

City of Arlington, Texas
Wireless Services (Small Cells) Design Manual

I. Purpose

1.1. Purpose.

- A. The City of Arlington encourages the deployment of state-of-the-art small cell wireless technology within the City for the many benefits it promises the citizens of Arlington including increased connectivity and reliable networks and services.
- B. The standards and procedures provided in this *Wireless Services Design Manual* are adopted to protect the health, safety, and welfare of the public by minimizing and reducing impacts to public safety within the City's Right-of-Way and to minimize and reduce impacts to the City, its residents and visitors; and for the general health and welfare of the public.
- C.. Due to the increasing number of facilities in the City's Right-of-Way, the City has adopted the "Right-of-Way Management" Chapter which is applicable to all public service providers including Wireless Service Providers or Network Providers (collectively, "Providers") as defined by Chapter 284 of the Texas Local Government Code.
- D. In addition, the City has adopted this *Wireless Services Design Manual* to provide technical criteria and details necessary for Providers seeking to install and construct network nodes and node support poles in the City's Right-of-Way.
- E. Providers shall adhere to the requirements found in the "Right-of-Way Management" Chapter, Public Right-of-Way Permitting and Construction Manual and this *Wireless Services Design Manual* for the placement of their facilities within the City's Right-of-Way.
- F. To the extent of any conflict with the Public Right-of-Way Permitting and Construction Manual, this *Wireless Services Design Manual* shall control with regard to a Provider.

II. Definitions

For purposes of this *Wireless Services Design Manual* the following terms shall have the same meanings herein. When not inconsistent with the context, words used in the present tense include the future; words in the plural number include the singular number, and words in the singular include the plural. The word "shall" is always mandatory and not merely permissive.

- A. "Abandon" and its derivatives means the network nodes and node support poles, or

portion thereof, that have been left by Provider in an unused or non-functioning condition for more than 120 consecutive days unless, after notice to Provider, Provider has established to the reasonable satisfaction of the City that the network nodes and node support poles, or portion thereof, has the ability to provide communications.

- B. “*City*” means the City of Arlington, Texas and the City’s officers and employees.
- C. “*Network node*” means Provider’s equipment as defined by Chapter 284 of the Texas Local Government Code.
- D. “*Node support pole*” means a pole as defined by Chapter 284 of the Texas Local Government Code.
- E. “*Park*” means the various properties under the direction, control and supervision of the City’s Director of Parks and Recreation Department pursuant to the authority granted by City Council and the City Code of Ordinances.
- F. “*Permit*” means a document issued by the City authorizing installation, removal, modification and other work for Provider’s network nodes or node support poles in accordance with the approved plans and specifications.
- G. “*Right-of-Way*” means the area on, below, or above a public roadway, highway, street, public sidewalk, alley, waterway, or utility easement in which the municipality has an interest. The term does not include a private easement or the airwaves above a public right-of-way with regard to wireless telecommunications.
- H. “*Traffic Signal*” means any device, whether manually, electrically, or mechanically operated by which traffic is alternately directed to stop and to proceed.
- I. “*Underground Utility District*” means an area where poles, overhead wires, and associated overhead or above ground structures have been removed and buried or have been approved for burial underground.

III. Permitting

3.1 Attachment to Existing Poles.

Prior to installation or modification of a network node or node support pole, Provider shall complete and submit to the City a Right-of-Way Permit application, along with standard required documents and the following items:

- A. Permit fee.
- B. Aerial Map showing the location of the existing pole to which the network node is proposed to be attached, and a street view image.

- C. Plans and drawings prepared by a professional engineer licensed in the State of Texas that has evaluated the existing pole or infrastructure for structural stability to carry proposed network nodes and can bear the wind load without pole modification or whether the installation will require pole re-enforcement. If pole re-enforcement is necessary, Provider shall provide engineering design and specification drawings for the proposed alteration to the existing pole. Any pole re-enforcement or replacement shall be at Provider's sole cost. All re-enforcement or replacement poles shall match the character of the pre-existing pole in order to blend into the surrounding environment and be visually unobtrusive. City reserves the right to deny a certain type of pole due to its differences.
- D. Scaled dimensioned drawings or pictures of the proposed attachments of the network node to the existing poles or structures as well as any other proposed equipment associated with the proposal, indicating the spacing from existing curb, driveways, sidewalk, and other existing light poles and any other poles or appurtenances. This shall include a before-and-after image of the pole and all proposed attachments and associated standalone equipment.
- E. Scaled dimensioned construction plans indicating the current Right-of-Way line and showing the proposed underground conduit and equipment, and its spacing from existing utilities. The drawings shall also show a sectional profile of the Right-of-Way and identify all existing utilities and existing utility conflicts.
- F. If a City pole is proposed, the City pole ID number shall be provided.

The applicant needs to provide analysis that the proposed network node shall not cause any interference with City public safety radio system, traffic signal light system, or other communications components. It shall be the responsibility of the Provider to evaluate, prior to making the application for the permit, the compatibility between the existing City infrastructure and the Provider's proposed infrastructure. A network node shall not be installed in a location that causes any interference. Network nodes shall not be allowed on City's public safety radio infrastructure.

- G. A traffic control plan, SWPPP, and trench safety plan may also be required based on the proposed scope of work.
- H. The City issued Right-of-Way permit authorizes use of its Right-of-Way. Providers/applicants are responsible for obtaining permission on non-city-owned infrastructure. If the project lies within the State Right-of-Way, the applicant must provide evidence of a permit from the State.

- I. Notification to adjacent residential developments/neighborhoods within 300 feet is required on all node attachments on City infrastructure.

The proposal shall comply with the following standards:

- I. Any facilities located off pole must remain in cabinetry or enclosed structure underground, except for the electric meter pedestal. Facilities on pole shall be concealed or enclosed as much as possible in an equipment box, cabinet, or other unit that may include ventilation openings. There shall be no external cables or electric wire/cables on pole or structures or aerial wires or cables extending from the pole or structure.
- J. The electrical meter **shall not** be mounted on a City's metal pole or structure. Provider shall use 240 voltage when connecting to any City infrastructure and provide key to meter upon inspection.
- K. All attachments to a pole that are projecting, or any equipment or appurtenance mounted on the ground, shall comply with TAS, ADA and shall not obstruct an existing or planned sidewalk or walkway.

All proposed projecting attachments to the pole shall provide a minimum vertical clearance of eight (8) feet. If any attachments are projecting towards the street side, it shall provide a minimum vertical clearance of 16 feet.

- L. The color of the network nodes shall match the existing pole color such that the network nodes blend with the color of the pole to the extent possible. City reserves the right to deny a certain style of node due to its difference in color to pole.
- M. There shall be no other pole, with small cell attachments permitted/under application review, within 300 feet of the subject pole.

3.2 **Installation of New Poles.**

Prior to installation or modification of a node support pole, Provider shall complete and submit to the City a Commercial Building Permit application for the new pole, as well as a Right-of-Way Permit application. Along with standard required documents, the following items will also be required for the ROW Permit application:

- A. Permit fee.
- B. Map showing intended location of the node support pole. Aerial Map showing the location of the proposed new pole, and a street view image.
- C. The applicant will need to provide analysis showing that the proposed new node

support pole is spaced at least three hundred (300) linear feet from another existing pole that is capable of supporting network nodes along the proposed location, unless otherwise approved by the City in writing.

- D. Scaled dimensioned drawings or pictures of the proposed node support pole as well as any other proposed equipment associated with the proposal, indicating the spacing from existing curb, driveways, sidewalk, light poles, and any other poles or appurtenances. This shall include a before-and-after street view image. The after-image needs to include the proposed pole and all proposed attachments and associated standalone equipment.
- E. Scaled dimensioned construction plans indicating the current Right-of-Way line and showing the proposed underground conduit and equipment, its spacing from existing lines. The drawings shall also show a sectional profile of the Right-of-Way and identify all existing utilities and existing utility conflicts.
- F. A traffic control plan, SWPPP, and trench safety plan may also be required based on the proposed scope of work.
- G. The applicant needs to provide analysis that the proposed network node shall not cause any interference with City public safety radio system, traffic signal light system, or other communications components. It shall be the responsibility of Provider to evaluate, prior to making application for permit, the compatibility between the existing City infrastructure and Provider's proposed infrastructure. A network node shall not be installed in a location that causes any interference. Network nodes shall not be allowed on City's public safety radio infrastructure.
- H. If the project lies within the State Right-of-Way, the applicant must provide evidence of a permit from the State.
- I. Notification to adjacent residential developments/neighborhoods within 300 feet is required on all node support poles owned by provider.

The proposal shall comply with the following standards:

- J. Any facilities located off pole must remain in cabinetry or enclosed structure underground. Facilities on pole shall be concealed or enclosed as much as possible in an equipment box, cabinet, or other unit that may include ventilation openings. There shall be no external cables or electric wire/cables on pole or structures or aerial wires or cables extending from the pole or structure. Shroud poles, as shown in the below image, are encouraged.



- K. The electrical meter shall not be mounted on City’s poles or structures. Provider shall use 240 voltage when connecting to any City infrastructure and provide key to meter upon inspection.
- L. The pole and all attachments to the pole that are projecting, or any equipment or appurtenance mounted on the ground shall comply with TAS, ADA and shall not obstruct an existing or planned sidewalk or walkway.
- M. Wooden poles are prohibited. All new poles are required to be break-away and black powder-coated. All attachments for the network nodes shall also match the color of the network support pole. All network support poles shall match the existing poles in the surrounding block or district in which the network support pole is located in order to blend into the surrounding environment and be visually unobtrusive. City reserves the right to deny a certain type of pole due to its differences.
- N. Upon approval of the permit, the Provider shall call for locates. If City of Arlington Water Utility locates are needed, Provider is required to contact Arlington Water Utilities at <http://www.arlington-tx.gov/water/line-locate-process>

3.3. Electrical Permit.

- A. Provider shall be responsible for obtaining any required electrical power service to the network nodes and node support poles or structures. Provider’s electrical supply shall be separately metered from the City and must match City infrastructure voltage.
- B. Provider shall provide City with the electrical permit and provide sealed engineered drawings for conduit size, circuit size, calculations for Amp, distances running, etc.

IV. Network Node and Node Support Pole Requirements

4.1. Installation.

Provider shall, at its own cost and expense, install the network nodes and node support poles in a good and workmanlike manner and in accordance with the requirements promulgated by the *Wireless Services Design Manual*, “Right-of-Way Management” Chapter, Public Right-of-Way Permitting and Construction Manual and all other applicable laws, ordinances, codes, rules and regulations of the City, the state, and the United States (“Laws”), as such may be amended from time to time. Provider’s work shall be subject to the regulation, control and direction of the City. All work done in connection with the installation, operation, maintenance, repair, modification, and/or

replacement of the network nodes and node support poles shall be in compliance with all applicable Laws.

4.2 **Inspections.**

The City may perform visual inspections of any network nodes and node support poles located in the Right-of-Way as the City deems appropriate without notice. If the inspection requires physical contact with the network nodes or node support poles, the City shall provide written notice to the Provider within five business days of the planned inspection. Provider may have a representative present during such inspection.

In the event of an emergency situation, the City may, but is not required to, notify Provider of an inspection. The City may take action necessary to remediate the emergency situation and the City shall notify Provider as soon as practically possible after remediation is complete.

4.3. **Placement.**

- A. *Parks.* Placement of network nodes and node support poles in any Parks, Park roads, sidewalk, or property is prohibited unless such falls within the definition of Public right-of-way in Chapter 284 of the Texas Local Government Code and the placement complies with applicable Laws, private deed restrictions, and other public or private restrictions on the use of the Park.
- B. *City Infrastructure.* Provider shall neither allow nor install network nodes or node support poles on any City property that falls outside the definition of Public Right-of-Way in Chapter 284 of the Texas Local Government Code.
- C. *Residential Streets.* Provider shall neither allow nor install network nodes or node support poles in Right-of-Way that is adjacent to a street or thoroughfare that is not more than 50 feet wide and adjacent to single-family residential lots or other multifamily residences or undeveloped land that is designated for residential use by zoning or deed restrictions.
- D. *Historic District.* Provider shall neither allow nor install network nodes or node support poles in Right-of-Way that is within a Historic District as defined by Chapter 284 of the Texas Local Government Code, unless approved by the City in writing.
- E. *Decorative Poles.* Provider shall neither allow nor install network nodes on a Decorative Pole as defined by Chapter 284 of the Texas Local Government Code, unless approved by the City in writing. This standard shall be applicable to all the new decorative poles in the Entertainment and the Downtown Overlay District currently, as well as any others citywide in the future. The City may only entertain proposals, if they are stealth. See examples below.

F. *Poles.* Wireless Facilities on a node support poles shall be installed at least eight (8) feet above the ground. If any attachments are projecting towards the street side, it shall provide a minimum vertical clearance of 16 feet.

G. *Right-of-Way.* Node support poles and ground equipment shall be placed, as much as possible, within two feet of the outer edge of the Right-of-Way line. Node support poles and ground equipment or network nodes shall not impede pedestrian or vehicular traffic in the Right-of-Way. If a node support pole and ground equipment or network node is installed in a location that is not in accordance with the plans approved by the City and impedes pedestrian or vehicular traffic or does not comply or otherwise renders the Right-of-Way non-compliant with applicable Laws, including the American Disabilities Act, then Provider shall remove the node support poles, ground equipment or network nodes.



4.4 **Fiber Connection.**

Provider shall be responsible for obtaining access and connection to fiber optic lines or other backhaul solutions that may be required for its node support poles or network nodes.

4.5 **Generators.**

Provider shall not allow or install generators or back-up generators in the Right-of-Way.

4.6 **Equipment Dimensions.**

Provider's node support poles and network nodes shall comply with the dimensions set forth in Chapter 284 of the Texas Local Government Code.

4.7 **Tree Maintenance.**

Provider, its contractors, and agents shall obtain written permission from the City before trimming trees hanging over its node support poles and network nodes to prevent branches of such trees from contacting node support poles and network nodes. When directed by the City, Provider shall trim under the supervision and direction of the Parks

Director. The City shall not be liable for any damages, injuries, or claims arising from Provider's actions under this section.

4.8 **Signage.**

- A. Provider shall post its name, location identifying information, and emergency telephone number in an area on the cabinet of the node support poles and network nodes that is visible to the public. Signage required under this section shall not exceed 4" x 6", unless otherwise required by law (e.g. RF ground notification signs) or the City.
- B. Except as required by Laws or by the utility pole owner, Provider shall not post any other signage or advertising on the node support poles and network nodes, or utility pole.

4.9 **Overhead Lines Prohibited.**

In Underground Utility Districts, Provider shall neither allow nor install overhead lines connecting to node support poles. All overhead lines connecting to the node support pole where other overhead telecommunications or utility lines are or planned to be buried below ground as part of a project shall be buried below ground.

4.10 **Repair.**

Whenever the installation, placement, attachment, repair, modification, removal, operation, use, or relocation of the node support poles or network nodes, or any portion thereof is required and such installation, placement, attachment, repair, modification, removal, operation, use, or relocation causes any property of the City to be damaged or to have been altered in such a manner as to make it unusable, unsafe, or in violation of any Laws, Provider, at its sole cost and expense, shall promptly repair and return such property to its original condition. If Provider does not repair such property or perform such work as described in this paragraph, then the City shall have the option, upon 15 days' prior written notice to Provider or immediately if there is an imminent danger to the public, to perform or cause to be performed such reasonable and necessary work on behalf of Provider and to charge Provider for the reasonable and actual costs incurred by the City. Provider shall reimburse the City for the costs.

4.11 **Graffiti Abatement.**

As soon as practical, but not later than fourteen (14) days from the date Provider receives notice thereof, Provider shall remove all graffiti on any of its node support poles and network nodes located in the Right of Way.

4.12 **Inventory**

Provider shall maintain a list of its network nodes and node support poles and provide City an Inventory of locations within ten (10) days of installation. The Inventory of network nodes and node support poles shall include GIS coordinates, date of installation, City pole ID number (if applicable), type of pole used for installation, pole owner, and description/type of installation for each network node and node support pole installation.

Upon City's written request, Provider shall provide a cumulative Inventory within thirty (30) days of City's request. Concerning network nodes and node support poles that become inactive, the Inventory shall include the same information as active installations in addition to the date the network node and/or node support pole was deactivated and the date the network node and/or node support pole was removed from the Right-of-Way. City may compare the Inventory to its records to identify any discrepancies.

4.13 **Reservation of Rights.**

- A. The City reserves the right to install, and permit others to install, utility facilities in the Rights-of-Way. In permitting such work to be done by others, the City shall not be liable to Provider for any damage caused by those persons or entities.
- B. The City reserves the right to locate, operate, maintain, and remove City traffic signal poles in the manner that best enables the operation of its traffic signal system and protect public safety.
- C. The City reserves the right to locate, operate, maintain, and remove any City pole or structure located within the right-of-way in the manner that best enables the City's operations.

4.14 **Coordination of Traffic Signal Maintenance Activities and Emergency Response**

Provider will provide City a key to each meter box at the time of inspection and have the ability to temporarily cut-off electricity to its facilities for the safety of maintenance personnel. In the event of failure of components of the traffic signal system for whatever reason, including damage resulting from vehicular collisions, weather related events, or malicious attacks, City will respond to restore traffic signal operations as a matter of public safety. Should the events that result in damage or failure of the traffic signal system also affect Provider's network nodes, Provider shall have the sole responsibility to repair or replace its network nodes and shall coordinate its own emergency efforts with the City.

V. Interference with Operations

5.1 **No Liability**

- A. The City shall not be liable to Provider for any damage caused by other

Providers with Wireless Facilities sharing the same pole or for failure of Provider's network nodes for whatever reason, including damage resulting from vehicular collisions, weather related events, or malicious attacks.

- B. The City shall not be liable to Provider by reason of inconvenience, annoyance or injury to the network nodes or node support poles or activities conducted by Provider therefrom, arising from the necessity of repairing any portion of the Right-of-Way, or from the making of any necessary alteration or improvements, in, or to, any portion of the Right-of-Way, or in, or to, City's fixtures, appurtenances or equipment. The City will use reasonable efforts not to cause material interference to Provider's operation of its network nodes or node support poles.

5.2 **Signal Interference with City's Communications Infrastructure Prohibited.**

- A. No interference. In the event that Provider's network nodes interferes with the City's traffic signal system, public safety radio system, or other City communications infrastructure operating on spectrum where the City is legally authorized to operate, Provider shall promptly cease operation of the network nodes causing said interference upon receiving notice from the City and refrain from operating. Provider shall respond to the City's request to address the source of the interference as soon as practicable, but in no event later than twenty-four (24) hours of receiving notice.
- B. Protocol for Responding to Event of Interference. The protocol for responding to events of interference will require Provider to provide the City an Interference Remediation Report that includes the following items:
 - 1. Remediation Plan. Devise a remediation plan to stop the event of inference;
 - 2. Time Frame for Execution. Provide the expected time frame for execution of the remediation plan; and
 - 3. Additional Information. Include any additional information relevant to the execution of the remediation plan.

In the event that interference with City facilities cannot be eliminated, Provider shall shut down the network nodes and remove or relocate the network node that is the source of the interference as soon as possible to a suitable alternative location made available by City.

- C. Following installation or modification of a network node, the City may require Provider to test the network node's radio frequency and other functions to confirm it does not interfere with the City's Operations.

VI. Abandonment, Relocation and Removal

6.1 Abandonment of Obsolete Network Nodes and Node Support Poles

Provider shall remove network nodes and node support poles when such facilities are abandoned regardless of whether or not it receives notice from the City. Unless the City sends notice that removal must be completed immediately to ensure public health, safety, and welfare, the removal must be completed within the earlier of 90 days of the network nodes and node support poles being abandoned or within 90 days of receipt of written notice from the City. When Provider removes or abandons permanent structures in the Right-of-Way, the Provider shall notify the City in writing of such removal or abandonment and shall file with the City the location and description of each network node or node support pole removed or abandoned. The City may require the Provider to complete additional remedial measures necessary for public safety and the integrity of the Right-of-Way.

6.2 Relocation and Removal at Provider's Expense

- A. Provider shall remove and relocate its network nodes and node support poles at its own expense to an alternative location not later than one hundred twenty (120) days after receiving written notice that removal, relocation, and/or alteration of the network nodes and/or node support poles is necessary due to:
1. Construction, completion, repair, widening, relocation, or maintenance of, or use in connection with, any City construction or maintenance project or other public improvement project; or
 2. Maintenance, upgrade, expansion, replacement, removal or relocation of the City's pole or structure upon which Provider's network nodes are attached; or
 3. The network node or node support pole, or portion thereof, is adversely affecting proper operation of traffic signals, streetlights or other City property;
 4. Closure of a street or sale of City property; or
 5. Projects and programs undertaken to protect or preserve the public health or safety; or
 6. Activities undertaken to eliminate a public nuisance; or
 7. Provider fails to obtain all applicable licenses, Permits, and certifications required by Law for its network nodes or node support poles; or

8. Duty otherwise arising from applicable law.

- B. Provider's duty to remove and relocate its network nodes and node support poles at its expense is not contingent on the availability of an alternative location acceptable for relocation. City will make reasonable efforts to provide an alternative location within the Right-of-Way for relocation, but regardless of the availability of an alternative site acceptable to Provider, Provider shall comply with the notice to remove its network nodes and node support poles as instructed.
- C. The City may remove the network node and/or node support pole if provider does not remove such within one hundred twenty (120) days. In such case, Provider shall reimburse City for the City's actual cost of removal of its network nodes and node support poles within 30 days of receiving the invoice from the City.

6.3 **Removal or Relocation by Provider**

- A. If the Provider removes or relocates at its own discretion, it shall notify the City in writing not less than 10 business days prior to removal or relocation. Provider shall obtain all Permits required for relocation or removal of its network nodes and node support poles prior to relocation or removal.
- B. The City shall not issue any refunds for any amounts paid by Provider for network nodes and node support poles that have been removed.

6.4 **Restoration**

Provider shall repair any damage to the Right-of-Way, and the property of any third party resulting from Provider's removal or relocation activities (or any other of Provider's activities hereunder) within 10 days following the date of such removal or relocation, at Provider's sole cost and expense, including restoration of the Right-of-Way and such property to substantially the same condition as it was immediately before the date Provider was granted a Permit for the applicable location, including restoration or replacement of any damaged trees, shrubs or other vegetation. Such repair, restoration and replacement shall be subject to the sole, reasonable approval of the City.

6.5 **Provider Responsible**

Provider shall be responsible and liable for the acts and omissions of Provider's employees, temporary employees, officers, directors, consultants, agents, Affiliates, subsidiaries, sub lessees, and subcontractors in connection with the performance of activities within the City's right-of-way, as if such acts or omissions were Provider's acts or omissions.