DEPARTMENT OF DEVELOPMENT SERVICES – PLANNING DIVISION
REPORT: Text amendment of Section 4.20.7.F – Small Cell Nodes
for consideration October 12, 2021

STAFF REPORT

TO:	**Planning & Zoning Commission**
PREPARED BY:	**Paul Ashworth, Senior Planner** paul.ashworth@hartford.gov
PROJECT:	**Text Amendment** **City wide**
TYPE:	**Text amendment of Section 4.20.7.F(1)(b) and 4.20.7.F(3) of the Hartford Zoning Regulations regarding Small Cell Nodes**
APPLICANT:	**New Cingular Wireless PCS, LLC (AT&T)**
OWNER:	N/A

BACKGROUND INFORMATION

The applicant is requesting an amendment to the text of Section 4.20.7.F of the Hartford Zoning Regulations (the Regulations) regarding the installation of small cell antennas/nodes on public utility poles. The request will increase the permitted size of small cell installations as well as increase the number of permitted small cell installations per pole from one (1) to two (2). No previous actions were taken on this matter.

It should be noted that the applicant also applied for seven (7) special permits to install small cell antennas on public utility/light poles in the downtown area. Those special permit applications were determined incomplete by staff and are not before the Planning & Zoning Commission at this time.

KEY APPLICATION TIMELINES

- Application Submission Date: September 7, 2021
- Date Application Accepted as Complete: September 7, 2021
- Application Date of Receipt: September 14, 2021 (sooner of either: date of next regularly scheduled meeting, or 35 days after acceptance of complete application)
- Public Hearing is scheduled to open on Tuesday, October 12, 2021; Open Hearing Deadline: November 18, 2021.
- Close Hearing Deadline (if opens October 12, 2021): (35 days after opening) Tuesday, November 16, 2021
- CT General Statutes Sec.8-7D allow that the applicant may consent to one or more extensions of time, provided the total extension of all time periods shall not be for longer than 65 days*.

LEGAL STANDARD

Standard for Application Type:

> The Commission reviews requests for zoning amendments in accordance with Zoning Regulations section 1.3.5. The Commission must consider the plan of conservation and development and state on the record its findings on the consistency of the proposed amendment with such plan.

STANDARD SPECIFIC TO THE USE

Section 1.3.5 Zoning Amendments

C. An application for a proposed text amendment must contain the text of the portion of the regulations proposed to be amended (if applicable) and the text of the proposed amendment.

Section 4.20.7.F Small Cell Node – See Attachment 2 for full text.

Plan of Conservation & Development

Grow400

- Avenues
    - Build high-speed communications infrastructure: Ensuring businesses on our avenues have the latest technology will equalize access to economic opportunity and connect our entrepreneurs to the world.

COMMENTS RECEIVED (DEPARTMENTS, AGENCIES, NRZS, PUBLIC)

The following neighboring towns were notified of the subject request: Bloomfield, East Hartford, Newington, West Hartford, Wethersfield and Windsor. As of this writing no comments have been received by staff.

ANALYSIS

Per the applicant's narrative,

> *At the time that the Commission's small cell regulations were further amended in 2018 to allow for right of way installations on City owned poles, the regulations contemplated specific 4G LTE equipment specifications and 5G designs were not fully available at the time. A minor zoning text amendment is now proposed to permit 5G antennas and technologies so that each small cell location can support both 4G LTE and 5G antennas to serve the residents and businesses of Hartford.*
>
> *The Petitioner proposes minor amendments to the regulations to permit 2 antennas on any existing or replacement light poles, traffic signal structures or City-owned utility poles with a combined height not exceeding 6 feet.*

Plan of Conservation & Development

The City of Hartford Plan of Conservation & Development, within the Grow400 focus area specifically identifies communications technology, and the installation and advancement of such technology as a goal. The POCD relates high-speed communications technology as an economic development tool positive to City growth. The goal is a clear endorsement of technological

advancement and installation of advanced small cell node technology. The Plan further identifies goals for connectivity; however, the Plan encourages improvements to streets and sidewalks that increase enjoyment of residents. While 5G will speed up communications, it should be done in such a way that does not detract from the appeal of the streetscape.

The applicant argues in their petition for the text amendment (see Attachment 1), that generally wireless services are integral to overall economic and technologic growth for the City. They state further that wireless infrastructure is already an important integrated aspect of public safety systems and also crucial for future development. Staff agrees that wireless services are an important part of the modern infrastructure system and that the POCD supports advancement in this area.

Zoning Regulations and Aesthetic Impact

The text currently included in Section 4.20.7.F Small Cell Nodes, defines them as having key components of an antenna and an equipment box and largely accounts for the design and placement of these accessory structures. Among other things, the regulations require stealth installation-setbacks from roof edges and in the rear of lots where applicable, and atop poles. The regulations further require that these nodes match the color of the structure that they sit on and be designed to minimize the visibility of cables and other appurtenances. Research shows that small cells on utility poles typically consist of one 3-4foot tall by 14-18inch diameter antenna ("canister") mounted on top of the pole and a number of small equipment boxes consisting of radios, electric meter, a disconnect switch, etc. Several other municipalities have a limitation on the number of cubic feet that the node can occupy.

Per the Hartford Zoning Regulations Section 4.20.7.F(1)(b), the size of the antenna associated with a Small Cell Node shall not exceed a maximum of 5 feet in height, except for Small Cell Nodes visible from the public right of way, which shall not exceed a maximum of 3 feet in height. The applicant seeks to remove this distinction and modify the regulations to permit small cell nodes to be 6feet anywhere. They note that the technology is different from 4G (at the time these regulations were drafted) to 5G (which is currently being pursued/expanded). They note that they would like to better accommodate 5G services on future installations, but they have not provided dimensions and specific distinctions in the sizes of these antenna. Generally, staff understand the technology to be getting smaller.

The other proposed modification to Section 4.20.7.F(3) is to allow two (2) small cell nodes per pole where one (1). As previously stated, the Regulations seek to balance the economic benefit of the installation of small cell nodes while adequately concealing them to avoid detracting from the pedestrian experience and streetscape environment. No visual representation of the proposed configuration was provided by the applicant. At this time, Staff are unable to advise whether additional design requirements would be necessary for the co-location of two small cell nodes per pole. The existing Regulations clearly contemplate the limitation of one small cell node per pole.

The proposed text amendment to Section 4.20.7.F is generally consistent with the POCD in that it will enable additional wireless services and modern antenna size. However, staff find that the existing design elements in the zoning regulations related to Small Cell Nodes seek to conceal them from interfering with the visual realm. While the POCD and Zoning Regulations support and enable the installation and expansion of 5G services, there is no evidence provided to support the notion that not approving these changes would be to the contrary to that effort. Staff suggest that the Commission obtain clarity as to whether the request for additional height on City poles is more

related to the request for co-location of small cell nodes than the need to accommodate new technology.

Additionally, it is worth noting that at this time there are no small cell nodes installed on City-owned poles as the City is in the midst of developing an agreement with small cell carriers. Noting the wide availability of poles for this use, staff recommend that the applicant provide sample configurations of the co-location of 2 small cell nodes on a single pole and text related to additional design notes/requirements to satisfy the intent of the regulations and account for a new maximum number of small cell nodes per pole. Furthermore, small cell networks thrive when nodes are well spread over an area. With the number of City-owned poles in the public right-of-way that could be eligible for use, staff recommend that the Applicant provide additional documentation to demonstrate why it is necessary for two small cell nodes to be located on one pole.

STAFF RECOMMENDATION

Staff recommends denial of this application.

A draft resolution follows.

ATTACHMENTS

1. Petition for Zoning Text Amendment
2. Existing Text of Section 4.20.7.F
3. Proposed Text of Section 4.20.7.F

REVIEWED AND EDITED BY,

Aimee Chambers
Digitally signed by Aimee Chambers
DN: cn=Aimee Chambers, o=City of Hartford, ou=Director of Planning, email=aimee.chambers@hartford.gov, c=US
Date: 2021.10.08 19:08:01 -04'00'

Aimee Chambers, Director

CITY OF HARTFORD
PLANNING & ZONING COMMISSION RESOLUTION
TEXT AMENDMENT TO SECTION 4.20.7.F: SMALL CELL NODES

Whereas, The City of Hartford Planning & Zoning Commission reviewed the application and attached documents regarding the request for a text amendment of Section 4.20.7.F of the Hartford Zoning Regulations per Section 1.3.5; and

Whereas, The subject request will increase the total number of small cell nodes permitted to be installed on a publicly owned utility pole from one (1) to two (2); and

Whereas, The subject request will increase the total maximum height of a small cell node antenna from five (5) feet to six (6) feet and change the terminology from "height" to "total combined antenna" height; and

Whereas, The applicant purports that the change in maximum antenna height will allow for modern antenna installation; and

Whereas, The Hartford Plan of Conservation & Development within the Grow400 Focus Area, specifically identifies the construction of high-speed communications infrastructure as a goal; and

Whereas, Wireless communication has become integral to modern life and public systems; and

Whereas, The increase in total number of small cell nodes permitted per pole represents a change in intensity and design; and

Now therefore Be It

Resolved, The City of Hartford Planning & Zoning Commission finds that the proposed is consistent with the Plan of Conservation & Development and hereby denies/approves the text amendment of Section 4.20.7.F of the Hartford Zoning Regulations per Section 1.3.5 as shown in Exhibit A of this resolution; and

Be It Further,

Resolved, This 12th day of October, 2021.

EXHIBIT A

Redline Comparison

Proposed City of Hartford Zoning Text Amendment
4.20.7

F. Small Cell Node. A cellular radio access node that has as its key components an antenna and an equipment box, operates in licensed and unlicensed spectra, and is designed or used to increase capacity and stability of a wireless communications network.

(1) **Size**. A Small Cell Node shall be sized as follows:

(a) The smallest practical size shall be used for each component of any Small Cell Node.

(b) The size of any antenna associated with a Small Cell Node shall not exceed a maximum of 5 feet in height, and Small Cell Nodes visible from the public right of way shall not exceed a maximum of 6 feet in total combined antenna height.

Attachment 1

City of Hartford

Planning & Zoning Commission

Petition for Minor Zoning Text Amendment – Small Cell Regulations – Section 4.20.7.F

Petitioner

The Petitioner is New Cingular Wireless PCS, LLC, an AT&T corporate entity. Petitioner is an FCC licensee that provides commercial mobile radio services to the public through a network of wireless facilities. Petitioner has legal authority to provide wireless services in the State of Connecticut.

Background Information – Current Wireless Usage Statistics

The ability to connect with one another in a mobile environment has proven essential to the public's health, safety and welfare. As of June 2020, there were an estimated over 442.5 million wireless devices in the United States amounting to approximately 1.3 devices per person.[1] The United States also saw a record-setting amount of data-traffic with over 37 trillion megabytes carried over U.S. wireless networks in 2019, which translates to 96x more data used in 2019 than 2010.[2] The pandemic resulted in a 24.3% increase in voice traffic and a 19.6% increase in U.S. data traffic.[3] The ever-increasing number of households transitioning to mobile voice connection only (i.e. abandoning land lines) has now grown to approximately 62.5% of households nationwide.[4]

Wireless access has also provided individuals a newfound form of safety. Up to 80% of all 9-1-1 calls made each year come from a wireless device.[5] Beginning May 15, 2015, wireless carriers in the U.S. voluntarily supported Text-to-911, a program that allows users to send text messages to emergency services as an alternative to placing a phone call.[6] These statistics provide important context and background on the need for Small Cell Nodes ("Small Cells") in wireless networks to meet current and anticipated consumer demand for wireless services.

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[1] CTIA 2020 Annual Survey Highlights available at https://www.ctia.org/news/report-2020-annual-survey-highlights.

[2] Id.

[3] Id.

[4] *See Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2020*, National Center for Health Statistics, Stephen J. Blumberg Ph.D and Julian V. Luke, found at https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless202102-508.pdf.

[5] 911 Wireless Services Guide last reviewed November 2, 2015 available at https://transition.fcc.gov/cgb/consumerfacts/wireless911srvc.pdf.

[6] *See Text-to-911: What you need to know* available at https://www.fcc.gov/consumers/guides/what-you-need-know-about-text-911. It should be noted that while the carriers have committed to supporting 911 texting in their service areas, text-to-911 is not available everywhere. Emergency call centers, called PSAPs (Public Safety Answering Points), are the bodies in charge of implementing text messaging in their areas. These PSAPs are under the jurisdiction of their local state and counties, not the FCC, which governs the carriers. *See also Text-to-911 is now available in Connecticut* available at https://www.text911ct.org/, indicating that the State of Connecticut has recently transitioned to the Text-to-911.

C&F: 3768553.1

Purpose for the Proposed City of Hartford Minor Zoning Text Amendment – 5G Antennas

AT&T seeks to deploy Small Cells to provide enhanced wireless coverage and capacity in current 4G (fourth generation) LTE networks as well as 5G (fifth generation) network technologies. Small Cells are a critical component of AT&T's wireless services and can support "smart city" initiatives, telemedicine, public safety and other features.

Under the Commission's current Zoning Regulations, Small Cells can be placed on replacement City-owned utility poles, street lights or traffic signals located in the public rights of way, where utilities are underground and there are no Eversource/Frontier utility poles. Special permit applications accompany this Petition for seven specific replacement light pole installations proposed by AT&T.

At the time that the Commission's small cell regulations were further amended in 2018 to allow for right of way installations on City owned poles, the regulations contemplated specific 4G LTE equipment specifications and 5G designs were not fully available at the time. A minor zoning text amendment is now proposed to permit 5G antennas and technologies so that each small cell location can support both 4G LTE and 5G antennas to serve the residents and businesses of Hartford.

The Petitioner proposes minor amendments to the regulations to permit 2 antennas on any existing or replacement light poles, traffic signal structures or City-owned utility poles with a combined height not exceeding 6 feet. No other amendments to the Small Cell standards and approval process are proposed and Planning & Zoning Commission oversight would be retained through the current special permit review process provided for in Section the current zoning regulations.

Any small cell installations permitted under the proposed amendment would still have to be consistent with the example of a permitted small cell replacement City-owned light pole contained in Figure 4.20-G of the Zoning Regulations. AT&T's proposed installations are consistent as depicted on the drawings and in the photosimulations accompanying AT&T's site specific special permit applications.

It is respectfully submitted that the proposed minor text amendment accommodates the latest available 5G technology while reserving the Commissions' zoning authority over small cell applications and reasonably guides the City in providing access to municipally owned infrastructure in public rights of way for use as small cell facilities.

The Proposed Text Amendment is Consistent with the City of Hartford POCD

In 2020, Hartford adopted its current Plan of Conservation and Development entitled *Hartford 2035* (the "POCD"). The POCD sets the goal of building high-speed communications infrastructure by 2035 to ensure businesses in the commercial corridors have the latest technology to equalize access to economic opportunity and can connect to the world (POCD, p. 28).

In 2018, the Commission amended the City's zoning regulations to add small cells as a special permit use in various zoning districts and public rights of way, particularly for downtown Hartford where utility lines are underground. It is respectfully submitted that the proposed minor text amendment

is consistent with the POCD and enhances various priorities and action areas articulated therein as follows:

Grow 400- Economic Development

Wireless services are integral to overall smart city planning and technical innovation for economic development, particularly on the path to 5G wireless technologies.

Play 400- Downtown Development

Wireless connectivity and mobility are an important part of activating the streetscape with small cells adding to the growth and sustainability of downtown Hartford.

Move 400- Traffic Planning

The City has adopted a Complete Streets policy, one that recognizes streets are not just places for automobiles. The public right of way has always been a critical place for communications infrastructure and utilities. Wireless infrastructure and the proposed amendment takes a "complete street" approach by facilitating the use of existing City-owned pole locations for small cells in serving the community's needs and maintaining aesthetic controls.

Live 400- Infrastructure, Community Facilities & Programs

One of the stated goals in this section of the POCD is to enhance public safety. AT&T is the private sector partner of FirstNet and currently deploying public safety solutions throughout the State as part of a national interoperable network. See http://www.portal.ct.gov/Office-of-the-Governor/Press-Room/Press-Releases/2017/12-2017/Gov-Malloy-Announces-Connecticut-Opts-into-FirstNet-Network. AT&T's wireless infrastructure in Hartford is used to provide such solutions to first responders.

C&F: 3768553.1

Attachment 2 – Existing Text of Section 4.20.7.F

F. Small Cell Node. A cellular radio access node that has as its key components an antenna and an equipment box, operates in licensed and unlicensed spectra, and is designed or used to increase capacity and stability of a wireless communications network.

(1) **Size.** A Small Cell Node shall be sized as follows:

(a) The smallest practical size shall be used for each component of any Small Cell Node.

(b) The size of the antenna associated with a Small Cell Node shall not exceed a maximum of 5 feet in height, except for Small Cell Nodes visible from the public right of way, which shall not exceed a maximum of 3 feet in height.

(2) **Location.** A Small Cell Node shall be located as follows:

(a) In the rear of a lot or in any other location where no part of the Small Cell Node is visible from the public right of way; or

(b) On the roof of an existing building, with all components being set back from the roof edges sufficiently to shield all components from a person viewing the building from any public right of way, except that, in any allowed district other than the MS, MX, and OS districts, a cylindrical antenna with a

maximum cross-section of 30 square inches may project up to 5 feet from the parapet wall of a building with a flat roof, as long as the building is at least 4 stories tall and as long as there is only one Small Cell Node visible from the public right of way per street façade face; or

(c) On an existing or replacement, light pole, traffic signal structure, or City-owned utility pole; or

(d) In the OS district, only on an existing or replacement, light pole, traffic signal structure, or City-owned utility pole.

(3) **Number.** No more than one Small Cell Node antenna may be located on a single pole.

(4) **Design.**

(a) The Small Cell Node equipment must be a consistent color to the structure to which it is mounted or fully enclosed in a replacement structure.

Figure 4.20-G Small Cell Node Allowed Configuration

(b) The Small Cell Node, other than a Small Cell Node not visible from the public right of way, shall be designed to minimize the visibility of cables and other appurtenances.

(c) For Small Cell Nodes on City-owned utility poles, light poles, and traffic signal structures, the department of public works must determine that:

(i) The Small Cell Node can be reasonably supported by such infrastructure considering the structural condition of the specific structure and as shown in an engineering analysis filed by the applicant; and

(ii) The Small Cell Node location, design, and equipment will not interfere with pedestrian or vehicular travel.

(d) For a Small Cell Node visible from the public right of way, equipment other than the antenna and a disconnect switch box of a size no larger than 1 cubic foot, shall be designed and located to minimize visibility of the equipment from the public right of way which requires a concealment element or underground installation. See Figure 4.20-G. for an allowed configuration.

(5) Evidence, in the form of renderings, at least two sightline perspectives, a coverage map, and engineering analysis regarding the suitability of any existing structure to which a Small Cell Node is proposed to be mounted, and representations about the size and nature of the components shall be provided to the zoning administrator with each application. Generic drawings and photographs of equipment will not be accepted.

(6) Modification of any Small Cell Node shall be approved by the zoning administrator through a zoning permit process if each and every piece of equipment is a modification which does not substantially change the physical dimensions of the eligible facility or support structure. The following constitute substantial changes:

(a) It increases the height of the support structure or the Small Cell Node by more than 10 percent or more than 10 feet, whichever is less;

(b) It involves installation of any new equipment cabinets on the ground if there are no pre-

existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10 percent larger in height or overall volume than any other ground cabinets associated with the structure;

(c) It entails any excavation or deployment outside the current site; or

(d) It would defeat the concealment elements of the eligible support structure.

(7) Alternative designs for Small Cell Nodes, including those designed to be mounted to a building façade or designs that involve a City-owned replacement structure for a utility pole, light pole, traffic signal, or other structure, may be considered by the commission under special permit review.

(8) Staff shall have the authority to approve, on behalf of the commission, the design of a Small Cell Node which has been approved by the commission pursuant to a previous special permit application, if such design is exactly duplicated and does not otherwise violate this section, provided that staff may also decline to exercise such authority and request that the commission review. The preceding sentence shall not relieve the responsibility of an applicant to tender special permit fees applicable to Small Cell Node applications.

Attachment 2 – Proposed Text of 4.20.7.F

Redline Comparison

Proposed City of Hartford Zoning Text Amendment
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(1) **Size**. A Small Cell Node shall be sized as follows:

(a) The smallest practical size shall be used for each component of any Small Cell Node.

(b) The size of any antenna associated with a Small Cell Node shall not exceed a maximum of 5 feet in height, and Small Cell Nodes visible from the public right of way shall not exceed a maximum of 6 feet in total combined antenna height.

(2) **Location**. A Small Cell Node shall be located as follows:

(a) In the rear of a lot or in any other location where no part of the Small Cell Node is visible from the public right of way; or

(b) On the roof of an existing building, with all components being set back from the roof edges sufficiently to shield all components from a person viewing the building from any public right of way, except that, in any allowed district other than the MS, MX and OS districts, a cylindrical antenna with a maximum cross-section of 30 square inches may project up to 5 feet from the parapet wall of a building with a flat roof, as long as there is only one Small Cell Node visible from the public right of way per street façade face; or

(c) On an existing or replacement, light pole, traffic signal structure, or City-owned utility pole; or

(d) In the OS district, only on an existing or replacement, light pole, traffic signal structure, or City-owned utility pole.

(3) **Number**. No more than two Small Cell Node antennas may be located on a single pole.

(4) **Design**.

(a) The Small Cell Node equipment must be a consistent color to the structure to which it is mounted or fully enclosed in a replacement structure.
(b) The Small Cell Node, other than a Small Cell Node not visible from the public right of way, shall be designed to minimize the visibility of cables and other appurtenances.
(c) For Small Cell Nodes on City-owned utility poles, light poles, and traffic signal structures, the department of public works must determine that:

(i) The Small Cell Node can be reasonably supported by such infrastructure considering the structural condition of the specific structure and as shown in an engineering analysis filed by the applicant; and
(ii) The Small Cell Node location, design, and equipment will not interfere with pedestrian or vehicular travel.

(d) For a Small Cell Node visible from the public right of way, equipment other than the antenna and a disconnect switch box of a size no larger than 1 cubic foot, shall be designed and located to minimize visibility of the equipment from the public right of way which requires a concealment element or underground installation. See Figure 4.20-G for an allowed configuration.

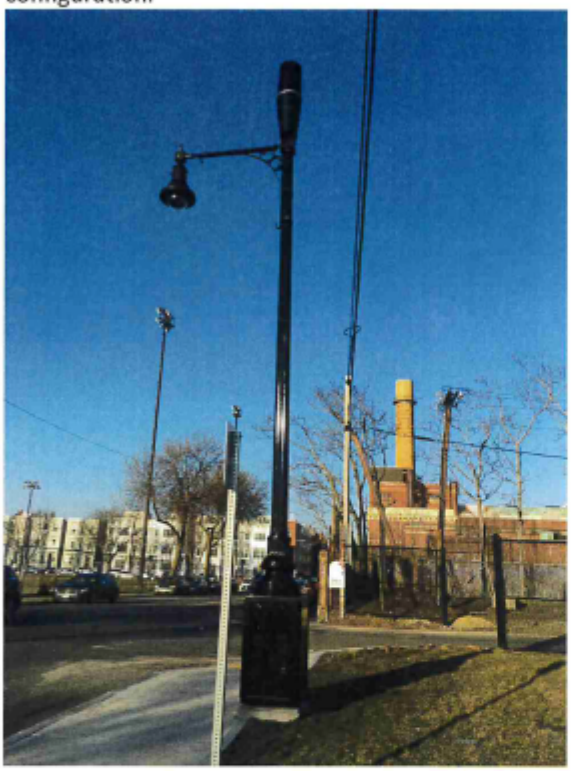

Figure 4.20-G Small Cell Node Allowed Configuration

(5) Evidence, in the form of renderings, at least two sightline perspectives, a coverage map, and engineering analysis regarding the suitability of any existing structure to which a Small Cell Node is proposed to be mounted, and representations about the size and nature of the components shall be provided to the zoning administrator with each application. Generic drawings and photographs of equipment will not be accepted.

(7) Modification of any Small Cell Node shall be approved by the zoning administrator through a zoning permit process if each and every piece of equipment is a modification which does not substantially change the physical dimensions of the eligible facility or support structure. The following constitute substantial changes:

(a) it increases the height of the support structure or the Small Cell Node by more than 10 percent or more than 10 feet, whichever is less;

(b) it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground

cabinets that are more than 10 percent larger in height or overall volume than any other ground cabinets associated with the structure;

(c) it entails any excavation or deployment outside the current site; or

(d) it would defeat the concealment elements of the eligible support structure.

(7) Alternative designs for Small Cell Nodes, including those designed to be mounted to a building façade or designs that involve a City-owned replacement structure for a utility pole, light pole, traffic signal, or other structure, may be considered by the commission under special permit review.

(8) Staff shall have the authority to approve, on behalf of the commission, the design of a Small Cell Node which has been approved by the commission pursuant to a previous special permit application, if such design is exactly duplicated and does not otherwise violate this section, provided that staff may also decline to exercise such authority and request that the commission review. The preceding sentence shall not relieve the responsibility of an applicant to tender special permit fees applicable to Small Cell Node applications.