



Small Cell Aesthetic Standards

City of Pittsburgh Art Commission

Small Cell Antenna Aesthetic Standards

The following aesthetic standards reflect the desire of the City of Pittsburgh (“City” or “Pittsburgh”) to maintain the aesthetics within the City, while allowing for an increase in the availability and quality of wireless broadband.

This document applies 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. Applications that conform to these standards will be reviewed by the Department of Mobility and Infrastructure. Any application that does not conform to these guidelines would additionally need to receive approval from the Art Commission prior to final approval.

Principles

This document applies 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. Applications that conform to these standards will be reviewed by the Department of Mobility and Infrastructure. Any application that does not conform to these guidelines would additionally need to receive approval from the Art Commission prior to final approval. It is *intended to create a simplified and streamlined aesthetic review process by the Art Commission, establishing a clear and consistent aesthetic standard for placement in the City. For small cell antenna structures installed on City owned poles in the public right-of-way, these guidelines seek:*

1. to establish a clear, defined aesthetic standard for use throughout the city.
2. to establish a menu of design options for providers to select from when applying for new small cell antenna placement on city poles.
3. to minimize unnecessary quantities of new poles by encouraging co-location of small cell facilities.
4. to require, in situations where new poles will be placed, that equipment be placed on new, pre-designed and approved stealth poles, such that all equipment, including any wiring, can be concealed inside the pole.
5. to require, in situations where attachments will be made to existing poles, that equipment, cabling, and conduit be concealed through the use of approved shrouding or camouflaging equipment.

Section 1. Application Requirements

The Pittsburgh Art Commission and the Department of Mobility and Infrastructure may develop new or additional permit application forms, checklists, updated aesthetic standards, and other related materials as required to optimally meet the goals of Pittsburgh, its citizens, and its leadership. To avoid unnecessary delay in application processing, applicants are strongly encouraged to check the City website at www.pittsburgh.gov before submitting an application in

order to confirm that the applicant is completing and following the most up-to-date application and requirements.

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 Pennsylvania. Drawings must depict any existing wireless facilities, with all existing transmission equipment identified; other improvements; the proposed facility, with all proposed transmission equipment and other improvements; and the boundaries of the area surrounding the proposed facility and any associated access or utility easements and setbacks.

1. **Photo Simulations:** For all applications, photo simulations from at least three reasonable line-of-site locations near the proposed project site. The photo sims must be taken from the viewpoints of the greatest pedestrian or vehicular traffic. Angle of photo sim separation must be at least 90 degrees or greater and provide a full profile depiction. Photo simulations must be included in the application packet.
2. **Equipment Specifications:** For all equipment depicted on the plans, the applicant must include:
 - a. the manufacturer's name and model number;
 - b. physical dimensions including, without limitation, height, width, depth, volume and weight with mounts and other necessary hardware;
 - c. Technical rendering of all external components, including enclosures and all attachment hardware; and
 - d. which selection(s) from the approved aesthetic standards match the desired design.

Section 2. General Design and Construction Standards

Pittsburgh desires to promote safe, cleanly organized and aesthetically acceptable facilities using the smallest and least intrusive 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 this section. If any other law, regulation or code requires any more restrictive structural design and/or construction requirements, the most restrictive requirement will control.

Collocation: Pittsburgh desires and encourages collocations between limited numbers of multiple separate wireless service providers on the same support structure whenever feasible. If the applicant chooses to not collocate when options appear available, demonstrative proof must be provided as to why collocation is not feasible.

Antennas: The antenna must be top-mounted and concealed within a radome that also conceals the cable connections, antenna mount and other hardware. GPS antennas must be placed within the radome or directly above the radome not to exceed six inches. The radome or side-mounted antenna and GPS antenna must be non-reflective and painted or otherwise colored to match the existing pole.

Pole-Mounted Equipment Cages/Shrouds: When pole-mounted equipment is either permitted or required, all equipment other than the antenna(s), electric meter and disconnect switch must be concealed within an equipment shroud not to exceed eleven (11ft³) cubic feet in total volume. The equipment must be installed no lower than fifteen (15') feet above ground level. The equipment shroud must be non-reflective and painted, wrapped or otherwise colored to match the existing pole. It is preferred that equipment shrouds be mounted flush to the pole, subject to the pole owner's approval. Standoff mounts are permitted for the equipment shroud, but may not exceed six (6") inches and must include metal flaps (or "wings") to conceal the space between the shroud and the pole.

Poles with additional features: New poles should be black in color, using Gloss Black #17038 per Federal Color Standard 595, and designed to include blank connections (handholds and J-hooks) for city permitted uses, such as: cameras, food truck connections, wi-fi, and wayfinding signage or banners.

Ground-Mounted Equipment: Ground-mounted equipment is allowed when placed in conjunction with a new stealth pole and concealed in a ground mounted cabinet. The maximum acceptable dimensions of ground-mounted cabinet will be thirty (30") inches wide by thirty (30") inches deep by four (4') feet high and must be square in shape. Ground mounted cabinets must be installed flush to the ground and will be black in color, using Gloss Black #17038 per Federal Standard 595. Ground mounted equipment on sidewalks must not interfere with the flow of pedestrian traffic and must conform to the American's with Disabilities Act (ADA) in regards to appropriate sidewalk spacing.

Concealment: Pittsburgh requires the applicant to incorporate concealment elements into the proposed design. Concealment will include approved camouflage or shrouding techniques.

Utility Lines: New service lines must be undergrounded whenever possible to avoid additional overhead lines. For metal poles, undergrounded cables and wires must transition directly into the pole base without any external junction box.

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 installations on streetlights or the installation of luminaires or additional street lighting on new poles when required by Pittsburgh.

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

Obstructions: Any new pole and/or equipment and other improvements associated with a new pole or an existing pole must not obstruct any:

1. access to any above-ground or underground infrastructure for traffic control, streetlight or public transportation, including without limitation any curb control sign, parking meter, vehicular traffic sign or signal, pedestrian traffic sign or signal, barricade reflectors;
2. access to any public transportation vehicles, shelters, street furniture or other improvements at any public transportation stop (including, without limitation, bus stops, streetcar stops, and bike share stations);
3. access to above-ground or underground infrastructure owned or operated by any public or private utility agency;
4. fire hydrant access;
5. 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; and/or
6. access to any fire escape.

Section 4. New and Replacement Poles

Replacement of Pittsburgh-Owned Street Infrastructure in Right of Way: Any new locations must coincide with existing pole locations and the new structure must adhere to the aesthetic standards included in this document. Replacement pole height shall not exceed the height of the existing pole by more than 15%.

Smart Poles: The provider shall purchase the Smart Pole or Replacement Pole and shall be responsible for the maintenance of the Pole during the period of occupancy by the provider. Ownership of the Pole will be vested with the City.

Poles will be designed to include LED luminaire(s) attached to match adjacent poles, blank connections (handholds and J-hooks) for city permitted uses, such as: cameras, food truck connections, wi-fi, and wayfinding signage or banners. Smart Poles are considered to be a suitable replacement for both ornamental and wood poles where applicable.

Overall Height: New pole height may not exceed the height of surrounding utility poles or streetlights, whichever is greater. If no utility poles are present, the maximum height, including antennas or any other extensions, is limited to thirty-nine (39') feet. Pittsburgh shall consider other poles in the vicinity of the proposed location, the built environment, the neighborhood character, the overall site appearance and the purposes, in connection with these Standards.

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

Section 5. Menu of Options

Telecommunication Facilities Located Within the Public Right-of-Way:

Any telecommunications facility installation on City owned poles within the public right of way shall conform to antenna and equipment volume or dimensional limitations set forth in these aesthetic standards and any other applicable guidelines in the City. The pictures and profile drawings below represent appropriate installation designs for a small cell antenna installations both on new poles and on existing poles in the right of way.

Existing Pole Replacement:

Existing poles in the right of way may be replaced with a Smart Pole where applicable. Replacement poles must match adjacent poles in style and form (round, octagonal, fluted, tapered, etc) Replacement poles must have LED luminaire(s) attached to match adjacent poles

Color Choices:

New poles placed during the installation of small cell antennas will be black in color, using Gloss Black #17038 per Federal Standard 595. Where existing poles are used, the color of all attachments associated with the small cell antenna will, as closely as possible, match the existing pole color.

Sourcing Options:

ConcealFab Corporation (www.concealfab.com) provided information in the preparation of this document, and can be used as a source to procure approved designs. All small cell installations, whether on new poles or attached to existing poles, must be procured to meet the specifications listed in this document, regardless of the source from which the poles and/or material is procured.

Pole Options for Drop and Swap and New Pole Placement in the Public Right-of-Way:

Integrated Pole with Pedestal Base:

- Pedestal base shall be square in shape with design dimensions not to exceed thirty (30") inches wide by thirty (30") long by forty-eight (48") inches in height.
- Total height of the pole shall not exceed thirty-nine (39') feet, and the height shall match adjacent poles.
- Pole diameter shall not exceed twenty-four (24") inches and must be octagonal, fluted, or round in shape dependent on matching adjacent city poles.
- Top mount antenna shroud dimensions shall not exceed twenty-four (24") in diameter by sixty (60") inches height.

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- Poles must be constructed of aluminum or steel.
- Attached luminaire(s) and luminaire arm(s) must match adjacent city lighting standard and must contain an LED fixture in accordance with City specifications.
- All Drop and Swap and New Poles placed in the Public Right-of-Way shall be black in color using Gloss Black #17038 per Federal Color Standard 595.

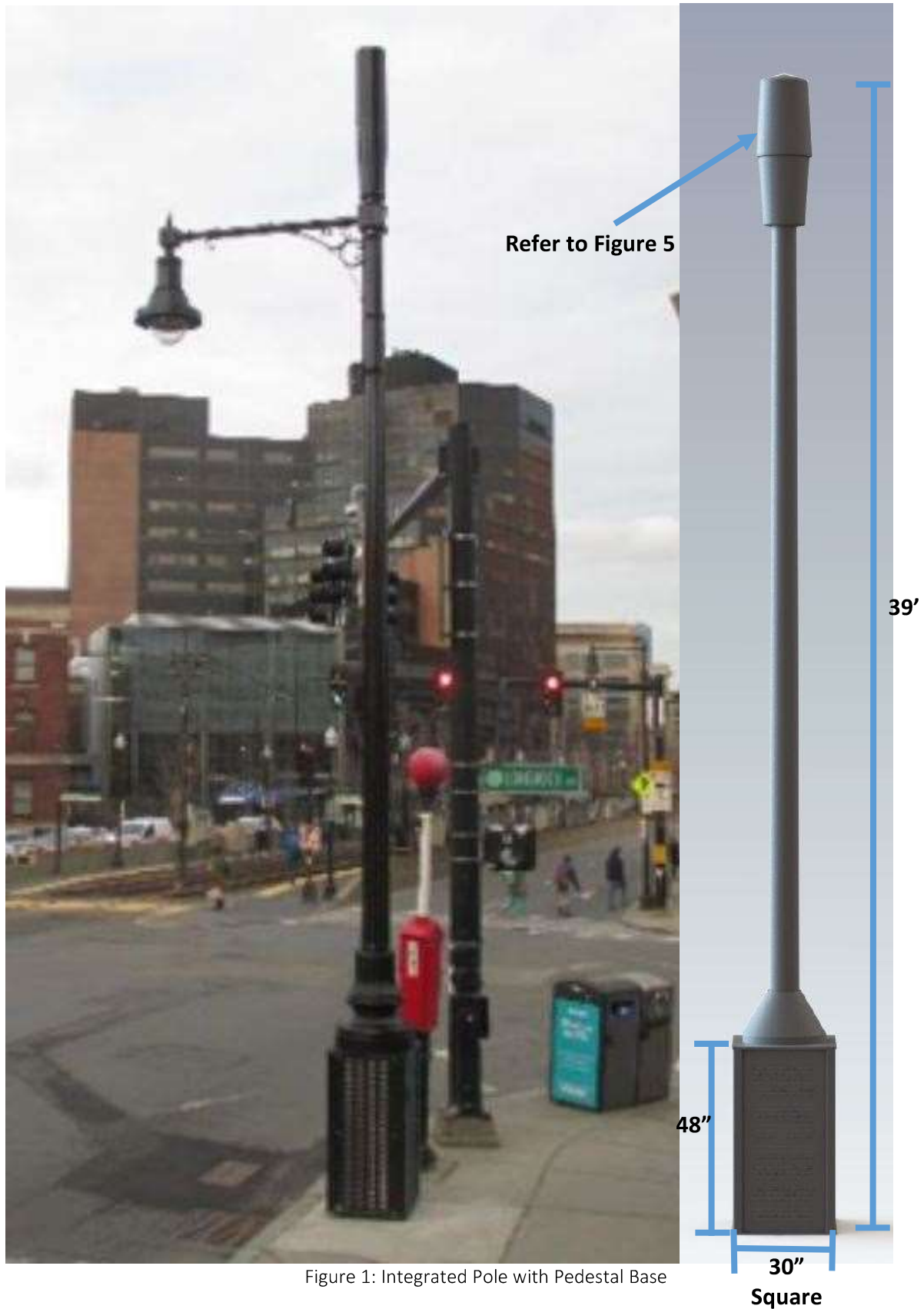


Figure 1: Integrated Pole with Pedestal Base

Fully Integrated Poles:

- Pole diameter shall not exceed twenty-four (24") inches and must be octagonal, fluted, or round in shape dependent on matching adjacent city poles. The twenty-four (24") inches diameter radio storage section may rise to a maximum height of twenty (20') feet.
- Total height of the pole shall not exceed thirty-nine (39') feet, and the height shall match adjacent poles.
- Top mount antenna shroud dimensions shall not exceed twenty-four (24") in diameter by sixty (60") inches height.
- Poles must be constructed of aluminum or steel.
- Attached luminaires and luminaire arm must match adjacent lighting standard and must contain an LED fixture in accordance with City specifications.
- All Drop and Swap and New Poles placed in the Public Right-of-Way shall be black in color using Gloss Black #17038 per Federal Color Standard 595.

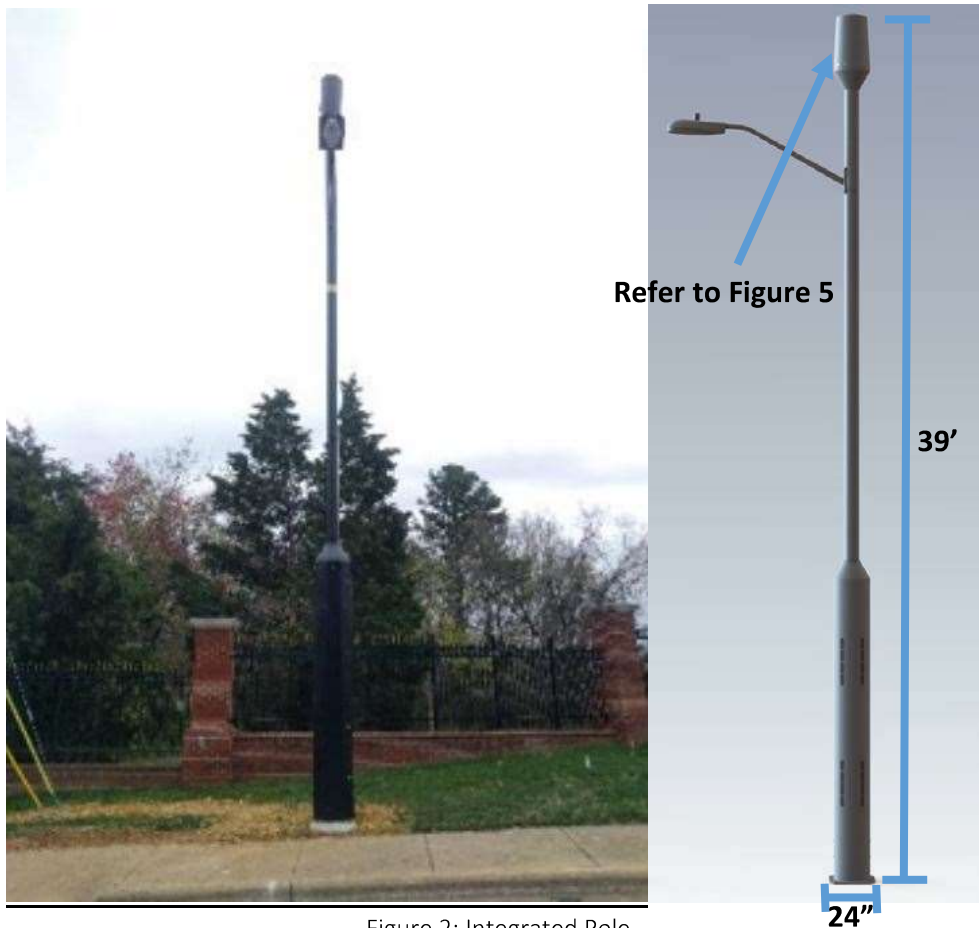


Figure 2: Integrated Pole

Replacement Pole with Attached Radio Shroud and Antenna Shroud:

- May be used only when sidewalk space is limited to less than ten (10') feet from road edge.
- Pole diameter shall not exceed twelve (12") inches and must be octagonal, fluted, or round in shape dependent on matching adjacent city poles.
- Total height of the pole shall not exceed thirty-nine (39') feet, and the height shall match adjacent poles.
- Radio Shroud shall be mounted no lower than fifteen (15') feet above ground level (AGL)
- Radio shroud dimensions shall not exceed eleven (11ft³) cubic feet
- City preference is that the shroud be flush mounted to the pole; however, offset mount not to exceed six (6") inches is acceptable. If the offset mounting method is used, the offset must be concealed through the use of shrouding connecting the radio shroud to the pole.
- Top mount antenna shroud dimensions shall not exceed twenty-four (24") in diameter by sixty (60") inches height.
- All cabling must traverse the interior of the pole.
- Poles must be constructed of aluminum or steel.
- Attached luminaires and luminaire arm must match adjacent lighting standard and must contain an LED fixture in accordance with City specifications.
- All Drop and Swap and New Poles placed in the Public Right-of-Way shall be black in color using Gloss Black #17038 per Federal Color Standard 595.



Figure 3: Replacement Pole with Attached Equipment Shrouded

Concealment Options for Placement on Existing City Poles:

Pole Mounted Radio Shroud:

- Radio Shroud shall be mounted no lower than fifteen (15') feet above ground level (AGL)
- Radio shroud dimensions shall not exceed eleven (11ft³) cubic feet
- City preference is that the shroud be flush mounted to the pole; however, offset mount not to exceed six (6") inches is acceptable. If the offset mounting method is used, the offset must be concealed through the use of shrouding connecting the radio shroud to the pole.
- Cabling entering and exiting the radio shroud must be adjacent to the pole.
- Cabling traversing the pole shall be covered using minimum two (2") inches in diameter U-guard of steel or aluminum construction.
- Color of shroud and mounting equipment shall be made to match the existing pole color.

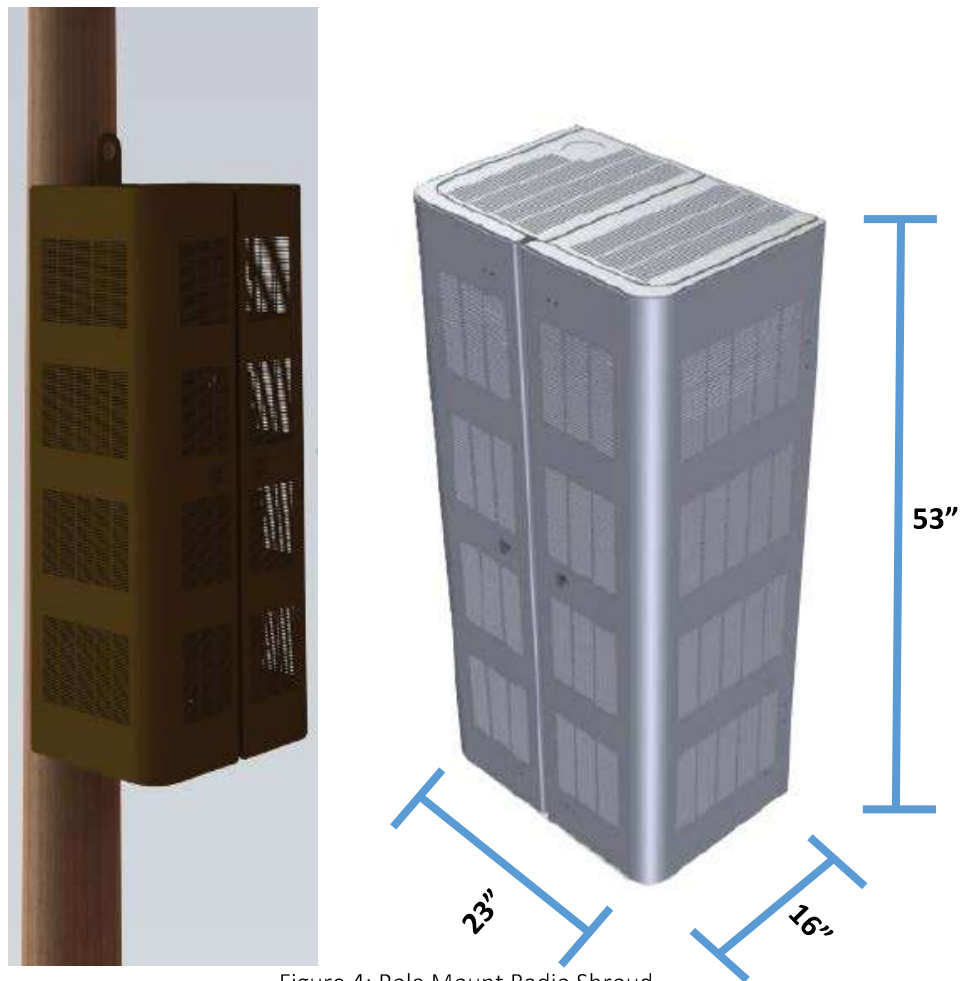


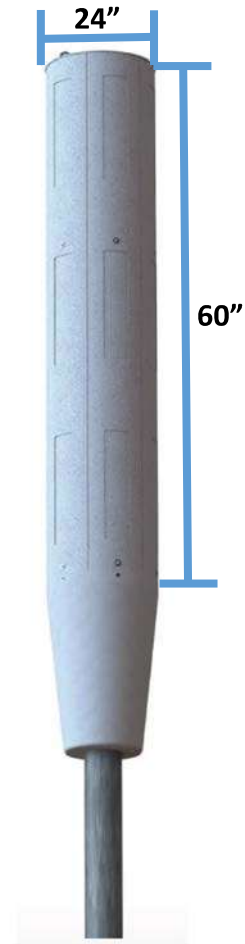
Figure 4: Pole Mount Radio Shroud

Top Mounted Antenna Shroud:

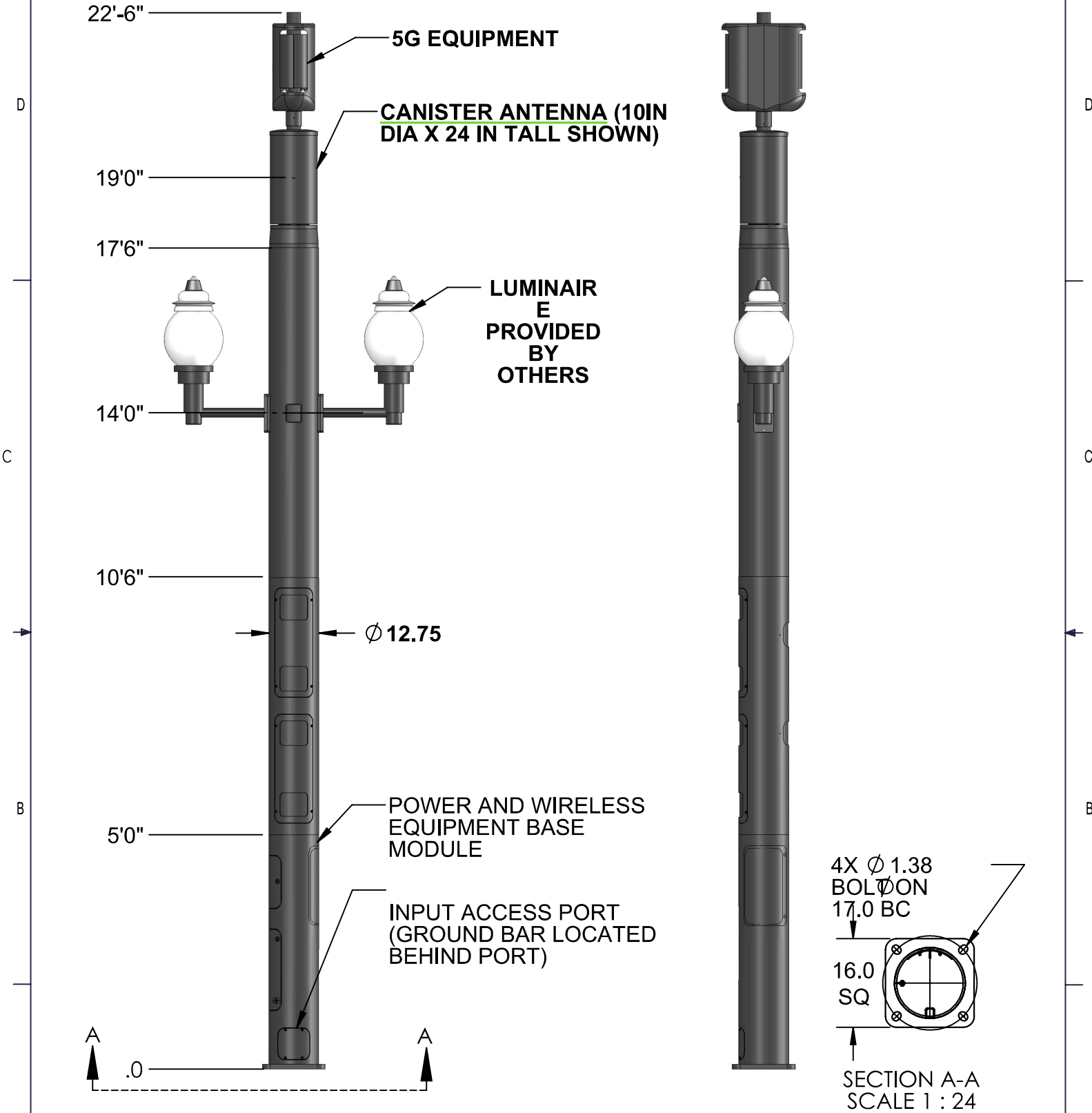
- Antenna shall be mounted at the top of the pole and shall not increase the height of the pole by more than five (5') feet.
- Diameter of the shroud shall not exceed twenty-four (24") inches.
- Mounting hardware shall be concealed by the inclusion of a tapered concealment shroud connecting the base of the radio shroud to the pole.
- Cabling traversing the pole shall be covered using minimum two (2") inches in diameter U-guard of steel or aluminum construction.
- Color of shroud and mounting equipment shall be made to match the existing pole color.



Figure 5: Top Mount Antenna Shroud



REVISIONS			
REV.	DESCRIPTION	BY	DATE
A	DRAWING RELEASE	MJP	08/20/2019



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	CHECKED BY:	SCALE:	DESCRIPTION: METRO CELL, 12 IN INTEGRATED POLE SOLUTION, 22FT
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COMMScope®

Proposed Design Standards for

Fully Integrated Ornamental

Poles: **Pole**

- Pole diameter shall not exceed thirteen (13") inches and must be octagonal, fluted, or round in shape, dependent on matching adjacent city poles.
- The thirteen (13") inches diameter radio storage section may rise to a maximum height of eleven (11') feet.
- The City shall consider reasonable exceptions to the thirteen (13") inch diameter and eleven (11') feet where required for technical feasibility and to promote colocation.
- Poles must be constructed of aluminum or steel.
- Attached luminaires and luminaire arm must match adjacent lighting standard and must contain an LED fixture in accordance with City specifications.
- All Drop and Swap and New Poles placed in the Public Right-of-Way shall be black in color using Gloss Black #17038 per Federal Color Standard 595 or of similar color to adjacent poles or poles being replaced.
- Total height of the pole structure shall not exceed twenty (20') feet. Each pole shall be similar in height to immediately adjacent poles on either side of the street.

Equipment

- A single antenna may be mounted on the top of the pole, above the luminaire, with a shroud or skirting sufficient to cover all antenna elements, cabling and bracket. Collocation of multiple carriers on wireless infrastructure is encouraged and any additional antennas on the pole should be mounted below the luminaires. In the event placing the antenna below the luminaires is not technically feasible or does not meet FCC standards, the collocated antenna may be mounted above the top antenna.
- Top mount antenna shroud dimensions shall not exceed fourteen and a half (14.5") in diameter by twenty-four (24") inches height.
- The City shall consider reasonable exceptions to antenna size where required for technical feasibility and to promote colocation.
- No external cabling is allowed. All cabling must be run within the pole.