TOWN OF FARRAGUT

AESTHETIC PLAN DEVELOPMENT DISCUSSION

June 18, 2020

What is an aesthetic plan?

In relation to small wireless facilities within the public rights of ways, T.C.A., Section 13-24-402 defines an aesthetic plan as:

"*Aesthetic plan*" means any publicly available written resolution, regulation, policy, site plan, or approved plat establishing generally applicable aesthetic requirements within the authority or designated area within the authority. An aesthetic plan may include a provision that limits the plan's application to construction or deployment that occurs after adoption of the aesthetic plan. For purposes of this part, such a limitation is not discriminatory as long as all construction or deployment occurring after adoption, regardless of the entity constructing or deploying, is subject to the aesthetic plan;

What would be Town-specific goals for an aesthetic plan?

- ✓ Enhance Town's long standing commitment to the appearance of the public rights of ways
- ✓ Minimize visual clutter associated with new vertical utility structures in the public rights of ways
- ✓ Promote consistency and compatibility with new vertical utility structures
- ✓ Protect developed properties from the impacts of new vertical utility structures
- ✓ Envision future technologies to try to provide for minimum visual impact and disruption

What does the Town currently have that would constitute an "aesthetic plan" in relation to utility infrastructure within public rights of ways?

- ✓ *T.C.A. 13-4-104*: The Town has historically complied with this provision which requires Planning Commission review and approval of new utilities
- ✓ *Subdivision Regulations*: Article IV. Required Improvements, 6. Installation of Utilities. Requires all utilities to be placed underground
- ✓ *Architectural Design Standards*: Service Areas and Utilities. Install new utility service systems underground and bury all existing above ground services when renovating

Zoning Ordinance: Current provisions in Chapter 4., Section III., Antennas and Towers, including:

- ✓ Pre-application filing meeting to assess use of existing vertical structures where available
- ✓ A statement as to whether the proposed small cell structure is the least obtrusive and whether any alternatives with fewer aesthetic impacts have been exhausted
- ✓ Prioritizing replacement poles that will accommodate stealth technology
- ✓ Small cell support structures should try to co-locate when possible
- ✓ Where utilities are underground, all structures shall be underground except for antenna which shall include stealth technology
- ✓ Where utilities are overhead, stealth technology should be applied appropriate for the location and context
- ✓ Includes placement hierarchy for streets and zoning/land use
- ✓ Evaluation criteria – dealing with visual impact, degree of stealth technology, integration with existing structures

Additional Options to Enhance an Aesthetic Plan for Utilities within the Public Rights of Ways

- ✓ Adopt a separate Aesthetic Plan section of the Municipal Code or a resolution that would govern all new utilities with a vertical component
- ✓ Review existing provisions that address aesthetics to more specifically focus on vertical utility infrastructure
- ✓ What is the void this would help fill?

Aesthetic Plan Enhancements

- ✓ A desire to more clearly define the concept of "Stealth Technology"
- ✓ A desire for more prescriptive requirements for new structures – eliminate subjectivity
- ✓ A desire to capitalize on what the Town can address, consistent with State law
  - ✓ In a nondiscriminatory manner, the physical characteristics of a vertical structure and all of its components can be specified, provided the regulation does not effectively prohibit the utility's intended function

Assumptions Regarding Aesthetic Plan Enhancements for Utilities within the Public Rights of Ways

- ✓ Town will continue reviewing utility projects through the Planning Commission, as provided for in T.C.A., Section 13-4-104
- ✓ Town cannot create provisions in violation of Federal or State Law
- ✓ Town will continue to require new utilities to be installed underground
- ✓ Due to their function, some new utilities will have a vertical component (e.g. pole with antenna or pole with street lighting)
- ✓ An aesthetic plan will primarily relate to new utilities that require a vertical component to function
- ✓ Town has existing overhead utility distribution line systems that pre-date the requirement for utilities to be underground
- ✓ A permitting process is required for the privilege of using the Town's property in the form of its rights of ways
- ✓ The aesthetic requirements will not address Subdivision Street Lights since they are frequently not within the right of way

Given Assumptions – What are the Guiding Principles Related to Aesthetic Plan Enhancements?

- ✓ Limit the number and address the physical characteristics of new vertical utility infrastructure
- ✓ Evaluate utility needs and opportunities for sharing existing vertical utility infrastructure
- ✓ Control to the greatest extent possible the aesthetic impact of new installations – including underground installations in developed areas

Given Assumptions - What Should be Prescribed?

- ✓ Type of pole and arrangement of equipment
- ✓ How the pole should be used – whether it has a dual function (e.g. telecommunications and lighting, two telecommunications providers, 4G and 5G)
- ✓ Dimensional parameters for new vertical utility structures
- ✓ Parameters appropriate for the type of vertical utility
- ✓ What types of vertical utilities do we currently have or may provide for and how should they be addressed in terms of an aesthetic standard?

Typical Vertical Utility Types

- Type 1 - Existing utility poles with utility lines (may or may not have lighting)
- Type 2 – Existing utility pole with only street lighting
- Type 3 – Existing utility pole with street lighting and one other utility
- Type 4 – New freestanding pole for a single utility

Type 1 - Existing Utility Poles with Utility Lines

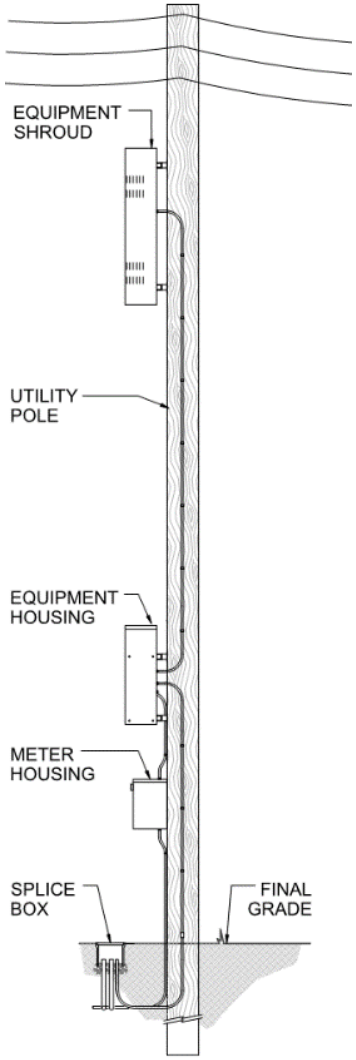
- ✓ Includes distribution lines common along older local streets and arterial and collector streets
- ✓ May also include transmission lines in utility easements – not within public rights of ways
- ✓ Wooden poles are common for the shorter poles
- ✓ Steel poles are common for new poles or those associated with transmission lines
- ✓ Should be used, if possible, before requesting a Type 4 pole
- ✓ Generally from 30 to 50 feet in height with transmission lines being in excess of 50 feet

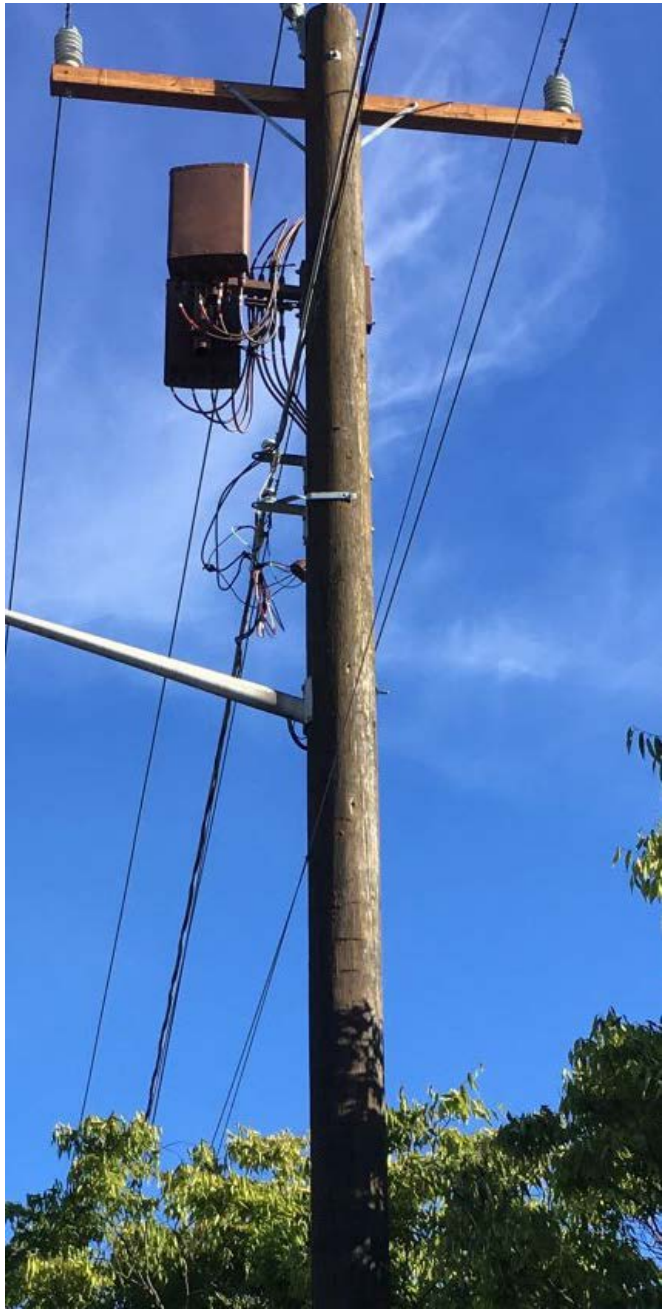
Requirements for New Structures on Existing Type 1 Poles

- ✓ Shall comply with requirements of utility provider that owns the pole (including clearance, structural capacity, and other safety related provisions)
- ✓ Additional non-light fixture structures attached to the pole shall be shrouded with no new equipment generally protruding horizontally beyond any existing equipment mounted to the pole
- ✓ Dimensional parameters for shrouds shall be provided
- ✓ No additional ground mounted equipment shall be permitted
- ✓ An example of new structures mounted to a Type 1 Pole is the following:

Aesthetic Objectives

- ✓Equipment is Shrouded
- ✓Equipment is Close to Pole
- ✓Additional bulk is minimized
- ✓Equipment is consistent between components





Avoid Installations Similar to These

Require Installations Similar to These

Type 2 - Existing Utility Pole with only Street Lighting

- ✓ Typically steel
- ✓ Common along arterial streets where other utilities are underground (e.g. Parkside Drive and S. Campbell Station Road)
- ✓ Does not include private "Subdivision Street Lights"
- ✓ Should be used, if possible, before requesting a Type 4 pole
- ✓ Would likely have to be replaced to accommodate additional equipment
- ✓ Generally from 30 to 50 feet in height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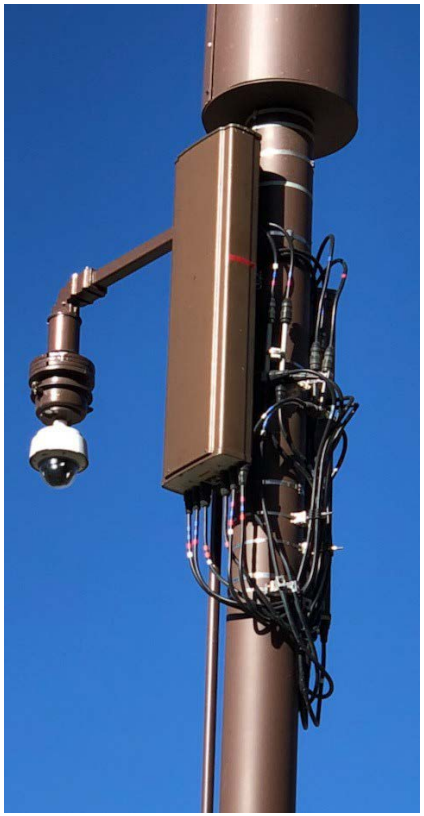
General Requirements Related to Type 2 Poles Used for New Vertical Utilities

- ✓ Shall comply with requirements of entity that that owns the pole (including location, height, clearance, structural capacity, and other safety related provisions)
- ✓ New structures on such poles would only be permitted for telecommunications due to the requirement for an antenna reception
- ✓ New structures shall be consistent from pole to pole along same street
- ✓ Only round, straight galvanized steel poles may be used to accommodate additional structures due to their structural characteristics and their capacity to conceal new equipment within the pole
- ✓ Any replacement pole shall match the existing color, designs, lighting fixtures, and lighting fixture height per the aesthetic plan
- ✓ All new equipment shall be housed internal to the pole and underground
- ✓ No new equipment shall be mounted to protrude from the exterior of the pole
- ✓ Conduit, wiring, and other hardware must be hidden from view



Avoid New Equipment Protruding from the Pole
Avoid Exposed Wiring and Creating Obstructions

Components of Replacement Type 2 Poles

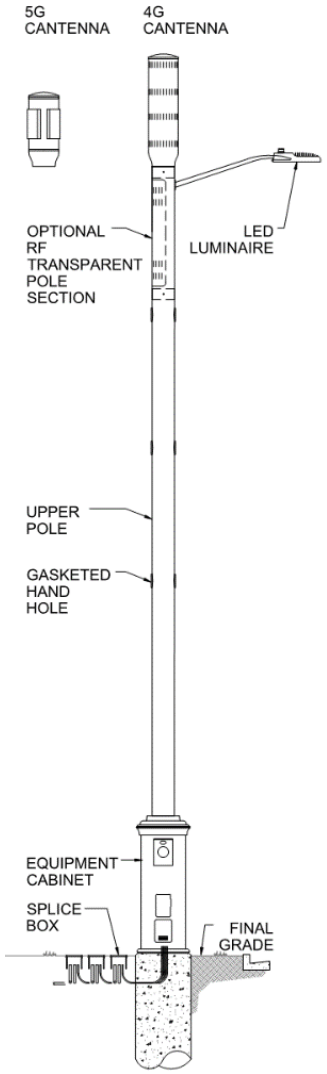
- Typical components on a replacement street light pole include:

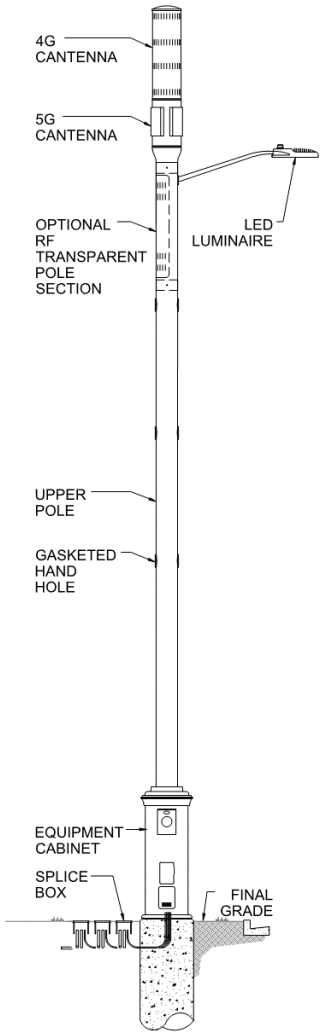
  - ✓ Foundation
  - ✓ Equipment cabinet
  - ✓ Upper pole
  - ✓ Luminaire and mast arm
  - ✓ Cantenna (antenna and all necessary equipment contained within a cylindrical shroud)
  - ✓ Hardware and internally integrated electrical equipment

Requirements Related to Components

- ✓ Each component shall have a smooth transition shroud
- ✓ Foundation shall be engineered for anticipated structures
- ✓ Dimensional limitations shall be provided for each component so that the bulk of the new vertical utility is minimized (e.g. an equipment cabinet may be limited to an outer diameter of 20 inches and an cantenna limited to an outer dimension of 16-19 inches)
- ✓ All fixed connections shall be hidden from view
- ✓ Only a luminaire consistent with the aesthetic plan or a traffic control sign shall protrude from the pole
- ✓ Some examples of acceptable poles…

Required Aesthetic Standard for Replacement Poles or New Structures on Light Poles (luminaire placement may vary depending on existing street light installations)





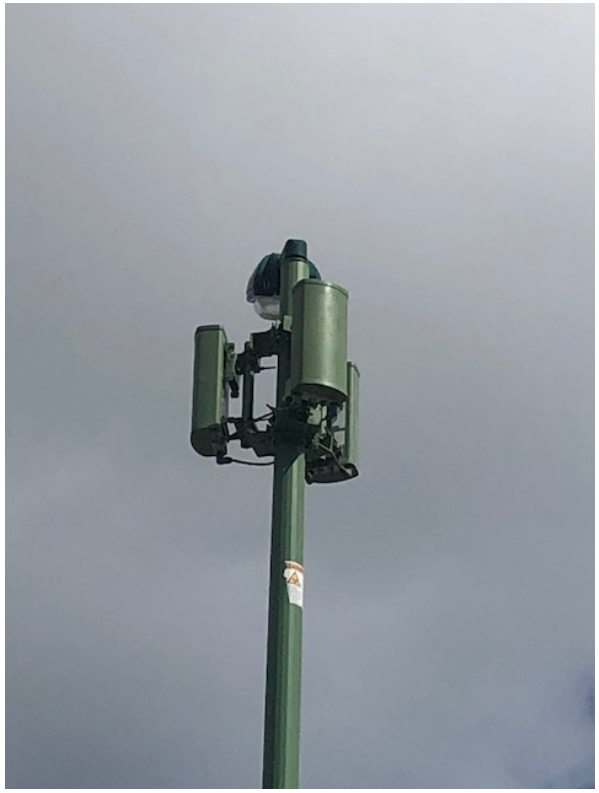
Type 3 - Existing Utility Pole with only Street Lighting and One Other Utility

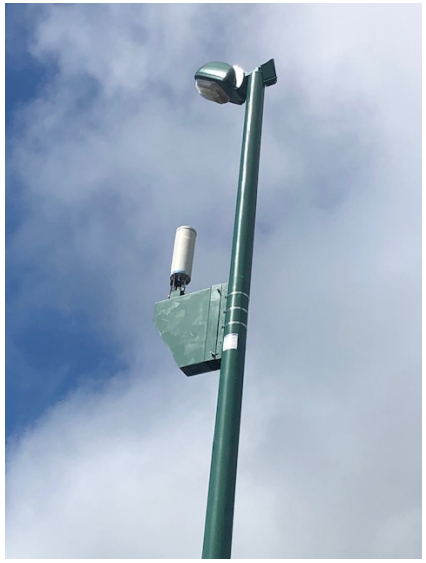
- ✓ Typically steel
- ✓ Currently includes four poles in the Parkside Drive area (street light and telecommunications)
- ✓ Were originally Type 2 poles that were replaced to accommodate telecommunications structures along with the street light
- ✓ These existing installations do not follow aesthetic requirements proposed at this time
- ✓ New combination poles would be required to comply with the provisions noted for Type 2 poles
- ✓ Changes to existing Type 3 poles would require new structures to comply with the aesthetic requirements

Existing Type 3 Poles – How are they noncompliant with proposed aesthetic requirements?

- Existing Type 3 poles have cantenna that protrudes from the pole
- Existing Type 3 poles do not comply with requirements for consistency between cantennas and other structures used on the poles
- Light fixtures do not provide for cantenna mounting desired
- Light fixture would need to be consistent with aesthetic plan
- Existing Type 3 poles include the following in the Parkside Drive/Campbell Lakes Drive area..


Parkside Drive

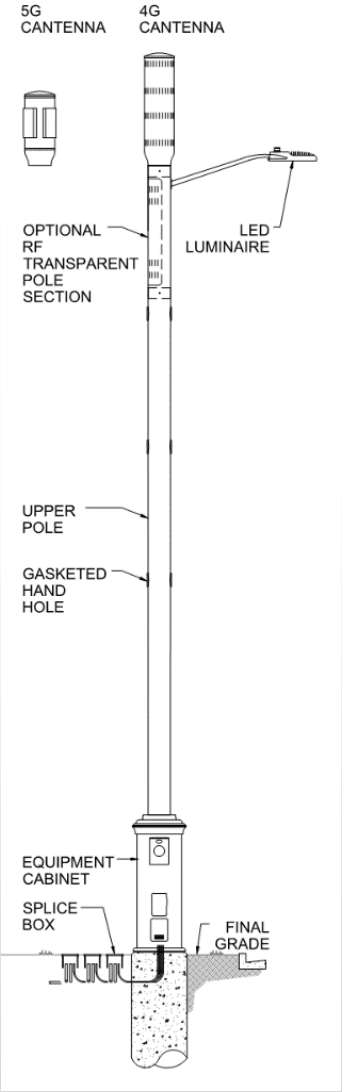


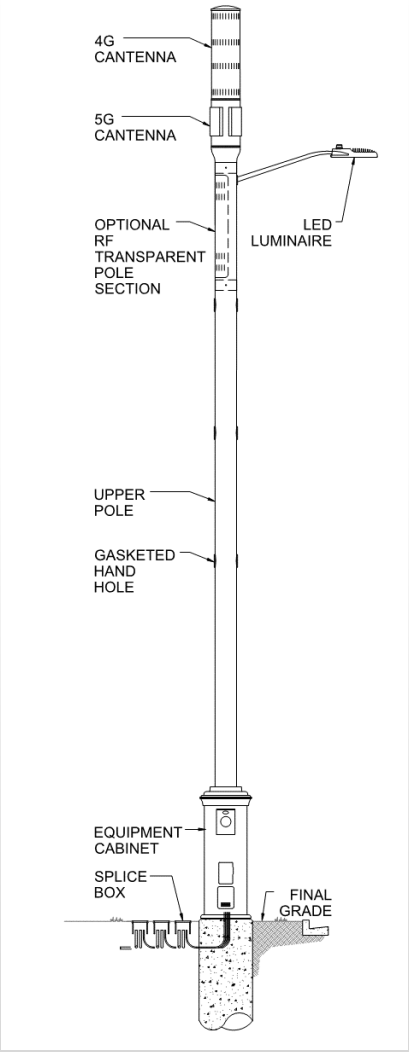





Avoid Antennas Protruding from the Pole and Avoid Incompatible Antenna Installations along the same street

Required Aesthetic Standard for New or Replacement Poles
(luminaire placement may vary depending on existing street light installations)

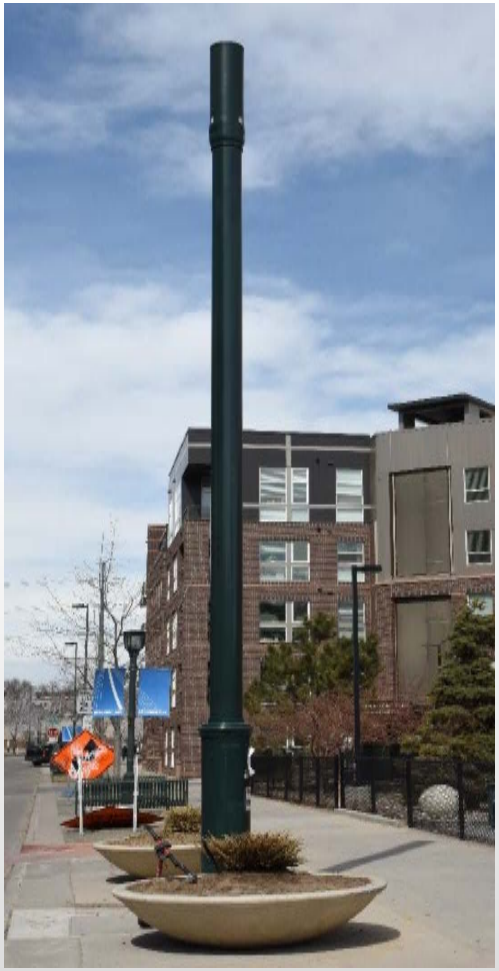


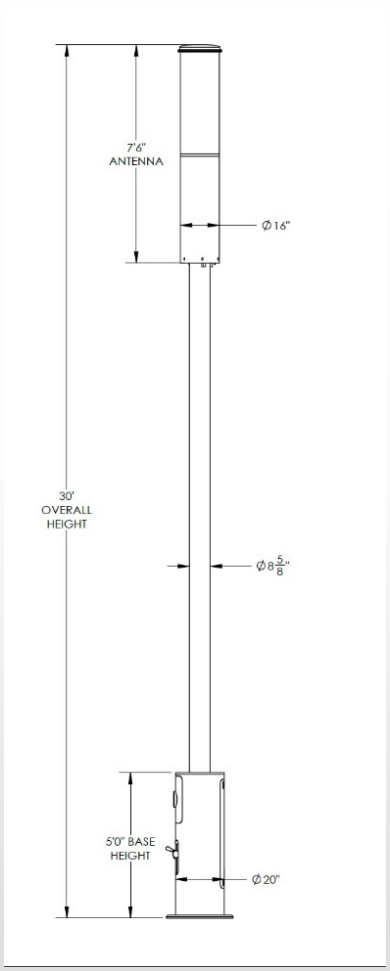


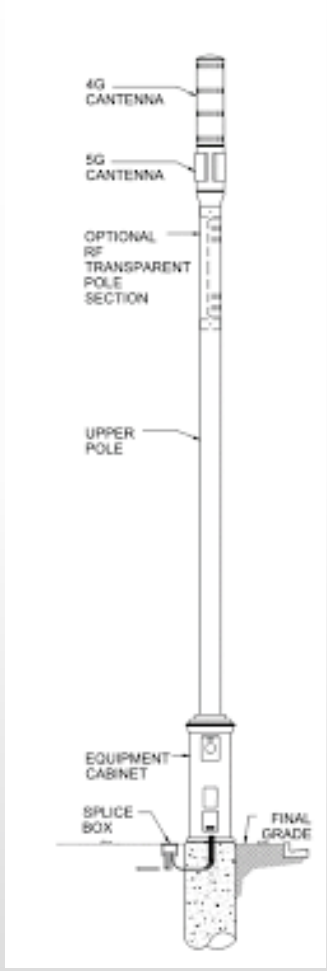
Type 4 – Freestanding Pole for New Vertical Utilities

- ✓ Last resort option – Type 1, 2, and 3 poles should be evaluated for use prior to proposing a Type 4 pole
- ✓ Applicant must demonstrate this is only option
- ✓ Would contribute to proliferation of vertical utility infrastructure
- ✓ These are “stand alone poles” for only one utility
- ✓ All requirements that were noted for Type 2 and 3 poles would apply to Type 4 poles (with the exception of luminaire related provisions)

Required Aesthetic Standard for Type 4 Poles and Associated Structures







Additional Aesthetic Requirements for Type 4 Poles

- ✓ Coordinate with and match the aesthetic characteristics of existing subdivision street lighting, when applicable
- ✓ Type 4 poles shall blend in with surroundings
- ✓ Type 4 poles shall have consistent placement, color, height and component dimensions
- ✓ Type 4 poles shall provide for at least dual technology or dual carriers (e.g. 4G and 5G or Verizon and AT&T)

Placement Requirements for Type 4 Poles (Given they are New Poles in New Locations)

- ✓ Avoid creating obstructions
- ✓ Avoid hindering pedestrian travel
- ✓ Place pole in alignment with existing utility poles and streetlights, where applicable
- ✓ Replace any damaged infrastructure or landscaping to its original condition
- ✓ Locate so that the pole is at least 15 feet from the nearest tree canopy and ensure that no disturbance will occur within the critical root zone of any tree

Additional Placement Requirements for Type 4 Vertical Utilities

- ✓ Poles should be placed in front of non-dwelling unit lots (open space lots) as an initial placement consideration
- ✓ Poles should be placed on or in-line with property lines separating adjoining lots
- ✓ Poles shall not be placed adjacent to the front plane of a building
- ✓ Poles shall not be placed in front of residences or businesses

Type 4 Poles Shall be Placed on or in line with property lines separating adjoining lots

Other Vertical Infrastructure
Subdivision Street Lights

- ✓ Not required by the Town
- ✓ Decorative in nature and maintained by HOA's
- ✓ Limited to 16 feet in height
- ✓ Pole and fixture varies from subdivision to subdivision
- ✓ Many poles are not within the public rights of ways but rather utility easements - due to this, they are not to be covered by the aesthetic plan
- ✓ Located along local streets only
- ✓ Structurally not capable of additional equipment attachment

Light Fixture Considerations

- ? Should different fixtures be prescribed for different streets? Currently, Parkside Drive and S. Campbell Station Road are arterial streets with only Type 2 or Type 3 Utility Poles (all other utilities are underground)
- ? Should a different fixture be specified for land zoned residential vs. commercial/office?
- ? Should a different fixture be specified for the Mixed-Use Town Center, Mixed-Use Neighborhood, and Gateway Areas of Town? As an example, Concord Road has new decorative fixtures – should something similar be extended to other corridors as roads are improved or street light systems are updated? Some light fixture examples…

Light Fixture Styles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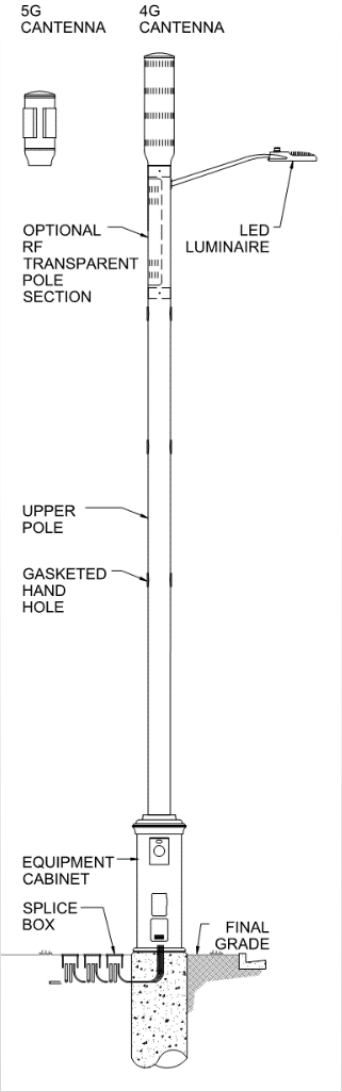
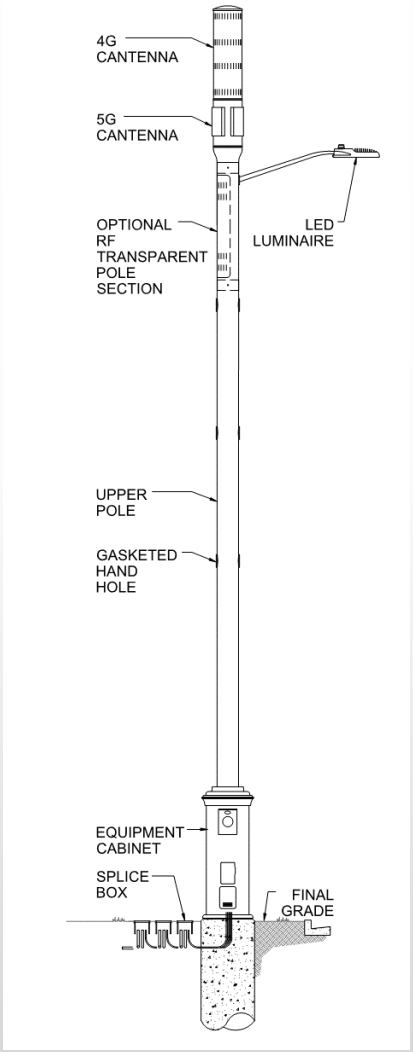
Required Aesthetic Standard Must Coordinate Light Fixture Style and Placement with Cantenna Placement





What Do We Need to Do?

Establish Vertical Infrastructure Specifications

- ✓ To eliminate subjectivity and ensure predictability and consistency, the aesthetic plan will need to specify pole dimensions, color, material, style, and dimensions for all equipment that may be visible on the pole
- ✓ This specification will apply consistently to all new vertical infrastructure (within the public rights of ways) that cannot be placed underground (namely lighting and telecommunications equipment)
- ✓ The specified pole will need to be able to accommodate street lighting and telecommunications since these will constitute virtually all new vertical utilities
- ✓ Decide on light fixture aesthetic requirements that can also provide for desired cantenna placement

Questions?