ARTICLE IV

REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGN

4-101 General Requirements

4-101.1 Conformance to Applicable Rules and Regulations

In addition to the requirements established herein, all subdivision plats shall comply with all applicable laws, ordinances, resolutions, rules, or regulations, including, but not limited to:

1. all applicable provisions of Tennessee Law, regulations, or policy;

2. any zoning ordinance, any building and housing codes, and all other applicable laws or policies of the Planning Commission;

3. the adopted County Growth Plan and Gilt Edge Transportation (public way) Plan;

4. the rules of the county health department and the Tennessee Department of Environment and Conservation;

5. the rules, as applicable, of the Federal Highway Administration or Tennessee Department of Transportation, if the subdivision or any lot contained therein abuts a non-local highway; and

6. the standards and regulations adopted by all other boards, commissions, and agencies of the Planning Commission, where applicable.

Plat approval may be withheld if a subdivision is not in conformity with the above rules or with the provisions set forth in Section 1-104, of these regulations.

4-101.2 Self-Imposed Restrictions

If the owner places restrictions on any of the land contained in the subdivision greater than those required by any zoning ordinance or these regulations, such restrictions or reference thereto shall be recorded with the county register on a separate form, along with the final subdivision plat in the office of the county register. If such restrictions are not recorded along with the final subdivision plat, the restrictions will be considered null and void. These restrictions are the sole responsibility of the property owner(s) and shall be enforced by the property owner(s) through the appropriate legal court. At no time shall the Town of Gilt Edge enforce such restrictions.

4-101.3 Monuments and Permanent Markers

The subdivider shall place, by a licensed surveyor, permanent reference monuments and markers on the subdivision as required herein. Monuments and permanent markers shall be located and set as follows.

1. Monuments shall be located on public way right-of-way lines, at public way intersections, and at the beginning and ending point of curves.

2. The major external boundaries and their corresponding corners of a subdivision shall be monumented in the field by iron rods not less than three (3) feet in length driven flush with grade; not less than five-eights (5/8) inches in diameter; and marked by the surveyor's identification on top with an aluminum disc securely attached, except where permanent markers are in existence. These monuments shall be placed not more than fourteen hundred (1,400) feet apart in any straight line and at all corners.

3. All internal boundaries, breaks at each end of all curves, at the point where a curve changes its radius, at all angle points in any line, and at all angle points along a meander line (said points to be not less than twenty (20) feet back from the bank of any river or stream, except that when such corners or points fall within a public way or proposed future public way, the permanent markers shall be placed on the side line of the public way) and any other corners or points not referred to in the preceding paragraph shall be permanently marked in the field by iron rods, pipe, or pins at least twenty four (24) inches long and one-half (1/2) inch in diameter.

4. The lines of lots that extend to rivers or streams shall be permanently marked in the field by iron pins at least twenty four (24) inches long and one-half (1/2) inch in diameter or by round or square iron bars at least twenty four (24) inches long. Such pins shall be placed at the point of intersection of the river or stream and lot line, with a meander line established not less than twenty (20) feet back from the bank of the river or stream.

5. All monuments and pins shall be properly set in the ground and approved by a licensed surveyor prior to the time the Planning Commission recommends approval of the final plat or release of the bond where bond is made in lieu of improvements.

4-101.4 Character of the Land

Land which the Planning Commission finds to be unsuitable for subdivision or development due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations or topography, utility easements, or other features which would be harmful to the safety, health, and general welfare of inhabitants of the land and surrounding areas shall not be subdivided or developed unless adequate methods are formulated by the developer and approved by the Planning Commission, upon recommendation of any staff assistant serving the Planning Commission and/or other governmental representative, if any, to solve the problems created by the unsuitable land conditions. Such land shall be set aside for such uses as will not involve such a danger.

Where protection against flood damage is necessary, in the opinion of the Planning Commission, flood-damage protection techniques may include, as deemed appropriate by the Planning Commission:

1. the imposition of any surety and deed restrictions enforceable by the Planning Commission to regulate the future type and design of uses within the flood prone areas; and

2. flood protection measures designed so as not to increase, either individually or collectively, flood flows, height, duration, or damages, and so as not to infringe upon the regulatory floodway;

3. installation of flood warning systems;

4. the use of fill, dikes, levees, and other protective measures;

5. the use of floodproofing measures, which may include:

    (a) anchorage to resist flotation and lateral movement;

    (b) installation of watertight doors, bulkheads, shutters, or other similar methods of closure;

    (c) reinforcement of walls to resist water pressures;

    (d) use of paints, membranes, or mortars to reduce seepage through walls;

    (e) addition of mass or weight to structures to resist flotation;

    (f) installation of pumps to lower water levels in structures;

    (g) construction of water supply and waste treatment systems so as to prevent the entrance of or contamination of flood waters;

    (h) installation of pumps or comparable facilities for subsurface drainage systems to relieve external foundation wall and basement flood pressures;

    (i) building design and construction to resist rupture or collapse caused by water pressure of floating debris;

    (j) installation of valves or controls on sanitary and storm drains which permit the drains to be closed to prevent backup of sewage and storm water into buildings or structures;

    (k) location and installation of all electrical equipment, circuits, and appliances so that they are protected from inundation by the regulatory flood;

(l) location of storage facilities for chemicals, explosives, buoyant material, flammable liquids, or other toxic materials which would be hazardous to the public health, safety, and welfare at or above the regulatory flood protection elevation, or design of such facilities to prevent flotation of storage containers or damage to storage containers which could result in the escape of toxic materials.

The acceptability of any flood protection methods formulated by the subdivider or his agent shall be determined by the Planning Commission, which shall be guided by the policies set forth in Section 1-104 and Subsection 2-101.4, of these regulations.

4-101.5 Subdivision Name

The proposed name of the subdivision shall not duplicate or too closely approximate phonetically the name of any other subdivision in the area covered by these regulations. The Planning Commission shall have authority to designate the name of the subdivision, which shall be determined at sketch or preliminary plat approval.

4-102 Lot Requirements

4-102.1 Lot Arrangement

4-102.101 General

The lot arrangement shall be such that there will be no foreseeable difficulties, for reasons of topography, flood hazards, or other conditions in securing building permits to build on all lots in compliance with any zoning ordinance, the Tennessee Department of Environment and Conservation and county public health department regulations and in providing driveway access to buildings on such lots from an approved public way.

4-102.103 Lots Subject to Flood

Where a lot in any flood prone area must be improved to provide a building site free from flooding, such improvements shall be made outside the floodway by elevation or fill to at least the regulatory flood protection elevation (one hundred-year flood) for a distance extending at least twenty-five (25) feet beyond the limits of intended structures and, additionally, extending a sufficient distance to include areas for subsurface sewage disposal if the lot is not to be connected to a public sanitary sewer system. Any fill shall be protected against erosion by rip-rap, vegetative cover, or other methods deemed acceptable by the Planning Commission.

In nonresidential building sites outside a floodway but subject to flooding, the use of structural floodproofing methods specified in Subsection 4-101.4, of these regulations, as an alternative to landfill, may be approved by the Planning Commission, as provided in Subsection 2-101.4, of these regulations.

4-102.104 Lots Located on Steep Slopes

Due to the potential threat to health and safety posed by development located on lands with slopes in excess of thirty (30) percent, the following regulations shall apply.

a. Site Development Plan Required -- No building permit shall be issued for a building or any lot with slopes thirty (30) percent or over until a site plan meeting the following requirements has been approved by the Planning Commission. Said site plan shall show:

   (i) The exact size, shape, and location of the lot,

   (ii) The proposed location of all buildings, driveways, drainage ways and utilities,

   (iii) Proposed contours at vertical intervals of no more than five (5) feet,

   (iv) The extent of natural tree cover and vegetation,

   (v) The location of any onsite soil absorption sewage disposal systems,

   (vi) The type and location of erosion control methodology.

   (vii) The surveyor's or engineer's stamp that prepared the plan,

   (viii) Proper design of site for areas with steep slopes and land slide problems by a Registered Engineer.

b. Site Development Standards -- The following standards shall be used as a guide in determining the suitability of the construction proposed for the particular site in question. The engineer's design required in Subsection 4-102.104, a, (viii), above, shall address these standards.

   (i) Natural vegetation shall be preserved to the maximum extent possible,

   (ii) Natural drainage ways and systems shall be maintained, except that surface water may be diverted around a house or slope area to a natural drain using acceptable construction techniques,

   (iii) Operations that increase loads reduce slope support, and cause instability of the slope shall be prohibited to the maximum extent possible, which will permit reasonable development of the site. These include filling, irrigation systems, accessory buildings, and onsite soil absorption sewage disposal systems,

(iv) Where sanitary sewers are not available, any onsite sewage disposal system shall be shown on the site plan and located to avoid slide-prone areas. Said system shall be approved by the county health department prior to the Planning Commission's review taking into account these requirements,

(v) Erosion control measures shall be employed to prevent all soil material from leaving the site. Additionally, soil from excavation on the site shall not be disposed as fill on a potential slide area,

(vi) No construction, which would cut the toe of the slope, shall be permitted. This shall apply as well to subdivision roads constructed in compliance with these regulations.

c. All lots subject to these provisions shall be so designated on the final plat

4-102.2 Lot Dimensions

Lot dimensions shall comply with the minimum standards of any zoning ordinance, where applicable. Where lots are more than double the minimum area required by any zoning ordinance, the Planning Commission may require that such lots be arranged so as to allow further subdivision and the opening of future public ways where they would be necessary to serve such potential lots, all in compliance with any zoning ordinance and these regulations. Generally side lot lines shall be at right angles to street lines or radial to curving street lines.

The minimum lot frontage on a public way or private easement shall be fifty (50) feet except, lots fronting on the radius of a cul-de-sac shall have a minimum frontage of forty (40) feet.

Dimensions of the corner lots shall be large enough to allow for erection of buildings, observing the minimum front yard setback requirements from both public way rights-of-way.

Depth and width of properties reserved or laid out for business, commercial, or industrial purposes shall be adequate to provide for the off-street parking and loading facilities required for the type of use and development contemplated, and as established in any zoning ordinance.

4-102.3 Width to Depth Ratio

No lot when subdivided shall have a greater width to depth than one to five (1:5); therefore, when any lot is subdivided from an existing lot or tract, no side lot line shall be greater than five (5) times the length of the front lot line, based on the width of the lot at the front building setback line. Lots that front along the radius of a cul-de-sac or are greater than five (5) acres are exempt from this requirement.

4-102.4 Building Setback Lines

In the case of electric transmission lines where easement widths are not definitely established, a minimum building setback line from the center of the transmission line shall be established as follows:

Voltage of Line	Building Setback
7.2 KV	15 feet
13 KV	20 feet
46 KV	37 1/2 feet
69 KV	50 feet
161 KV	75 feet

4-102.5 Double Frontage Lots and Access to Lots

4-102.501 Double Frontage Lots

Double frontage and reversed frontage lots shall be avoided except where necessary to provide separation of residential development from traffic arterials, or to overcome specific disadvantages of topography and orientation.

In the case of double frontage lots, said double frontage lots shall use front yard setbacks on all sides that face the road, and rear yard setbacks shall be used on all other sides not facing the road. No side yard setbacks shall be used on any lot with double frontage.

Reverse frontage lots shall have a depth of not less than two hundred (200) feet. A planted evergreen screen easement at least ten (10) feet wide, across which there shall be no right of access, shall be provided along the line of lots abutting a traffic artery or other incompatible land use.

4-102.502 Access from Arterial or Collector Public Ways

The Planning Commission may require that lots shall not derive access exclusively from arterial or collector public ways. Where driveway access from such public ways may be necessary for several adjoining lots, the Planning Commission may require that the lots be served by a combined access drive in order to limit possible traffic hazards. Driveways shall be designed and arranged so as to avoid requiring vehicles to back onto arterial or collector public ways, and shall observe the site distances for horizontal and vertical curves as required in Table I in Article IV.

4-102.6 Soil Preservation, Grading, Erosion Control, and Seeding

4-102.601 Soil Preservation and Final Grading

Except as required for the building site, topsoil shall not be removed from residential lots or used as spoil, but shall be redistributed so as to provide cover on the lots. Upon lots served by individual sewage disposal systems, grading shall be performed in strict accordance with requirements of the local office of the State Department of Environment and Conservation.

4-102.602 Lot Drainage

Lots shall be laid out so as to provide positive drainage away from all buildings, and individual lot drainage shall be coordinated with the general storm drainage pattern for the area, which includes subsurface drainage. Drainage shall be so designed so as to avoid concentration of storm drainage water from each lot to adjacent lots as required in 5-102.2.

The Planning Commission reserves the right to require the developer's engineer to set minimum elevations on all floors, patios, and building equipment. This prerogative to establish elevation exists in addition to any ordinances that refer to floodplain elevation requirements. The content of the preceding paragraph is to give the Planning Commission summary review powers over any calculated or historical evidence of storm water presence in overland or channel conditions.

The subdivision developer will insure that all artesian ground waters of a permanent or temporary nature encountered within the right-of-way will be intercepted and carried away to primary drainage conduits along swale ditches or in underground pipes on property line easements. Regardless of the location of property lines, intercept will be allowed at the point of artesian surfacing. The intent of this paragraph is to perform this work upon evidence of artesian water for a period of one (1) year following acceptance of all roads and utilities.

Any sinkhole or natural channel which serves or has served as a means of moving or storing ground water shall be protected as may be required by the town engineer.

4-102.603 Erosion and Sediment Control

There shall be a minimization of changes in the rate of natural erosion and sedimentation, which result from the development process. An erosion and sediment control plan shall be presented with the construction plans submitted in conformance with Section 5-102, of these regulations. Such plans shall incorporate the following principals:

a. clearing and grading shall be integrated with layout design;

b. clearing shall be minimized and existing vegetation shall be preserved to the maximum feasible degree;

c. grading shall be strictly limited to those areas involved in current construction activities;

d. disturbed areas shall be protected and stabilized as soon as possible;

e. structural and vegetative measures to control the velocity and volume of runoff shall be required;

f. sediment basins and traps shall be required as necessary;

g. adequate maintenance of all planting and structures measures shall be assured.

4-102.7 Debris and Waste

No cut trees, timber, debris, junk, rubbish, or other waste materials of any kind shall be buried in any land or left or deposited on any lot or public way at the time of the issuance of a certificate of occupancy for the lot, and removal of such waste shall be required prior to issuance of any certificate of occupancy. Neither shall any such waste be neither left nor deposited in any area of the subdivision at the time of expiration of the performance bond or dedication of public improvements, whichever is sooner.

4-102.8 Fencing

Each subdivider or developer shall be required to furnish and install all fences wherever the Planning Commission determines that a hazardous condition exists. Such fences shall be constructed according to standards established by the Planning Commission, as appropriate, and shall be noted on the final plat as to height and required materials. No certificate of occupancy shall be issued for any affected lot until such fence improvements have been installed.

4-102.9 Water Bodies and Watercourses

If a tract being subdivided contains a water body, or portion thereof, lot lines shall be so drawn as to distribute the entire ownership of the water body among the fees of adjacent lots. The Planning Commission may approve an alternative plan whereby the ownership of and responsibility for safe maintenance of the water body is so placed that it will not become a governmental responsibility.

None of the minimum area of a lot required under any zoning ordinance may be satisfied by land, which is permanently under water. Where a watercourse separates a buildable area of a lot from the public way by which it has access, provisions shall be made for installation of culvert or other structure approved by the Planning Commission and no certificate of occupancy shall be issued for a structure on such a lot until the installation is completed and approved by the Planning Commission and/or the appropriate governmental representative.

4-103 Streets

4-103.1 General Requirements

4-103.101 Frontage on Improved Streets

No subdivision shall be approved unless the area to be subdivided shall meet the requirements for access set forth in Subsection 1-112.109, of these regulations. If any new street construction is proposed, all construction shall be in accordance with the provisions of these regulations and their appendices. All right-of-way improvements shall be dedicated to the appropriate governmental body as provided in Articles II and III, of these regulations, and placed under a maintenance bond for a period of one (1) year from the date of acceptance.

In an instance where the town engineer determines construction of the cross-section shown in the Transportation Plan will compromise sound engineering practices or the safety of the general public, the town engineer may recommend to the Planning Commission a suitable alternative for consideration. The Planning Commission may require the alternative be constructed as part of the platting process. In no case shall the recommended alternative significantly increase the impact of the upgraded construction requirements of the Transportation Plan.

Whenever the area to be subdivided is to utilize existing road frontage, said road shall be suitably improved as provided herein above, or be bonded by a performance bond as required by these regulations. The Planning Commission shall further require that the entire right-of-way required by these subdivision regulations and the Transportation Plan be dedicated to the town as a condition of final plat approval.

4-103.102 Grading and Improvement Plan

Streets shall be graded and improved to conform to the standards required by this section and shall be approved as to design and specification by the appropriate governmental representative in accordance with the specifications required herein. No surface shall be applied to the base of any proposed street prior to the approval of the final plat of the subdivision or of the final approval of any section of the subdivision in question without having been properly inspected.

4-103.103 Improvements in Floodable Areas

The finished elevation of proposed streets subject to flood shall be no less than one (1) foot above the regulatory flood protection elevation. The Planning Commission may require profiles and elevations of streets to determine compliance with this requirement. All drainage structures shall be sufficient to discharge flood flows without increasing flood height. Where fill is used to bring the finished elevation of any street to the required elevation, such fill shall not encroach upon a floodway, and the fill shall be protected against erosion by rip-rap, vegetative cover, or other methods deemed acceptable to the town engineer.

4-103.104 Private Streets

There shall be no private roads platted in any subdivision. Every subdivided property shall be served from a publicly dedicated road or by a fifty (50) foot permanent ingress/egress easement that is served by a publicly dedicated road.

4-103.105 Topography and Arrangement

a. All streets shall be arranged so as to obtain as many of the building sites as possible at or above the grades of the streets. Grades of streets shall conform as closely as possible to the original topography. A combination of steep grades and curves shall not be permitted. Specific design standards are contained in Subsection 4-103.2, of these regulations.

b. All streets shall be properly integrated with the existing and proposed system of public ways and dedicated rights-of-way as established on the Transportation Plan.

c. All public ways shall be properly related to special traffic generators, such as industries, business districts, schools, churches, and shopping areas or centers; to population densities; and to the pattern of existing and proposed land use.

d. Minor public ways shall be designed to conform as much as possible to the topography; to discourage use by through traffic; to permit efficient drainage and utility systems; and to require the minimum ways necessary to provide convenient and safe access to property.

e. The use of curvilinear streets, cul-de-sac, or "U"-shaped streets shall be encouraged where such use will result in a more desirable layout.

f. Proposed public ways shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or unless, in the opinion of the Planning Commission, such extension is not necessary or desirable for the coordination of the subdivision design with the existing layout or the most advantageous future development of adjacent tracts.

g. In commercial and industrial developments, public ways and other access routes shall be planned in connection with the grouping of buildings, location of rail facilities, and the provision of alleys, truck loading and maneuvering areas, and walks and parking areas, so as to minimize conflict of movement between the various types of traffic, including pedestrian traffic.

4-103.106 Blocks

a. Blocks shall have sufficient width to provide for two (2) tiers of lots of appropriate depth. Exceptions to this prescribed block may be permitted in blocks adjacent to major public ways, railroads, or waterways.

b. The lengths, widths, and shapes of blocks shall be determined with due regard to:

   (i) provision of adequate building sites suitable to the special needs of the type of use contemplated;

   (ii) any zoning requirements as to lot sizes and dimensions;

   (iii) needs for convenient access, circulation, control, and safety of vehicular and pedestrian traffic; and

   (iv) limitations and opportunities of topography.

c. Block lengths in residential areas shall not exceed two thousand (2,000) feet nor be less than four hundred (400) feet, except as the Planning Commission deems necessary to secure efficient use of land or desired features of the street pattern. Wherever practicable, blocks along arterial or collector routes shall not be less than one thousand (1,000) feet in length.

d. Blocks designed for industrial or commercial uses shall be of such length and width as may be deemed suitable by the Planning Commission.

e. In any long block, the Planning Commission may require the reservation of an easement through the block to accommodate utilities, drainage, facilities, and/or pedestrian traffic.

   A pedestrian walkway, not less than five (5) feet wide, may be required by the Planning Commission to transverse the approximate center of any block more than one thousand (1,000) feet long, where deemed essential to provide circulation or access to a school, playground, shopping center, transportation facility, or other community facility.

4-103.107 Access to Arterials and Collectors

Where a subdivision borders on or contains an existing or proposed arterial or collector route, the Planning Commission may require that access to such public way be limited by:

a. the subdivision of lots so as to back on the arterial or collector route and front on a parallel minor route;

b. a series of cul-de-sac, "U" shaped public ways, or short loops entered from and designed generally at right angles to such a parallel public way, with the rear lines of their terminal lots backing onto the arterial or collector route; or

c. an off-street access public right-of-way (frontage Road), separated from the arterial or collector route by a planting or grass strip and having access thereto at suitable points. In addition, there shall be no overlap of the right-of-way of such proposed frontage road and existing arterial or collector route. Such road shall be built to specifications set out in Subsection 4-103.2.

Note: The number of residential lots and local public ways entering on arterial or collector routes shall be kept to a minimum.

4-103.108 Reserve Strips

The creation of reserve strips adjacent to a proposed public way in such a manner as to deny access from adjacent property to such public way shall generally not be permitted.

However, in extraordinary circumstances the Planning Commission may allow creation of a reserve strip to enable a more appropriate pattern of lots or public ways. Where such is created the Planning Commission must agree to any and all future depositions of same. A notation to this effect shall be entered on the final plat or approved as an auxiliary instrument attached thereto.

4-103.109 Arrangement of Continuing and Dead-End Streets

a. Arrangement of Continuing Streets -- The arrangement of streets shall provide for the continuation of major streets between adjacent properties when such continuation is necessary for convenient movement of traffic, effective fire protection, efficient provisions of utilities, and when such continuation is in accordance with the Transportation Plan. If the adjacent property is undeveloped and the pubic way must be a dead-end street temporarily, the right-of-way shall be extended to the property line. At such time, when the adjacent property is to be developed, the developer of the new development, at their expense, shall connect the existing temporary cul-de-sac to a road in the new development. A temporary cul-de-sac, temporary T-, or L-shaped turnabout shall be provided on all temporary dead-end streets as required in the following turnabout standards, with a notation on the subdivision plat that land outside the normal street right-of-way shall revert to abutting property owners whenever the street is continued.
The Planning Commission shall limit the length of temporary dead-end streets in accordance with the design standards of these regulations.

b. Dead-End Streets -- Where a street does not extend beyond the boundary of the subdivision and its continuation is not required by the Planning Commission for access to adjoining property, its terminus shall normally not be nearer to such boundary than one hundred (100) feet. However, the Planning Commission may require the reservation of an appropriate easement to accommodate drainage facilities, pedestrian traffic, or utilities. A cul-de-sac turnabout shall be provided at the end of a dead-end street in accordance with the design standards of these regulations.

In addition, there shall be a maximum of four (4) branches (secondary cul-de-sacs) off of the primary cul-de-sac, none of which shall exceed five hundred (500) feet in length, and a maximum combined length of two thousand (2,000) feet for all secondary cul-de-sacs. No secondary cul-de-sac shall be closer than one hundred fifty (150) feet from any beginning radius of any other cul-de-sac. No cul-de-sacs shall be developed off of any secondary cul-de-sac.

For greater convenience to traffic and more effective police and fire protection, permanent dead-end streets shall, in general, be limited in length in accordance with the design standards of these regulations.

4-103.2 Design Standards

4-103.201 Purpose

In order to provide streets of suitable location, width, and improvement to accommodate prospective traffic and afford satisfactory access to police, fire-fighting, sanitation, and road-maintenance equipment, and to coordinate streets so as to compose a convenient and safe system and avoid undue hardships to adjoining properties, the street design standards

set forth in this section are hereby required. (Street classification shall be as indicated on the Transportation Plan; otherwise, the street shall be classified by the Planning Commission according to the definitions in Article VI, of these regulations.)

4-103.202 General Design

The general design of all streets shall conform to the standards in the tables entitled "General Design Standards for Streets", which follow hereafter.

4-103.203 Intersections

a. Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two (2) new streets at an angle of less than seventy-five (75) degrees shall not be permitted. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet there from. Not more than two (2) streets shall intersect at any one point unless specifically approved by the Planning Commission.

b. Proposed new intersections along one side of an existing street shall coincide, wherever practicable, with any existing intersections on the opposite side of such street. Jogs within streets having center line offsets of less than one hundred twenty five (125) feet shall not be permitted, except where the intersected public ways have separated dual drives without median breaks at either intersection. Where streets intersect arterial or collector routes, their alignment shall be continuous. Intersections of arterial or collector streets shall be at least eight hundred (800) feet apart.

c. Minimum curb radius at the intersection of two (2) minor streets shall be twenty-five (25) feet, and minimum curb radius at an intersection involving a collector street shall be thirty-five (35) feet. Alley intersections and abrupt changes in alignment within a block shall have the corners cut off in accordance with standard engineering practice to permit safe vehicular movement.

d. Where a street intersection will involve earth banks or existing vegetation inside any lot corner that would create a traffic hazard by limiting visibility, the subdivider shall cut such ground or vegetation (including trees) in connection with the grading of the public right-of-way to the extent necessary to provide adequate site distance.

e. Intersections shall be designed with a flat grade wherever practical, In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a two (2) percent grade for a distance of sixty (60) feet, measured from the nearest right-of-way line of the intersecting street.

f. The cross-slope on all streets, including intersections, shall be two (2%) percent or less.

g. The developer shall install street signs, and the highway department must accept them as a portion of the street improvements, or the cost shall be included in the amount of the construction bond posted for insurance of the street. Street signs shall be installed before any building permits are issued on that subdivision. All signs shall be governed by the Manual on Uniform Traffic Control Devices (For Streets and Highways), 1988, U.S. Department of Transportation, Part II.

4-103.204 Excess Right-of-Way

A slope easement in excess of the right-of-way designated in these regulations may be required whenever, due to topography, additional width is necessary to provide adequate earth slopes. Such slopes shall not be less/steeper than three to one (3:1).

TABLE I

GENERAL DESIGN STANDARDS FOR STREETS

IMPROVEMENT	RESIDENTIAL STREET	NONRESIDENTIAL STREET (INDUSTRIAL, COMMERCIAL: OTHER)
Minimum Right-of-Way Width (in Feet)		
Minor	50	60
Collector	60	80 or (See * Below)
Arterial	*	

Minimum Width of Roadway or Paved Area (in Feet) not Including Parking Requirements

	Ditch Road Section	Curb & Gutter	Ditch Road Section	Curb & Gutter
Minor	24	28	24	38
Collector	24	38	24	38
Arterial	(See * Below)			(See * Below)

Maximum Percentage Grade (%)		
Minor	10	6
Collector	8	6
Arterial	6	5

The minimum grade in all sections shall be no less than 0.50%

Pavement Crown

The paved surface shall slope downward from the centerline of the street outward to the edge of the paved surface on each side. This slope shall be a 2% cross slope.

Minimum Center Line Radius of Curve (in Feet) - (also site distance for horizontal curves for driveways)**		
Minor	100	200
Collector	200	200
Arterial	500	500

* As determined by appropriate governmental representative.

** Applies where a deflection angle of 15 degrees or more in the alignment of pavement occurs.

TABLE I (Continued)

GENERAL DESIGN STANDARDS FOR STREETS

IMPROVEMENT		RESIDENTIAL STREET	NONRESIDENTIAL STREET (INDUSTRIAL, COMMERCIAL: OTHER)
Minimum Length of Vertical Curves			
	Design Speed		
Minor	30	Rate of curvature, K = 30 for crest, 40 for sag, but not less than 100'.	
Collector	45	Rate of curvature, K = 80 for crest, 70 for sag, but not less than 100'.	
Arterial	60	Rate of curvature, K = 190 for crest, 120 for sag, but not less than 300'.	
All values are derived from AASHTO-Geometric Design of Highways and Streets, 1990.			
Minimum Length of Tangents Between Reverse Curves (in Feet)			
Minor		100	200
Collector		100	200
Arterial		300	400
Minimum Sight Distance (in Feet) for Vertical Curves – (also for driveways)			
Minor		250	250
Collector		250	250
Arterial		300	400
Intersection		Across Corners 75 feet back	Across Corners 75 feet back
Minimum Turnaround on Cul-de-sacs on Minor Streets (in Feet)			
Right-of-Way Diameter		100	160
Pavement Diameter		80	140
Length of Cul-de-sac			
Permanent		1,000 feet	
Temporary		1,000 feet	

A cul-de-sac may extend to an absolute maximum of 2,000 feet, however, any cul-de-sac that extends to a distance of greater than 1,000 feet shall be required to install a circular turnaround, with the same specifications as the terminus of the cul-de-sac, every 400 to 600 feet, from the beginning of the cul-de-sac.

Minimum Radius (in Feet) of Return at Intersections		
At Right-of-Way	25	30
At Pavement	35	50

4-103.204 Excess Right-of-Way

A slope easement in excess of the right-of-way designated in these regulations may be required whenever, due to topography, additional width is necessary to provide adequate earth slopes. Such slopes shall not be less/steeper than three to one (3:1).

4-103.205 Railroads and Limited Access Highways

Railroad right-of-way and limited access highways, where so located as to affect the subdivision of adjoining lands, shall be treated as follows:

a. In residential areas, a buffer strip at least twenty-five (25) feet in depth in addition to the normally required depth of the lot may be required adjacent to the railroad right-of-way or limited access highway. This strip shall be part of the platted lots and shall be designated on the plat: "This strip is reserved for screening; the placement of structures hereon is prohibited."

b. In commercial or industrial areas, the nearest street extending parallel or approximately parallel to the railroad shall, wherever practicable, be at a sufficient distance therefrom to ensure suitable depth for commercial or industrial property usage.

c. Streets parallel to a railroad, when intersecting a street which crosses the railroad at grade, shall to the extent practicable, be at a distance of at least one hundred fifty (150) feet from the railroad right-of-way. Such distance shall be determined with due consideration of the minimum distance required for future separation of grades by means of appropriate approach gradients.

4-103.206 Bridges

Bridges of primary benefit to the subdivider, as determined by the Planning Commission, shall be constructed at the full expense of the subdivider without reimbursement from the town. The sharing of expenses for the construction of bridges not of primary benefit to the subdivider, as determined by the Planning Commission, shall be fixed by special agreement between the Board of Commissioners and the subdivider. The cost shall be charged to the subdivider pro rata as to the percentage of his development so served.

4-103.3 Right-of-Way Width Dedication on Existing Streets

Where a subdivision adjoins an existing narrow street or where the Transportation Plan or any zoning setback provisions indicate plans for realignment or widening of a street that would require use of some of the land in the subdivision, the subdivider shall be required to dedicate, at his expense, areas for widening or realigning such street as set forth below:

1. the entire right-of-way shall be provided where any part of the subdivision is on both sides of the existing street; or

2. when the subdivision is located on only one side of an existing street, one-half (1/2) of the required right-of-way, measured from the center line of the existing pavement, shall be provided.

4-103.4 Street Surfacing and Improvements

After underground utilities have been installed, the subdivider shall construct curbs or curbs with gutters, where required, and shall surface or cause to be surfaced streets to the widths prescribed in these regulations. No street shall be surfaced until preliminary approval of the subdivision plat has been obtained. Surfacing shall be of such character as is suitable for the expected traffic. No final surface of a street shall be applied until at least eighty (80) percent of all structures are complete or approval by the Director of Public Works. Types and methods of paving shall be according to the specifications of the Planning Commission, but in no event shall such construction be below the construction specifications set forth in Appendix B, of these regulations. Adequate provision shall be made for culverts or other drains, and bridges, as required.

All streets pavements, shoulders, drainage improvements and structures, any curb turnabouts, and sidewalks shall conform to all construction standards and specifications adopted by the Planning Commission and shall be incorporated into the construction plans required to be submitted by the developer for plat approval.

4-103.5 Road Improvements on Existing Streets

Where a subdivision adjoins an existing street on either one side or both sides of the street, the subdivider shall be required to improve the existing street as set forth below:

1. When the subdivision is on one side of the street, the subdivider shall be required to improve the road section to the corresponding typical road section as set forth by the Public Works Department; or

2. When the subdivision is located on both sides of the existing street, the subdivider shall be required to improve the entire road section to the corresponding typical road section as set forth by the Public Works Department; and

3. In either case, the drainage system (cross culverts, road side conveyances, driveway culverts, etc.) shall be improved to accommodate the improved road section and the development constructed by the subdivider.

All improvements, drainage or road system related, shall adhere to the specifications set forth in Appendix B of these regulations.

4-104 Road Construction Specifications

The road construction specifications are included in these regulations as Appendix B, and are adopted as a part hereof. These specifications shall be the minimum standards for any subdivision within the jurisdictional area. The standard specifications for road and bridge construction of the Tennessee Department of Transportation will be utilized for all items not included in these minimum specifications. All road and drainage construction details are subject to the approval of the Public Works Department, **and shall be submitted to the office of the enforcing officer**.

4-105 Drainage and Storm Sewers

4-105.1 General Requirements

The Planning Commission shall not approve any major subdivision plat, which does not make adequate provision for storm water or floodwater run-off channels or basins. The storm water drainage system shall be separate and independent from any sanitary sewer system.

4-105.2 Nature of Storm Water Facilities

4-105.201 Location

The subdivider may be required by the Planning Commission to transport by pipe or open ditch any spring or surface water that may exist prior to or as a result of the subdivision. Such drainage facilities shall be located in the street right-of-way, where feasible, or in perpetual unobstructed easements of appropriate width and shall be constructed in accordance with the construction specifications contained in these regulations.

4-105.202 Accessibility to Public Storm Sewers

a. Where a public storm sewer is accessible, the developer shall install storm sewer facilities, or if no outlets are within a reasonable distance, adequate provision shall be made for the disposal of storm waters, subject to the specifications of the appropriate governmental representative; inspection of facilities shall be conducted to assure compliance. The enforcing officer shall conduct inspection of facilities.

b. If a connection to a public storm sewer will be provided eventually, as determined by the Planning Commission, the subdivider shall make arrangements for future storm water disposal by a public system at the time the plat receives final approval. Provisions for such connection shall be incorporated by inclusion in the performance bond required for the final subdivision plat.

4-105.203 Accommodation of Upstream Drainage Areas

A culvert or other drainage facility shall in each case be large enough to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the subdivision. Necessary facilities shall be sized based on the construction specifications and assuming conditions of maximum potential watershed development permitted, as approved by the Public Works Department.

4-105.204 Effect on Downstream Drainage Areas

The developer shall also prepare and submit to the town engineer a study of the effect of each major subdivision on existing downstream drainage facilities outside the area of the subdivision.

Increased flow rates, volumes, and velocities of water generated by a development must be estimated and may be released if the increased runoff is conveyed to an adequate downstream watercourse or facility without adverse impact (as determined by the town engineer) upon the land over which the waters are conveyed or upon the watercourse or facility into which such waters are discharged.

Where it is anticipated that the additional runoff incidental to the development of the subdivision will overload an existing downstream drainage facility, the Planning Commission may withhold approval of the subdivision until provisions have been made for adequate improvement of such drainage facilities. The developer may be required to construct adequate downstream facilities, contribute his pro-rata share toward the construction of adequate downstream facilities, or install onsite storm water detention to mitigate the downstream impacts. The Planning Commission reserves the right to require pro-rata share contributions or downstream improvements where storm water detention is not in the best interest of the overall drainage system and the town and county in general.

On site storm water detention proposed to reduce the peak rate of discharge to the off-site drainage system in lieu of downstream improvements shall not cause increased peak flows or velocities detrimental to downstream properties or facilities. When detention facilities are utilized, the peak rate of discharge after development shall not exceed the predevelopment peak rate with adequate provision made to prevent erosion due to increased velocities and adequate provision made for downstream accommodation of increased volumes of runoff.

Should it be determined by the town engineer that downstream conditions dictate additional control of lesser storms (up to the twenty-five (25) year design storm), the developer shall install flow control devices (weir, etc.), as approved by the town engineer.

Detention facilities shall be platted as perpetual drainage easements and shall be maintained by the property owner(s). The government of Gilt Edge will in no way be responsible for maintenance of drainage facilities on private property. Estimated increases in discharge velocity shall be mitigated by energy dissipation devices where required to prevent erosion.

The drainage system shall be designed to honor natural drainage divides, where practical. Surface waters shall not be concentrated and discharged onto adjoining property at rates and/or velocities exceeding predevelopment conditions unless the owner of the affected land has granted an easement expressly authorizing such discharge or unless the discharge is into an adequate natural watercourse or drainage system.

4-105.205 Areas of Poor Drainage

Whenever a plat is submitted for an area which is subject to flooding, the Planning Commission may approve such subdivision; provided, that the applicant fills the affected floodway fringe area of said subdivision to place public way elevations at no less than twelve (12) inches above the regulatory flood elevation and first floor elevations (including basements) at no less than one (1) foot above the regulatory flood elevation. The plat of such subdivision shall provide for a floodway along the bank of any stream or watercourse of width sufficient to contain or move the water of the regulatory flood, and no fill shall be placed in the floodway; neither shall any building nor flood-restrictive structure be erected or placed therein. The boundaries of the floodway and floodway fringe area and the regulatory flood elevation shall be determined by the town engineer based upon the review specified in Subsection 2-103.2, of these regulations, and the submission of flood data in construction plans as specified in Section 5-102, of these regulations. In any area that is subject to flooding, FEMA shall be contacted before any earthwork begins in or reasonably near the floodway fringe due to possible changes in the floodway.

When sinkholes are encountered, the developer based upon competent engineering shall determine the limits of any standing water. The Planning Commission may prohibit construction in and around sinkholes. The town engineer and Planning Commission shall approve any alteration of a sinkhole or the drainage pattern. (See Subsection 4-102.502.)

4-105.206 Floodplain Areas

The Planning Commission may when it deems necessary for the health, safety, or welfare of the present and future population of the area or necessary to the conservation of water, drainage, and sanitary facilities, prohibit the subdivision of any portion of the property, which lies within the floodplain of any stream or drainage course. The regulatory floodway shall be preserved from any and all destruction or damage resulting from clearing, grading, or dumping of earth, waste material, or stumps. Any subdivision which contains flood prone land shall be subject to the special provisions set forth in Subsections 2-101.4; 4-101.4; and Subsection 4-105.2, of these regulations.

4-105.207 Storm Water Detention and Discharge Control

a. The general policy of the Planning Commission is to allow release of the increased volume of water generated by a development rather than detain it if the increased runoff can be conveyed to an adequate drainage way, which will not cause downstream flooding. The major factors in evaluating drainage designs will be the effect on downstream water levels, existing conveyances, proximity of any structures, and erosion of banks.

b. Any drainage system that discharges without some form of detention shall route its water along a designated public drainage easement. A drainage system can be allowed to discharge along an existing (prescriptive) but non-recorded easement if all of the following are true:

(i) Post-development flow is less than or equal to the pre-development flow at the same location. (See Subsection 4-105.204.)

(ii) In order to prevent erosion at all outlet points, the engineer will be required to design and submit for approval an outlet system that approximates the width and velocity of the flow which existed prior to development.

c. A Stormwater Runoff Analysis, as defined in 6-102, shall be completed and submitted with the construction plans.

4-105.3 Dedication of Drainage Easements

4-105.301 General Requirements

Where a subdivision is traversed by a watercourse, drainage way, channel, or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse and of such width and construction as will be adequate. Where open drainage ways are utilized they shall be designed for the twenty-five (25) year frequency flood.

4-105.302 Drainage Easements

a. Where topography or other conditions are such as to make impracticable the inclusion of drainage facilities within a street right-of-way, perpetual unobstructed easements at least ten (10) feet in width for such facilities shall be provided across property outside the street lines and with satisfactory access to streets. Easements shall be indicated on the preliminary and final plats. Drainage easements shall be carried from the street to a natural watercourse or to other drainage facilities.

b. When a new drainage system is to be constructed which will carry water across private land outside the subdivision, appropriate drainage rights must be secured and indicated on the plat.

c. The applicant shall dedicate, when required by the Planning Commission, either in fee through the appropriate governmental representative, or by drainage or conservation easement through a declaration of covenants and restrictions, the land on both sides of an existing watercourse to a distance to be determined by the Town Engineer and approved by the Planning Commission.

d. Along watercourses, low-lying lands within any floodway, as determined by the Planning Commission pursuant to Section 2-102, of these regulations, whether or not included in areas for dedication, shall be preserved and retained in their natural state as drainage ways.

4-105.303 Drainage Construction

All ditch, channelization, culvert, storm drain, or catch basin construction shall be governed by the Specifications for Drainage Construction, included as Appendix B. These specifications are adopted and made a part of these regulations.

4-106 Water Facilities

4.106.1 General Requirements

1. Necessary action shall be taken by the developer to extend a water supply system capable of providing domestic water use and fire protection.

2. Where a public water main is within reasonable access of the subdivision, as determined by the Planning Commission, the subdivider shall install adequate water facilities, including fire hydrants (as required in section 4-106.2 below), subject to construction and material specifications, approval of the Planning Commission, the Tennessee Department of Environment and Conservation and these regulations.

3. Where required for fire protection, water mains shall not be less than six (6) inches in diameter.

4. All water systems, whether public or private, located in a flood prone area shall be floodproofed to the regulatory flood protection elevation. All water supply facilities located below the regulatory flood protection elevation shall be designed to prevent the infiltration of floodwaters into the water supply system and discharges from the system into floodwaters.

5. All water systems shall comply with the general instructions and detailed specifications for construction of water projects of the Tennessee Department Environment and Conservation.

6. Unless otherwise permitted, all subdivisions shall include a service line from the main water line that terminates at the property line in order that each proposed lot, at the time of construction, may be served by water without the installation of additional lines. The end of each service line shall be properly marked. All service lines shall have a minimum cover of twenty-four (24) inches.

4-106.2 Fire Hydrants

Fire hydrants shall be required in all major subdivisions; they shall be located no more than five hundred (500) feet apart as measured by the servicing street or so that no building envelope (whether residential, commercial, or industrial) shall be more than two hundred fifty (250) feet from any fire hydrant as measured by the servicing street. However, the Planning Commission may require closer spacing where physical conditions or types of structures so warrant. To eliminate future street cuttings or openings, all underground utilities for fire hydrants, together with the fire hydrants themselves, and all other water supply improvements shall be installed before any final paving of a street shown on the subdivision plat.

Where a minor subdivision of three (3) or more lots (including the parent tract) are being subdivided along existing public ways and adequate water lines are available, (six (6) inches in diameter or greater), fire hydrants shall be installed and color-coded in cooperation with the appropriate utility district. See Appendix C, for Color Code Standard.

4-107 Sewage Facilities

4-107.1 General Requirements

The applicant shall install sanitary sewer facilities in a manner prescribed by the regulations of the Tennessee Department of Environment and Conservation and by any other applicable standards and specifications. All plans shall be designed and approved in accordance with the rules, regulations, specifications, and standards, of any applicable governmental agency or appropriate unit, thereof.

4-107.2 Mandatory Connection to Public Sewer System

1. When public sanitary sewers are within reasonable access of the subdivision, as determined by the Planning Commission, the subdivider shall provide sanitary sewer facilities to each lot therein and shall connect the facilities to the public system. The subdivider shall provide sewers that meet standards set forth in the regulations of the Tennessee Department of Environment and Conservation.

2. All sanitary sewer facilities located in a flood hazard area shall be floodproofed to the regulatory flood protection elevation. All sewerage facilities located below the regulatory flood protection elevation shall be designed to prevent infiltration of floodwaters into the sewer system and discharges from the system into floodwaters.

4-107.3 Individual Disposal System Requirements

If public sewer facilities are not available and individual disposal systems are proposed, lot areas shall not be less than the minimums specified in these regulations; all pertinent soil absorption tests shall be made as directed by the county environmentalist and the results submitted to the local office of the State Department of Environment and Conservation for approval.

The local office of the State Department of Environment and Conservation also shall approve the individual disposal system, including the size of the septic tank and size of the tile fields or other secondary treatment device.

Upon recommendation of the local office of the State Department of Environment and Conservation, the Planning Commission may prohibit installation of sewage disposal facilities requiring soil absorption systems where such systems will not function due to high ground water, flooding, or unsuitable soil characteristics. The Planning Commission may require that the subdivider note on the face of the plat and any deed of conveyance that soil absorption fields are prohibited in designated areas.

4-107.4 Design Criteria for Sanitary Sewers

4-107.401 General

These design criteria are not intended to cover extraordinary situations. Deviations can be allowed and may be required in those instances where considered justified by the town engineer. These design criteria are considered minimum standards and public utility systems and State requirements may be more restrictive.

4-107.402 Design Factors

Sanitary sewer systems shall be designed for the ultimate tributary population. Due consideration may be given to any current zoning regulations and approved planning reports, where applicable. Sewer capacities shall be adequate to accommodate the anticipated maximum hourly quantity of sewage and industrial wastes, together with an adequate allowance for infiltration and other extraneous flow. The unit design flows presented hereinafter should be adequate in each case for the particular type of development indicated. Sewers shall be designed for the total tributary area using the following criteria.

SEWER DESIGN FLOWS

Building Type	
One and Two Family Dwellings	**0.02 cubic feet per second (c.f.s. per acre)**
Apartments	
One and Two Story	**0.02 c.f.s. per acre**
Three Through Six Story	**0.03 c.f.s. per acre**

Commercial	
Small Stores, Offices and Miscellaneous Business	**0.02 c.f.s. per acre**
Shopping Centers	**0.02 c.f.s. per acre**
Industrial	**As suggested by engineer**

These design factors shall apply to watersheds of three hundred (300) acres or less. Design factors for watersheds larger than three hundred (300) acres and smaller than one thousand (1,000) acres shall be computed on the basis of a linear decrease from the applicable design factor for an area of three hundred (300) acres to a design factor of 0.01 c.f.s. per care for an area of one thousand (1,000) acres, unless otherwise directed by appropriate governmental representative. Design factors for watersheds larger than one thousand (1,000) acres shall be 0.01 c.f.s. per acre, unless otherwise directed.

All sanitary sewer materials shall be A.S.T.M. and/or A.W.W.A. approved.

4-107.403 Maximum Size

The diameter of sewers proposed shall not exceed the diameter of the existing or proposed outlet, whichever is applicable.

4-107.404 Minimum Size

No public sewer shall be less than eight (8) inches in diameter. All homes shall have a minimum four (4) inch sewer service.

4-107.405 Minimum Slope

All sewers shall be designed to give mean velocities when flowing full of not less than 2.0 feet, per second. All velocity and flow calculations shall be based on Kutter's formula using an N value of 0.013. The design slopes shall be evenly divisible by four (4). The slopes shall be no less than the minimums specified in the following table. Exceptions to these minimum slopes shall be made, upon the approval of the local government engineer and the Tennessee Department of Environment and Conservation, at the upper end of lateral sewers serving fewer than thirty (30) houses. Said sewers shall have a minimum slope of 0.76 percent. Where lateral sewers serve less than ten (10) houses, the minimum slope shall be not less than one (1) percent.

MINIMUM SLOPES FOR SEWER LINES

Sewer Size (in Inches)	Recommended Minimum Slopes (Feet/100 Feet)	Required Minimum Slopes (Feet/100 Feet)
8	0.522	0.40
10	0.387	0.28
12	0.304	0.22
14	0.247	0.17
15	0.226	0.15
16	0.206	0.14
18	0.177	0.12
21	0.144	0.10
24	0.120	0.08

4-107.406 Alignment

All sewers shall be laid with straight alignment between manholes, unless otherwise directed or approved.

4-107.407 Manhole Location

Manholes shall be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than three hundred-fifty (350) feet for sewers fifteen (15) inches or less in diameter, four hundred (400) feet for sewers eighteen (18) inches or twenty-one (21) inches in diameter, and five hundred (500) feet for sewers twenty-four (24) inches or greater in diameter.

4-017.408 Manholes

The difference in elevation between any incoming sewer and the manhole invert shall not exceed twelve (12) inches, except where required to match crowns. The use of drop manholes will require approval. The minimum inside diameter of the manholes shall conform to those specified. Inside drop manholes will require special considerations; however, in no case shall the minimum clear distance be less than that indicated above. When a smaller sewer joins a larger one, the crown of the smaller sewer shall not be lower than that of the larger one. The minimum drop through manholes shall be 0.2 feet.

4-107.409 Sewerage Locations

Sanitary sewers shall be located within street or alley right-of-way, unless topography dictates otherwise. When located in easements on private property, access shall be available to all manholes. A manhole shall be provided at each street or alley crossing. End lines shall be extended to provide access from street or alley rights-of-way where possible. Imposed loading shall be considered in all locations. Not less than six (6) feet of cover shall be provided over the top of pipe in street and alley rights-of-way or three (3) feet in all other areas.

4-107.410 Cleanouts and Lampholes

Cleanouts and lampholes will not be permitted.

4-107.411 Water Supply Interconnections

There shall be no physical connection between a public or private potable water supply system and a sewer. There shall be no passage any of sewage or polluted water into the potable supply. Sewers shall be kept removed from the water supply wells or other water supply resources and structures.

4-107.412 Relation of Sewers to Water Mains

A minimum horizontal distance of ten (10) feet shall be maintained between parallel water and sewer lines. At points where sewers cross water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least two (2) feet below the bottom of the water main. When the elevation of the sewer cannot be varied to meet the above requirement, the water main, upon approval of the town's engineer and the Tennessee Department of Environment and Conservation, shall be relocated to provide this vertical separation or reconstructed with mechanical-joint pipe for a distance of ten (10) feet on each side of the sewer. One full length of water main shall be centered over the sewer so that both joints will be as far from the sewer as possible.

When the horizontal and vertical separation specified above is impossible, both the water main and sewer shall be constructed of mechanical-joint cast-iron pipe and shall be pressure-tested to assure water tightness.

4-108 Pedestrian Ways

4-108.1 Sidewalks and Bicycle Paths

Sidewalks and bicycle paths shall be required by the Planning Commission in any major subdivision when any lot in the subdivision is less than 30,000 square feet, and shall be included within the dedicated non-pavement right-of-way of all streets as indicated in the following table and shall be improved as required by Subsection 4-103.4, of these regulations. Concrete curbs are required for all streets where sidewalks are to be constructed. A median strip of grassed or landscaped area at least two (2) feet wide shall separate all sidewalks from adjacent curbs.

SIDEWALK DESIGN

Class of Street	Sidewalk Width	
	Residential Road	Nonresidential Road (Industrial, Commercial; Other)
Minor Street	4 feet wide	6 feet wide
Collector Street	5 feet wide	6 feet wide
Arterial Street	5 feet wide	6 feet wide

4-108.2 Pedestrian Accesses

The Planning Commission may require, in order to facilitate pedestrian access from the street to schools, parks, playgrounds, or other nearby streets, perpetual unobstructed easements at least twenty (20) feet in width. Easements shall be indicated on the plat.

4-109 Utility Easements

A. Easements down side or rear lot lines or across front lot lines shall be provided for utilities (private or public), where required. Such easements shall be at least ten feet (10') in width and designed to the appropriate utility districts' requirements. The required utility easements shall be shown on all plats and not located within the road right-of-way. The subdivider shall take such actions as are necessary to ensure the coordination and continuation of utility easements established on adjacent properties with those proposed within his development.

B. Where topographical or other conditions are such as to make impractical the inclusion of utilities within rear lot lines, perpetual unobstructed easements at least ten (10) feet in width shall be provided along side lot lines with satisfactory access to streets or rear lot lines. Easements shall be indicated on the plat.

C. Temporary construction easements exceeding the width of permanent easements may be required as necessary until completion of any one project.

4-110 Public Uses

4-110.1 Plat to Provide for Public Uses

Whenever a tract to be subdivided includes a school, recreation use, a portion of a major street, or other public use, as indicated on the Transportation Plan, or any other plan thereof, such tract shall be suitably incorporated by the developer into his plat when first presented for review by the Planning Commission.

After proper determination of its necessity by the Planning Commission and the appropriate governmental representative(s) involved in the acquisition and use of such site, and after a determination has been made to acquire the site by the public agency, the site shall be suitably incorporated by the developer into the plat prior to final approval by the Planning Commission and recording of the plat.

4-110.2 Referral to Public Body

The Planning Commission shall refer any plat presented in accordance with Subsection 4-110.1, to the public body concerned with acquisition of the land. The Planning Commission may propose alternate areas for such acquisition and shall allow the appropriate governmental agency thirty (30) days for reply.

Among the areas which the Planning Commission may propose for public acquisition, when the commission deems it appropriate and consistent with the policies and purposes set forth in Section 1-104, Subsections 2-101.4, 4-101.4, and Section 4-111, of these regulations, is any land within a floodway or floodway fringe determined according to the procedure described in Section 2-102, of these regulations.

The acquiring agency's recommendation, if affirmative, shall include a map showing the boundaries and area of the parcel to be acquired and an estimate of the time required to complete the acquisition.

4-110.3 Notice to Property Owner

Upon receipt of an affirmative report, the Planning Commission shall notify the property owner and shall designate on all plats any areas proposed to be acquired by any public body. Upon such designation by the Planning Commission, any reserved portion of any floodway or floodway fringe shall not be altered from its natural state by the development in any manner whatsoever, except upon written approval of the Planning Commission.

4-110.4 Duration of Land Reservation

The acquisition of land reserved by a governmental agency on the final plat shall be initiated within twenty-four (24) months of notification, in writing, from the owner that he intends to develop the land. Such letter of intent shall be accompanied by a plat of a proposed development and a tentative schedule of construction. Failure on the part of the governmental agency to initiate acquisition within the prescribed twenty-four (24) months shall result in the removal of the "reserved" designation from the property involved and the freeing of the property for development in accordance with these regulations.

4-111 Preservation of Natural Features and Amenities

Existing features which would add value to residential development or to the planning region as a whole, such as trees, watercourses and falls, historic spots, and similar irreplaceable assets, shall be preserved in the design of the subdivision, as required by the Planning Commission. No trees shall be removed from any subdivision nor any change of grade of land affected until approval of a preliminary subdivision plat has been granted. All trees on the plat required to be retained shall be preserved, and all trees, where required, shall be welled and protected against change of grade. When required the preliminary plat shall show the number and location of existing trees and shall indicate all those marked for retention.

Grading permits are required before any work begins for any lot, tract, subdivision, commercial development or industrial development with the exception of agricultural activities (including timber crops). **The penalty for grading prior to site plan approval or grading without a permit shall be $100 per acre.**

4-112 Nonresidential Subdivisions

4-112.1 General

If a proposed subdivision includes land which is zoned for a commercial or industrial purpose, or if not zoned, includes land intended by the applicant as a commercial or industrial use, the layout of the subdivision with respect to such land shall make such provisions as the Planning Commission may require. A nonresidential subdivision also shall be subject to all the requirements of site plan approval set forth in any zoning ordinance. Site plan approval may proceed simultaneously at the discretion of the Planning Commission. A nonresidential subdivision shall be subject to all the requirements of these regulations, as well as, such additional standards set forth by the Planning Commission, and shall conform to the proposed County Growth Plan, Gilt Edge Transportation Plan, and Gilt Edge Zoning Ordinance.

4-112.2 Standards

In addition to the principles and standards in the regulations, which are appropriate to the planning of all subdivisions, the subdivider shall demonstrate to the satisfaction of the Planning Commission that the street, parcel, and block pattern proposed is specifically adapted to the uses anticipated and takes into account other uses in the vicinity. The following principles and standards shall be observed:

1. proposed industrial parcels shall be suitable in areas and dimensions to the types of nonresidential development anticipated;

2. street rights-of-way and pavements shall be adequate to accommodate the type and volume of traffic anticipated;

3. special requirements may be imposed by the governing body with respect to any street, curb, gutter, and sidewalk design and construction specifications;

4. special requirements may be imposed by the governing body with respect to the installation of public utilities, including water, sewer, and storm water drainage;

5. every effort shall be made to protect adjacent residential areas from potential nuisance from the proposed nonresidential subdivision, including the provision of extra depth in parcels backing on existing or potential residential development and provisions for permanently landscaped buffer strips, when necessary; and

6. Roads carrying nonresidential traffic, especially trucks, normally shall not be extended to the boundaries of adjacent existing or potential residential areas.

4-113 Wetlands Requirements

Wetlands are defined as lands which have hydric soils and a dominance (fifty percent (50%) or more of stem count based on communities) of obligate hydrophytes. They include the following generic types: fresh water meadows, shallow fresh water marshes, shrub swamps with semi permanent water regimes most of the year, wooded swamps or forested wetlands, open fresh water except farm ponds, and bogs as defined in *11-14-401 Tennessee Code Annotated*.

The National Wetland Inventory Map, derived by the U.S. Fish & Wildlife Service, provides a digital map of potential wetland areas in Tipton County, Tennessee. Any existing or future lots or tracts shall meet a twenty-five (25) foot building envelope setback from any potential wetland shown on the NWI map, or as determined based upon the above definition, unless such potential wetland is determined not to be classified as a wetland through the Army Corp of Engineers. In addition, all potential wetland areas shall be shown on the Final Plat as a shaded or hatched area. Any accessory structure shall meet the required twenty-five (25) foot setback from any potential wetland. All existing structures as of February 26, 2007 are excluded from this requirement.

4-114 Gated Communities Requirements

The intent of this section is to provide standards for the installation and construction of all electronic access gates into private developments to allow for the safe and efficient ingress and egress for emergency responders and other necessary on-duty employees for the health, safety and general welfare of the public. In addition, this section also defines the responsibilities of the Homeowners' Association regarding all infrastructure within the development.

Any residential subdivision proposals that include gated access to the subdivision shall adhere to the Tipton County Subdivision Regulations and Zoning Resolution and include the following provisions:

4-114.1 Homeowners' Association

Any residential subdivision proposals that include gated access with private roads must have an incorporated association under the laws of the State of Tennessee approved by the Planning Commission during the Final Plat Approval process. The homeowners' association package shall be submitted during the Preliminary Plat Approval process for review and comment so as not to unnecessarily delay the Final Plat Approval process.

4-114.2 Maintenance

The maintenance of all private roads, drainage control structures, common areas and any other private infrastructure improvements shall be the responsibility of the homeowners' association. The Tipton County Public Works Department reserves the right to repair private roads and drainage control structures to County standards and recover the costs thereof from the homeowners' association if the homeowners' association does not maintain its private infrastructure improvements to County standards. Maintenance performed by the Tipton County Public Works Department does not constitute acceptance of any private infrastructure improvements.

4-114.3 Roads

All interior roads shall be constructed to Tipton County standards, per the Tipton County Subdivision Regulations (Article IV, Sections 4-103 and 4-104 and Appendix B of these regulations). All private roads shall be at a minimum design speed of 30 M.P.H. and speed bumps/humps are not allowed within the roadway. All interior intersections shall have a 35 foot turning radius. All road signs shall be installed and maintained by the Homeowners' Association. Road striping shall be applied the same as on County maintained roads.

4-114.4 Sewage Facilities

Sewage facilities shall apply the same as exists for the County (Article IV, Section 4-107). All sewage facilities are deemed private unless otherwise approved by the Planning Commission.

4-114.5 Utilities (Water and Gas Lines)

Water and gas line infrastructure, including fire hydrants (Article IV, Section 4-106), shall be public where provided by a public utility and shall be constructed to the specific Utility Districts standards. The required utility easements shall be shown on all plats and not located within the road right-of-way.

4-114.6 Drainage

Stormwater drainage structures, including but not limited to conveyances and retention/detention ponds shall be private, constructed to County standards (Article IV, Section 4-105 and Appendix B) and are to be maintained by the homeowners' association. Ponds, swales, ditches and any other form of drainage infrastructure shall be properly mowed, cleaned and maintained by the homeowners' association. Structures that create a point source discharge shall connect to public conveyances as determined by the County Engineer.

In the case of a gated community utilizing an underground stormwater retention/detention system, the homeowners' association shall enter into a maintenance agreement with a licensed and certified contractor to perform maintenance of the underground stormwater detention system. An annual inspection of the underground detention facility is required and the report shall be submitted to the County Engineer and County Code Enforcement Officer.

4-114.7 Gates

Each directional gate shall be a minimum of 14 feet in unobstructed width and located at least 50 feet from the nearest edge of the right-of-way of the intersecting public road for proper emergency access. Gate approaches shall be a minimum of 40 feet wide unobstructed to the 50 foot dimension with a 35 foot turn radius off the intersecting public road. In the case of an arched gateway, there shall be a minimum vertical clearance of 13 feet 6 inches for the entire gate width in each direction and marked as such with a minimum of 4 inch reflective lettering.
Secondary access shall be provided for gated communities of more than 50 units, following the same requirements of the primary access.

All gates shall be equipped with a radio operated receiver/controller capable of receiving signals from a police department, sheriff's department, fire department, utility and emergency medical services' radio transceivers serving the gated community which allow emergency responders and other necessary on-duty employees to open the gate by use of such equipment. In addition, all gates shall be equipped with a Knox Box, or equivalent, that guarantees emergency responders and other necessary on-duty employees access to the development. All gates shall be equipped with a battery backup.

Semi-annual inspection and testing of the gate control system is required by an independent firm hired by the homeowners' association. Reports of the inspection and maintenance performed shall be sent to the County Code Enforcement Officer and the 911 Office within thirty (30) days.

The maintenance and upkeep of any gate shall be the sole responsibility of the developer, owner or homeowners' association. Inoperative gates shall be repaired immediately. Inoperative gates shall be locked in the open position until repairs are made.

Retrofits shall follow the same standards for placement and turnaround as set out in this section, including those for existing non-gated subdivisions or existing private roads. No variances to this section shall be granted.

4-114.8 Escrow Account

The developer shall create an escrow account with the Tipton County Public Works Department in an amount equal to that required to resurface and restripe all private roads within the subdivision to serve as a maintenance bond. The county shall have the right to maintain any and all roads and drainage structures, and charge these costs to the escrow account. The amount to be permanently maintained in escrow by the homeowners' association shall be determined by the County Engineer and approved by the Planning Commission, with an annual review to ensure that adequate funds are present.

4-114.9 Road Lighting

If installed, road lights shall be private and maintained by the homeowners' association. If at any such time the homeowners' association is abandoned, the road lights shall become the responsibility of the property owner on which the road light exists.

4-114.10 Signage and Striping

All road signs and striping shall be private, and are to be installed and maintained to County standards or *The Manual on Uniform Traffic Control Devices* by the Homeowners' Association.

4-114.11 Disaster Response

In the event of an emergency, a gated community is treated like all other communities. However, the County's responsibility for cleanup in a gated community is the same as that of other private property.

4-114.12 Other

Other provisions may be required by the Planning Commission for a particular site in the interest of the health, safety and general welfare of Tipton County.

If, at any time, the homeowners' association is abandoned, the County shall remove the gates to the subdivision, inspect all roads and drainage structures and make any necessary repairs at the equally divided expense of the property owners within the subdivision.