

CHAPTER 8: PARKING AND INFRASTRUCTURE

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Section 8.1 Parking General Provisions

The purpose of this section is to ensure that adequate and well-designed parking is provided for developments in the Town of Troutman. The following are general requirements for all new developments except single-family detached residential and two-family residential (duplexes). The expansion of existing development shall follow these requirements to the greatest extent possible.

- A. Parking areas shall be located to the side or behind buildings. No off-street parking area shall be located within any front yard. Parking areas in the side yards shall not extend beyond the frontage line of the building. This does not apply to the I Industrial zoning district. This also does not apply to the interior roads within a Shopping Center or Commercial Major Subdivision; no parking will be allowed in the front yards adjacent to the ROWs surrounding the development.
- B. All parking areas shall be screened from view in accordance with Type B landscaping in accordance with Chapter 7.
- C. Off-street parking areas shall be designed to facilitate adequate movement and access by sanitation, emergency, and other public service vehicles.
- D. Off-street parking areas shall be designed so that parked vehicles do not encroach upon, extend onto, or cause vehicles to back into public rights-of-way, sidewalks or strike against or damage any wall, vegetation, utility, or other structure.
- E. Off-street parking areas of greater than 5 spaces shall provide curb and gutter. This requirement may be waived in the Watershed Protection Overlay for sheet flow drainage.
- F. The size of any single surface parking lot shall be limited to three (3) acres, unless divided by a street or building. Larger parking lots shall be separated by buildings or landscaped areas with a minimum width of five (5) feet. This does not apply to the I Industrial zoning district.
- G. The following shall be paved or contain a similar type material approved by the Zoning Administrator. Gravel and other stabilization material without a permanent wearing surface is not permitted:
 - Front yard parking areas.
 - Side yard parking areas.
 - All off-street parking areas for lots of greater than one acre.
 - Driveways

Off-street rear yard parking areas for lots of less than one acre may use pea gravel in lieu of a paving material provided that handicap parking meets ADA standards and pea gravel is contained to the parking area using landscaping timbers or other containment device.

- H. Paved parking areas shall have lines demarcating each parking space.
- I. Off-street parking areas shall be properly maintained in all respects. In particular, and without limiting the foregoing, off-street parking area surfaces shall be kept in good condition (free from potholes, etc.) and parking space lines or markings shall be kept clearly visible and distinct.
- J. On-street parking is prohibited for nonresidential development. No parking shall be permitted on private streets unless an additional eight (8) feet of pavement width is provided for each side of the

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street used for parking. When on street parking is not provided each lot or dwelling unit shall provide four (4) off-street parking spaces.

- K. A secure bicycle rack is required for all parking lots greater than 50 spaces. Bicycle parking may be placed in the front yard.

Section 8.2 Parking Ratios

8.2.1 Parking Ratios by Use

The following are minimum parking ratios for the uses indicated:

Use	Minimum
Single-Family Residential (Attached & Detached)	2 per home
Multi-Family Residential	1 per bedroom
Residential Care Facilities & Hospitals	1 per 4 beds
Commercial (Office & Retail)	3.5 per 1000 square feet
Restaurants	1 per 2 seats
Warehousing/Industrial	.25 per 1000 square feet
Mixed Use	Use minimum for Commercial and Multi-Family Residential
Hotel/Motel/Inn	1 per room; other uses within the hotel at standard rates
Civic & Public Assembly Uses (not including schools)	1 per 4 seats
Elementary and Middle Schools	*
High Schools	*
Colleges	10 spaces per classroom

*Schools shall meet the parking standards set forth by the Iredell County School Board.

*Square footage for Commercial uses only pertains to areas that are for the public or customer usage or access

8.2.2 Parking Spaces for the Disabled

- A. Except for a lot containing a duplex or single-family dwelling, all uses shall be required to provide the following number of spaces designed for disabled persons:

Total Number of Required Spaces	Minimum Disabled Spaces
1-50	1
51-100	2
101 or more	2 plus one for every 50 spaces over 100

- B. The number of such spaces shall be in addition to those required by the minimum parking ratios.
- C. Off-street parking spaces for the disabled shall be designed as follows:

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- All spaces for the disabled shall have access to a curb-ramp or curb-cut when necessary to allow access to the building served, and shall be located so that users will not be compelled to wheel behind parked vehicles, and shall be located the shortest possible distance between the parking area and the entrance to the principal building it serves.
- Parallel parking spaces for the disabled shall be located either at the beginning or end of a block or adjacent to alley entrances. Curbs adjacent to such spaces shall be of a height which will not interfere with the opening and closing of motor vehicle doors.
- Each parking space for the disabled shall be paved and prominently outlined with paint, with a permanent sign of a color and design approved by the North Carolina Department of Transportation, bearing the internationally accepted wheelchair symbol, posted at the head of the parking space.
- The size of the parking space shall be per building code specifications.

Section 8.3 Shared Parking and Parking Connectivity

8.3.1 Shared Parking

The joint use of shared off-street parking between two uses may be made by contract by two or more adjacent property owners. Adjacent lots shall be interconnected where practical. Developments that operate at different times may jointly use or share the same parking spaces with a maximum of one-half (1/2) of the parking spaces credited to both uses if one use is a church, theater, assembly hall or other use whose peak hours of attendance will be at night or on Sundays, and the other use or uses are ones that will be closed at night or on Sundays or upon the normal hours of operation.

8.3.2 Parking Connectivity

Adjacent parking lots shall be interconnected except in the case of existing steep topography between the sites. Each parking area that is interconnected may reduce their minimum parking requirement by 5%.

Section 8.4 Parking Dimensions

8.4.1 Parking Space Dimensions

Each parking space, (other than those designed for the disabled) shall contain a rectangular area at least 19 feet long and 9 feet wide. However, parking spaces with aisles of at least 25 feet may be reduced to 18 feet long and 9 feet wide.

8.4.2 Parking Lot Dimensions

The following are dimensional standards for all required parking areas:

Aisle Direction	Angle of Parking Spaces				
	0 (parallel)	30	45	60	90 (perpendicular)
One-Way	13 feet wide	14 feet wide	18 feet wide	20 feet wide	25 feet wide
Two-Way	19 feet wide	20 feet wide	21 feet wide	23 feet wide	25 feet wide

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Section 8.5 Loading Area Requirements

All non-residential uses greater than 5,000 square feet shall provide an off-street loading area. The C-B District is exempt from off-street loading requirements.

8.5.1 Minimum Off-Street Loading Space Requirements

The following minimum loading space requirements shall apply for the appropriate use:

Use	Gross Floor Area	Required Loading Spaces
Office	any	n/a
Restaurant, Hotel/ Motel	5,000-49,999 square feet	1
	50,001-100,000 square feet	2
	Over 100,000 square feet	2 plus one for each 100,000 sf over 100,000 sf
Commercial/Industrial Uses	5,000-19,999	1
	20,000-49,999	2
	50,000-79,999	3
	80,000-99,999	4
	Over 100,000 square feet	5 plus one for one for each 50,000 sf over 100,000sf

8.5.2 Design of Loading Spaces

- A. Off-street loading spaces shall be designed and constructed so that all maneuvering to park vehicles for loading and unloading can take place entirely within the property lines of the premises. Loading spaces must be designed so as to not interfere with the normal movement of vehicles and pedestrians on public rights-of-way. Where feasible, off-street loading shall be located in the rear yard. In certain zoning districts, however, off-street loading areas shall be required in the rear yard. No area allocated to loading and unloading facilities may be used to satisfy the area requirements for off-street parking, nor shall any portion of any off-street parking area be used to satisfy the area requirements for loading and unloading facilities.
- B. Each loading berth shall have a paved surface and be a minimum of 12 feet in width and 65 feet in length. Each such berth shall also have a minimum vertical clearance of 14 feet.

Section 8.6 Driveways

- A. Driveways shall be not less than 12 feet in width for one-way traffic and 24 feet in width for two-way traffic. Refer to Appendix B.
- B. Ten foot wide driveways are permissible for two way traffic when:
- The driveway is not longer than 50 feet
 - The driveway provides access to not more than six parking spaces
 - Sufficient turning space is provided so that vehicles need not back into a public street. In no case shall a driveway width exceed thirty-six (36) feet, except as required by NCDOT.
- C. Driveways shall be as nearly perpendicular to the street right-of-way as possible.

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- D. No driveway on US Highway 21 shall be less than 300 ft from an existing driveway or intersecting public street, unless a shared driveway arrangement is not feasible, or other similar hardships as determined by the TRC.

Section 8.7 Lighting

8.7.1 Outdoor Lighting for Individual Sites

- A. Outdoor lighting shall be designed, located and mounted at heights no greater than eighteen (18) feet above grade for non-cut-off lights, or thirty five (35) feet above grade for cut-off lights; and located at least 10 feet from property lines defining rear and side yards or required landscaping areas.
- B. All outdoor lighting shall be designed and located such that the maximum illumination measured in foot candles at the property line shall not exceed .3 for non cut-off lights and 1.5 for cut-off lights. The average intensity illumination for outdoor lighting shall not exceed 6-foot candles in intensity as measured at grade. Fixtures should be placed to provide uniform distribution of light and to avoid intense lighting that produces excessive glare.
- C. Lighting shall be functionally and architecturally integrated with site and building design.
- D. A Lighting Plan with photometric information shall be required as part Construction Drawing submittal in accordance with Section 9.6.

8.7.2 Street Lighting Provisions

The Town of Troutman, as a part of its municipal service program, provides street lighting along all public streets within the corporate limits. All requests for street lighting installation and removal are to be submitted in writing to the Town Manager. The following are general provisions for street lighting:

- A. The Town of Troutman, as a minimum standard, provides street lighting on existing publicly-dedicated streets in accordance with the following schedule:
- Single Family Residential Areas: 100 Watt High Pressure Sodium (HPS) bulb mounted on 30 foot wood poles, 500 feet on-center
 - Multi-Family, Mixed Use and Commercial Areas: 250 Watt High Pressure Sodium (HPS) bulb mounted on 30 foot wood poles, 300 feet on-center
- B. Consideration should be made to place all lighting at all intersections and other high pedestrian use areas.
- C. Lighting should be planned to ensure adequate illumination for safety of both the pedestrian and the automobile.
- D. Where sidewalks exist on one side of the street only, street lighting will be placed on that side to ensure adequate illumination for the pedestrian.
- E. Additional lighting on a street with existing lighting should be similar in style and illumination to the existing lighting.
- F. Citizens requesting lighting not on public street rights-of-way within Troutman will be referred to the appropriate electric utility. The requesting party will be responsible for all costs associated with

lighting non-public street rights-of-way or for which the Town has not authorized installation by the appropriate electric utility to install lighting.

8.7.3 Decorative Lighting

- A. Neighborhoods may request a decorative light option in lieu of the standard wood pole and light. If approved by the Town Manager, all light placed in the neighborhood must be compatible. Any cost chosen between a standard installation (cobra head fixture on a wooden pole) and a different pole/fixture chosen, including additional underground costs, must be paid by the neighborhood prior to authorization of installation fixtures.
- B. Where underground wiring currently exists along thoroughfares and collector streets, the Town of Troutman may provide decorative pole fixtures at the Town’s expense, subject to the approval of the Town Board.

8.7.4 Standards for Acceptance of Lighting by Town

- A. The Town of Troutman may choose to take over responsibility for payment of monthly billing of a street light, provided that the street light:
 - Is within Town-owned right-of-way, and
 - Is within a street right-of-way accepted for maintenance purposes by the Town of Troutman or the North Carolina Department of Transportation; and
 - Meets Town standards, or the petitioner has paid any cost to have the light brought up to Town standards
- B. Takeover billing shall become effective for the billing cycle following the approval of the request. The Town will not reimburse any billing for which the requesting party is responsible for or if the Town has not authorized Duke Power Company, to bill it. This includes any billing between the date of the citizen’s request and the date of the changeover of billing. Take-over billing is only applicable for maintenance and electricity billing only. The Town will not accept any take-over billing of decorative lighting fixtures until all premium costs are paid in full.
- C. The Town may accept street lighting that exceeds the Town’s standards for spacing and/or illumination subject to approval by the Technical Review Committee (TRC).
- D. Due to their low lighting capability and maintenance requirements, natural gas lights are not eligible for this program.

8.7.5 Individual Residential Lighting

Individual residential lights may be installed on request by the public to the extent funds are approved. Requests for upgrading of an individual light will be treated in the same manner as an individual request for a new street light. The style of fixture to be installed must be consistent with the style of fixture already installed in the neighborhood. Any cost differential from the amount charged to the Town for a standard fixture (cobra head fixture on a wooden pole) and a decorative fixture, at the date of authorization must be paid to the Town, by the requester, as a one-time-only charge, prior to authorization. If decorative lighting is requested and the neighborhood has no decorative lighting previously approved, an endorsement by the neighborhood association is required, since future requests for lighting would need to conform to the same decorative lighting future option. Where no such group exists that can represent the neighborhood, the Town will send notice to each property owner within the neighborhood.

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8.7.6 Lighting in Annexation Areas

- A. Upon annexation of an area by the Town of Troutman, the Town will initiate the erection of street lighting in accordance with this policy prior to the effective date of annexation. Notification of the street lighting policy and the Town's intent to erect street lighting in accordance with this policy will be forwarded to a recognized Homeowner's Association. Where no such group exists that can represent the neighborhood, the Town will send notice to each property owner within the neighborhood. Such notice will include a map of the neighborhood and the proposed locations for the lighting. The Town will make every effort to accommodate individual homeowner's requests provided they meet the overall intent of this Section. The Town will not process a work order to erect street lighting until it has received approval from the authorized neighborhood representative or where no such person exists, a majority of the homeowners in the neighborhood. An opportunity will be provided to the neighborhood to install decorative light fixture in accordance with Section 8.7.3 prior to initiation of a work order by the Town.
- B. In areas where street lighting exists, the Town Manager will authorized take-over billing of the lighting provided the premium costs for any decorative lighting fixtures are paid in full by the neighborhood prior to the take-over in accordance with Section 8.7.4.

8.7.7 Removal of Street Lighting

An individual homeowner or neighborhood organization may request removal of a street light provided the overall lighting pattern in the neighborhood is consistent with this Policy. Requests to remove all lighting within a neighborhood shall require the unanimous consent of all property owners within the neighborhood.

Section 8.8 Street Design Standards

8.8.1 Conformance with Comprehensive Transportation Plan

The location and design of streets shall be in conformance with the Comprehensive Transportation Plan (CTP). Where conditions warrant, right-of-way width and pavement width in excess of the minimum street standards may be required. In any case where any part of a subdivision lies within the corridor of a Thoroughfare shown on a roadway corridor official Map adopted pursuant to North Carolina General statutes chapter 136, Article 2E, no subdivision approval shall be granted with respect to the property in the Roadway corridor. Provided, however, no subdivision Plat approval shall be delayed by the provision of the Roadway corridor official map procedure for more than three (3) years from the date of its original submittal.

8.8.2 Traffic Impact Analysis

A Traffic Impact Analysis (TIA) shall be required for any subdivision estimated to produce 2,000 vehicles per day or greater during an average weekday based on a five day national average as defined in the Institute of Transportation Engineers (ITE) Trip Generation Manual. A TIA may also be required for proposed access within 1,000 feet of an interchange, in the vicinity of a high accident location, on a major arterial roadway, when involvement with an existing or proposed median crossover is necessary, when the project includes highway improvements that are in the Transportation Improvement Program, when involvement with an active roadway construction project is necessary or at the discretion of the NCDOT District Engineer. The TIA shall also reflect all proposed subdivisions with an approved preliminary plat within the entire specified planning boundary of the Capital Improvements Program (CIP).

8.8.3 Street Classifications

- A. Streets are to be identified as to classification during the preliminary plat review. The Town shall make the final determination of proposed street classifications in conjunction with preliminary plat approval.

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- **Thoroughfare Streets.** Connect town and regional centers. Thoroughfares are typically state-maintained roads that have some level limited access to surrounding property and operate at higher speeds. Existing and proposed thoroughfares are identified on the officially adopted Troutman Thoroughfare Plan.
- **Urban Residential Streets.** Urban residential streets are intended to serve traffic with origins and destinations specifically within a residential subdivision. These streets focus on low traffic volume, high accessibility, pedestrian and bicycle safety, and utility infrastructure for neighborhoods.
- **Commercial and Industrial Streets.** Commercial and industrial streets generally serve traffic in business areas and act as collectors.
- **Private Rural Preservation Streets.** Streets that are intended to serve traffic with origins and destinations specifically within a residential subdivision in the Rural Preservation district only. These streets serve very low density neighborhoods and are characterized by low traffic volume and driveway connections that average 300 feet (when possible and practical) apart or more. Private streets will never be accepted for maintenance or ownership purposes by the Town of Troutman unless such private street is brought into compliance with the public street construction standards of this Ordinance.

- A. The Technical Review Committee shall have the discretion of designating the street categories for proposed developments after consultation with NCDOT representatives and the Town of Troutman Comprehensive Transportation Plan.

8.8.4 Connectivity and Cul-de-sacs

- A. The proposed street layout within a subdivision shall be coordinated with the existing street system of the surrounding area and, wherever possible and practical, existing principal streets shall be extended. No street shall be created which does not provide continuous connection to the existing public street system.
- B. For the purposes of providing improved traffic flow, limiting the number of subdivision street intersections on major or minor thoroughfare and providing access between adjoining subdivisions, the TRC or Town Board may require that a proposed street be extended by dedication or reservation to the boundary of such property and a temporary cul-de-sac be provided. The street network of a new development should stub to adjacent properties with development potential where topographic conditions allow.
- C. Cul-de-sacs shall not be used to avoid connection with an existing street, to avoid the extension of a thoroughfare or collector street, or to avoid connection to adjoining property. Permanent dead end streets should not exceed one-thousand (1,000) feet in length unless necessitated by topography or property accessibility. Measurement shall be from the point where the centerline of the street intersects with the centerline of a through street to the center of the turnaround of the cul-de-sac. Cul-de-sacs shall meet the details outlined in Appendix B.

8.8.5 Blocks

- A. The lengths, widths, and shapes of blocks shall be determined with due regard to: provision of adequate building sites suitable to the special needs of the type of use contemplated; zoning requirements; needs for vehicular and pedestrian circulation; control and safety of street traffic; limitations and opportunities of topography; and convenient access to water areas.

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- B. Where deemed necessary by the TRC and/or Town Board, a pedestrian crosswalk may be required to provide convenient public access to a public area such as a park or school, to a water area, or to areas such as shopping centers, religious or transportation facilities.
- C. Uninterrupted streets (or segments thereof) which are substantially straight in orientation shall be no greater than 1,000 feet in length, except as considered necessary to secure efficient use of land.
- D. Blocks shall have a sufficient width to allow two (2) tiers of lots of minimum depth. Blocks may consist of single tier lots where such are required to separate residential development from through vehicular traffic or nonresidential uses.

8.8.6 Reserve Strips and Half Streets

Reserve strips and non-access easements adjoining street rights-of-way for the purpose of preventing access to or from adjacent property, (except those required to prevent access to Thoroughfares) and half-streets shall not be permitted under any condition.

8.8.7 Marginal Access Streets

Where a tract of land to be subdivided adjoins a major thoroughfare, the developer may be required to provide a marginal access street parallel to the major thoroughfare or reverse frontage on a local street for the lots to be developed adjacent to the major thoroughfare. Where reverse frontage is established, private driveways shall be prevented from having direct access to the major thoroughfare.

8.8.8 Street Names & Signs

- A. Proposed streets which are obviously in alignment with existing streets shall be given the same name. In assigning new names, duplication of existing names shall not be permitted, and in no case shall the proposed name be phonetically similar to existing names of streets in Iredell County, irrespective of the use of a suffix such as street, road, drive, place, or court. A preferred street name list is available from the Town.
- B. The developer shall be required to provide and erect street name signs at all street intersections within the subdivision in accordance with all Town and Iredell County standards.
- C. Traffic control devices (e.g., stop, yield and speed limit signs; electric or electronic traffic signals) shall be installed on streets by the developer at the appropriate locations as determined by NCDOT, TRC, and/or Town Board. Installation standards and materials shall be in conformance with NCDOT standards for such devices.

8.8.9 Turning Lanes

The Town or NCDOT may require turning lanes at intersections or other points of potential high traffic volume which require greater rights-of-way and pavement widths. These areas will be reviewed and determined on an individual basis.

8.8.10 Bridges

Bridges, where necessary, shall be constructed of reinforced concrete, steel or concrete beams and girders and shall meet North Carolina Department of Transportation specifications for such work and be approved by the Town Engineer.

8.8.11 Utilities, Street Lights and Storm Drainage within Streets

Utilities, street lights, sidewalks, storm drainage and other such facilities to be placed within the street right-of-way shall be placed in accordance with Town standards. All utilities shall be placed underground.

8.8.12 Connection to Streets

- A. An approved permit is required to connect to any existing state system street. North Carolina General Statutes 136-102.6 "Compliance of Subdivision streets with minimum standards of the Board of Transportation Required of Developers" requires that new public streets outside the Town limits and changes to existing streets inside the Town limits that are the responsibility of NCDOT be in accordance with the minimum Right-of-way and Construction standards established by the Board of Transportation for acceptance on the state highway system. It is the intent of these standards and requirements, as set forth, to complement and not to conflict with the requirements of NCDOT as stated in NCGS 136-102.6. In all cases the most restrictive limitation or requirement or the requirement causing the highest standard of improvement shall govern.
- B. All proposed streets shall be constructed in accordance with the minimum street standards as shown in Appendix B. All street improvements shall be designed and installed in accordance with Town Standards and the approved Engineering Documents. The developer's engineer shall furnish the Town with a certified statement that all Street improvements installed in the subdivision meet the minimum standards of the Ordinance.
- C. In addition, street improvements, shall be installed in the following situations:
- Any existing street segment that has not been accepted for maintenance by either the Town or the North Carolina Department of Transportation, and that is to serve as the required frontage for one or more Lots created pursuant to this ordinance, shall be improved and Dedicated to the public or shall be improved and maintained privately, as provided for above, in such a way that the Street segment meets the standards of this ordinance for the particular classification of Street, including right-of-way width. Such street segment shall be directly connected to the existing public street system by way of at least one public street accepted for maintenance by either the Town or the North Carolina Department of Transportation. No subdivision shall be permitted on any street that is an "island" not connected directly to the public street system.
 - All developments that adjoin existing streets maintained by either the Town or NCDOT shall dedicate additional street right-of-way necessary to meet the minimum width requirements for the type of classification of the adjoining street. When any part of the development is on both sides of an existing Street, the entire minimum right-of-way shall be provided. When the development is located on only one side of an existing street, one-half of the minimum right-of-way, measured from the centerline of the existing street, shall be provided. .
 - The Town Board may require pavement and widening or pavement and widening and curb and gutter for turning lanes along any existing or proposed street that forms a significant entrance to a proposed development where in the opinion of the Board such improvements are necessary in order to provide for safe vehicular movement into and out of the proposed subdivision.
 - In cases where a street is stubbed into adjoining property for future extension and such street serves as the frontage for one or more lots which are not corner lots, the Town Board may require the pavement of a temporary turn-around in a form similar to a cul-de-sac on such street where in their opinion such turn-around is necessary for the public convenience, safety and service. Temporary easements for such purposes may be required.
 - Where streets are dedicated to the public, but not accepted into a municipality or the State system, a statement explaining the status of the street shall be included with the final plat. Furthermore, a legally binding private street maintenance agreement shall be filed at the Register of Deeds or Iredell County which shall reference a fund established by the developer for the property owners of the subdivision for maintenance of the private street. Such streets may be gated, provided the TRC determines access will be easily available to fire, police, emergency, trash, and other essential services.

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Section 8.9 Greenways and Sidewalks

8.9.1 Greenways

The Town of Troutman requires the development of a network of greenways that connect active and passive parks, schools, cultural sites, neighborhoods, and commuter destinations to encourage alternative means of transportation and provide health benefits to the Town's residents and visitors. The following standards shall apply:

- A. Greenway easements are required in low-impact development (ie subdivisions with lots greater than one acre or 51% of a subdivision is in a nature preserve), rural preservation clusters or districts, conservation easements, and other residential or non-residential developments with a low amount of pedestrian traffic. All other developments shall construct either a greenway or a sidewalk connection as determined by locally adopted or endorsed plans.
- B. Greenways and connectors shall be sited in conformance with the designated circulation system shown on the Troutman Pedestrian Plan, the 2020 Comprehensive Parks and Recreation Plan, the Lake Norman Bicycle Route, the Comprehensive Transportation Plan, Carolina Thread Trail Master Plan for Iredell County Communities, and/or any additional greenway maps adopted or endorsed by the Town of Troutman.
- C. All new developments not on an identified Greenway Master Plan as described above, but adjacent to an existing greenway or proposed corridor must provide greenway access and show access on their preliminary and final plats.
- D. Greenway stubs must extend to the neighboring property line.
- E. Greenways and connectors should be designed to fit the contours of the land and should minimize the removal of significant trees.
- F. All greenways and connectors shall be constructed in accordance with the design and construction standards of this Ordinance and shall be maintained for public access whether by easement or by public dedication.
- G. Greenways shall be a minimum of 10' wide and dependent on soil conditions shall be constructed in a manner consistent with all Town specifications (subject to inspection and construction approval by the Town Engineer).

8.9.1 Sidewalks

All sidewalks shall be constructed within the street right-of-way. Sidewalks shall be constructed in a manner consistent with all Town specifications and subject to inspection and construction approval by the Town Engineer in the following cases:

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- A. In any case where a development adjoins and has legal access to, or will have legal access to, an existing or proposed major or minor Thoroughfare as shown on the Thoroughfare Plan, the developer shall construct a sidewalk along the adjoining frontage of such Thoroughfare.
- B. The construction of sidewalks on all streets shall be required as follows:
- Thoroughfares: Both sides of street
 - Commercial: Both sides of street
 - Urban Residential: One side of street
 - Streets in Industrial Subdivisions: At the discretion of the Technical Review Committee
 - Private Streets: At the discretion of the Technical Review Committee

Section 8.10 Water and Sewer

8.10.1 General Extension Requirements

- A. The Town of Troutman recognizes that there is limited water and sewer capacity. Approved developments that have been granted water and sewer capacity allocation, shall have two years from the date of approval of the preliminary plat to file final plat. All associated availability, tap, and review fees shall be paid prior to the filling of the final plat. If the final plat is not filed within two years the water and sewer allocation will be considered forfeit along with the preliminary plat.
- B. All lots in subdivisions shall have a suitable source of potable water and sanitary sewage disposal which complies with the regulations of all appropriate agencies. Except as provided herein, the provision of water and sewer lines shall be at the developer's expense (including the installation of all pump stations, forces mains, and similar appurtenances) and shall connect to the Town system and any upgrades needed shall be provided, unless the Town's Engineer determines such connection is not feasible. However, connection shall be optional for Rural Preservation districts.
1. The determination as to whether connection to an existing public water and/or sewer system is required for subdivisions outside the corporate limits shall be a function of the number of lots contained in all phases of the subdivision and the shortest distance the subdivision lies from an existing water or sewer line to which the subdivision could be connected. The following table shows threshold levels for the placement of water and sewer utility lines. (If a non-residential subdivision is proposed, comparable demand estimates for residential uses shall be used).

Number of Proposed Lots	Distance to Nearest Line (feet)
0-10	200
11-20	300
21-50	600
51-100	1,000
101 or greater	1,500
Rural Preservation Districts	Optional

For instance, if a fifteen lot subdivision is proposed and that subdivision lies within three-hundred feet of an existing water line owned and operated by a public entity, the subdivision would need to be connected to that water system. Otherwise, individual water wells could be employed. Similarly, if said subdivision lies within three-hundred feet of an existing sewer line (other than a force main) to which it could be connected, such connection shall be required.

2. Connection to such a water or sewer line shall not be deemed legally possible if, after diligent effort by the developer, the easement necessary to run the connection line across property(ies) not

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owned by the developer cannot be obtained. However, the Town may deem it necessary for health, safety, or for other public purpose to acquire, at the developer's expense, the necessary easements and/or rights-of-way to facilitate the installation of public water and/or sewer facilities and require that they be installed.

3. Individual septic tanks may be used as a means of sewage disposal in cases where connection to a public sewer system is not feasible. Any final plat having one or more lots which will utilize septic tanks shall contain the following statement:

"In approving this plat, the Town of Troutman does not guarantee the suitability of any lot for the placement of a septic tank system."

4. Lots shall either be connected to a public sewer system or to an individual septic system. IN NO INSTANCE MAY A PACKAGE TREATMENT PLANT BE EMPLOYED AS A MEANS OF WASTE DISPOSAL AND TREATMENT FOR ANY SUBDIVISION.
5. Individual water wells may also be used as a source of potable water where connection to a public water system is not deemed feasible. Any final plat having one or more lots which will be using individual water wells shall contain the following statement:

"In approving this plat, the Town of Troutman does not guarantee the suitability of any lot for the placement of an individual water well."

6. Lots shall either be connected to a public water system or to water wells. IN NO INSTANCE MAY A COMMUNITY WELL SYSTEM BE EMPLOYED AS A MEANS OF POTABLE WATER AND TREATMENT FOR ANY SUBDIVISION.
 7. The developer shall install and bear all expense for the installation of water and sewer system components needed to properly serve that development. Water and sewer systems shall at a minimum meet all State and Federal requirements. The Town of Troutman may require the developer to install certain oversize improvements. In such cases the difference in the cost of materials shall be borne by the Town. The Town's financial responsibility, however, shall be limited to the difference in material cost.
 8. All water and sewer improvements shall be installed to the Town's specifications and are subject to inspection and approval by the Town Engineer. In constructing water and sewer improvements, the developer shall install all water and sewer taps to individual lots to the road right-of-way line terminating with a clean-out for sewer lines, or a meter box, and setter for water lines. The meter will be installed by the Town after payment of fees and the establishing of an account.
- C. Any property owner, or owners, desiring water and sanitary sewer service shall apply in writing to the Town Board requesting the extension of water or sewer service or both. No request for extension shall be considered unless submitted in writing. The Town may require the applicant to submit as part of the written application such information, plans, or other data as may be required or needed to adequately determine existing and future demand and associated costs. This information will be reviewed by the Town Engineer with a recommendation for the Board to determine whether the development to be served by the extension is consistent with the principles and purposes of the Unified Development Ordinance (UDO) as adopted by the Town Board.

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- D. No sewer line or water main may be connected to the Town's water or sewer system unless such line or main (i) is properly designed and constructed to service the properties intended to be served directly by such line or main and (ii) is of a size and design sufficient to accommodate any necessary expansion of the water and sewer system to serve other properties, including fire protection.
- E. The size of water mains and sanitary sewer mains to be installed and the other required system facilities shall be determined by the Town of Troutman in accordance with the recognized standards as found in the UDO.
- F. The minimum distance for any extension of a water main or sanitary sewer main is determined by the Town Engineer, and Utilities Director. In general, the minimum distance for extension shall be across the property being developed. Extensions will not be approved unless located in a Town or State maintained right of way or approval is contingent on roadway acceptance for maintenance, or an easement or right of way granted to the Town of Troutman.
- G. The Town shall own and control any and all water mains, sewer lines and related facilities connected to and serviced by its water or sewer system within public right of way or easements, except for those water mains, sewer lines, or facilities of other public bodies connected to and serviced by the Town's water or sewer system under contracts approved by the Town Board between the Town and other public bodies.
- H. To comply with municipal obligations imposed by North Carolina Statutes, or in cases of emergency where it is found to be in the public interest or necessity to protect the public health, the Town may authorize extensions of water and/or sanitary sewer into specific areas.
- I. The Town Board shall consider all circumstances, including but not limited to financial feasibility, surrounding the application and determine whether or not the public interest would be served by acting on the application. The Town Board shall determine the availability of water supply and sewer service or the lack thereof in passing upon any application for such services. Before approving any application for the extension of such utility services, the Town Board must determine that such services are adequately available and that the Town's utility services are available in such quantity that by approving the extension request the remainder of the system will not be jeopardized in any way and that the public interest would be served by approving the extension of utility services. The Aldermen are stewards of the Town's resources and they alone determine the use of those resources and are encouraged to be selective when granting capacity or extending services.

8.10.2 Water and Sewer Main Extensions to Development Property

- A. Any property owner or group of property owners having need for a water and/or sanitary sewer main extension in order to receive Town water/sewer service for their property shall petition the Town Board for such main extension. If approved and funded (subject to availability of funds) by the Board, the mains will be extended and the total cost of such extension shall be prorated and assessed at an equal rate per front foot (FRONTAGE FEE) at the build line to the abutting property. All necessary tap and availability fees shall be paid prior to connection.
- B. Any property owner or owners shall have the opportunity to pay his or their proportionate share of the cost of such extensions after the assessment roll is confirmed rather than paying his or their share in equal annual installments with interest as required by statute.
- C. The Town Board may extend water or sanitary sewer mains or both, on their own volition, without receipt of a petition from abutting property owners, and assess the cost of such extension. They may

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also authorize improvements to the Town water and/or sewer system in order to remedy inadequacies in the existing system and make no assessment for the improvement.

8.10.3 Water and Sewer Main Extensions at Developer's Request

- A. Any property owner, group of property owners, or developers having need for water and/or sanitary sewer main extension shall petition the Town Board for such extension.
- B. If an application of water and sewer service is deemed sufficient the Town Board can require a petition from the property owners requesting voluntary annexation.
- C. The Town Board in response to a request for an extension of utility service may elect to:
 - 1. Install the services at the Town's expense and subsequently collect a frontage fee, tap fees, and utility availability fees, as described herein, from those who connect to the main to defray the cost.
 - 2. Jointly finance and install the extension in cooperation with the County in accordance with the intergovernmental agreement and subsequently collect frontage fees, tap fees, and utility availability fees, as described herein, from those who connect to the main to defray the cost.
 - 3. Jointly finance the extension in cooperation with the developer initiating the request and confer upon the developer eligibility for reimbursement of his cost contingent upon the Town's collection of frontage fees, tap fees, and utility availability fees, from those who subsequently connect to the extension.
 - 4. Allow the developer to install the service at their expense, sizing the lines and all appurtenances to serve the surrounding properties adequately, and to pay for the cost of all necessary offsite improvements to serve the project. Availability fees will be collected to cover the cost of adding the necessary capacity for the town and subdivision in total.
 - 5. Negotiate other arrangements by contract, subject to a public hearing.
 - 6. Deny the extension.
- D. The Town Board may extend water and/or sanitary sewer mains on its own volition without receipt of a petition from abutting property owners and collect a frontage fee, tap fees, and utility availability fees as described herein, from those who connect to the main.
- E. The Town Board may authorize improvements to the Town water and/or sewer in order to remedy inadequacies in the existing system and make no assessment for the improvement.
- F. The Town Board may authorize improvements to the Town water and/or sewer system in order to remedy inadequacies in the existing system created by new subdivisions. The cost of these improvements will be covered by the developer and not subject to reimbursement.
- G. Utility availability fees will apply to all those who connect to water and/or sewer. Existing lots that are currently platted not connected to the water and or sewer system will be required to pay all associated tap and availability fees before the connection is made.
- H. Utility availability fees for all new subdivisions are due prior to filling the final plat of each phase. Each phase is subject to the most current availability fee established by the Town Board, and listed

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with the Schedule of Fees. The Technical Review Committee reserves the right to establish phasing. Subsequent phases will not be guaranteed capacity until all availability fees are paid.

- I. A developer may elect to pay all associated availability fees for the entire subdivision (all phases) prior to filling the final plat to guarantee capacity and avoid future availability fee increases.
- J. In an effort to encourage affordable housing the Town Board may grant exemption to these fees, in part or total, to well established non-profit organizations, subject to a public hearing.

8.10.4 Connection Fees Applicable To Obtaining Water and/or Sewer Service

- A. Any property owner seeking a service connection to an existing main (water and/or sanitary sewer) shall make application to the Town for such service. In the event that the service is available and adequate sized mains are in place to serve the property, the applicant shall pay to the Town:
 - 1. The respective water and/or sewer utility availability fee; and
 - 2. The applicable tap fees for the connection.
- B. The purpose of the utility availability fee is to defray, in part, the cost of extending utility mains and the related cost of maintaining and expanding plant capacity and or water storage to accommodate the demand for an increase in service. The fee per connection shall be based upon the number of units served and size of individual connections. The fees shall be as established by ordinance and documented on the Schedule of Fees.
- C. The purpose of the tap fee is to cover the actual costs of the water and sewer connections. The fees shall be as established by ordinance and documented on the Schedule of Fees.
- D. When easements are to be obtained from property owners by the Town to install utility service mains, the utility availability fee may be reduced, in whole or in part, to compensate the property owners for the value of the easement.
- E. Where the Town Board has extended the Town Limits pursuant to statutory voluntary or involuntary annexation and water and/or sewer lines are extended to or through the newly annexed area to comply with statutory requirements relating to the annexation, property owners shall pay frontage fees, tap fees, and utility availability fees.
- F. Properties annexed into the Town are subject to the following regulations.
 - 1. No new water wells or septic tanks shall be allowed in the annexation area.
 - 2. Persons hooking on to water or sewer service will pay the applicable tap fee and availability fees at the time the application for a tap is made. All property owners will be required to pay or be assessed the appropriate frontage fee for water and sewer service on the date such service becomes available.

8.10.5 Oversized Water and Sewer Facilities

The Town may, in order to serve future development, require the developer to install certain oversized water and sewer improvements and/or to increase such improvements to a size and/or extent beyond that necessary for the needs created by the subdivision.

8.10.6 Utility Easements

- A. Utility easements for proposed or future water and sewer facilities, which will lie outside the street rights-of-way will be required and shall be dedicated to the Town. A minimum 30 foot easement, 15

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feet each side of the line shall be required. Where water and sewer lines are parallel and 10 feet apart, a 30 foot easement may be used for both lines with each line constructed 5 feet off the easement centerline, provided the sewer line is lower than the water line. A wider easement may be required as determined by the Town Engineer based on topography, type of facilities, and other controlling factors.

- B. A 10 foot easement for all utilities other than water, sewer, and storm drainage shall be provided adjacent to, parallel with, and outside all street rights-of-way.
- C. A 10 foot easement may be required on each lot parallel to side and rear lot lines.

Section 8.11 Stormwater Management

8.11.1 Comprehensive Stormwater Management Plan

- A. A comprehensive stormwater management plan shall be designed and implemented for each development that requires an erosion/sedimentation control plan under the Iredell County Land Development Code; and in any case when the Town Engineer or TRC believe that a stormwater management plan is needed, based on potential impacts due to stormwater runoff from the development. Detailed plans, where required, shall be submitted as part of the Construction Documents.
- B. Stormwater management components shall meet the design storm requirements of Section 8.11.2 below.
- C. For the purposes of this Section, all developments required to have a comprehensive stormwater management plan shall be classified as either a “low-density project” or a “high-density project” in accordance with the following:
 - a. *Low-density project* shall mean a development in which built-upon area will not exceed 24% of the development tract area or in which detached single-family dwelling units will not exceed 2 units per acre average density.
 - b. *High-density project* means any project that exceeds the low-density threshold for dwelling units per acre or built-upon area.
- D. High-density projects shall use wet detention ponds or other structural BMP’s, in accordance with the NC DWQ Stormwater BMP *Design Manual*, to control and treat runoff from the development. If the development also lies within the Watershed Overlay District, additional requirements may apply as to stormwater management (reference Section 3.5).

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8.11.2 Design Storms

Stormwater System or Component	Design Storm
Open Drainage Channel	25 year
Enclosed System Collectors	10 year
Enclosed System for Street Crossings and Downstream Areas	25 year
Flood Damage Prevention	100 year
Detention Facilities	10 year
Detention Emergency Spillway	50 year

8.11.3 Types of Stormwater Conveyances Requiring Improvement

- Those draining one (1) acre of land or more.
- Those carrying storm water runoff from streets either existing or proposed.
- Those carrying storm water runoff from large impervious (more than 5,000 square feet) surfaces other than streets.

8.11.4 Types of Improvement

- Enclosed subsurface drains
- Open, grass-lined channels
- Open, hard-lined channels
- Open channel with flood plain and open space Dedicated to the Town. This option shall not be available except in cases where the Town Board agrees to accept such dedication prior to Final Plat approval.

8.11.5 Curb and Gutter

- A. All new commercial, industrial, and residential development shall be required to install curb and gutter with storm water management except in the Rural Preservation District or as otherwise permitted in this Ordinance.
- B. All curb and gutter work shall be subject to the inspection and approval of the Town Engineer and no work shall be covered up without first obtaining the approval of same by the Town Engineer.

8.11.6 Easements

- A. Storm drainage easements widths outside street right-of-way shall be based on pipe size or runoff flow as required in Appendix B.
- B. Maintenance easements may be required depending upon the size of the drainage way and the maintenance responsibility as determined by the Town.
- C. In any case where maintenance is to be the responsibility of the property owner, the Town may require a right to enter for maintenance purposes where the Town Board determines that the public health, safety, or general welfare constitutes a public necessity for such maintenance.
- D. Where easements are required, they shall be noted on the Final Plat.

8.11.7 Adoption of Standards by Reference

- A. The Town Council hereby finds that hydrologic conditions in Iredell County and Mecklenburg County are similar and that it is in the public interest to maintain a uniform regional procedure for

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computing the stormwater impacts of new development. Accordingly, the design of stormwater management facilities, other than BMP's for water quality treatment, shall be computed in accordance with the most current version of the Charlotte-Mecklenburg Storm Water Design Manual (hereinafter "Stormwater Manual"). A copy of the Stormwater Manual is available at the Mecklenburg County Land Use and Environmental Services Office.

B. Design Manual for Stormwater BMP's

1. Reference to Design Manual

The Town Engineer shall use the policy, criteria, and information, including technical specifications and standards, in the North Carolina Division of Water Quality Stormwater Best Management Practices Manual (the "*Design Manual*") as the basis for decisions about stormwater permits and about the design, implementation and performance of *structural and non-structural stormwater BMPs*.

The *Design Manual* includes a list of acceptable stormwater treatment practices, including specific design criteria for each stormwater practice. Stormwater treatment practices that are designed, constructed, and maintained in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance requirements of the Watershed Overlay District, and of other areas wherever stormwater quality treatment is required.

2. Relationship of Design Manual to Other Laws and Regulations

If the specifications or guidelines of the *Design Manual* are more restrictive or apply a higher standard than other laws or regulations, that fact shall not prevent application of the specifications or guidelines in the *Design Manual*.

3. Changes to Standards and Specifications

If the standards, specifications, guidelines, policies, criteria, or other information in the *Design Manual* are amended subsequent to the submittal of an application for approval pursuant to this ordinance but prior to approval, the new information shall control and shall be utilized in reviewing the application and in implementing this ordinance with regard to the application.

8.11.8 Obstruction of Drainage Channels Prohibited

No fences or structures shall be constructed across an open drainage channel that will reduce or restrict the flow of water. The Zoning Administrator may require any water course or stormwater management facility to be located within a dedicated drainage easement officially recorded at the Iredell County Register of Deeds as a "permanent detention easement" that provides sufficient width for maintenance.

8.11.9 Grading Standards

The following standards shall be followed in establishing the grading plan for a development:

- A. Developments shall be designed and constructed with a positive drainage flow away from buildings towards approved stormwater management facilities. Plans for drainage facilities shall be approved by the Town Engineer. All interim and permanent drainage facilities shall be designed and constructed in accordance with the standards established in the Stormwater Standards of this Ordinance.
- B. In the design of site grading plans, all impervious surfaces in the proposed development (including

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off street parking) shall be considered.

- C. Site grading and drainage facilities shall protect sinkholes, wetlands, ponds and lakes from increased sediment loading.
- D. Site grading shall not increase the velocity of runoff onto downstream properties unless specifically approved as part of a project's stormwater management plan and approved sedimentation/erosion control plan.
- E. All disturbed areas within the dedicated right-of-way and easements of any subdivision street shall be restored with vegetation and the landscaping standards of Chapter 7 shall be met.
- F. Stormwater facilities to be located in designated open space areas shall be regulated in accordance with Chapter 6 of this Ordinance.
- G. The pre and post-grading drainage areas shall not be changed.

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Section 8.12 Emergency Services

8.12.1 Fire Department Knox Box

Reserved