

City of Derby, Kansas

Small Cell Antenna Aesthetic Standards

The following Small Cell Aesthetic Standards (the “Aesthetic Standards”) reflect the desire of the City of Derby ("City") to maintain the aesthetics within the City, while allowing for an increase in the availability and quality of wireless services.

These Aesthetics Standards apply to all small cell antenna applications for placement of new small cell antennas on city-owned and non-city-owned poles in the public right-of-way, whether collocated streetlight poles, monopoles or utility poles. Applications that do not conform to these Aesthetic Standards will be denied by the City.

For small cell antenna structures installed on any pole within the public right-of-way, the intent of these Aesthetic Standards is:

1. To establish a clear, defined aesthetic standard for use throughout the City.
2. To minimize unnecessary quantities of new poles by encouraging collocation of small cell facilities.
3. To require, in situations where new poles will be placed, that equipment be placed on new, pre-designed and approved poles, such that as much equipment as reasonably possible, including any wiring, can be concealed inside the pole.
4. To require, in situations where attachments will be made to existing poles, that equipment, cabling, and conduit be concealed internally or through the use of approved shrouding or camouflaging equipment.
5. To require that all electrical and control cabinets be located in a manner as to not detract from the aesthetic appeal of adjacent houses, buildings, etc. or to be located as to cause an obstruction to visibility, and to provide necessary screening in accordance with the City’s zoning regulations, ROW management ordinance, or discretion of the City.

Section 1. Application Requirements

The City may develop new or additional permit application forms, checklists, updated or amended Aesthetic Standards, and other related materials as required to optimally meet the goals of Derby, its citizens, and its leadership.

- 1.1 Site Plans and Structural Calculations:** The applicant must submit fully-dimensioned site plans, elevation drawings and structural calculations prepared, sealed, stamped and signed by a Professional Engineer licensed and registered by the State of Kansas. Drawings must depict improvements and the proposed facility, with all proposed

transmission equipment, power source, electrical service pedestal and other associated access or utility easements and setbacks.

All equipment depicted on the plans shall include:

- a. Manufacturer's name and model number;
- b. Physical dimensions including, without limitation, height, width, depth, volume and weight with mounts and other necessary hardware and effective projected area (EPA);
- c. Technical rendering of all external components, including enclosures and all attachment hardware, including a depiction of how much external wiring will exist.

Section 2. General Design and Construction Standards

The City desires to promote safe, cleanly organized and aesthetically acceptable facilities using the smallest and least obtrusive means available to provide wireless services to the community. All wireless facilities in the public right-of-way must comply with all applicable provisions in these Aesthetic Standards. If any other law, regulation or code requires any more restrictive structural design and/or construction requirements, the most restrictive requirement will control.

2.1 RF Cutoff Switch

All facilities shall be designed, constructed, operated and maintained in compliance with all generally applicable health and safety standards, regulations, and laws, including without limitation all applicable federal regulations for human exposure to RF emissions. The small cell provider shall provide an RF cutoff switch a maximum of 10' from the finished ground surface at the pole location that is easily reached by maintenance personnel. An RF warning sign shall also be placed on the pole below the cutoff switch.

2.2 Small Cell Antenna

The small cell antenna shall either be mounted internal to the pole, or top-mounted and concealed within a radome that also conceals the cable connections, antenna mount, and other hardware. Any radome, shield or shroud shall meet the following requirements for concealing exposed cable and finish.

2.2.1 Antenna Shroud Requirements: A screening shroud shall be provided on the underside of the small cell antenna, mounted external to the pole, to conceal cable connections from public view. The shroud shall be firmly attached and sealed to prevent birds from entering and nesting.

2.2.2 Finish Requirements: The equipment shroud must be non-reflective and painted or color impregnated to match the color of the existing pole as close as possible.

2.3 Electrical Meter and Cabinet Requirements.

The electrical meter shall not be installed on the pole. Any necessary meter or other accessory cabinet shall be installed in the ROW, away from the street at a location approved by the City and said cabinet shall meet all location and landscaping requirements of the City's Zoning Regulations and ROW Management Ordinance. If required, the provider shall be required to maintain any required vegetative landscaping to ensure a neat appearance and to mitigate sight distance obstructions. When the installation occurs in an area where the adjacent poles are painted, the City may require that the electrical meter cabinet be painted to match the color of the poles.

2.4 Strand Mounted Small Cell Facilities

Aerial fiber and power strand installations are allowed. However, coiling of excess fiber or other cables is not allowed. All lines shall be neatly trained and secured.

2.4.1 Size Requirements: Any strand mounted cell facility that is strung on cables between existing utility poles shall not be larger in dimension than 24" in length, 15" in width, and 12" in height, and any exterior antenna shall be no longer than 11". All equipment and installation shall be in compliance with the National Electric Safety Code and shall be subject to the structural limitations of the utility company.

2.4.2 Finish Requirements: The equipment shroud must be non-reflective and painted or color impregnated to match the color of the existing pole, or surrounding infrastructure as close as possible.

2.5 Lights

Unless otherwise required for compliance with FAA or FCC regulations, the facility shall not include any permanently installed lights. Any lights associated with the electronic equipment shall be appropriately shielded from public view. This subsection is not meant to prohibit approved installations on streetlights or the installation of luminaires on new poles when required by the City.

The City may require the applicant to install functional streetlights when technically feasible and the City determines that such additions will enhance the overall appearance and usefulness of the proposed facility.

2.6 Pole Requirements when Located within the Clear Zone or Center Median

Poles located within the clear zone or center median of any street shall meet the following requirements for design, material, shape, height, diameter and finish. Any collocated poles shall meet City standard details in regard to handhole size and location, standard bolt patterns for luminaire arm attachments, cable hooks, grounding lugs, cabling access, etc. as required to accommodate and maintain the City infrastructure.

2.6.1 Breakaway Requirements: The following breakaway requirements shall be maintained.

2.6.1.1 Pole Requirements: All poles within the established clear zone shall be breakaway according to National Cooperative Highway Research Program (NCHRP) 350 or Manual for Assessing Safety Hardware (MASH), latest edition, using approved breakaway couplings or frangible bases. The weight of a small cell pole, including all attached equipment, shall not exceed the total weight as recommended by either the pole manufacturer or manufacturer of the breakaway device. The breakaway pole device shall not exceed 12” in height.

2.6.1.2 Cable Requirements: When poles are required to meet breakaway requirements, all cabling within the pole shall also be required to meet breakaway requirements with appropriate “pull apart” electrical connectors so the cables do not “snag” upon impact by an errant vehicle.

2.6.2 Pole Foundation Requirements: The foundation shall remain essentially flush with the ground so that the breakaway device leaves no more than 4” stub height above the ground, consistent with AASHTO requirements. The foundation shall be either a cast-in-place reinforced concrete foundation or screw-in foundation meeting the structural requirements of the loaded pole. All foundations shall be accompanied with a detail or shop drawing that is sealed by a Professional Engineer approving of the design.

2.6.3 Pole Design Requirements: The pole shall be designed in accordance with the 2013 American Association of State Highway Transportation Officials (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, or latest version adopted by the City.

2.6.4 Pole Material: Pole material shall be approved by the City Engineer in advance of placement as part of the permitting process.

2.6.5 Pole Shape: The cross section of the pole shall be round and shall be fabricated in a continuous true taper from 2’ from the base to the top of the shaft.

2.6.6 Pole Height: Pole height shall be consistent with adjacent poles. The maximum height from the finished ground surface to the top of the antenna shall not exceed the values indicated in the table below unless a greater height is permitted according to the height regulations set forth in the City’s Zoning Regulations:

Maximum Pole Height Requirements Based on Existing Adjacent Poles

Existing Pole Shaft Length	Proposed Pole Height to Top of Antenna
14’-0”	20’-0”
27’-6”	40’-0”
37’-6”	50’-0”

2.6.7 **Pole Diameter:** The pole diameter measured at the base of the pole shall not exceed the values indicated in the table below:

**Maximum Pole Diameter Requirements Based on
Proposed Pole Height to Top of Antenna**

Proposed Pole Height to Top of Antenna	Maximum Outside Diameter at Pole Base
20'-0"	6"
40'-0"	8"
50'-0"	10"

2.6.8 **Pole Finish:** If adjacent poles are painted or otherwise coated, the proposed pole shall be finished in a manner meeting and consistent with the color and coating requirements of City specifications for traffic signal poles. Aluminum poles that are painted to match adjacent poles shall be painted with a polyester powder coat.

2.7 Pole Requirements when Located Outside the Clear Zone or Center Median

It is presumed that this section will only pertain to monopoles. The poles shall meet the following requirements for design, materials, shape, height, diameter and finish.

2.7.1 **Pole Design Requirements:** The pole shall be designed in accordance with the 2013 American Association of State Highway Transportation Officials (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, or latest version adopted by the City.

2.7.2 **Breakaway Requirements:** Poles that are located on beyond the clear zone boundary are not required to be breakaway.

2.7.3 **Pole Material:** Pole material shall be approved by the City Engineer in advance of placement as part of the permitting process.

2.7.4 **Pole Shape:** The cross section of the pole shall be round and may be fabricated in a continuous true taper from at least 2' from the base to the top of the shaft or straight without a taper.

2.7.5 **Pole Height:** Pole height shall be consistent with adjacent poles. The maximum height from the finished ground surface to the top of the antenna shall not exceed the values indicated in the table below unless a greater height is permitted according to the height regulations set forth in the City's Zoning Regulations:

Maximum Pole Height Requirements Based on Existing Adjacent Poles

Existing Pole Shaft Length	Proposed Pole Height to Top of Antenna
14'-0"	20'-0"
27'-6"	40'-0"
37'-6"	50'-0"

2.7.6 Pole Diameter: The pole diameter measured at the base of the pole shall not exceed the values indicated in the table below:

Maximum Pole Diameter Requirements Based on Proposed Pole Height to Top of Antenna

Proposed Pole Height to Top of Antenna	Maximum Outside Diameter at Pole Base
20'-0"	6"
40'-0"	8"
50'-0"	10"

2.7.7 Pole Finish: If adjacent poles are painted or otherwise coated, the proposed pole shall be finished in a manner meeting and consistent with the color and coating requirements of City specifications for traffic signal poles. Aluminum poles that are painted to match adjacent poles shall be painted with a polyester powder coat.

2.8 Utility Pole Requirements

At the approval of the local utility company, small cell equipment may be installed on wood or steel utility poles as long as they meet the clearance requirements to power lines or other requirements or regulations of the local utility.

2.8.1 Antenna and Utility Pole Height: The maximum height from the finished ground surface to the top of the antenna mounted on a utility pole may be 10' greater than the height of the existing pole, but shall not exceed the maximum height permitted by the City's zoning regulations in any circumstance. (This is intended to be a one-time height increase allowance. If multiple height increases are made, they should not cumulatively exceed 10' higher than the original pole height.)

2.9 Luminaire Arm Requirements

If required by the City, the luminaire arm(s) shall meet design, material, shape, length, location and finish requirements according to then current City standards.

2.10 Cabling Requirements

All cabling shall primarily be internal to the pole. Any exposed cabling, external to the pole, shall be minimized. No cable shall be visible at the top of the pole near the antenna. External cables powering the pole mounted radios, cutoff switches or other devices shall be limited to a total length of 24", including drip loops, slack, etc. Any cable access point on the pole shall be sealed with a manufactured product to keep birds from entering and nesting. Duct seal or putty is not an approved product.

2.11 Utility Lines

Pursuant to the City's ROW Management Ordinance, new or replaced service lines must be undergrounded whenever possible to avoid overhead lines. For metal poles, undergrounded cables and wires must transition directly into the pole base without any external junction box.

2.12 Generally Applicable Health and Safety Regulations

All facilities shall be designed, constructed, operated and maintained in compliance with all generally applicable health and safety standards, regulations and laws, including without limitation all applicable regulations for human exposure to RF emissions.

Section 3. General Location Criteria

Any new pole and/or equipment and other improvements associated with a new pole or an existing pole must meet the following criteria:

3.1 Pole Location:

3.1.1 Collocation: The City desires and encourages collocations between limited numbers of multiple separate wireless service providers on the same support structure whenever feasible.

3.2 Monopoles: Placement of monopoles shall be compliant with the restrictions found in the City's Zoning Regulations and the City's ROW Management Ordinance.

3.3 Not on Traffic Signal Poles:

Small cell equipment shall not be allowed on existing or proposed traffic signal poles or existing or proposed streetlight poles that have existing or proposed traffic signal equipment mounted to them.

3.4 Not to Cause Obstructions:

Any new pole and/or equipment and other improvements associated with a new pole, electrical meter cabinet or an existing pole must not obstruct:

1. Any intersection sight distances as required by the American Association of State and Highway Transportation Officials (AASHTO), the City's Zoning Regulations, or other applicable City regulations or requirements.
2. Any above-ground or underground infrastructure for traffic control, streetlight or public transportation, including without limitation any curb control sign, vehicular traffic sign or signal, pedestrian traffic sign or signal, barricade or traffic control equipment.
3. Access to any public transportation vehicles, shelters, street furniture or other improvements at any public transportation stop (including, without limitation, bus stops, bike share stations, etc.).
4. Any access to sidewalks, pedestrian facilities, etc. as outlined in the United States Access Board Public Rights of Way Access Guidelines (PROWAG);
5. Access to above-ground or underground infrastructure owned or operated by any public or private utility agency, including fire hydrants, etc.
6. Access to any doors, gates, sidewalk doors, passage doors, stoops or other ingress and egress points to any building appurtenant to the right-of-way, or access to any fire escape.

3.5 City Pre-Approved Pole Designs

The City may require providers to design their pole(s) utilizing pole designs pre-approved by the City.

3.6 Amendment

The requirements set forth in these Aesthetic Standards may be amended from time to time by the City Engineer at the City Engineer's discretion. Any amendment of these Aesthetic Standards will be placed on the City's website with a notice of said amendment published once in the official City newspaper and shall become effective when so placed on the City's website.

3.7 Exceptions

The City Engineer, in the City Engineer's sole discretion, may grant exceptions to these Aesthetic Standards if the City Engineer finds the following conditions exist:

1. The Aesthetic Standards as applied to a specific set of circumstances are: (a) technically infeasible and (b) unreasonable when balanced against the interest of avoiding or remedying the intangible public harm of unsightly or out-of-character facility deployments; and
2. The applicant's proposed design and aesthetic appearance for the proposed facilities meets the spirit of the Aesthetic Standards.

3.8 Design and Construction Standards

The Aesthetic Standards set forth herein are meant to be read in conjunction with the City's Right-of-Way Management Ordinance and Zoning Regulations. These Aesthetic Standards will be amended as necessary so as to not conflict with the current version of the City's ROW Management Ordinance or Zoning Regulations.

3.9 Severability

The provisions of any part of these Aesthetic Standards are severable. If any provision or subsection, or the application of any provision or subsection to any person, entity or circumstance is held invalid, the remaining provisions, subsections and applications of such Aesthetic Standards to other persons, entities or circumstances shall not be made invalid as well. It is declared to be the intent of this section that the remaining provisions would have been adopted had such invalid provisions not been included in these Aesthetic Standards when originally adopted.