

DISTRICT DEPARTMENT OF TRANSPORTATION

Small Cell Standalone Pole

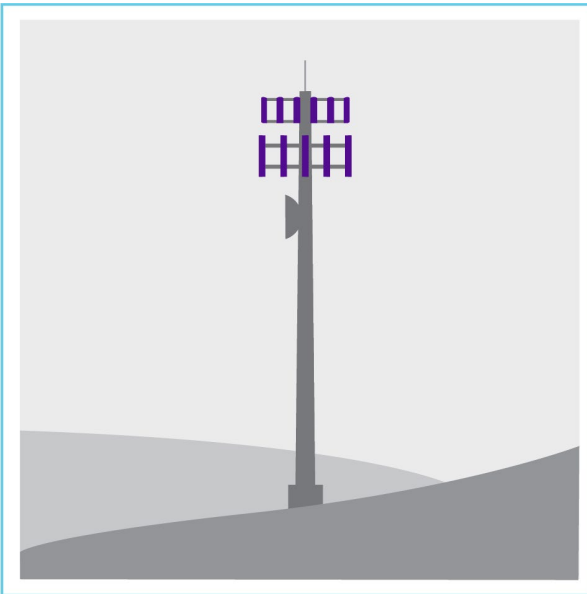
Overview

- We are presenting to the Commission a new standalone pole to be used in accordance with the existing small cell guidelines.
 - This design was developed in consultation with staff from CFA, NCPC, SHPO and the Office of Planning.
- When the 2019 small cell guidelines were adopted, it was contemplated that a design for a standalone pole would be added to the guidelines at a later date
- Use of existing infrastructure is preferred, however, some neighborhoods lack available poles, particularly in parts of the District where installation on certain types of streetlights is prohibited
 - This is why there is a need for a uniform standalone pole design

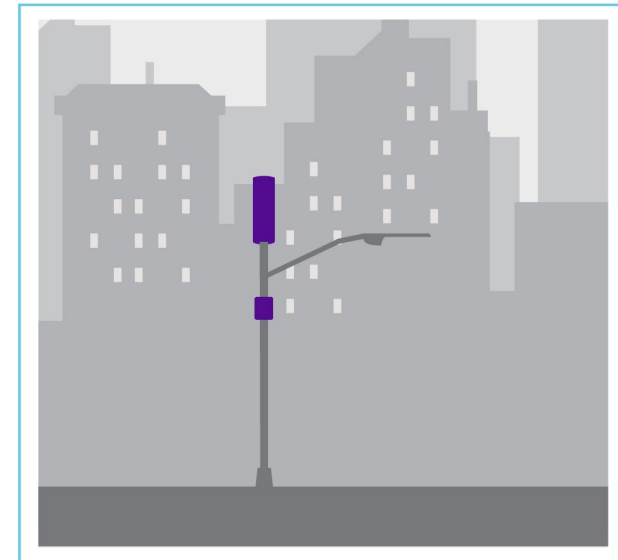
Technology Overview

- To address the growing demand for wireless technology, small cells are used to increase the capacity of mobile networks
- Small cells complement rooftop towers—both are critical to provide robust mobile connectivity

Towers: Best for lower-density populations.



Small Cells: Good complement for dense areas with high-capacity needs.



Permitting Small Cells in D.C.

DDOT Authorization

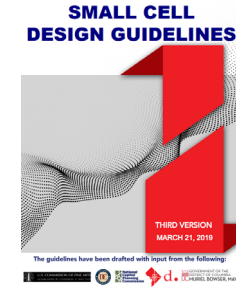
- Federal law requires Small Cell infrastructure equipment be allowed in the public right-of-way ([2018 FCC Small Cell order](#))
- DDOT is the asset owner of current streetlights
- Both DDOT and the Public Space Committee oversee the permitting process for the public right-of-way

Process for Installing Small Cell

- Executed Master License Agreement (MLA) with Washington D. C. (4.1) ([MLA Link](#))
- Public Notification to property owners of block, SMD representatives, ANC and Ward Councilmembers (4.1.5 and 4.1.6)
- Public Space Permit (4.2)
 - NCPC review (4.2.3)
 - CFA review (4.2.4)

CFA Input Incorporated into the Small Cell Guidelines

CFA Comment	Guideline Response
Expressing strong support for the further restrictions proposed for the spacing and number of small cell installations.	Number of Small Cell facilities limited per block (Chart 2)
The aesthetic impact of installations needs further revisions.	The guidelines state that all infrastructure should be the same color as the surrounding streetlight poles (except wood poles).
Request for the development of three-dimensional, parametric design drawings to test the guidelines.	The Standalone pole review includes renderings and a 3-d model.
Uniform design across the District	The guidelines apply across the District. Most of the District has pendant pole fixtures and affixed cabinetry is not allowed on these poles.
Design process for a standalone pole.	A stakeholder group was created to review the standalone pole design.

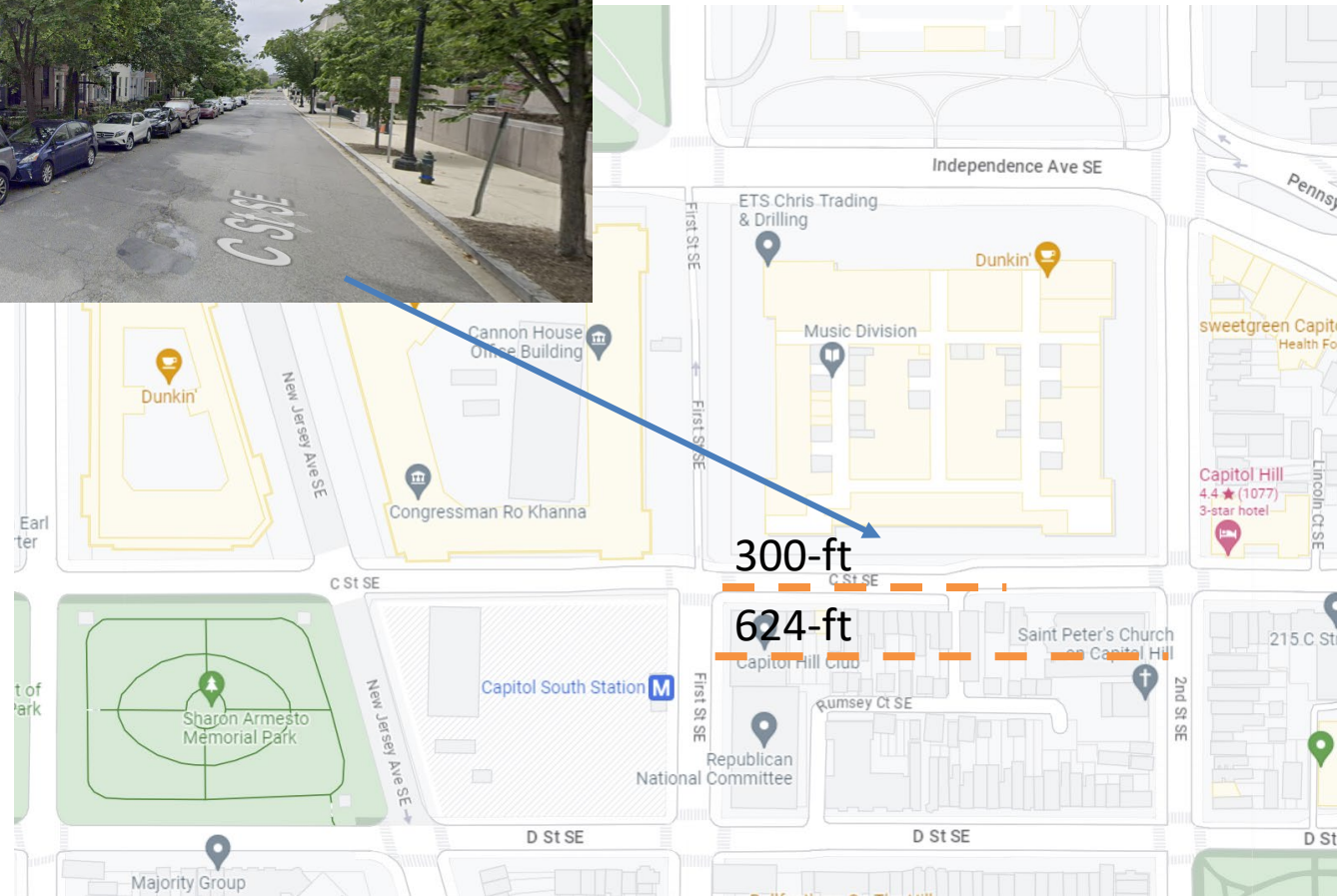


Small Cell Locations

Preferred locations (in order)

1. A mount on third party poles on streets
2. A mount to Pendant Pole streetlights as allowed on streets
3. Standalone poles on streets or named alleys
4. Where there are existing poles that the guidelines allow for attachment, no new standalone poles will be permitted, except for within the Area of Federal interest
5. Small cell infrastructure shall not be installed on an existing or new pole within a 10' setback from all existing buildings

Permissible Spacing and Frequency of Installations



Blockface Length Intervals ¹	Outside Areas of Special Interest		Inside Areas of Special Interest		Limit per Carrier per Block ⁴
	Number of Small Cell Facilities Permitted per Blockface ²	Minimum Distance between Facilities on same Blockface ³	Number of Small Cell Facilities Permitted per Blockface	Minimum Distance between Facilities on same Blockface	
0'-150'	1	N/A	1	N/A	1
151'-300'	1	N/A	1	N/A	1
301'-450'	2	60'	1	N/A	1
451'-600'	2	60'	2	90'	1
601'-750'	3	60'	2	105'	2
Over 750'	3	60'	2	120'	2

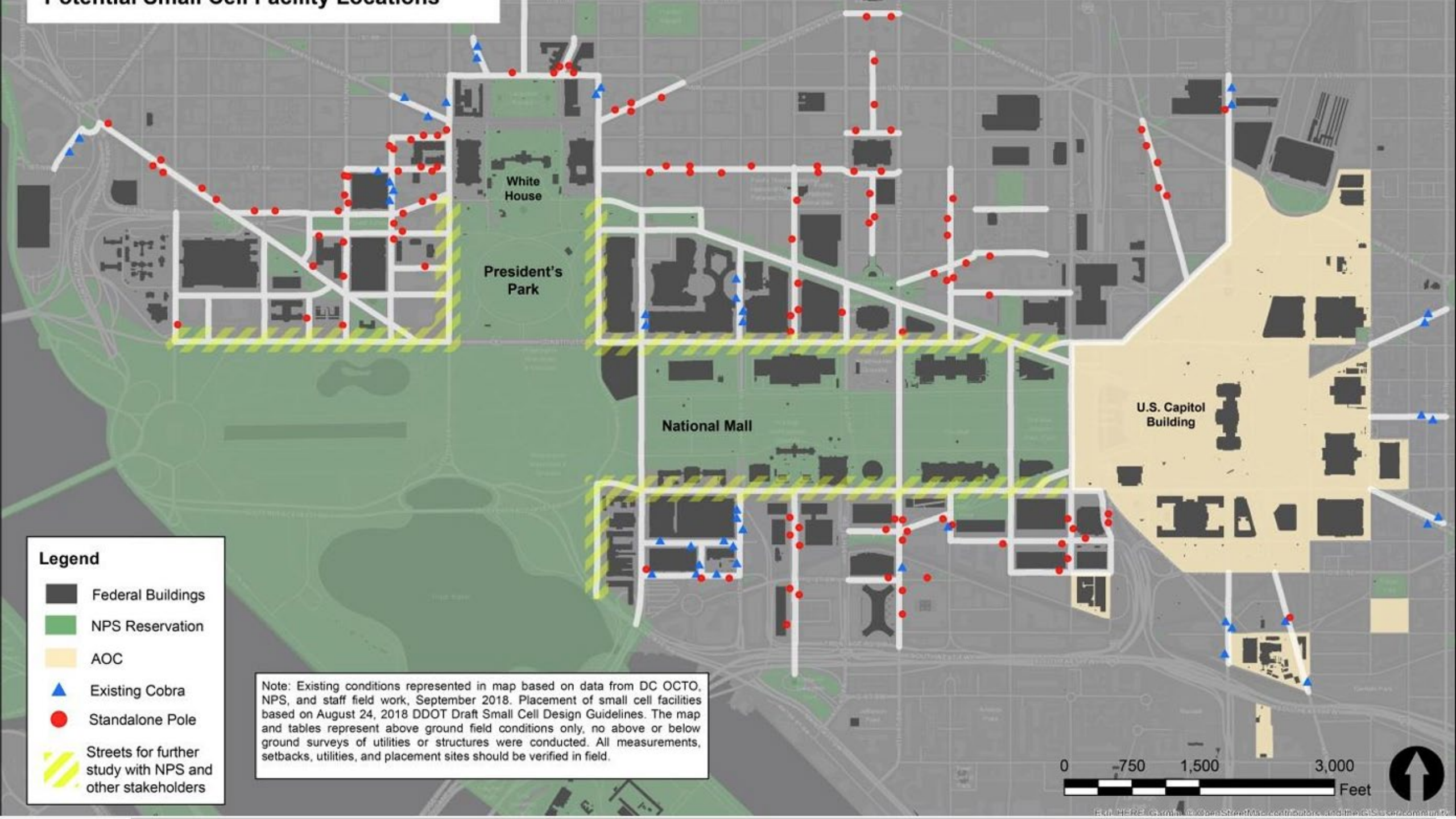
¹Block lengths should be measured along the edge of curb between the edge line extended of adjacent intersecting streets.

²This is inclusive of all types of installations and regardless of carrier.

³In other words, the minimum distance between two facilities sharing the same side of the block. Distance should be measured in a linear fashion along the edge of curb between the two facilities' center points.

⁴A block is defined as two opposing blockfaces.

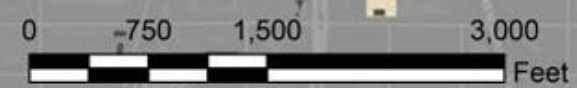
Potential Small Cell Facility Locations



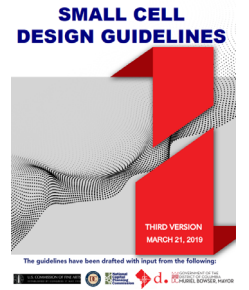
Legend

-  Federal Buildings
-  NPS Reservation
-  AOC
-  Existing Cobra
-  Standalone Pole
-  Streets for further study with NPS and other stakeholders

Note: Existing conditions represented in map based on data from DC OCTO, NPS, and staff field work, September 2018. Placement of small cell facilities based on August 24, 2018 DDOT Draft Small Cell Design Guidelines. The map and tables represent above ground field conditions only, no above or below ground surveys of utilities or structures were conducted. All measurements, setbacks, utilities, and placement sites should be verified in field.



Existing guidelines to be applied to new standalone pole design



Guidelines regarding New Standalone Poles

- Any Small Cell infrastructure requiring standalone poles is not to be installed until the standalone pole design has been reviewed and formally **adopted by the PSC** as part of these guidelines
- Shall be located in the amenity zone
- Shall be aligned with existing streetlights, third party poles, and street trees

Access, Circulation, and Sight Distances

- Standalone poles shall not obstruct ADA access
- A minimum of fifteen feet 15 feet shall be maintained between the pole and the outside edge of the alley or driveway.

Spacing

- Shall be located a minimum of 10 feet from light poles and traffic signal poles.
- Shall be located a minimum of 3 feet from bicycle racks and shall not impede the attachment of bicycles and standalone poles shall not interfere with the operation of Capital Bikeshare docks and stations.
- Standalone poles shall be placed a minimum of ten feet (10') from any above grade building face
- Shall not be located within an existing street tree's protected zone
- No street tree shall be removed, or have its protected root zone impacted

Placement of standalone poles is limited by the guidelines



- Shall not be located within the building entrance area
- Placement of small cell facilities shall not be located along the frontage of public space features.
- Avoid locations that blocks views to and from building windows or detracts from the building's architectural quality.
- Shall not obstruct pedestrian access.
- Within the Federal Core Interest Area, any deviation from these small cell guidelines:
 - Requires approval by the NCPC prior to application to DDOT for a small cell permit
 - Shall be submitted to the CFA by DDOT's Public Space Regulation Division through its online permitting process, for the opportunity for CFA to provide advice

Excluded Area



National Mall and Memorial Parks will be addressed as part of the NCR Wireless Infrastructure Working Group. NPS is undertaking an Environmental Assessment that is scheduled to be concluded in May 2024.

New Pole Plant

New Standalone Poles

Guidelines language: Any Small Cell infrastructure requiring standalone poles is not to be installed until the standalone pole design has been reviewed and formally adopted by the PSC as part of these guidelines.

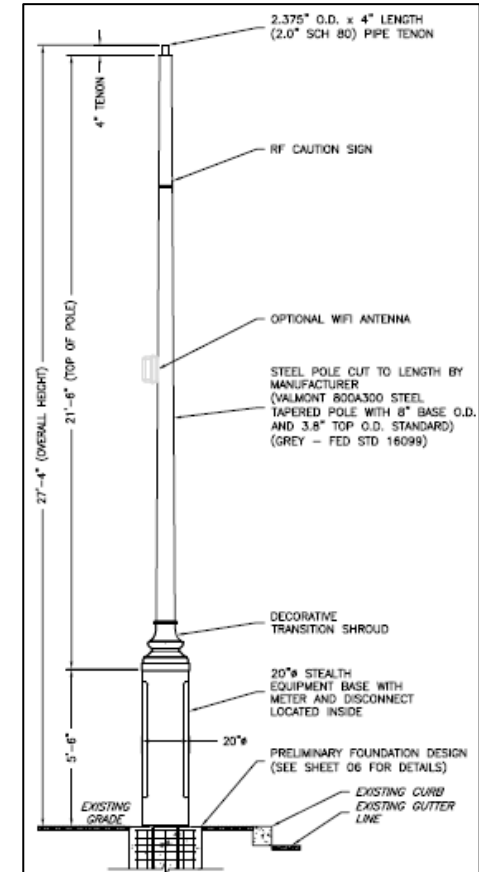
Design Evolution



Wide, short base

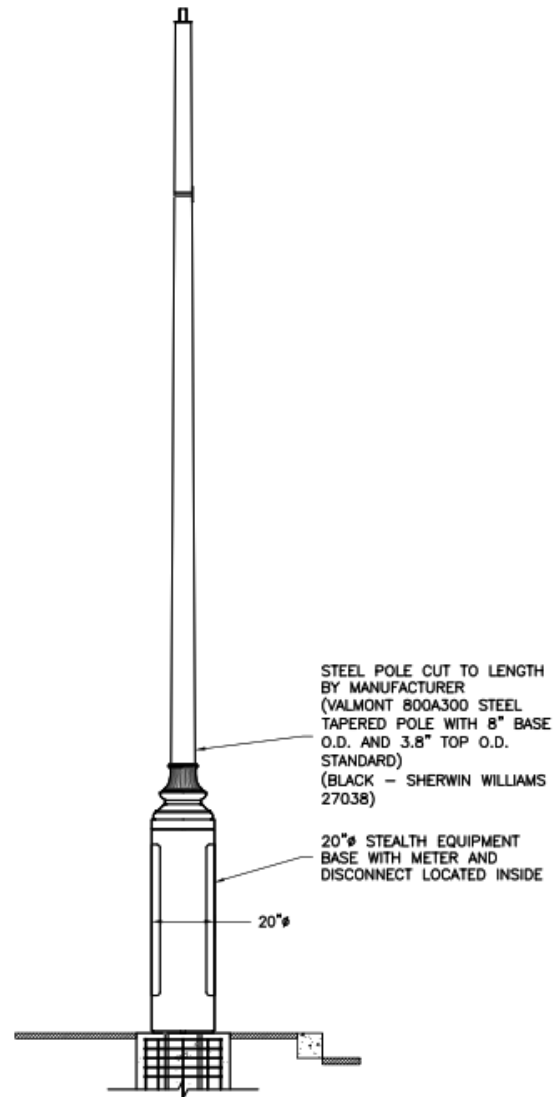


Slim, tall base
Denver Pole

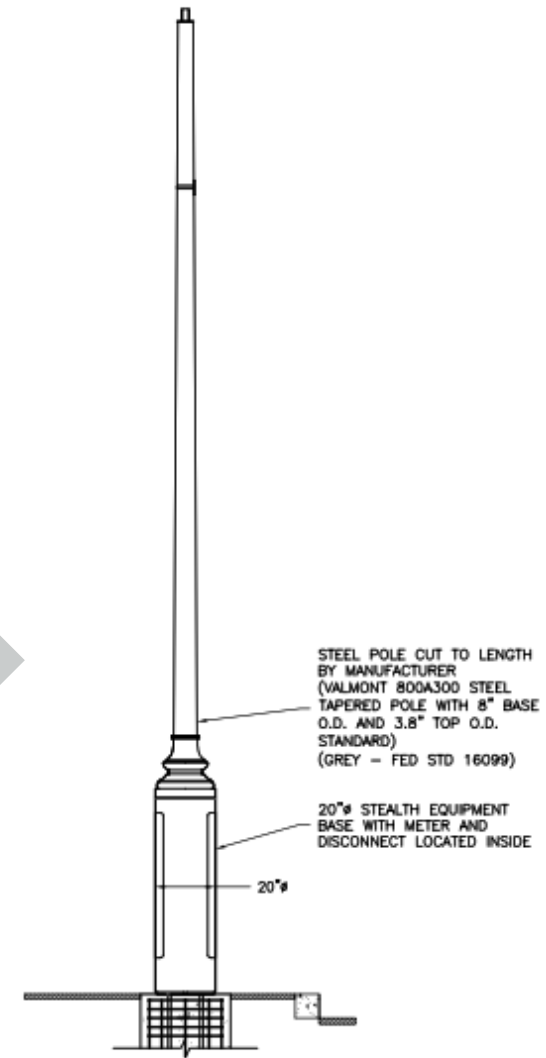


Slim, tall base

Design Evolution



Detailed Collar



Simple Collar

Pipe Tenon:

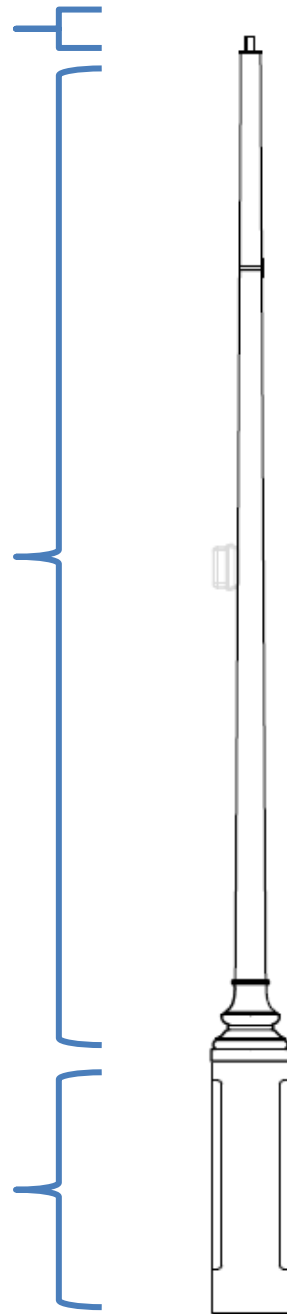
Height: 4"
Width: 2"

Pole Dimensions:

Height: 21'6"
Tapered width: 8" base and 3.8" Top Cylinder

Base Dimensions:

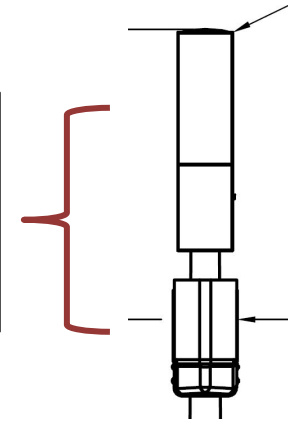
Height: 5'6"
Width: 20" Cylinder



Antennae Dimensions:

AT&T

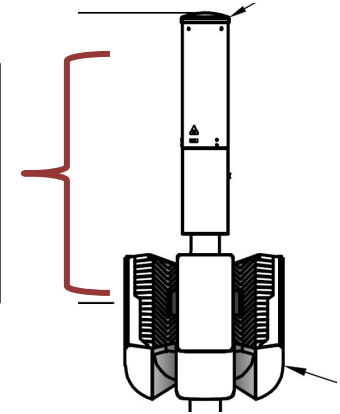
Height: 4'2"
Antennae: 2



Antennae Dimensions:

Verizon

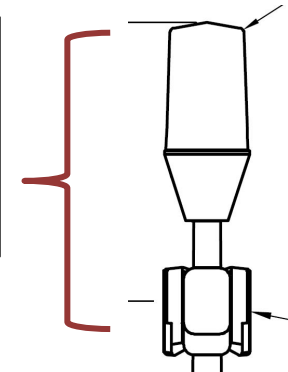
Height: 4'2"
Antennae: 3



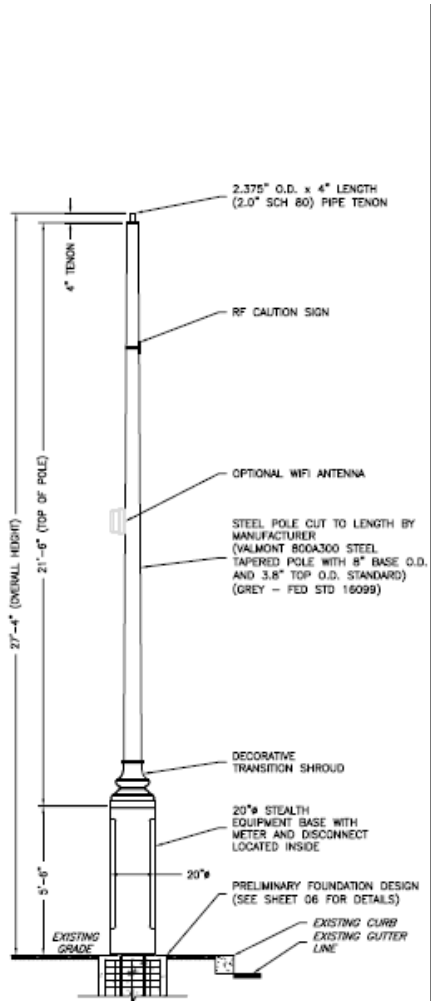
Antennae Dimensions:

Crown Castle

Height: 4'4"
Antennae: 3

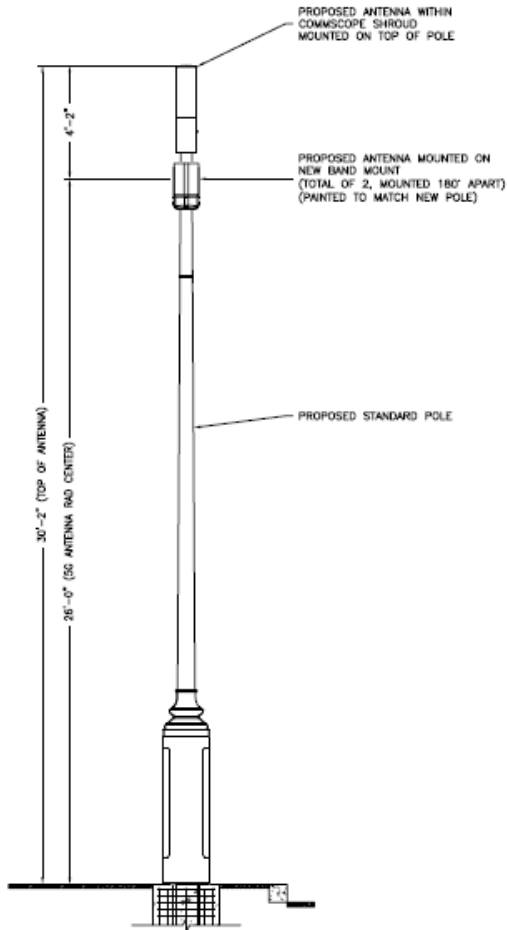


Proposed New Pole Plant



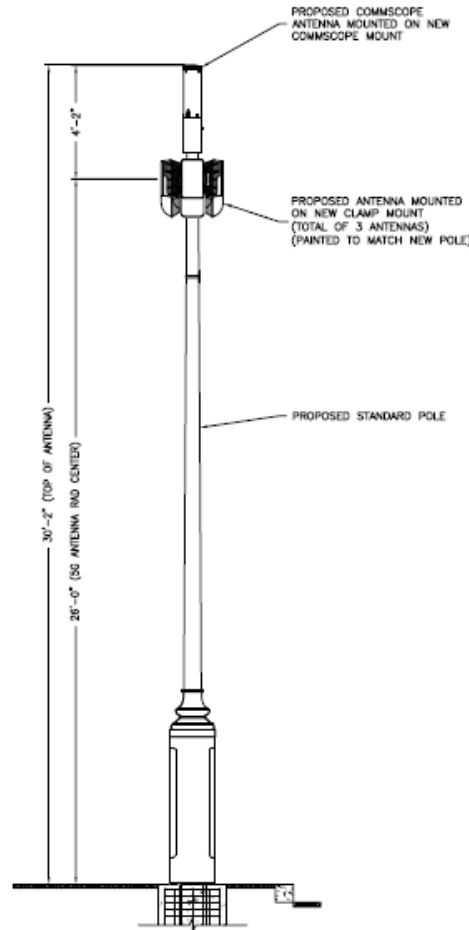
Standalone Pole

GRAPHIC SCALE



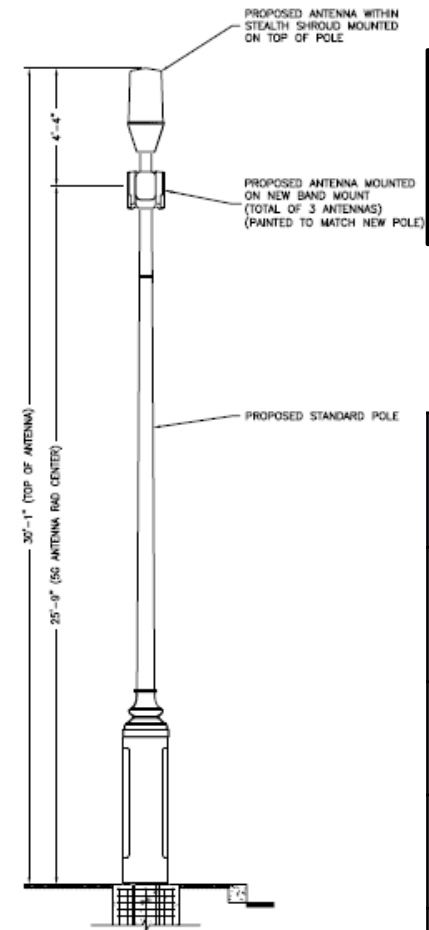
AT&T

GRAPHIC SCALE



Verizon

GRAPHIC SCALE



Crown Castle

GRAPHIC SCALE

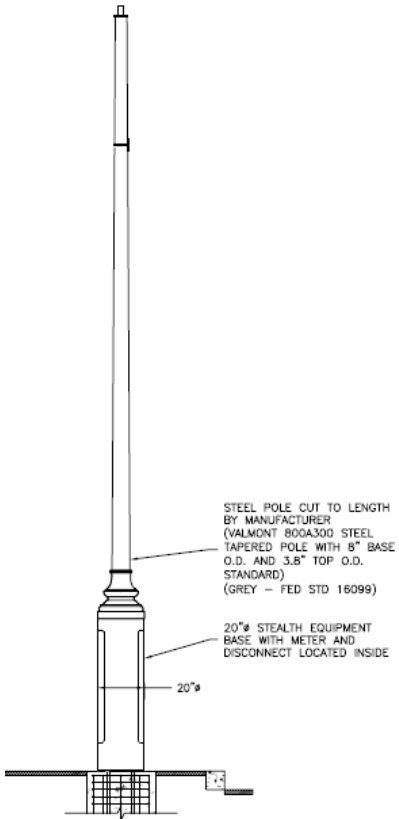


Base Dimensions:
 Height: 5'6"
 Width: 20" Cylinder

Carrier	Pole Height
Without Equipment	27' 4"
AT&T	30' 2"
Verizon	30' 2"
Crown Castle	30' 1"

Proposed New Pole Plant- Pole Comparison

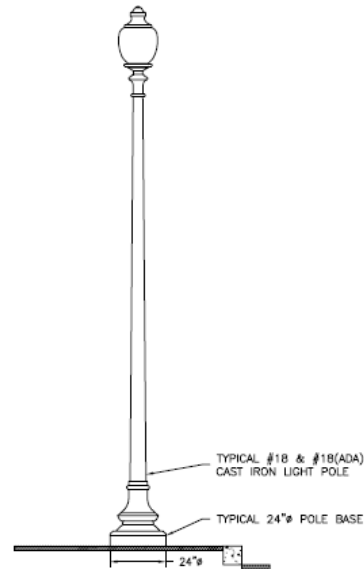
Pole Type	Base Width	Height
Small Cell	20"	27'4"
Cobra Head	16"	30'
Globe	24"	14'-18'
Twin 20	25"	20'



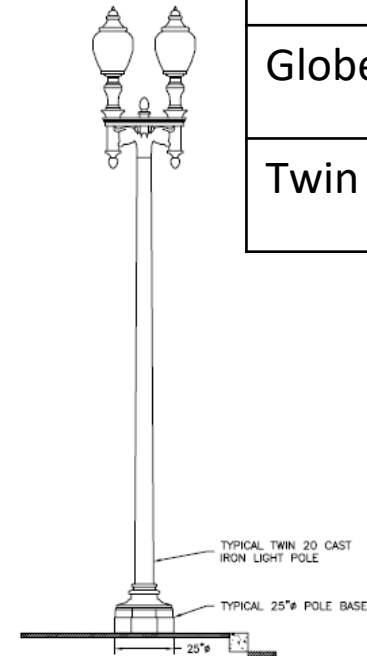
Standalone Pole



Cobra Head

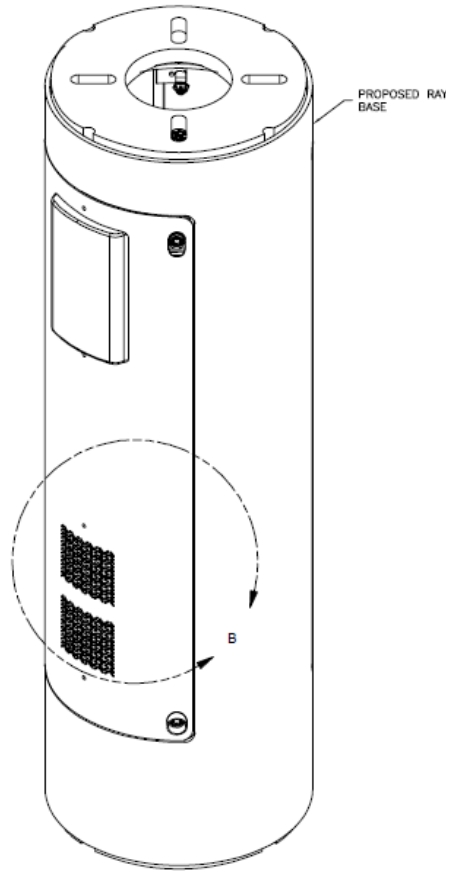


Globe

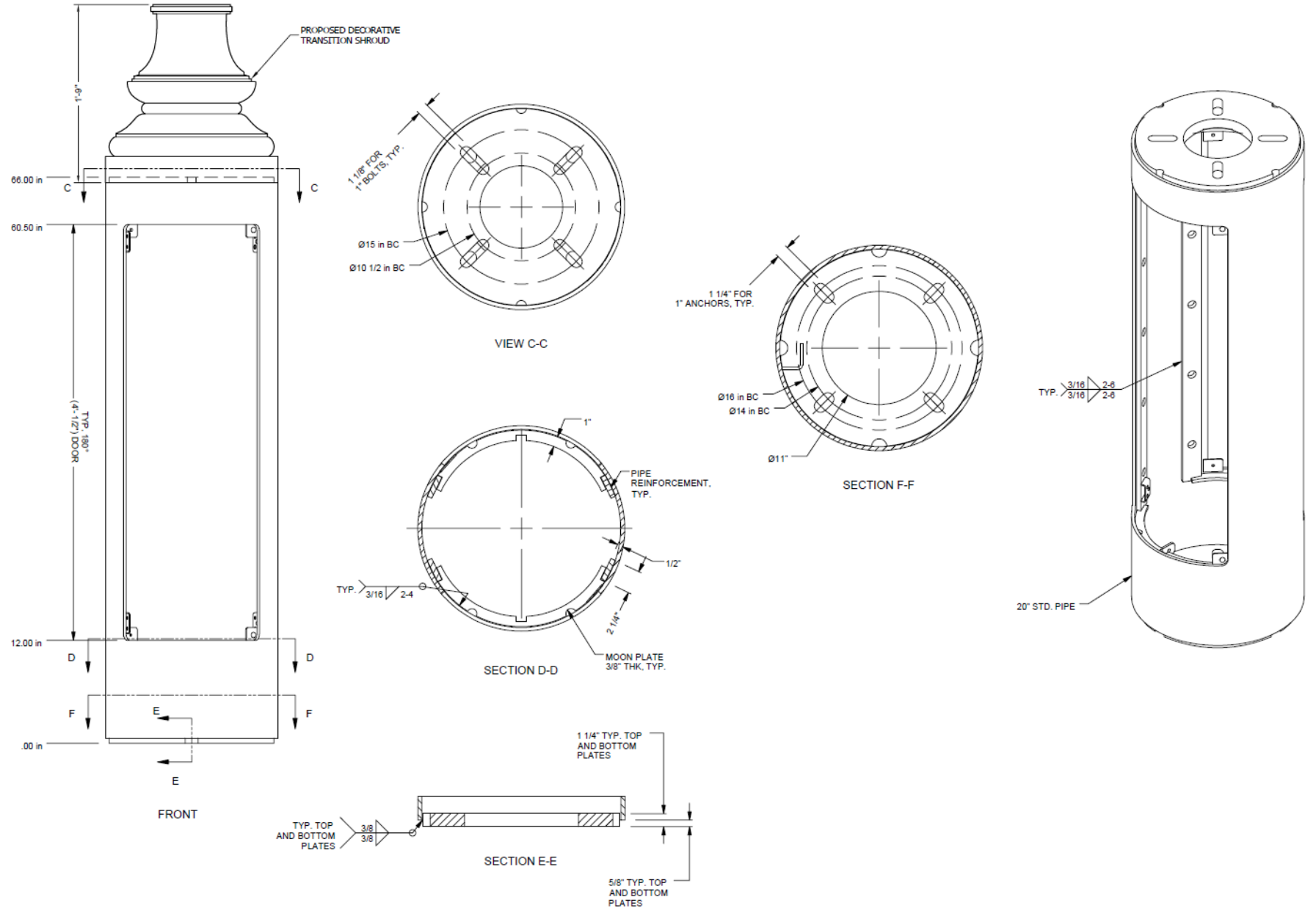


Twin 20

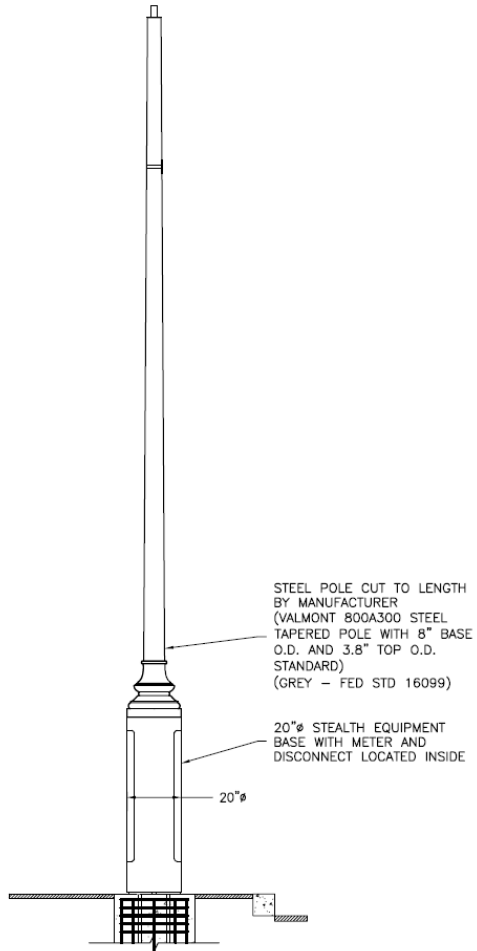
Shroud Design



RMK-2202020-00



Size comparisons



Base height: 66"
 Diameter: 20"
 Base area: 314.16 sq. inches



Height: 48"
 Diameter: 25"
 Base area: 490.9 sq. inches



Height: 74"
 Width: 34"



Height 86"
 Width: 40"



Site Name: Small Cell Standalone Pole Design
 Wireless Communication Facility
 38.9142, -77.0298
 Washington, DC 20009

Photograph Information:
 View 1-18th St NW
 Crown Pole Top Design
 View from the West
 Showing the Existing Site



Existing



Site Name: Small Cell Standalone Pole Design
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 View 1-18th St NW
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 Showing the Proposed Site



Proposed



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Photograph Information:
 View 1-13th St NW & S St NW
 Crown Pole Top Design
 View from the Southwest
 Showing the Existing Site



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Existing

Proposed



Existing



Proposed



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 Washington, DC 20009

Photograph Information:
 View 2-E St NW & 18th St NW
 Crown Pole Top Design
 View from the South
 Showing the Existing Site



Existing



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 Wireless Communication Facility
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Photograph Information:
 View 2-E St NW & 18th St NW
 Crown Pole Top Design
 View from the South
 Showing the Proposed Site



Proposed



Proposed



Proposed



District Department of Transportation

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