



Tel: (905) 928-9481  
Fax: (888) 622-4939  
482 South Service Road East, Suite 130  
Oakville, Ontario L6J 2X6  
[www.forbesbrosltd.ca](http://www.forbesbrosltd.ca)

## JUSTIFICATION REPORT:

### Proposed 60m Self-Support Tower Telecommunication Site

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**CLIENT:** Rogers Communications Inc.

**SITE ID:** C9350

**ADDRESS:** Blackstone Crane Lake Road, Archipelago, Ontario

*Jay Lewis*

Land Acquisition & Government Relations

**Forbes Bros. Ltd.**

[jlewis@forbesbrosltd.ca](mailto:jlewis@forbesbrosltd.ca)

**6/5/2024**

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## 1.0 Introduction

Forbes Bros. Ltd. has been retained by Rogers Communications Inc. to compete land-use authority and public consultation for the proposed 60m self-support tower telecommunication site at Part of Lot 10, Concession 10, located off Blackstone Crane Lake Road, Township of Archipelago, Ontario. The purpose of this report is to provide justification in support of the proposed site and assist the land-use authority in providing comments.

## 2.0 Background

Continued growth in demand for wireless products and their associated services has created a need for increased wireless network infrastructure. Mobile phones and other wireless devices cannot operate without the necessary infrastructure, which is made up of transmitting and receiving antennas located on support structures, commonly referred to as cell sites.

New infrastructure requirements are determined by monitoring the wireless network and identifying areas with weak or insufficient coverage. Rogers network planners isolate those areas requiring improvements and conduct coverage studies to determine the ideal coordinates for a new site. Site acquisition and government relations specialists review real estate and land use considerations for potential sites that will achieve network objectives. A new site for Rogers may include installing equipment on an existing tower, a tall building or another feasible structure (colocation), if available, or a new structure will be proposed such as the proposed 60m self-support tower site.

## 3.0 Proposal

Rogers is proposing a 60m self-support tower site at Part of Lot 10, Concession 10, located off Blackstone Crane Lake Road, Township of Archipelago, ON. The proposal site is to provide improved coverage, data transfer speed and network capacity for residents in the area of Blackstone Lake and Crane Lake, in addition to the overall surrounding area.

### 3.1 Location

**Site Address:** Blackstone Crane Lake Road, Township of Archipelago, Ontario

**Latitude:** 45.226477° **Longitude:** -79.898798°

**Legal Description:** ALL THAT PART OF LOT 17 CONCESSION 10 CONGER LYING TO THE NORTH, EAST & SOUTH OF PARTS 6, 7, 16 & 17 42R18259 EXCEPTING PART 22 42R18259; SUBJECT TO PART 1 42R4434 AS IN LT117100, LT117101, LT117102, LT117103, LT117104, LT117105, LT117106 & LT124624; SUBJECT TO LT70215; THE ARCHIPELAGO

The 60m self-support tower site is proposed set back 70m east from Blackstone Crane Lake Road centerline and centrally located on the parcel, 145m north of Bell's existing 50m guyed tower. An existing entrance and trail from Blackstone Lake Road will be utilized and upgraded to provide gated access to the 15m x 15m chain-link fenced compound at base of tower.



Location Map



Site Plan Overlaid on Aerial Image

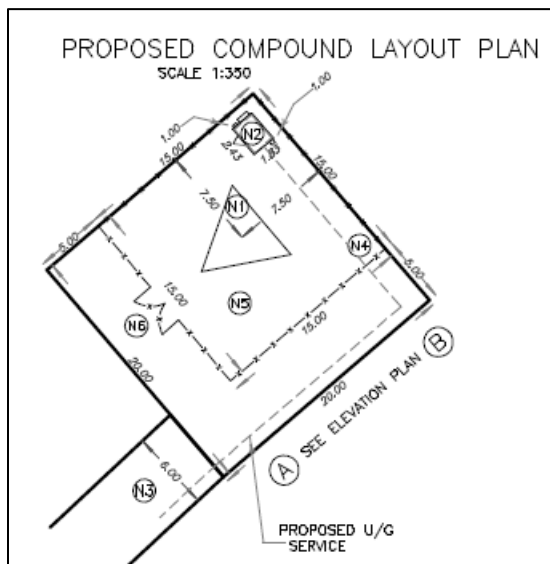
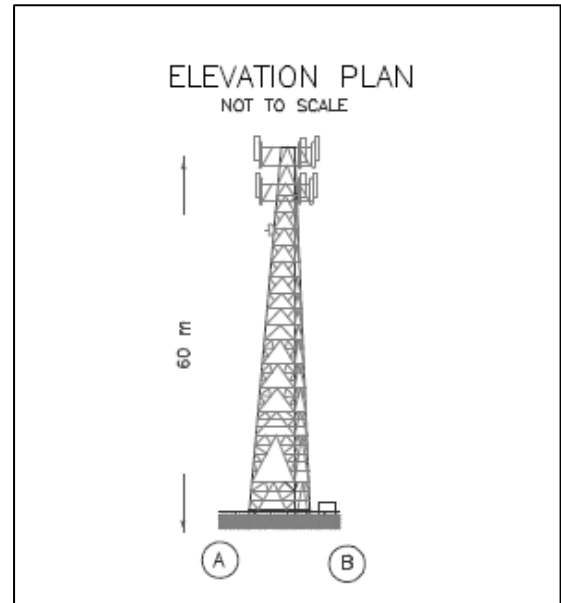
### 3.2 Design

Rogers has proposed a 60m self-support tower site. A self-support tower is a freestanding, lattice tower which is wider at the base and tapers towards the top.

Radio equipment to transmit, receive and process telecommunications will be installed on the tower and within a radio-equipment shelter (2.43m x 1.83m x 2.0m) located at base of tower on concrete foundation.

The radio-equipment shelter will have hydro service, proposed to extend north along Blackstone Crane Lake Road and underground following the access road, along with a battery back up unit but will not have fresh or wastewater systems.

Tower and radio-equipment shelter are secured within a 15m x 15m chain-link fenced compound to prevent public access.



- NOTES**
- (N1) PROPOSED STEEL SELF SUPPORT TOWER. PAINT COLOUR SUBJECT TO NAV CANADA REQUIREMENTS. ANTENNA NUMBER AND LOCATIONS TO BE DETERMINED. FOUNDATION DESIGN PENDING SOIL REPORT.
  - (N2) PROPOSED RADIO EQUIPMENT SHELTER ON REINFORCED CONCRETE SLAB.
  - (N3) PROPOSED ACCESS WAY AND HYDRO/FIBER OPTIC CONNECTION.
  - (N4) PROPOSED 2.4 m HIGH CHAIN LINK SECURITY FENCE TOPPED WITH BARBED WIRE SURROUNDING THE COMPOUND.
  - (N5) REMOVE EXISTING TOPSOIL, PROOF ROLL SUBGRADE AND PLACE 300 mm GRANULAR ACROSS COMPOUND AREA. MATCH INTO EXISTING GRADES ADJACENT TO THE COMPOUND. PROVIDE POSITIVE DRAINAGE AWAY FROM THE TOWER, SHELTERS AND HYDRO PAD TOWARDS THE NATURAL SLOPE OF THE SITE. REINSTATE ALL DISTURBED AREAS.
  - (N6) PROPOSED CHAIN LINK GATE.

#### Proposed Compound Layout Plan & Tower Elevation Plan

### 3.3 Colocation Capacity

The proposed tower is designed to accommodate Rogers future equipment in addition for third parties who can request to co-locate equipment on the tower. Co-location reduces the potential need for additional towers in the immediate area.

### 3.4 Photo Renderings

There is limited visibility of the proposed 60m self-support tower telecommunication site from Blackstone Crane Lake Road due to significant tree coverage. A portion of the proposed tower will be visible where Blackstone Crane Lake Road intersects with the transmission corridor due as there is no tree coverage to provide screening.

The tower will not be visible from the immediately adjacent shorelines as the vegetation will provide screening; however, a portion of the tower may be visible on the open water near or from shorelines on the far side of Blackstone or Crane Lakes due to lack of trees in the foreground to provide screening. A drone analysis with photos showing the areas the top of tower will be provided separately.

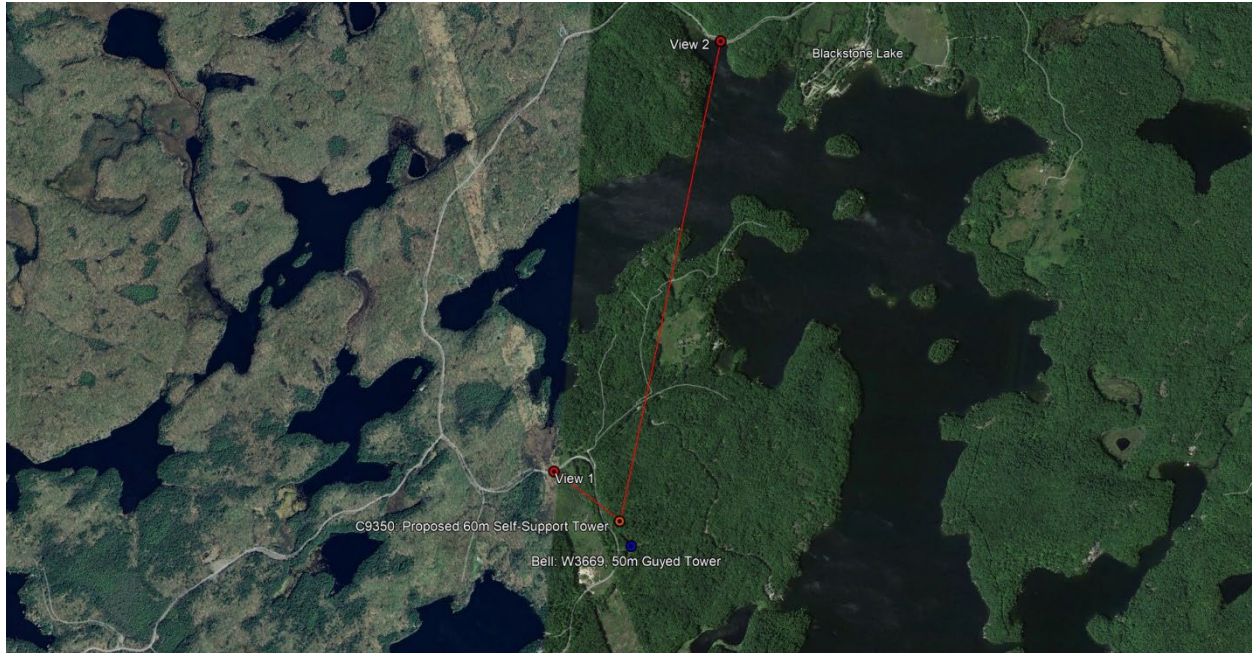


Photo Rendering – Aerial Reference



Photo Rendering – View 1 – Without 60m Self-Support Tower



Photo Rendering – View 1 - With 60m Self-Support Tower



Photo Rendering – View 2 – Without 60m Self-Support Tower



Photo Rendering – View 2 - With 60m Self-Support Tower



#### 4.0 Rationale

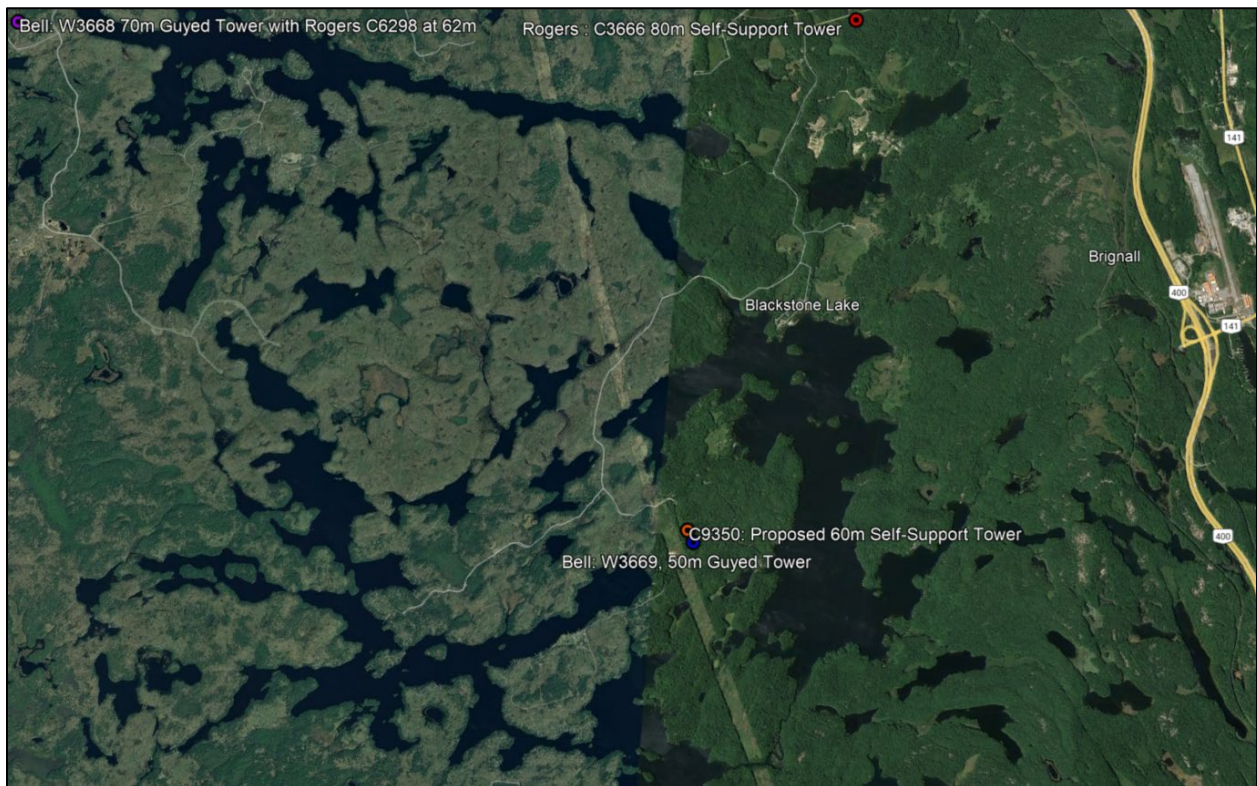
The selection of a new telecommunication site within an existing network is a complex process. It is based on existing sites and taking into account current and future wireless demand, radio frequency engineering principles, local topography, land use consideration and land availability which determines the location of Rogers future sites.

Rogers first identified a geographic search area where a new site was required, concluded existing structures could not be utilized and is now proposing the best site to achieve their coverage objectives while taking into consideration the local area.

#### 4.1 Geographic Search Area

The performance of a wireless network is dependent on the geographic location of the sites, height of radio equipment, surrounding terrain and topology along with the demand and proximity of customers within the wireless network.

Rogers currently has two (2) telecommunication sites that provide wireless services to the area north of Blackstone Lake and northwest of Crane Lake; however, these sites can only provide wireless services for a limited distance as the signal strength diminishes with distance from the source. Rogers identified a geographical search area between Blackstone and Crane Lakes.



**Rogers Existing and Proposed Sites**

#### 4.2 Evaluation of Existing Structures

Existing structures within the geographic search area are considered provided the existing structure has sufficient height for Rogers radio equipment and existing structure location can achieve coverage objectives. Existing structures can include tall buildings (apartments, towers, etc.) or existing telecommunications towers.

Bell's existing 50m guyed tower was identified to determine if co-locations was possible and a PIP (preliminary information package) was obtained. The PIP identifies Bell has either existing or future equipment between the 50m and 37m tower elevations. Rogers concluded coverage objectives could not be achieved by co-locating on the tower at the 35m elevation as the reduced elevation would reduce the coverage area. When the size of a coverage area is reduced than additional towers are required in closer proximity to achieve similar coverage.

#### 4.3 Land Use Consideration

A detailed review to determine possible locations for a new tower was conducted for the area surrounding Blackstone and Crane Lakes. There is limited power available as shown in the image below with most of the power following the shoreline. It is apparent that the location of the existing Bell tower is well situated due to proximity of available power but also as it is well set back from both Blackstone and Crane Lakes and adjacent to a transmission corridor. As this appears the most compatible location for a tower a second tower is being proposed.



Aerial Image

#### 4.4 Coverage Map Analysis

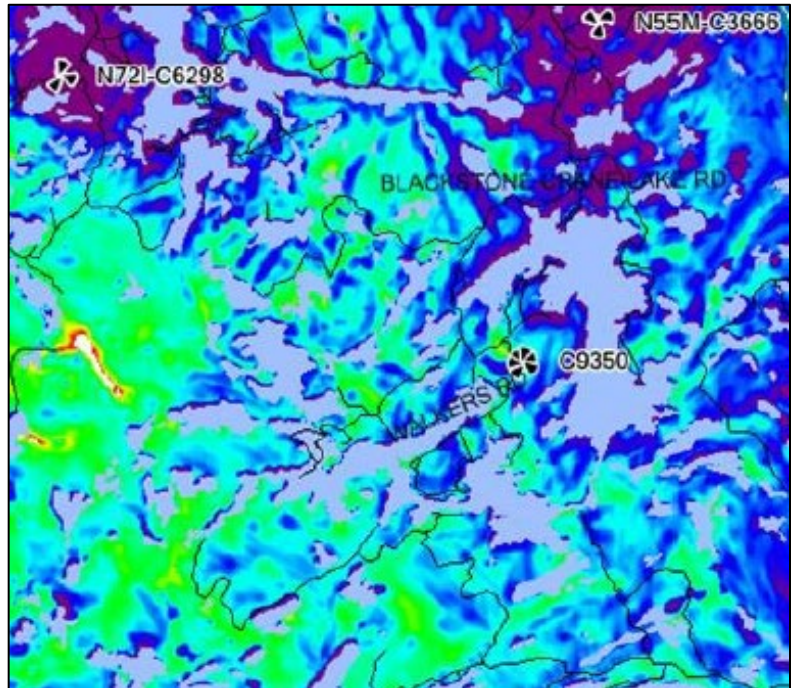
Coverage maps are an excellent tool to illustrate why a proposed site is required. A coverage map has a color classification scheme that represents the signal strength which is modelled based on the signal strength diminishing with distance from the source (existing and proposed sites) along with environmental factors such as buildings, topology, terrain and vegetation.

Rogers coverage objectives are to increase coverage and provide improved signal strength to benchmarking or in-building signal to ensure fast, high speed data transfer and wireless communication.

### Coverage Map – Existing Sites

As shown in the adjacent coverage map the signal strength diminishes from the existing sites resulting in areas experiencing less than benchmarking signal strength that can cause latency and slow delivery of data.

While some residents on Blackstone Lake do experience benchmarking signal strength, this can be affected by the weather, season and number of users in the area which can diminish signal strength. Other Blackstone Lake residents and the majority on Crane Lake residents experience less signal strength.

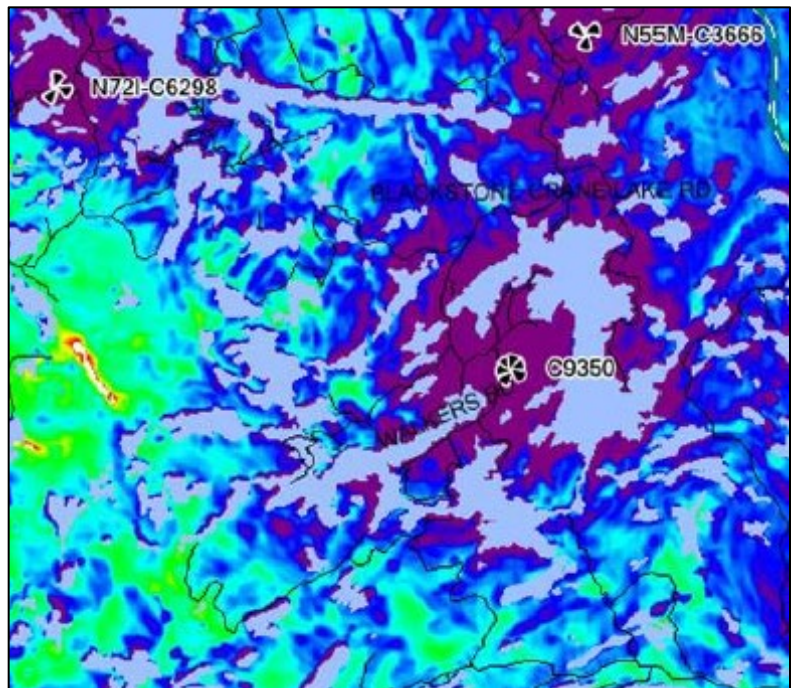


Coverage Map - Rogers Existing Sites

### Coverage Map – Existing and Proposed

As shown in the adjacent coverage map the proposed 60m self-support tower will provide improved signal strength to these areas.

Specifically, benchmarking and in-building signal strength will be provided to all of Blackstone Lake and majority of Crane Lake that will ensure residents in these areas have fast, high speed data transfer and wireless communication.



Coverage Map – Rogers Existing and Proposed Sites

Benchmarking	-78 dBm or Greater
In-Building Dense	-88 to -78 dBm
In-Building Light	-98 to -88 dBm
In-Car	-110 to -98 dBm
On Street	-116 to -110 dBm
Minimum	-119 to -116 dBm
Fringe	Less than -119 dBm

## 5.0 Review of Development Plan

### 5.1 Federal Jurisdiction and Requirements

Rogers wireless services and telecommunication sites are federally regulated under the *Radiocommunication Act* and licensed by Innovation, Science and Economic Development Canada (ISED). ISED's *Radiocommunication and Broadcasting Antenna Systems – CPC-2-0-03, Issue 5* outlines the process for the proponent to follow and encourages the establishment of policies from the land-use authority as they are best positioned to contribute to optimum siting of facilities to meet their own community needs.

ISED's *Radiocommunication and Broadcasting Antenna Systems – CPC-2-0-03, Issue 5*, can be retrieved at: [https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/cpc-2-0-03-i5.pdf/\\$file/cpc-2-0-03-i5.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/cpc-2-0-03-i5.pdf/$file/cpc-2-0-03-i5.pdf)

The land-use authority and public consultation process established under ISED authority is intended to provide local land-use authorities an opportunity to address land-use concerns while respecting the federal government's exclusive jurisdiction in the siting and operation of telecommunication sites.

Rogers is required to follow established and documented protocols or policies regarding establishing telecommunication sites set forth by land-use authorities. As the provisions of the Ontario Planning Act and other municipal by-laws and regulations do not apply to federal undertakings, telecommunication sites are not required to obtain municipal permits of any kind.

The Township of Archipelago has not established a policy and ISED land-use authority consultation and default public consultation process will be followed.

### 5.2 Land-Use Authority Consultation

The submission of this justification report to the Township of Archipelago is to commence the land-use authority consultation process. This report provides the necessary information on the site details, justification, process and federal requirements to allow the land-use authority an opportunity to discuss: site options, ensure any local process related to antenna systems are respected and address any preliminary concerns. Once all reasonable and relevant concerns from both the land-use authority and the public are addressed a summary of the public consultation will be provided to the land-use authority with a request for a letter of concurrence. Obtaining a letter of concurrence concludes this process.

### 5.3 Default Public Consultation

In accordance with ISED default public consultation process the proposed 60m self-support tower telecommunication site does not meet specific exclusion requirements and public consultation will consist of the following:

- Mail notification to be provided to property owners and neighbouring land-use authorities within 3 \* height of proposed structure (3\*60m = 180m).
- Public notice to be published in a locally circulated newspaper as the proposed structure is greater than 30m.

Notifications will contain basic information about the proposed site; contact information for the proponent, land-use authority and ISED; and, allow thirty (30) days for the public to make a submission. The proponent will acknowledge all submissions within 14 days; provide a response and address all reasonable and relevant concerns within 60 days; and, allow the party 21 days to reply to the proponent's response. This process is concluded if there are no submissions received within the 30-day public comment period or if no further submissions are received within the 21-day replay comment period.

#### 5.4 Federal Requirements

In addition to land-use and public consultation requirements, Rogers must also fulfill other important obligations including the following:

##### **Impact Assessment Act**

ISED requires that the installation and modification of antenna systems be done in a manner that complies with appropriate environmental legislation. This includes the *Impact Assessment Act* (IAA) where the antenna system is incidental to a physical activity or project designated under IAA or is located on federal lands.

Rogers attests that the radio antenna system as proposed for this site is not located within federal lands or forms part of or incidental to projects that are designated by the Regulations Designating Physical Activities or otherwise designated by the Minister of the Environment as requiring an environmental assessment. In accordance with the *Impact Assessment Act*, this installation is excluded from assessment.

For additional detailed information, please consult the *Impact Assessment Act* at: <https://laws-lois.justice.gc.ca/eng/acts/I-2.75/>

##### **Transport Canada's Aeronautical Obstruction Marking Requirements**

Aerodrome safety is under the exclusive jurisdiction of NAV Canada and Transport Canada. An important obligation of wireless proponents is to comply with Transport Canada / NAV Canada aeronautical safety requirements. Transport Canada performs an assessment of the proposal with respect to the potential hazard to air navigation and notifies Rogers of any painting and/or lighting requirements for the antenna system.

Rogers anticipates the proposed tower will not require aeronautical lighting/marking as the tower location is sufficient distance from Parry Sound Area Municipality Airport.

For additional information, please see the Transport Canada website at: <https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/standards/standard-621-obstruction-marking-lighting-canadian-aviation-regulations-cars>

##### **Health Canada's Safety Code 6 Compliance**

Health Canada is responsible for research and investigation to determine and promulgate health protection limits for exposure to radio-frequency (RF) electromagnetic energy. Accordingly, Health Canada has developed a guideline entitled "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3Khz to 300Ghz – Safety Code 6".

The exposure limits specified in Safety Code 6 are established by reviewing all peer-reviewed scientific research in the area of human health and RF exposure. Included in this review are hundreds of studies conducted over the past 50 years.

Radiocommunication, including technical aspects related to broadcasting, is under the responsibility of the Ministry of Innovation, Science and Economic Development Canada which has the power to establish standards, rules, policies and procedures. ISED, under this authority has adopted Safety Code 6 for the protection of the general public. With this adoption, ISED requires all proponents and operators

to ensure that their installations comply with Safety Code 6 at all times, including any changes to the code and including any combined effects from other installations in the nearby radio environment.

Rogers attests that the radio antenna system described will comply with Health Canada's Safety Code 6 limits, as may be amended from time to time, for the protection of the general public including any combined effects of additional carrier co-locations and nearby installations within the local radio environment.

More information in the area of RF exposure and health is available at the following website:  
<https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/occupational-exposure-regulations/safety-code-6-radiofrequency-exposure-guidelines.html>

### **Engineering Practices**

Rogers attests that the radio antenna system as proposed for this site will be constructed in compliance with the National Building Code; the Canadian Standards Association; and, comply with good engineering practices including structural adequacy.

### **6.0 Summary and Conclusion**

As communities continue to grow to depend on wireless products and their services it will be necessary to improve network coverage and quality. Improving network coverage and quality is achieved by increasing telecommunication sites to fill coverage gaps and increase capacity for current and future wireless users.

This justification report has provided the rationale that the proposed 60m self-support tower telecommunication site is necessary for Rogers to improve their wireless services for the local community while taking into land use consideration.