

City of Shelby Electric Service Regulations - Shelby, N.C.

10.05 Multi-Dwelling Structures

For service to multi-dwelling structures, the Developer will be required to furnish and install a multi-gang meter facility on one common side of the structure as approved by the City. Each meter base shall be permanently marked and maintained as to the customer address it feeds prior to being energized.

11.0 Relocation of City Facilities

Customers requesting the City to relocate installed facilities will pay for the cost of this relocation. These charges can be waived or adjusted in the event that the relocation is advantageous to the City for maintenance, reliability or future service requirements as determined by the Utilities Director.

12.0 Street Lighting

The purpose of street lighting is to illuminate roadways within the City of Shelby. Street lighting is not for lighting structures or commercial properties or for personal security purposes or crime prevention purposes.

The purpose of this document is to establish guidelines for effectively lighting the public streets under the control of the City of Shelby. Proper street lighting not only serves the needs of the motoring public but also contributes to the livability of the public along the streets. Street lighting also contributes to personal safety and security, as well as comfort and welcome of pedestrians along the streets. Street lighting influences the public's choice of transportation, i.e., driving, walking, riding a bike or bus. Care should be taken to balance the needs for cars, trucks, buses, pedestrians, and bicyclists.

Street lighting considerations involve a variety of engineering design issues. These may include issues such as wattage, color of light, shielding of light, fugitive light, energy efficiencies, mounting heights, and more. Because of on going research in the field of lighting, street lighting and outdoor lighting plans should be reviewed and updated on a regular basis.

The street lighting requirements contained herein shall apply to new installations. Existing street lighting shall be evaluated and improvements made according to these guidelines as time permits and funds are made available.

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Street Classification

The appropriate classification for each street under the control of the City of Shelby should be determined by the role each street plays as part of the entire traffic system. The criteria for determining street classification should include the following:

1. Average daily traffic volume.
2. Non-automobile use (trucks, buses, pedestrian).
3. Posted speed limit.
4. Spacing of connecting streets.
5. Length of streets.
6. Number of traffic lanes.
7. Points of access (driveways) per mile.
8. Proximity to public or community building (example: fire station, city hall, community center).
9. Visibility (example: curves, hills, visual obstructions).

For the purpose of these guidelines the streets are divided into five (5) categories.

Major Thoroughfare:

Usually four lanes, these streets carry the highest volume of traffic. They are principle routes for through-traffic flow. Partial access control is maintained to limit access to intersections with other roads. Right of way is usually 70 to 120 feet and above.

Minor Thoroughfare:

These streets supply as the main arteries for intra-city mobility. These routes connect the Major Thoroughfares or principle areas of traffic generation such as downtown, shopping centers, airports, etc. They are usually the main routes leaving the city. They may be two lane, two lane with a turn lane, or four lane. Right of way is usually 45 to 70 feet.

Collector:

These streets are found in multi-family residential, commercial, and industrial areas. Collectors usually have slightly wider right of ways than Sub Collectors and may have provisions for on street parking, sidewalks, planting strips, etc. Collector streets may be used for truck or bus traffic and usually connect Minor Thoroughfares. Right of way is usually 30 to 60 feet.

Sub Collector:

Sub Collectors are found only in single family residential neighborhoods. The right of way is usually narrower than Collector Streets and provide access to private property by means of a large number of driveways. Sub Collectors carry a low to moderate traffic volume at low posted speed limits and discourage through traffic. Right of way is usually 20 to 60 feet.

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Local Residential/Cul-de-Sac/Marginal Access:

Local Residential/Cul-de-Sac/Marginal Access streets are for direct access to private property which may be residential, commercial, or industrial. This classification is made up of the largest amount of total street mileage, but carry the smallest part of the traffic volume. Local Residential/Cul-de-Sac/Marginal Access streets are usually two lane with the narrowest right of way and pavement width.

STREET LIGHTING

Street Lighting Design Table:

| Road | Pedestrian Conflict Area | Average Luminance L_{avg} (cd/m ²) | Luminance Uniformity L_{avg} to L_{min} Max. Allowed | Luminance Uniformity L_{max} to L_{min} Max. Allowed | Veiling Luminance Ratio L_v to L_{avg} Max. Allowed |
|--|--------------------------|--|--|--|---|
| Major Thoroughfare | High | 1.0 | 3 to 1 | 5 to 1 | 0.3 to 1 |
| | Medium | 0.8 | 3 to 1 | 5 to 1 | 0.3 to 1 |
| | Low | 0.6 | 3.5 to 1 | 6 to 1 | 0.3 to 1 |
| Minor Thoroughfare | High | 1.2 | 3 to 1 | 5 to 1 | 0.3 to 1 |
| | Medium | 0.9 | 3 to 1 | 5 to 1 | 0.3 to 1 |
| | Low | 0.6 | 3.5 to 1 | 6 to 1 | 0.3 to 1 |
| Collector and Sub Collector | High | 0.8 | 3 to 1 | 5 to 1 | 0.4 to 1 |
| | Medium | 0.6 | 3.5 to 1 | 6 to 1 | 0.4 to 1 |
| | Low | 0.4 | 4 to 1 | 8 to 1 | 0.4 to 1 |
| Local Residential/Cul-de-Sac/Marginal Access | High | 0.6 | 6 to 1 | 10 to 1 | 0.4 to 1 |
| | Medium | 0.5 | 6 to 1 | 10 to 1 | 0.4 to 1 |
| | Low | 0.3 | 6 to 1 | 10 to 1 | 0.4 to 1 |

Note: This table was taken from the Illuminating Engineering Society of North America

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RP-8-00 American National Standard Practice for Roadway Lighting. Road types been modified to match the City's classifications.

Fixture:

The standard street lighting fixture shall be a cobra head style, length of arm as required, 250 watt, 120/240 volt, high-pressure sodium (HPS), IES Distribution Type III, photoelectric cell operated switch, full cutoff optics, and a minimum of 26,000 initial lumens. Non standard fixtures may be selected by the City for special applications, or lighting designs that are required to meet the criteria as set forth by IES RP-8-00.

Spacing:

The spacing of fixtures shall be as follows:

| | |
|--|--|
| Major Thoroughfare | To be determined by ANSI/IESNA RP-8-00 |
| Minor Thoroughfare | 100 – 200 ft. |
| Collector | 100 – 200 ft. |
| Sub Collector | 100 – 250 ft. |
| Local Residential/Cul-de-Sac/ Marginal Access | 100 – 250 ft. |

Spacing may be accomplished by staggered or single side layout.

Mounting Height:

The fixture mounting height shall be a minimum of 23 feet and a maximum of 35 feet from grade.

Voltage Drop:

All street lighting electrical circuits of 120/240 volts shall be limited to 5% voltage drop.

General:

Street lighting should be placed at all intersections and at other high volume pedestrian areas. Where sidewalks exist on only one side of the street, street lighting should be placed on that side if possible to provide illumination for pedestrians. A street light should be placed on each cul-de-sac, at the point where the tangent meets the circular outside of the cul-de-sac.

On streets with sidewalk and a high volume of pedestrian traffic, the addition of lower pedestrian oriented type street lights should be considered. Examples of these areas would be in the vicinity of shopping centers, theaters, downtown district, stadiums, etc.

Where the City has an existing pole line, these poles will be used for street lighting purposes whenever possible. Additional poles will be added as required. Fixtures added

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to a street with the City's standard lighting shall be similar in style and illumination to the existing fixtures.

Street light support shall not be placed within 4 feet of a fire hydrant or 5 feet of a residential driveway.

REQUEST FOR STREET LIGHTING ALTERATIONS

When a request is received for street lighting rearrangement, installation, or removal the City shall:

1. Review any existing street lighting to determine if illumination levels are presently in compliance with these guidelines.
2. Review the street for conditions which may require special safety considerations.

Requests for street lighting alterations may require written approval by all property owners fronting the street in question.

Should the street lighting be found in compliance with these guidelines, the relocations, replacement, and retirement cost shall be paid in full by the requesting party or parties prior to the installation of any street lighting alterations.

DECORATIVE OR NON-STANDARD LIGHTING

The City has compiled a list of decorative or non-standard poles and fixtures that meet their requirements. Prior to installation, neighborhoods may request an approved decorative or non-standard fixture and pole in lieu of the standard wood pole and fixture. If approved by the City the following shall apply.

1. All poles and fixtures installed in the neighborhood shall be compatible.
2. Lighting levels and layout must be approved by the City prior to installation.
3. All upfront engineering fees shall be paid by the developer or neighborhood prior to design work.
4. Cost difference between a standard installation (cobra head fixture on a wood pole) and a decorative or non-standard pole and fixture chosen shall be paid by the developer or neighborhood. Additional underground cost for labor and materials shall also be paid by the developer or neighborhood. All cost to the developer or neighborhood shall be estimated and paid prior to any work being accomplished.

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13.0 Rental Area Lighting

- (a) Outdoor Area Lighting will be supplied in accordance with the Customer's Application for Outdoor Lighting and the City of Shelby Outdoor Lighting Contract. The service supplied by the City will include furnishing and installing the lighting units requested by the Customer and connecting the same to the City's system, all in accordance with the City's service regulations. These facilities, with automatic control, will be owned, maintained, and operated by the City, and the City will furnish the electricity required for the illumination of the lamps from dusk to dawn. The City will perform, as soon as practicable during regular working hours, necessary maintenance to restore illumination after the Customer has notified the City that the lamp is not burning. Any area lighting not in accordance with this regulation must be approved by the Director of Utilities.

- (b) This service shall be for use in lighting of outdoor areas by the means of sodium vapor fixtures installed on brackets extending (4) four feet or less from a City owned pole. These lighting units can be installed on City owned poles on which overhead secondary voltage exists, or to which such voltage can be extended without additional transformer installation.

13.01 Rental Area Lighting Units Available

- 100 watt High Pressure Sodium Vapor
- 250 watt High Pressure Sodium Vapor
- 400 watt High Pressure Sodium

13.02 Installing Area Lighting

- (a) Customer requests for Rental Area Lighting installations will be submitted to the Customer Services Office by the Customer. The Utility personnel will meet with the customer and determine the proper placement of lights.

- (b) Rental Area Lighting will be placed on Customer property only where a utility

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line truck has access. No Area Light Poles will be set in locations inaccessible to a line truck.

- (c) The Customer shall be informed prior to any installation that any damage to driveways or grounds, will not be the responsibility of the City of Shelby. In addition, an Electric Services Installation Provision form must be completed.

13.03 Disconnecting Area Lighting

- (a) Customer requests for Rental Area Lighting disconnects will be submitted to the Customer Services Office by the Customer. The procedure below shall be followed for Area Light disconnects.
- (b) Disconnect orders require the Service Crew to disconnect electric service from the lighting fixture. In the event the Customer desires the entire unit to be removed, the pole, light fixture, and secondary cable will be removed.
- (c) The Customer will be informed prior to any disconnect that any damage to driveways or grounds will not be the responsibility of the City of Shelby.
- (d) Disconnects shall be completed within ten (10) working days of the receipt of the service order in the Electric Division, weather permitting.

13.04 Replacing or Repairing Area Lighting

In the event an area lighting unit is not operating, the Service Crew will make an attempt to repair the existing unit with available "in stock" repair parts. When these parts are not available or have been exhausted, the lighting unit will be replaced with available lighting units.