will achieve zero emissions no later than 2040.
3. Update the Official Plan to strengthen language around GHGs and climate change
4. Include a climate impact section in each comprehensive report to council re: Council decisions

Challenges

The current regulatory context does not require developers to consider GHGs in their applications to the City of Kingston. If Kingston intends to meet the zero-by-2040 emissions target, GHG accounting must be mandatory for all development applications.

After several requests to BPE and the City of Kingston, we still have not received any data regarding the total energy consumption of the project, how those energy requirements will be met, and the resulting GHG emissions. The lack of GHG data to review has made it very difficult to quantitatively assess the climate impact of the project.

Further, BPE's plans for renewable energy have changed significantly through the process.

Conclusion

We acknowledge that the Unity Spa as currently proposed goes above and beyond the current requirements

We urge closer scrutiny into the proposed project including energy requirements, impact on transportation, grid connection and gas burning backups, plus a full analysis of scope 3 carbon accounting⁷

⁷ <https://compareyourfootprint.com/difference-scope-1-2-3-emissions/>

We understand that the actions required to address the climate emergency may not be easy, nor politically popular, but we all have the moral responsibility to act now and consider all decisions through the lens of Council's unanimous Declaration of a Climate Emergency.

Appendix A

Provincial Policy Statement, 2020 (PPS)⁸

Reference	Policy	City of Kingston Comments	Kingston Climate Hub Comments
1.1.1. c)	Avoiding development and land use patterns which may cause environmental or public health and safety concerns	The development is not proposed within or near a natural or human made hazard. Setbacks are proposed to an existing wetland on site.	This section should be more broadly interpreted to include greenhouse gases. GHGs from a travel intensive land use not only contribute to climate change, but also worsen local air pollution, posing both environmental and public health concerns.
1.1.1 e)	Promoting the integration of land use planning, growth management, transit-supportive development, intensification and infrastructure planning to achieve cost-effective development patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs;	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.
1.1.1 i)	Preparing for the regional and local impacts of a changing climate.	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.
1.1.5.4	Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.	The character of this rural area is defined by a mix of land uses with agricultural uses interspersed between residential uses. Residential uses are clustered together and located near the existing institutional uses. While the uses are clustered, there are generous	The need to truck in water and take laundry off site shows that this development would struggle to be sustained by rural service levels and resources.

⁸ <https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf>

		<p>separations between most uses that allow for increased greenspace between developments.</p> <p>The development proposes increased setbacks between new uses and existing uses. The character of the frontage along Unity Road and Battersea Road will remain open and in agricultural use though both the implementing zoning bylaw and the recommendations of the heritage easement agreement. A large part of the development is in the treed area at the back of the site, away from existing residential and agricultural development. While there will be physical changes to the sites appearance, the rural character will be maintained. The site will be serviced by private on-site water and wastewater services, as demonstrated through the hydrogeological study and future permitting by MECP for the wastewater system.</p>	
1.1.5.5	Development shall be appropriate to the infrastructure which is planned or available, and avoid the need for the unjustified and/or uneconomical expansion of this infrastructure.	This development does not propose an expansion to municipal water or wastewater services. The site will be serviced by private on-site water and wastewater services, as demonstrated through the hydrogeological study and future permitting by MECP for the wastewater system. See Section 1.6.6.4.	Section 1.8 of the Provincial Policy Statement emphasizes transit-supportive development and intensification. The site of the proposed development is not on a transit route or connected to municipal water infrastructure. Has the City considered

		As demonstrated through the traffic study, the existing road network can handle additional traffic flows. No expansion to the road network is required to service this development.	expansion of these services to the rural area?
1.1.5.8	New land uses, including the creation of lots, and new or expanding livestock facilities, shall comply with the minimum distance separation formulae.	A Planning Rationale, MDS Study, Addendum to the Planning Rationale, and a Response Memo were submitted in support of the approach to the Minimum Distance Separation. Due to the length of the planning justification, review of the applications consistency with the MDS policies of the PPS can be found in the body of the Comprehensive Report.	
1.5.1 a)	Planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.
1.8.1 a)	Promote compact form and a structure of nodes and corridors	A cluster of residential, agricultural, and non-agricultural uses already exists around the intersection of Unity Road and Battersea Road. Adding additional commercial and tourism related uses expands the uses within the rural node in a compatible format.	Rezoning this area as rural commercial may open the door to further commercial development in rural lands. There may be better opportunities for compact form closer to the urban boundary.
1.8.1 b)	Promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.

1.8.1 c)	Focus major employment, commercial and other travel-intensive land uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.
1.8.1 e)	Encourage transit-supportive development and intensification to improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion	Not included in comprehensive review.	Please explain how the proposed development complies with this section of the PPS.
2.2.1 f)	Implementing necessary restrictions on development and site alteration to: 1. protect all municipal drinking water supplies and designated vulnerable areas; and 2. protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions	2.2.1.f.1 not included in comprehensive review. 2.2.1.f.2 mentioned in "Policy" column on page 98, but unclear how this is addressed in "Consistency with the Policy" section.	Please explain the restrictions being placed on the development to protect drinking water and the designated vulnerable aquifer, including projections for how climate change could impact the sensitive ground water system.
2.2.2	Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored. Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.	"See Section 2.1.2" Section 2.1.2 states: The EIS found that the wildlife habitat present on the subject lands does not meet criteria as "significant" in accordance with the Natural Heritage Reference Manual (NHRM). The report speaks to habitat for migratory birds on the subject lands and makes recommendations to protect migrating birds during the development of the property along with other recommended environmental best practices.	Please explain the mitigative measures and/or alternative development approaches being taken to protect, improve, or restore the hydrologic functions of this sensitive area, including how climate change is being taken into account.

		<p>The EIS concludes that the ecological value of the two surface water features on site is limited. CRCA staff recommend preservation of these features to allow their ecological and hydrologic function, while limited, to remain. A minimum setback of 7.5 metres from the wetland feature is included in the implementing zoning by-law.</p>	
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Appendix B

Ontario Planning Act⁹

Reference	Policy	City of Kingston Comments	Kingston Climate Hub Comments
Part 1, Section 2 (s)	The Minister, the council of a municipality, a local board, a planning board and the Tribunal, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as, (s) the mitigation of greenhouse gas emissions and adaptation to a changing climate.	N/A in a project specific context.	This section clearly states that mitigation of greenhouse gas emissions is within the role of council.
Part 3, Section 14	An official plan shall contain policies that identify goals, objectives and actions to mitigate greenhouse gas emissions and to provide for adaptation to a changing climate, including through increasing resiliency.	N/A in a project specific context.	Although the City of Kingston Official Plan does contain language around greenhouse gas emissions and climate change, this language will need to be strengthened using words such as “shall” to make GHG reduction initiatives a requirement, not just something that is “encouraged” or “promoted”.

⁹ <https://www.ontario.ca/laws/statute/90p13>



September 1, 2020


Dear Council,









As a community organization that specializes in assisting businesses in reducing their carbon footprint, and greening their operations, Sustainable Kingston is well positioned to comment on the business sustainability of the proposed application. In contrast, Sustainable Kingston is not in a position to comment on whether the proposal is good land use planning, whether the site is suitable for the proposed use, or what the effect of the development will be on the neighbouring community. Our comments will remain focused on sustainability. Please note we have not taken into consideration what follows the climate impact or sustainability of maintaining the current zoning and not developing the site as proposed.




The criteria that Sustainable Kingston has employed to measure the sustainability of the application is our own sustainably.eco badge system that was created using the UN Sustainable Development Goals and is used to award and celebrate local businesses that are taking measurable action in sustainability.

Sustainable Kingston currently has 47 business members that have been awarded a total of 87 badges through the sustainably.eco program. The average sustainably.eco business member has earned 1.8 badges and both Queen's University and Tara Foods are leading the way in sustainability, each having earned 6 badges.



The Sustainably.eco badges




Badge	How to Earn the Badge
	To earn the Climate Action badge, businesses must take action on climate change by reducing their carbon footprint by at least 20% within the next 10 years, develop an action plan and release an annual sustainability report.

	Businesses are awarded the Community badge for improving civic engagement, lowering barriers to inclusion, and making Kingston a welcoming and supportive community.
	Businesses are awarded the Cruelty-free badge for offering cruelty-free and/or free-range products. Cruelty-free products encourage consumers to buy healthier products that are also good for the environment and contribute to animal protection
	Businesses are awarded the Sustainable Transportation badge for providing electric vehicle charging stations at their location, owning an EV fleet, and/ or promoting active transportation. Providing alternative and sustainable transportation supports reductions in environmental impacts associated with transportation.
	Businesses are awarded the Food Recovery Badge for being actively engaged with a food recovery program. Food recovery programs support poverty reduction, enhance sense of community and reduce emissions associated with food waste.
	To receive the Carbon Footprint Badge, businesses must be a member of sustainably.eco and commit to taking action on climate change by moving through our program milestones.
	To receive the Local badge, businesses must offer Canadian products that are manufactured within 150 km from the point of sale. Buying local promotes the local economy, reduces GHG emissions from transportation, and enhances the sense of community.
	Businesses are awarded the Organic badge for offering (certified?) organic products. This badge promotes healthy and safe eating habits which contribute to animal protection from pesticides and reduces the environmental impact of food production.
	Businesses are awarded the Recycling badge for committing to a sustainable hierarchy of material management (reduce, reuse, and recycle). They must also complete annual waste audits and have a diversion rate of 80% or higher.


	<p>To receive this badge, businesses must eliminate disposables for in-store consumption, encourage customers to bring their own reusables, and provide customers with compostable options where reusables are not possible.</p>
	<p>To receive the Plant-based badge, businesses must offer products that are proven to be plant-based. This encourages consumers to reduce the carbon footprint of their food consumption and reduce the environmental impacts of the food industry</p>
	<p>To receive the Living Wage badge, businesses must be living wage certified, which goes above and beyond the law. By paying living wage, businesses increase their employees' quality of life, reduce poverty, and strengthen the community.</p>


Based on a careful review of the proposed development and discussions with Mr. Pilon we have determined that Unity Inn and Spa would likely be eligible for the following badges if it were to be constructed and operated in the manner proposed:

Badge	Reason(s)
 Local	<ul style="list-style-type: none"> • Access to health and affordable food available through locally sustainable agriculture, local markets (Fruit, produce, eggs, value-added products, etc. will be available for purchase at on-site market) • Honey from apiary • Maple syrup from woodlot area • Sauces, pickles, etc. from fruit and vegetable gardens • Wine, beer, and cider from vineyard, hop yard, orchard • Beauty products, essential oils from herb garden • Inventory to supplement on-site fruit/vegetable stand will be procured from local suppliers, using existing relationships developed for The Grocery Basket • Exposure and income for local artists
	<ul style="list-style-type: none"> • Initial setup of 10EV charging stations • Autonomous electric golf carts

Sustainable Transportation	
 <p>Community</p>	<ul style="list-style-type: none"> • Patrons will be invited to join educational workshops on sustainable agriculture and horticulture practices • Commitment to planting a portion of vegetable garden for Loving Spoonful's 'Grow a Row' program • Develop positive relationships between persons of differing races, ethnicities, cultural backgrounds, socioeconomic status, genders, sexual orientations, physical abilities, and/or religions • Facilities will be accessible to patrons of all ability levels, including physical disabilities and elderly
 <p>Reusable Friendly</p>	<ul style="list-style-type: none"> • Reducing packaging by encouraging market patrons to bring re-useable containers • All necessary packaging is recyclable or compostable • Eliminate single-use packaging products
 <p>Food Recovery</p>	<ul style="list-style-type: none"> • Unity Inn and Spa has committed to partnerships with community food recovery programs

It was also determined that Unity Inn and Spa could be further eligible for the following badges, but not enough information was available to determine correctly:

 <p>Plant-based</p>	<p>Unity Inn and Spa will emphasize plant-based meal options.</p> <p>To achieve our badge a business must permanently offer 2 types of 100% plant-based products or 3 different 100% plant-based meal options.</p>
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 <p>Climate Action</p>	<p>Unity Inn and Spa will report annually through GHG Inventory and Environmental Management Plan. They also have plans for geothermal heating and cooling as well as a solar project.</p> <p>To achieve this badge a business must also set a GHG reduction target and create an action plan to achieve their target.</p>
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Opportunities to achieve further badges and create a higher degree of impact through sustainability:

1. Offer organic options in products and food selections. The food we consume and the products we use can hide a variety of pesticides and synthetic fertilizers in production and can be highly processed. These ingredients and manufacturing processes are harmful to human health and have a negative impact on flora, fauna, and soil and water quality.
2. Become living wage certified. Most of the time, the minimum wage is not enough to guarantee that workers will be able to cover their basics expenses and participate in the community. With decent jobs and fair salaries, employees are more motivated and business are more likely to succeed. Earning a living wage increases the local workforce's quality of life, and promotes fair wages, social inclusion, and sense of community.
3. Set a recycling and waste diversion target and provide results of annual waste audits.
4. Create secure bike racks/storage to promote cycle tourism and reduce carbon emissions from transport of staff/guests
5. Access the public transit subsidy for employees to reduce carbon footprint of staff team

Overall, the proposed development would be an ideal candidate for membership in the sustainably.eco program with the potential to earn 5-7 sustainably.eco badges upon joining the program. The projects and commitments outlined in the Unity Inn and Spa sustainability report position the development as a leader in smart, efficient and eco-friendly business.

Sincerely,

Kristin Mullin

Executive Director

Sustainable Kingston

