Planning Rationale

Zoning By-law Amendment, Site Plan Control application, and Public Consultation Strategy for 4186 William McEwen Drive

Stantec

Prepared for:
Brookfield Renewables

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Revision Schedule

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Executive Summary

Stantec Consulting has been retained by Brookfield Renewable Partners (also known as Evolugen) to prepare this Planning Rationale in support of concurrent Zoning By-law Amendment and Site Plan Control applications for the property located at 4186 William McEwen Drive in the City of Ottawa. The applications are being submitted to facilitate the development of a Battery Energy Storage System (BESS) on the property.

Battery Energy Storage Systems are utility installations that store electricity from transmission lines and redistribute it back into the grid. Ontario's Independent Electricity Systems Operator (IESO) has identified the need to increase energy supply starting in 2025 in response to increased demand including through the development of new BESS facilities. In 2022, the IESO led an energy storage procurement request for proposals, and Brookfield Renewables was a successful proponent. As part of this procurement, projects are required to obtain a Municipal Support Resolution (MSR) from municipal Councils, which is the mechanism by which the IESO authorizes municipal governments to endorse energy projects. This site, known as "Trail BESS," obtained an MSR on December 6, 2023, and was awarded an IESO contract.

Ontario's 2024 Provincial Planning Statement identifies energy storage systems, such as battery energy storage, as a component of the infrastructure needed to ensure that current and projected energy needs are met and directs municipalities to provide opportunities for their development. The City's Official Plan, which was adopted prior to the 2024 PPS, was recently amended to adopt policies specific to the development of large energy storage systems. The City has also recently amended the Zoning By-law to clarify performance standards related to energy storage systems, although a Zoning By-law Amendment Application remains a requirement for a BESS facility.

In an effort to meet the IESO deadline for start of construction of the Trail BESS, concurrent Zoning By-law Amendment and Site Plan Control applications have been prepared and are described in this Planning Rationale.

1 Introduction

1.1 Purpose of Planning Application

Stantec Consulting Ltd. has prepared this planning rationale on behalf of Brookfield Renewable Partners (also known as Evolugen, the “client”) in support of applications for municipal development approvals, including a site plan control application in order to facilitate the development of a Battery Energy Storage System (BESS) facility, containing 156 BESS containers, a substation, and a transmission line at 4186 William McEwan Drive (“the site”). At the City’s request, a rezoning for the switching station to be located at 3478 Moodie Drive has been included in this Planning Rationale.

1.2 Site Location and Context

Both the BESS and the switching station site are located within Ward 21 – Rideau-Jock within the Richmond neighbourhood. It is situated south of Barnsdale Road, east of Moodie Drive, west of Highway 416, and north of Bankfield Road. The property is municipally known as 4186 William McEwen Drive. The site is legally known as Part of the Southeast ¼ Lot 3 Concession 4 Rideau Front, Geographic Township of Nepean, City of Ottawa.

The BESS site has approximately 208 metres of frontage on William McEwen Drive, and an area of approximately 21.55 hectares. The site is mostly vacant, with a few structures; the front portion of the site is cleared and contains a detached house, detached garage, and a few accessory structures. The remainder of the site is vegetated with trees. There is a watercourse identified as the Thomas Baxter Drain running perpendicular through the site.

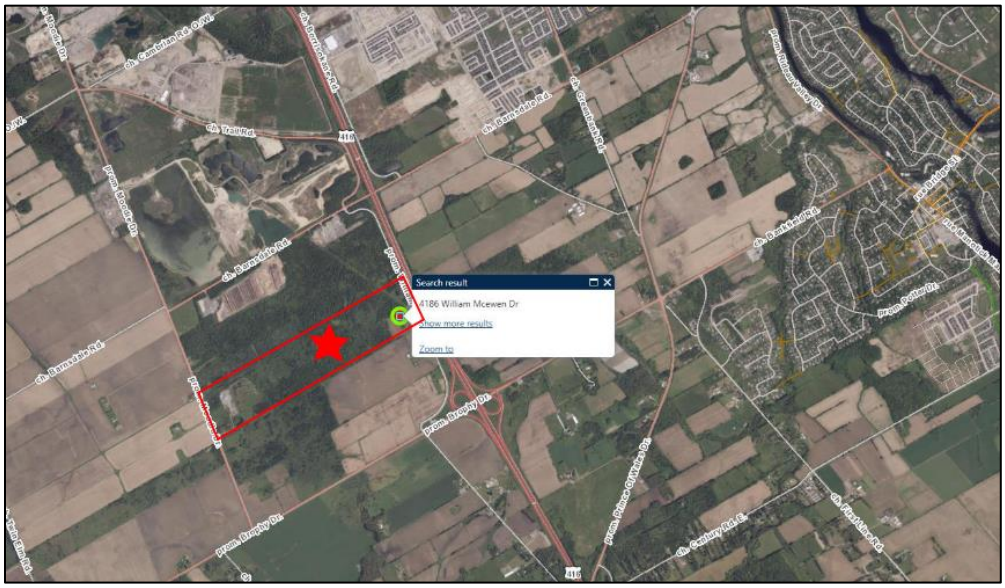

Figure 1. Location Plan from 2022 aerial imagery (geoOttawa, 2025)

The surrounding area is characterized by open and vegetated lands, mineral aggregate operations, and small-scale commercial and industrial uses.

North: directly north of the site are lands zoned Rural Countryside containing a single detached dwelling and vegetated lands. Further north are lands zoned Mineral Reserve and Mineral Extraction, and the Trail Road Landfill.

East: east of the site, across William McEwen Drive and Highway 416, are lands zoned Agriculture. The lands are covered by vegetation, including shrubbery and trees.

South: directly south of the site is a property zoned Rural Countryside containing a single detached dwelling, and properties zoned Agriculture containing mostly vegetation.

West: west of the site are lands zoned Rural Countryside. Further west, across Moodie Drive, are lands zoned Agriculture.

The switching station site located at 3478 Moodie Drive has approximately 206.58 m frontage on Moodie Drive and an area of approximately 6.31 hectares. The Craig Huff Tree Nursery currently operates from the site. Aerial imagery shows tree plantings along Moodie Drive, a detached structure located in the mid-northern area of the site, and gravel circulation routes throughout the property. The surrounding area is surrounded by mineral aggregate operations.

Figure 2. Location Plan for the switching station from 2022 aerial imagery (geoOttawa, 2025)

North: the lands directly north of the site are zoned Mineral Extraction. The designation extends further north where active extraction operations continue to dominate the landscape.

East: east of the site across Moodie Drive, lands are zoned Mineral Extraction. Highway 416 is located further east.

South: lands to the south are zoned Mineral Extraction. Cambrian Road is located further south.

West: immediately to the west, the land is zoned Mineral Extraction. Further west, the lands are zoned Agricultural.

2 Development Proposal

2.1 Ontario and Ottawa Policy History

The government of Ontario has forecast an increase in the province's demand for energy by 75% by 2050. In response, the Independent Electricity Systems Operator (IESO) has identified the need to increase energy supply starting in 2025 and led an energy storage procurement for BESS facilities. This proposal for the Trail BESS is in response to this procurement. The updated Provincial Planning Statement emphasizes reducing greenhouse gas emissions and the development of energy supply, including energy storage systems.

This section explains the Provincial and Municipal contexts related to energy storage and BESS facilities and provides details of the Trail BESS proposal.

2.1.1 Provincial Context

The Independent Electricity Systems Operator (IESO) is a Crown Corporation responsible for managing the flow of electricity across Ontario and ensuring its reliability. It also oversees Ontario's electricity markets by driving competition to maintain affordability. In response to increased demand from expanding electrification and business investment in large energy consuming sectors including transportation, manufacturing, water and building envelope heating, combined with pressures on current supply, the Ontario government is forecasting the province's demand for electricity to increase by 75 per cent by 2050.

Battery storage has become an essential commodity for both personal and professional use and for a range of applications such as mobile phones, vehicles, backup power for sump pumps, storing energy from residential solar panels, and larger systems supporting businesses and hospitals. The IESO has identified the need to increase energy supply starting in 2025 in response to increased demand. BESS facilities provide another option to fulfill the reliability needs of the electricity system by helping to stabilize the power grid and scale peak shaving services to reduce the cost of electricity for the end user. In 2022, the IESO led an energy storage procurement ("E-LT1" and "LT1" Requests for Proposals). As part of this,

projects are required to obtain a Municipal Support Resolution (MSR) from municipal Councils, which is the mechanism by which the IESO authorizes municipal governments to endorse energy projects. This site, known as “Trail BESS,” was granted MSR on December 6, 2023, and was awarded an IESO contract under the LT1 procurement on May 9, 2024.

In 2024, the Provincial Planning Statement (PPS) was updated, including changes to emphasize reducing greenhouse gas emissions, prepare for impacts of climate change, and development of energy supply including renewable energy systems and energy storage systems. The PPS also considers BESS as infrastructure. In response, the City of Ottawa updated their Official Plan to further their climate change and resiliency policies and introduced a zoning amendment to regulate BESS development. Sections 3.2 and 3.3 of this report address the Official Plan and Zoning By-law, respectively.

In addition to the approvals discussed, the project will require approvals for other applications including:

- Environmental Compliance Approval from the Ministry of Environment, Conservation and Parks
- Class Environmental Assessment for Transmission Facilities from the Ministry of Environment, Conservation and Parks

These approvals are being prepared and submitted concurrently with the ZBLA and SPC applications to ensure a thorough approval and review process, ideally where Brookfield can obtain all required approvals before the end of 2025 and construct the facility in 2026.

2.1.2 Municipal Context – Development of Utility Installations

The City’s Official Plan contains policies related to climate change resiliency, as well as specific policies supporting and governing the development of renewable energy generation facilities, however, the City’s planning documents did not contain express policies applicable to the development of large scale energy storage facilities such as the Trail BESS. The City has then adopted amendments to the Official Plan and Zoning By-law that introduce policies and performance standards for battery energy storage system facilities. However, it should be noted that given the Provincial context outlined above and the general nature of the project, BESS should be considered utility installations, and the applicable Official Plan policies and Zoning By-law provisions should be those applicable to or similar to those applicable to utility installations.

Common types of utility installation projects in Ottawa include the development of electricity substations, usually undertaken by Hydro Ottawa, and antenna systems which are reviewed by the City of Ottawa under a Municipal Concurrence process. Antenna systems are radiocommunication and broadcasting systems, regulated by the federal government, and reviewed in a simplified process by the City of Ottawa.

The development of a new substation is analogous to the development of a BESS in the following respects:

- The proponent of the substation will partner with the IESO;

- The proposal will be subject to the *Environmental Assessment Act* and will undergo a class Environmental Assessment for Minor Transmission Facilities;
- A substation "*is an essential delivery checkpoint for electricity on the power grid while on its way to your home or business. The stations transformers serve to reduce the voltage of electricity supplied from the provincial grid*" (Hydro Ottawa). The subject BESS application will store any excess energy from substations and transformers in batteries, and output back into the grid when needed; and
- The development of new substations requires public notification.

When a substation project in Ottawa is initiated, the only approval process the facility undertakes is a Class EA; however, the City has determined that additional requirements and approvals are needed to support the development of new large scale non-public BESS facilities. A non-public BESS facility would require partnership with IESO, Class EA approval, and public consultation, serving the same purpose of storing and distributing energy into the grid, regardless of if a public or non-public entity develops the facility.

2.1.3 City Wide Official Plan and Zoning Amendments for Battery Energy Storage and Application History

In order to establish specific definitions, development approval requirements and performance standards for BESS which are proposed to be developed as a principal use, on February 13, 2025, Ottawa City Council approved, among other things, amendments to its Official Plan and its Zoning By-law (collectively the "**BESS Amendments**").

The BESS Amendments were subsequently appealed to the Ontario Land Tribunal, with the appeal later withdrawn, as confirmed by a letter from the Ontario Land Tribunal.

During pre-consultations with City staff which occurred on October 31, 2024, the development of recommendations regarding the BESS Amendments by the City was already well underway and the amendments have since been passed by Council and are in full force and effect. As such, the application for Site Plan Control approval for the Trail BESS is supported by a site-specific Zoning By-law Amendment (referenced herein as "ZBLA" and "SPC") which will identify certain development approval requirements and performance standards applicable to the site.

Accordingly, this Planning Rationale is intended to support:

(1) A site-specific Zoning By-law Amendment establishing performance standards for the development of a BESS on the site; and

(2) A site-specific Zoning By-law Amendment establishing performance standards for the development of a switching station on the site; and

(3) An application for Site Plan Control approval for the development of a BESS project on the site.

The applications have been prepared in accordance with the Feedback Form and Study Identification and Plan List provided by the City following the October 31, 2024 pre-consultation meeting City File No.: PC2024-0434). The results of the plans and studies are summarized under Section 4 of this report and submitted as part of the ZBLA and SPC applications.

2.2 Details of Proposal

The proposal is for a battery energy storage system (BESS) facility on the site, which consists of the battery site, the substation, a permanent pool, and a transmission line, with site access off William McEwen Drive. The access road from William McEwen Drive to the BESS structures is approximately 700m in length, setting the proposed use significantly back from the public right-of-way.

An 8-metre sand and gravel site access is proposed to extend from William McEwen Drive to the west end of the site. The site access is proposed to extend through and over a wetland area located within the site, incorporating a culvert, to mitigate any impacts to the wetlands and to allow for water flow. The proposed BESS facility does not require any parking spaces per the ZBL. Given the nature of the facility, there will be minimal site activity, and no staff are required on the site on a daily basis.

The BESS facility is proposed to consist of 156 Sungrow PowerTitan 2.0 BESS units, each providing approximately 5015 kWh per unit. The unit consists of lithium-ion phosphate battery cells. Each unit is equipped with a number of fire safety devices, including four smoke detectors, two heat detectors, and exhaust ventilation systems for removal of flammable gases from within the enclosure. An underground water tank with 38,000 litre capacity is also proposed on site. The BESS units are proposed to be situated at the west-end of the site in 5 parallel areas located on top of an insulating stone surface area, and with sand and gravel access areas around the BESS facilities.

In addition to the BESS units, the facility will include a proposed 230 kV substation fed by four battery collector circuits. The substation consists of concrete foundations, conduit and cable installation, steel work, overhead bus, and electrical equipment installation built on a proposed insulating stone surface area. It will connect to a proposed 230 kV transmission line (a “T-line”) to the switching station at the intersection of Moodie Drive and Cambrian Road. The T-line will be primarily routed along the road right-of-way using self-supporting steel monopole structures. Discussions with the ROW team at the City are underway to confirm the routing of the T-line, and any permits required.

A stormwater detention wet pond will be used to manage the quantity, quality, and erosion controls of stormwater runoff. A storm pipe will be installed along the access road which drains the stormwater to the ditch in front of the site.

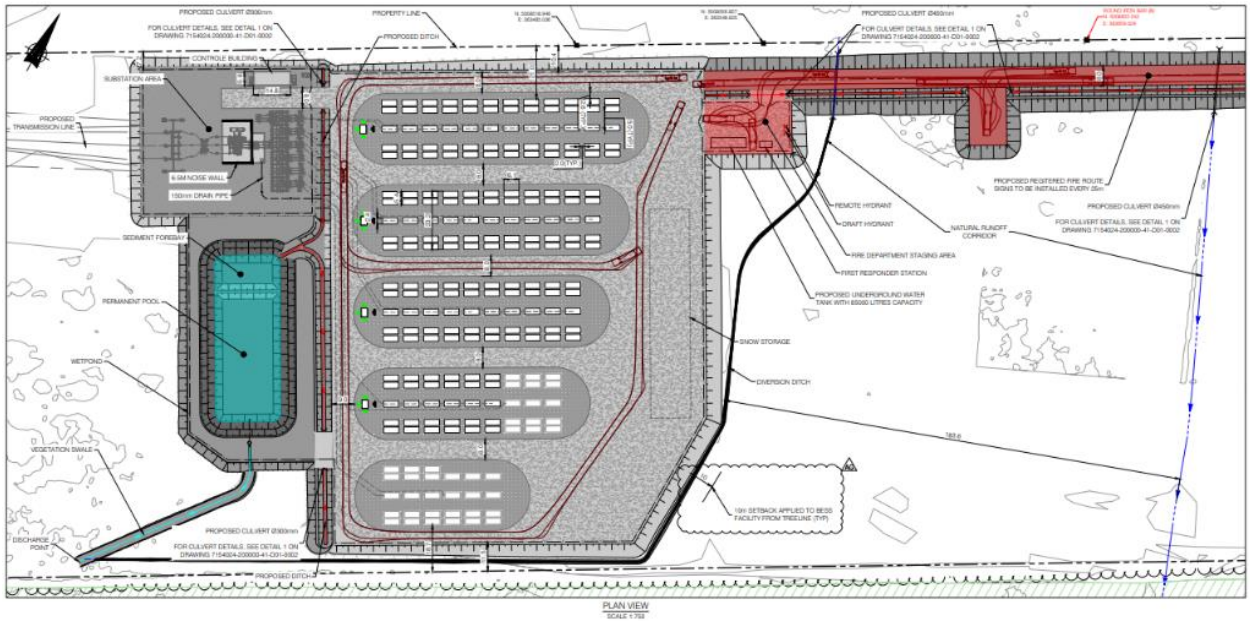

Figure 3. Site Plan Excerpt (BBA, dated 2025-09-24)

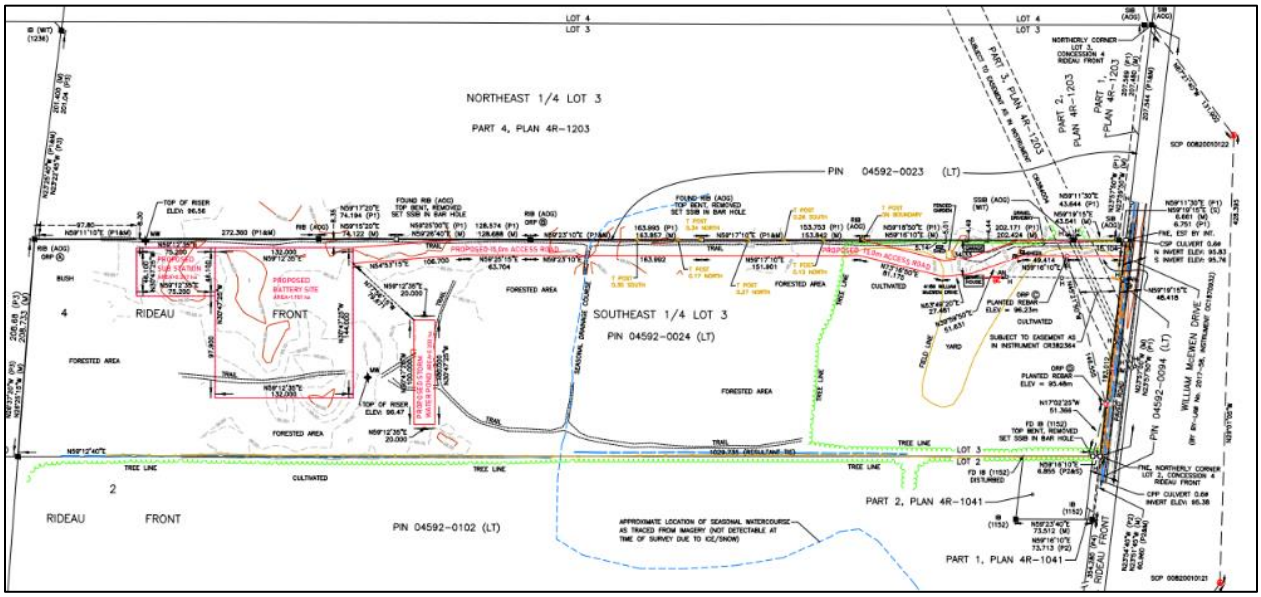

Figure 4. Topographic Survey showing proposed location of battery site, substation, and overhead transmission line (Tulloch, dated March 12, 2025)

A switching station is proposed on the property known as 3478 Moodie Drive. The 230kV switching station is required to connect the BESS facility with the Hydro Ottawa grid, and will be connected to the Trail Road BESS facility through a transmission line. The switching station is situated about 14.9 metres

away from the front lot line, and over 30 metres away from the interior side lot line, and is situated outside of the hydro transmission line easement.

The site proposed for the switching station is not currently used for mineral extraction use - the site appears to currently be used for a tree farming operation. This property was selected for the switching station as it is within close proximity to existing HONI infrastructure that the BESS facility and switching station interconnect to. It is surrounded by mineral aggregate operations and is away from any agricultural areas. The portion of the property where the switching station is proposed to be located is not ideal for mineral extraction as it is between Moodie Drive and the HONI infrastructure where various required setbacks would impede extraction.

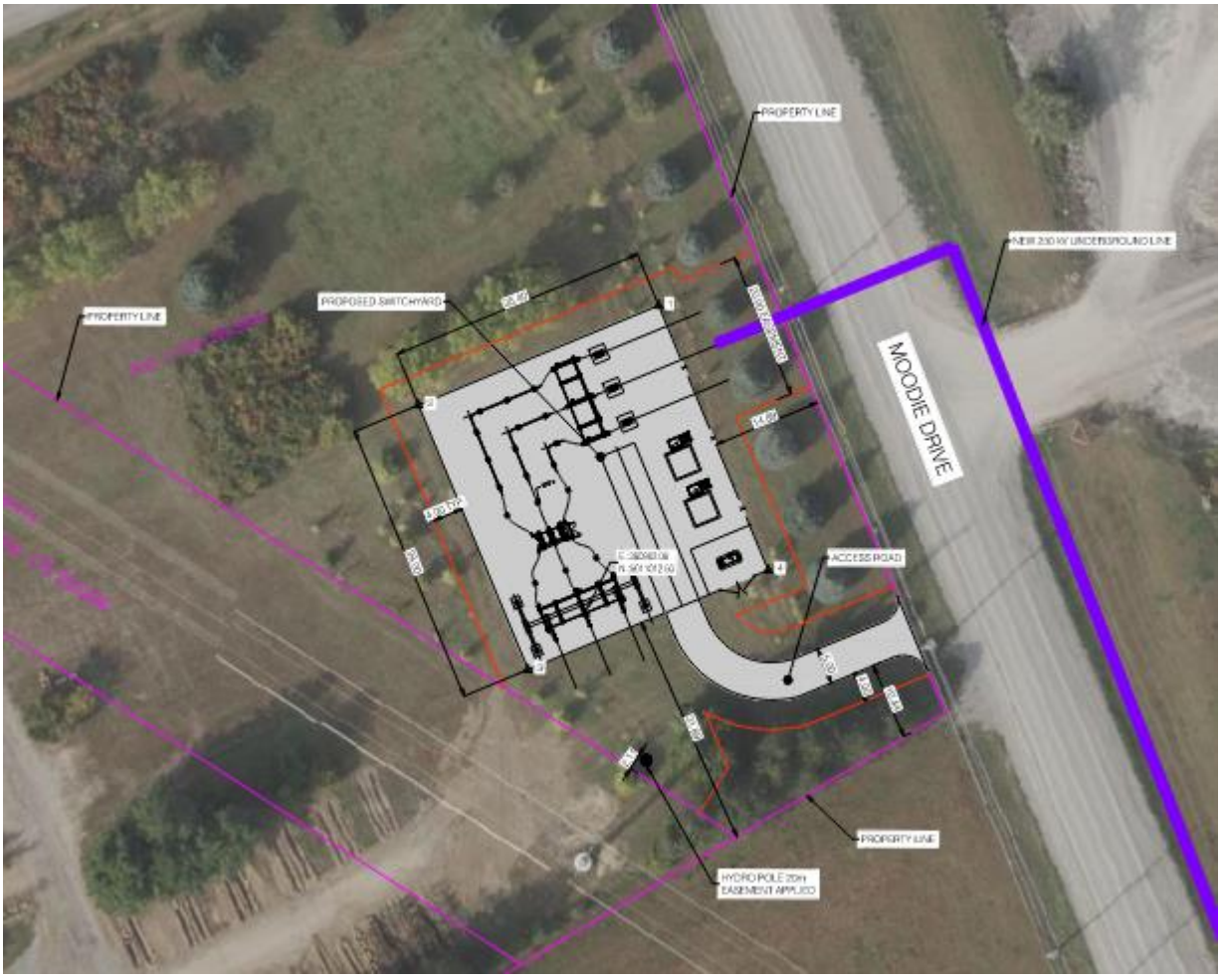

Figure 5. Site Plan Excerpt for Switching Station (BBA, dated 2025-09-15)

3 Policy Justification

The following subsections provide reviews of the following Ontario land use planning policy context:

- Planning Act, R.S.O. 1990, c. P.13
- Provincial Planning Statement, 2024
- Official Plan, 2022, as amended
- Zoning By-law 2008-250, as amended

3.1 Planning Act, R.S.O. 1990, c. P.13

The *Planning Act* is Provincial legislation that sets out the regulatory framework for land use planning in Ontario. The *Act* has purposes including providing for a land use planning system led by Provincial policy, and the integration of matters of Provincial interest into Provincial and Municipal planning decisions by requiring that all decisions be consistent with the Provincial Planning Statement.

> **Part I: PROVINCIAL ADMINSTRATION**
>
> ***Provincial interest***
>
> *2 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,*
>
> *(a) the protection of ecological systems, including natural areas, features and functions;*
>
> *(e) the supply, efficient use and conservation of energy and water;*
>
> *(s) the mitigation of greenhouse gas emissions and adaptation to a changing climate.*

The *Act* sets out matters of Provincial interest which a municipality should have regard to in carrying out their responsibilities. These include the supply of energy and mitigation of greenhouse gas emissions and adaptation to a changing climate. A BESS facility contributes to these matters of Provincial interest as it is a form of sustainable energy storage and supply that is able to support the energy grid and improve reliability.

As described in more detail below, the protection of ecological systems, features and functions are the focus of this application and will be achieved through the implementation of recommendations contained in the studies submitted in support of these applications, including the Environmental Impact Statement.

This application is in accordance and in compliance with the identified matters of provincial interest and of Section 22(1) of the *Act*.

3.2 Provincial Planning Statement (2024)

The 2024 Provincial Planning Statement (PPS) was issued under section 3 of the *Planning Act* and came into effect October 20, 2024. The PPS provides policy direction on matters of Provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the PPS sets the policy foundation for regulating the development and use of land province-wide, helping achieve the provincial goal of meeting the needs of a fast-growing province while enhancing the quality of life for all Ontarians.

CHAPTER 2: BUILDING HOMES, SUSTAINING STRONG AND COMPETITVE COMMUNITIES

Section 2.9 of the PPS addresses Energy Conservation, Air Quality and Climate Change:

1. *Planning authorities shall plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that:*

    a) *support the achievement of compact, transit-supportive, and complete communities;*

    b) *incorporate climate change considerations in planning for and the development of infrastructure, including stormwater management systems, and public service facilities;*

    c) *support energy conservation and efficiency;*

    d) *promote green infrastructure, low impact development, and active transportation, protect the environment and improve air quality; and*

    e) *take into consideration any additional approaches that help reduce greenhouse gas emissions and build community resilience to the impacts of a changing climate.*

The policies direct Planning authorities to plan for climate change by supporting energy conservation and efficiency and taking into consideration approaches to help reduce greenhouse gas emissions. A BESS facility is an example of this and is consistent with the goals of the policy, as it is a stationary rechargeable energy storage system consisting of batteries to store energy from the transmission or distribution grid and discharge the energy back into the system when required, which allows for increased energy efficiency and resilience to increasing demands on the grid due to climate change.

CHAPTER 3: INFRASTRUCTURE AND FACILITIES

Section 3.8 of the PPS addresses Energy Supply:

1. *Planning authorities should provide opportunities for the development of energy supply including electricity generation facilities and transmission and distribution systems, energy storage systems, district energy, renewable energy systems, and alternative energy systems, to accommodate current and projected needs.*

The PPS defines energy storage system as: "a *system or facility that captures energy produced at one time for use at a later time to reduce imbalances between energy demand and energy production, including for example, flywheels, pumped hydro storage, hydrogen storage, fuels storage, compressed air storage,* ***and battery storage***." The PPS also considers a BESS facility as infrastructure, as it is defined as "*physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: … electricity generation facilities,* ***electricity transmission and distribution systems****, … and associated facilities*." A BESS facility is an example of an energy storage system that can be incorporated into the City's energy grid to assist with current and projected needs, and to improve the reliability of the energy network. The BESS facility consists of the battery site and the substation on the site itself, as well as the transmission line connecting the facility to the City's electrical grid.

CHAPTER 4: WISE USE AND MANAGEMENT OF RESOURCES

Section 4.1 addresses Natural Heritage:

2. *The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.*

4. *Development and site alteration shall not be permitted in:*

    a. *significant wetlands in Ecoregions 5E, 6E and 7E1; and*

    b. *significant coastal wetlands.*

7. *Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

A portion of the site is located within a Natural Heritage Features Overlay and includes unevaluated wetlands. The proposed BESS facility and substation are proposed to be located outside of the identified natural heritage features and unevaluated wetlands area.

The Environmental Impact Study (Stantec, dated May 12, 2025) states that the study area is not within the City's Natural Heritage System Core or Linkage Area. No fish were observed on site, and it is unlikely that the Thomas Baxter Drain could directly support fish given the intermittent nature of the Drain. The proposed development will have impact on wetland and wildlife habitat, primarily affecting swamp communities and associated wildlife habitat. A wetlands assessment (Stantec, dated May 13, 2025) has determined that the unevaluated wetlands on site are not provincially significant.

CHAPTER 5: PROTECTING PUBLIC HEALTH AND SAFETY

Section 5.1 outlines that development shall generally be directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health or safety or property damage and not create new or aggravate existing hazards.

Section 5.2 addresses Natural Hazards:

2. *Development shall generally be directed to areas outside of:*

    a. *hazardous lands adjacent to the shorelines of the Great Lakes -St. Lawrence River System and large inland lakes which are impacted by flooding hazards, erosion hazards and/or dynamic beach hazards;*

    b. *hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards; and*

    c. *hazardous sites.*

4. *Planning authorities shall prepare for the impacts of a changing climate that may increase the risk associated with natural hazards.*

8. *Further to policy 5.2.7, and except as prohibited in policies 5.2.3 and 5.2.6, development and site alteration may be permitted in those portions of hazardous lands and hazardous sites where the effects and risk to public safety are minor, could be mitigated in accordance with provincial standards, and where all of the following are demonstrated and achieved:*

    a. *development and site alteration is carried out in accordance with floodproofing standards, protection works standards, and access standards;*

    b. *vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;*

    c. *new hazards are not created and existing hazards are not aggravated; and*

    d. *no adverse environmental impacts will result.*

9. *Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards.*

The proposal includes a site access that conflicts with a watercourse and municipal drain that runs across the entire site, which is unavoidable. The proposed site access is not expected to cause any adverse impacts. The plans and studies forming part of the application package propose protection and mitigation measures to be implemented.

Section 5.3 addresses Human-Made Hazards

1. *Development on, abutting or adjacent to lands affected by mine hazards; oil, gas and salt hazards; or former mineral mining operations, mineral aggregate operations or petroleum resource operations may be permitted only if rehabilitation or other measures to address and mitigate known or suspected hazards are under way or have been completed.*

2. *Sites with contaminants in land or water shall be assessed and remediated as necessary prior to any activity on the site associated with the proposed use such that there will be no adverse effects.*

The site does not contain and is not abutting identified human-made hazards.

The review demonstrates the proposal is consistent with the PPS.

3.3 City of Ottawa Official Plan

The Official Plan for the City of Ottawa was approved in November 2022 and provides a framework for the way that the City will develop until 2046 when it is expected that the City's population will surpass 1.4 million people. The Official Plan (OP) directs how the City will accommodate this growth over time and sets out the policies to guide the development and growth of the City. The site is located within the Rural Transect, along a Scenic Entry Route and is designated as Rural Countryside. Discussions below address the Strategic Directions of the OP, specifically Energy and Climate Change and the Protection of Health and Safety.

SECTION 2: STRATEGIC DIRECTIONS

The new OP proposes five broad policy directions to guide the development of Ottawa. Big Policy Move 4 states:

> *Embed environmental, climate and health resiliency and energy into the framework of our planning policies.*
>
> *…*
>
> *It also includes policies to help the City achieve its target of 100 per cent greenhouse gas emissions reduction by 2050, its target of a 40 per cent urban forest canopy cover and to increase the City's resiliency to the effects of climate change, including much warmer temperatures, more rain and more extreme weather such as heat waves, floods and storms.*

Section 2.2.3 of the OP addresses Energy and Climate Change:

> *4) Enable the use of local renewable energy sources Locally generated energy reduces greenhouse gas emissions while building resilience to fluctuating energy availability and costs. In 2017, only 5 per cent of the city's total energy consumption was generated or supplied from local, renewable sources. Ottawa will need to transition quickly to the use of energy supplied from green, renewable and local sources over fossil fuels to reduce greenhouse gas emissions, support current and future housing and employment and protect Ottawa's long-term energy security and stimulating investments that will grow our local economy. Building local renewable energy sources will be achieved by:*

> *a) Facilitating small scale local energy generation and storage as well as identifying areas suitable for larger utility scale generation, including solar, wind and hydropower; and*
>
> *n) Diverting waste from landfill to promote material reuse, resource recovery and energy generation.*

A BESS facility would help address the policies outlined above by providing an option for an energy storage source that would contribute to the target of 100% greenhouse gas emissions reduction by 2050. The BESS facility would function as a large-scale utility that draws and stores energy from the grid during off-peak hours and discharge it back to the grid when needed, providing energy on a regional scale. This facility would help address the increasing energy demands in a sustainable manner, and help stabilize the power grid, which will contribute to reducing the cost of electricity to end users and improve reliability. Permitting a BESS on the site is in conformity with the direction of the OP.

SECTION 10: PROTECTION OF HEALTH AND SAFETY

Section 10.1.5 identifies policies related to Natural Hazards: Wildland fire hazard:

> *1) Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted within hazardous forest types for wildland fire, if it is demonstrated that the proposed development conforms to provincial wildland fire assessment and mitigation standards.*

As part of the application package, a Site Servicing Study and Hazard Mitigation Analysis have been prepared to address fire hazards and mitigation standards. The Hazard Mitigation Analysis has been performed in accordance with 2023 NFPA 855 Standard for the Installation of Stationary Energy Systems, and explains that the facility is equipped with a number of protection systems including heat, smoke, and gas detection, that the facility poses minimal risk to public or life safety, and that the site is equipped with five municipal fire hydrants for easy access for firefighting operations if necessary.

3.3.2 Trail Road BESS

This subsection addresses OP policies that apply to the property municipally known as 4186 William McEwen Drive, where the proposed BESS facility is proposed.

SECTION 4: CITY-WIDE POLICIES

The property is located along Highway 416 which is identified as a Scenic Route as identified on Schedule C13 of the OP.

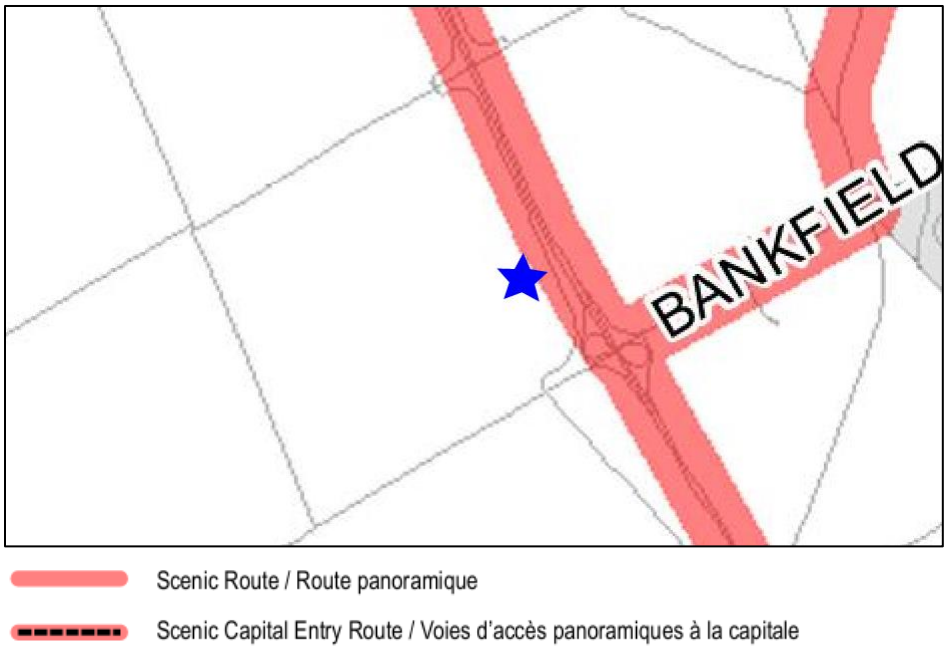

Figure 6. Schedule C13 – Scenic Routes (City of Ottawa Official Plan)

Section 4.6.2 identifies policies to protect views and enhance Scenic Routes.

> *4) Development abutting Scenic Routes, as identified on Schedule C13, shall contribute to conserving or creating a desirable context by such means as:*
>
> > *a) Protecting the opportunity to view natural and cultural heritage features;*
> >
> > *b) Preserving and restoring landscaping, including but not limited to distinctive trees and vegetation along the right of way;*
> >
> > *c) Orienting buildings towards the Scenic Route and providing direct pedestrian access, where appropriate; and*
> >
> > *d) Providing screening by way of opaque fencing or landscape buffers to hide surface parking lots or outside storage; and*
> >
> > *e) Managing the intensity and spill-over of lighting on adjacent parcels.*

The objective of the Scenic Route policies is to maintain and enhance the entry routes into the City of Ottawa via designated Scenic Capital Entry Routes or Scenic Entry Routes. The site is within the Scenic Route, being in proximity to Highway 416. The proposal is consistent with OP policy by ensuring the battery storage structures are set significantly back from the right-of-way by approximately 700m and proposing tree plantings along the frontage of the site serving as a buffer to views into the site. As well, the only tree removal along the frontage of the property will be for the facilitation of the driveway access,

minimizing undue tree removal. A Landscape Plan has been prepared as part of the applications for ZBLA and SPC demonstrating tree retention and removal.

The property contains a Natural Heritage Features overlay, unevaluated wetlands, and a watercourse as identified on Schedule C11-B – Natural Heritage System (South) of the OP.

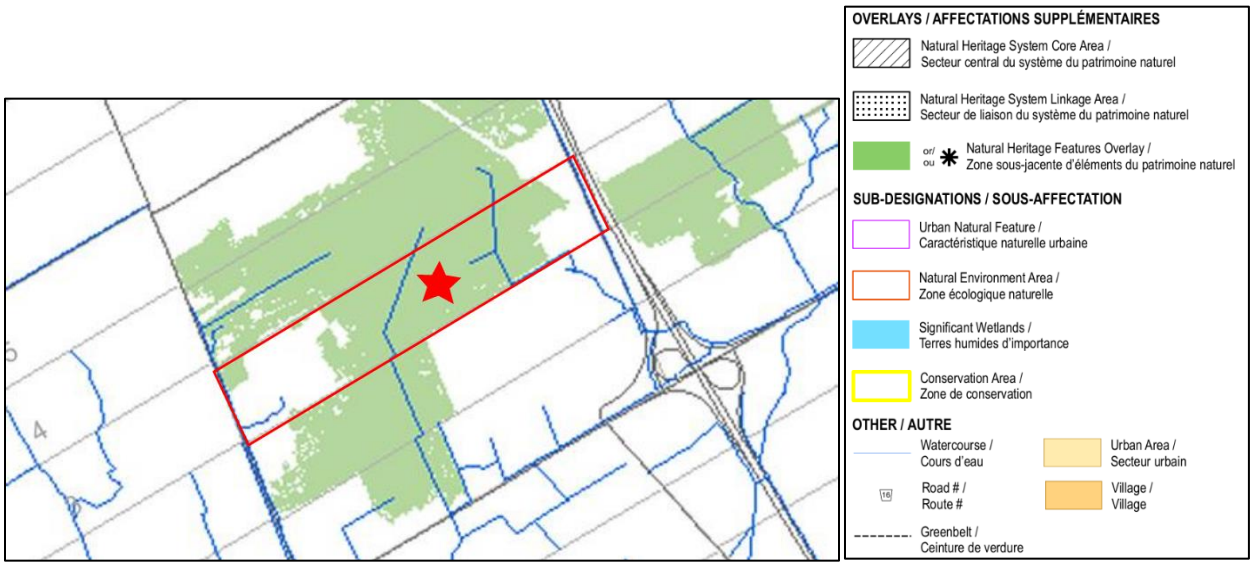

Figure 7. Schedule C11-B – Natural Heritage System (South) (City of Ottawa Official Plan)

Section 4.8 addresses Natural Heritage, Greenspace, and the Urban Forest. Section 4.8.1 identifies policies to protect the City's natural environment through identification of a Natural Heritage System, Natural Heritage Features, and related policies:

> *2) The City shall seek to improve the long-term integrity and connectivity of the Natural Heritage System through land use planning, development processes, acquisition and conservation of land and support for voluntary, private land conservation and stewardship.*
>
> *5) Outside the urban area and designated villages, [Amendment 34, By-law 2024-506, Omnibus 2 item 13, November 13, 2024] the City shall take a no net loss approach with respect to evaluated wetlands deemed not provincially significant and forest cover outside the urban area and designated villages. Mechanisms for achieving no net loss include land use planning, development processes, acquisition and conservation of land and support for voluntary, private land conservation and stewardship. Development and site alteration is prohibited in provincially significant wetlands.*

A wetlands evaluation has been prepared and concludes that the wetlands are not provincially significant, so development and site alteration are not prohibited within them.

Section 4.9 of the OP addresses Water Resources and their protection, including surface water features. Section 4.9.3 addresses restricting or limiting development and site alternation near surface water features:

> *1) The minimum setback from surface water features shall be the development limits as established by a Council-approved watershed, subwatershed or environmental management plan.*
>
> *2) Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*
>
> *a) Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*
>
> *b) Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*
>
> *c) 30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*
>
> *d) 15 metres from the existing stable top of slope, where there is a defined valley slope or ravine.*
>
> *3) Lands within the minimum setback shall remain in a naturally vegetated condition to protect the ecological function of surface water features from adjacent land-use impacts, subject to the exceptions in Policies 6) and 7). Any natural vegetation that is disturbed due to development or site alteration activities shall be restored and enhanced, to the greatest extent possible, with native species and shall avoid non-native invasive species. Burial or complete encasement of a permanent surface water feature shall not be allowed.*
>
> *4) The setback provided for in Policies 1) and 2) shall be implemented through the Zoning By-law, and any change in the setback shall require a Zoning By-law amendment or variance that conforms with the policies in this section of this Plan.*

The Mud Creek Subwatershed Study (City of Ottawa, October 2015) defers to the setbacks identified within the OP. The property is located within the Rideau River Watershed, specifically the Mud Creek Catchment in the Lower Rideau River Sub-watershed. Portions of the site are located within the RVCA's regulated area due to a watercourse that is a tributary of Mud Creek. The RVCA regulates development activity within or on adjacent lands within 15 metres of a watercourse. Any site alteration or development within the regulated area on the property would require a permit from RVCA. Development activity may occur in a regulated area if it is demonstrated to the RVCA's satisfaction that the control of flooding, erosion, dynamic beaches, or unstable soils and bedrock will not be affected, as per Section 28.1 of the Conservation Authorities Act. The RVCA will review the ZBLA and SPC applications to ensure coordination of the application with regulatory requirements, and to ensure that the decisions made on them by the City of Ottawa are consistent with the natural hazard policies of the PPS.

As per the Stormwater Management Plan (BBA, dated May 9, 2025), the property is approximately 1,600m from the nearest 100 year flood line, and there are no Provincially Significant Wetlands on the site or adjacent properties. Since the site is outside the 15-m setback of the 100-year flood, no flooding hazard is present. A minimum 15-m offset is required for the Thomas Baxter municipal drain and associated watercourse is mandated by RVCA Development Activity Policies and Procedures (RVCA, 2024). Based on the proposed layout, the disturbed area has 167 m separation from this drain. Furthermore, during construction and operation, no stormwater will be drained to this stream.

BESS Official Plan Amendments

As discussed in general above, on February 12, 2025 (File Number: ACS2025-PDB-PS-0016), Ottawa City Council adopted the BESS Amendments. These included the removal of polices relating to Renewable Energy Generation from Section 4.11 of the Official Plan and the creation of a new Section 4.12 which includes the existing policies relating to Renewable Energy Generation and new policies governing Energy Storage Systems which differentiate between "*battery energy storage systems that are part of a public utility facility*" which may still be permitted as public utilities under Section 4.11 and "non public utility batter energy storage systems." The amendments to the OP form By-law No. 2025-71. The newly adopted and currently in force policies governing energy storage systems and how the proposal addresses them are discussed within this section.

The amendments introduce a new definition for Energy Storage System as follows:

> *means a system or facility that captures energy produced at one time for use at a later time to reduce imbalances between energy demand and energy production, including for example, flywheels, pumped hydro storage, hydrogen storage, fuels storage, compressed air storage, and battery storage.*

The proposed Trail BESS facility is a battery energy storage system, as defined above, that captures energy produced from the grid for redistribution at a later time to help with energy demand and regulation.

The amendments add a new Section 4.12 to the OP to address Renewable Energy Generation and Storage, as follows:

> *Renewable energy generation and storage are important to ensure energy reliability, reduce greenhouse gas emissions and provide energy resiliency during extreme weather events. They play an increasingly important role in protecting the city's long-term energy security while advancing its climate goals.*
>
> *…*
>
> *Energy Storage*
>
> *...*

7) Non public utility battery energy storage systems (BESS) are permitted as a principal use in the following land use designations:

a) Rural Countryside designation and Rural Industrial and Logistics designation, as identified on Schedule B9 and the Natural Environment Area sub-designation, as identified on the C11-series Schedules, subject to the policies of Sections 4.8.1 and 5.6.4.1, that are outside of:

i) Villages, the Natural Heritage Features overlay and Sand and Gravel and Bedrock Resource Area overlays, as identified on Schedule B9 and C11;

ii) Flood Plain, Two Zone Flood Plain, or near Unstable Slopes as identified on Schedule C15.

8) Non-public utility battery energy storage systems as a principal use shall require an amendment to the Zoning By-law, and a Municipal Support Resolution from Council, where applicable, to establish provisions based upon the review of the following:

a) Provision of a minimum setback of 10 metres from the dripline of any forested area, or as determined by a Wildland Fire Hazard Assessment.

b) Provision of a minimum setback of 150 metres from residential use buildings, residential use lots, day care, place of worship, school, library, community centre, community health and resource centre, park or institutional use, and as determined by all of the following;

i) Noise Control Study;

ii) Environmental Impact Study and Wildland Fire Hazard Assessment, where applicable;

iii) Provision of fire protection and emergency response plans to the satisfaction of Ottawa Fire Services;

iv) Provision of a Commissioning and Decommissioning Plan.

The amendments allow “non-public” BESS facilities, provided they receive ZBLA approval and a Municipal Support Resolution.

The proposed Trail BESS will meet all of the requirements of the above policies:

- It is proposed to be located on a site within the Rural Designation;
- It will be situated outside of the areas specified under Policy 7(a)(i) and (ii);
- It has received a Municipal Support Resolution from Council;

- It is situated 10 metres from the dripline of a forested area and supported by a Hazard Mitigation Analysis and Emergency Response Plan; and,
- It will be subject to a zoning by-law amendment to, among other things, establish appropriate setbacks determined in accordance with the recommendations of a Noise Control Study, Environmental Impact Study and Wildland Fire Hazard Assessment, fire protection and emergency response plans and a Commissioning and decommissioning plan.

The proposed Trail BESS is in conformity with the policies of the Official Plan, as amended.

SECTION 5: TRANSECTS

The property is located within the Rural Transect as identified on Schedule B9 – Rural Transect of the OP.

Figure 8. Schedule B9 – Rural Transect (City of Ottawa Official Plan)

Section 5.5 addresses the Greenbelt and Rural Transect areas:

> *1) Built form in the Greenbelt and Rural Transect areas, where development is permitted shall be low-rise. Mid-Rise buildings may be permitted with the Greenbelt Transect area identified by the Zoning By-law and within Villages as identified in a secondary plan.*
>
> *...*
>
> > *b) Outside Villages, where development is permitted, built form and site design shall be premised on maintaining the rural character, image and identity; and*
> >
> > *c) Outside of Villages, sites shall be designed to locate surface parking, storage and paved areas far from the road frontage, and access to such areas shall be designed to maintain rural character. The frontage along the road shall be landscaped and treed in a*

way that respects the rural landscape and enhances the green edge of rural roads. Elements such as low fences, hedges or landscape-based ornaments may be used to enhance the site frontage.

2) Development in the Greenbelt and Rural Transect areas shall:

a) Be of low density throughout, with the majority of residential uses and commercial and institutional uses concentrated within Villages;

b) Allow for higher densities within serviced Villages;

c) Allow for uses that integrate well with the natural environment and rural area;

d) Direct high-intensity rural industrial uses to locations near highway interchanges;

e) Be adequately serviced and not create any risk that cannot be adequately mitigated, to the quality and quantity of groundwater for the surrounding area; and

f) Within the Greenbelt, allow for higher institutional or employment uses where the use can be supported by the available transportation network, including consideration for the availability of public transit service.

The proposed facility is low-rise in nature. The facility does not require surface parking, and a singular site access is proposed since it is not staffed – it is expected that staff would only require to access the site a couple of times a month or on an as-needed basis. Studies including a Site Servicing Study, Environmental Impact Assessment, and Hazard Mitigation Analysis have been prepared to identify and provide mitigation measures for any impacts to the site. The studies are outlined in more detail under Section 4 of this report.

Section 5.6.4 identifies policies regarding Natural Heritage Overlays

2) The Natural Heritage Features Overlay consists of those natural heritage features identified in Subsection 4.8.1, Policy 3) which can reasonably be mapped and displayed at the resolution of the Official Plan schedules.

3) The City shall protect natural heritage features for their natural character and ecosystem services.

4) Development or site alteration proposed in or adjacent to natural heritage features shall be supported by an environmental impact study prepared in accordance with the City's guidelines.

5) Development and site alteration shall have no negative impact on the Natural Heritage System and Natural Heritage Features. Development and site alteration shall be consistent with the conclusions and recommendations of an approved environmental impact study.

The property contains areas within the Natural Heritage Features overlay. The Environmental Impact Study (Stantec, dated May 12, 2025) states that the study area is not within the City's Natural Heritage

System Core or Linkage Area. The EIS evaluates the site and any impacts of the proposed development and suggests mitigation measures during and after site construction, which Trail BESS will comply with during development and operations, as applicable.

SECTION 9: RURAL DESIGNATIONS

The site is designated Rural Countryside on Schedule B9 – Rural Transect of the OP (See Image 6).

Section 9.2 outlines policies for the Rural Countryside designation:

9.2.2 Strengthen the rural economy by permitting a diversity of uses that support the local rural community:

1) The following uses may be permitted:

a) Forestry, conservation and natural resource management activities;

b) Agriculture, agriculture-related and on-farm diversified uses;

c) Residential uses according to the policies of this plan;

d) Animal services boarding, breeding and training and equestrian establishments;

e) Bed and breakfasts;

f) Utility Installations;

g) Cemeteries; and

h) Sand and gravel pits.

The property is located within the Rural Countryside designation, and the proposed facility is situated at the back of the property to minimize any impacts to the natural features on the site, and to minimize any impacts to the street. A Landscape Plan has been prepared to further screen the facility from the street through vegetation. The proposed BESS facility is a utility installation as it provides essential energy infrastructure to serve the residents of the area. A utility installation is a permitted use within the Rural Countryside designation.

A transmission line is proposed to extend along Moodie Drive but is not subject to the ZBLA and SPC applications. The City's Right-of-Way department is being consulted through the development application process to ensure that the routing of the transmission line aligns with the City's overall plans and policies. The BESS facility is required to obtain Class EA and ECA approvals. This allows the facility to go through two layers of review, both at the Municipal and Provincial levels, ensuring that it meets both levels of standards.

3.3.3 Switching Station

This subsection addresses OP policies that apply to the property municipally known as 3478 Moodie Drive, where the switching station is proposed.

SECTION 5: TRANSECTS

The proposed switching station on 3478 Moodie Drive is located within the Rural Countryside designation and the Sand and Gravel Resource Area Overlay.

The site is designated Rural Countryside on Schedule B9 – Rural Transect of the OP (See Image 6).

Section 9.2 outlines policies for the Rural Countryside designation:

9.2.2 Strengthen the rural economy by permitting a diversity of uses that support the local rural community:

1) The following uses may be permitted:

a) Forestry, conservation and natural resource management activities;

b) Agriculture, agriculture-related and on-farm diversified uses;

c) Residential uses according to the policies of this plan;

d) Animal services boarding, breeding and training and equestrian establishments;

e) Bed and breakfasts;

f) Utility Installations;

g) Cemeteries; and

h) Sand and gravel pits.

The switching station is a utility installation which is listed as a permitted use within the Rural Countryside designation.

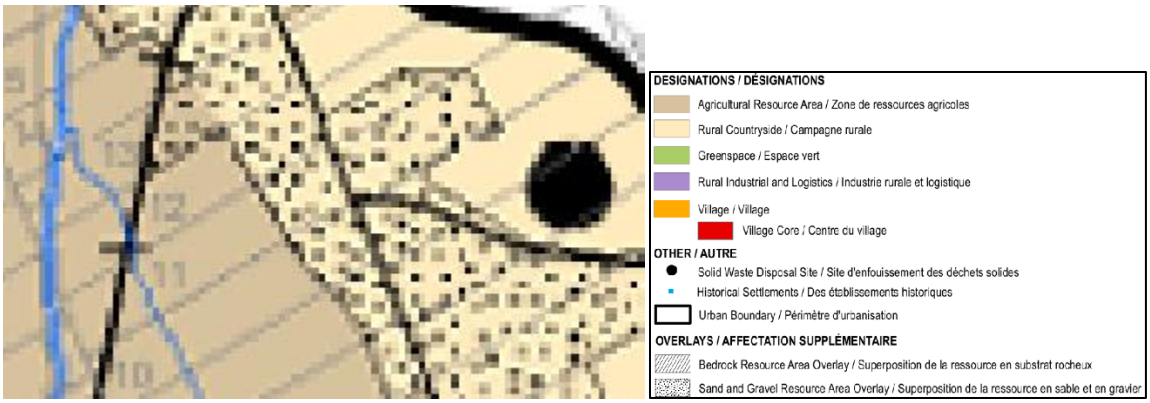

Figure 9. Schedule B9 – Rural Transect (City of Ottawa Official Plan)

Section 5.6.3.1 sets out policies to Protect important mineral aggregate resources of good quantity and quality and close to market, from incompatible development

> *1) Mineral aggregate resource areas are identified through two overlays, shown as additional to the underlying designation identified on the B-series of Schedules of this Plan: Sand and Gravel Resource Area and Bedrock Resource Area. Subject to Subsection 5.6.3.2 Policies 3) and 4), the permitted uses are those of the underlying designation and those of the overlay.*
>
> *3) The operation of a sand and gravel pit is the primary use within the Sand and Gravel Resource Area Overlay, the operation of a sand and gravel pit as the primary land use for land; subject to Policy 9) below, a Zoning By-law Amendment application and the provisions of the Aggregate Resources Act. Zoning by-law amendments approved under this policy will apply only to the boundary of the licensed area.*
>
> *9) As part of a complete application, studies and the site plans required under the Aggregate Resources Act shall also be required by the City. The areas of influence generally are 500 metres around quarries, 300 metres for sand and gravel pits, and the proposed haul route. The required studies, as are determined to be appropriate considering the type of extraction proposed, may include those identified in the Aggregate Resources Act.*

Section 5.6.3.1 sets out policies to 5.6.3.2 Protect mineral aggregate operations from incompatible development and minimize negative effects on neighbourhoods

> *4) New development may be approved within 500 metres of an existing licensed bedrock quarry or within 300 metres of an existing sand and gravel pit if it can be demonstrated that the existing mineral aggregate operation, and potential future expansion of the operation in depth or extent, will not be affected by the development.*
>
> *6) Where lands are within the Sand and Gravel Resource Area Overlay or the Bedrock Resource Area Overlay, and alternative uses are proposed through amendment to the Official Plan or Zoning By-law, the following shall be required as part of a complete application:*

a) A demonstration that the land is not suitable for exploitation for the sand and gravel or bedrock resource for which the overlay applies; and

b) A demonstration that the proposed use will not hinder potential mineral aggregate extraction from other designated or licensed adjacent lands, including the future expansion in depth or area of any current or future licensed pit or quarry, issues of health, public safety, environment impact and quality of life. This may necessitate the submission of other supporting information such as but not necessarily limited to, geo-technical and groundwater studies, noise, vibration and dust studies and environmental impact assessment.

The proposed switching station is a utility installation, and utility installations are permitted under the Rural Countryside designation. A switching station is not a sensitive land use and will not impact or be impacted by any future mineral extraction operations.

This property was selected for the switching station as it is surrounded by mineral aggregate operations and is away from any agricultural areas. It is within close proximity to existing HONI infrastructure that the BESS facility and switching station interconnect to. The switching station is proposed to be situated towards the front of the property, located between the front lot line and an easement for a HONI infrastructure. This location minimizes impacts to the remainder of the property.

Although the site has a Sand and Gravel Resource Area Overlay, the portion of the site to be used would be unlikely to have extraction due to required setbacks from Moodie Drive and HONI infrastructure. The proposed development of the switching station does not affect the viability of a mineral extraction operation of a pit on the remainder of the property.

It is concluded that the proposed BESS facility and switching station are in conformity with the general direction of the City of Ottawa Official Plan.

3.4 Zoning By-law

3.4.1 Trail Road BESS

The site is currently zoned Rural Countryside – RU. The intent of the RU zone is to:

1) *accommodate agricultural, forestry, country residential lots created by severance and other land uses characteristic of Ottawa's countryside, in areas designated as General Rural Area, Rural Natural Features and Greenbelt Rural in the Official Plan;*

2) *recognize and permit this range of rural-based land uses which often have large lot or distance separation requirements; and*

3) *regulate various types of development in manners that ensure compatibility with adjacent land uses and respect the rural context*

The RU zone permits a range of uses including agricultural uses, residential uses, animal care establishment and hospital, equestrian operations, and forestry operations. Utility installations are permitted in the RU zone per Section 91 of the ZBL which states that a "*utility installation is permitted in all zones other than EP, ME, or MR*" subject to the provisions of the Section.

Utilities are defined as:

> *Utility means an entity operating within a regulated industry that has been given the express right or subsequent legal duty to supply the general public with a product, commodity, or service such as natural gas, electricity, water, waste water, sewer, rail service, or communication service.*

The City approved Official Plan and Zoning By-law Amendments for BESS on February 12, 2025 (File Number: ACS2025-PDB-PS-0016). The amendments were appealed, and the appeal has since been withdrawn. The amendments are currently in full force and effect and the amendments to the ZBL form By-law No. 2025-72. The amendments introduce a new definition for BESS as follows:

> *BESS means a stationary rechargeable energy storage system consisting of batteries, battery chargers, controls, power conditioning systems and associated electrical equipment, and includes:*
>
> - *Principal BESS that stores electricity from the transmission or distribution grid during periods where supply exceeds demand, and solely discharges back to the transmission or distribution grid;*
> - *Accessory BESS that stores electricity from the distribution grid and may discharge to one or more uses on the same lot and may also discharge back to the distribution grid during periods of high electricity demand. Accessory BESS may also be associated with a renewable energy generation facility.*

The proposed Zoning By-law application applies specifically to the BESS facility on the subject property. The associated T-Line and switching station are separate from the *Planning Act* applications for the BESS facility itself. They are considered utility installations per the definition below. The provisions of the ZBL do not apply to utility installations if they are subject to an Environmental Assessment per Section 91 1(f) of the ZBL. They are not subject to a *Planning Act* application and not required to form part of the ZBLA and SPC applications. The T-Line and switching station are still being reviewed by the City of Ottawa through the Right-of-Way team to ensure their functionality.

The amendments also amend the definition of Utility Installation as follows:

> *Utility installation means the equipment used to make or deliver a utility product, commodity or service and includes the actual building, plant, works, utility line, tower, relay, pedestal, and may also include battery energy storage systems and a storm water management facility but excludes antenna systems and renewable energy generation facility.*

The City-initiated amendments establish BESS as a principal use, so they are no longer considered utility installations under the ZBL. However, the proposed Trail BESS facility is functionally a utility installation

as it will contribute to the supply of electricity as part of Ontario's electricity sector regulated by the Ontario Energy Board and, through the contract with the IESO, will participate in the provision of electricity to the general public with electricity.

The MOE D-6 Guideline defines Industry, Industrial Land Use or Industrial Facility as:

> *A facility or activity relating to: the assemblage and/or storage of substances/goods/raw materials; their processing and/or manufacturing; and/or the packaging and shipping of finished products. Industrial facilities are further refined through categorization into 3 Classes in this guideline (see Appendix A of this guideline).*

The BESS facility does not process, manufacture, assemble, or store a product per the above definition as energy is not a substance, good, or raw material. Further to this, the BESS facility is not considered an industrial use by the MOE D-6 Guideline since there is no processing, manufacturing, or storage of substances, goods, or raw materials. Energy exists in every single land use, so it is infrastructure, and structures that store and redistribute the energy are a utility.

As such, while a principal BESS facility was recently defined under the current Zoning By-law, it is nonetheless a utility installation, as opposed to industrial land use, providing a sustainable energy supply to the general public.

Table 1. Zoning Review – 4186 William McEwen Drive

Section	Provision	Required	Provided
Section 69 (2)	Setback from Watercourses and Waterbodies	30m setback to the normal highwater mark of any watercourse or waterbody, or 15m to the top of the bank of any watercourse or waterbody, whichever is the greater.	Development is 167m from the municipal drain.
Section 227 (1)	Permitted Uses	BESS is not listed as a permitted use	Establish BESS as a permitted principal use
Table 227 (a)	Minimum lot width	50m	188.6m
Table 227 (b)	Minimum lot area	0.8ha	21.59ha

Table 227 (c)	Minimum front yard setback	Other uses: 10m	709.2m
Table 227 (e)	Minimum rear yard setback	Other uses: 10m	110.6m
Table 227 (f)	Minimum interior side yard setback	Other uses: 5m	18.7m
Table 227 (g)	Maximum height – principal building	Other uses: 12m	4.5m
Table 227 (h)	Maximum lot coverage	Other uses: 20%	0.04%

3.4.1.1 Proposed Zoning By-law Amendment

As discussed above, a Zoning By-law Amendment application is required to establish a primary BESS as a permitted use on the site, and to establish express performance standards for the Trail BESS development.

The proposed amendments to the Zoning By-law are as follows:

- Expressly identify a principal use BESS as a permitted use on a portion of the site; and,
- Establish appropriate setbacks.

The area on the site to be rezoned is limited to the area of the BESS facility itself, as per the figure below.

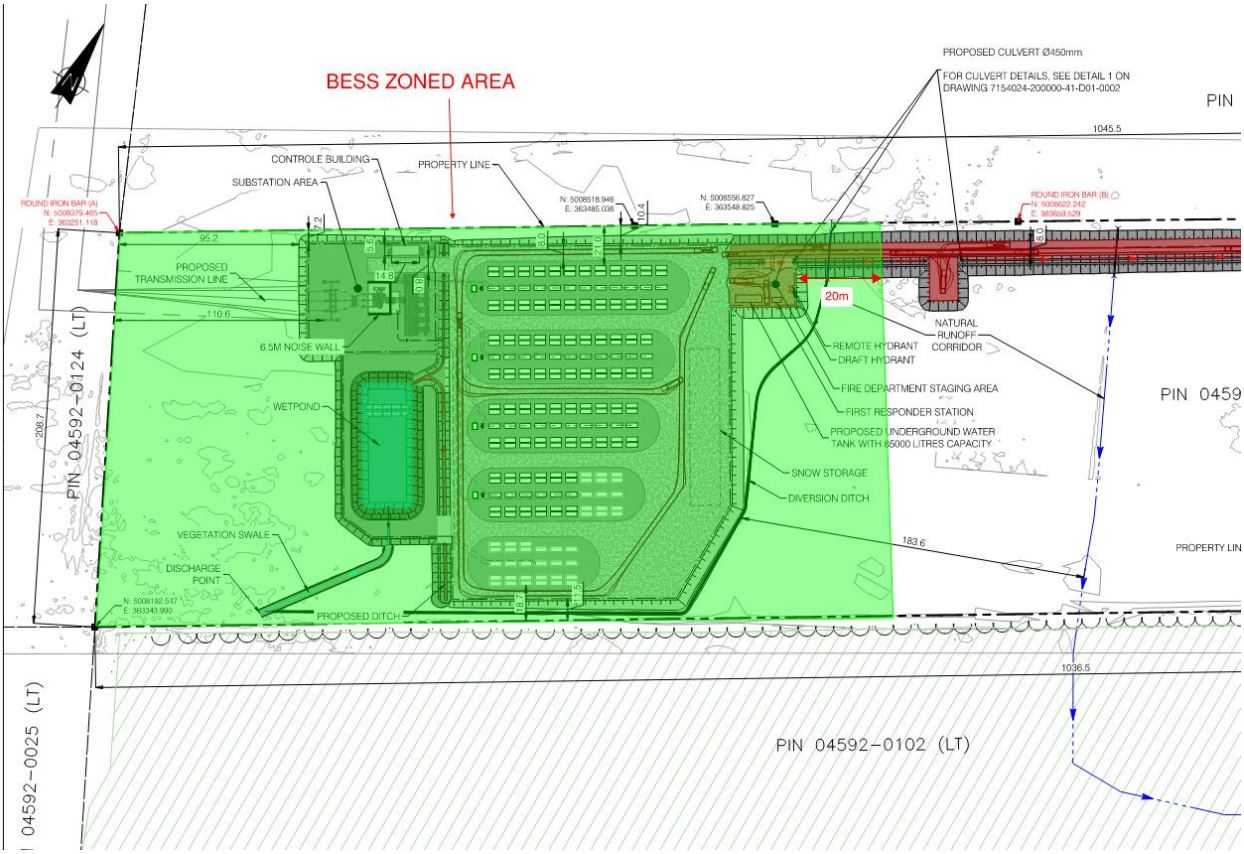

Figure 10. Area proposed to be rezoned to permit the BESS use.

The Trail BESS will have a low-rise and low impact built form that is compatible with the surrounding area and is mitigated from view through its placement on the west end of the site and screened through additional site landscaping. The facility is not expected to cause nuisance and is supported by plans and studies outlining how the facility is to function, and how any impacts are to be mitigated. The site is appropriate for the BESS facility.

3.4.2 Switching Station

3478 Moodie Drive is zoned Mineral Extraction Zone, Subzone 2, subject to rural exception 3r and a holding symbol - ME2[3r]-h.

The intent of the ME zone is to permit licensed mineral extraction options in properly designated areas, allow a limited range of permitted uses which are related to or compatible with mineral extraction operations, as well as interim uses that would not sterilize the potential of future mineral extraction

operation on the lands within the ME zones, and impose regulations to minimize the impact of mineral extraction operations on the surrounding area.

The ME zone permits a range of uses including agricultural and agricultural-related use, on-farm diversified use, and mineral extraction operation. The property is subject to a rural zoning exception that sets out a minimum lot area requirement, and the holding symbol applies only to the permitted use mineral extraction operation.

Table 2. Zoning Review – 3478 Moodie Drive

Section	**Provision**	**Required**	**Provided**
Section 213 (1)	Permitted Uses	Utility installation is not listed as a permitted use	Establish utility installation as a permitted use
Table 213 (a)	Minimum lot width	30 m	205.7 m
Rural Exception 3r	Minimum lot area	6 ha	8.09 ha
Table 213 (c)	Maximum gross floor area	All other uses: not applicable	N/A
Table 213 (c)	Minimum front yard setback	All other uses: 30 m	14.89 m
Table 213 (d)	Minimum rear yard setback	15 m	250 m
Table 213 (e)	Minimum interior side yard setback	15 m	31.89 m
Table 213 (g)	Maximum height	15 m	Not applicable

Table 213 (h)	Minimum width of landscaped area along all lot lines	15 m	14.89 m provided along front lot line

3.4.2.1 Proposed Zoning By-law Amendment

As discussed above, a Zoning By-law Amendment application is required to establish the utility installation (switching station) as a permitted use on the site, and to establish express performance standards for the switching station.

The proposed amendments to the Zoning By-law are as follows:

- Expressly identify the utility installation (switching station) as a permitted use on a portion of the site; ; and,
- Establish appropriate setbacks.

The proposed switching station will not negatively impact the potential for mineral extraction operations on the site and will not be negatively impacted by them. The switching station is to be located towards the front of the property, minimizing its footprint within the property so as to not impact mineral extraction operations. The switching station is to be located within the setback requirements of the ME zone where mineral extraction operations would not be permitted.

Relief is required to allow a front yard setback of 14.89 metres for the switching station. This allows the structure to be situated away from the interior or the property to not impact any potential mineral extraction operations. The proposed location allows the station to be situated outside of the hydro transmission easement while still being close enough to connect to the grid. Relief is required to allow for a width of 14.89 metres of landscaping along the front lot line, whereas the by-law requires a 15-metre-wide landscape buffer. The proposed setback maintains enough space for landscaping, and the relief of 0.11 metres is imperceivable from the streetscape. The remainder of the site remains landscaped. The switching station is a utility installation connecting the BESS facility to the electricity grid to allow energy to be distributed to the public.

3.5 Conservation Authority

The property is located within the boundaries of the Rideau Valley Conservation Authority (RVCA). A meeting was held on March 18, 2025 to discuss the proposal and receive feedback from the RVCA.

It was determined that portions of the site are located within RVCA's regulated area due to a watercourse that is a tributary of Mud Creek. Based on RVCA's mapping, the watercourse traverses the central portion

of the site. RVCA regulates development activity within or on adjacent lands within 15 metres of a watercourse. Any site alteration or development within the regulated area on the property would require a permit from RVCA.

Development activity may occur in a regulated area if it is demonstrated to the RVCA's satisfaction that the control of flooding, erosion, dynamic beaches, or unstable soils and bedrock will not be affected, as per Section 28.1 of the Conservation Authorities Act. The RVCA will review the ZBLA and SPC applications to ensure coordination of the application with regulatory requirements, and to ensure that the decisions made on them by the City of Ottawa are consistent with the natural hazard policies of the PPS. Section 3.1 of this report evaluates the proposal against the PPS and concludes that the proposal is consistent with the direction of the policies.

The proposed access road to the BESS facility crosses the watercourse on the property. The construction of the crossing infrastructure must be designed to account for water flows, especially during flooding and high flows. It must also be taken into consideration that migrating rivers/streams that come into contact with crossing infrastructure can cause significant damage, and in some cases, catastrophic infrastructure failure. Construction of crossing infrastructure can also have an impact on the stability of river/stream banks and associated valley slopes, necessitating consideration of current and future slope stability. The RVCA will review applications to ensure that the structures are appropriately designed to avoid expensive repairs or early replacement due to natural hazards, and that the works do not cause impacts to the control of flood or erosion hazards on upstream or downstream properties.

The RVCA will be looking to review the following reports and plans:

- Flood plain assessment (hydraulic analysis) – The purpose of the analysis is to inform the sizing and design of the proposed watercourse crossing. The analysis will need to demonstrate that the new crossing will not have any impact on the storage or conveyance of flood waters.
- Fluvial geomorphological/meander belt width analysis - The intent of this analysis is to determine the meander belt associated with the watercourses on the site and to determine the preferred crossing location based on channel form, meander belt width and 100-year erosion limit.
- Stormwater management report – Outlining how the proposed stormwater management design for the development conforms with requirements for water quantity, erosion control/water balance, runoff, and evapotranspiration.
- Civil engineering drawing set – The drawing set should include a site plan, servicing plan, grading plan, cross section plan and erosion and sediment control plan.
- Landscape restoration plans – Outlining how the disturbed areas in and around the watercourse and associated riparian areas will be stabilized/naturalized.

3.6 Parks

The City has a Parkland Dedication By-law (By-law No. 2022-280), which is the Provincially mandated method that the City uses to implement the *Planning Act* permissions to acquire parkland or cash-in-lieu of parkland as a condition of development or redevelopment of land.

While the BESS facility is a utility installation and not an industrial use, the City has categorized it as an industrial use for the purposes of the Parkland Dedication By-law. Per the By-law, industrial developments have a maximum conveyance of parkland of 2% of the gross land area, cash-in-lieu of parkland of 2% of the gross land area, or a combination thereof. Discussions with the City through the development approval process will be required to confirm how the Parkland Dedication By-law should apply to the facility.

The amount, method and/or the applicability of parkland dedication will be determined through the development application process.

3.7 Transportation Master Plan

The Transportation Master Plan (TMP) (2023) is the City's blueprint for planning, developing, and operating its walking, cycling, transit and vehicular networks in the decades to come. The TMP – Part 1 was approved by City Council on April 26, 2023, and includes TMP policies, Active Transportation Projects and Networks, and Transit and Road Project Prioritization Frameworks for TMP Part 2. The Transportation Master Plan – Part 2 is underway and will include the development of the TMP Capital Infrastructure Plan. Until the TMP Capital Infrastructure Plan is approved by Council, the following components of the 2013 TMP remain in effect: Rapid Transit and Transit Priority Networks, Road Networks and the Rapid Transit, Transit Priority and Road Projects.

Highway 416 is a provincial highway owned and operated by the Ontario Ministry of Transportation (MTO). The TMP (2013) identifies a Network Concept for 2031, which includes the infrastructure that achieves the TMP's targets for travel behaviour and level of service for roads and transit, and to accommodate the expected growth in peak period automobile trips by 2031. As identified on Map 10, a new interchange and widened arterial roadway are planned at Barnsdale Road, north of the property. Annex A, table A3 – Road Projects, provides detail of the project, which is to widen from two to four lanes between Highway 416 and Prince of Wales Drive, requiring the new interchange. The interchange is located north of the site. The facility is not anticipated to add any traffic to the area – the facility does not have permanent staff on site and would only require periodic site visits. The facility is to be situated to the back of the site and will be shielded from the street by vegetation, mitigating any visual impacts from the facility to the street.

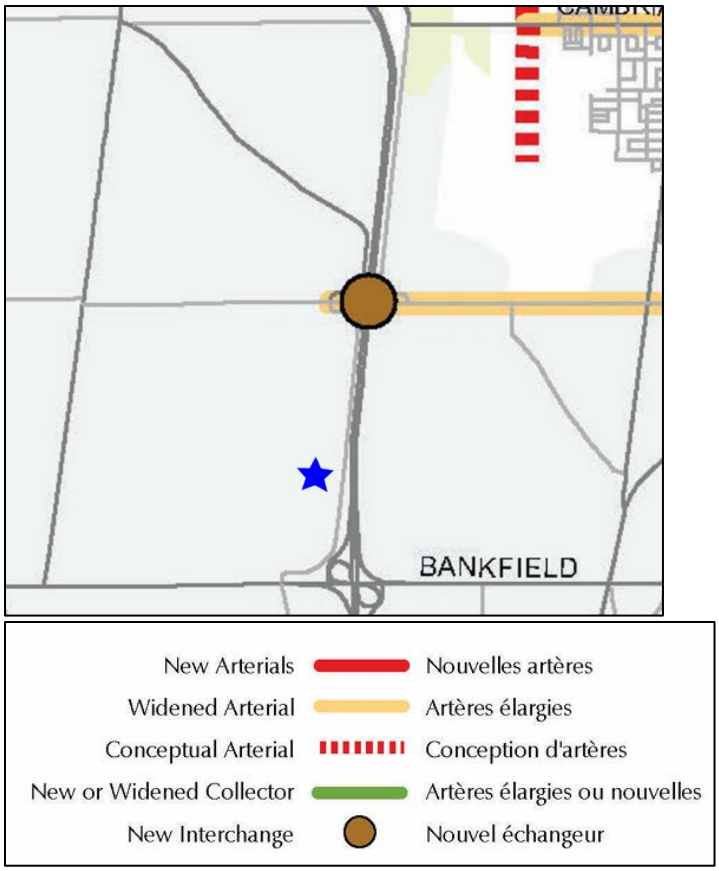

Figure 11. Map 10 – Road Network – 2031 Network Concept (Transportation Master Plan 2013)

3.8 Climate Change Master Plan

The Climate Change Master Plan (2020) (CCMP) is the framework for how Ottawa will mitigate and adapt to climate change over the next three decades, focusing on transitioning the City to become a clean, renewable, and resilient city by 2050.

The CCMP aims to mitigate climate change by:

1) Making a sustained transition away from a dependence on fossil fuels

2) Reducing energy use through conservation and efficiency

3) Increasing the supply of renewable energy through local and regional production

4) Reducing greenhouse gas emissions from non-fossil fuel sources

5) Improving carbon capture storage and sequestration

The CCMP sets out targets to reduce annual Green House Gas (GHG) emissions by 30% by 2025, 50% by 2030, and 100% by 2050. To achieve these targets, eight priorities are set out, the third priority is applying a climate lens to the new Official Plan and its supporting documents. As outlined through the OP review under Section 3.2 of this report, facilities for renewable energy sources and infrastructures are generally permitted throughout the City to help shift away from fossil fuels. The proposed BESS facility introduces a new source or renewable and sustainable energy that helps make the energy grid more efficient, resilient, and reliable for the end users by storing energy during off-peak hours and releasing it back into the grid during high-peak hours.

The proposed Trail Road BESS facility is consistent with the goals of the CCMP as it provides a renewable energy source that helps reduce GHG emissions.

3.9 Integrated Environmental Review

Environmental policies have been reviewed throughout this report, with the Official Plan policies reviewed under Section 3.2 of this report, and the findings and conclusions of environmental studies and reports under Section 4 of this report.

The EIS concludes that the proposed development will have direct impacts on wetland and wildlife habitat within the development area, primarily affecting swamp communities and associated wildlife habitat. The EIS proposes recommendations to mitigate potential effects, including wildlife monitoring, vegetation management, operational safety, reducing habitat disturbance during and after construction, and consultation with appropriate agencies such as MECP and the City to determine permit requirements and tree compensation and replanting. The Trail Road BESS will implement and comply with the recommendations set forth in the EIS.

3.10 Public Consultation Strategy

As part of the due diligence for the project, technical consultation was undertaken to explore and evaluate design options and early feedback regarding the proposal, as well as discussions with the Ward Councillor. These engagement processes included the following:

- From August – November 2023 Evolugen reached out and engaged with Councillors across the City. All instances recorded in City of Ottawa Lobby Registry;
- Discussions with Councillor David Brown to explain the proposal started in November 2023;
- Evolugen completed the following community engagement as of November 2023:
    - Provided information about the IESO RFP process and the project to stakeholders and individuals from the City of Ottawa;
    - Shared information about the project through a dedicated website; and

    - Mailed notices of public meetings to stakeholders and sent meeting invitations to the City of Ottawa via email.

- Virtual presentation by the Evolugen project team on BESS fire prevention and emergency response to the City dated September 6, 2024;
- Formal pre-application consultation meeting with the City on October 31, 2024;
- Follow-up consultation discussions with the City;
- Consultation between the project team and the Rideau Valley Conservation Authority;
- A Notice of Commencement of the proposed Trail Road BESS Project was sent to the following Provincial and Federal Government Agencies on April 4, 2025:
    - Rideau Valley Conservation Authority
    - City of Ottawa – Councillor David Brown
    - Ministry of Natural Resources and Forestry
    - Ministry of Energy and Electrification
    - Ministry of Citizenship and Multiculturalism
    - Ministry of Energy and Environment
    - Ministry of Municipal Affairs and Housing
    - Ontario Heritage Trust
    - Ministry of Agriculture, Food and Rural Affairs
    - Ministry of Transportation
    - Ministry of Environment, Conservation and Parks
- A Notice of Commencement of the proposed Trail Road BESS Project was sent to the following Indigenous groups on April 4, 2025:
    - Algonquins of Ontario
    - Algonquins of Pikwakanagan First Nation
- A Notice of Commencement of the proposed Trail Road BESS Project was sent to the following Third-Party groups on April 4, 2025:
    - Enbridge Gas Distribution
    - Hydro One Networks Inc

  - One Call
  - Ottawa Fire Department
  - Rogers
  - Telus
  - Zayo
  - Community Associations for Environmental Sustainability
  - Rural Woodlands Ottawa
- Ongoing monthly Consultation between the project team and the City's ROW team.

The above noted technical consultation processes resulted in the evolution of the proposal, ensuring that the Trail Road BESS facility meets all the requirements for a BESS facility, and that any comments on the wetlands, natural environment, and fire safety are addressed.

Technical agencies and the public will have opportunity to provide comments through the formal development review process which includes City-led notification and circulation of the proposal and submission materials. There will be opportunity for public review and comment once the applications are submitted, deemed complete, and posted online on the City's DevApps website, and at the time the ZBLA application is considered by ARAC and City Council. Any additional public consultation will be considered by the client once the site plan control application has been deemed complete and placed on circulation.

4 Summary of Applicable Studies

The pre-consultation meeting held on October 31, 2024, confirmed the required plans and studies in support of the proposed development applications. Studies and plans required with the application submission are noted below, followed by extracts of the conclusions and recommendations from select studies (see submitted studies and plans for further detail).

4.1 Servicing Study

A Site Servicing Letter was prepared by BBA, dated May 9, 2025. No domestic water connection is needed as the proposed development does not include buildings. An underground tank with a capacity of about 10,000 gallons is proposed and connected to a series of fire hydrants throughout the site for fire protection. The water tank was sized in consultation with Ottawa Fire Service.

4.2 Stormwater Management Plan

A Stormwater Management Plan was prepared by BBA, dated May 9, 2025. The report finds that the BESS site surface runoff will be routed via an open ditch that discharges into a stormwater pond. A new grassed swale, connecting pond outlet and discharge point, will be used to drain water to the existing natural flow corridor. The report provides recommended maintenance procedures to ensure proper operation of the proposed storm drainage system. The risk of spill from oil-filled transformers will be managed by a concrete containment, discharging by gravity flow to a sump pit with oil detection system. Erosion and sediment control during the construction phase will ensure that sediment-laden runoff is managed and the quality of receiving waters is not impaired.

4.3 Geotechnical Report

A Preliminary Geotechnical Investigation was prepared by Hatch, dated April 11, 2025. The investigation finds that the subsurface conditions encountered at the site are considered generally suitable for the proposed development of BESS structures, a substation, an access road, and associated electrical servicing.

4.4 Environmental Impact Study

An Environmental Impact Study (EIS) was prepared by Stantec, dated May 12, 2025. The EIS concludes that the proposed development will have direct impacts on wetland and wildlife habitat within the development area, primarily affecting swamp communities and associated wildlife habitat. There are significant woodlands on the site that are part of the City's Natural Environment Overlay. There are also wetlands that were found to be provincially insignificant, although they provide ecological functions such as significant wildlife habitat for amphibian breeding habitat, woodland area-sensitive bird breeding habitat, bat maternity colonies, habitat for species of conservation concern, and species at risk habitat for bats. The EIS proposes recommendations to mitigate potential effects, including wildlife monitoring, vegetation management, operational safety, reducing habitat disturbance during and after construction, and consultation with appropriate agencies such as MECP and the City to determine permit requirements and tree compensation and replanting. The Trail Road BESS will implement and comply with the recommendations set forth in the EIS.

4.5 Tree Conservation Report

A Tree Conservation Report (TCR) was prepared by Hatch, dated March 19, 2025. The TCR includes a tree inventory assessing a total of 54 individual trees on Municipally owned lands, and a review of trees was completed on private lands. It is anticipated that across the Municipally owned lands 18 trees will require removal, 31 trees will be preserved, and 5 trees are expected to be injured. Canopy loss is considered minimal. The preservation and retention areas within private lands has been identified in the report. Mitigation measures have been prescribed to protect trees from potential effects from the construction and operations/maintenance of the proposed development.

4.6 Hazard Mitigation Analysis and Emergency Response Plan

In addition to the plans and studies requested by the City in support of the development applications, Evolugen retained ESRG to prepare a Hazard Mitigation Analysis (HMA) and Emergency Response Plan (ERP) to provide further clarification and detail on the proposed BESS units, their safety measures and standards, and the response plan in case of an emergency,

The HMA was prepared by ESRG, dated May 2025. The HMA finds that the proposed battery (Sungrow PowerTitan 2,0) is equipped with a number of protection systems including heat, smoke, and gas detection to mitigate fault conditions required per NFPA 855. The units have two layers of explosion mitigation in the form of exhaust ventilation system designed in accordance with the NFPA 69 as well as deflagration vent panels designed in accordance with NFPA 68.

The proposed BESS facility and location poses minimal risk to public or life safety and property by way of being on a secured site away from public spaces or roadways with no public access to the site. It is recommended that training be provided to the First Responders to familiarize themselves with the site and hazards associated with lithium-ion BESS and that First Responders be instructed to stay at a safe distance in the unlikely event of a system failure.

The ERP was prepared by ESRG, dated March 5, 2025, and has been updated to address comments from OFS (revision 4.0, dated September 2025). It outlines the emergency response plan including the fire department and staging area, first responders' station, water supply, and the fire alarm control panel. The ERP explains the overall fire protection systems of the energy storage units, fire detection, alarming, and notification, and emergency response considerations and procedures.

The client has also evaluated additional risks and how they will be mitigated, based on feedback from Ottawa Fire Services. These comments include developing a written procedure outlining the shut-off process to ensure effective containment during an incident, providing air monitoring resources on site, and the protocol for notifying OFS. In response to OFS comments, an Emission Summary and Dispersion Modeling Report was prepared by Hatch (dated July 17, 2025), which demonstrates that in the event of a thermal runaway evemt it is not anticipated the BESS facility will pose adverse effects to local air quality. This resubmission (dated September 26, 2025) includes the comments from OFS and the latest designs, as well as the response to comments outlining how the comments from OFS have been addressed.

Site Plan Control approval is required for the Trail Road BESS facility. Details of the HMA and ERP, as well as any other comments from OFS, will be detailed finalized through the SPC process.

5 Conclusions

The Planning Rationale has been prepared in support of concurrent Zoning By-law Amendment and Site Plan Control applications for the property located at 4186 William McEwen Drive to facilitate the development of a Battery Energy Storage System (BESS) on the property as well as rationale for permitting a switching station at 3478 Moodie Drive.

The proposed development represents an addition to the City's electricity grid, improving energy supply and reliability. The subject BESS is a successful proponent of the IESO's energy storage procurement request for proposals and has obtained MSR from Council. In an effort to meet the IESO deadline for the start of construction of the subject BESS, site specific amendments to the City's Zoning By-law Amendment and a Site Plan Control application have also been prepared and are described in this Planning Rationale.

As demonstrated through this report and in the technical material required within the application, the proposed BESS development represents an appropriate use of the site that aligns with the intent of the applicable planning policy and regulations for an energy storage facility. The proposed facility has been designed to efficiently use the site while mitigating impacts on the surrounding environment and is evaluated and supported by various technical reports and plans forming part of the submission. Accordingly, we recommend the applications for approval.

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