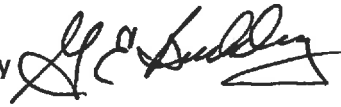


--MEMORANDUM--

TO: City Council

FROM: Gregory E. Buckley  
City Manager



DATE: February 18, 2022

SUBJECT: Questions About 5G Small Wireless Facilities and the City's Ability to Regulate Them

(Agenda requested by Council Member Larry Thomas)

The City's ability to regulate placement of small wireless facilities within public street rights of way or on utility poles owned by the City and located within the right-of-way, and to charge fees for the placement of such facilities, is significantly limited by FCC regulations and Wisconsin Law.

The FCC Small Cell Order 18-133, issued in 2018 and effective January 2019, imposed significant limitations on the ability of local governments to regulate placement of small wireless facilities, in the interest of facilitating the nationwide roll-out of fifth generation (5G) cellular communications technology.

5G technology provides faster speeds and more capacity on cellular communications systems, not just for personal communications devices and internet browsing, but for linked devices ranging from home security systems to home appliances, health monitors, smart equipment used in industry and on farms, and remote energy metering—the so-called “Internet of Things.” 5G technology requires a network of small cell wireless facilities, placed in much closer proximity to one another than the facilities used for 4G service.

Wisconsin, like most states, has also adopted legislation to streamline permitting and regulation related to 5G facilities. Act 15 of 2019 (Wisc. Stats.66.0414) established uniform rules for installing so-called small-cell nodes, which 5G wireless networks rely on to operate. A copy of that law is attached (p. 3).

The City of Two Rivers in December 2021 adopted a new ordinance on Wireless Communications Facilities in the Right-of-Way, which is contained in Section 4-1-14 of City Ordinances. This ordinance was prepared by the Boardman law firm of Madison, based on a model ordinance that Boardman developed for the Municipal Electric Utilities of Wisconsin. A copy of the ordinance is attached (p. 5).

The ordinance includes provisions on aspects of such installations that the City CAN regulate, such as the height at which an antenna can be installed (50 feet or less, or no more than 10percent higher than adjacent structures), the size of the antenna (no more than 3 CF in volume), and the same of associated equipment, sometimes located nearby at ground level (no more than 28 CF in volume).

While there have been concerns raised about possible health impacts of radiofrequency energy from 5g facilities, Federal law precludes local jurisdiction from regulating small cell facilities based on such concerns. Such standards/regulations are set at the Federal level. There is a lot of conflicting information in popular media regarding possible health impacts of radio frequency energy, whether from existing, “old” technology or from 5G. See attached article from the American Cancer Society (p. 18).

So far, the City has received one application for placement of a 5G wireless facility on an existing electric utility pole, on the north side of 29<sup>th</sup> Street just east of Forest Avenue. This application was from a company installing such facilities for local service provider NSight Communications.

The Electric Utility responded by proposing that it would place a second, stand-alone pole in that area, to hold the planned small cell antenna. The installation meets all requirements for approval under the City's ordinance. A map showing the planned location and a profile of the proposed pole and antenna are included in the attached application materials (p, 24).

Fees for use of City poles and right-of-way must be uniformly charged to all users—current users include Frontier, NSight and Spectrum. Those charges are as follows:

Permit for Placement of Antenna:	\$300.00
Annual License Fee Per Antenna:	\$250.00

(Note: in the case of the installation described above, the telcom company will also pay the Electric Utility's cost for installing the new pole: \$3,700)

Annual pole contact fee (applies to each pole used by user other than TR Electric)

Pole with single company contact:	\$ 28.35
Pole with double company contact:	\$ 14.17
Pole with triple company contact:	\$ 8.33

Electric Utility Director Brian Delleman will be present at Monday's meeting to answer questions. We also expect to have a representative of NSight Communications present.

- (4) COLLOCATION OF SMALL WIRELESS FACILITIES ON GOVERNMENTAL POLES AND UTILITY POLES FOR DESIGNATED SERVICES.**
- (a) A person owning or controlling a governmental pole or a utility pole for designated services may not enter into an exclusive arrangement with any person for the right to attach to, or use, such poles.
- (b) The fees or rates charged by the owner of a pole described under par. (a), and the terms and conditions for such attachment or use, may not be discriminatory.
- (c) The rate a political subdivision may charge a wireless provider to collocate a small wireless facility on a utility pole for designated services shall be governed by an agreement between the political subdivision and the wireless provider. If there is a failure to agree on the rate, the public service commission shall determine the compensation pursuant to the procedures in s. 196.04 and the determination shall be reviewable under s. 196.41.
- (d)
1. The rate an owner of a governmental pole other than a utility pole for designated services charges another person to collocate on the owner's pole shall be sufficient to recover the actual, direct, and reasonable costs related to the applicant's application for, and use of, space on the pole, except that subject to subd. 2., the total annual rate for a collocation and any related activities may not exceed the lesser of the actual, direct, and reasonable costs related to the collocation or \$250 per year per small wireless facility. If a dispute arises concerning the appropriateness of a rate charged by the state or political subdivision under this subdivision, the governmental unit bears the burden of proving that the rate is reasonably related to the actual, direct, and reasonable costs incurred by the governmental unit.
  2. Beginning on July 12, 2019, the owner of a governmental pole other than a utility pole for designated services may adjust a rate allowed under subd. 1. by 10 percent every 5 years, rounded to the nearest multiple of \$5. During each 5-year period, the adjustment may be applied incrementally or as a single adjustment.
  3. If the federal communications commission adjusts its levels for rates that are presumptively lawful under 47 USC 253 or 332 (c) (7), the state or a political subdivision may adjust any impacted rate under subd. 1. on a pro rata basis, consistent with the federal communications commission's action.
- (e)
1. Except as provided in subd. 2., by the later of October 1, 2019, or 3 months after receiving its first request to collocate a small wireless facility on a governmental pole, other than a utility pole for designated services, the state or a political subdivision shall implement rates, fees, and terms for the collocation of small wireless facilities on governmental poles that comply with this subsection.
  2. Agreements between a wireless provider and the state or a political subdivision that are in effect on July 12, 2019, and that relate to the collocation of small wireless facilities in the right-of-way, including the collocation of small wireless facilities on governmental poles, remain in effect, subject to applicable termination provisions, except that by August 1, 2021, the state or political subdivision shall amend any such agreement to comply with the rates, fees, and terms required under this subsection.
- (f) With regard to a governmental pole that supports aerial cables used for video, communications, or electric service, and with regard to utility poles for designated services, the parties shall comply with the process for make-ready work under 47 USC 224 and its implementing regulations, including 47 CFR 1.1420 and 1.1422. The good faith estimate of the person owning or controlling such poles for any make-ready work necessary to enable the pole to support the requested collocation must include pole replacement if necessary.
- (g) With regard to a governmental pole that does not support aerial cables used for video, communications, or electric service, the state or political subdivision shall provide a good faith estimate for any make-ready work necessary to enable the pole to support the requested collocation, including pole replacement if necessary, not later than 60 days beginning after receipt of a complete application, except that the governmental unit may provide the applicant with access to the governmental pole that is necessary for the applicant to make that estimate. Make-ready work, including any pole replacement, must be completed within 60 days after the applicant's written acceptance of a good faith estimate provided by the governmental unit or within 60 days after the applicant makes the estimate.
- (h) A person owning or controlling a governmental pole other than a utility pole for designated services may not require more make-ready work than required to meet applicable codes or industry standards. Fees for make-ready work may not include any costs that are related to preexisting conditions, prior damage, or noncompliance with currently applicable standards. Fees for make-ready work, including any pole replacement, may not exceed actual costs or the amount charged to other communications service providers for similar work, and may not include any consultant fees or expenses.
- (5) DISPUTE RESOLUTION.** Except as provided in sub. (4) (c), and notwithstanding ss. 182.017 (8) (a) and 196.58 (4) (a), a court of competent jurisdiction shall determine all disputes arising under this section. Unless otherwise agreed to by the parties

to a dispute, and pending resolution of a right-of-way access rate dispute, a political subdivision controlling access to and use of a right-of-way shall allow the placement of a small wireless facility or utility pole at a temporary rate of one-half of the political subdivision's proposed annual rate, or \$20, whichever is less. Rates shall be reconciled and adjusted upon final resolution of the dispute. Pending the resolution of a dispute concerning rates for collocation of small wireless facilities on governmental poles or utility poles for designated services, the person owning or controlling the pole shall allow the collocating person to collocate on its poles, at annual rates of no more than \$20 per year per pole, with rates to be reconciled and adjusted upon final resolution of the dispute.

- (6) **INDEMNIFICATION.** A wireless provider shall indemnify and hold harmless a political subdivision against any and all liability and loss from personal injury or property damage resulting from or arising out of, in whole or in part, the use or occupancy of rights-of-way by the wireless provider or its employees, agents, or contractors arising out of the rights and privileges granted under this section. A wireless provider has no obligation to indemnify or hold harmless against any liabilities and losses as may be due to or caused by the sole negligence of the political subdivision or its employees or agents.
- (7) **FEDERAL LAW; CONTRACTS.** Nothing in this section adds to, replaces, or supersedes federal laws regarding utility poles owned by investor-owned electric utilities nor shall this section impose or otherwise affect any rights, controls, or contractual obligations investor-owned electric utilities may establish with respect to their utility poles.
- (8) **PRIVATE PROPERTY OWNERS.** Nothing in this section is intended to authorize a person to place, maintain, modify, operate, or replace a privately owned utility pole or wireless support structure or to collocate small wireless facilities on a privately owned utility pole, a privately owned wireless support structure, or other private property without the consent of the property owner.
- (9) **COMMUNICATIONS SERVICES.**
- (a) This section may not be construed or interpreted to authorize any entity to provide communications service without compliance with all applicable laws or to authorize the collocation, installation, placement, operation, or maintenance of any communications facilities, including wireline backhaul facilities, other than small wireless facilities and associated utility poles.
- (b) Except as it relates to small wireless facilities subject to the permit and fee requirements established under this section and except as otherwise authorized by federal or state law, a political subdivision may not do any of the following:
1. Adopt or enforce any regulation or requirement on the placement or operation of communications facilities in rights-of-way by a communications service provider authorized under federal, state, or local law to operate in rights-of-way.
  2. Regulate any communications service.
  3. Impose or collect any tax, fee, or other charge for the provision of additional communications services over a communications service provider's communications facilities in a right-of-way.

**History:** 2019 a. 14; s. 35.17 correction in (1) (d) and (z) 2. (intro.), (3) (c) 4. (intro.) and a.

## ORDINANCE

**AN ORDINANCE** repealing Municipal Code Section 10-1-18.5 and recreating it as 4-1-14, entitled "Wireless Communications Facilities in the Right-of-Way".

The Council of the City of Two Rivers ordains that: Municipal Code Section 4-1-14 read as follows:

**SECTION 1.** Municipal Code Section 4-1-14 be created to read as follows:

### Chapter 4-1-14: Wireless Communications Facilities in the Right-of-Way

A. Definitions. For the purposes of this Chapter, the terms below shall have the following meanings:

**"Administrator"** means the City Manager of Two Rivers or his or her designee.

**"Application"** means a formal request, including all required and requested documentation and information, submitted by an applicant to the City of Two Rivers for a wireless permit.

**"Applicant"** means a person or entity filing an application for a wireless permit under this Chapter.

**"Base Station,"** consistent with 47 C.F.R. § 1.6100(b)(1), means a structure or wireless equipment at a fixed location that enables FCC-licensed or authorized wireless communications between user equipment and a communications network. This definition does not include towers or any equipment associated with a tower.

**"Eligible Facilities Request,"** consistent with 47 C.F.R. § 1.6100(b)(3), means any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving: (i) collocation of new transmission equipment; (ii) removal of transmission equipment; or (iii) replacement of transmission equipment.

**"FCC"** means the Federal Communications Commission.

**"Governmental Pole,"** consistent with Wis. Stat. § 66.0414(1)(n), means a utility pole that is owned or operated by the City of Two Rivers in the right-of-way.

**"Historic District,"** consistent with Wis. Stat. § 66.0414(3)(c)5, means an area designated as historic by the City of Two Rivers, listed on the national register of historic places in Wisconsin, or listed on the state register of historic places.

**"Right-of-Way"** means the surface of, and the space above and below the entire width of an improved or unimproved public roadway, highway, street, bicycle lane, landscape terrace, shoulder, side slope, public sidewalk, or public utility easement over which the City of Two Rivers exercises any rights of management and control or in which the City of Two Rivers has an interest.

**"Small Wireless Facility,"** consistent with 47 C.F.R. § 1.6002(l), means a facility that meets each of the following conditions:

- (1) The structure on which antenna facilities are mounted, measured from ground level:

- i. is 50 feet or less in height, or
- ii. is no more than 10 percent taller than other adjacent structures, or
- iii. is not extended to a height of more than 50 feet or by more than 10 percent above its preexisting height, whichever is greater, as a result of the collocation of new antenna facilities;

(2) Each antenna (excluding associated antenna equipment) is no more than three cubic feet in volume;

(3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is cumulatively no more than 28 cubic feet in volume;

(4) The facility does not require antenna structure registration under 47 C.F.R. part 17;

(5) The facility is not located on Tribal land as defined in 36 C.F.R. § 800.16(x); and

(6) The facility does not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified by federal law.

**“Support Structure”** means any structure in the right-of-way (other than an electric transmission structure) capable of supporting wireless equipment, including a utility pole, a wireless support structure as defined in Wis. Stat. § 66.0414(1)(zp), or a base station.

**“Tower,”** consistent with 47 C.F.R. § 1.6100(b)(9), means any structure built for the sole or primary purpose of supporting any Federal Communication Commission (FCC) licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site. This definition does not include utility poles.

**“Transmission Equipment,”** consistent with 47 C.F.R. § 1.6100(b)(9), means equipment that facilitates transmission for any FCC-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

**“Underground District,”** consistent with Wis. Stat. § 66.0414(3)(c)5, means an area designated by the City of Two Rivers in which all pipes, pipelines, ducts, wires, lines, conduits, or other equipment, which are used for the transmission, distribution, or delivery of electrical power, heat, water, gas, sewer, or telecommunications equipment, are to be located underground.

**“Utility Pole,”** means a pole that is used in whole or in part by a communications service provider; used for electric distribution, lighting, traffic control, signage, or a similar function; or used for the collocation of small wireless facilities. “Utility pole” does not include a wireless support structure or an electric transmission structure.

**“Utility Pole for Designated Services”** means a utility pole owned or operated in a right-of-way by the City of Two Rivers that is designed to, or used to, carry electric distribution lines, or cables or wires for telecommunications, cable, or electric service.

**“Wireless Equipment”** means an antenna facility at a fixed location that enables wireless services between user equipment and a communications network, and includes all of the following: (a) equipment associated with wireless services; (b) radio transceivers, antennas, or coaxial, metallic, or fiber-optic cable located on, in, under, or otherwise adjacent to a support structure; (c) regular and backup power supplies; (d) equipment that is comparable to equipment specified in this definition regardless of technical configuration. “Wireless Equipment” does not include (a) the structure or improvements on, under, or within which the equipment is collocated; (b) wireline backhaul facilities; or (c) coaxial, metallic, or fiber-optic cable that is between utility poles or wireless support structures or that is not adjacent to a particular antenna. The definition of “Wireless Equipment” in this ordinance is consistent with the definition of “wireless facility” in Wis. Stat. § 66.0414(1)(z).

**“Wireless Facility”** or **“Facility”** means an installation at a fixed location in the right-of-way consisting of wireless equipment and the support structure, if any, associated with the wireless equipment.

**“Wireless Infrastructure Provider”** means any person or entity, other than a wireless services provider, that builds or installs wireless communications transmission equipment, antenna equipment, or wireless support structures.

**“Wireless Permit”** or **“Permit”** means a permit issued pursuant to this Chapter and authorizing the placement or modification of a wireless facility of a design specified in the permit at a particular location within the right-of-way, and the modification of any existing support structure to which the wireless facility is proposed to be attached.

**“Wireless Provider”** means a wireless infrastructure provider or a wireless services provider.

**“Wireless Regulations”** means those regulations adopted pursuant to Section 5(b)(1) to implement the provisions of this Chapter.

**“Wireless Services”** means any service using licensed or unlicensed wireless spectrum, including the use of a Wi-Fi network, whether at a fixed location or by means of a mobile device.

**“Wireless Service Provider”** means a person or entity that provides wireless services.

Definitions in this Section may contain quotations or citations to 47 C.F.R. §§ 1.6100 and 1.6002 and Wis. Stat. § 66.0414. In the event that any referenced section is amended, creating a conflict between the definition as set forth in this Chapter and the amended language of the referenced section, the definition in the referenced section, as amended, shall control.

- B. Purpose. In the exercise of its police powers, the City of Two Rivers has priority over all other uses of the right-of-way. The purpose of this Chapter is to provide the City of Two Rivers with a process for managing, and uniform standards for acting upon, requests for the

placement of wireless facilities within the right-of-way consistent with the City of Two Rivers' obligation to promote the public health, safety, and welfare; to manage the right-of-way; and to ensure that the public's use is not obstructed or incommoded by the use of the right-of-way for the placement of wireless facilities. The City of Two Rivers recognizes the importance of wireless facilities to provide high-quality communications and internet access services to residents and businesses within the City of Two Rivers. The City of Two Rivers also recognizes its obligation to comply with applicable Federal and State laws regarding the placement of wireless facilities in the right-of-way including, without limitation, the Telecommunications Act of 1996 (47 U.S.C. § 151 et seq.), Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, Wis. Stat. § 182.017, Wis. Stat. § 196.58, and Wis. Stat. § 66.0414, as amended, and this Chapter shall be interpreted consistent with those provisions.

### C. Scope.

(1) **Applicability.** Unless exempted by Section 3(b), below, every person who wishes to place a wireless facility in the right-of-way or modify an existing wireless facility in the right-of-way must obtain a wireless permit under this Chapter.

(2) **Exempt Facilities.** The provisions of this Chapter (other than Sections 10-13) shall not be applied to applications for the following:

(a) Installation, maintenance, operation, or replacement of a small wireless facility strung on cables between two existing utility poles in compliance with the National Electrical Safety Code, provided that the small wireless facility does not exceed 24 inches in length, 15 inches in width, and 12 inches in height and has no exterior antenna longer than 11 inches.

(b) Installation of a mobile cell facility (commonly referred to as "cell on wheels" or "cell on truck") for a temporary period in connection with an emergency or event, but no longer than required for the emergency or event, provided that installation does not involve excavation, movement, or removal of existing facilities.

(c) Placement or modification of a wireless facility by City of Two Rivers staff or any person performing work under contract with the City of Two Rivers.

(d) The replacement of an existing small wireless facility with a small wireless facility that is substantially similar to, or the same size or smaller than, the existing small wireless facility, provided that there is no change to the support structure on which the small wireless facility is placed.

(e) Routine maintenance of a wireless facility.

(3) **Placement on City of Two Rivers-Owned or –Controlled Support Structures.** Any applicant who wishes to place wireless equipment on a support structure owned or controlled by the City of Two Rivers, including governmental poles and utility poles for designated services, must obtain a wireless permit under this Chapter and enter into an attachment agreement with the City of Two Rivers. The agreement shall include provisions regarding make-ready work and specify the compensation to be paid to the City of Two Rivers for use of the support structure in accordance with the standards set out in Wis. Stat. § 66.0414(4), as amended. Unless prohibited by state or federal law, the person or entity



seeking the agreement shall reimburse the City of Two Rivers for all costs the City of Two Rivers incurs in connection with its review of and action upon the request for an agreement.

D. Nondiscrimination. In establishing the rights, obligations, and conditions set forth in this Chapter, it is the intent of the City of Two Rivers to treat each applicant and right-of-way user in a competitively neutral and nondiscriminatory manner, to the extent required by law, while taking into account the unique technologies, situation, and legal status of each applicant or request for use of the right-of-way.

E. Administration.

(1) **Administrator.** The administrator is responsible for administering this Chapter.

(2) **Powers.** As part of the administration of this Chapter, the administrator may:

(a) Adopt wireless regulations governing the placement and modification of wireless facilities in addition to but consistent with the requirements of this Chapter, including regulations governing collocation, the resolution of conflicting applications for placement of wireless facilities, and aesthetic standards. The regulations must be published in advance of their enforcement.

(b) Interpret the provisions of the Chapter and the wireless regulations.

(c) Develop forms and procedures for submission of applications for wireless permits consistent with this Chapter.

(d) Collect any fee required by this Chapter.

(e) Establish deadlines for submission of information related to an application, and extend or shorten deadlines where appropriate and consistent with federal laws and regulations.

(f) Issue notices of incompleteness or requests for information in connection with any wireless permit application.

(g) Select and retain an independent consultant or attorney with expertise in telecommunications to review any issue that involves specialized or expert knowledge in connection with any permit application.

(h) Coordinate and consult with other City of Two Rivers staff, committees, and governing bodies to ensure timely action on all other required permits under Section 6(b)(11) of this Chapter.

(i) Negotiate attachment agreements for the placement of wireless equipment on governmental poles or utility poles for designated.

(j) Subject to appeal as provided in Section 8(d) of this Chapter, determine whether to grant, grant subject to conditions, or deny an application.

(k) Take such other steps as may be required to timely act upon wireless permit applications, including issuing written decisions and entering into agreements to mutually extend the time for action on an application.

F. Application.

(1) **Format.** Unless the wireless regulations provide otherwise, the applicant must submit both a paper copy and an electronic copy (in a searchable format) of any application, as well as any amendments or supplements to the application or responses to requests for information regarding an application, to the Administrator. An application is not complete until both the paper and electronic copies are received by the Administrator.

(2) **Content.** In order to be considered complete, an application must contain:

(a) All information required pursuant to the wireless regulations.

(b) A completed application cover sheet signed by an authorized representative of the applicant.

(c) The name of the applicant (including any corporate or trade name), and the name, address, email address, and telephone number of a local representative and of all duly authorized representatives and consultants acting on behalf of the applicant with respect to the filing of the application. If the applicant is a wireless infrastructure provider, the name and contact information for the wireless service provider(s) that will be using the wireless facility must also be provided.

(d) A statement of which state or federal deadline(s) apply to the application.

(e) A separate and complete description of each proposed wireless facility and the work that will be required to install or modify it, including but not limited to detail regarding proposed excavations, if any; detailed site plans showing the location of the facility and technical specifications for each element of the facility, clearly describing the site and all structures and equipment at the site before and after installation or modification and identifying the owners of such preexisting structures and equipment; and describing the distance to the nearest residential dwelling unit. Before and after 360-degree photo simulations must be provided for each facility.

(f) A certification by the applicant that the wireless facility will not materially interfere with the safe operation of traffic control equipment or sight lines or clear zones for transportation of pedestrians, and will fully comply with the federal Americans with Disabilities Act or similar federal or state standards regarding pedestrian access or movement.

(g) A certification by the applicant that the wireless facility will comply with relevant FCC regulations concerning radio frequency emissions from radio transmitters and unacceptable interference with public safety spectrum, including compliance with the abatement and resolution procedures for interference with public safety spectrum established by the FCC set forth in 47 C.F.R. §§ 22.97 to 22.973 and 47 C.F.R. §§ 90.672 to 90.675.

(h) A statement that the wireless facility will comply with the state electrical wiring code, as defined in Wis. Stat. § 101.80(4), as amended; the state plumbing code specified in Wis. Stat. § 145.13, as amended; the fire prevention code under Wis. Admin. Code § SPS 314, as amended; the Wisconsin commercial building code under Wis. Admin. Code §§ SPS 361 to 366, as amended; the Wisconsin uniform dwelling code under Wis. Admin. Code §§ SPS 320 to 325, as amended; and all local amendments to those codes

enacted solely to address imminent threats of destruction of property or injury to persons.

(i) A structural report performed by a professional engineer registered in the State of Wisconsin evidencing that the support structure on which the wireless equipment will be mounted will structurally support the equipment, or that the structure may and will be modified to meet structural requirements, in accordance with applicable codes, including the National Electric Safety Code and the National Electric Code.

(j) If the support structure on which the wireless equipment will be mounted is owned by a third party, a certification that the applicant has permission from the owner to mount its equipment on the structure. This is not required if the support structure is a governmental pole or a utility pole for designated services, as permission will be evidenced by the executed attachment agreement referenced in Section 3(c).

(k) To the extent that filing of the wireless permit application establishes a deadline for action on any other permit that may be required in connection with the wireless facility, the application must include complete copies of applications for every required permit (including without limitation electrical permits, building permits, traffic control permits, and excavation permits), with all engineering completed.

(l) Payment of all required fees.

(3) **Waivers.** Requests for waivers from any requirement of this Section 6 shall be made in writing to the Administrator. The Administrator may grant a request for waiver if it is demonstrated that, notwithstanding the issuance of the waiver, the City of Two Rivers will be provided with all information necessary to understand the nature of the construction or other activity to be conducted pursuant to the wireless permit sought.

(4) **Eligible Facilities Requests.** If the applicant asserts in writing that its application is an eligible facilities request, the City of Two Rivers will only require the applicant to provide that information set forth in subsection (b) to the extent reasonably related to determining whether the request meets the definition of "eligible facilities request" under 47 C.F.R. § 1.6100(b)(3). The applicant will be required to submit evidence that the application relates to an existing tower or base station that has been approved by the City of Two Rivers. Before and after 360-degree photo simulations must be provided with detailed specifications demonstration that the modification does not substantially change the physical dimensions of the existing approved tower or base station.

(5) **Fees.** Applicant must pay an application fee in an amount set by the Two Rivers City Council to allow recovery of the City of Two Rivers' direct costs of processing the application, subject to the limits contained in state and federal law, including Wis. Stat. § 66.0414(3)(d), as amended.

(6) **Public Records.** Applications are public records that may be made publicly available pursuant to state and federal public records law. Notwithstanding the foregoing, the applicant may designate portions of the application materials that it reasonably believes contain proprietary or confidential information by clearly marking each portion of such materials accordingly, and the City of Two Rivers shall endeavor to treat the information as proprietary and confidential, subject to applicable state and federal public records laws and

the Administrator's determination that the applicant's request for confidential or proprietary treatment of the application materials is reasonable. The City of Two Rivers shall not be required to incur any costs to protect the application from disclosure.

G. General Standards.

(1) **Generally.** Wireless facilities shall meet the minimum requirements set forth in this Chapter and the wireless regulations, in addition to the requirements of any other applicable law or regulation.

(2) **Regulations.** The wireless regulations and decisions on wireless permits shall, at a minimum, ensure that the requirements of this Chapter are satisfied, unless it is determined that the applicant has established that denial of an application would, within the meaning of federal law, prohibit or effectively prohibit the provision of telecommunications or personal wireless services, or otherwise violate applicable laws or regulations. If that determination is made, the requirements of this Chapter and the wireless regulations may be waived, but only to the extent required to avoid the prohibition.

(3) **Standards.**

(a) Wireless facilities shall be installed and modified in a manner that:

- (1) Minimizes risks to public safety;
- (2) Ensures that placement of wireless equipment on existing support structures is within the tolerance of those structures;
- (3) Ensures that new support structures will not be installed when the applicant has the right to place its wireless facility on an existing structure on reasonable terms and conditions and placement in that location is technically feasible and not materially more expensive;
- (4) Avoids installation or modification of a utility pole that would exceed the height limits set forth in Wis. Stat. § 66.0414(2)(e)2, as amended;
- (5) Avoids placement of aboveground wireless facilities in historic districts and underground districts (except for placing equipment on or replacing pre-existing support structures, so long as the collocation or replacement reasonably conforms to the design aesthetics of the original support structure);
- (6) Avoids placement of wireless facilities in residential areas when commercial or industrial areas are reasonably available;
- (7) Maintains the integrity and character of the neighborhoods and corridors in which the facilities are located;
- (8) Ensures that the City of Two Rivers bears no risk or liability as a result of the installations; and
- (9) Ensures that applicant's use does not obstruct or hinder travel, drainage, maintenance, or the public health, safety, and general welfare; inconvenience the public; interfere with the primary uses of the right-of-way; or hinder the ability of the City of Two Rivers or other government entities to improve, modify, relocate,

abandon, or vacate the right-of-way or any portion thereof, or to cause the improvement, modification, relocation, vacation, or abandonment of facilities in the right-of-way.

(b) In no event may ground-mounted equipment interfere with pedestrian or vehicular traffic and at all times must comply with the requirements of the Americans with Disabilities Act of 1990.

(4) **Standard Permit Conditions.** All wireless permits, whether granted under this Chapter or deemed granted by operation of state or federal law, are issued subject to the following minimum conditions:

(a) **Compliance.** The permit holder shall at all times maintain compliance with all applicable Federal, State, and local laws, regulations, and other rules.

(b) **Construction Deadline.** The permit holder shall commence the activity authorized by the permit no later than 365 days after the permit is granted and shall pursue work on the activity until completion.

(c) **Contact Information.** The permit holder shall at all times maintain with the City of Two Rivers accurate contact information for the permit holder and all wireless service providers making use of the facility, which shall include a phone number, mailing address, and email address for at least one natural person.

(d) **Emergencies.** The City of Two Rivers shall have the right to support, repair, disable, or remove any elements of the facilities in emergencies or when the facility threatens imminent harm to persons or property.

(e) **Indemnification.** The permit holder, by accepting a permit under this Chapter, agrees to indemnify and hold harmless the City of Two Rivers, its elected and appointed officials, officers, employees, agents, representatives, and volunteers (collectively, the "Indemnified Parties") from and against any and all liability and loss from personal injury or property damage resulting from or arising out of, in whole or in part, the use or occupancy of rights-of-way by the permit holder or anyone acting under its direction or control or on its behalf arising out of the rights and privileges granted under this Chapter, even if liability is also sought to be imposed on one or more of the Indemnified Parties. The obligation to indemnify, and hold harmless the Indemnified Parties shall be applicable even if the liability results in part from an act or failure to act on the part of one or more of the Indemnified Parties. However, the obligation does not apply if the liability results from the sole negligence or willful misconduct of an Indemnified Party.

(f) **Adverse Impacts on Adjacent Properties.** The permit holder shall undertake all reasonable efforts to avoid undue adverse impacts to adjacent properties and/or uses that may arise from the construction, operation, maintenance, modification, or removal of the facility.

(g) **General Maintenance.** The wireless facility and any associated structures shall be maintained in a neat and clean manner and in accordance with all approved plans and conditions of approval.

(h) **Graffiti Removal.** All graffiti on facilities shall be removed at the sole expense of the permit holder within 48 hours after notification from the City of Two Rivers.

(i) **Relocation.** At the request of the City of Two Rivers pursuant to Section 10 of this Chapter, the permit holder shall promptly and at its own expense permanently remove and relocate its wireless facility in the right-of-way.

(j) **Abandonment.** The permit holder shall promptly notify the City of Two Rivers whenever a facility has not been in use for a continuous period of 60 days or longer and must comply with Section 11 of this Chapter.

(k) **Restoration.** A permit holder who removes or relocates a facility from the right-of-way or otherwise causes any damage to the right-of-way in connection with its activities under this Chapter must restore the right-of-way in accordance with Section 12 of this Chapter.

(l) **Record Retention.** The permit holder shall retain full and complete copies of all permits and other regulatory approvals issued in connection with the facility, which includes without limitation all conditions of approval, approved plans, resolutions, and other documentation associated with the permit or regulatory approval. In the event the City of Two Rivers cannot locate any such full and complete permits or other regulatory approvals in its official records, and the permit holder fails to retain full and complete records in the permit holder's files, any ambiguities or uncertainties that would be resolved through an examination of the missing documents will be conclusively resolved against the permit holder.

(m) **Radio Frequency Emissions.** Every wireless facility shall at all times comply with applicable FCC regulations governing radio frequency emissions, and failure to comply with such regulations shall be treated as a material violation of the terms of the permit.

(n) **Certificate of Insurance.** A certificate of insurance sufficient to demonstrate to the satisfaction of the Administrator that the applicant has the capability to cover any liability that might arise out of the presence of the facility in the right-of-way.

#### H. Application Processing and Appeal.

(1) **Rejection for Incompleteness.** Notices of incompleteness shall be provided in conformity with state, local, and federal law, including 47 C.F.R. § 1.6003(d) and Wis. Stat. § 66.0414(3)(c), as amended.

(2) **Processing Timeline.** Wireless permit applications (including applications for other permits under Section 6(b)(11) necessary to place or modify the facility) and appeals will be processed in conformity with the deadlines set forth in state, local, and federal law, as amended, unless the applicant and the City of Two Rivers agree to an extension.

(3) **Written Decision.** In the event that an application is denied (or approved with conditions beyond the standard permit conditions set forth in Section 7(d)), the Administrator shall issue a written decision with the reasons therefor, supported by substantial evidence contained in a written record. If the permit is for a small wireless facility, the applicant may cure the deficiencies identified in the written decision denying the permit and re-submit the

application no later than 30 days after receipt without being required to pay an additional application fee.

(4) **Appeal to City of Two Rivers Council.** Any person adversely affected by the decision of the Administrator may appeal that decision to the City of Two Rivers Council, which may decide the issues *de novo*, and whose written decision will be the final decision of the City. An appeal by a wireless infrastructure provider must be taken jointly with the wireless service provider that intends to use the wireless facility. If an applicant contends that denial of the application would prohibit or effectively prohibit the provision of service in violation of federal law, or otherwise violate applicable law, the documentation accompanying the appeal must include that contention and provide all evidence on which the applicant relies in support of that claim.

(5) **Deadline to Appeal.**

(a) Appeals that involve eligible facilities requests must be filed within three business days of the written decision of the Administrator.

(b) All other appeals not governed by Section 8(e)(1), above, must be filed within seven business days of the written decision of the Administrator, unless the Administrator extends the time therefor. An extension may not be granted where extension would result in approval of the application by operation of law.

(6) **Decision Deadline.** All appeals shall be conducted so that a timely written decision may be issued in accordance with the applicable deadline.

I: Revocation.

(1) **Revocation for Breach.** A wireless permit may be revoked for failure to comply with the conditions of the permit or applicable federal, state, or local laws, rules, or regulations. Upon revocation, the facilities for which the permit has been revoked must be removed within 30 days of receipt of written notice from the City of Two Rivers. All costs incurred by the City of Two Rivers in connection with the revocation, removal, and right-of-way restoration shall be paid by the permit holder.

(2) **Failure to Obtain Permit.** Unless exempted from permitting by Section 3(b) of this Chapter, a wireless facility installed without a wireless permit must be removed within 30 days of receipt of written notice from the City of Two Rivers. All costs incurred by the City of Two Rivers in connection with the notice, removal, and right-of-way restoration shall be paid by the entities who own or control any part of the wireless facility.

J. Relocation. Except as otherwise prohibited by state or federal law, a permit holder must promptly and at its own expense, with due regard for seasonal working conditions and as directed by the City of Two Rivers, permanently remove and relocate any of its wireless facilities in the right-of-way whenever such relocation is necessary to prevent the wireless facility from interfering with a present or future City of Two Rivers use of the right-of-way; a public improvement undertaken by the City of Two Rivers; an economic development project in which the City of Two Rivers has an interest or investment; when the public health, safety, or welfare require it; or when necessary to prevent interference with the safety and convenience of ordinary travel over the right-of-way. Notwithstanding the foregoing, a permit holder shall not be required to remove or relocate its facilities from any right-of-way that has

been vacated in favor of a non-governmental entity unless and until that entity pays the reasonable costs of removal or relocation to the permit holder.

K. Abandonment.

(1) **Cessation of Use.** In the event that a permitted facility within the right-of-way is not in use for a continuous period of 60 days or longer, the permit holder must promptly notify the City of Two Rivers and do one of the following:

(a) Provide information satisfactory to the Administrator that the permit holder's obligations for its facilities under this Chapter have been lawfully assumed by another permit holder.

(b) Submit to the Administrator a proposal and instruments for dedication of the facilities to the City of Two Rivers. If a permit holder proceeds under this Section 11(a)(2), the City of Two Rivers may, at its option:

(1) Accept the dedication for all or a portion of the facilities;

(2) Require the permit holder, at its own expense, to remove the facilities and perform the required restoration under Section 12; or

(3) Require the permit holder to post a bond<sup>1</sup> or provide payment sufficient to reimburse the City of Two Rivers for reasonably anticipated costs to be incurred in removing the facilities and undertaking restoration under Section 12.

(c) Remove its facilities from the right-of-way within one year and perform the required restoration under Section 12, unless the Administrator waives this requirement or provides a later deadline.

(2) **Abandoned Facilities.** Facilities of a permit holder who fails to comply with Section 11(a) and which, for one year, remain unused shall be deemed to be abandoned. Abandoned facilities are deemed to be a nuisance. In addition to any remedies or rights it has at law or in equity, the City of Two Rivers may, at its option:

(a) abate the nuisance and recover the cost from the permit holder or the permit holder's successor in interest;

(b) take possession of the facilities; and/or

(c) require removal of the facilities by the permit holder or the permit holder's successor in interest.

L. Restoration. In the event that a permit holder removes or is required to remove a wireless facility from the right-of-way under this Chapter (or relocate it pursuant to Section 10), or otherwise causes any damage to the right-of-way in connection with its activities under this Chapter, the permit holder must restore the right-of-way to its prior condition in accordance with City of Two Rivers specifications. However, a support structure owned by another entity authorized to maintain that support structure in the right-of-way need not be removed but must instead be restored to its prior condition. If the permit holder fails to make the restorations required by this Section 12, the City of Two Rivers at its option may do such




work after providing 15 days' written notice to the permit holder. In that event, the permit holder shall pay to the City of Two Rivers, within 30 days of billing therefor, the cost of restoring the right-of-way.

M. Severability. If any section, subsection, clause, phrase, or portion of this Chapter is for any reason held to be illegal or otherwise invalid by any court or administrative agency of competent jurisdiction, such illegal or invalid portion shall be severable and shall not affect or impair any remaining portion of this Chapter, which shall remain in full force and effect.

**SECTION 2.** This ordinance shall take effect and be in force from and after its date of passage and publication of same.

Dated this 6th day of December, 2021.

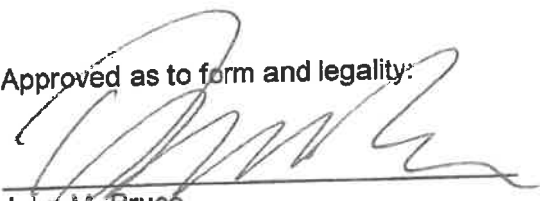
  
Adam Wachowski  
President, City Council

  
Gregory E. Buckley  
City Manager

Attest:

\_\_\_\_\_  
Jamie Jackson  
City Clerk

Approved as to form and legality:

  
John M. Bruce  
City Attorney

# Cell Phone Towers

The widespread use of cell phones in recent decades has led to a large increase in the number of cell phone towers (also known as **base stations**) being placed in communities. These towers have electronic equipment and antennas that receive and transmit cell phone signals using radiofrequency (RF) waves.

Cell phone towers are still relatively new, and many people are understandably concerned about whether the RF waves they give off might possibly have health effects.

At this time, there's no strong evidence that exposure to RF waves from cell phone towers causes any noticeable health effects. However, this does not mean that the RF waves from cell phone towers have been proven to be absolutely safe. Most expert organizations agree that more research is needed to help clarify this, especially for any possible long-term effects.

## How do cell phone towers expose people to RF waves?

Cell phone base stations can be free-standing towers or mounted on existing structures, such as trees, water tanks, or tall buildings. The antennas need to be high enough to adequately cover a certain area. Base stations are usually from 50 to 200 feet high.

Cell phones communicate with nearby cell towers mainly through RF waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. Like FM radio waves, microwaves, visible light, and heat, they are forms of **non-ionizing radiation**. This means they do not directly damage the DNA inside cells, which is how stronger (**ionizing**) types of radiation such as x-rays, gamma rays, and ultraviolet (UV) rays are thought to be able to cause cancer.

## ELECTROMAGNETIC SPECTRUM

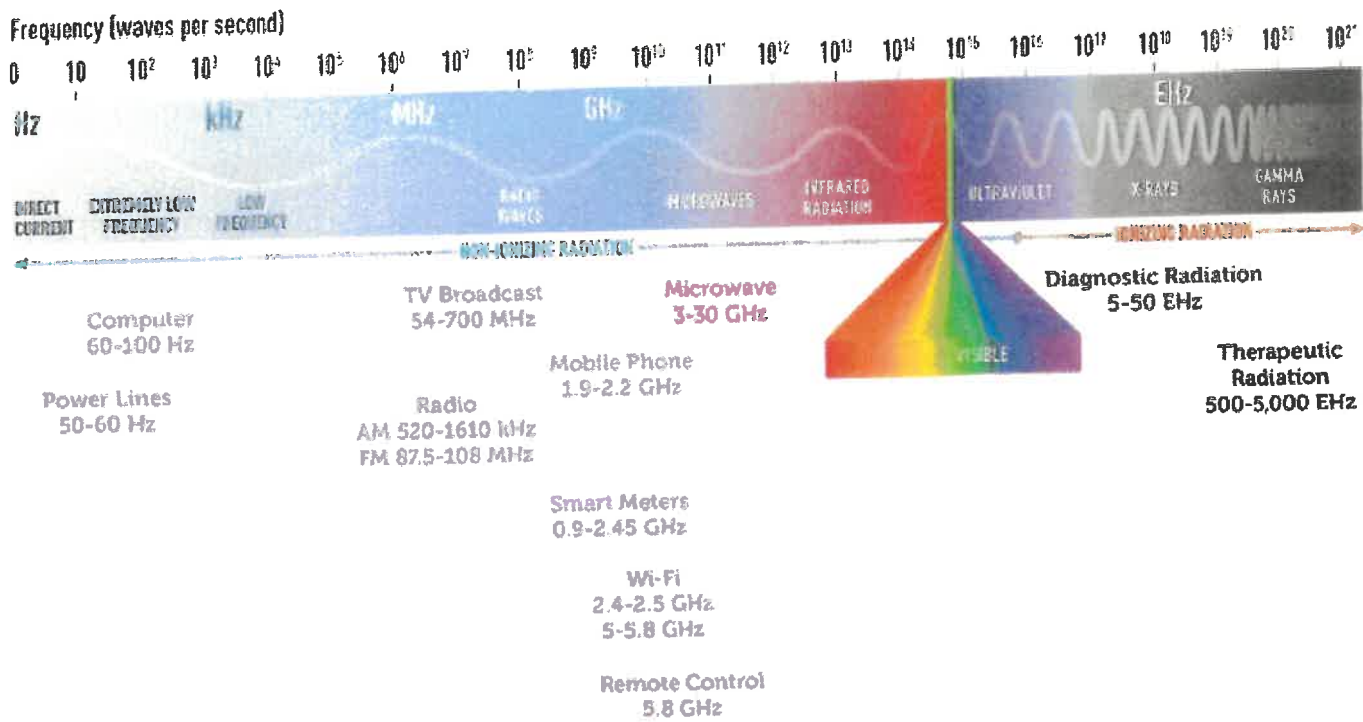


Image credit: National Cancer Institute

The electromagnetic spectrum illustration above shows the possible frequencies of electromagnetic energy, ranging from extremely low frequencies (such as those from power lines) to extremely high frequencies (such as x-rays and gamma rays), and includes both non-ionizing and ionizing radiation.

At very high levels, RF waves can heat up body tissues. But the levels of energy used by cell phones and towers are much lower.

When a person makes a cell phone call, a signal is sent from the phone's antenna to the nearest base station antenna. The base station responds to this signal by assigning it an available RF channel. RF waves transfer the voice information to the base station. The voice signals are then sent to a switching center, which transfers the call to its destination. Voice signals are then relayed back and forth during the call.

When RF signals are transmitted back and forth to the base station during calls, the RF waves produced at the base station are given off into the environment, where people can be exposed to them.

### **On the ground near a cell phone tower**

RF waves from a cell phone tower antenna, like those from other telecommunication antennas, are directed toward the horizon (parallel to the ground), with some downward scatter. Base station antennas use higher power levels than other types of land-mobile antennas, but much lower levels than those from radio and television broadcast stations. The amount of energy from RF waves decreases rapidly as the distance from the antenna increases. As a result, the level of exposure to RF waves at ground level is much lower than the level close to the antenna.

At ground level near typical cellular base stations, the amount of energy from RF waves is hundreds to thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.

### **On a roof with a cellular antenna**

When a cellular antenna is mounted on a roof, it is possible that a person on the roof could be exposed to RF levels greater than those typically encountered on the ground. But even then, exposure levels approaching or exceeding the FCC safety guidelines are only likely to be found very close to and directly in front of the antennas. If this is the case, access to these areas should be limited.

### **Indoors with a base station mounted on the outside of the building**

The level of energy from RF waves inside buildings where a base station is mounted is typically much lower than the level outside, depending on the construction materials of the building. Antennas are pointed away from the side of the building, and the energy level behind the antenna is hundreds to thousands of times lower than in front. On top of this, wood or cement block reduces the exposure to energy from RF waves by a factor of about 10. Therefore, if an antenna is mounted on the side of a building, the exposure level in the room directly behind the wall is typically well below the recommended exposure limits.

### **Near a 5G base station**

Newer, smaller versions of base stations (often referred to as **small cells**), which are part of fifth generation (5G) cellular networks, are discussed below.

## **Do cell phone towers cause cancer?**

Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there isn't a lot of evidence to support this idea. Still, more research is needed to be sure.

### **What expert agencies say**

The **American Cancer Society (ACS)** does not have any official position or statement on whether or not radiofrequency (RF) radiation from cell phones, cell phone towers, or other sources is a cause of cancer. ACS generally looks to other expert organizations to determine if something causes cancer (that is, if it is a carcinogen), including:

- The **International Agency for Research on Cancer (IARC)**, which is part of the World Health Organization (WHO)

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- The **US National Toxicology Program (NTP)**, which is formed from parts of several different government agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA)

Other major organizations might also comment on the ability of certain exposures to cause cancer.

## What they say about cell phone towers

So far, neither IARC nor the NTP have classified the cancer-causing potential of RF waves from cell phone towers specifically. However, some other agencies have commented on cell tower safety.

The **US Federal Communications Commission (FCC)** has said this about cell phone towers near homes or schools:

"[R]adiofrequency emissions from antennas used for cellular and PCS [personal communications service] transmissions result in exposure levels on the ground that are typically thousands of times below safety limits. These safety limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety. Therefore, there is no reason to believe that such towers could constitute a potential health hazard to nearby residents or students."

## What they say about RF radiation in general

Based on a review of studies published up until 2011, the **International Agency for Research on Cancer (IARC)** has classified RF radiation as "possibly carcinogenic to humans," based on limited evidence of a possible increase in risk for brain tumors among cell phone users, and inadequate evidence for other types of cancer. (For more information on the IARC classification system, see [Known and Probable Human Carcinogens](#).)

More recently, the **US Food and Drug Administration (FDA)** issued a technical report based on results of studies published between 2008 and 2018, as well as national trends in cancer rates. The report concluded: "Based on the studies that are described in detail in this report, there is insufficient evidence to support a causal association between radiofrequency radiation (RFR) exposure and [tumor formation]."

So far, the **National Toxicology Program (NTP)** has not included RF radiation in its *Report on Carcinogens*, which lists exposures that are known to be or reasonably anticipated to be human carcinogens.

## What studies have shown

Researchers generally use two types of studies when trying to determine if something might cause cancer:

- **Studies looking at groups of people**
- **Studies done in the lab (using lab animals or cell cultures)**

*The following is a brief summary of the major studies that have looked at this issue to date. However, this is not a comprehensive review of all studies that have been done.*

## Studies in people living near cell phone towers

So far, not many studies in people have focused specifically on cellular phone towers and cancer risk, and the results of these studies have not provided clear answers.

- A large British study comparing families of young children with cancer with families of children without cancer found no link between a mother's exposure to the towers during pregnancy (based on the distance from the home to the nearest tower and on the amount of energy from RF waves given off by nearby towers) and the risk of early childhood cancer.
- Researchers in Taiwan compared children with cancer to a group of similar children without cancer. They found slightly higher overall risk of cancer in those who lived in towns that had an estimated RF exposure from cell phone towers that was above the midpoint level in the study. However, this finding was less apparent when RF exposure was categorized in other ways.

Both of these studies relied on estimates of RF exposure. Neither of them measured the actual exposure of people to RF waves from nearby cell phone towers. This limitation makes it harder to know what the results of these studies might mean.

## Studies looking at cell phone use

The amount of exposure from living near a cell phone tower typically is many times lower than the exposure from using a cell phone. Several dozen studies have looked at possible links between cell phone use and tumors in people. Most studies to date have not found a link between cell phone use and cancer, although these studies have had some important limitations. This is an area of active research. For more information, see [Cellular \(Cell\) Phones](#).

## Lab studies on RF waves

RF waves given off by cell phone towers don't have enough energy to damage DNA directly or to heat body tissues. Because of this, it's not clear how cell phone towers might be able to cause cancer. Some studies have found possible increased rates of certain types of tumors in lab animals exposed to RF radiation, but overall, the results of these types of studies have not provided clear answers so far.

Large studies published in 2018 by the US National Toxicology Program (NTP) and by the Ramazzini Institute in Italy exposed groups of lab rats (as well as mice, in the case of the NTP study) to RF waves over their entire bodies for many hours a day, starting before birth and continuing for most or all of their natural lives. Both studies found an increased risk of uncommon heart tumors called malignant schwannomas in male rats, but not in female rats (nor in male or female mice, in the NTP study). The NTP study also reported possible increased risks of certain types of tumors in the brain and in the adrenal glands.

While both of these studies had strengths, they also had limitations that make it hard to know how they might apply to humans being exposed to RF waves from cell phone towers. A 2019 review of these two studies by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) determined that the limitations of the studies didn't allow conclusions to be drawn regarding the ability of RF energy to cause cancer.

Still, the results of these studies do not rule out the possibility that the RF waves used in cell phone communication might somehow impact human health.

## What about 5G networks?

Fifth generation (5G) cellular networks are now being rolled out in many parts of the United States and in other countries. 5G networks are capable of transmitting much larger amounts of data over shorter periods of time than previous generations (4G, 3G, etc.).

Earlier generation networks have used RF wavelengths below 6 gigahertz (GHz). 5G networks will use some wavelengths in this range, but will also use some higher frequency wavelengths, at the lower end of the millimeter wave spectrum (which ranges from 30 GHz to 300 GHz). While these RF waves are higher frequency (higher energy) than those used by older generations, they are still forms of non-ionizing radiation, so they still lack the ability to directly damage DNA.

The higher frequency waves used by 5G travel shorter distances and don't go through objects (such as buildings, or even tree leaves) as well as lower frequency waves. Because of this, 5G networks require many more, smaller versions of base stations (often referred to as small cells) in some places, especially in densely populated areas. These small cells can be mounted on streetlights, utility poles, buildings, and other structures. This could result in the antennas being closer to people, although small cells typically operate at much lower power levels than the larger (macro) base stations.

The addition of the higher wavelengths from 5G networks could also expose people to more RF waves overall.

At the same time, these higher frequency RF waves are less able to penetrate the body than lower frequency waves, so in theory they might be less likely to have any potential health effects. But so far this issue has not been well studied.

At this time, there has been very little research showing that the RF waves used in 5G networks are any more (or less) of a concern than the other RF wavelengths used in cellular communication.

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### Additional resources

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Along with the American Cancer Society, other sources of information include:

**Federal Communications Commission**

RF Safety FAQ: [www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety](http://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety)

**Food and Drug Administration**

Cell Phones: [www.fda.gov/radiation-emitting-products/home-business-and-entertainment-products/cell-phones](http://www.fda.gov/radiation-emitting-products/home-business-and-entertainment-products/cell-phones)

**National Cancer Institute**

Cell Phones and Cancer Risk: [www.cancer.gov/about-cancer/causes-prevention/risk/radiation/cell-phones-fact-sheet](http://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/cell-phones-fact-sheet)

Electromagnetic Fields and Cancer:

[www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet](http://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet)

**National Institute of Environmental Health Sciences**

Electric and Magnetic fields: [www.niehs.nih.gov/health/topics/agents/emf/index.cfm](http://www.niehs.nih.gov/health/topics/agents/emf/index.cfm)

Cell Phone Radio Frequency Radiation: [www.niehs.nih.gov/health/topics/agents/cellphones/index.cfm](http://www.niehs.nih.gov/health/topics/agents/cellphones/index.cfm)

*\* Inclusion on this list does not imply endorsement by the American Cancer Society*

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**Resources**



ANSI-C95.1, 1982, American National Standards Institute. American national standard safety levels with respect to human exposure to radiofrequency electromagnetic fields, 300 kHz to 100 Ghz. New York: IEEE.

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Food & Drug Administration. Review of Published Literature between 2008 and 2018 of Relevance to Radiofrequency Radiation and Cancer. 2020. Accessed at <https://www.fda.gov/media/135043/download> on March 19, 2020.

IEEE-C95.1, 1991, Institute of Electrical and Electronics Engineers, Inc. Safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 Ghz. Piscataway, NJ: IEEE.

IEEE: Institute of Electrical and Electronics Engineers, Inc. Human exposure to RF emissions from cellular radio base station antennas; Washington, DC: 1992.

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International Commission on Non-Ionizing Radiation Protection (ICNIRP). Health Issues related to the use of hand-held radiotelephones and base transmitters. *Health Phys*. 1996;70:587-593.

International Commission on Non-Ionizing Radiation Protection (ICNIRP). ICNIRP Note: Critical Evaluation of Two Radiofrequency Electromagnetic Field Animal Carcinogenicity Studies Published in 2018. *Health Phys*. 2019 Aug 27. [Epub ahead of print]

IRPA, 1988, International Radiation Protection Association. Guidelines on limits of exposure to radio frequency electromagnetic fields. IEEE United States Activities, COMAR, Washington, DC.

Li CY, Liu CC, Chang YH, Chou LP, Ko MC. A population-based case-control study of radiofrequency exposure in relation to childhood neoplasm. *Sci Total Environ*. 2012 Oct 1;435-436:472-478.

National Council on Radiation Protection (NCRP). 1986. Biological effects and exposure criteria for radiofrequency electromagnetic fields. Report 86, (Bethesda, MD: National Council on Radiation Protection and Measurements) pp. 1-382.

National Institute of Environmental Health Sciences. Cell Phone Radio Frequency Radiation Studies. 2019. Accessed at [https://www.niehs.nih.gov/health/materials/cell\\_phone\\_radiofrequency\\_radiation\\_studies\\_508.pdf](https://www.niehs.nih.gov/health/materials/cell_phone_radiofrequency_radiation_studies_508.pdf) on December 27, 2019.

Repacholi M, van Deventer E, Ravazzani P, eds. Base stations and wireless networks: Exposures and health consequences. World Health Organization. Accessed at [http://whqlibdoc.who.int/publications/2007/9789241595612\\_eng.pdf?ua=1](http://whqlibdoc.who.int/publications/2007/9789241595612_eng.pdf?ua=1) on December 30, 2019.

Röösli M, Frei P, Mohler E, Hug K. Systematic review on the health effects of exposure to radiofrequency electromagnetic fields from mobile phone base stations. *Bull World Health Organ*. 2010 Dec 1;88(12):887-896F.

Last Revised: June 1, 2020

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# NSight - Summary of Proposed Project (REVISED)

**Project Name:** NSight – Two Rivers North  
**Project Location:** City of Two Rivers, WI  
**Project Type:** Attach Wireless Facilities to Two Rivers Water & Light Utility Pole  
**Date:** June 29, 2021

On behalf of our client, NSighttel (NSight dba Cellcom), Mi-Tech Services, Inc. submits to Two Rivers Water & Light (TRW&L), this application request for the (revised) proposed attachment of wireless facilities to one existing utility pole owned by TRW&L, and located within the City of Two Rivers ROW. The term “wireless facilities” refers to one or more antennas and associated wireless equipment (e.g. radio transceivers in this case), installed at a fixed location (utility pole in this case), which allows wireless service (e.g. authorized voice, video, or data services) to occur between user equipment and a communications network.

The purpose of this submittal is to provide the required documentation as needed to obtain approval from TRW&L. This request involves the replacement of one existing wooden utility pole (by TRW&L), with a similar, taller wooden pole (60-2); attachment of a top-mounted antenna, and two side-mounted radios, and all applicable hardware (see the attached map for proposed pole location).

Revised Construction Plans, as well as maps and photos for the proposed pole project are also attached; the following (revised) Table summarizes the specifications associated with this (revised) request. ***(The previous request was for replacement of existing pole to a 50-2; this revised request is for a new 60-2 pole).***

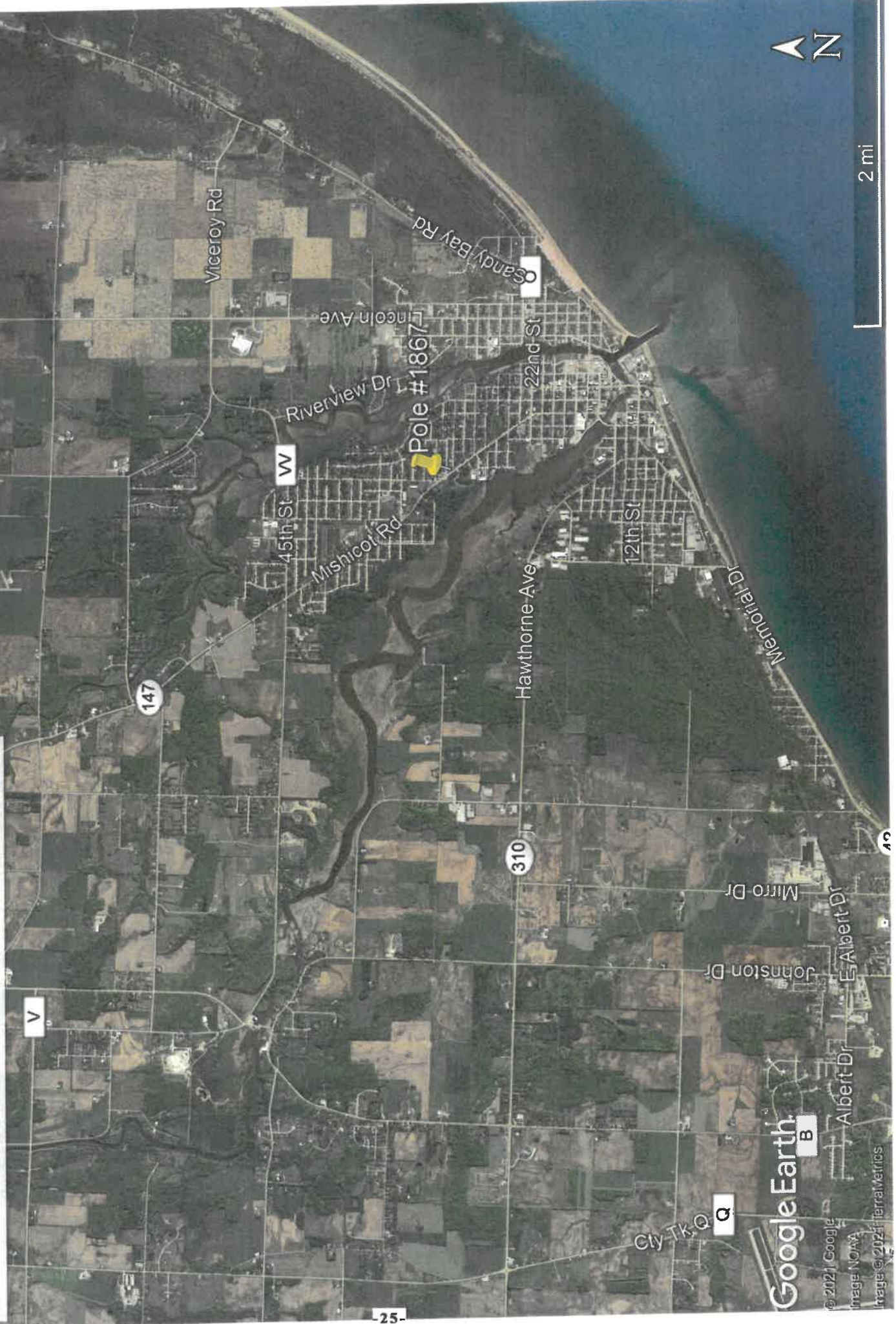
**(Revised) Table 1**

TRW&L Pole Tag #	Structure Name and ROW Location	Nearest Intersection	Pole Type	Replace Existing Pole?	Current Pole Height (AGL)	Attachment & New Structure Height (AGL)
1867	Two Rivers North ROW on the north side of 29 <sup>th</sup> Street (near 2112 29 <sup>th</sup> St.)	North side of 29 <sup>th</sup> Street near the Forest Avenue intersect	Wood	Yes – TRW&L to Change Out Pole to 60-2	33'6"	Top-Mount Antenna Total Revised Height 50'



# Site Location Two Rivers - Pole #1867

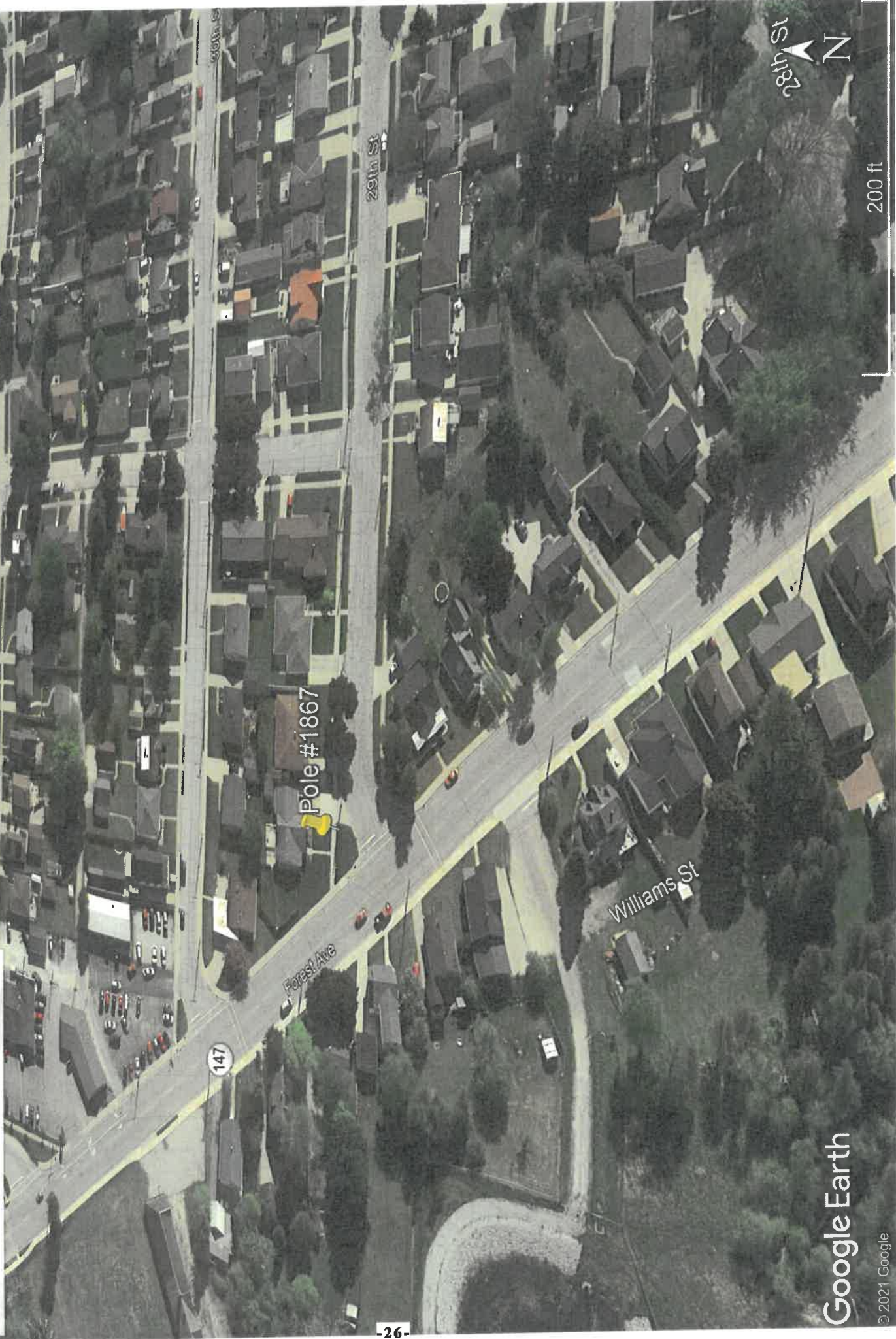
Located in ROW at 2112 29th St.  
Two Rivers, WI





# Two Rivers - Pole #1867

Located in ROW at 2112 29th St.  
Two Rivers, WI



200 ft



**Existing TRW&L Pole #1867**





