

TIME TO UPDATE OUR WIRELESS SERVICE FACILITIES REGULATIONS

What do we allow today?

What's coming that we don't currently or properly regulate?

What are other communities doing and what do they say about their recent experiences?

Questions for tonight's discussion

WHAT DO WE ALLOW TODAY?

“The purpose of this section is to: meet requirements of the Telecommunications Act of 1996; direct the location of tall communications towers where they have been determined to be least disruptive of existing or developing land use character, specifically to commercial road corridors; protect residential areas and land uses from potential adverse impacts of communications towers; preserve the low building profile and character of the downtown; protect land values of adjacent and nearby properties; minimize adverse visual impacts of communications towers through careful design, siting, landscape screening, and innovative camouflaging techniques; accommodate the growing need for communications towers; promote and encourage shared use/collocation of existing and new communications towers as a primary option rather than construction of additional single-use towers; encourage the use of concealment techniques instead of towers in providing support and height for antennas; protect public safety as it may be impacted by construction, wind damage, electric shock, unauthorized access to facilities, structural damage on non-tower supporting structures, monitoring visit traffic, lighting for visibility to hospital, traffic, police, or other helicopter or private aircraft, and related considerations.”

WHAT DO WE ALLOW TODAY?

- ❑ Current text adopted in 1997 and focuses on tall towers
- ❑ Towers are not allowed in residential districts
- ❑ “Stealth” applications – something that looks like it belongs there, like a tree, clock tower, or existing electric transmission tower – are allowed at schools, churches, etc. in residential areas
- ❑ Tall towers may only go up to 80’ high (essentially tree top height) if any residential district touches the site where the tower is located
- ❑ 80’ height may be increased up to 120’ when co-locating companies use the same structure

WHAT DO WE ALLOW TODAY?

- ❑ In nonresidential districts, towers may extend 100' to 200' for a single carrier, and from 140' to 240' for 3 or more co-locating users
- ❑ Highest allowed towers are allowed in more intense commercial and industrial zoned districts
- ❑ As tower height increases, the minimum separation to another tower increases
- ❑ Trunked Public Safety towers are allowed only in the I-2 district (Martin Marietta quarry) at 400', although the state plans to add one at US74 and I-485

WHAT DO WE ALLOW TODAY?

- ❑ Towers support antennas in the air but also need ground equipment to work
- ❑ Each tower must have a secure fence with landscape screening around its compound
- ❑ Towers are required to be located away from the road frontage, generally at least 40', and at least 100' within the NC51 Highway Overlay
- ❑ Taller towers must be set back further from the road: a tower over 120' tall must be at least 175' from any public street

WHAT ARE SOME POSSIBLE CONFLICT AREAS OF OUR CODE TODAY?

- ❑ Our code specifically excludes “wireless or digital communications equipment” as public “utility structures” – this may now cause unanticipated issues
- ❑ Town Attorney has confirmed we may apply our current regulations on antenna placements within street rights-of-way and within all zoning districts
- ❑ We currently do not allow antennas on any structure (tower, building, rooftop, etc.) in the HUC district
- ❑ Our definition of a “communications tower” is “over 35’ in height”, while many small cell sites may be located at a lesser height

WHAT HAVE THESE REGULATIONS DONE FOR MATTHEWS?

- ❑ Today we have one 400' Trunked Public Safety Tower and 4 towers over 100' within our jurisdiction
- ❑ Some antennas have been placed on existing Duke transmission towers or water tanks
- ❑ A stealth light pole at MARA can be increased in height for antenna placement
- ❑ While not dropping calls along roads is still important, being able to get strong and consistent signal strength within residential as well as business areas has become an increasing problem

WHAT'S COMING THAT WE DON'T CURRENTLY OR PROPERLY REGULATE?

- ❑ Changes in state and federal regulations
 - Town cannot enact regulations that prohibit or have the effect of prohibiting the provision of wireless services
 - Town cannot discriminate between providers of functionally equivalent services
 - Town must act within a “reasonable time” on applications for new antenna and equipment placements:
 - 90 days for co-locations
 - 150 days for other application submissions
 - If Town denies a request, it must be:
 - within the designated time limits
 - must be in writing
 - must be delivered to applicant quickly, and
 - must have “substantial evidence” for the decision in the written record

WHAT'S COMING THAT WE DON'T CURRENTLY OR PROPERLY REGULATE?

- ❑ Fall zones for tall structures
- ❑ New technologies such as:
 - Small cell sites
 - Distributed Antenna Systems (DAS)
 - Connected cars – vehicles that digitally communicate with other vehicles, traffic signals, road conditions, etc.

http://www.its.dot.gov/communications/media/15cv_future.htm

AND RELATED TO “PROPER” REGULATION:

- ❑ We cannot discuss RF – radio frequency – the health impact of the equipment on nearby properties and persons
- ❑ We cannot require any applicant to show proprietary information on where they may or may not be able to locate their equipment
- ❑ We cannot require any applicant to prove they have a need to locate within our jurisdiction
- ❑ We cannot tell applicants to wait for months while we decide what rules we may want to adopt

**WHAT ARE OTHER COMMUNITIES DOING
AND
WHAT DO THEY SAY ABOUT THEIR RECENT EXPERIENCES.**

OTHER COMMUNITIES:

- ❑ Charlotte—Providers have installed DAS and small cell sites in several locations.
- ❑ Davidson—DAS has been on the peninsula for years (best way to boost their reception/service)
- ❑ Huntersville—Providers have installed several in town
- ❑ Pineville—Not in right-of-way
 - unless they are in their industrial district
 - accessory use up to 8' on top of building
- ❑ Mint Hill—They do not distinguish between small cell sites and other facilities
 - do not allow in their downtown or institutional districts
 - all installations must meet their setback and yard requirements

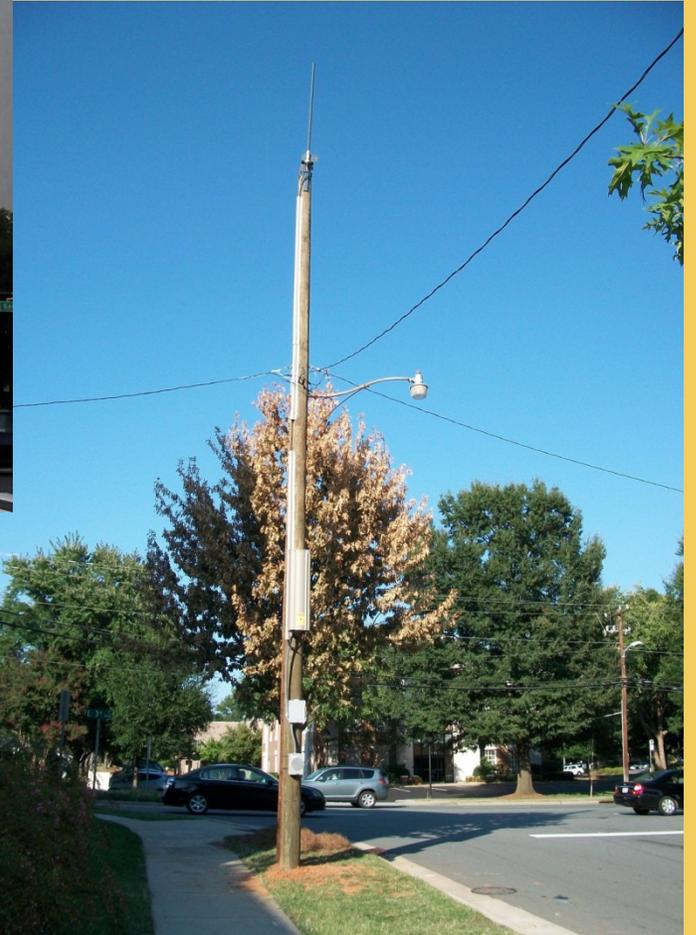
WHAT DOES NCDOT SAY ABOUT THEIR RIGHTS-OF-WAY

- ❑ Require installation on existing pole if on that side of road
- ❑ Provider has to give valid reasons not to co-locate
- ❑ Can install new pole if no poles on side of road they wish to install
- ❑ If requested location is on TIP Project street (ex. Hwy 74, John St, etc.) then application is reviewed in Raleigh
- ❑ Raleigh currently has nearly 300 applications from across the state for small cell sites
- ❑ Out of state applicants do not understand what NCDOT and local government requirements are

REASONS FOR LOCATING IN THE RIGHT-OF-WAY

- ❑ Less expensive for communications companies
 - No regular payments to property owners
 - Structures are easier to install
 - Do not need large land areas
 - Do not need extremely tall support structures for antenna
 - Location is where the fiber is underground
 - More and more applications deal with transportation movement within the right-of-way

WHAT THEY LOOK LIKE



CHARLOTTE

- ❑ Small cell sites are being installed in Piper Glen, Raintree, and Gleneagles neighborhoods
- ❑ Installations also include Carmel and University City areas
- ❑ Sites are a combination of installations on existing utility poles and new poles
- ❑ They are looking at other locations in uptown
- ❑ DAS installed at Bank of America Stadium that is used by three wireless operators

CHARLOTTE

- Small cell sites are installed along Rea Road at Blakeney



DAVIDSON

- ❑ Small cell sites already on peninsula
- ❑ Accessory use with height limit up to 26'
- ❑ Under their Essential Services, they are allowed in all districts up to 35'
- ❑ Over 35' they require a Conditional Use Permit

DAVIDSON

- Small cell sites already on peninsula



HUNTERSVILLE

- ❑ Small cell sites already installed
- ❑ Successful cooperation with one installer
- ❑ A couple of situations that they wish they could do over
- ❑ Allow in right-of-way in certain districts
- ❑ Preferred co-location of facilities

9820 NORTHCROSS CENTER CT HUNTERSVILLE



SMALL CELL SITE CLOSE TO OTHER UTILITY FACILITIES WHERE IT COULD HAVE BEEN CO-LOCATED



OTHER COMMUNITIES IN NC:

- ❑ Up to 35' in rights-of-way
- ❑ All new poles/structures are being approved by some communities
- ❑ Not allowing any new poles or structures in the rights-of-way

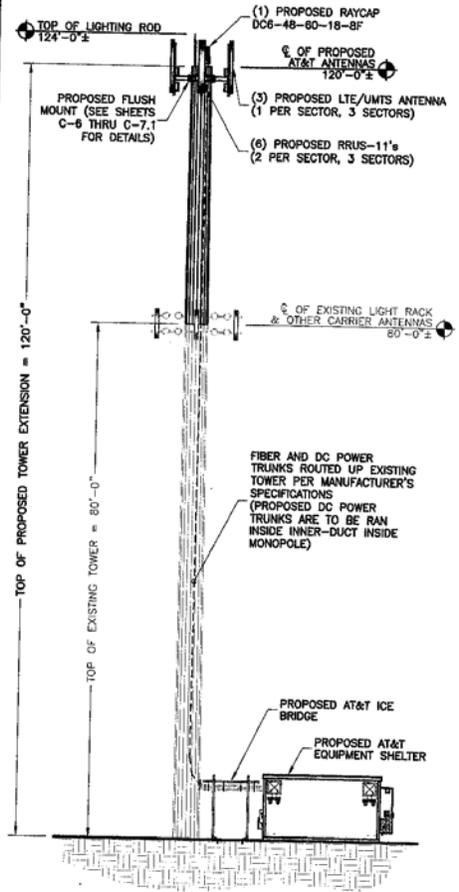
MATTHEWS

- ❑ Additions to existing towers or other facilities
- ❑ Small antennas onto roof tops of existing buildings
- ❑ Do not allow in HUC
- ❑ Antenna placement must meet setback and yard requirements for the underlying district

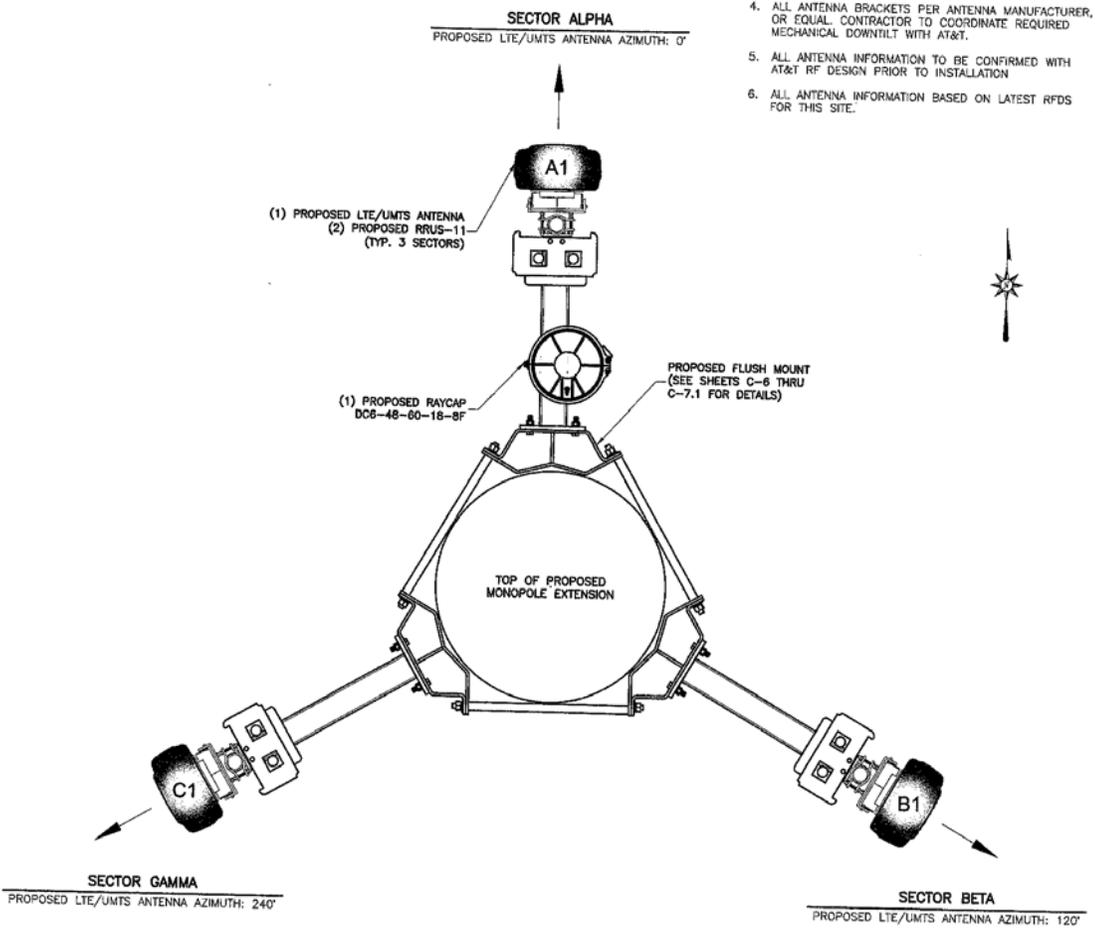
Approved antenna and equipment at MARA

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THE REQUIRED FAA LIGHTING MUST NOT BE BLOCKED IN ANY WAY BY THE ANTENNAS. THE REQUIRED 360° LIGHTING VISIBILITY MUST BE MAINTAINED.



TOWER ELEVATION
11"x17" SCALE: N.T.S.
24"x36" SCALE: N.T.S.



PROPOSED ANTENNA LAYOUT @ ELEVATION 120'-0" A.G.L.
11"x17" SCALE: N.T.S.
24"x36" SCALE: N.T.S.

- GENERAL NOTES:**
1. THIS ANTENNA ORIENTATION PLAN IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
 2. ANTENNA CENTERLINE HEIGHT REFERENCED FROM GROUND AT BASE OF TOWER, ASSUMING HEIGHT OF 0'-0" AT SAID REFERENCE POINT.
 3. ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
 4. ALL ANTENNA BRACKETS PER ANTENNA MANUFACTURER, OR EQUAL CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT WITH AT&T.
 5. ALL ANTENNA INFORMATION TO BE CONFIRMED WITH AT&T RF DESIGN PRIOR TO INSTALLATION
 6. ALL ANTENNA INFORMATION BASED ON LATEST RFDS FOR THIS SITE.

PREPARED FOR:
MasTec
Network Solutions
3800 GATEWAY CENTRE BLVD., SUITE 311
MORRISVILLE, NC 27560

PREPARED FOR:
at&t

PREPARED BY:
FDH VELOCITEL
ENGINEERING INNOVATION
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100 W. HENRY STREET, SUITE 200
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NORTH CAROLINA
Professional
SEAL
32182
ENGINEER
DENNIS D. ABEL

07/08/18
FDH VELOCITEL ENGINEERING, PLLC
COA#P-1390
DENNIS D. ABEL, P.E.
NORTH CAROLINA LICENSE NO. 32182

DRAWN BY: KWJ
CHECKED BY: CB
ENG APP'D: DDA

SUBMITTALS			
DATE	DESCRIPTION	REV	ISSUED BY
07/08/18	CONSTRUCTION	0	JFS

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AT&T LOCATION NAME:
074-806

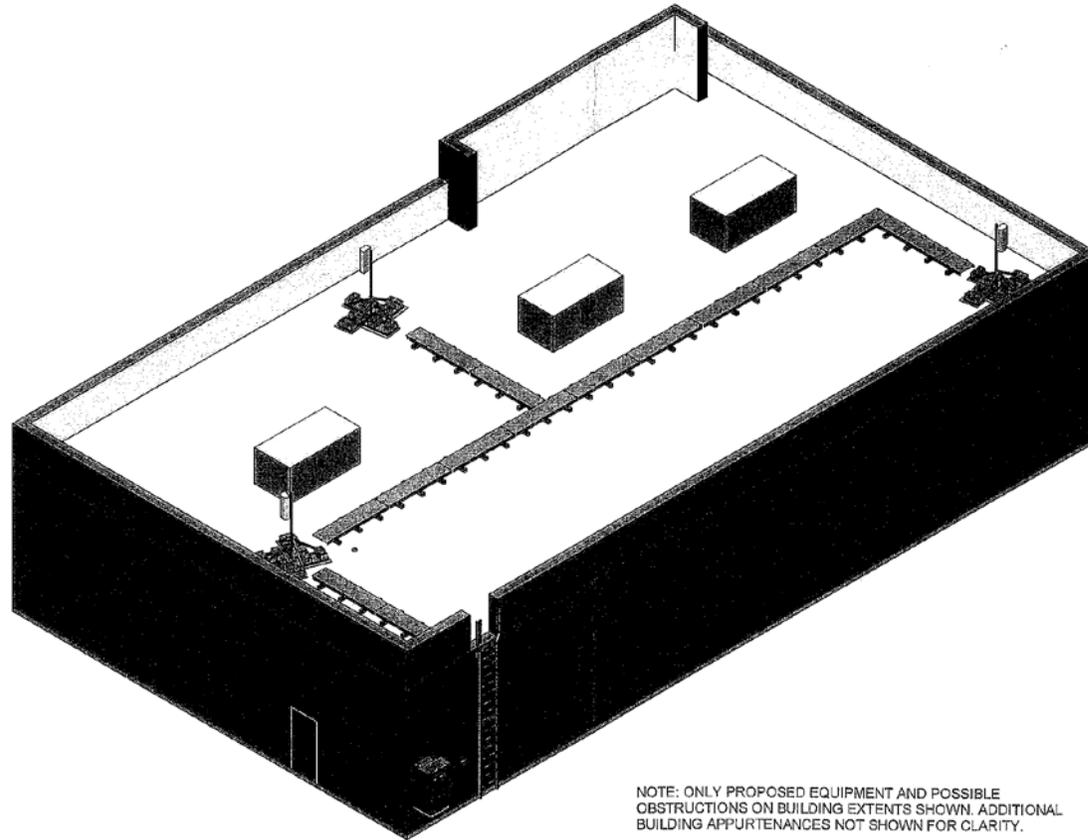
SITE ADDRESS:
1132 SOUTH TRADE STREET
MATTHEWS, NC 28105

FA NUMBER:
10142253

SHEET TITLE
TOWER ELEVATION &
PROPOSED ANTENNA LAYOUT

SHEET NUMBER
C-1.1

ANTENNA BOOSTER ON TOP OF VERIZON BUILDING HIDDEN FROM VIEW



NOTE: ONLY PROPOSED EQUIPMENT AND POSSIBLE OBSTRUCTIONS ON BUILDING EXTENTS SHOWN. ADDITIONAL BUILDING APPURTENANCES NOT SHOWN FOR CLARITY.

ISOMETRIC
SCALE: NTS 1

verizon[✓]

9221 Research Drive
Charlotte, NC 28262

PROJECT INFORMATION:

VERIZON STORE:
MATTHEWS
2218 MATTHEWS TOWNSHIP
PARWAY
MATTHEWS, NC 28105

CURRENT ISSUE DATE:

11/18/2015

ISSUED FOR:

ZONING

REV: DATE: ISSUED FOR: BY:

0	11/18/2015	ZONING	CMJ

CONSULTANT:

Kimley»Horn

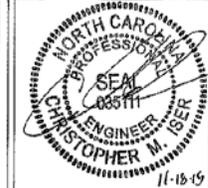
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RAG CMJ CMJ

LICENSER:



SHEET TITLE:

ISOMETRIC

SHEET NUMBER: REVISION:

ZD2 0

012055983

STREET VIEW FROM OFF-RAMP



CLOSE-UP OF ANTENNA



QUESTIONS ON WHAT WE HAVE COVERED?



QUESTIONS TO DISCUSS THIS EVENING:

1) Do you want to keep/revise the current UDO regulations on limiting where tall towers can be located?

- Not in traditional single- and multi-family districts
- In Office zone, no more than 140' tall
- Not allowed in the HUC downtown core area
- In neighborhood or shopping center districts – B-1 and B-1SCD – can be up to 160'
- In other commercial and mixed use districts, can be up to 220'
- In Heavy Industrial district only, can have 400' Trunked Public Safety tower

QUESTIONS TO DISCUSS THIS EVENING:

2) Do you want to keep/revise the current UDO regulations on “stealth” applications?

- Only stealth applications allowed in single-family districts for non-house uses (small churches, public utility structures, etc.) up to 80’
- Only stealth applications allowed in multi-family districts including new SRN and C-MF at 80’
- Above two situations may use an existing structure over 80’ (i.e., transmission tower)
- In R/I districts: *“When utilizing a stealth tower, the above given height limits may be increased up to an additional 40’ at the time of initial construction. Photo simulations must be provided. Said simulations must show all exterior edges of the property. Additional documentation such as coverage maps may also be provided. Site plan to be reviewed and approved by Town Board.”*

QUESTIONS TO DISCUSS THIS EVENING:

3) Do you want to encourage new and emerging methods to increase capacity and coverage?

- Small cell sites
- Distributed Antenna Systems
- Micro cells and Pico cells
- Require underground fiber cable sleeve in public rights-of-way at time of any public or private development project
- Require new overhead utility structures in public rights-of-way to be designed to accommodate antenna and equipment placement
- Other

QUESTIONS TO DISCUSS THIS EVENING:

- 4) Do you want to beef up the current UDO preference for co-location so that:
- Two or more carriers will use the same support structure as often as possible?
 - A wireless service carrier will utilize an existing structure – overhead power pole, street light pole, traffic signal, etc. – to locate new antennas and equipment instead of placing another single-use pole?
 - *“The purpose of this section is to . . . promote and encourage shared use/co-location of existing and new communications towers as a primary option rather than construction of additional single-use towers. . . .”*
 - *“So as to promote and encourage shared use/co-location of existing communications towers, the foregoing provisions of this § 155.506.41 shall not apply to . . . the placement of additional communications antennas and/or supporting or related equipment or equipment buildings on or in the immediate vicinity of a tower that is in existence as of January 27, 1997. . . .”*

QUESTIONS TO DISCUSS THIS EVENING:

5) Do you want to encourage or require new antennas and their related equipment to be placed on existing structures within the desired vicinity instead of installing their own new support structures?

- “Encourage” means no guarantee of compliance but may allow greater flexibility for both installer and Town in specific situations
- “Require” means automatic compliance and the installer must pursue a zoning variance when the specific location creates a difficult placement situation

QUESTIONS TO DISCUSS THIS EVENING:

6) Do you want to add any stipulations on new structures/poles in public street rights-of-way for placement of antennas and their related equipment?

- On Town-maintained streets (primarily in residential neighborhoods today)
- On State roads
- In the HUC Historic Urban Core in downtown
- On those Town streets and/or State roads without existing overhead wired utilities
- NC51 Highway Overlay viewshed
- Other locations/situations

QUESTIONS TO DISCUSS THIS EVENING:

7) Are there specific areas within Town where small cell sites should not be allowed in the public street rights-of-way?

- Using the term small cell sites here in a general and generic way for any lower level antenna and equipment placement (not on a tall tower)
- HUC Historic Urban Core and/or all of downtown
- NC51 Highway Overlay only where Highway Buffer applies – NC51 street frontage and for 200' deep on intersecting streets
- Single-family districts
- Other

QUESTIONS TO DISCUSS THIS EVENING:

8) Do you want to direct small cell sites to government-owned properties other than street rights-of-way?

- Town-owned parcels and buildings
- County and Town parks and greenways
- CMS schools and CPCC
- NCDOT remnant parcels at edges of past state road projects
- City of Charlotte- and Mecklenburg County-owned parcels