



NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

Capital Illumination Plan 2017-2027



Canada

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MESSAGE FROM THE CHIEF EXECUTIVE OFFICER



If I asked you to imagine one of the world's great cities, your first mental picture might well be a night scene: urban architecture, streets and landscape features—topography, water, flora or perhaps even snow—revealed in an evocative play of light, darkness and chiaroscuro effects. The well-illuminated city is pleasurable and reassuring, orienting residents and visitors to meaningful landmarks, landforms, thoroughfares and pathways.

As one of 17 milestone initiatives set out in the Plan for Canada's Capital, 2017–2067, this innovative illumination plan for the core area of Canada's Capital Region will become a legacy of Canada's sesquicentennial. Over the coming decade, it will help transform the Capital's nighttime core area into a memorable place that offers unique destinations and experiences, showcases its distinctive character, and is committed to a sustainable future.

The Capital Illumination Plan builds on an emerging international movement in presenting a framework for showcasing nighttime landscapes. Its illumination concept and guidelines will align the ongoing design and replacement of lighting systems with the goal of making the core area exemplary in its visual aesthetic and environmental stewardship.

This document is the culmination of a collaborative planning effort. I would like to recognize the contribution of the City of Ottawa, the Ville de Gatineau, federal partners, and public and private stakeholders who participated in this initiative. I also offer sincere thanks to the hundreds of Canadians who provided their feedback and ideas on how best to illuminate our capital, and whose valuable input helped to refine the orientation and guidelines of this plan. The comments and suggestions provided by the NCC's Advisory Committee on Planning, Design and Realty, as well as the Board of Directors also helped to strengthen the plan. Finally, I would like to acknowledge the dedicated NCC planners and external experts who contributed to this document.

Through this plan, the NCC is committed to establishing itself as a leader in the field of urban illumination, and to partner with others to support a comprehensive nighttime strategy for one of the world's most northerly capital cities.

I commend you for taking interest in this plan, and I look forward to working together to transform Canada's Capital into a model for 21st century urban illumination.

A handwritten signature in black ink, appearing to read 'M Kristmanson'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Dr. Mark Kristmanson
Chief Executive Officer



ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

The Capital Illumination Plan represents the federal government's key statement on illuminating the core area of the National Capital Region, under the guidance of the Plan for Canada's Capital, 2017–2067.

Through its ability to create nighttime appeal, lighting is an urban strategy that affords an opportunity to strengthen the identity and position of the National Capital Region. Urban illumination is associated with safety and visual comfort, but also plays a role in a city's image and attractiveness. Lighting technologies are evolving and our ability to illuminate architecture and urban features is improving. Sophisticated lighting designs are also increasingly used for special events. At the same time, illumination's impact on the natural environment and human health is better understood.

The wealth and beauty of the National Capital Region's landscapes contribute to our nation's strong and unique identity, and should be showcased both day and night.

"We find beauty not in the thing itself but in the patterns of shadows, the light and the darkness, that one thing against another creates. A phosphorescent jewel gives off its glow and color in the dark and loses its beauty in the light of day. Were it not for shadows, there would be no beauty." —J. Tanizaki, In Praise of Shadows

FIGURE 1.1
Study Area



— Study Area Boundary

1.2 OBJECTIVES

The Capital Illumination Plan is the first strategy for illuminating and showcasing the nighttime landscape of the Capital core area as a whole. It is focused on the future, with a timeline extending to 2027.

More specifically, the objectives of the Capital Illumination Plan are as follows:

- To enhance the Capital’s nighttime beauty.
- To enrich the resident and visitor experience.
- To promote environmentally responsible lighting practices.
- To support existing planning, heritage conservation and urban design strategies.
- To strengthen ties and collaboration between federal partners, the City of Ottawa, the Ville de Gatineau, and other public- and private-sector stakeholders.

The Capital Illumination Plan adopts a high-level approach, proposing an illumination framework and lighting guidelines. Detailed recommendations will be required for certain areas or to address specific themes, such as those provided in the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015) or the Right-of-Way Lighting Policy (City of Ottawa, 2016). One of the roles of the Capital Illumination Plan is to guide these future detailed analyses and ensure a coherent approach at the global scale.

1.3 STUDY AREA

Located on both sides of the Ottawa River, the study area covers a territory comprising parts of two municipalities (the Ville de Gatineau and the City of Ottawa) and two provinces (Quebec and Ontario), each with its own government and respective policies. The study area is based on the boundaries of Canada’s Capital Core Area Sector Plan (NCC, 2005), with a few exceptions such as inclusion of the Canadian Museum of Nature. The Ottawa River is an important physical element, covering approximately one third of the study area.

1.4 SCOPE

The NCC’s planning mandate is established under the *National Capital Act*, giving it the unique responsibility of planning, developing and enhancing the Capital, and, specifically, federal lands.

In order to present a common illumination framework

for the Capital core area, the study area for the Capital Illumination Plan includes properties that are not under federal authority. The NCC has no direct mandate to implement the Capital Illumination Plan’s recommendations across the entire study area; the plan therefore serves a special role as a consensus-building tool.

Given the spirit of cooperation required to create a comprehensive nighttime identity for the Capital, the NCC encourages municipal partners to use the Capital Illumination Plan to guide the illumination of areas under their authority. Its development represents a joint commitment by the various stakeholders that must carry over into the implementation phase to ensure success.

1.5 DEVELOPMENT PHASES

The Capital Illumination Plan is the product of work carried out over three phases. It was developed with the active participation of a wide range of federal partners, the City of Ottawa, the Ville de Gatineau, and private- and public-sector stakeholders. The process also included active public participation through various events, including discussion sessions, workshops and night walks.

Phase 1 – Analysis

An initial observation phase provided an in-depth understanding of existing conditions with regard to lighting in the Capital core area. It also identified international best practices. This information is presented in the Phase 1 Report – Analysis (Lumipraxis Stratégie Lumière + MMM Group, 2016).

Phase 2 – Vision and Principles

A preliminary vision and principles were developed, based on the information gathered in Phase 1.

Phase 3 – Plan Development

Rooted in the vision and principles, lighting guidelines and an illumination concept were developed for the Capital core area.

1.6 STRUCTURE

The structure of the Capital Illumination Plan is intended to position the document as an easy-to-use resource for those working with illumination in the Capital. It comprises the following chapters.

- Chapter 1: Introduction
- Chapter 2: Existing Conditions
- Chapter 3: Vision and Principles
- Chapter 4: General Guidelines
- Chapter 5: Illumination Concept
- Chapter 6: Guidelines by Type of Use
- Chapter 7: Sectors
- Chapter 8: Implementation

1.7 HOW TO USE THE PLAN

As a planning and design tool, the Capital Illumination Plan's role is to guide lighting projects. Depending on the users, it serves as a guide for the following:

- the management of existing lighting;
- the identification of priority lighting projects over the next 10 years;
- the design of new lighting projects;
- the evaluation of lighting projects by federal and municipal authorities.

It is vital that stakeholders consider the guidance provided by the Capital Illumination Plan, and determine how their individual projects fit within its overall vision. This plan is not a regulatory framework; the purpose of the guidelines is to support the design process for projects, rather than prescribe specific solutions. Each project is unique, and its lighting approach must be determined on a case-by-case basis according to its nature, location, surrounding context and objectives.



Night walks allowed members of the public to provide comments on the current nighttime context.







CHAPTER 2

EXISTING CONDITIONS

2.1 KEY FINDINGS

An analysis of the current nighttime condition of the Capital core area was completed as the first phase in developing the Capital Illumination Plan. The key findings of this analysis were the following.

- 1. Lack of a comprehensive nighttime strategy**

The Capital core area has no comprehensive nighttime strategy. Lighting projects remain isolated and disjointed undertakings, lacking a cohesive thread capable of weaving together narratives and intentions.
- 2. Lack of visibility and landmarks**

The Capital's nighttime image is difficult to read, both in terms of the lack of prominence given to national and iconic symbols, and the lack of spatial orientation and visual landmarks.
- 3. Lack of experience-based destinations**

Exterior lighting is dominated by functional needs; the human experience is secondary. The experiential quality of the study area would benefit from the creation of special character areas and nighttime sceneries through thoughtfully designed illumination.
- 4. Aging public lighting**

The public lighting infrastructure is aging and sometimes fails to meet environmental best practices.
- 5. Dominance of roadway lighting**

Roadway lighting often dominates, to the detriment of pedestrian comfort and the showcasing of architectural elements.
- 6. Confusion over public lighting**

Public lighting often conflicts with facades and urban landscapes. The wide variety of light fixture styles and types that exist in the Capital can create confusion in the legibility of areas, and complicates maintenance.

7. Lack of shared tools for coordination among the various stakeholders

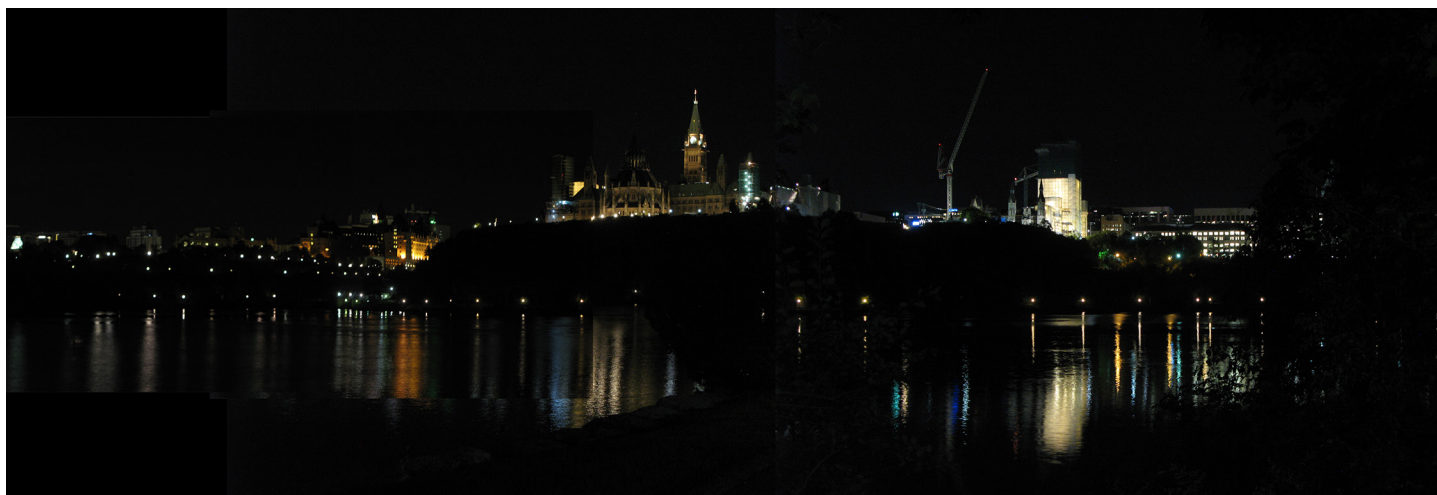
Close collaboration is critical to create a unique nighttime identity for the Capital. Despite this, the NCC, City of Ottawa, Ville de Gatineau, and other key public and private stakeholders involved in developing the Capital core area have no shared tools for encouraging coordinated illumination.

2.2 PLANNING CONTEXT

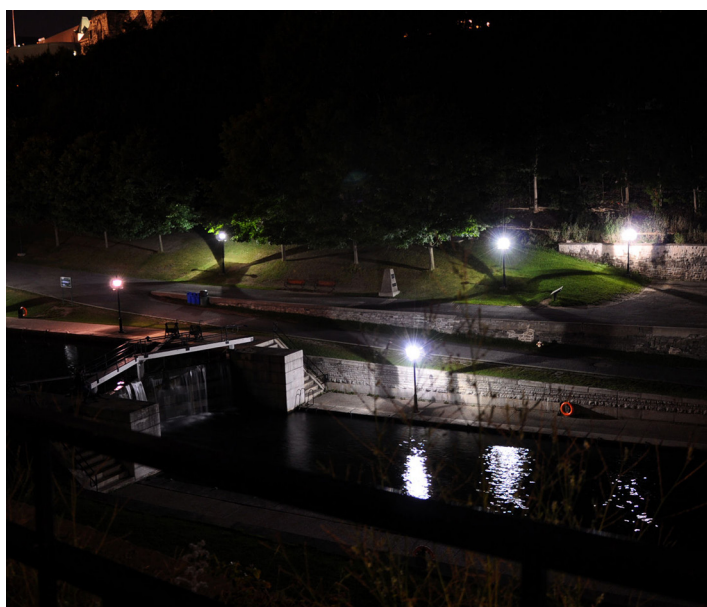
This section provides an overview of the planning context for the Capital Illumination Plan. Given the study area, this context is both federal and municipal. Plans are identified below based on the entity that primarily authored them.

Existing plans are valuable in terms of providing the following:

- **Reference**, to establish consistency with the existing planning framework for the Capital.
- **Inspiration**, to introduce a possible extension toward principles specific to the nighttime context.
- **Recommendations**, as some plans feature recommendations with regard to lighting.



Important national symbols in the central capital landscape currently lack visibility in the nighttime context.



Important sites currently lack visibility. Public lighting often produces significant glare.



Alexandra Bridge, an important daytime landmark, is not showcased at night.

2.2.1 NCC

The NCC's plans are interrelated, and structured within a particular hierarchy. The Capital Illumination Plan is an implementation document, focusing on the specific topic of lighting. It is based on the visions and policies of the Plan for Canada's Capital, 2017–2067 (NCC, 2017) and Canada's Capital Core Area Sector Plan (NCC, 2005).

The Plan for Canada's Capital, 2017–2067 (NCC, 2017)

This plan outlines the future of federal lands in the National Capital Region between Canada's sesquicentennial in 2017 and its bicentennial in 2067. It proposes the following vision: "Canada's Capital is a symbol of our country's history and diversity, a true reflection of our democratic values and our commitment to a flourishing and sustainable future." This vision is centred on three pillars:

- An inclusive and meaningful capital.
- A picturesque and natural capital.
- A thriving and connected capital.

This is the NCC's most recent land use planning document. It guided the development of the Capital Illumination Plan to ensure that the proposed nighttime experience supports the planning framework established for the Capital until 2067. The Capital Illumination Plan is one of the milestone projects identified in the Plan for Canada's Capital, 2017–2067.

Canada's Capital Core Area Sector Plan (NCC, 2005)

This plan defines a planning framework and orients development, programming, built and natural heritage conservation, environmental integrity, transportation infrastructure, animation, architectural quality and urban design on federal lands in the core area until 2025.

Canada's Capital Core Area Sector Plan supports a harmonious vision of the Capital core area as a whole. It was used as a guide to ensure that the Capital Illumination Plan remains consistent with these ideals. It identifies a need for a strategic illumination plan in the Capital core area, and includes general lighting policies that strongly influenced the development of the Capital Illumination Plan.

2.2.2 PUBLIC SERVICES AND PROCUREMENT CANADA

As the manager of major Government of Canada real estate properties in the Capital core area, including major buildings and bridges, Public Services and Procurement Canada (PSPC) plays an important role in planning the Capital. Through various planning documents, PSPC focuses its planning activities primarily on the Parliamentary and Judicial precincts.

Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015)

The Parliamentary Precinct Exterior Lighting Master Plan is a comprehensive reference document that offers a long-term vision of nighttime illumination and enhancement of the Parliamentary Precinct site, landscape and architecture. It describes a vision designed to enrich and elevate the nighttime experience of the historical, environmental and symbolic primacy of the site, highlighting the value of the Parliamentary Precinct at the heart of the National Capital Region, and affirming its connections to the cities of Ottawa and Gatineau.

While its scope is limited to the Parliamentary Precinct, the detailed recommendations of the Parliamentary Precinct Exterior Lighting Master Plan influenced the proposed direction for the entire Capital Illumination Plan study area.

2.2.3 CITY OF OTTAWA AND VILLE DE GATINEAU

A significant portion of the study area is under municipal authority. Each municipality has a specific planning context that guides its urban development and directs its future growth.

City of Ottawa Official Plan (City of Ottawa, 2003)

The City of Ottawa's Official Plan has several references to lighting, in terms of both an engineered measure to ensure a safe and secure public realm, and an aesthetic tool to help distinguish and unify the character of special areas. As a tool for urban design, the Official Plan's policies are broad, with no explicit direction relating to how lighting should be used or coordinated to help communicate the character of various areas. However, in order to ensure that the general design objectives of the Official Plan are met, among the features listed in the Official Plan that are subject to site plan review are the location, size, colour and type of all building lighting.

Programme Particulier d'Urbanisme du Centre-Ville de Gatineau (Ville de Gatineau, 2009)

With regard to Gatineau, the Programme particulier d'urbanisme du centre-ville de Gatineau (PPU), an integral part of the city's planning program, provides guidance, objectives and means of implementing the planning and development vision for the downtown area. It also presents various concepts that reflect this vision. Without necessarily providing detailed guidelines with respect to lighting, the PPU supports urban revitalization in the downtown core by encouraging signature projects that feature innovative architecture, linking both heritage and modernity. The PPU supports the creation of new gathering places and the implementation of a network of green spaces connected by pleasant and lively pedestrian pathways. Finally, the PPU seeks to establish a distinct downtown signature, as well as to mark the entrances to the city and its strategic intersections, which in turn entail the need to consider illumination.

These plans provided the detailed information required to achieve a better understanding of the issues and needs of the study area and its anticipated future development.



Photo credit: Ottawa Tourism





CHAPTER 3

VISION AND PRINCIPLES

3.1 VISION

The purpose of a vision statement is to establish a long-term aspiration for the illumination of the Capital, identifying the desired future condition. The Capital Illumination Plan's vision expresses the foundational elements of the plan, provides a context to guide future decision making, and establishes the nighttime identity that will be implemented in the long term.

Canada's Capital is a place that contributes to the pride of all Canadians, and represents the democratic values on which the nation is founded. Its history, culture, beauty and natural landscapes contribute to showcasing the Capital both nationally and internationally. The study area features a carefully designed urban, architectural and landscape composition, where the form and function of the space complement one another in a coherent manner. However, as night falls, most of this information fades or vanishes, making way for a different composition: some locations emerge from obscurity, while others disappear; boundaries blur; rhythms and atmospheres change. The nighttime setting offers an outstanding opportunity to share and uncover a different dimension of the Capital.

The vision of the Capital Illumination Plan is expressed as follows:

The nighttime Capital offers memorable experiences, showcases its distinctive character and contributes to a sustainable future.

3.2 PRINCIPLES

The six principles of the Capital Illumination Plan constitute the foundation for illumination planning and design in the Capital core area. The principles reflect an approach based on sustainable development, seeking to strike a balance between the environmental, social and economic aspects of lighting.

PRINCIPLE 1 Adopt responsible environmental management practices

Today, the adverse environmental impacts of artificial lighting are duly accepted. In particular, exposure to artificial light can cause a variety of negative impacts on wildlife and plant species. Lighting is also a major source of energy consumption; through conservation and efficiency measures, greenhouse gas emissions associated with lighting can be significantly reduced.

The Capital Illumination Plan seeks to promote the use of responsible environmental management practices to limit the adverse impacts of lighting on the environment, while showcasing the beauty of the landscape and architectural heritage of the Capital.

PRINCIPLE 2 Reveal the beauty of the central Capital landscape

The vast landscape facing the river, which includes major buildings of symbolic importance, surrounded by the central ring of Confederation Boulevard and the built edges of the cities, is referred to in this plan as the “central Capital landscape.”

An understanding of the Capital core area is largely based on the prominence of national symbols inside the central Capital landscape. The area features iconic buildings and structures and a striking terrain that connect, through a sense of pride and belonging, people who live in or visit the Capital. These elements are of tremendous cultural, symbolic, aesthetic and economic value.

The Capital Illumination Plan seeks to strengthen the notion of the central Capital landscape in the nighttime context, in order to carry the primacy and visual coherence of national symbols into the night, protect the silhouette of the Capital core area as its signature greeting, and showcase its important cultural landscapes.



The central Capital landscape.

PRINCIPLE 3 Showcase Confederation Boulevard

Confederation Boulevard joins the downtown areas of Ottawa and Gatineau into a single urban composition, and surrounds the central Capital landscape. The Capital’s ceremonial and discovery route, it links many sites and symbols of national importance, including Parliament Hill, the Supreme Court of Canada, the Rideau Canal UNESCO World Heritage Site, museums, embassies, monuments, parks, pathways and magnificent natural landscapes.

The Capital Illumination Plan seeks to showcase the role of Confederation Boulevard as a structuring nighttime element by strengthening its unique signature, providing visual continuity and fostering improved linkages between the two shores.

PRINCIPLE 4 Strengthen the multiple identities of the Capital core area

The Capital core area is characterized by multiple identities. It comprises a unique assembly of symbolic and functional elements, such as federal institutions located along Confederation Boulevard, reflecting the national importance of the Capital. Its character is particularly evident in the spectacular composition featuring the Gothic revival–style Parliament Buildings and their location atop the Parliament Hill escarpment, overlooking the Ottawa River.



Confederation Boulevard.

The Capital core area is also the centre of the region's cultural, social and economic life. As an urban centre, it comprises two large cities and serves as a place of residence for tens of thousands of people who live and work there. It contains businesses, restaurants, performance and animation areas, cultural institutions and residential neighbourhoods, all of which contribute to the region's dynamism and prosperity.

Finally, the Capital core area features important natural landscapes. Water is one of the most prominent features of the core area, from the Ottawa River and two of its tributaries, the Rideau and Gatineau rivers, to the Ruisseau de la Brasserie (Brewery Creek) and the Rideau Canal. Urban settlement began in the National Capital Region as a direct result of these waterways, originally as the focus for Indigenous occupation, and later for prosperous forestry-based industries that fuelled the region's economic development. Green corridors line these waterways and include the Parliament Hill escarpment, the shores of the Ottawa River, Jacques-Cartier Park and many smaller urban parks.

These identities co-exist in the same urban space. The Capital Illumination Plan seeks to recognize, respect and strengthen these identities and celebrate the wealth generated by the diversity of the Capital core area.

PRINCIPLE 5 Balance the role of light and the role of darkness

Urban lighting should not be continuous and uniform across space and time. The Capital Illumination Plan seeks to foster a way of thinking about light in which darkness is considered a true opportunity for creativity, part of a tool kit in creating unique and interesting urban environments, where places of relative and real darkness contrast with more fully lit places, together contributing to the Capital's magic and mystery.

PRINCIPLE 6 Collaborate and coordinate in support of a global nighttime image

The Capital Illumination Plan's success largely depends on the involvement of all stakeholders and their support for the plan's recommendations. Rallying key players, decision makers and users around a global nighttime image for the Capital is necessary to ensure the plan's implementation and sustainability. Appropriate coordination of illumination can help avoid competition and promote a mindset that conceptualizes lighting as a global urban planning and design tool. The end result will be a more balanced nighttime composition.





CHAPTER 4

GENERAL GUIDELINES

The guidelines for this chapter are applicable to all illumination projects within the study area, regardless of their location or type. They are divided into four categories:

- **process for lighting projects**
- **urban design**
- **sustainable lighting**
- **health, safety and universal accessibility**

4.1 PROCESS FOR LIGHTING PROJECTS

All lighting projects must be governed by concern for appropriateness, respect for place and humility of approach. This requires that each player involved in lighting consider how individual projects will contribute to the overall vision of the Capital Illumination Plan. The questions identified below are intended to help guide new lighting projects in this direction.

What to light?

The first question is to establish whether or not a site should be illuminated. This decision should take into account various considerations, including the following.

- Its contribution to safety or visual comfort.
- Its heritage, historical, cultural, architectural and/or social value. The illumination should contribute to beautifying the Capital and to the pride and sense of belonging experienced by residents and visitors.
- Its communicative value. Each illumination has meaning; as such, the choice of sites to illuminate must support strategic directions with regard to the development and image of the Capital.
- The environmental sensitivity of the site.

The Capital Illumination Plan, and in particular the illumination concept (see Chapter 5), should be used as a starting point to guide the selection of sites to illuminate.

Lighting for whom?

- Who are the users of the site? Should it be visible from near or from far? When should it be visible? What type of environment is to be created and how will it be enjoyed?

How to light?

- The site context should be evaluated. Where is the site located? How does it relate to the Capital's history? What is its scale? How does it relate to public space? What is its surrounding illumination setting? What are the characteristics of its natural environment?
- The architectural and landscape features of the site should be understood. Does it have a heritage designation? Does it form part of a cultural landscape? What era is it from? What are the key architectural details or landscape features that should be emphasized? How do its materials react to light?
- The use of the site should be understood. A dialogue with the site owner or manager will reveal its uses and user traffic and provide valuable information about the area and its special points of interest.

4.2 URBAN DESIGN

Lighting projects can strengthen the identity of the Capital and help create a memorable nighttime setting. To achieve this, it is vital to encourage projects that meet the high design standards applied in the Capital core area.

The urban design guidelines are divided into the following topics:

- **character**
- **compatibility**
- **colour and lighting effects**

4.2.1 CHARACTER

The character and aesthetics of light fixtures have a direct impact on the daytime and nighttime experience. Moreover, the heritage value of existing light fixtures is an important element to consider during any maintenance or replacement activities.

Guidelines

- Select appropriate light fixtures according to each application and site context.
- Consider the aesthetic role of light fixtures during the day. In cases where they play no aesthetic role, minimize their daytime visual impact (including light sources and related components such as wires and conduits).
- Consider the possibility of incorporating light fixtures into existing elements, such as urban furniture, plantings and landscape walls.
- Favour the human scale when selecting and locating light fixtures.
- Take into account the heritage value of existing light fixtures and their role in the general design strategy of a building, site or specific area. In particular:
 - Maintain the character of light fixtures with heritage value in all maintenance or replacement activities, including, when possible, their appearance and location.
 - If possible, use light fixtures that retain similar physical characteristics to heritage light fixtures but offer better performance.



The Confederation Boulevard light fixtures play an important aesthetic role during the day.

4.2.2 COMPATIBILITY

It is important to consider the physical context of each illumination subject in order to ensure compatibility with the site and its surrounding area.

Guidelines

- Ensure the compatibility and harmony of lighting interventions with the site context and surroundings, including:
 - adjacent illuminations;
 - symbolic elements;
 - the heritage value and established character of buildings and landscapes;
 - the architecture and built environment;
 - other land uses.

- Ensure that any lighting intervention does not overwhelm or devalue the long-range views of the central Capital landscape, in particular from the key viewpoints identified in the NCC report entitled Canada's Capital Views Protection (2007), the symbolic character of Confederation Boulevard and its built form, and the heritage character of the site or adjacent sites, in particular national historic sites and the Rideau Canal UNESCO World Heritage Site.
- Favour the use of light fixtures in colours and finishes that fit with the adjacent setting, including existing light fixtures and urban furniture.
- Ensure visual balance by avoiding visual excess or competition.
- Take account of ambient lighting, in particular from existing public lighting and surrounding buildings.
- Discourage projections of commercial content.

4.2.3 COLOUR AND LIGHTING EFFECTS

Today, lighting technologies offer a wide range of possibilities when it comes to colour variation, moving fixtures and projections. However, special lighting effects must not overload the nighttime environment.

Guidelines

- Generally, white tones are preferred to coloured tones in order to respect the architectural intent and materiality of built-form components.
- Limit the use of colour and lighting effects to the following applications:
 - in art and innovation districts (*see Section 5.2.3*);
 - in nightlife districts and along Sparks Street (*see Section 5.2.3*), in the form of subtle expressions highlighting limited, well-defined components (e.g. commercial entrances, architectural details and so on);
 - limited, well-defined architectural elements on buildings with an artistic purpose, such as museums, or art and performance buildings;
 - temporary illumination related to festivals, special public events or official celebrations;
 - temporary illumination intended to showcase major locations of historical significance or symbolic interest.
- Use of colour and lighting effects in permanent lighting interventions must not overwhelm or devalue the long-range views of the central Capital landscape, in particular from the key viewpoints identified in the NCC report



Lighting designer: Martin Conboy Lighting Design

The subtle use of red lighting in the National Gallery of Canada's lantern is a good example of an appropriate use of colour for limited and well-defined architectural elements on buildings that have an artistic vocation, such as museums and art and performance buildings.

entitled Canada's Capital Views Protection (2007), the symbolic character of Confederation Boulevard and its built form, and the heritage character of the site or adjacent sites, in particular national historic sites and the Rideau Canal UNESCO World Heritage Site.

- Ensure that colour and lighting effects in permanent lighting interventions
 - use soft tones (where the addition of white light dilutes the colour), with the exception of art and innovation districts where saturated tones (use of pure colours) may be appropriate;
 - favour, in general, warmer tones in the foreground and cooler tones in the background;
 - remain subordinate to an overall reading of the area;
 - avoid flashing or strobe effects;
 - remain free of commercial or marketing interests;
 - form part of an artistic concept.
- Coordinate and harmonize the use of colour and lighting effects within an urban or architectural ensemble.

4.3 SUSTAINABLE LIGHTING

Respect for nature and living beings will help make the cities of the future more sustainable. Despite the benefits of lighting in terms of aesthetics and social activities, it can have adverse effects on our health and our environment. The major challenge consists in maximizing the benefits of lighting while limiting its negative impacts.

The guidelines on sustainable lighting are divided into the following topics:

- **efficiency and life cycle**
- **orientation and design**
- **illumination schedule**
- **maintenance and disposal**

4.3.1 EFFICIENCY AND LIFE CYCLE

Urban lighting is a major source of energy consumption. Energy efficiency and life cycle are two important parameters to consider when selecting a lighting system.

Guidelines

- Favour lighting technologies featuring the lowest energy use and longest life cycle (e.g. light-emitting diode [LED] technology).
- Set an energy performance goal for all lighting projects.
- Evaluate energy performance at the end of each project to identify energy and cost savings, and document any technical issues encountered.
- Consider overall costs when making decisions with regard to lighting. In addition to the initial investment, take account of elements such as the performance of lamps, light fixtures and the systems that manage them, as well as operating, maintenance and recycling costs.
- Favour equipment that provides control of on/off times and lighting modulation and that can accommodate remote or telemanagement control technologies.

4.3.2 ORIENTATION AND DESIGN

A quality illumination project is not limited to the use of energy efficient equipment. It must also consider proper lighting orientation and be designed according to the particular environmental sensitivities of each site.

Guidelines

- Avoid light spill, particularly toward the sky, by focusing light beams on the components to be illuminated and using the following:
 - architectural elements, such as an appropriate opaque feature (i.e. screen, roof overhang, wall);
 - landscaping elements, such as plant buffers using indigenous species with dense, persistent foliage.
- For public lighting, favour the use of opaque lamp hoods, opaque covers or any other concealment device that limits the beam of light at angles exceeding 80 degrees, with a preference for full cut-off fixtures. Avoid installing new fixtures that do not meet this criterion, except where such a use may be justified, based on heritage considerations. Consider retrofit options (e.g. using filters, reflectors and so on) for existing light fixtures that do not meet this criterion (e.g. globe-type fixtures).
- Ensure that any use of ground lighting considers the risk of pedestrian glare and significant wear and tear in a winter climate.
- Confirm the presence of any threatened species, essential habitat or ecologically sensitive site that might suffer adverse environmental effects, and adapt the lighting approach according to the environmental sensitivity of the site. In particular,
 - limit the illumination of natural habitats and ecologically sensitive areas;
 - comply with applicable mitigation measures to avoid disturbing nocturnal fauna and flora;
- limit the installation of lighting in locations where it can have harmful environmental effects that cannot be mitigated.
- Lower the intensity of light sources where reflection may take place on watercourses or snow.
- Adopt lighting best practices with regard to birds (including the consideration of migratory patterns), such as the adjustment of lighting levels (see Table 1).

Telemangement

Although this technology is still in limited use because of its high cost, it represents a future solution for connected, smart cities. It offers:

- remote control by computer to modify lighting scenarios, including the ability to lower lighting levels;
- the immediate return of information on the operational status of the lighting system;
- simplification of cleaning and maintenance;
- one of the most effective energy-saving options;
- possible interaction between lighting and various technologies (sound, Wi-Fi and so on).

4.3.3 ILLUMINATION SCHEDULE

The possibility of adjusting lighting levels is one of the most relevant lighting options with regard to sustainable development. It allows for operational flexibility that sidesteps static systems operating on an “all or nothing” basis, in favour of dynamic configurations that distribute only the amount of light required at each moment of the night, based on activity level.

The Capital Illumination Plan proposes various potential operating categories. The recommendations are provided for illustrative purposes; dimming levels must be determined on a case-by-case basis for each project, in cooperation with the various stakeholders and based on preliminary testing.

Guidelines

- Consider modifying activation time and lowering lighting levels, based on the parameters suggested in Table 1. To ensure that dimming remains imperceptible, the suggested lighting reduction levels should occur progressively and continuously over several 5- to 10-minute segments.
- Consider safety as the leading priority in all initiatives that involve lowering lighting levels.
- Consider the use of remote-controlled or motion-activated lighting, particularly in low-traffic and low-speed spaces, such as recreational pathways, parks, courtyards and parking lots.

4.3.4 MAINTENANCE AND DISPOSAL

Maintaining the range of lighting installations in excellent condition throughout their life cycle requires regular maintenance, performance monitoring and the capacity to learn lessons from existing installations. This supports the ability to maintain their energy efficiency, extend their life cycle and lower replacement costs. At the end of its life cycle, lighting equipment should be recycled or discarded appropriately to ensure that it poses no risk to human health or the environment.

Guidelines

- Document completed illumination installations and develop a maintenance plan that takes into account the original design intent.
- Favour durable equipment that is adapted to climate conditions and that is vandal-resistant.
- Favour locations and equipment that allow for easy maintenance, including access to the lamp, safe working conditions and the use of standardized materials.
- Favour solutions according to an evaluation of the current or future physical deterioration of the installations:
 - Explore replacement options for the most outdated and/or unsuitable installations.
 - Favour adjustment options for more recent installations that no longer meet existing standards.
- Optimize the management of lighting installations by facilitating the implementation of technical solutions, such as the creation of databases, telemanagement or centralized systems that allow for remote diagnostics and lighting control. Until then, keep up-to-date maintenance records.
- Regularly monitor installations, and replace any defective lamps promptly, prioritizing areas of high public use.
- Develop waste management plans to dispose of all materials in an environmentally acceptable way at appropriate locations and in accordance with applicable regulations.

Table 1 – Curfew Parameters

Mode	Description and Potential Uses	Recommended Parameters
Permanent Functional Lighting	Functional lighting requiring activation for the entire night (e.g., streets, major pathways, public places, health and safety services and so on).	<ul style="list-style-type: none"> • Activation at sunset. • 50% reduction in intensity from midnight to 5 a.m.
Public Transit System Lighting	Lighting related to public transit networks (stations and associated infrastructure).	<ul style="list-style-type: none"> • Activation at sunset. • 50% reduction in intensity during off-peak hours. • Fully deactivated when public transit services end.
Illumination Lighting	Illumination to enhance the nighttime landscape (e.g. buildings, commemorative monuments, public art and so on).	<ul style="list-style-type: none"> • Activation at sunset. • Lower intensity and reduced amount of lighting, if not total deactivation, starting between midnight and 2am (based on location and use). <p data-bbox="924 705 1495 795">On a case-by-case basis for the most important elements of the nighttime scenery, as identified in the illumination concept (see Chapter 5):</p> <ul style="list-style-type: none"> • Activation at sunset. • Illumination in “night mode” starting at midnight (“night mode” involves a specific lighting design that lowers light in a graduated operation or by partial deactivation).
Dark Zone Lighting	Lighting dedicated to areas identified as dark zones (see Section 5.2.1).	<ul style="list-style-type: none"> • Activation at sunset. • Lower intensity and reduced amount of lighting, if not total deactivation, at 10pm.
Seasonal Lighting	The National Capital Region’s northern climate has implications for lighting. The presence of snow for several months of the year affects the amount of light required, due to its reflective properties, but also because it changes how lands are used.	<ul style="list-style-type: none"> • Lower lighting levels to take account of snow reflection. Reduction to be determined according to on-site tests. • Modify or turn off lighting in areas where snow is not removed and public access is not provided, taking care to maintain safe urban conditions, avoid black holes along urban routes and maintain illumination of visual landmarks.
Indoor Office Lighting	Contemporary architecture often includes a significant amount of glazing. Several buildings have equipment that allows the possibility of reducing or turning off lighting (centralized management, control system, detection system and so on). Others are encouraged to consider this option when updating their indoor lighting. In addition to lowering energy consumption, reducing indoor office lighting can significantly reduce bird collisions.	<ul style="list-style-type: none"> • Turn off unnecessary indoor lighting in office buildings, particularly during bird migration season.

4.4 HEALTH, SAFETY AND UNIVERSAL ACCESSIBILITY

Lighting is essential for humans, creating numerous benefits for the human body and mind. However, artificial lighting can also have undesirable effects. Scientific research is revealing the impact of light on humans, in addition to the risks associated with glare, particularly with respect to regulating the biological clock and circadian (day/night) rhythms.

With regard to safety, lighting must take into account not only intensity levels, but also notions of ambience, spatial coherence, visibility, visual comfort, uniformity and glare. A safe city stands out more by its ambiances and the quality, not the quantity, of its lighting. Moreover, accessibility for people with disabilities must be considered in any lighting intervention. For example, people with visual impairment have different needs and sensitivities with respect to lighting, and the placement of lighting fixtures must not inhibit the free movement of people using mobility aids.

Guidelines

- Follow applicable standards, codes, regulations, guidelines and best design practices with regards to universal accessibility.
- Consider the impact of lighting on real and perceived safety. In particular:
 - Favour the creation of pedestrian ambiances through soft, uniform and human-scaled public lighting.
 - Pay special attention to conflict zones (i.e. crossings, intersections, school accesses).
 - Ensure that lighting creates no source of intense, blinding light, confusing reflections, or dynamic effects that might compromise safety or user comfort.
- Use specific lighting to identify self-serve bicycle stands, the main public transit stations and points of access to recreational pathways.
- Favour Capital Illumination Plan guidelines on colour temperature, in particular for public roads (see Section 6.6).

Colour Temperature

Measured in Kelvins (K), the colour temperature provides an indication of the tint of white light as perceived by the human eye. A yellowish appearance is considered warm white, while a blueish appearance is considered cool white. The higher the colour temperature, the 'cooler' the light appears.

In the past decade, several cities have retrofitted their existing street lighting to white LED lamps with higher colour temperatures (4,000K+). LEDs provide several advantages over other lighting technologies, including their energy efficiency, dimmability, and long lifetime. The choice of colour temperature was often a result of the higher energy efficacy of 4,000K LED compared to 3,000K LED, although recent technological advances have significantly reduced this gap.

In the wake of these retrofit projects, concerns have been raised regarding the brightness of cool white light, its impact on the character of neighbourhoods, and its potential adverse environmental and health effects. The issue is complex; other features of lighting must also be considered beyond colour temperature, including overall lighting levels, intensity, and light spill.

In addition to favouring warmer lighting, including for streetlights, greenspaces and waterways, the Capital Illumination Plan seeks to reduce the adverse impact of artificial lighting by:

- encouraging the careful selection of sites to illuminate;
- promoting dimming curfews;
- favouring lighting quality over quantity;
- favouring the use of full cut-off public lighting;
- establishing the most environmentally sensitive areas as "dark zones";
- favouring energy efficient lighting technologies.

Tones of White



WARM WHITE

NEUTRAL WHITE

COOL WHITE



Photo credit: Ottawa Tourism
Lighting designer: Phil Gabriel



THE BLACK THORN



CHAPTER 5

ILLUMINATION CONCEPT

The illumination concept establishes a broad outline of the overall nighttime scenery proposed for the study area. It is presented in two parts:

- **illumination zones**
- **structuring elements**

The illumination concept identifies lighting guidelines for specific areas and key physical components in order to support their role in the proposed nighttime scenery. In addition to providing direction for individual lighting projects, it assists in the process of strategically identifying priority lighting initiatives that could be implemented within the next 10 years.

FIGURE 5.1
Illumination Zones



Foreground

- Interior of Boulevard Loop
- Exterior of Boulevard Loop

Background

- Near Background
- Far Background

Note : Zone boundaries are conceptual given the scale and evolving nature of the study area

5.1 ILLUMINATION ZONES

The identification of illumination zones adopts a high-level approach to the study area. The purposes of the illumination zones, which focus on architectural illumination, are as follows:

- to strengthen the visibility of the central Capital landscape through the creation of a nighttime foreground and background;
- to create a silhouette that is legible from a distance;
- to bring together in a coherent manner a wide diversity of urban landscapes and architectural expressions on both sides of the Ottawa River;
- to encourage a harmonious distribution of light between the two shores.

As a key geographical and historical feature of the National Capital Region, the Ottawa River served as the starting point for observation of the study area for the purpose of identifying the illumination zones. The following zones are identified (see Figure 5.1):

- **The foreground**, corresponding to the central Capital landscape. It includes the interior and exterior zones of the Confederation Boulevard loop.
- **The background**, characterized by a mix of building types and architectural styles. The “near background” connects the capital and civic realms and invites people to discover nightlife areas. The “far background” initiates a gradual return to relative darkness.

For each zone, Table 2:

- guides the choice of buildings to illuminate;
- identifies illumination guidelines for buildings by zone, including a dominant lighting tone.

The zones are identified on the basis of existing built-form characteristics and future intensification projects. The guidelines for each zone are not prescriptive. Their objective is to steer new building illumination projects and encourage the justification of proposals that may not conform to the guidelines identified and which, as a result, may, for example, jeopardize the visual distinction being sought between the foreground and background.

- Follow the guidelines identified in Table 2 to guide building illumination projects according to their location within the identified zones.
- Develop detailed exterior lighting master plans for major urban redevelopment projects having a strong visual influence on the foreground and background composition. For example, existing and evolving areas such as LeBreton Flats, Albert and Chaudières islands, and the high-rise buildings of the Portage complex play a critical role with regard to foreground and background compositions.

Table 2 – Illumination Zone Guidelines

ZONE	BUILDINGS TO PRIORITIZE FOR ARCHITECTURAL LIGHTING	ILLUMINATION GUIDELINES
Foreground		
INTERIOR OF BOULEVARD LOOP	<ul style="list-style-type: none"> • Centre Block and Library of Parliament • East Block • West Block • Confederation Building • Justice Building • Supreme Court of Canada • Library and Archives building • Canadian Museum of History • Fairmont Château Laurier 	<ul style="list-style-type: none"> • Reinforce the legibility of the national symbols and the heritage character of the cultural landscapes. • Favour exceptional architectural lighting treatments that underscore the inherent value of each building and foster a reading of architectural details. • Reinforce the relative hierarchy of buildings. In particular: <ul style="list-style-type: none"> ▪ Within the interior of the Confederation Boulevard loop, give visual primacy to Parliament Hill and the Supreme Court of Canada. ▪ Favour a softer lighting approach for buildings along the exterior of the Confederation Boulevard loop. • Explore opportunities to illuminate all or a portion of copper roofs, using a homogeneous approach. • Dominant tones: Give preference to amber and warm white tones (approximately 2,200 K to 3,200 K). • Follow recommendations for turning office lights off inside buildings (see Section 4.3.3).
EXTERIOR OF BOULEVARD LOOP	<ul style="list-style-type: none"> • Buildings that house large public institutions or events. • Buildings that express symbolic, historical or cultural values. • Buildings of outstanding architectural quality. • Buildings with a heritage designation. • Buildings or portions of buildings with a major influence on the visual continuity of Confederation Boulevard (e.g., facades along Wellington Street, Sussex Drive and Mackenzie Avenue in Ottawa, and along Laurier Street in Gatineau). 	<ul style="list-style-type: none"> • Explore opportunities to illuminate all or a portion of copper roofs, using a homogeneous approach. • Dominant tones: Give preference to amber and warm white tones (approximately 2,200 K to 3,200 K). • Follow recommendations for turning office lights off inside buildings (see Section 4.3.3).
Background		
NEAR BACKGROUND	<ul style="list-style-type: none"> • Buildings that house large public institutions or events. • Buildings that express symbolic, historical or cultural values. • Buildings of outstanding architectural quality. • Buildings with a heritage designation. • Buildings or portions of buildings with a major influence on the visual continuity of Confederation Boulevard (e.g. facades along the northern segment of Sussex Drive). 	<ul style="list-style-type: none"> • Encourage less systematic illumination than for the foreground, but sufficient enough to highlight the urban landscape and nighttime destinations. • Avoid creating visual competition with foreground buildings, in particular by limiting the use of lighting at the top of tall buildings. • Create visual links to nightlife areas (see Section 5.2.3). • Dominant tones: <ul style="list-style-type: none"> ▪ Give preference to amber and warm white tones (approximately 2,200 K to 3,200 K) for historic buildings. ▪ Give preference to neutral white (approximately 3,500 K to 4,000 K) to cool white (4,200 K+, for occasional uses or to showcase details) tones for contemporary buildings, thereby strengthening the visual distinction with foreground buildings. • Follow recommendations for turning office lights off inside buildings (see Section 4.3.3).
FAR BACKGROUND	<ul style="list-style-type: none"> • Buildings that house large public institutions or events. • Buildings that express symbolic, historical or cultural values. • Buildings of outstanding architectural quality. • Buildings with a heritage designation. • Buildings or portions of buildings with a major influence on the visual continuity of Confederation Boulevard (e.g. facades along the northern segment of Sussex Drive). 	<ul style="list-style-type: none"> • Favour a gradual reduction of illuminations. • Limit the use of lighting at the top of tall buildings, so as to not visually detract from the foreground buildings. • Follow recommendations for turning office lights off inside buildings (see Section 4.3.3).

Note: The intent of the recommendations regarding dominant tones is to create a visual distinction between the nighttime foreground and background. As such, these guidelines apply only to the portion of buildings visible from a distance. In some cases, a particular building’s materials may not necessarily conform to what is typical within its zone. In such a situation, the material type and colour should always be considered as the main criterion when determining the appropriate lighting approach.



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FIGURE 5.2
All Structuring Elements



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

Note: This plan provides a conceptual illustration of the illumination concept's structuring elements. It is not meant to indicate aerial visibility of the lighting or any specific type of illumination.

5.2 STRUCTURING ELEMENTS

The second component of the illumination concept is the identification of key areas and physical components that deserve special lighting treatment. The following categories of structuring elements are identified:

Dark zones

- waterways
- greenspaces

Nighttime landmarks

- Confederation Boulevard
- key nodes
- feature sites
- buildings

Nightlife areas

- art and innovation districts
- nightlife districts
- Sparks Street

Evolving areas



- the Chaudières sector and Albert Island
- LeBreton Flats

Figure 5.2 provides a snapshot of all the structuring elements, allowing an understanding of the relationship between them. The following sections (5.2.1 to 5.2.4) provide general guidelines for each category of structuring element, while detailed guidelines for specific locations are identified in the sectors (*see Chapter 7*).

FIGURE 5.3
Dark Zones



Dark Zones

-  Waterways
-  Greenspaces

5.2.1 DARK ZONES

The natural landscapes and watercourses of the Capital core area are of great environmental importance. While the presence of lighting can improve user experience and promote opportunities for the nighttime use of public space, the wildlife and plants that live in these areas are sensitive to light. Exposure to artificial light in natural habitats can cause a variety of negative impacts in some species. For example, light attracts insects, repels bats, causes spatial disorientation in migrating birds, activates photosynthesis systems in plants, and disrupts biological sleep patterns and seasonal cycles in vertebrates. A balance must be struck between the need to support an attractive and dynamic capital, and the need to preserve the darkness of the night.

The following categories of dark zones are identified:

- **waterways**
- **greenspaces**

The illumination objectives of dark zones are as follows:

- Reduce the harmful effects of artificial lighting on fauna, flora and the dark sky.
- Contribute to showcasing the urban components of the nighttime scenery by providing contrasting dark areas.

Particularly careful use of light is recommended within dark zones, with consideration for the anticipated nighttime uses and the preservation of the integrity of natural landscapes.

5.2.1.1 WATERWAYS

This dark zone consists of the major waterways, which include the Ottawa River, Rideau River, Gatineau River, Rideau Canal and Brewery Creek. They have an important role to play with respect to ecosystems and wildlife, given their role as movement corridors. Reptiles, amphibians, fish, and other animals live in and travel through these waterways. This dark zone includes sites within a 10-metre buffer along waterways.

Guidelines

- Keep lighting levels to the minimum required for the comfort and safety of users, with the exception of “feature sites” identified in the illumination concept and, on a case-by-case basis, sites that support water-based tourism (e.g. cruises).
- In locations where lighting is provided:
 - Pay special attention to the orientation of light fixtures.
 - ◆ Favour the use of full cut-off public lighting.
 - ◆ Do not point beams toward the water due to reflections.
 - ◆ Do not point beams at natural habitats.
 - Favour the use of motion-activated lighting and passive light (contrasting tones and materials, use of reflectors and so on).
 - Favour the use of amber or very warm white tones up to 3,000 K.
 - Favour low-intensity lighting.
 - Favour the use of equipment that minimizes light with blue and ultraviolet wavelengths.
 - Use the “dark zone lighting” curfew mode (*see Table 1 for parameters*).

5.2.1.2 GREEN SPACES

Green spaces consist of the network of shorelines and parks, including Jacques-Cartier Park, Major’s Hill Park, Confederation Park, and the Garden of Provinces and Territories. In spite of the urban character of the study area, a large number of animals and birds depend on these assets for habitat. These green spaces also act as a stopping place on annual migration routes.

Guidelines

- Keep lighting levels to the minimum required for the comfort and safety of users. However, on a case-by-case basis, use lighting to showcase significant built-form components and visual landmarks, and to support events and water-based tourism (e.g. cruises).
- Illuminate important built-form components and visual landmarks to showcase them and to provide orientation (e.g. buildings, public art, commemorative monuments, important intersections, fountains and so on).
- Favour refined, subtle lighting designs in order to preserve the natural character of green spaces.
- Focus public lighting on major access points and most-frequented and safe pathways.

- Favour the use of full cut-off public lighting.
- Favour the use of amber or warm white tones up to 3,000 K.
- Prioritize green spaces for the retrofit of globe-style light fixtures to minimize excess light spill. The eventual replacement of such light fixtures should also be considered, except in cases where such a use is justified on the basis of heritage considerations.
- Consider the use of motion-activated lighting.
- Favour the use of equipment that minimizes light with blue and ultraviolet wavelengths.
- Favour the following curfew modes (*see Table 1 for parameters*):
 - For pathways, main accesses and areas where 24-hour use is anticipated: “permanent functional lighting” mode.
 - For other pathways: “illumination lighting” mode.
 - For illuminated built-form components: “dark zone lighting” mode.
- Refer to the sectors (*see Chapter 7*) for detailed guidelines applicable to specific green spaces.

The ecological importance of waterways

From an ecological perspective, the presence of two key designated areas and critical habitat serve to underline why waterways require sensitive lighting approaches.



- **Important Bird Area (IBAs):** Important Bird Areas (IBAs) are sites that shelter specific groups of birds: threatened species, congregations of birds or restricted-range species. When a species occupies an area in sufficient numbers for at least one season (in winter, during migration or during breeding season), it is considered a “trigger” species, and the zone receives IBA designation. The Ottawa River shelters over 300 bird species, almost half of them migratory birds. It is one of the most important waterfowl migration routes on the continent and a vital rest area for many bird species. The Lac-Deschênes– Ottawa River IBA covers the southwest portion of the study area. The migratory bird nesting period generally lasts from early April to late fall.
- **Designated natural areas:** The study area is close to four natural habitats valued by the NCC. These valued natural habitats include Leamy Lake, Rockcliffe Park, Lac des Fées, as well as the Champlain Bridge islands and Lemieux Island. These natural areas support vulnerable essential habitats of certain species, and are important for the protection of regional biodiversity. The NCC prioritizes the protection of these natural habitats.
- **Critical habitat:** Over 200 species at risk have been identified on NCC lands, including several within the study area. The term “species at risk” refers to plant or animal species that have been granted special status by federal and provincial governments. It also includes species identified by the Committee on the Status of Endangered Wildlife in Canada and those that are on provincial lists of threatened or vulnerable species. The NCC ensures the protection of the critical habitats of species at risk on its lands, based on the measures identified in federal and provincial recovery programs. The NCC prioritizes the protection of these critical habitats by minimizing the impact of light pollution within ecologically sensitive zones.





FIGURE 5.4
Nighttime Landmarks



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes

-  Feature Sites
-  Buildings

5.2.2 NIGHTTIME LANDMARKS

Landmarks play an important role in the nighttime context. Depending on their type and location they can provide spatial orientation, support a better understanding of the area, and become nighttime destinations.

The following categories of landmarks are identified:

- **Confederation Boulevard**
- **key nodes**
- **feature sites**
- **buildings**

The illumination objectives of nighttime landmarks are as follows:

- Facilitate orientation in the nighttime urban space.
- Showcase certain important locations and buildings, from close and/or from a distance.
- Create a strong, distinctive signature for Confederation Boulevard, recognizable day and night, on both sides of the river.
- Enhance access points to Confederation Boulevard.

5.2.2.1 CONFEDERATION BOULEVARD

The Capital's ceremonial and discovery route, Confederation Boulevard plays a dominant role in the landscape and life of the Capital core area. Covering 7.5 kilometres, it is divided into three parts:

- **Central loop:** Crosses the Ottawa River to connect the downtown cores of Ottawa and Gatineau.
- **Northeastern section:** Follows Sussex Drive in Ottawa, passing through the Capital's international sector to Rideau Hall.
- **Southern section:** Provides a grand approach along Elgin Street, from Laurier Avenue in Ottawa to the National War Memorial.

Urban furnishings were specifically designed for Confederation Boulevard in the mid-1990s. One of their key features is the use of spherical (globe-type) light fixtures that create a chain of highly visible lighting from adjacent streets and sidewalks, known as the "string of pearls." Confederation Boulevard lighting generally features pedestrian-oriented light fixtures, mounted at a lower level, and higher level light fixtures that are intended to light the roadway itself.

Confederation Boulevard can be considered to have two identities. It is both:

- A symbolic route, rich in destinations and experiences;



The "pearl necklace" effect of Confederation Boulevard has faded due to the proliferation of globe-style light fixtures.

- A major traffic corridor. As a right-of-way largely belonging to the City of Ottawa or the Ville de Gatineau, its lighting is designed in collaboration with the municipalities in order to ensure conformity with their respective criteria.

The Capital Illumination Plan seeks to strengthen the route's legibility, promote a nighttime scenography that enhances the Boulevard experience, and ensure that the two identities of Confederation Boulevard co-exist within the same space.

Guidelines

- Favour lighting that is high quality, soft and consistent along the entire Boulevard.
- Favour white tones for both public and architectural lighting.
- Favour visual continuity between the illumination of facades and park elements, to avoid overly abrupt light contrasts.
- Maintain the primacy of national symbols and the official, ceremonial character of the Boulevard.
- Prioritize and encourage the illumination of building facades along Confederation Boulevard.
- Ensure that architectural illumination respects the symbolic character of Confederation Boulevard.

- Ensure that individual building illumination along the Confederation Boulevard frontage does not dominate the overall impression.

Public lighting

- Renovate the Confederation Boulevard lighting system, favouring options that maintain the distinctive visual signature of the lighting fixtures while taking into account environmental responsible lighting practices. More specifically:
 - In the short- and medium-terms, favour retrofits using filters, reflectors, shields, and so on, to minimize light spill toward the sky.
 - In the long term, evaluate an option of globe-type light fixture replacement for the higher level roadway lighting that achieves the following:
 - ◆ Supports environmentally responsible lighting practices;
 - ◆ Maintains compatibility with existing urban furniture;
 - ◆ Allows for better lighting control and management (e.g. power modulation);
 - ◆ Facilitates maintenance.
- Revamp the lustre of its “pearl necklace” effect,, which has faded due to the proliferation of globe-style light fixtures in the study area. Consider a comprehensive planning approach with partners to identify areas where a gradual replacement of globe-type fixtures may be appropriate, taking into account their heritage character.
- Favour colour temperatures between 3,000 K and 3,700 K, giving preference to warmer tones for pedestrian lighting. This colour temperature range could allow for the potential of visually distinguishing Confederation Boulevard from surrounding streets, where a warmer colour temperature is proposed (see Section 6.6).
- Coordinate building facade lighting with street lighting. In collaboration with the municipalities, evaluate the possibility of reducing street lighting during periods of time when architectural illumination is featured and should take precedence.
- Ensure a high degree of uniformity, particularly by ensuring regular maintenance of the light fixtures.
- Ensure that responsibility for maintaining light fixtures is coordinated between municipal and federal authorities, or assumed by a single entity.
- Perform lighting diagnostics to identify redundant or unnecessary lighting.

- Favour a “permanent functional lighting” curfew mode (see Table 1 for parameters).

5.2.2.2 KEY NODES

The Capital Illumination Plan identifies the following major intersections as nighttime landmarks:

- Confederation Square (Elgin Street / Wellington Street intersection, in Ottawa)
- Sussex Drive / Wellington Street and Rideau Street intersection, in Ottawa
- Elgin Street / Laurier Avenue intersection, in Ottawa
- The Peacekeeping Monument (St. Patrick Street / Sussex Drive intersection, in Ottawa)
- Alexandra Bridge / Laurier Street intersection, in Gatineau
- Laurier Street / Portage Bridge intersection, in Gatineau
- Alexandre-Taché Boulevard / Laurier Street / Eddy Street / Promenade du Portage intersection, in Gatineau
- Sir John A. Macdonald Parkway / Booth Street intersection, in Ottawa
- Wellington Street / Portage Bridge intersection, in Ottawa
- Rideau Hall intersection, in Ottawa

Two of these key nodes contain major commemorative monuments: Confederation Square, site of the National War Memorial, and the St. Patrick Street / Sussex Drive intersection, site of the Peacekeeping Monument. These two intersections are referred to in the guidelines as “developed commemorative nodes.”

Guidelines

- Showcase the key nodes through illumination that reinforces their structuring role and their function as landmarks.
- For each key node, develop a comprehensive lighting project that takes account of the overall site, including public lighting and the treatment of built components.
- Favour illumination strategies that reinforce a clearly defined and identifiable public space, such as a cohesive facade illumination.
- For key nodes located along Confederation Boulevard, coordinate their illumination with the Confederation Boulevard lighting approach (see Section 5.2.2.1).
- Take into consideration the character of key nodes as high-density, mixed-traffic (motorized vehicles, pedestrians and cyclists) urban intersections. Pay special attention to crossings and conflict areas.

- Promote close-range and long-range views.
- Minimize sources of light pollution in the vicinity of key nodes to avoid dampening their visual impact.
- For “developed commemorative nodes”:
 - Encourage dramatic illumination that helps recognize developed commemorative nodes as major nighttime landmarks.
 - Coordinate public lighting with architectural lighting.
 - Refer to the sectors for detailed guidelines applicable to each developed commemorative node (*see Chapter 7*) and to guidelines for commemorative monuments (*see Section 6.3*).
- For key nodes that are not “developed commemorative nodes”:
 - Promote the illumination of building facades and features located at the edges of these intersections (e.g. public art, commemorative monuments and key access points to adjacent lands) in order to reinforce the visual presence of the intersections

5.2.2.3 FEATURE SITES

The Capital Illumination Plan proposes to showcase the following sites and structures along the Ottawa River, which are of importance for their symbolic and historical character.

- **Rideau Falls:** The Rideau Falls are an essential part of the cultural landscape and an outstanding river tourism destination.
- **Chaudières Dam and Falls:** The Chaudières dam and falls constitute a significant element of the cultural landscape and the Capital’s industrial heritage. Referred to as *Akikodjiwan* or *Kishkâbikedjiwan* in their language, the Chaudières falls is a place of special significance for the Algonquin Anishinabe people.
- **Rideau Canal:** Designated as a national historic site and a UNESCO World Heritage Site, the Rideau Canal is a jewel of the nighttime landscape. The Ottawa Locks are a particularly important tourist attraction.
- **Alexandra Bridge:** Completed in 1901, this steel truss cantilever bridge crosses the Ottawa River, connecting the cities of Ottawa and Gatineau. Initially a railway bridge, it was converted to handle vehicle and pedestrian traffic in the 1950s. The Alexandra Bridge is designated a National Historic Civil Engineering Site and is an integral part of Confederation Boulevard.
- **Nepean Point:** Nepean Point is famous for its scenic view of Parliament Hill and the core of the National Capital Region. At its peak sits a statue of Samuel de Champlain. The redevelopment of Nepean Point is a milestone

project in the Plan for Canada’s Capital, 2017–2067 (NCC, 2017).

- **Victoria Island** (eastern section): On the eastern part of Victoria Island is an ancient portage and meeting place for Indigenous peoples. The former Carbide Willson mill, a recognized federal heritage building, is the only remaining building on this part of the island, the remainder of the area left as primarily open space. A seasonal attraction, “Aboriginal Experiences,” features cultural and culinary programming. The creation of a place of special significance on Victoria Island is identified as one of the milestone projects in the Plan for Canada’s Capital, 2017–2067 (NCC, 2017).
- **Richmond Landing:** The Royal Canadian Navy Monument stands at Richmond Landing.
- **E.B. Eddy Digester Tower:** West of the Canadian Museum of History, the E.B. Eddy Digester Tower, built in 1901, is a vestige of a vast industrial complex, and a reminder of major industrial activity in the local and regional economy.

Guidelines

- For each feature site, develop a comprehensive lighting project that takes account of the overall site, including public lighting and the treatment of built elements.
- Favour a subdued and soft illumination approach that respects the memory of each site, and evokes a presence, rather than ostentatious illumination.
- Ensure that illumination does not compromise the visual prominence of the buildings within the central Capital landscape.
- Minimize light pollution around the feature sites to avoid dampening the visual impact of their illumination.
- Given the location and nature of these sites, favour the use of amber to warm white tones. Selective use of soft coloured illumination may also be considered.
- In addition to permanent lighting, consider feature sites for temporary artistic lighting projects.
- Refer to the sectors (*see Chapter 7*) for detailed guidelines applicable to each feature site.



Rideau Falls



Chaudières Dam



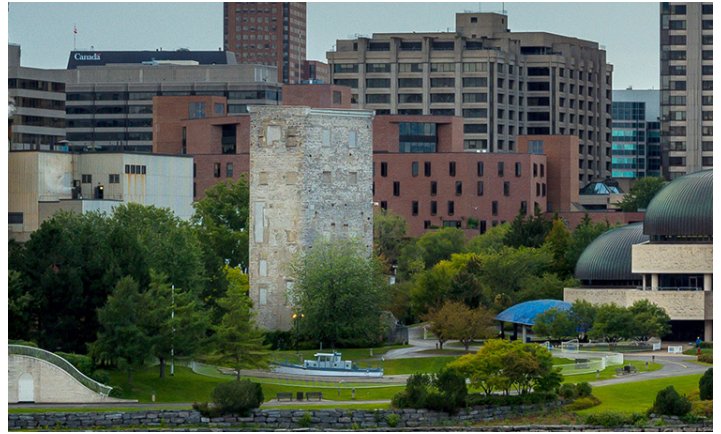
Victoria Island (eastern section)



Alexandra Bridge



Richmond Landing



E.B. Eddy Digester Tower



Ottawa Locks, Rideau Canal



Nepean Point

5.2.2.4 BUILDINGS

Buildings are the most visually prominent component of the built environment of the Capital core area. Several important buildings currently have noteworthy architectural lighting. However, global observation of the study area reveals that the overall nighttime architectural scenography fails to do justice to the National Capital Region's rich built environment.

Not every building should be illuminated, nor illuminated in the same way. Types of buildings to prioritize for architectural lighting are listed in Table 2 (*see Section 5.1*). Based on these criteria, a selection of buildings to prioritize for illumination is identified below. Some of these buildings already feature well developed exterior illumination schemes. Given the size of the study area, this list is not exhaustive and does not preclude other buildings from being illuminated.

Guidelines

- Prioritize the illumination of the following buildings, in accordance with the detailed guidelines identified in the sectors (*see Chapter 7*):
 - Centre Block and Library of Parliament
 - East Block
 - West Block
 - Confederation Building
 - Justice Building
 - Supreme Court of Canada
 - Library and Archives Canada building
 - Canadian Museum of History
 - Fairmont Château Laurier
 - Connaught Building
 - Bytown Museum
 - Gatineau Courthouse
 - Maison du citoyen
 - Laurier Street facades, in Gatineau
 - Wellington Street and Elgin Street facades along Confederation Boulevard, in Ottawa
 - Government Conference Centre
 - East and West Memorial Buildings
 - National Gallery of Canada
 - Notre-Dame Cathedral Basilica
 - Embassy of the United States of America
 - Portage Complex
 - Terrasses de la Chaudière
 - Servantes de Jésus-Marie Convent
 - Maison Charron
 - Global Centre for Pluralism
 - Royal Canadian Mint building
 - Ottawa Rowing Club
 - Lester B. Pearson Building
 - National Research Council Canada building
 - John G. Diefenbaker Building, 111 Sussex Drive
 - Canadian War Museum
 - Fleet Street Pumping Station
 - Rideau Hall
 - 24 Sussex Drive
 - Canadian Museum of Nature
 - National Arts Centre
 - Ottawa City Hall
 - Cartier Square Drill Hall
 - ByWard Market Square
 - Sussex Courtyards
 - Sussex Drive facades
 - Rideau Street facades
 - La Fonderie
 - Théâtre de l'île
 - Wright-Scott House

FIGURE 5.5
Nightlife Areas



Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

5.2.3 NIGHTLIFE AREAS

The Capital Illumination Plan seeks to create special ambiances in nightlife areas. These locations are currently or are planned to become pedestrian-oriented, liveable, mixed-use areas with lively street activity. They have a major role to play in the city's nightlife, and underscore the study area's vitality. Light, whether public or private, affects nighttime social behaviour, and can help reinforce this important role.

While the heritage and symbolic character of the central Capital landscape must be preserved, other spaces offer opportunities for advancing the innovative and social qualities of the Capital through projects that encourage artistic explorations in urban lighting. In most cases, nightlife areas do not have a direct visual impact on the central Capital landscape, allowing for more creative and bold approaches.

The Capital Illumination Plan identifies the following nightlife areas:

- **Art and innovation districts**
 - National Arts Centre / Arts Court
 - Montcalm cultural axis
- **Nightlife districts**
 - Vieux Hull (Laval Street sector)
 - ByWard Market
- **Sparks Street**

The illumination objectives of nightlife areas are as follows:

- Recognize the important role that certain locations play in the Capital's nightlife.
- Create nighttime ambiances that are conducive to discovery and a dynamic social life.
- Identify locations suited to more creative, bold lighting approaches.
- Support economic development.
- Improve the nighttime pedestrian experience.

Guidelines

- Develop a comprehensive exterior lighting master plan for each nightlife area.
- Favour a lighting treatment that
 - reveals the distinct architecture, heritage and charm of each nightlife area;
 - underlines the cultural authenticity of each nightlife area;
 - favours the human scale;

- fosters a pedestrian atmosphere and encourages walking;
- enhances businesses and storefronts.
- In nightlife areas, encourage
 - the illumination of storefronts until at least midnight to preserve commercial continuity;
 - the illumination of meeting places, such as patios, public plazas and so on;
 - the illumination of public artwork and commemorative monuments;
 - lighting continuity and consistency, including for the lighting of commercial spaces.
- Give specific priority to art and innovation districts for the following:
 - enabling creative, bold lighting statements;
 - installing "light art" installations;
 - installing innovative, creative, high-quality temporary lighting, such as art projects or event-based lighting;
 - encouraging pilot projects that feature new technologies or innovative lighting approaches.
- With respect to public lighting:
 - Favour a homogeneous approach within each nightlife area.
 - Favour pedestrian lighting over road lighting.
 - Adjust lighting levels to the uses on each street. These may change, depending on the season.
 - Consider special high-quality, designer-driven lighting concepts, for example, special colours or effects, for Sparks Street and the art and innovation districts.
- Refer to the sectors (*see Chapter 7*) for detailed guidelines applicable to each nightlife area

NIGHTLIFE DISTRICTS - INSPIRATIONAL IMAGES



Commercial continuity (Lyon, France)

Photo credit: see Appendix A – 1



Covent Garden (London, England)

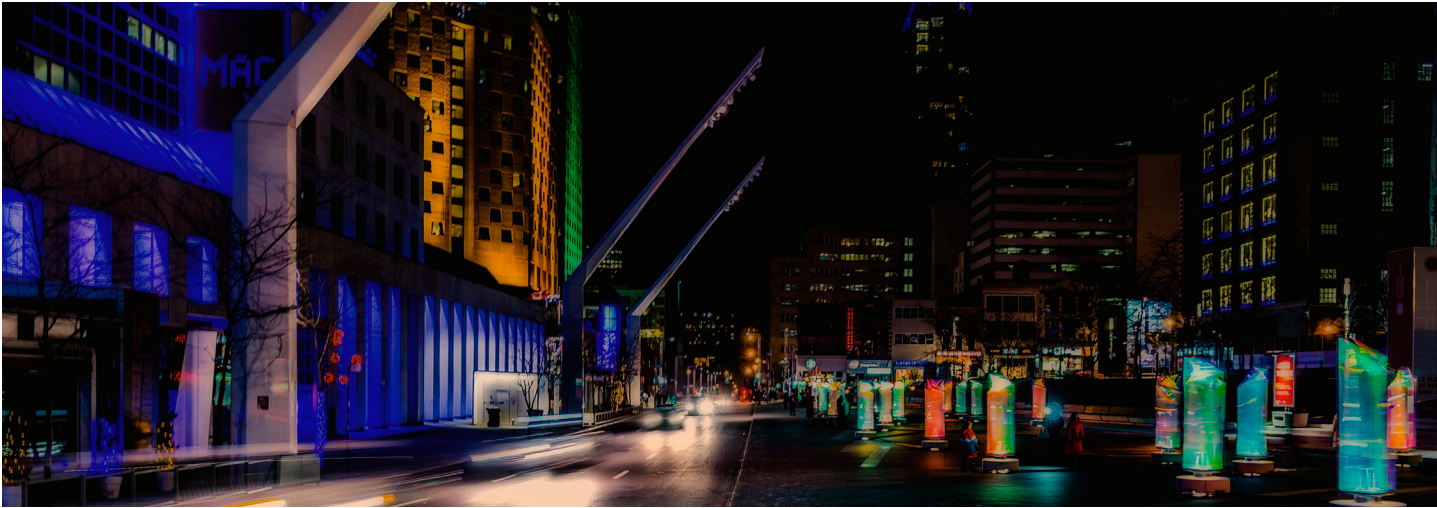
Photo credit: see Appendix A – 2



The Nyhavn district (Copenhagen, Denmark)

Photo credit: see Appendix A – 3

ART AND INNOVATION DISTRICTS - INSPIRATIONAL IMAGES



Quartier des spectacles (Montreal, Canada)

Photo credit: see Appendix A – 4



Raadhuisplein Emmen (Emmen, Netherlands)

Photo credit: see Appendix A – 5



Broadgate (London, England)

Photo credit: see Appendix A – 6

FIGURE 5.6
Evolving Areas



Evolving Areas

5.2.4 EVOLVING AREAS

The Capital Illumination Plan identifies two evolving areas:

- **LeBreton Flats**
- **Chaudières sector and Albert Island**

Nightlife in these areas will depend on how they evolve. Given their location and scale, they play a prominent role in the Capital core area landscape, and will have a major impact on the nighttime scenery. They provide an excellent opportunity to incorporate high-quality and environmentally appropriate exterior illumination components into their development plans, and to make them exemplary projects.

Guidelines

- Encourage the development of a comprehensive public and private lighting master plan for each evolving area. Consider their prominent role as the background to the nighttime scenery of the central Capital landscape.
- Refer to the sectors (*see Chapter 7*) for detailed guidelines applicable to each evolving area.

5.3 ILLUMINATION CONCEPT RENDERINGS

5.3.1 CENTRAL CAPITAL LANDSCAPE - NIGHTTIME PANORAMAS

The panoramas provide a visual demonstration of one way the guidance provided in the Capital Illumination Plan, and in particular the illumination concept, could transform the nighttime views of the central Capital landscape.

The panoramas illustrate the following key elements:

- The creation of an elegant and timeless foreground through the illumination of the central Capital landscape's iconic buildings.
- The primacy of Parliament Hill and the Supreme Court of Canada within the central Capital landscape.
- The illumination of feature sites, including the E.B. Eddy Digester Tower, Alexandra Bridge and Rideau Canal.
- The role of copper roofs as a potential signature nighttime feature.

NIGHTTIME PANORAMA OF THE CENTRAL CAPITAL LANDSCAPE - OTTAWA



Existing conditions.



Conceptual future nighttime panorama.

- The use of a portion of the Kruger plant for artistic projections.
- The simple yet visible background composition.
- The impact of reducing interior office lighting.
- The limited lighting within dark zones (green spaces and watercourses).



Observation point.



Lighting design: Lumipraxis Stratégie Lumière for the NCC

Given that the Capital Illumination Plan is a high-level document, the intent of the panoramas is not to illustrate individual lighting projects or concepts, but to support a general understanding of the illumination concept and its guidelines as they apply to the views of the central Capital landscape from across the Ottawa River. The panoramas do not illustrate the various nightlife areas, as they are not visible from the views presented.

The panoramas are inspired in part by existing and proposed lighting schemes (e.g. Parliamentary Precinct Exterior Lighting Master Plan, Canadian Museum of History lighting designs by Ross Nicholson and Martin Conboy Lighting Design).

NIGHTTIME PANORAMA OF THE CENTRAL CAPITAL LANDSCAPE - GATINEAU



Existing conditions.



Conceptual future nighttime panorama.



Observation point.



Lighting design: Lumipraxis Stratégie Lumière for the NCC

5.3.2 THE SUSSEX COURTYARDS

The Sussex Courtyards are a sequence of five inner courtyards behind Sussex Drive, in the ByWard Market nightlife district. They are a popular destination for visitors and locals, providing seating areas, patios, boutiques and various public art installations. The Sussex Courtyards do not currently benefit from a comprehensive lighting concept.

The illustration below provides a visual demonstration of the potential nighttime setting of Clarendon Court, which could be achieved through a new lighting concept for the courtyards as a whole.

The following key elements are illustrated:

- A global lighting concept that is coherent and uniform.
- The illumination of key architectural elements, including the arch, with warm lighting.
- The use of historic-style lighting fixtures that complement the character of the existing built form.
- The illumination of public art.
- The illumination of the Connaught Building in the background.
- The use of subtle lighting effects on the main access pathway, inviting people from adjacent streets to discover the area.





Existing conditions.



Existing conditions.



Lighting design: Lumipraxis Stratégie Lumière for the NCC



CHAPTER 6

GUIDELINES BY TYPE OF USE

This chapter provides guidelines that apply to the following key types of uses within the study area:

- **buildings**
- **historic places**
- **commemorative monuments**
- **public art**
- **special projects**
- **public roads**
- **illuminated signage**

The purpose of these guidelines is to identify elements to consider to support a coherent global nighttime image, while fostering creativity and originality. They are neither prescriptive nor exhaustive. Each site and built environment component is unique; each lighting approach must therefore be developed on a case-by-case basis.

6.1 BUILDINGS

The following guidelines provide guidance for the illumination of buildings, irrespective of type or location. The illumination concept (see Chapter 5) provide complementary guidance by identifying the types of buildings to prioritize for illumination, guidelines based on location within different illumination zones and, within the sectors, guidelines for specific buildings.

Guidelines

- As a first step, determine the relevance of providing architectural lighting. Consider the types of buildings to prioritize for lighting as identified in the illumination concept (see Sections 5.1 and 5.2.2.4).
- Design illumination to achieve the following key objectives:
 - Accentuate the architecture of the building, or reveal new aesthetic dimensions.
 - Contribute to social nightlife and nighttime experience.
 - Guide and orient residents and visitors at night.
- Promote a comprehensive approach that considers the building and its surrounding context. For a suite of buildings, determine the relevance of connecting them together with a unifying element.
- Calibrate the illumination of each building according to its characteristics and location in the urban space. Take into account ambient lighting from lampposts and neighbouring buildings. Use lighting quality and appropriate distribution to achieve the desired effect and avoid over lighting.
- Ensure that illumination serves to reveal the building's architecture, rather than existing as a lighting effect in and of itself. Showcase its significant architectural features, in particular:
 - shapes and textures;
 - characteristic materials;
 - decorative elements;
 - commemorative plaques and other interpretive elements;
 - details that contribute to its heritage character;
 - other important construction details.
- Optimize the colour of materials through good colour rendering.
- Pay particular attention to the illumination of remarkable roofs. In particular, explore opportunities to illuminate all or a portion of copper roofs, using a homogeneous approach, as their green colour contributes to a strong signature along the Confederation Boulevard loop.
- Give priority to the overall view of the facade and avoid illuminating too many details.
- Ensure that all new structures required for lighting equipment installation (masts, bases and so on) remain low-key, and are designed to avoid overtaking, outshining or devaluing the building.
- Deploy event-type lighting only at clearly identified times, and avoid making them appear as part of the building's normal illumination.
- For museums, art and performance locations, and other buildings with a cultural and artistic vocation:
 - Create exceptional lighting concepts that honour the artistic and cultural values of each building;
 - Encourage bold and respectful treatments that contribute to the Capital's international influence;
 - Create a user-friendly, warm atmosphere that promotes gatherings;
 - Favour the use of white tones. However, given the role of these buildings, consider the use of colour as per the guidelines identified in Section 4.2.3.
- Favour the following curfew modes (see Table 1 for parameters):
 - For the majority of buildings: "illumination lighting" mode.
 - On a case-by-case basis for buildings that serve as nighttime landmarks: "illumination lighting" mode with "night mode."
 - For indoor office lighting: "indoor office lighting" mode.
- Given the significant adverse that impact building illumination can have on birds, adopt lighting best practices with regard to birds (including the consideration of migratory patterns), such as the adjustment of lighting levels (see Table 1 for parameters).

BUILDINGS - INSPIRATIONAL IMAGES



Transportation Building, Rideau Street (Ottawa)
Lighting designer: Gabriel Mackinnon Lighting Design



Global Centre for Pluralism, Sussex Drive (Ottawa)
Lighting designer: Suzanne Powadiuk Design Inc.



Bank of Montreal Building, Wellington Street (Ottawa)
Lighting designer: Gabriel Mackinnon Lighting Design



La Grande Place (Brussels, Belgium) *Photo credit: see Appendix A-7*



Hamburg City Hall (Hamburg, Germany) *Photo credit: see Appendix A-8*



Hermitage Museum (St. Petersburg, Russia) *Photo credit: see Appendix A-9*

6.2 HISTORIC PLACES

The study area is characterized by an outstanding built heritage that attests to the National Capital Region's rich history. A historic place is defined as a structure, building or group of buildings, a district, landscape, archaeological site or other place formally recognized for its heritage value by a competent authority in a given jurisdiction (federal, provincial and/or municipal).

The document entitled Standards and Guidelines for the Conservation of Historic Places in Canada offers comprehensive guidance for sound decision making in planning for and the use of historic places, and should be consulted in conjunction with the key guidelines below.

Guidelines

- Ensure a thorough understanding of the place's heritage values and the character-defining elements that convey these values.
- Avoid creating confusion about the historic place's historical evolution or characteristic components (i.e. creating a false impression of the building's history by installing faux-historical lighting).
- Avoid illumination that overwhelms, outshines or devalues the special character of a place in whole or in part.
- Take into account the character of traditional lighting, i.e., what was originally intended and executed. For instance, traditional lighting may have cast light around and downward as opposed to being up-lit by in-ground fixtures.
- Avoid installing light sources and related parts (wires and conduits) on character-defining elements. If such installation is unavoidable:
 - It must be designed to prevent damaging the element itself or adjacent elements, to allow water drainage, and to prevent the buildup of snow, ice or other deleterious materials.
 - The installation method should be designed to allow for removal of the equipment, leaving no significant trace or conditions likely to cause the character-defining element to deteriorate.
- Maintain lighting equipment in a way that prevents its deterioration from affecting the components and materials of character-defining elements of the place, and that maintains the lighting features (intensity, colour, sequence or continuity in space and time, and so on).
- If contemporary lighting equipment is chosen, the contrast with historical components of the site must

result in good compatibility through the choice of appropriate materials, finishes, scale and shape.

- Work in collaboration with the Federal Heritage Buildings Review Office and the Heritage Conservation Directorate for any lighting project on a federal heritage structure or building

6.3 COMMEMORATIVE MONUMENTS

The Capital core area features a large number of commemorative monuments. Monuments of national interest in the National Capital Region are the responsibility of Canadian Heritage, while the NCC is responsible for the land used for these monuments and the design approval. Canada's Capital Commemoration Strategic Plan (NCC, 2006) provides a framework for developing monuments of national interest, and establishes a hierarchy of sites:

Order 1

Key sites that are suitable for the installation of major commemorations and capable of accommodating large crowds (see Figure 6.1). These include the following.

- **Landmark Nodes:** Two of the seven landmark nodes are currently occupied (Canada's National War Memorial and the Peacekeeping Monument). Completion of the seven intersections is one of the milestone projects identified for the Plan for Canada's Capital, 2017–2067.
- **Gateway Nodes:** Two of the seven gateway nodes are currently occupied (the Canadian Tribute to Human Rights Monument and the National Holocaust Monument).

Order 2

Key sites along pathways, urban intersections, bridges, observation areas and lookouts designed to accommodate mid-scale monuments.

Order 3

Sites that are more removed, suitable for commemorations of more limited scope.

FIGURE 6.1
Order 1 Sites



Landmark Nodes



Gateway Nodes



Confederation Boulevard

The City of Ottawa and Ville de Gatineau are also responsible for managing commemorative monuments. Projects under municipal authority focus on subjects of local or regional interest, and are typically located on lands under municipal ownership.

Lighting can strengthen our understanding of the character and meaning of commemorative monuments and evoke a very different perspective of the monument; elements that dominate during the day can recede, while others can be brought to the forefront. Lighting can also create an attractive ambience and allow events to be held at night.

Guidelines

- Illuminate all major commemorative monuments, including all monuments located on Order 1 sites.
 - Encourage the illumination of smaller-scale commemorative monuments, taking into account the following factors:
 - In locations that are inaccessible or not visible after dark, illumination is discouraged.
 - Ambient lighting from lampposts and surrounding buildings may suffice.
 - Design illumination to achieve the following objectives:
 - Ensure that the monument remains recognizable at night.
 - Highlight sculptural or narrative aspects of the monument.
 - Reveal new aesthetic elements.
 - Make the site welcoming after dark.
 - For monuments located on Order 1 sites, contribute to their function as major visual landmarks.
 - Ensure that illumination, especially its amount and intensity, reflects the relative importance of each monument.
 - Adapt the design of each illumination to the following considerations:
 - the intent of the artist, designer, and/or landscape architect;
 - the commemorative theme;
 - the design, including its form and materials;
 - the location;
 - the anticipated use after nightfall.
 - Ensure that the installation will be able to provide the necessary power and specific technical needs to support events on the site.
- Focus illumination on sculptural and artistic components of the monument, rather than its base.
 - For monuments located along Confederation Boulevard, within the central Capital landscape and on “gateway nodes,” favour a lighting treatment that underscores and promotes elegance, universality and timelessness.
 - Treat monuments visible from Confederation Boulevard as integral parts of the commemorative route. Promote continuity with and respect for the spirit of Confederation Boulevard.
 - Favour the following curfew modes (*see Table 1 for parameters*):
 - Major commemorative monuments (including all those located on Order 1 sites): “illumination lighting” mode with “night mode,” consisting of a minimalist and distinct lighting design that maintains the monument’s function as a major visual landmark.
 - Other commemorative monuments: “illumination lighting” mode.

6.4 PUBLIC ART

The Capital core area boasts some magnificent works of art that reflect and celebrate our country and our people. The federal public art program of the National Capital Region is governed by Canadian Heritage, while the NCC is responsible for federal approval of the land use and design of these works. The City of Ottawa and Ville de Gatineau each has its own municipal public art program.

There are three types of common uses for lighting in relation to public art:

- **public artwork illumination**
- **light art**
- **artistic illumination**

6.4.1 PUBLIC ARTWORK ILLUMINATION

Lighting public artwork at night contributes to the nighttime legibility of these important artistic elements of the urban landscape, and can provide a unique interpretation of the work.

Guidelines

- Encourage the illumination of works of public art based on the following criteria:
 - Those that contribute to the signature identity of its location and that perform an important artistic, social or cultural function.
 - Those that contribute to the visual comfort of an urban route, and that may help overcome a sense of darkness.
 - Those that can help reduce the need for public lighting when illuminated at night, particularly in parks, along shorelines and along recreational pathways.
 - Those that represent one of the outstanding elements of a site to be illuminated.
 - Those located in art and innovation districts, nightlife districts or along Sparks Street (*see Section 5.2.3*).
- Consider the following factors when deciding to illuminate a work of public art:
 - If the work is located in a place that is not accessible or visible at night, illumination is discouraged.
 - Ambient lighting from nearby street lights and buildings may be sufficient.
- Design illumination to achieve the following objectives:
 - Ensure that the work remains recognizable at night.
 - Highlight the sculptural or narrative aspects of the work.
 - Reveal new aesthetic elements.
 - Make the site welcoming at night.
- Design each lighting approach based on the following considerations:
 - the intent of the artist;
 - the theme;
 - the design, including its form and materials;
 - the location;
 - the anticipated use after nightfall.
- Focus the illumination on sculptural and artistic elements of the work rather than its base.
- For works located along Confederation Boulevard and within the central Capital landscape, promote a lighting treatment that underscores and fosters elegance, universality and timelessness.
- Treat works visible from Confederation Boulevard as integral parts of the commemorative route. Promote continuity of and respect for the spirit of Confederation Boulevard.
- For works located in areas that have no impact on Confederation Boulevard or the central Capital landscape, consider using light in a more creative and innovative way.
- Favour an “illumination lighting” curfew mode, except in dark zones where “dark zone lighting” mode is recommended (*see Table 1 for parameters*).

6.4.2 LIGHT ART

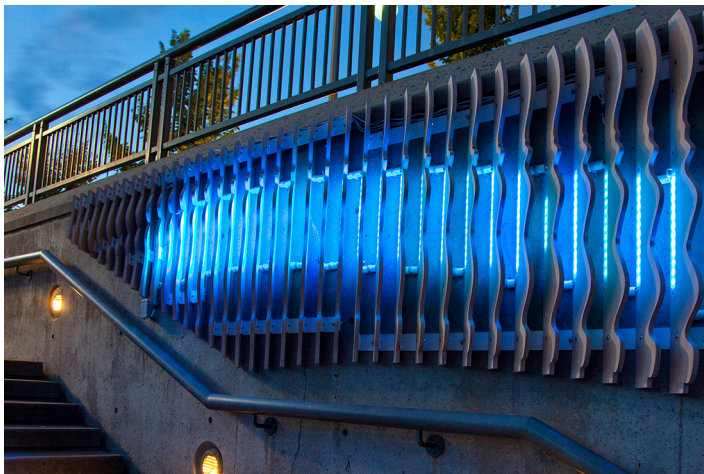
Light art, increasingly widespread, is a type of visual art that relies primarily on light as its medium. Rather than being used to illuminate a traditional work of art, the light becomes the primary component of the work. This type of art is intended to be experienced primarily at night.

Guidelines

- Favour art and innovation districts (see Section 5.2.3) for the siting of permanent light art.
- Consider the work's visual impact in a daytime setting.
- Favour an "illumination lighting" curfew mode, except in dark zones where "dark zone lighting" mode is recommended (see Table 1 for parameters).



Réflexion, located along Maisonneuve Boulevard in Gatineau. In the daytime, the many vertical elements create a marker and, at night, the numerous light sources emanating from these structures create a constellation guiding the way.



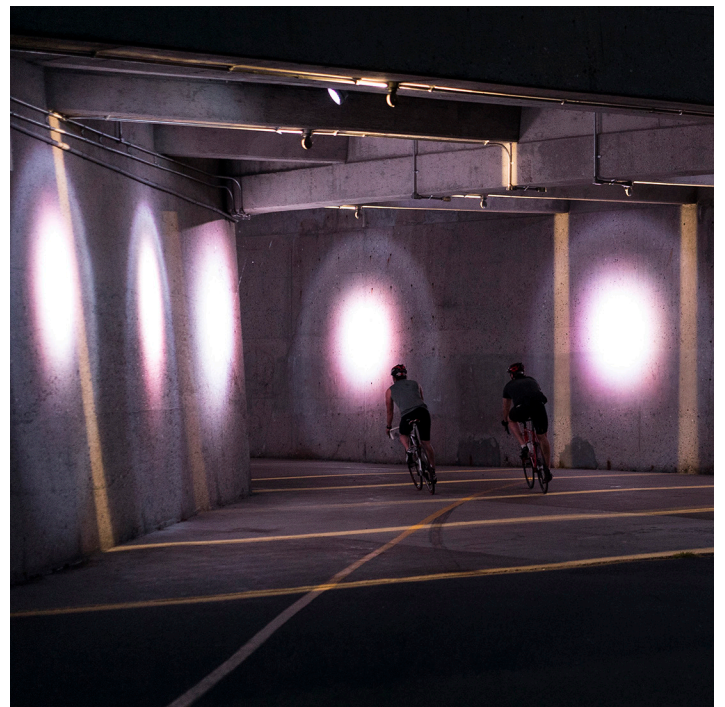
Light art is a type of visual art that relies primarily on light as its medium. Above, an installation along a staircase leading to Confederation Boulevard.

6.4.3 ARTISTIC ILLUMINATION

One of the major features of this type of installation is that light is both the material and the product of the work. Invisible by day, these works are intended exclusively for dark spaces. They allow the discovery of low-profile spaces, or the enhancement of urban routes that are perceived as unsafe.

Guidelines

- Encourage artistic illumination of low-profile spaces or urban routes that are perceived as unsafe (i.e. tunnels, underground passageways, public transit stations and so on).
- Favour low-profile integration, day and night, of lighting devices.
- Adapt curfews according to the type of project. Typically favour the "illumination lighting" mode (see Table 1 for parameters), but in some cases longer illumination may be relevant, depending on use of the site.



Artistic illuminations can allow for the discovery of low-profile spaces and urban routes, such as this tunnel in Ottawa.

6.5 SPECIAL PROJECTS

6.5.1 TEMPORARY AND SEASONAL ILLUMINATION PROJECTS

During special events, temporary illumination projects can underscore the rich cultural life of the National Capital Region. The intent of the Capital Illumination Plan is to encourage temporary lighting associated with festivals, special public events, official celebrations and artistic experiences. Given their temporary nature, these projects provide an opportunity to explore more creative, artistic, experimental, coloured and innovative illuminations. This type of lighting should be considered a laboratory for experimentation with unique lighting approaches, whether in technological, ecological or aesthetic terms. However, lighting approaches must remain sensitive to the architectural elegance and heritage character of the Capital core area's built environment.

Guidelines

- Encourage high-quality temporary illumination projects, giving priority to the following applications:
 - temporary installations related to festivals, special public events or official celebrations;
 - temporary installations designed to showcase points of interest along Confederation Boulevard, particularly Parliament Hill, national museums, monuments, embassies, and other important institutions and national symbols;
 - temporary installations in art and innovation districts, nightlife districts and along Sparks Street (see Section 5.2.3), intended to create an artistic presence at night.
- Encourage creativity, technological, aesthetic or environmental innovation, and high artistic value.

- Ensure that the size of the installation and intensity of the lighting relates to the importance of the event and the subject of the illumination (theme or built component).
- Discourage projections of commercial content, except for messages by commercial partners, which must remain low-key (limited size and duration).
- Apply a curfew according to the type of project (see Table 1 for parameters).



Christmas Light Across Canada Program.



The Senators Rink of Dreams.

6.5.2 PERMANENT DECORATIVE ILLUMINATION PROJECTS

In the Capital Illumination Plan, types of permanent illuminations that extend beyond classic architectural lighting are referred to as “decorative.” For example, a trend with multimedia or projection displays, called “media facades,” has been developing for several years now, transforming some walls into truly interactive screens. The lantern of the National Arts Centre is an example of a permanent decorative illumination feature.

Decorative illumination can actively contribute to tourist, social and cultural activity in the Capital. These permanent installations can become powerful identity-building symbols, and generate strong feelings of belonging and pride. These sites are memorable and easily identifiable. As such, they hold potential as visual landmarks and attractive nighttime routes. However, the line remains thin and very subjective between what might be seen as cultural and artistic, and what might be perceived as an advertising installation or message that conflicts with the desired nighttime environment. Assessments can be done only on a case-by-case basis.

Guidelines

- Encourage high-quality decorative illuminations that are integral components of public art installations or artistic or cultural-themed components of the built environment, such as cultural institutions and performance, art and exhibition spaces.
- Favour art and innovation districts (see Section 5.2.3) for the siting of permanent decorative illumination projects.
- Encourage creativity, technological innovation and high artistic value.
- Take the following considerations into account when designing illumination:
 - Ensure that the size of the installation and intensity of the lighting relate to the importance of the subject of the illumination (building or other).
 - Ensure that sufficient space is available for pedestrians to view the illumination.
 - Take account of the potential problem of driver distraction, and develop appropriate solutions.
- Discourage projections of commercial content, except for the messages of commercial partners, which must remain low-key (limited in size and length).
- Favour the “illumination lighting” curfew mode (see Table 1 for parameters).

6.5.3 CONSTRUCTION SITES

Construction sites require temporary lighting for worker safety and productivity, and to maintain the quality of work performed. Although necessary, this type of lighting can have a several negative effects on adjacent uses and the environment. In some cases, construction sites provide an excellent opportunity for artistic creativity.

Guidelines

- Limit lighting to the minimum required to meet safety and productivity requirements.
- Favour lighting that is of high quality, of a consistent colour and carefully arranged on scaffolding.
- Explore opportunities to use creative, artistic approaches to illuminating scaffolds, protective tarps and other elements associated with construction sites that have a medium- and long-term (months or years) visual impact, and for construction sites where high-quality decorative tarping is employed.
- Turn off work lighting during non-working hours. For artistic lighting of work sites, favour the “illumination lighting” curfew mode (see Table 1 for parameters).

6.6 PUBLIC ROADS

Most public roads in the study area come under the jurisdiction of the municipalities. However, some roadways are held and administered by other public authorities, or subject to their design criteria, including the NCC, PSPC, and Parks Canada, as well as provincial ministries of transportation. These roads include Confederation Boulevard, Colonel By Drive, the Queen Elizabeth Driveway, the Sir John A. Macdonald Parkway, as well as the Chaudières Bridge, Portage Bridge, Alexandra Bridge, Macdonald-Cartier Bridge, Mackenzie King Bridge and Laurier Avenue Bridge.

The main objective of public lighting is user safety. However, it also provides a backdrop to the nighttime scenery, and must facilitate its legibility and promote intuitive orientation. It can also help showcase important sites or special atmospheres. The Capital Illumination Plan does not seek to implement a full update of public lighting approaches, and is not intended to replace the expertise of the each partner. However, analysis of the public roadway lighting system underscores a few items that warrant improvement to strengthen the nighttime image of the Capital core area. The Capital Illumination Plan raises a discussion to engage partners in developing a common, harmonized and coherent approach to public roadways.

The Capital Illumination Plan targets two major objectives for public roadways:

- **standardize**
- **rationalize**

6.6.1 STANDARDIZE

6.6.1.1 LIGHTING LEVELS

Roadway lighting must meet various criteria based on parameters including traffic speed, density and types of traffic. Better standardization of lighting levels by road category would help identify them more clearly and strengthen the user's sense of safety and visual comfort. Lighting level adjustments also provide an opportunity to achieve energy and maintenance cost savings.

Guidelines

- Establish a joint planning process (NCC, federal partners and municipalities) to define needs in terms of lighting levels (including maximum lighting levels, dimming levels and so on).

6.6.1.2 COLOUR TEMPERATURE

The Capital Illumination Plan suggests standardizing the colour temperature of public lighting.

White tones are a natural choice for the following reasons:

- They provide good colour rendering and an appealing light quality that contributes to the visual comfort of all users (drivers, pedestrians and cyclists).
- They provide a better perception of the urban landscape and render secondary buildings more visible, without necessarily relying on architectural illumination.
- They respect the natural tones of materials and vegetation.

Guidelines

- Establish a joint planning process (NCC, federal partners and municipalities) to develop a comprehensive and common approach in terms of colour temperature.
- Favour white tones with colour temperatures between 2,700K and 3,000K. The following exceptions should be considered, with the intent of distinguishing certain key axes and locations and thereby contributing to improved spatial orientation:
 - Confederation Boulevard: White tones between 3,000K and 3,700K (see Section 5.2.2.1).
 - Structuring roads, limited to a small selection of major arteries that carry the largest volumes of motorized traffic (e.g. Boulevard des Allumetières, Alexandre-Taché Boulevard, King Edward Avenue): White tones between 3,500 K and 4,000 K.
 - On a case-by-case basis in support of the creation of special ambiances, consider high-quality special lighting concepts for the art and innovation districts and Sparks Street (see Section 5.2.3), for example special lighting tones or effects.

6.6.2 RATIONALIZE

Lampposts are part of urban furniture and must complement each specific ambience. Whether they are low-key or prominent features of city architecture, they play a major role in the legibility of the urban landscape and in physical orientation by day and by night.

The Capital Illumination Plan recommends reducing the number of models to achieve a more uniform range of lamppost styles. The purpose of this reduction is as follows:

- to improve the urban aesthetic, and provide a more visually unified urban landscape;
- to simplify operations, and reduce procurement, stocking and maintenance costs;
- to eliminate redundant lighting that is no longer required.

Guidelines

- Establish a joint planning and design process (NCC, federal partners and municipalities) to develop a comprehensive and common approach in terms of lamppost types.
- Favour an area-based approach. The following family of fixtures serve as a basis to consider:
 - **Ambience lighting:** This lighting type is used to generate specific nighttime moods in special areas and create a friendly atmosphere. The qualitative aspect of light is more elaborate. Feelings of safety and visual comfort are of more central concern. The design of product lines will be chosen on the basis of daytime and nighttime integration.
 - **Signature lighting:** This lighting is used to create unique ambiances. To prevent weakening its distinctive look, it is important that this specific type of treatment be used sparingly. This lighting is recommended for the following locations:
 - ◆ Confederation Boulevard;
 - ◆ specific design and urban furniture projects allowing the Capital core area to pursue creativity and innovation; these treatments, each to be determined on a case-by-case basis, could, for example, be used on Sparks Street and in art and innovation districts (see Section 5.2.3).
 - **Functional lighting:** This lighting type is primarily used to support the movement of motorized vehicles. Usually, the intended effectiveness of this type of lighting takes priority over its design, and this type of fixture is primarily designed to keep a low daytime

profile. All light beams aimed at the sky must be prohibited, and steps taken to limit light spill.

6.7 ILLUMINATED SIGNAGE

Illuminated signs can add to the vitality of urban areas and assist in wayfinding. However, they also have the potential of causing adverse effects, if they are not designed in a context-sensitive manner. They can create significant glare and light spill, become visually obtrusive, and detract from the character of the surrounding built environment.

Lighting for signage must be treated with sensitivity. Any lighting should enhance the setting, and not detract from the nearby architecture and landscape.

Guidelines

- Favour front-mounted lighting of signs or individual face-lit or halo-lit lettering or symbols.
- Calibrate the light intensity and colour to the specific urban condition.
- For signs located at the top of buildings, favour locations that are not visible from the key viewpoints identified in the NCC report entitled *Canada's Capital Views Protection (2007)*, Confederation Boulevard and the Rideau Canal UNESCO World Heritage Site.
- Limit glare and light spill, particularly in proximity to residential uses.
- Ensure that the sign does not detract from the quality of the building or site during the daytime.
- Favour an "illumination lighting" curfew mode (see *Table 1 for parameters*).





CHAPTER 7

SECTORS

Sectors have been identified to allow a more detailed treatment of the study area. For each sector, illumination objectives have been established to guide future lighting initiatives. Guidelines have also been created to provide more specific direction for individual sites identified as “structuring elements” in Section 5.2.



FIGURE 7.1

Sectors



..... Sector Boundaries

Note: Some sites located in proximity to a sector boundary have an influence on more than one sector. It is recommended that the guidelines for the adjacent sector be reviewed, as they may be applicable.

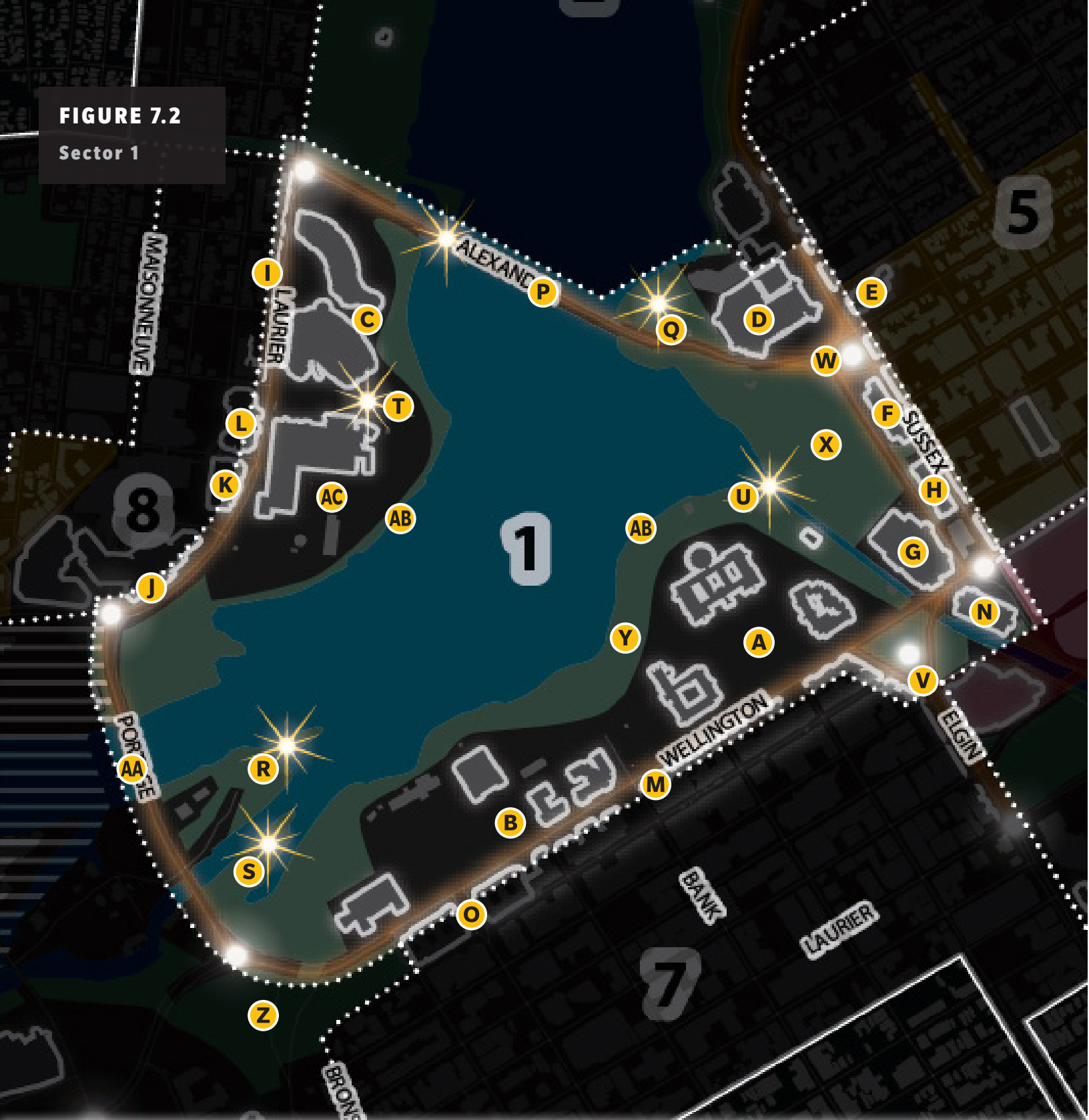
The following sectors have been identified.

- Sector 1 - Central Capital Landscape
- Sector 2 - Jacques-Cartier Park and Sussex North
- Sector 3 - LeBreton Flats and the Chaudières Bridge
- Sector 4 - North River and Rideau Hall
- Sector 5 - ByWard Market and Lowertown
- Sector 6 - Ottawa Art and Innovation District and City Hall
- Sector 7 - Central Business District and Sparks Street
- Sector 8 - Portage
- Sector 9 - Gatineau Art and Innovation District and South of the Île de Hull
- Sector 10 - Hanson-Taylor-Wright
- Sector 11 - Maisonneuve





The intent of the guidelines is to point to key elements that should be considered in the design of future illumination schemes for each site, offering clues as to how each project may support the proposed illumination concept. They are not prescriptive. They focus on objectives to achieve, rather than on the precise ways in which each site may be lit, leaving those artistic choices to professional design teams.

FIGURE 7.2




Sector 1



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

SECTOR 1 – CENTRAL CAPITAL LANDSCAPE

As an emblematic tourist area, this sector is the historic and cultural heart of the National Capital Region. The buildings in this sector constitute the nighttime foreground of the illumination concept (see Section 5.1). This sector also benefits from the strong influence of natural features (escarpment, shoreline areas and watercourses), and constitutes the starting point of tours and cruises with a high potential for nighttime development.

The illumination objectives for this sector are as follows:

- Consolidate the notion of a nighttime foreground.
- Showcase the exceptional beauty of the landscapes, symbols and heritage.
- Strengthen the continuity of the Confederation Boulevard loop.
- Support nighttime activities, and strengthen connections to nightlife areas.

The Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015) must be considered as the primary reference for the illumination of the Parliamentary Precinct and certain areas to the east and south (Sparks, Metcalfe, O'Connor and Bank streets, and the Government Conference Centre).

Guidelines

Buildings

Interior of Confederation Boulevard Loop

A – Parliamentary Precinct

- Follow the detailed recommendations of the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015). In particular, establish the Centre Block and the Library of Parliament as the brightest architectural elements in the Parliamentary Precinct.
- Reflect the Gothic-revival character of the Parliamentary Precinct, in particular the play between light and shadow.
- Explore opportunities to illuminate all or a portion of copper roofs in a similar manner.
- Given the timeline for rehabilitation of buildings in the Parliamentary Precinct, several illumination projects within the central Capital landscape will be completed prior to those in the Parliamentary Precinct, making it more challenging to anticipate the global interaction between the various projects and to achieve the desired overall concept. It is therefore recommended

to implement lighting designs that can be adjusted, if required, without altering the quality of the original concept, and to be prepared to make such adjustments as lighting projects are completed.

B – Judicial Precinct

- Develop a detailed exterior lighting master plan for the Judicial Precinct.
- Ensure coherence with the nighttime scenery of the Parliamentary Precinct.
- Treat the Supreme Court of Canada as the dominant and brightest element within the Judicial Precinct.
- Explore opportunities to illuminate all or a portion of copper roofs in a similar manner.
- Integrate the East and West Memorial Buildings and the Library and Archives Canada building in the nighttime landscape of the Judicial Precinct.

C – Canadian Museum of History

- Showcase the entrance plaza and the surrounding landscape.
- Support the legibility of the different terraces.
- Facilitate a better understanding of the access routes toward the shoreline.
- Explore opportunities to illuminate the copper roofs.

D – National Gallery of Canada, E – Notre-Dame Cathedral Basilica, F – Embassy of the United States of America

- Treat the buildings as being part of a single illuminated landscape in which the Peacekeeping Monument (refer to guidelines under letter W) acts as the central node.
- Favour a lighting concept that is coherent where no single building overwhelms the others.

G – Fairmont Château Laurier

- Harmonize the lighting colour of the old and contemporary sections of the building, while emphasizing the heritage building, revealing its romantic architecture.
- Consider means of softening the lighting that emanates from the interior (e.g. by installing blinds).
- Ensure that lighting does not spill over into Major's Hill Park or the Rideau Canal.

H – Connaught Building

- Consider its important role along both the Mackenzie Avenue and the Sussex Drive segments of Confederation Boulevard.

- Ensure that the facade lighting facing the York Steps remains subtle, in order to reinforce the pedestrian perspective toward Parliament Hill.

*Exterior of Confederation Boulevard
Loop – Gatineau side*

I – Laurier Street Facades

- Use lighting to help orient visitors approaching downtown Gatineau from the Alexandra Bridge and Portage Bridge.
- Achieve a level of visual continuity along Confederation Boulevard by illuminating buildings, open spaces and, as necessary, vegetation.

J – Portage Complex

Refer to Sector 8 – Portage.

K – Gatineau Courthouse

- Showcase, through a subtle illumination, its general volumetry in order to provide visual continuity along Confederation Boulevard.

L – Maison du citoyen

- Favour an intimate lighting treatment that will make the building appear at a distance, strengthening its role as a welcoming element.
- Consider a lighting treatment that invites people to discover the park located behind the building.

Exterior of Confederation Boulevard Loop – Ottawa side

M – Wellington Street Facades

- Coordinate a global illumination approach along Wellington Street as a whole, showcasing the remarkable facades, and underlining the lower portions of secondary facades and entrance forecourts. For the segment between Elgin and Bank streets, the detailed recommendations of the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015) must be considered as the primary reference.

N – Government Conference Centre

- Follow the detailed recommendations of the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015).

O – East and West Memorial Buildings and Lyon Street Arch

- Coordinate the illumination of both buildings and the Lyon Street Arch, and integrate them in the nighttime landscape of the Judicial Precinct.
- Establish a soft lighting treatment that seeks to preserve, from a distance, the legibility of the Judicial Precinct.

- Showcase the Canadian Phalanx commemorative monument.

Feature Sites

P – Alexandra Bridge

- Consider a renewed architectural illumination of the bridge.
- Favour illumination of the interior structure above the road, and minimize lighting below the bridge.
- Ensure visual continuity with Confederation Boulevard public lighting. However, if Alexandra Bridge receives an architectural illumination, promote a visual link with Confederation Boulevard at both ends of the bridge, rather than along its full length.
- In addition to permanent illumination, consider temporary artistic, high-quality and subtle lighting projects.

Q – Nepean Point

- Integrate a global lighting concept as part of the site redevelopment project.
- Favour a lighting concept that encourages nighttime use of the site as an observation point, rather than a beacon of light.
- Preserve the integrity of the view of the site from a distance, including by favouring the use of low, full cut-off lighting for access pathways.

R – Victoria Island (eastern section)

- Work in close collaboration with the Algonquin Anishinabe Nation to explore potential lighting concepts for the site.

S – Richmond Landing

- Favour a lighting concept that enriches the visitor experience, creates a visual interest and showcases distinct physical elements, such as the ceremonial landing and the grand staircase.
- Underline the presence of architectural elements that have a link with the river, including bridges.

T – E.B. Eddy Digester Tower

- Favour a soft lighting concept that acts as an invitation to discover the Quebec shorelines while respecting the simple architectural massing of the structure.

U – Rideau Canal and Bytown Museum

- Place priority on the nighttime scenery of the locks area, including the Bytown Museum and access areas. In particular:
 - Reconsider the existing public lighting elements along the pathway that produce strong glare. Favour the use of low lighting at human scale and full cut-off.
 - The Rideau Canal protected views have been studied extensively. Consider these important daytime views when developing illumination strategies.
 - For the locks, favour a lighting treatment that creates an intimate atmosphere using warm colour temperatures, maintaining the locks as an important element in the views from across the river.
 - Keep adjacent areas in darkness (Fairmont Château Laurier retaining wall and Parliament Hill escarpment) to underscore the idea of a passage.
 - Minimize the impact of lighting of the dock.
- In close collaboration with Parks Canada, consider the development of a long-term overall lighting concept for the full length of the Rideau Canal in Ottawa. This concept should take into account the year-long use of the Rideau Canal, including its high popularity in the winter.

Key Nodes

V – Confederation Square

Confederation Square, and more specifically the National War Memorial, represents an important visual landmark from the Wellington Street and Elgin Street axes. The current illumination poetically highlights the sculpted bronze figures and the lower portion of the monument. However, the illumination of the surrounding environment does not support the quality of this setting, and has diluted its perception from a distance.

- Maintain the high quality and integrity of the National War Memorial's current illumination scheme.
- If further reinforcement of this scheme is sought, favour low-level lighting for the plaza in order to open views to the monument and avoid interfering with its legibility.
- Continue to reinforce the site's subtle and welcoming ambience.
- Consider showcasing vegetation in order to enhance the legibility of the site from a distance and create links with the surroundings.

W – Peacekeeping Monument

- Treat the National Gallery of Canada (D), Notre-Dame Cathedral Basilica (E) and Embassy of the United States of America (F) as being part of a single illuminated landscape in which the Peacekeeping Monument acts as the central node.
- Use a warmer tone of white for the Peacekeeping Monument to allow it to stand out, and highlight the landscaping around the site.

Dark Zones

X – Major's Hill Park

- Illuminate the main pathways, main pedestrian access points, key built elements and a few border elements.
- Encourage a more creative lighting treatment in proximity to the National Gallery of Canada in order to create visual links.

Y – Parliamentary Precinct and Judicial Precinct Escarpment

- Follow the detailed recommendations of the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015).
- Maintain darkness on the Parliamentary Precinct and the Judicial Precinct escarpment, not including the multi-use pathways along its edge. The escarpment should be read as a dark and contrasting feature between the recreational pathway along the Ottawa River and the built heritage of the plateau.

Z – Garden of the Provinces and Territories

- Favour a subtle lighting concept that focuses on key built elements.
- Strengthen the legibility of the religious buildings in the background.
- Use illumination to strengthen the pedestrian connection between Sparks Street and LeBreton Flats.

AA – Portage Bridge

- Ensure continuity with the public lighting on Confederation Boulevard.
- Avoid overwhelming the industrial heritage or the landscape characteristics of the Chaudières and Albert islands.
- Avoid lighting underneath the bridge in order to minimize the impact on natural ecosystems.

AB – Visual continuity along the shorelines

- Through lighting, the Confederation Boulevard loop could be symbolically extended along the shorelines of the central Capital landscape, thereby increasing the understanding of its global route from a distance. Pathway lighting currently provides some visual continuity, but segments are missing to complete the symbolic ring. This lighting concept could take one of various forms. It could, for example, be achieved using a specific type of light fixture, or the use of colour temperature that would be present only along the shoreline within the central Capital landscape (e.g. amber).

Other

AC – Kruger Plant

The Kruger plant occupies a very important location within the central Capital landscape. The Kruger plant does not have a recognized architectural value. However, its walls can be used for the projection of historical images showcasing the history of the area, and thereby strengthening the visual continuity of the foreground.

- Consider projecting images that pay vibrant tribute to the industrial heritage of the region, favouring black and white or sepia photographs.
- Favour unobtrusive lighting for the plant chimney in order that it does not conflict with the E.B. Eddy Digester Tower.

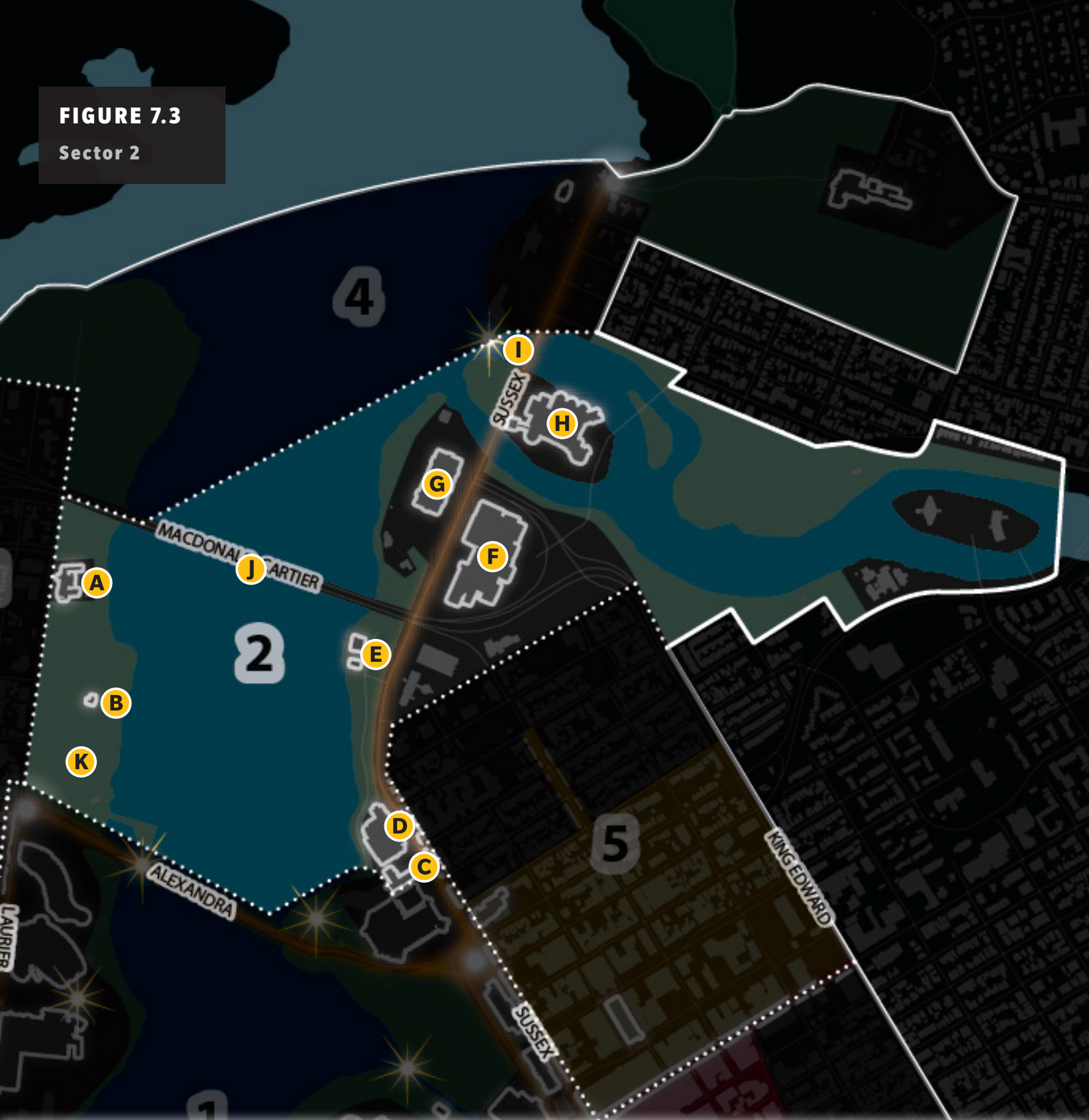


Photo credit: Ottawa Tourism

Lighting designer for Rideau Canal change rooms: Martin Conboy Lighting Design

FIGURE 7.3

Sector 2



Nighttime Landmarks

- Confederation Boulevard
- Key Nodes
- Feature Sites
- Buildings

Nightlife Areas

- Art and Innovation Districts
- Nightlife Districts
- Sparks Street

Dark Zones

- Waterways
- Greenspaces
- Evolving Areas

SECTOR 2 – JACQUES-CARTIER PARK AND SUSSEX NORTH

This sector is situated along the Ottawa River, to the north of the Alexandra Bridge. The Gatineau shoreline is characterized by generous, open public space, including Jacques-Cartier Park. In contrast, the Ottawa shoreline underscores the prestige of the Capital; characterized by the presence of Confederation Boulevard, it benefits from the presence of exceptional buildings, institutions and embassies.

The illumination objectives for this sector are as follows:

- Support and maintain the pleasant and authentic character of the shorelines on the Gatineau side.
- Support the development of nighttime cruises by offering a soft illumination of shoreline landscapes.
- Reinforce the symbolic and ceremonial status of Confederation Boulevard and maintain a visual continuity.
- Preserve the authentic character of the escarpment on the Ottawa shoreline.

Guidelines

Buildings

A – Servantes de Jésus-Marie Convent

- Consider a traditional architectural illumination on the Laurier Street facade that highlights the heritage character of the building and acts as a welcoming element.
- Favour an artistic lighting concept for the river side, allowing for a progressive discovery of the building.

B – Maison Charron

- Favour a soft architectural illumination that showcases the heritage character of the building.

C – Global Centre for Pluralism, D – Royal Canadian Mint Building

- Favour visual continuity of the facades along Confederation Boulevard and the river.
- Harmonize and coordinate the colour tones of the facades, favouring white tones.

E – Ottawa Rowing Club

- Highlight the intimate and authentic character of this site on the shore.
- Showcase the building architecture and the docks.

F – Lester B. Pearson Building

- Consider a minimal lighting intervention that would permit light to act as a visible signal.

G – National Research Council Canada Building

- Favour the illumination of the Sussex Drive facade.
- On the river side, use lighting to suggest a discreet presence.

H – John G. Diefenbaker Building, 111 Sussex Drive

- Coordinate the lighting concept with that of the Rideau Falls.
- Illuminate the facades, the tower and the bridges at the back.

Feature Sites

I – Rideau Falls

- Favour the view from a distance, while minimizing glare from close up.
- In addition to permanent illumination, consider a seasonal, temporary illumination in connection with river cruises.
- Consider the use of blue-green tones, evoking the theme of water.

Dark Zones

J – Macdonald-Cartier Bridge

- Favour discreet street lighting that minimizes glare and light spill beyond the bridge.

K – Jacques-Cartier Park

- As a priority, light the edges of the park and its main accesses.
- Link the park to the Canadian Museum of History through common illumination elements.
- Favour strolling, discovery and events, through the creation of special lighting ambiances.
- Illuminate works of public art.
- Begin a progressive return to darkness, decreasing lighting levels north of the Macdonald-Cartier Bridge.
- Improve the lighting of parking lots by using full cut-off light fixtures that do not produce glare.
- Showcase the Hull Marina as an access point to the water and an important observation point.

10

ATCALM

8

FIGURE 7.4
Sector 3

ALEXANDRE-TACHE

D

PORTAGE

CHAUDIERES

C

E

3

A





B

BRONSON

SIR JOHN A. MACDONALD

F




Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas



SECTOR 3 - LEBRETON FLATS AND CHAUDIÈRES BRIDGE

The LeBreton Flats and Chaudières Bridge sector is evolving, and will undergo major transformation over the course of the next decade, with the implementation of new, mixed-use urban redevelopment projects. The nightlife of these new neighbourhoods will depend on their evolution. The sector occupies a key location in the nighttime scenery of the Capital, participating as a background element.

The illumination objectives for this sector are as follows:

- Propose exemplary lighting approaches in terms of ecological impact and technical innovation.
- Reinforce the legibility of the Capital Illumination Plan’s foreground and background.
- Create welcoming lighting ambiances along the shorelines, maintaining the river itself as a dark zone.
- Preserve the primacy and integrity of the sector’s industrial heritage.

Guidelines

Buildings

A – Canadian War Museum

- Favour a lighting treatment that solidifies its role as a major visual landmark in this sector.
- Showcase the roof and highlight the unique the terraced architecture.

B – Fleet Street Pumping Station

- Favour a lighting treatment that strengthens the building’s role as a landmark, and supports improved visual connections between the top of the escarpment in downtown Ottawa and LeBreton Flats.

Feature Sites

C – Chaudières Dam and Falls

- Work in close collaboration with First Nations to develop a lighting concept for the site.
- Favour views of the site from a distance, while minimizing glare from close up.
- In addition to permanent illumination, consider a seasonal, temporary illumination installation.

Dark Zones

D – Chaudières Bridge

- Favour discreet street lighting that minimizes glare and light spill beyond the bridge.
- Integrate the illumination of the bridge with a comprehensive exterior lighting master plan for the development of the Chaudières sector and Albert Island.

Evolving Areas

E – Chaudières Sector and Albert Island

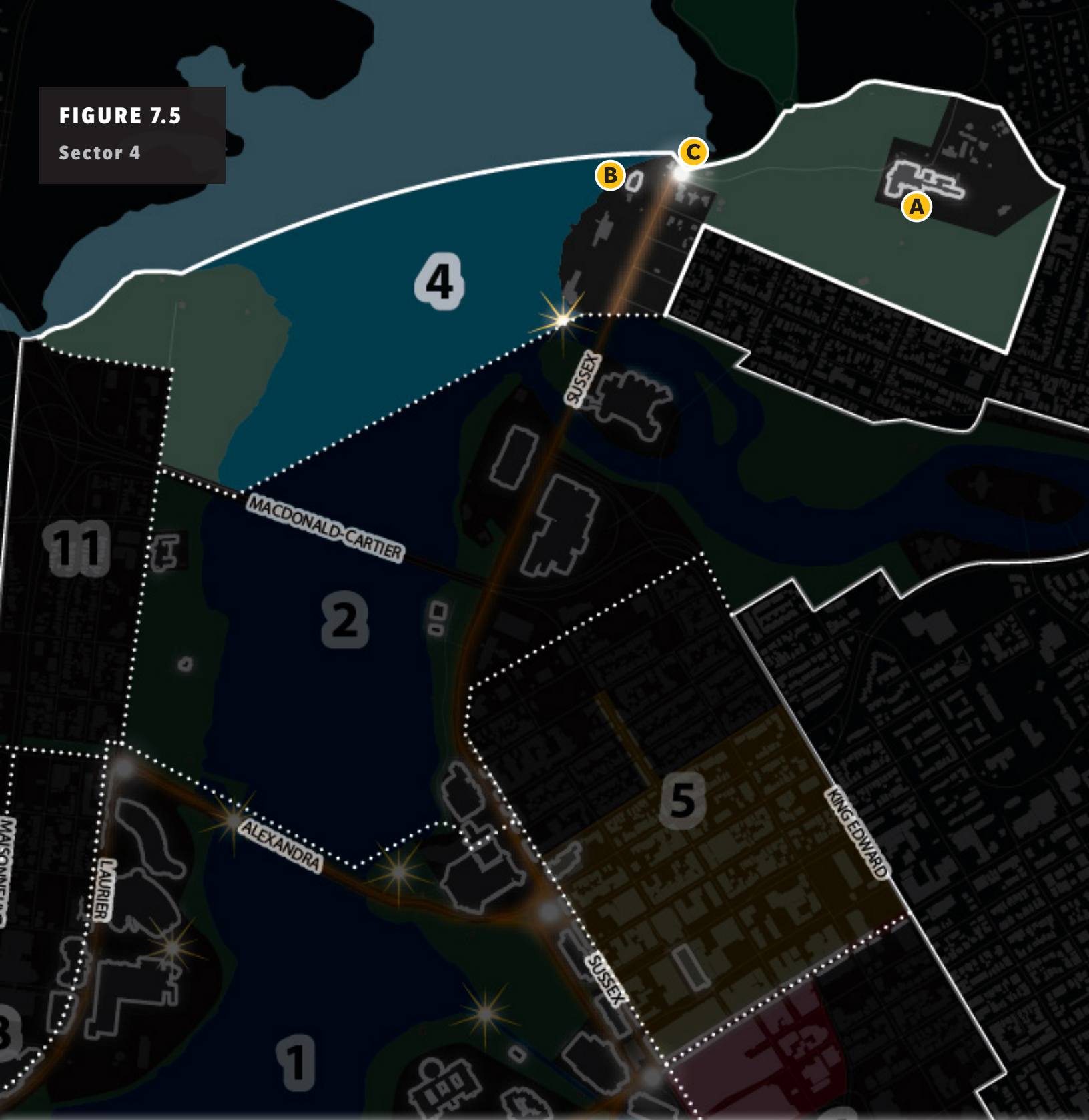
- Recognize the environmentally sensitive location of this evolving area. Encourage innovative lighting approaches that seek to reduce light pollution (e.g. a specific lighting mode to be used during bird migration periods), and support experimentation with respect to ecological lighting.
- Support connections with downtown Gatineau and the pathway network.
- Showcase gathering places, and encourage sustainable modes of transportation.
- Showcase the industrial heritage of the area.
- Consider the critical role of this area as part of the nighttime background.

F – LeBreton Flats

- Ensure that any lighting concept complements the Canadian War Museum and the National Holocaust Monument, and does not compete with their visibility, particularly from the Sir John A. Macdonald Parkway and Booth Street.
- Favour lighting interventions that face the existing urban areas rather than the river.
- Favour a progressive decrease of lighting toward Lemieux Island.
- Consider the critical role of this area as part of the nighttime background.

FIGURE 7.5

Sector 4



Nighttime Landmarks

- Confederation Boulevard
- Key Nodes
- Feature Sites
- Buildings

Nightlife Areas

- Art and Innovation Districts
- Nightlife Districts
- Sparks Street

Dark Zones

- Waterways
- Greenspaces
- Evolving Areas

SECTOR 4 - NORTH RIVER AND RIDEAU HALL

This sector features a low level of nighttime activity. On the Ottawa side, it is characterized by the presence of the easternmost segment of Confederation Boulevard, including Rideau Hall, the official residence of the governor general of Canada, and 24 Sussex Drive, the prime minister's official residence. On the Gatineau side, the area features the natural landscapes of the shorelines. Given the relative darkness of this area, lighting requires only a low intensity in order to stand out.

The illumination objectives for this sector are as follows:

- Preserve the authentic character of natural landscapes.
- Implement a gradual return to darkness, accompanying the exit from the Capital core area.
- Minimize lighting on the Gatineau shoreline, while ensuring user safety and visual comfort.
- On the Ottawa side, favour the illumination of facades visible from Confederation Boulevard and from the river to support the development of nighttime cruises.

Guidelines

Buildings

A – Rideau Hall

- Develop a comprehensive exterior lighting master plan for the site, including the built components, entrances, access routes, site perimeter, gardens and public spaces.
- Favour lighting that is focused on views at close range, and underscore the copper roofs that will be seen when the vegetative cover is diminished.

B – 24 Sussex Drive

- Encourage an intimate illumination on the river side and an illumination of the roofs.
- Illuminate a selection of remarkable trees in order to anchor the residence within its surrounding context.
- Avoid excessive illumination, and preserve the authentic character of a private residence.





C – Rideau Hall intersection

- Favour a comprehensive lighting approach for buildings located in the vicinity of the key node, highlighting its importance.
- Harmonize the lighting tones among the different buildings.
- Illuminate the forecourt of 7 Rideau Gate, favouring soft and homogeneous lighting. Favour a discreet illumination of the building, and showcase a few outstanding trees.






FIGURE 7.6
Sector 5

Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

SECTOR 5 – BYWARD MARKET AND LOWERTOWN

This sector is characterized by mixed residential and commercial uses. The southern section consists of the ByWard Market, a busy nightlife district with a variety of patios, retail establishments, bars and restaurants. The northern section consists of Lowertown, a primarily residential neighbourhood with low nighttime activity.

The illumination objectives for this sector are as follows:

- Strengthen the attractiveness of the ByWard Market as a nightlife district.
- Avoid excessive illumination in the ByWard Market. Maintain a lighting treatment that is adapted to the scale of the area and its architecture.
- Maintain relative darkness in the Lowertown residential neighbourhood.

Guidelines

Buildings

A – ByWard Market Square

- Illuminate all four facades of the market building in ByWard Market Square, and showcase its important role as a landmark.

B – Sussex Courtyards

- Develop a comprehensive exterior lighting master plan in order to showcase this unique architectural ensemble.
- Highlight the courtyard entrances.
- Preserve the intimate setting of the space.

C – Sussex Drive Facades

- Support the heritage character and elegance of the facades as an ensemble.
- Maintain uniformity and visual coherence among the various buildings.
- Systematically light the ground floor facades. Encourage a sober and distinguished illumination of ground-floor shop windows.
- To the north of the Notre-Dame Cathedral Basilica, illuminate only noteworthy facades.

Nightlife Areas

D – ByWard Market Nightlife District

The various commercial establishments in the ByWard market actively contribute to generating the unique ambience of the area. Shop windows, display counters, patios and signs create a variety of facades, forms and colours that reflect the architecture of the area. This significant diversity provides the area with a distinctive signature that must be preserved. Moreover, the area is characterized primarily by low-rise buildings and relatively narrow streets, and the use of red brick is one of its key architectural features. These characteristics reinforce the contrast with the whiteness and size of surrounding buildings, and enhance the notion of “a treasure to be discovered.”





- Avoid using a wide variety of lighting approaches or artistic interventions in order to preserve the natural expression of the area.
- Allow commercial and residential lighting to lead the way. Limit architectural lighting to noteworthy facades and sites of particular interest.
- Encourage business owners to illuminate their shop windows and to keep them lit until at least midnight to preserve commercial continuity.
- Favour human-scale lighting that supports pedestrian activity.
- Use colour sparingly to preserve the natural colour of facades.
- Consider lighting suspended on buildings for streets that are particularly narrow, to create the illusion of an illuminated ceiling and clear the traffic areas.
- Avoid lighting residential portions of buildings to minimize intrusive light.
- Highlight views toward Parliament Hill.
- Encourage artistic illumination of connection elements.
- Establish a specific, festive illumination strategy for winter.

FIGURE 7.7



Sector 6



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

SECTOR 6 – OTTAWA ART AND INNOVATION DISTRICT AND CITY HALL

This sector is identified as an art and innovation district, based on the presence of the National Arts Centre, the Ottawa Art Gallery, Arts Court and Rideau Street, which have the potential of generating a high nighttime use and support a more creative and innovative use of light. Other key sites in this sector include Ottawa City Hall and Confederation Park. In addition to their primary roles, both function as outdoor event spaces that provide opportunities for creative and innovative use of temporary illumination.

The illumination objectives for this sector are as follows:

- Promote the creation of a vibrant, creative and innovative nighttime setting in the art and innovation district.
- Showcase the City Hall site as an important civic and gathering space.
- Support the dual role of Confederation Park as an important green space and event space.

Guidelines

Buildings

A – National Arts Centre

- Use lighting to enhance the pedestrian environments around the building, including along Confederation Boulevard, Mackenzie King Bridge and the Rideau Canal.
- Use lighting to enhance protected views along the Rideau Canal and views looking down Queen Street toward the building.
- Given the building’s role in the “art and innovation district,” its lantern component is anticipated to feature projections and arts content, as well as act as a landmark from a distance, in particular along the Elgin Street and Queen Street axes. Any commercial content should be limited in nature and scale.
- The lantern component and the overall building illumination should not overpower the site of the National War Memorial, allowing that space to remain solemn and distinct.

B – Ottawa City Hall

- Harmonize the lighting colour of the old and contemporary sections of the building, while emphasizing the heritage building.
- Highlight key access points.
- Showcase the Marion Dewar Plaza as a key gathering place.
- Support a creative and innovative use of light during special events.

C – Cartier Square Drill Hall

- Strengthen the building’s role as a visual landmark, particularly from the north.
- Favour illumination of the front facade of the building.
- Take into account the proximity of the building to the Rideau Canal UNESCO World Heritage Site.

Nightlife Areas

D – National Arts Centre/Arts Court Art and Innovation District

- Encourage a creative and innovative use of light, the installation of light art and the use of temporary lighting.
- Encourage the creative use of light in shop windows and transparent spaces of cultural establishments.
- Ensure that illumination approaches do not adversely impact the legibility of nearby historic places, including the National War Memorial and Rideau Canal.
- Encourage a spirit of dialogue and discussion between local actors to avoid any competition with regard to lighting, focusing instead on a harmonious lighting approach and a global neighbourhood aesthetic.
- Along Rideau Street:
 - Encourage the illumination of facades and commercial spaces.
 - Encourage the use of high-quality public lighting with special effects capability in order to reinforce the artistic theme of the area and support special events.
 - Highlight the presence of overpasses through artistic lighting, thereby orienting visitors to and from Parliament Hill.

Dark Zones

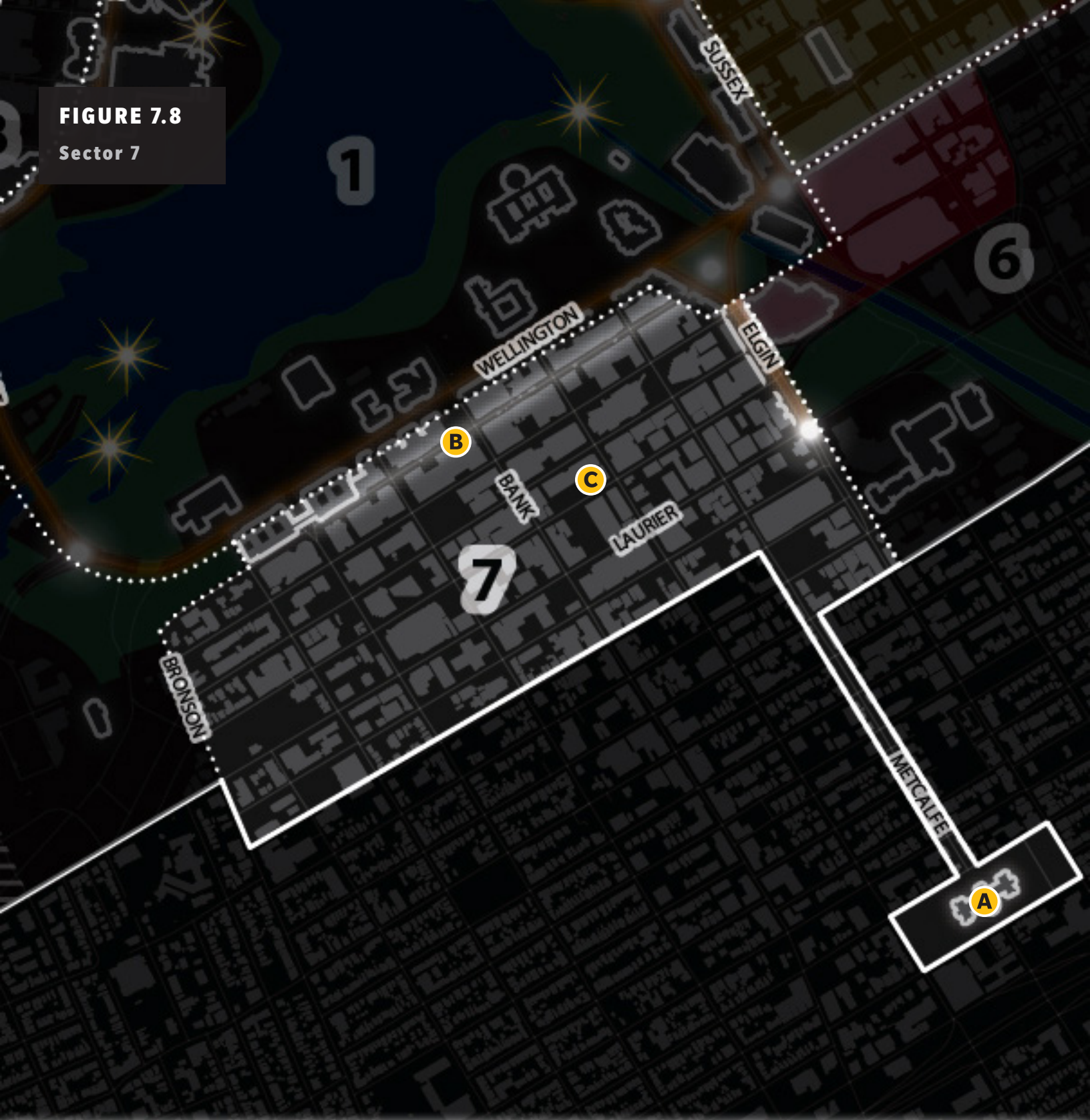
E – Confederation Park

- Support the ongoing development of an overall lighting concept.
- Use lighting to highlight the Elgin Street and Confederation Boulevard corridor, and promote a reading of the park as a gateway to national symbols.
- Create a visual link to the Rideau Canal via lighting.
- Improve the illumination of the Colonel By fountain, commemorative monuments and public art.
- Highlight the park’s main access points.
- Promote a creative and innovative use of light during special events.







FIGURE 7.8



Sector 7



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

SECTOR 7 – CENTRAL BUSINESS DISTRICT AND SPARKS STREET

This sector is characterized by the presence of office towers and hotels, a variety of ground-floor retail businesses, and the Sparks Street pedestrian mall. Based on the height of its buildings, the Central Business District constitutes the visible background to the central Capital landscape as experienced from the Gatineau shoreline.

The illumination objectives for this sector are as follows:

- Support the role of this sector as the background, and strengthen its visual distinction with the central Capital landscape foreground.
- Encourage the creation of an animated nighttime setting along Sparks Street.

Guidelines

Buildings

A – Canadian Museum of Nature

- In addition to the illumination of the lantern, favour the illumination of all facades.
- Consider the museum’s location in a primarily residential area.

Nightlife Areas

B – Sparks Street

The low residential density along Sparks Street and its low visual impact on Confederation Boulevard support flexibility with regard to lighting approaches, while respecting the heritage character of buildings. Sparks Street offers the opportunity for a creative axis parallel to Confederation Boulevard.

- Follow the detailed recommendations in the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015). These apply to the segment between Bank and Metcalfe streets, but many of them are applicable to the full stretch of Sparks Street.
- Take special care to respect Spark Street’s intersection with Confederation Boulevard (Elgin Street) at Confederation Square, prioritizing the delicate ambience of this area.
- Consider the installation of signature-type lighting that supports the use of temporary special lighting effects to animate the street.

- Favour a lighting approach that is at a human scale and homogenous, unifying the north and south side of the corridor.
- Work in collaboration with local business owners to encourage the lighting of window shops.
- Consider identifying both extremities of the street via an illuminated landmark element that respects Confederation Boulevard and the delicate ambience of Confederation Square.

Other

C – Central Business District

The Central Business District forms the visible background to the central Capital landscape foreground; in this way, it acts as a visual landmark. It is characterized by a high concentration of tall, contemporary buildings. A majority of these buildings are privately owned. The plan does not highlight specific buildings, but suggests guidelines that could provide direction for any future lighting projects. Moreover, the presence of Sparks Street and several hotels suggests the possibility of increasing its nighttime use.

- Support and reinforce the legibility of the background through the use of neutral to cool white tones in the upper portions of the buildings (*see Table 2*).
- Favour the illumination of buildings with a heritage designation or an architectural recognition.
- Favour the notion of the Central Business District as an agglomeration of buildings as viewed from a distance.

FIGURE 7.9

Sector 8



Nighttime Landmarks

- Confederation Boulevard
- Key Nodes
- Feature Sites
- Buildings

Nightlife Areas

- Art and Innovation Districts
- Nightlife Districts
- Sparks Street

Dark Zones

- Waterways
- Greenspaces
- Evolving Areas

SECTOR 8 - PORTAGE

This sector is characterized by a mix of residential, commercial, administrative and cultural uses, and acts as a transition area from Confederation Boulevard to the Vieux Hull (Laval Street sector) nightlife district. This sector has significant visual influence on the central Capital landscape scenery. Its high-rise edge simultaneously encloses the Vieux Hull nightlife district, but also prevents its visibility from the central Capital landscape.

The illumination objectives for this sector are as follows:

- Guide visitors toward nightlife areas and create visual connections.
- Provide the Vieux Hull nightlife district with a strong nighttime signature that creates a contemporary, creative, dynamic and welcoming ambience.
- Strengthen the nighttime background.

Guidelines

Buildings

A – Portage Complex

The various high-rise facades of the Portage Complex are visible and play different roles depending on the angle of observation. They are integral parts of the central Capital landscape, as well as the nightlife district. That being said, pedestrian connections between Confederation Boulevard and the nightlife district are difficult to see.

- Improve the pedestrian experience along the lower portion of these buildings, especially along Confederation Boulevard, using lighting as an interpretive element.
- Favour the illumination of designated heritage buildings.
- Reinforce the idea of a built street wall and the visual continuity along Confederation Boulevard.

B – Terrasses de la Chaudière

Terrasses de la Chaudière is a major visual landmark, given its scale. It should connect the future development of the Chaudières sector and Albert Island with the downtown Gatineau nightlife areas.

- Encourage the illumination of the ground floor.
- Adapt the lighting approach to the exterior cladding of the buildings.

Nightlife Areas

C – Vieux Hull (Laval Street Sector) Nightlife District

The complexity of this sector and of the interaction between its various architectural elements requires the development of a detailed exterior lighting master plan in order to provide a global and coherent approach, avoiding the juxtaposition of multiple and diverse lighting approaches.

- Prioritize the Portage complex, St. James Church and the triangle formed by Kent, Laval and Aubry streets.
- Encourage lighting projections and artistic illumination of connective elements, such as overpasses, tunnels and walls.
- Improve the visual continuity of commercial establishments, and allow visibility within lobbies after opening hours.
- Encourage temporary lighting projects in vacant commercial spaces.
- Strengthen key views by illuminating vegetation.
- Favour creative illumination at a human scale and the subtle and limited use of colour in contemporary areas that do not have influence on Confederation Boulevard and the central Capital landscape.
- Encourage respectful illumination of the designated heritage facades along Promenade du Portage.

Other

D – Quartier du Musée

This neighbourhood is residential in nature, and does not require any architectural illumination. However, the “plan particulier d’urbanisme du centre-ville de Gatineau” identifies potential intensification projects in this neighbourhood.

- Create links between open spaces and the Canadian Museum of History’s public plaza.
- Contribute to the visual continuity of the background and avoid over-illumination that would undermine the legibility of the Canadian Museum of History and the central Capital landscape from a distance.

FIGURE 7.10

Sector 9



Nighttime Landmarks

- Confederation Boulevard
- Key Nodes
- Feature Sites
- Buildings

Nightlife Areas

- Art and Innovation Districts
- Nightlife Districts
- Sparks Street

Dark Zones

- Waterways
- Greenspaces
- Evolving Areas

SECTOR 9 – GATINEAU ART AND INNOVATION DISTRICT AND SOUTH OF ÎLE DE HULL

This sector is divided in two distinct areas. The first is the primarily residential area of the southern portion of île de Hull. It connects the nightlife areas, and includes Eddy Street, a commercial main street. The second area features the Montcalm art and innovation district. With the emergence of an artistic quarter that includes workshops and exhibition spaces, as well as the natural beauty of the site, it is bound to become a strategic destination.

The illumination objectives for this sector are as follows:

- In the art and innovation district, support the development of an innovative artistic and cultural node, and showcase the green spaces as meeting places.
- Maintain relative darkness in the residential neighbourhood.

Guidelines

Buildings

A – La Fonderie

- Favour a creative and innovative illumination of the building, strengthening its role as a key visual landmark.

B – Théâtre de l'Île

- Favour a creative illumination of the building, in particular its eastern facade, while respecting its heritage character.

Nightlife Areas

C – Montcalm Art and Innovation District

- Highlight the pathway and dock along Brewery Creek (east side), and support the connection between the water, shoreline and the adjacent streets.
- Create a visual link between the different built components, including the La Fonderie building, the château d'eau, the Théâtre de l'Île and the various bridges.
- Encourage a creative use of light.
- Showcase the Montcalm Rapibus station in a similar innovative manner.
- Create a global nighttime scenery uniting the Montcalm Street bridge, the Rapibus station and La Fonderie.

- Avoid glare toward the Hanson-Taylor-Wright residential neighbourhood.
- Favour the installation of signature-type lighting.
- Given the mixed use along Montcalm Street, highlight activity at the ground-floor level, and avoid glare toward residential uses in the upper portions of buildings.

Other

D – Eddy Street

- Encourage the illumination of shop windows along Eddy Street until midnight to preserve commercial continuity.

FIGURE 7.11

Sector 10



Nighttime Landmarks

- Confederation Boulevard
- Key Nodes
- Feature Sites
- Buildings

Nightlife Areas

- Art and Innovation Districts
- Nightlife Districts
- Sparks Street

Dark Zones

- Waterways
- Greenspaces
- Evolving Areas

SECTOR 10 - HANSON-TAYLOR-WRIGHT

This sector consists primarily of a residential neighbourhood that has heritage recognition. It should constitute the backdrop of views from Montcalm Street, and counterbalance the illumination of the Montcalm cultural axis art and innovation district.

The illumination objective for this sector is as follows:

- Favour intimate lighting that is coordinated with the bolder lighting of the east side of Brewery Creek.

Guidelines

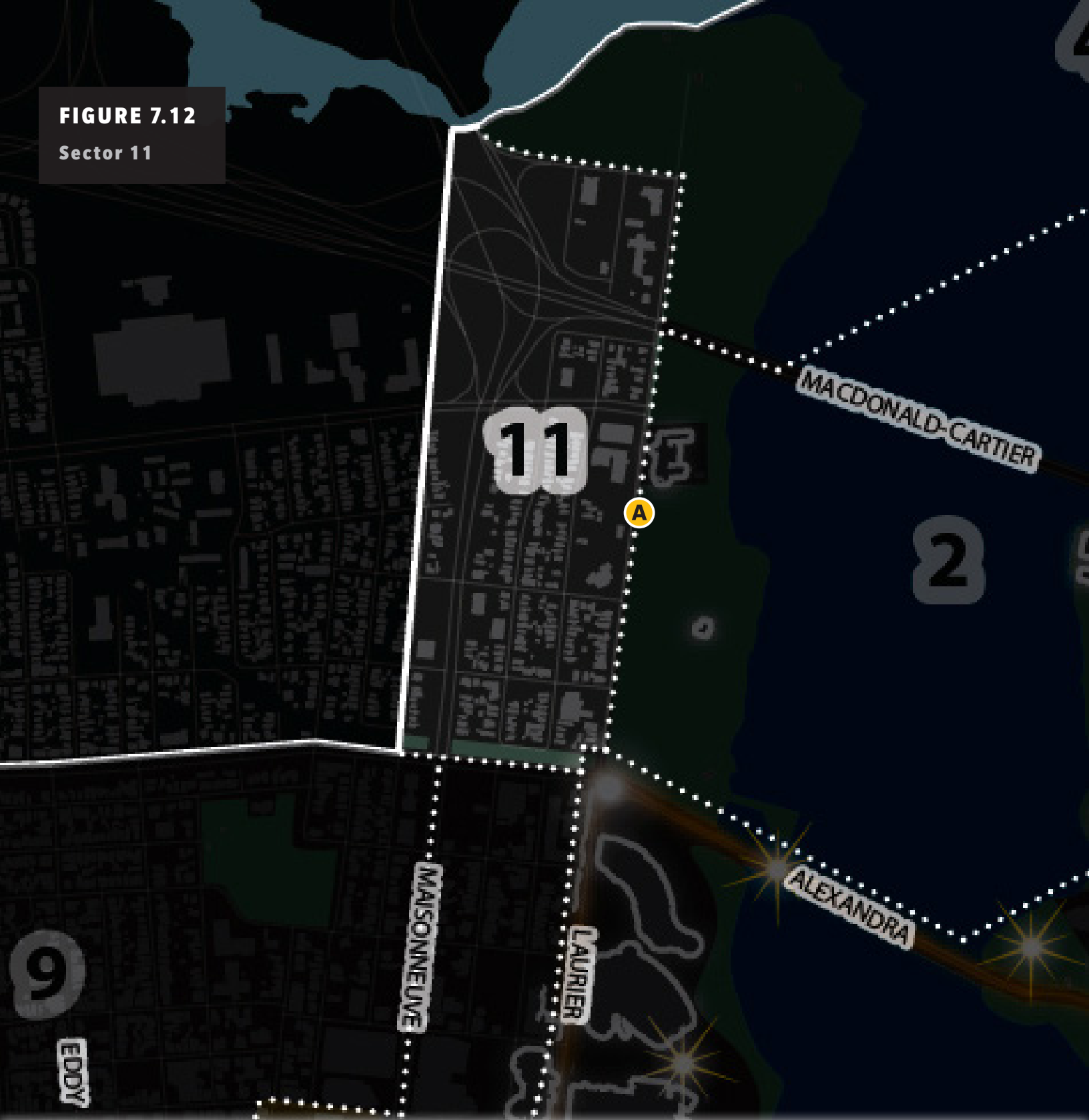
Buildings

A – Wright-Scott House





- Showcase the Wright-Scott House and a selection of notable trees.

FIGURE 7.12



Sector 11



Nighttime Landmarks

-  Confederation Boulevard
-  Key Nodes
-  Feature Sites
-  Buildings

Nightlife Areas

-  Art and Innovation Districts
-  Nightlife Districts
-  Sparks Street

Dark Zones

-  Waterways
-  Greenspaces
-  Evolving Areas

SECTOR 11 - MAISONNEUVE

This sector is a residential neighbourhood of relatively low nighttime activity, which acts as the background to the Hull Marina and Jacques-Cartier Park. This sector is important in the nighttime context in terms of the views it offers.

The illumination objective for this sector is as follows:

- Remain in harmony with the darkness of the natural landscapes.

Guidelines

Other

A – Laurier Street Facades

- Ensure that the illumination of any future redevelopment of the built facade contributes to the notion of a background, in a soft and subtle expression.
- Minimize the intensity of private lighting, and avoid any light reflections on the river.



CHAPTER 8

IMPLEMENTATION

This chapter identifies recommendations for implementing the Capital Illumination Plan. The implementation objectives are as follows:

- Identify priority public illumination projects.
- Encourage the development of shared tools.
- Encourage the consideration of illumination in project design and review.
- Clarify the application of the plan.
- Establish a governance structure for implementing the plan.
- Ensure that the plan is effectively communicated.
- Ensure monitoring of the plan.

8.1 PRIORITY PROJECTS

The Capital Illumination Plan is intended to stimulate and guide the creative process of illumination and, at the same time, launch projects that are exemplary in their approach and process. The NCC seeks to establish itself as a leader in the National Capital Region in the field of illumination. The NCC projects identified below will help set high standards in terms of lighting for future projects.

Recommendations

- The following NCC lighting projects are to be considered priorities for completion in the coming five years:
 - Sussex Courtyards and Sussex Drive facades (between Rideau and St. Patrick streets)
 - Richmond Landing
 - Rideau Hall
 - Nepean Point
 - Confederation Park

8.2 TOOLS

To support the NCC and its partners as they advance toward shared objectives, the Capital Illumination Plan recommends developing specific tools.

Recommendations

- Develop the following tools:
 - **A common geo-reference database:** This database would include all light points in the area and related information (type of fixture, power, type of source, colour temperature, height and type of assembly, installation date, and so on). This information, combined with a map, would make it possible to draft an accurate light map of the area, and precisely determine the existing condition of specific areas. This database and its systematic update would provide vital tools for managing the public lighting system. It would serve as a starting point for all centralized lighting management. It would foster lighting modulation measures. It could be combined with objective data (traffic density, right-of-way reflection coefficient and so on).
 - **A simple and shared classification system:** Each key player currently uses its own classification criteria, lists and language. It can be daunting to identify similar models, categories or typologies because they are often placed in different categories. A shared classification system would effectively support any standardization and rationalization initiative.
 - **A shared map, preferably in 3D:** Since map-based illustrations do not accommodate the vertical component of lighting, a 3-D map is recommended as a relevant and effective tool for framing and standardizing lighting levels.
 - **A set of key nighttime views:** Key nighttime views should be identified in order to monitor change over time and assess the impact of individual illumination projects.

8.3 DESIGN PROTOCOL

To encourage a consistent approach and high-quality outcomes, a design protocol is recommended for all lighting projects.

Recommendations

- Apply the following design protocol:

1 • Analysis

- Identify the work team. Include at least one lighting designer and, for building illuminations, an architect with urban design expertise. For historic places, an architectural historian and built heritage expert should be part of the team. To illuminate urban and landscape compositions, a landscape architect is recommended.
- Identify the project area.
- Establish an understanding of the site, building, monument or landscape and its surroundings.
- Understand the direction set in the Capital Illumination Plan and any other applicable document.
- Consult stakeholders.

2 • Design

- Identify the important elements to illuminate.
- Identify elements around the site not to be illuminated (e.g. the sky and natural ecosystems).
- Initiate federal design approval with the NCC, including a federal environmental review (federal lands or projects only).
- Develop lighting details in accordance with the Capital Illumination Plan and any other applicable document.
- For major projects, use digital modelling (in 3-D, if necessary) in order to evaluate various lighting options.
- For designated federal heritage buildings or landscapes, submit the proposal to the Federal Heritage Buildings Review Office for review.
- Conduct on-site testing with stakeholders, and document results.
- Complete the design development phase.
- Obtain federal design approval from the NCC, including the federal environmental review (federal lands or projects only).

3 • Implementation

- Monitor the lighting to ensure its compliance with the Capital Illumination Plan and the design intent.

8.4 PROJECT REVIEW

The Capital Illumination Plan constitutes a common framework for reviewing lighting projects. The project approval process plays a vital role in ensuring that new interventions conform to the plan.

The Capital Illumination Plan should be an integral part of any new project review. For federal lands and projects, this review is completed under the NCC's federal land use, design and transaction approval process, pursuant to Section 12 of the *National Capital Act*. For non-federal lands and projects, municipal authorities are responsible for approving projects.

Recommendations

- Formally incorporate the review of lighting into the NCC's federal land use, design and transaction approval process. Specifically:
 - Require that approval requests for new projects include project illumination details, in cases where lighting is proposed. A plan, a written description of the project, detailed lighting specifications and visual renderings of the proposed illumination provide a basis for determining project compliance.
 - Require proponents of large-scale projects, such as public buildings, office towers, commemorations and public art, as well as projects located on sites identified as important in the illumination concept, to create mock-ups of the main components to be illuminated.
- Encourage municipalities to integrate an illumination review in their respective approval processes.
- Require applicants to demonstrate how their lighting project conforms to the Capital Illumination Plan.

8.5 APPLICATION OF THE PLAN

The Capital Illumination Plan is a planning tool designed to serve as a common framework for guiding the illumination of the Capital core area over a 10-year timeline. The NCC will use the Capital Illumination Plan in its role as the organization responsible for planning and developing federal lands in the National Capital Region. The plan will guide the planning and development decisions that the NCC makes or influences.

The Capital Illumination Plan provides high-level guidance. The development of detailed recommendations for specific priority areas is recommended through individual exterior lighting master plans. To date, one of these plans has been completed: the Parliamentary Precinct Exterior Lighting Master Plan (PSPC, 2015). These master plans should conform to the framework established by the Capital Illumination Plan, while offering more detailed lighting recommendations for buildings, landscapes, streets and other individual elements.

The Capital Illumination Plan must be consulted in conjunction with other plans, guidelines and applicable regulations. The principles, guidelines, recommendations, illustrations and photographs in the Capital Illumination Plan should not be viewed as requirements, but rather as a guide to developing new lighting projects in the study area. When more detailed guidelines are identified for specific uses or sites, they take priority over more general guidelines.

The Capital Illumination Plan takes effect immediately upon its approval by the NCC Board of Directors via federal land use approval. Such approval confirms the date that the Capital Illumination Plan comes into force, and specifies the conditions for approvals involving federal lands. Since the Capital Illumination Plan study area extends beyond federal lands, the City of Ottawa and Ville de Gatineau are encouraged to undertake steps to have the Capital Illumination Plan take effect in their respective areas of jurisdiction.

8.6 GOVERNANCE AND PARTNERSHIP

The success of the Capital Illumination Plan's implementation depends on the involvement of all key players. The NCC, City of Ottawa, Ville de Gatineau, and federal departments and agencies will have to work together to implement this plan. Developers, private owners, business owners, artists, politicians, community groups and residents also have a vital role to play in the illumination of the Capital core area. Finally, it is critical to involve lighting designers, who are ultimately responsible for the creative lighting process.

The creation of partnerships with other cities is also beneficial when it comes to sharing best practices and keeping in step with the latest developments in the lighting field.

Recommendations

- Draft a lighting charter, a symbolic document signed by key partners of the Capital Illumination Plan, confirming their endorsement in principle of the plan's recommendations.
- Create a nighttime landscape governance committee that includes representatives of the NCC, City of Ottawa, Ville de Gatineau, PSPC and other key stakeholders, as needed. The committee's mandate would be to ensure the ongoing participation of key stakeholders and to coordinate the nighttime landscape based on the principles of the Capital Illumination Plan. This committee would also provide a forum for resolving major Capital core area illumination issues.
- Encourage the engagement of the National Capital Region, City of Ottawa and Ville de Gatineau in international networks of cities of light.

8.7 COMMUNICATION

Sharing information about the Capital Illumination Plan with the public is vital to rally the various actors and stakeholders, including developers, private property owners, business owners, politicians, community groups and residents. Effective communication also generates positive spinoffs for the National Capital Region's visibility, making it a North American and international illumination showcase.

Recommendations

- Ensure that the NCC continues its leadership role in the National Capital Region to promote illumination as a basis for the Capital's ongoing beautification.
- Ensure that the content of the Capital Illumination Plan is made available to all developers, government agencies, urban planners, landscape architects, engineers, lighting designers and all stakeholders actively working on public realm design within the study area.
- Encourage the development of annual lighting awards in the National Capital Region.

8.8 MONITORING AND ASSESSMENT

Plan monitoring and assessment are vital elements of the planning process.

Recommendations

- Prepare an implementation strategy.
- Prepare an annual implementation report to evaluate the success of the Capital Illumination Plan.

GLOSSARY

Character-defining elements

The materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of an historic place, which must be retained to preserve its heritage value.

Colour temperature

Measured in Kelvins (K), it provides an indication of the 'warmth' or 'coolness' of white light as perceived by the human eye. A yellowish appearance is considered warm white while a blueish appearance is considered cool white. The higher the colour temperature, the 'cooler' the light appears.

Coloured tone

Tone of lighting that seeks to colour the surrounding space or materials, in contrast to white tones that do not seek to modify the perception of space or materials.

Full cut-off

Light fixtures in which the luminous intensity (in candelas) at or above an angle of 90° above nadir is zero, and the luminous intensity (in candelas) at or above a vertical angle of 80° above nadir does not numerically exceed 10% of the luminous flux (in lumens) of the lamp or lamps in the light fixture. The nadir is defined as the angle that points directly downward, or 0°, from the light fixture.

Heritage value

The aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present and future generations. The heritage value of an historic place is embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations or meanings.

Historic place

A structure, building, group of buildings, district, landscape, archaeological site or other place in Canada that has been formally recognized for its heritage value.

Light spill

Light emitted by a lighting installation that falls beyond the intended subject of the lighting design.

Lighting effect

Lighting that projects an image, motif or element with a decorative purpose (fixed lighting effect), or lighting that provides variations in terms of intensity, colour or movement (dynamic lighting effect).

Public lighting

Lighting in public spaces, primarily in the form of roadway, sidewalk and pathway lighting.

White tone

Tone of lighting that does not seek to modify the perception of space or materials, in contrast to coloured lighting. The various tones of white (warm, neutral, cool) are expressed in colour temperature, measured in Kelvins (K).

APPENDIX A

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