

**MODEL WIRELESS TELECOMMUNICATIONS Protocol
for Siting of "Small Cell" Telecommunication Infrastructure
in Public Rights-Of-Way**

This document is intended for use by Canadian cities, towns and villages who wish to adopt microcell-siting bylaws, and/or who are creating their first Antenna Siting Protocol, or are updating their existing protocol so that it adequately addresses the widespread deployment of microcells, or "small cell" wireless equipment, on public rights-of-way.

We note that the proposed deployment of small cell infrastructure for 5G will result in the installation of a large number of additional wireless antennas in every community. Furthermore, many of these antennas could be located in close proximity to homes and apartments, impacting many more residents and resulting in greater citizen concern about placement and potential impact on property values than macro cell antenna installations historically have.

Moreover, as technology changes, the need for locating antennas in close proximity to homes and apartments may decline; therefore, municipalities should retain the flexibility to limit, to the extent possible, the deployment of small cells in close proximity to residential dwellings.

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Suggested Content for a Proactive Antenna Siting Protocol

Section 1: FINDINGS

1.1 The wireless telecommunications industry has expressed interest in submitting applications to place antennas and associated equipment on new or existing structures in the Town's public rights-of-way for deployment of microcell wireless telecommunications facilities (hereinafter "small cell installations").

1.2 The deployment of small cell installations may have both positive and negative impacts on our community. Multiple small cell installations within the public right-of-way can impact property values; pose a threat to the public health, safety and welfare; create traffic and pedestrian safety hazards; impact trees where proximity conflicts may require trimming of branches or require removal of roots; create visual and aesthetic blights and potential safety concerns from excessive size, height, weight, noise or lack of camouflaging which negatively impact the quality and character of the Town.

1.3 The Town currently regulates all wireless telecommunications facilities in the public right of-way through a permit process. The Town's existing Antenna Siting Protocol was not specifically designed to address the unique legal and practical issues that arise in connection with multiple small cell installations deployed in the public rights-of-way. (Or, the town does not currently have an Antenna Siting Protocol in place.)

1.4 Although Innovation, Science, and Economic Development Canada's policies exempt antennas placed on existing structures from a public consultation requirement, the Town is in need of its own updated Antenna Siting Protocol for small cell installations in the public right-of-way given the number of anticipated applications the Town will receive.

1.5 The Town recognizes that telecommunications fall under federal jurisdiction and also recognizes that provincial law mandates that municipal governments insure that development activity in their towns does not endanger public health, safety, or welfare. The Town intends this Bylaw to ensure that the installation, augmentation, and relocation of small cell installations in the public rights-of-

way is conducted in such a manner as to lawfully balance the legal rights of proponents with the rights, safety, privacy, property, and security of residents of the Town.

1.6 This chapter is not intended to, nor shall it be interpreted or applied to:

(1) prohibit or effectively prohibit any wireless telecommunications service provider's ability to provide wireless services;

(2) unreasonably discriminate among providers of functionally equivalent services;

(3) deny any request for authorization to place, construct or modify wireless telecommunications service facilities on the basis of the health effects of radio frequency emissions or environmental effects so long as such wireless facilities comply with Health Canada's Safety Code 6 and the Canadian Environmental Assessment Act;

(5) prohibit any collocation or modification that the Town may not deny under federal law; or

(6) otherwise authorize the Town to pre-empt any applicable federal law.

1.7 Based on the foregoing, the Town (*Council or other governing body*) finds and determines that the preservation of public health, safety, and welfare requires that this Bylaw be enacted and be effective immediately upon adoption.

NOW, THEREFORE, the Town of [*insert name of municipality*] does ordain as

Section 2: DEFINITIONS

"Co-Located Small Cell Installation" means a single telecommunication tower, pole, mast, cable, wire or other structure supporting multiple antennas, dishes, transmitters, repeaters, or similar devices owned or used by more than one public or private entity.

"Exempted Antenna Systems" includes, but is not limited to, the following:

- a. A single ground or building mounted receive-only radio or television antenna including any mast, for the sole use of the tenant occupying the residential parcel on which the radio or television antenna is located; with an antenna height not exceeding eight metres;
- b. A ground or building mounted citizens band radio antenna, including any mast, if the height (post and antenna) does not exceed ten metres;
- c. A ground, building, or tower mounted antenna operated by a federally licensed amateur radio operator, if the height (post and antenna) does not exceed ten metres;
- d. A ground or building mounted receive-only radio or television satellite dish antenna, which does not exceed one metre in diameter, for the sole use of the resident occupying a residential parcel on which the satellite dish is located; provided the height of said dish does not exceed the height of the ridgeline of the primary structure on said parcel.
- e. Temporary Antenna Systems used for special events or emergency operations and must be removed within three months of the start of the emergency or special event.
- f. Hand-held devices such as cell phones, business-band mobile radios, walkie-talkies, cordless telephones, garage door openers and similar personal-use devices.
- g. Government-owned and operated receive and/or transmit telemetry station antennas for supervisory control and data acquisition systems for water, flood alert, traffic control devices and signals, storm water, pump stations and/or irrigation systems.
- h. Town-owned and operated antennae used for emergency response services, public utilities, operations and maintenance if the height does not exceed twenty metres.

"Major Telecommunications Facility" means telecommunication towers, poles or similar structures where the height is more than fifteen metres above ground level, including accessory equipment such as transmitters, repeaters, microwave dishes, horns, and other types of equipment for the transmission or receipt of such signals, as well as support structures, equipment buildings and parking areas.

"Public Right of Way" means the area on, below, or above property that has been designated for use as or is used for a public roadway, highway, street, sidewalk, alley or similar purpose, and for purposes of this Chapter shall include Public Utility Easements, but only to the extent the Town has the authority to permit use of the area for this purpose. The term does not include a provincial highway or other areas that are not within the legal jurisdiction, ownership or control of the Town.

"Small Cell Installation" means all equipment required for the operation and maintenance of so-called "small cell" wireless communications systems that transmit and/or receive signals but are not "Major Telecommunications Facilities," including antennas, microwave dishes, power supplies, transformers, electronics, and other types of equipment required for the transmission or receipt of such signals.

Section 3: PERMITTING PROCESS

3.1 Permit Required. No small cell installation shall be constructed, erected, modified, mounted, attached, operated or maintained within the Town on or within any public right-of-way without the issuance of a permit. No approval granted under this chapter shall confer any exclusive right, privilege, license or franchise to occupy or use the public right-of-way of the Town for delivery of telecommunications services or any other purpose.

3.2 Application Content. All permit applications must include:

A. Detailed site and engineering plans for each proposed small cell installation, including all associated equipment necessary for its operation;

B. A master plan showing the geographic service area for the proposed small cell

installation(s), and all of applicant's existing, proposed and anticipated installations in the Town;

C. Photographs of proposed facility equipment;

D. Visual impact analyses with photo simulations;

E. Certification by a certified radio-frequency engineer that the small cell installation will be in compliance with Safety Code 6 RF emissions as they relate to the general public, including aggregate emissions for all co-located equipment;

F. Certification that the applicant has a right under federal law to install wireless telecommunications facilities in the public right-of-way;

G. Documentation demonstrating a good faith effort to locate the small cell installation in accordance with the preferred provisions of this chapter;

H. Documentation that owners of all properties within 500 feet of the proposed small cell installation have been notified in writing via certified mail of the proposed installation, including its exact location;

I. An executed indemnification agreement as set forth in section 3.6 hereof.

3.3 Application Fee. The Town shall assess a per-installation fee of _____ to cover the Town's costs of processing, reviewing, evaluating, conducting a public hearing, and other activities involved in consideration of the application, and conducting oversight of the construction of the small cell installation to ensure compliance with zoning requirements.

3.4 Consultant Fee. The Town shall have the right to retain an independent technical consultant to assist the Town in its review of the application. The reasonable cost of the review shall be paid by the applicant.

3.5 Compliance Bond. Upon approval of the application, the Permittee shall be required to post a bond in the amount of \$50,000 for each small cell installation, such bond to be held and maintained during the entire period of Permittee's

operation of each small cell installation in the Town as a guarantee that no such installation, including any co-located equipment, exceeds or will exceed the allowable Safety Code 6 limits for RF radiation exposure to the general public as determined by a qualified independent RF engineer under Section 3.7.2 hereof.

3.6 Indemnification. Permittee shall provide an executed agreement in the form provided by the Town, pursuant to which Permittee agrees to defend, hold harmless and fully indemnify the Town, its officers, employees, agents, attorneys, and volunteers, from (i) any claim, action or proceeding brought against the Town or its officers, employees, agents, or attorneys to attack, set aside, void, or annul any such approval of the Town or (ii) a successful legal action brought against the Town for loss of property value or other harm caused by the placement or operation of a small cell installation. This indemnification agreement shall be in a form acceptable to the Town Attorney and shall include, but not be limited to, damages, fees and/or costs awarded against the Town, if any, and cost of suit, attorney's fees, and other costs, liabilities and expenses incurred in connection with such proceeding whether incurred by the Permittee, the Town and/or the parties initiating or bringing such proceeding. The agreement shall also include a provision obligating the Permittee to indemnify the Town for all of the Town's costs, fees and damages which the Town incurs in enforcing the indemnification provisions of this Section.

3.7 Annual Re-certification.

3.7.1 Each year, commencing on the first anniversary of the issuance of the permit, the Permittee shall submit to the Town an affidavit which shall list all active small cell wireless installations it owns within the Town by location, certifying that

(1) each active small cell installation is covered by liability insurance in the amount of \$2,000,000 per installation, naming the Town as additional insured; and

(2) each active installation has been inspected for safety and found to be in sound working condition and in compliance with all federal safety regulations concerning RF exposure limits.

3.7.2 The Town shall have the right to employ a qualified RF engineer to conduct an annual random and unannounced test of the Permittee's small cell wireless installations located within the Town to certify their compliance with all Safety Code 6 radio-frequency emission limits as they pertain to exposure to the general public. The reasonable cost of such tests shall be paid by the Permittee.

3.7.3 In the event that such independent tests reveal that any small cell installation or installations owned or operated by Permittee or its Lessees, singularly or in the aggregate, is emitting RF radiation in excess of Safety Code 6 exposure guidelines as they pertain to the general public, the Town shall notify the Permittee and all residents living within 1500 feet of the small cell installation(s) of the violation, and the Permittee shall have forty-eight (48) hours to bring the small cell installation(s) into compliance. Failure to bring the small cell installation(s) into compliance shall result in the forfeiture of all or part of the Compliance Bond, and the Town shall have the right to require the removal of such installation(s), as the Town in its sole discretion may determine is in the public interest.

3.7.4 Any small cell wireless installation which is no longer in use shall be removed by the Permittee within 30 days of being taken out of use.

3.7.5 Any small cell wireless installation which is not removed within 30 days after being listed as no longer in use in the annual re-certification affidavit shall be subject to a fine of \$100/day until such installation is removed.

3.7.6 Where such annual re-certification has not been properly or timely submitted, or equipment no longer in use has not been removed within the required 30-day period, no further applications for small cell wireless installations will be accepted by the Town until such time as the annual re-certification has been submitted and all fees and fines paid.

3.8 Non-Permitted Installations Any small cell installation constructed, erected, modified or enhanced prior to the issuance of a site-specific permit from the Town shall be removed prior to the submission of any other application. No application for a small cell installation shall be considered while such unauthorized installations remain.

Section 4: LOCATION AND CONFIGURATION PREFERENCES

4.1 Siting Guidelines. The purpose of this section is to provide guidelines to applicants and the reviewing authority regarding the preferred locations and configurations for small cell installations in the Town, provided that nothing in this section shall be construed to permit a small cell installation in any location that is otherwise prohibited by this bylaw or any other section of the Town code.

4.2 Order of preference - Location. The order of preference for the location of small cell installations in the Town, from most preferred to least preferred is:

1. Industrial zone
2. Commercial zone
3. Mixed commercial and residential zone
4. Residential zone

Discouraged Locations:

1. Land use

- Medium and high density residential areas
- Schools, daycare facilities, playgrounds and similar facilities
- Areas that adversely impact view corridors
- Heritage areas (unless visibly unobtrusive) or on heritage structures unless it forms an integrated part of the structure's overall design (i.e. through the use of stealth structures).
- Nature protection areas
- Environmentally sensitive ecosystems

2. Other considerations, irrespective of land use designation

- Locations directly in front of doors, windows, balconies or residential frontages
- Community gathering places such as community halls, churches, commercial eating & drinking establishments
- Sites of topographical and geographic prominence

(See Note 1)

Section 5: INSTALLATION SPECIFICATIONS

5.1. The Permittee must construct, install and operate the small cell installation in strict compliance with the plans and specifications included in the application.

5.2. Where feasible, as new technology becomes available, the Permittee shall replace larger, more visually intrusive facilities with smaller, less visually intrusive facilities, after receiving all necessary permits and approval required by the Town.

5.3. The Permittee shall submit and maintain current at all times basic contact and site information on a form to be supplied by the Town. The Permittee shall notify the Town of any changes to the information submitted within seven days of any change, including the name or legal status of the owner or operator.

5.4. At all times, all required notices and signs shall be posted on the site as required by ISED and federal law, and as approved by the Town. The location and dimensions of a sign bearing the emergency contact name and telephone numbers shall be posted pursuant to the approved plans.

5.5. The Permittee shall maintain current at all times liability and property insurance for each small cell installation in the Public Right of Way in the amount of \$2,000,000 (Two Million dollars) naming the Town as additional insureds.

5.6. The proposed small cell installation shall have an adequate fall zone to minimize the possibility of damage or injury resulting from pole collapse or failure, icfall or debris fall, and to avoid or minimize all other impacts upon adjoining properties.

5.7. Every effort shall be made to locate small cell installations no less than 2000 feet away from the Permittee's or any Lessee's nearest other small cell installation, or within 1500 feet of any school (nursery, elementary, junior high, and high school), trail, park or outdoor recreation area, sporting venues, and residential zones. (*See Note 2*)

5.8. Single or co-located small cell installations must be mounted on an existing structure such as a utility or lighting pole that can support its weight and the weight of any existing co-located equipment. All new wires needed to service the small cell installation must be located within the width of the existing structure so as to not exceed the diameter and height of the existing utility pole.

5.9. All equipment not to be installed on or inside the pole must be located underground, flush to the ground, within three (3) feet of the utility pole. Each installation is to have its own dedicated power source to be installed and metered separately.

Section 6: APPLICABILITY

This chapter shall apply to all small cell installations and co-located small cell installations in the Town, and shall not apply to any Exempted Antenna Systems or Major Telecommunications Facility.

Note 1: The town may also wish to include preference for the *configuration* of small cell installations, from most preferred to least preferred. Configuration preferences might be:

- (1) Co-located with existing wireless facilities,
- (2) Mounted on existing utility poles,
- (3) Mounted on new poles or towers.

Considerations include the structural integrity of existing utility poles, the fact that mandating co-located equipment could result in an unfair aesthetic burden on some residents or neighborhoods, and the possibility that new poles might be bigger, heavier and more obtrusive than existing poles.

Note 2: Every effort should be made to avoid placement of small cell installations in close proximity to residences, particularly from sleeping and living areas. Viable and defensible setbacks will vary based on zoning.

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