ARTICLE IV. REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGNS

Sec. 4-102. Lot requirements.

4-102.1. *Lot arrangement.*

4-102.101. *General.* Each lot shall contain a sufficient "building site" (See definition) such that there will be no foreseeable difficulties, for reasons of topography, slope/foundation stability, flood hazards, or other conditions in locating the structures upon such lot. Building sites shall have dimensions and area sufficient to ensure that the building setbacks and yards are in compliance with any zoning ordinance. No "building site" may include any land defined as "unsuitable for development" by the provisions of subsection 4-101.401 (above).

4-102.102. *Evaluation criteria.* In evaluating the layout of lots and open space the following criteria will be considered by the Planning Commission as indicating design appropriate to the site's natural, historic, and cultural features, and meeting the purposes of these regulations. Diversity and originality in lot layout shall be encouraged to achieve the best possible relationship between development and conservation areas. Accordingly, the Planning Commission shall evaluate proposals to determine whether the proposed plan:

1. Protects and preserves all floodplains, wetlands, and steep slopes from clearing, grading, filling, or construction (except as may be approved by the City for essential infrastructure or active or passive recreation amenities).

2. Preserves and maintains mature woodlands, existing fields, pastures, meadows, and orchards, and creates sufficient buffer areas to minimize conflicts between residential and agricultural uses. For example, locating house lots and driveways within wooded areas is generally recommended, with two exceptions. The first involves significant wildlife habitat or mature woodlands that raise an equal or greater preservation concern, as described in Items No. [subsections] 5 and No. 8, below. The second involves predominantly agricultural areas, where remnant tree groups provide the only natural areas for wildlife habitat.

3. If development must be located on open fields or pastures because of greater constraints in all other parts of the site, dwellings should be sited on the least prime agricultural soils, or in locations at the far edge of a field, as seen from existing public roads. Other considerations include whether the development will be visually buffered from existing public roads, such as by a planting screen consisting of a variety of indigenous native trees, shrubs, and wildflowers (specifications for which should be based upon a close examination of the distribution and frequency of those species found in a typical nearby roadside verge or hedgerow).

4. Maintains and/or creates watershed and drainageway buffers of natural native species vegetation adjacent to wetlands and surface waters, including creeks, streams, springs, lakes and ponds as follows:

   (a) 100-foot-wide watershed buffers shall be created and/or maintained around bodies of water supply impoundments, measured perpendicular to the shoreline of the water supply impoundment. Watershed buffers shall extend 100 feet from the flood pool elevation of the water supply impoundment, inside the watershed draining to the impoundment.

   (b) 50-foot-wide watershed buffers shall be created and/or maintained around water impoundments, other than water supply impoundments, with a drainage area of 25 or

more acres. Watershed buffers shall be measured perpendicular to the shoreline and shall extend 50 feet from the normal pool elevation of the water impoundment, inside the watershed draining into that impoundment.

(c) 30-foot-wide watershed buffers shall be created and/or maintained around water impoundments draining at least five acres, but less than 25 acres. Buffers shall be measured perpendicular to the shoreline and shall extend 30 feet from the normal pool elevation of the water impoundment, inside the watershed draining into that impoundment.

(d) Drainageway buffers shall be created and/or maintained on each side of a stream that is shown as a perennial stream on the most recent version of the USGS 1:24,000 (7.5 minute) scale topographic maps or has a drainage area of 40 or more acres. The width of the drainageway buffer shall be a minimum of 50 feet wide for flat lying areas. The drainageway buffer shall be increased two feet in width for every one percent of slope increase (measured along a line perpendicular to the stream bank.

(e) Drainageway buffers shall be created and/or maintained along each side of a watercourse, channel, ditch or similar physiographic feature. The width of said buffer shall be determined as follows:

(i) 30 feet in width if the area of the watercourse, channel, ditch or similar physiographic feature is at least 25 acres, but less than 40 acres.

(ii) The drainageway buffer shall be a minimum of 25 feet wide if the drainage area of the watercourse, channel, ditch or similar physiographic feature is at least five acres, but less than 25 acres.

5. Designs around existing hedgerows and treelines between fields or meadows, and minimizes impacts on large woodlands, (greater than five acres), especially those containing many mature trees or a significant wildlife habitat, or those not degraded by invasive plants. Also, woodlands of any size on highly erodible soils with slopes greater than ten percent should be avoided. However, woodlands in poor condition with limited management potential can provide suitable locations for residential development. When any woodland is developed, great care shall be taken to design all disturbed areas (for building, roads, yards, septic disposal fields, etc.) in locations where there are no large trees or obvious wildlife areas, to the fullest extent that is practicable.

6. Leaves scenic views and vistas unblocked or uninterrupted, particularly as seen from public thoroughfares. For example, in open agrarian landscapes, a deep "no-build, no-plant" buffer is recommended along the public thoroughfare where those views or vistas are prominent or locally significant. The concept of "foreground meadows," with homes facing the public thoroughfare across a broad grassy expanse (as illustrated in Figure 5-5, of Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks) is strongly preferred to mere buffer strips, with or without berms or vegetative screening. In wooded areas where the sense of enclosure is a feature that should be maintained, a deep "no-build, no-cut" buffer should be respected, to preserve existing vegetation.

7. Protects wildlife habitat areas of species listed as endangered, threatened, or of special concern by the U.S. Environmental Protection Agency or the Tennessee Department of Environment and Conservation.

8. Designs around and preserves sites of historic, archaeological, or cultural value, and their environs, insofar as needed to safeguard the character of the feature, including stone walls, spring houses, barn foundations, cellar holes, earthworks, and burial grounds.

9. Protects rural roadside character and improves public safety and vehicular carrying capacity by avoiding development fronting directly onto existing public roads. Establishes buffer zones along the scenic corridor of rural roads with historic buildings, stone walls, hedgerows, etc.

10. Landscapes common areas (such as community greens), cul-de-sac islands, and both sides of new streets with native specie shade trees and flowering shrubs with high wildlife conservation value. These trees shall generally be located between the sidewalk or footpath and the edge of the street, within a planting strip not less than five feet in width.

11. Provides active recreational areas in suitable locations that offer convenient access by residents and adequate screening from nearby house lots.

12. Includes a pedestrian circulation system designed to assure that pedestrians can walk safely and easily on the site, between properties and activities or special features within the neighborhood open space system. All roadside footpaths should connect with off-road trails, which in turn should link with potential open space on adjoining undeveloped parcels (or with existing open space on adjoining developed parcels, where applicable).

13. Provides open space that is reasonably contiguous, and whose configuration is in accordance with the guidelines contained in the Design and Management Handbook for Preservation Areas, produced by the Natural Lands Trust. To the greatest extent practicable this land shall be designed as a single block with logical, straightforward boundaries. Long thin strips of conservation land shall be avoided, unless the conservation feature is linear or unless such configuration is necessary to connect with other streams or trails. The open space shall generally abut existing or potential open space land on adjacent parcels (such as in other subdivisions, public parks, or properties owned by or leased to private land conservation organizations). Such subdivision open space shall be designed as part of large contiguous and integrated greenway systems, as per the policies in the open space, recreation, and environmental resources element of the City's comprehensive plan.

4-102.103. *Lots subject to flood.* No portion of a "building site" (see definition) associated with any residential structure may be located in any floodprone area. However, portions of lots occupied by residential structures that are located beyond a "building site" may contain land subject to flooding. In any instance where the lot is served by subsurface sewage disposal the area of the disposal fields shall not lie within any floodprone area. Adding fill material within the 100-year flood boundary area will not be permitted unless approved by the Planning Commission. In the event that filling within the flood boundary is approved, the fill shall be protected against erosion by riprap, vegetative cover, or other methods deemed acceptable by the Planning Commission. On nonresidential building sites outside a 100-year flood boundary the use of structural floodproofing methods specified in subsection 4-101.403, (Protection against flood damage) of these regulations, as an alternative to fill material, may be approved by the Planning Commission, as provided in subsection 2-101.4 of these regulations.

4-102.104. *Lots with building sites located on steep slopes.* Due to the potential threat to health and safety posed by development located on lands with slopes in excess of 15 percent, the following regulations shall apply:

a. *Site development plan required.* No building permit may be issued for a building or any lot where the proposed building site lies on natural slopes of 20 percent or greater. For any lot where the proposed building site has slopes of less than 20 percent but 15 percent or greater a site plan

meeting the following requirements must be approved by the Planning Commission prior to issuance of a building permit. Said site plan shall show:

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

(ii) The proposed location of all buildings, driveways, drainageways, and utilities;

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

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

(v) The location of any on-site soil absorption sewage disposal systems;

(vi) The type and location of erosion control facilities;

(vii) The stamp of the Tennessee registered engineer who prepared the plan;

(viii) Certification by a Tennessee registered civil or geotechnical engineer as to the stability of the structures and compliance with sound construction methods for areas with steep slopes and landslide problems.

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 certification required in subsection 4-102.103a(viii), above, shall address these standards.

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

(ii) Natural drainageways 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. These methods include filling, irrigation systems, accessory buildings, and on-site soil absorption sewage disposal systems;

(iv) Where sanitary sewers are not available all on-site sewage disposal systems shall be shown on the site plan and located to avoid slide-prone areas. Said system shall be approved by the county health department taking into account these requirements;

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

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

4-102.105. *Design requirements for flag lots.* Flag lots may be approved in single-family zoned areas following consideration by the approving authority for the City of Mt. Juliet. Flag lots shall comply with the following design requirements:

(1) The "pole" may at no point along its length be less than the minimum lot width required for the applicable zoning district.

(2) The "front" setback for the flag lot shall be measured from the property line existing in front of the proposed dwelling on the flag lot (the rear line of the lot with frontage on the public street) and shall be the lesser of twice the normal front setback for the zoning district or 75 feet, but in no case less than 75 feet.

(3) Flag lots are discouraged for any parcel less than four acres in area. Lot divisions creating a flag lot shall not result in the creation of any lot of less than two acres. The area of the "pole" may be included in the gross area of the site, but shall not be included in calculations for building coverage or setbacks.

(4) Depending on the size of the original parcel, a lot split should result in a division that produces two equitably sized lots, avoids 90-degree angles and preferably connects the street with the rear lot line.

(5) Buildable area (area excluding required setbacks) on the flag lot and/or front lot, may be required to exceed the minimum setback requirements of the zoning ordinance to provide visibility of dwellings from the street and to avoid "stacking."

(6) Flag lots may not be used as a means of avoiding the requirement for extending new public roads or utilities to home sites/lots.

(7) An "all-weather" surface, a minimum of 12 feet in width, shall be provided on a flag lot granting access to within 150 feet of the dwelling. The maximum width of a driveway shall be 20 feet.

(8) A mailbox, or other structure, shall be required along the right-of-way of a flag lot which clearly displays the address to the public road. No other improvements or structures, other than landscaping shall be permitted within the "flag" area.

(9) Compliance with the above requirements shall not guarantee the approval of a requested division of land. Requests meeting the criteria in this policy shall only be allowed at the full discretion of the Planning Commission, or staff when allowed by administrative review.

4-102.2. *Lot dimensions.* Except as provided in subsection 4-102.3 (Special building separation) minimum dimensions of lots shall comply with the standards of the zoning ordinance. All building setbacks shall be indicated for each lot shown on the plat. Where lots are more than double the minimum area required by the zoning ordinance, the Planning Commission may require that such lots be restricted to prevent further resubdivision or 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 the zoning ordinance and these regulations. Dimensions of 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. The minimum lot frontage on a public way shall be 50 feet, except for the radius of a cul-de-sac that shall be 35 feet. 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 as established in the zoning ordinance.

4-102.3. *Special building separation.* In all instances where fire flows are inadequate to meet the requirements of these regulations or no fire hydrant is located within sufficient distance to meet the fire protection standards established herein, the minimum separation of principal buildings shall at all points be 50 feet.

4-102.4. *Building setbacks from high voltage electric 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	25 feet
46 KV	37½ 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 arteries, or to overcome specific disadvantages of topography and orientation.

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 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 streets.

4-102.503. *Minimum clearance.* The corner clearance is defined as the distance between the property frontage along the major road and the tangent face of a driveway accessing the minor roadway. The edge clearance is defined as the distance between the frontage boundary and the tangent edge of the driveway. The minimum corner or edge clearance, regardless of roadway classification, shall adhere to the guidance within the Tennessee Department of Transportation's Highway System Access Manual, including all subsequent amendments and/or revisions.

~~The minimum corner clearance between proposed new driveways and arterial or collector routes designated in the major thoroughfare plan shall be 50 feet. In order to ensure adequate storage space for vehicles stopped at a signalized intersection, the Planning Commission may require that the nearside corner clearance shall be at least 100 feet. Corner clearances and design of driveway connections to arterial and collector roads shall be as defined in the Rules and Regulations for Constructing Driveways on State Highway Rights-of-Way, adopted by the Tennessee Department of Highways April 3, 1967, including all subsequent amendments and/or revisions thereto. The distance between a frontage property line and the tangent projection of the nearest edge of each nonresidential driveway, measured along the edge of the public way, shall be at least 15 feet.~~

4-102.504. *Design standards for nonresidential driveways.* For access to thoroughfares where the posted speed limit is 35 mph or less, all nonresidential driveways shall be constructed with a minimum return radius of 15 feet and a minimum horizontal width of 25 feet. All drives serving nonresidential property shall be paved with concrete or an asphaltic surface.

For access to thoroughfares where the posted speed limit is 40 mph, nonresidential driveways shall be constructed with:

a. A minimum return radius of 15 feet and a minimum driveway width of 35 feet; or

b. A minimum return radius of 20 feet and a minimum driveway width of 30 feet; or

c. A minimum return radius of 25 feet and a minimum driveway width of 25 feet.

For access to thoroughfares where the posted speed limit is 45 mph, nonresidential driveways shall be constructed with a right-turn deceleration lane and:

a. A minimum return radius of 25 feet and a minimum driveway width of 40 feet; or

b. A minimum return radius of 30 feet and a minimum driveway width of 30 feet.

The Planning Commission will review proposed driveway designs for access to other thoroughfares on a case-by-case basis. The centerline of every nonresidential two way driveway shall intersect the

centerline of the public way at an angle between 75 and 90 degrees. For other nonresidential driveways, the intersection angle shall be subject to the approval of the Planning Commission.

4-102.505. *Design standards for residential driveways.* Where permitted, residential driveways fronting collector and arterial routes designated in the major thoroughfare plan shall be designed so as to avoid requiring vehicles to back onto these highways.

4-102.506. *Relationship to state standards.* Where the driveway design and location standards listed above are not in conformance with the standards of the Tennessee Department of Transportation, the Planning Commission may require conformance with whichever standard is more restrictive.

4-102.6. *Soil preservation, grading, erosion control, and seeding.*

4-102.601. *Soil preservation and final grading.* No certificate of occupancy shall be issued until final grading has been completed in accordance with the approved construction plan. Topsoil shall not be removed from residential lots or used as spoil, but shall be redistributed so as to provide cover on the lots. Permanent or temporary soil stabilization shall be applied to denuded areas within 15 days after final grade is reached on any portion of the site. Soil stabilization shall also be applied within 15 days to denuded areas that may not be at final grade.

4-102.602. *Lot drainage.* Lots shall be laid out so as to provide positive drainage away from all buildings. Drainage of individual lots shall be coordinated with the existing or proposed general storm drainage pattern for the area. Drainage shall be designed so as to avoid concentration of stormwater from each lot to adjacent lots, except within drainage easements or street rights-of-way. Surface water drainage patterns for each and every lot shall be shown on the road and drainage plans. Drainage flow and conveyance arrows shall be indicated on the topographic grading and drainage plan. It shall be the responsibility of the builder of any building or other structure to design and construct a suitable drainage scheme that will convey surface water, without ponding on the lot or under the building, to the drainage system constructed within the subdivision. The Planning Commission reserves the right to require that the developer set minimum elevations on all floors, patios, and building equipment. This prerogative to establish elevation exists in addition to any ordinances or provision of these regulations that refer to floodplain elevation requirements. This provision is intended to give the Planning Commission summary review powers over any calculated or historical evidence of stormwater presence in overland or channel conditions. All finished floor elevations, driveways, sidewalks and roadways shall be at an elevation at least two feet above the 100-year regulatory flood elevation when located within a floodplain area. The subdivision developer will insure that all artesian groundwaters 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 located on property line easements. Regardless of the location of property lines, intercept will be allowed at the point of artesian surfacing. Any sinkhole or natural channel which serves or has served as a means of moving or storing groundwater, including all designated floodways, shall be designated conservation easements and no structures, fill or development activity shall be permitted thereon.

4-102.603. *Erosion and sediment control.* There shall be a minimization of changes in the rate of natural erosion and sedimentation that result from the development process. An erosion and sediment control plan shall be presented with the construction plans submitted in conformance with section 5-103 of these regulations. Such plans shall incorporate the following principles:

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 located within the "building site" (see definition) along with the driveway of the lot;

d. Disturbed areas shall be protected and stabilized as provided in subsection 4-102.601;

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 structural measures shall be assured.

All properties adjacent to the site of land disturbance shall be protected from sediment disposition. This may be accomplished by preserving a well-vegetated buffer strip around the lower perimeter of the land disturbance; by installing perimeter controls such as sediment barriers, filters, dikes or sediment basins; or by a combination of such measures.

4-102.7. *Debris and waste.* No cut trees, timber, construction debris, junk, rubbish, or other waste materials of any kind shall be buried in any land left on any lot or deposited in any natural drainageway (such as sinkholes, underground streams or channels, or wet weather streambeds or floodways) 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 left nor deposited in any area of the subdivision at any time. Debris dumpsters shall be required for construction debris disposal. Such dumpsters shall be of adequate size and shall be removed in a timely manner. No debris burning of any type shall be allowed within the subdivision.

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.

4-102.9. *Water bodies and watercourses.* If a tract being subdivided contains a water body, or portion thereof, such area shall be within jointly held open space. 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.

No portion of the minimum area of a lot required under any zoning ordinance may be satisfied by land which is under water. Where a watercourse separates a buildable area of a lot from the public way to which such lot has access, provisions shall be made for installation of a culvert of adequate overflow size or other structure approved by the Planning Commission. 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.

4-102.10. *Blocks.*

a. Blocks shall have sufficient width to provide for two tiers of lots of appropriate depth. Exceptions to this prescribed block width 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 1,200 feet, except as the Planning Commission deems necessary to secure efficient use of land or desired features of the public way pattern. Wherever practicable, blocks along arterial or collector routes shall not be less than 800 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.

4-102.11. *Lot area requirements for subdivisions within Mt. Juliet's urban growth boundary.*

Applicability: Any project submitted to the Mt. Juliet Regional Planning Commission (RPC) for preliminary plat or final plat of a major subdivision (outside of a PUD) including any subdivision application for a parcel located outside the City of Mt. Juliet's corporate limits but within Mt. Juliet's urban growth boundary shall be subject to the following requirements:

a) No subdivision of a parcel may result in any new lot/parcel having a total area of less than 40,000 square feet.

b) No subdivision of a parcel is permitted if the applicant will not receive sewer service from the City of Mt. Juliet.

c) Subsection a) does not apply if:

a. The applicant for subdivision requested annexation by the City of Mt. Juliet and the annexation was denied; and

b. The applicant is requesting a subdivision of land that is substantially similar to that for which annexation was denied.

d) Subsection b) does not apply if:

a. The applicant for subdivision requested sewer service from the City of Mt. Juliet, and the City of Mt. Juliet, in writing, determined that providing sewer service to the area in question is not in the City of Mt. Juliet's best interest.

(Ord. of 2-20-1997, § 4-102; Res. No. 2-2023, § 1, 9-21-2023)

Sec. 4-103. Streets and pedestrian ways.

4-103.1. *Pedestrian ways.*

4-103.101. *Sidewalks along new streets.* Sidewalks shall be required along all ~~"urban"~~ streets ~~(see table 1) [in subsection 4-104.4]~~ constructed in all subdivisions except those proposed for industrial use. ~~. Sidewalks may not be required along streets designated as "rural" when all lots fronting such streets are 40,000 square feet or larger in size and have average road frontage of 150 feet or more.~~

4-103.102. *Sidewalks along existing streets.* Sidewalk shall be provided on any existing street along the frontage of the subdivision. Additional sidewalk may be required, at the discretion of the Director of Engineering, to eliminate gaps in the pedestrian network. ~~Sidewalks may be required along an existing~~

public street when sidewalks presently exist upon property that directly adjoins the proposed subdivision, are included within a plan for pedestrian ways or the reconstruction of the existing street is required by an approved traffic impact study.

4-103.103. *Location of sidewalks.* Sidewalks shall be required along both sides of all streets designated as "residential access lanes or urban residential access streets.". Along streets designated as "urban residential collector or community collector streets" sidewalks shall be required along both sides. Transition of sidewalks from one both sides of a street to another one side may be permitted when topography makes continuation along the same side of the streetof the sidewalk impractical. Transitions shall only be made at street intersections. Sidewalks shall be included within the dedicated nontrafficway portion of the right-of-way of all public ways. Concrete curbs are required for all public ways where sidewalks are to be constructedis present. A median strip of grassed or landscaped area shall separate the sidewalks from the adjacent curb, unless otherwise noted by the Director of Engineering. The width of all sidewalks and grass strips shall meet the requirements included in Table 2 of Section 4-104. Sidewalk construction details are shown in Appendix B of these regulations.

at least two feet wide shall separate all sidewalks from adjacent curbs, except within ten feet of intersections no grass strip will be required. No sidewalk shall be constructed closer than one foot from any lot line. Sidewalk construction details shall be shown in appendix B of these regulations.

(Ord. No. 16-2286, 10-15-2015)

4-103.104. *Sidewalk width.* The width of sidewalks shall be as follows. Width shall be exclusive of encroachments such as utility poles, fire hydrants, parking meters, sign standards, street furniture, etc.

Sidewalk Width			
Street Classification	Land Use Classification		
	Residential	Commercial	Industrial
Access lane	5 feet	N/A	N/A
Access street	5 feet	5 feet	N/A
Residential collector	5 feet	N/A	N/A
Community collector	5 feet	6 feet	6 feet
Arterial public way	5 feet	6 feet	6 feet

4-103.105104. *Alternative pedestrian ways.* Within PUD districts and developments approved under section 5-104.3, Variable lot residential developments, cluster subdivisions, of the zoning ordinance, the Planning Commission may approve pedestrian walkways at locations other than along the rights-of-way of streets. Within these developments a system of pedestrian walkways may be located within commonly held open space.

4-103.106105. *Pedestrian accesses.* Where necessary, pedestrian accessways may be required from a public way to schools, parks, playgrounds, or other nearby public ways. To accomplish this purpose, the Planning Commission may require perpetual unobstructed easements at least 20 feet in width.

4-103.2. *Street standards.* The following standards shall apply to all streets, both public and private:

4-103.201. *Frontage on improved public ways.* No subdivision shall be approved, unless the area to be subdivided shall meet the access requirements set forth in subsection 1-112113.107, (Access to lots by public way or private easement) of these regulations. If any new street construction is proposed, all construction shall be in accordance with the provisions of these regulations and accompanying appendices.

4-103.202. *Grading and improvement plan.* No clearing, grading or construction of streets shall begin until construction plans have been prepared in accordance with the specifications required herein and approved. Following approval of such plans, public ways shall be graded and improved to conform to the approved construction plans.

4-103.203. *Improvements in floodable areas.* The finished elevation of proposed public ways subject to flood shall be no less than two feet above the regulatory flood protection elevation. To determine compliance with this requirement the Planning Commission shall require profiles and elevations of public ways subject to flood. All drainage structures shall be sufficient to discharge flood flows without increasing flood height. Where fill is approved by the Planning Commission to bring the finished elevation of any public way to the required elevation, such fill shall not encroach upon a floodway, and the fill shall be protected against erosion by riprap, vegetative cover, or other methods deemed acceptable by the Planning Commission.

4-103.204. *Topography and arrangement.*

a. All public ways shall be arranged so as to obtain as many of the building sites as possible at or above the grades of the public ways. Grades of public ways shall conform as closely as possible to the original topography. A combination of steep grades and curves shall not be permitted.

b. All public ways shall be properly integrated with the existing and proposed system of public ways and dedicated rights-of-way as established on the major road plan or the land development 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; of population density; and to the pattern of existing and proposed land use.

d. 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, pedestrian walks and parking areas, so as to minimize conflict of movement among the various types of traffic, including pedestrian traffic.

4-103.205. *Access to arterial and collector routes.* 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 configuration of subdivision lots so that such lots derive vehicular access from streets other than the arterial or collector 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; or

c. A marginal access or service public way, separated from the arterial or collector route by a planting or grass strip and having access thereto at suitable points;

d. Dual points of access in subdivisions. Two points of access to an arterial or collector street shall be required for all residential developments consisting of 100 or more lots and units. The second point of access may connect to adjacent developments as long as the adjacent development has direct access to an arterial or collector street. The Planning Commission may waive this requirement if site conditions tied to the land prohibit a second point of access, provided that a traffic impact study is supplied by the applicant that demonstrates that an adequate and safe level of service can be met. All traffic studies are subject to review by staff and/or an independent professional to determine if recommendations are consistent with the City of Mt. Juliet's transportation programs and needs.

4-103.206. *Traffic impact study.* All subdivisions shall be required to prepare, at the expense of the developer or individual proposing the subdivision, a traffic impact study. At the discretion of the Director of

Engineering, a traffic impact study may be waived for subdivisions generating fewer than 50 peak hour trips and not deriving access from an arterial or collector. A Tennessee licensed engineer specializing in transportation shall prepare such a study in accordance with the traffic impact study guidelines published by the Department of Engineering.

~~Any subdivision containing lots for 100 or more dwelling units shall be required to prepare at the expense of the developer or individual proposing the subdivision a traffic impact study. At the discretion of the Director of Public Works, any subdivision may be required to prepare a traffic impact study. A Tennessee licensed traffic engineer shall prepare such study in accordance with standard practices and procedures. The traffic study is intended to provide information as to current and proposed or projected traffic levels along all streets touching, immediately abutting or directly impacted by the subdivision. Prior to development of the study, the applicant and/or the individual selected by the developer to prepare the study shall meet with the Director of Public Works for purposes of establishing scope and design parameters to be used in preparing such study. Any improvements proposed to offset the traffic impact of the subdivision shall be indicated.~~

4-103.207. *Reserve strips.* 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, where in the opinion of the Planning Commission the use of a reserve strip would protect the public safety by providing a safer roadway configuration or other element of design that is clearly in the public interest, this prohibition may be waived. In any instance where a waiver to this provision is granted the grounds, for and extent of such waiver shall be noted in the minutes of the Planning Commission meeting where such waiver is approved.

4-103.208. *Street name, regulatory and warning signs.*

a. *Public streets.* Within all subdivisions the developer shall purchase and install street name and traffic control signs. All signage shall conform to the current edition of the Manual of Uniform Traffic Control Devices published by the United States Department of Transportation. Temporary signs may be installed and maintained in lieu of permanent signs until curbs are installed and backfilled. Such signs shall meet the same standards for height, size and legibility as permanent signs but may be mounted on temporary structures. The Director of Public Works shall verify the installation of temporary street name signs prior to issuance of any building permit.

b. *Note to appear on plat.* All subdivision plats which require street name signs shall have a note located thereon stating: "No building permit shall be issued for any lot until street name, regulatory and warning signs are installed and verified by the department of public works on all streets on which such lot depends for access."

4-103.3. *Private streets.* No property shall be subdivided which does not obtain access from a public way, street or road. Private streets ~~are not allowed.~~may be permitted within a subdivision with the approval of the Planning Commission and the Board of Commissioners. Private streets shall be built to the standards contained in this article.

All proposed alleys shall be private. The cross section of all alleys shall be provided prior to approval of the Planning Commission.

4-103.4. *Requirements for dedications, reservations, or improvements.* Where a proposed subdivision adjoins or encompasses either a substandard street, or a route depicted upon the major thoroughfare plan, that is to be opened, widened or realigned, the following shall apply:

4-103.401. *Undeveloped property.*

a. *Substandard streets.* Substandard streets encompassed by or adjacent to the proposed subdivision shall be improved by the developer in accordance with the minimum standards set

forth in subsection 4-104.4, tables 1 and 2, for the portion of such street that is located within the boundaries of the subdivision or the abutting street half.

b. *Planned routing.* When applicable, the layout of a street(s) within a subdivision shall conform to the routing depicted upon the major thoroughfare plan. The amount of right-of-way for the type of street required shall be dedicated up to a maximum of that required for construction of "community collector" routes. Where any street so depicted requires a right-of-way greater than that required for construction of a community collector, the developer shall show on the face of the plat an additional area "reserved for future right-of-way" and any required yard area shall be measured from such reservation line.

Regardless of the proposed width or functional character of the planned street adjacent to or encompassed by a proposed subdivision, the developer will not be required, (except as may be necessitated as a result of an approved traffic impact study), to improve or construct any street greater than that of a "community collector street" as [that term is] defined and depicted in these regulations.

4-103.402. *Developed property.* When property containing existing structures is being divided simply to place each structure on a separate lot and the future right-of-way will fall within the footprint of an existing structure, then the subdivider shall be required to note on the face of the plat as, "reserved for future right-of-way" any additional area necessary for compliance with the major thoroughfare plan. The plat shall also contain a note stating, when any existing structure is demolished, the setback requirements for any new structure shall be measured from the reservation line.

4-103.403. *Required improvements or dedications.* All on-site traffic improvements identified as being required in a traffic study prepared in accordance with the requirements of subsection 4-103.206, shall be made by the developer upon land which the developer controls. Any off-site improvements identified in such study shall be made on a pro rata basis to the extent the subdivision contributes to the requirement for such improvement(s). The Director of Public Works shall be responsible for calculating the extent of participation required in off-site improvements.

(Ord. of 2-20-1997, § 4-103)

Sec. 4-104. Functional design criteria.

4-104.1. *Purpose.* The public way design standards set forth in this section are hereby required in order to provide public ways of suitable location, width, and improvement to accommodate prospective traffic and afford satisfactory access to police, firefighting, sanitation, and road-maintenance equipment, and to coordinate public ways so as to compose a convenient and safe system and avoid undue hardships to adjoining properties. These provisions are intended to establish appropriate standards for the design of streets in residential subdivisions that will:

1. Promote the safety and convenience of vehicular traffic,
2. Protect the safety of neighborhood residents,
3. Minimize crime in residential areas,
4. Protect the residential qualities of neighborhoods by limiting traffic volume, traffic speed, noise and fumes,
5. Encourage the efficient use of land,
6. Minimize the cost of street construction and thereby restrain the rising cost of housing, and
7. Minimize the construction of impervious surface thereby protecting the quantity and quality of the community's water resources.

4-104.2. *Design hierarchy.* There is, hereby, established a design hierarchy according to street function. The purpose of the hierarchy is to establish clear functional guidelines and limitations to be utilized in the design of streets.

4-104.201. *New streets.* Each proposed street shall be classified and designed for its entire length to meet or exceed the minimum standards for one of the following street types:

a. Residential access lane.

b. Residential access street.

~~(1) Rural residential access street.~~

~~(2) Urban residential access street.~~

c. Residential collector street.

~~(1) Rural residential collector street.~~

~~(2) Urban residential collector street.~~

d. Minor Collector Street

e. Community collector street.

~~e~~f. Arterial street.

4-104.202. *Existing streets.* During the plan review process each street abutting or affecting the design of a subdivision or land development that is not already classified on the major thoroughfare plan shall be classified according to its function, design and use by the Planning Commission at the request of the applicant. The classification of existing streets shall include the hierarchy of subsection 4-104.201, above, and may also include classifications of higher order as determined by the adopted major thoroughfare plan.

4-104.203. *Traffic volume calculations.* New streets shall be classified based on the number of vehicular trips expected to utilize the roadway using the following methodology:

a. ~~a.~~ *Trip generation rates.* ~~The following chart shall be used to determine the anticipated average daily traffic level of proposed residential development~~ Table 1 shall be used to determine the anticipated average daily traffic on the proposed street.~~:~~

Table 1. Approximate Trip Generation Rates

Average Weekday Trip Generation Rates Housing Type	ADT Per Dwelling Unit
Single-family detached dwellings	~~8~~ 9.5 trips
Cluster or townhouses	7 trips
~~Garden apartments (1—4 stories)~~ Apartments	~~6~~ 5 trips
~~Retirement complex~~ Senior Housing	3.5 trips
Commercial	Consult ITE Trip Generation Manual

b. *Volume calculations.* Calculation of traffic volumes shall be accomplished by using the following formula:

(Factor for dwelling type) x (Number of units receiving access from street) = Design ADT

4-104.3. *Residential street design criteria and service restrictions.* The material contained within this segment is intended to provide information as to the intended function, design capacity and service limitations of the

various street types presented in subsection 4-104.2, above. The order of presentation proceeds from smallest capacity street to the greatest. For each street identified within the hierarchy, the following design elements are presented:

(1) Street function.

(2) Design capacity and service restrictions.

(3) Street access criteria.

4-104.301. *Residential access lane.*

a. *Street function.* A residential access lane is a frontage street that provides access to abutting properties; it shall be designed to carry no more traffic than that generated by those properties that gain direct access from the street.

b. *Design capacity and service restriction.* Each residential access lane shall be designed so that no section of the street conveys an ~~average daily traffic (~~ADT~~)~~ ~~volume~~ greater than ~~200~~ 250 or serves more than 25 single-family dwellings. Each half ~~[~~of~~]~~ a loop street may be regarded as a single ~~local~~ residential access ~~street~~ lane and the total traffic volume generated on a loop street shall not exceed ~~400~~ 500 ADT.

c. *Street access.* Residential access lanes may intersect or take access from any street type. Residential access lanes shall be laid out to discourage through traffic. As such, residential access lanes shall not intersection with multiple collectors nor shall residential access lanes be stubbed with the intention of extending to adjacent parcels. ~~Both ends of a loop street, however, must intersect the same collecting street and be laid out to discourage through traffic.~~

4-104.302. *Residential access street.*

a. *Street function.* Residential access streets are designed to provide access to individual properties as well as access to the higher classification street network. The residential access street provides for neighborhood circulation and may carry neighborhood traffic and through movements. ~~Residential access streets differ in design depending upon the location of such streets. The rural residential street is intended to maintain the rural character of the area or neighborhood. It is designed as a curbless paved street section, with gravel shoulders for emergency parking and open roadside ditches for drainage. The urban residential street performs the same function as the rural residential street except within an urban environment. The urban residential street is designed as a curb street.~~

b. *Design capacity and service restriction.* The residential access street is designed to convey an average daily traffic (ADT) volume in the range of 500 to 1,000.

c. *Street access.* If the total design traffic exceeds 500 ADT, a residential access street shall be provided with no fewer than two access intersections to streets of higher classification in the street hierarchy. For residential access streets with less than 500 ADT, one access intersection to a street of higher order is allowed.

4-104.303. *Residential collector street.*

a. *Street function.* The residential collector street provides access to individual properties and collects and distributes neighborhood traffic from residential streets to community collector and arterial streets.

b. *Design capacity and service restriction.* The residential collector street is intended to serve anticipated traffic volumes ranging from 1,000 to 2,500 trips per day. Whenever possible, residential collector streets shall be designed to have no residential lots fronting directly on them. When this is not possible, the amount of residential frontage shall not exceed the limits set

forth in the accompanying chart. In addition, only lots having frontages of 100 feet or more may front on collector streets and space shall be provided on these lots for turnaround so that vehicles will not have to back onto collector streets.

Percent of the Total Length of Residential Collector Streets, Which May Have Residential Lots Fronting on and Taking Access from the Collector Street				
ADT Level	1,000—1,~~999~~199	1,200—1,599	1,600—1,999	2,000+
Percent of allowable access frontage	20%	10%	5%	0%

4-104.304. *Community collector street.*

a. *Street function.* Community collector streets collect and distribute traffic from ~~residential~~ other collectors ~~and other residential streets~~ to the arterial transportation systems.

b. *Design capacity and service restriction.* The community collector street is designed for anticipated traffic volumes ~~ranging from~~between ~~2,500 to~~ 6,000 and 15,000 trips per day. ~~Community collector streets shall be designed to have no residential lots fronting directly on them.~~Access to individual residential lots shall be prohibited.

4-104.305 *Minor collector.*

a. *Street function.* Minor collector streets collect and distribute traffic from residential neighborhoods and commercial uses. The street may connect to community collector or arterial streets.

b. *Design capacity and service restrictions.* The minor collector street is intended to serve mixed residential and commercial traffic volumes ranging from 2,500 to 6,000 trips per day. Whenever possible, commercial properties shall limit the number of access points. Access to adjacent parcels shall be planned to limit the number of driveways along the corridor. Access to individual residential lots shall be prohibited.

4-104.306 *Arterial.*

a. *Street function.* Arterials are intended to serve local and regional traffic. Arterials extend through the city limits or connect to other arterials or interstates.

~~a.~~b. *Design capacity and service restrictions.* Arterials are intended to serve traffic volumes exceeding 15,000 trips per day. Access to individual residential lots is prohibited. Access to residential communities or commercial areas shall be provided by lower classification streets whenever possible.

4-104.4. *General design.* The general design of all public ways shall conform to the standards in tables 1 and 2, that follow, hereafter.

4-104.401. *Rights-of-way and pavement width.* Minimum rights-of-way and pavement width shall be provided as required to meet the design standards for the various classifications of streets set out in ~~tables 1 and 2~~Table 1.

a. *Reduction in right-of-way width.* The City may reduce the required right-of-way width for residential streets under the following conditions:

(i) The site is located within a planned unit development or a variable lot size residential development under applicable provisions of the zoning ordinance.

(ii) The potential for future development will alter neither the street classification nor the design standards proposed. As a condition for varying the right-of-way requirements, the City may require binding agreements to insure no additional access to or use of the street.

(iii) In no instance shall a right-of-way be less than 30 feet. In granting the reduced right-of-way width, it shall be determined that sufficient width will be available to provide for all the following (unless separate right-of-way for them is being provided elsewhere to the satisfaction of the City, or they are clearly not required by the proposed development):

Pavement.

Curbs.

Shoulders.

Utility easements.

Drainage swales.

Pedestrian and/or bicycle paths.

Street trees or other planting strips.

Turning lanes.

Cut or fill slopes (the right-of-way shall extend five feet beyond the crest or toe of these slopes).

Table 1. General Design Standards for Streets

Standard	Access Lane	Access Street	Residential Collector	Minor Collector	Community Collector	Arterial
Design Speed	25 mph	30 mph	35 mph	35 mph	40 mph	45 mph
ROW Width	50’	55’	65’	75’	110’	125’
Pavement Width	22’	24’	24’	36’	52’	52’
Landscaped Median	0’	0’	0’	0’	16’	27’
Bicycle Lane Width	0’	0’	4’	4’	4’	4’
Grass Strip	6’	6’	6’	6’	6’	6’
Sidewalk Width	5’	5’	6’	6’	6’	6’
Outer Buffer	0.5’	2’	2’	1’	2’	2’
Maximum Grade	10%	10%	7%	7%	7%	5%
Minimum Grade	1%	1%	1%	1%	1%	1%
Max. Grade at Intersections	5% (within 50’)	5% (within 50’)	3% (within 75’)	3% (within 75’)	3% (within 100’)	3% (within 100’)
Maximum Superelevation	0.08					
Horizontal Curvature	Curvature shall be designed per AASHTO standards based on speed and slopes.					

~~*Table 1. Minimum Right-of-Way or Easement And Pavement Width by Street Type and Intensity of Development (in feet)*~~

~~Street Type~~	~~Residential Service~~			~~Nonresidential~~
	~~Low-density~~	~~Medium-density~~	~~High-density~~	
	~~Up to 2 DUPA[a]~~	~~3 to 8 DUPA[a]~~	~~9 or more DUPA[a]~~	

	ROW Pavement		ROW Pavement		ROW Pavement		ROW Pavement	
Access lane								
Urban;sup\sup;	40[e]	20	40[e]	20	40[e]	26	N/A	N/A
Rural;sup\sup;	40[e]	18	40[e]	18	40[e]	26	N/A	N/A
Access street								
Urban	40	22	40	22	50	36	50	36
Rural	40	20	40	20	N/A	N/A	N/A	N/A
Residential Collector								
Urban								
2,000 or less ADT	50	22	50	22	60	38	N/A	N/A
More than 2,000 ADT	50	24	50	24	60	40	N/A	N/A
Rural								
2,000 or less ADT	50	20	50	20	N/A	N/A	N/A	N/A
More than 2,000 ADT	50	22	50	22	N/A	N/A	N/A	N/A
Community Collector								
Urban	60	38	60	38	70	48	70	48
Rural	50	24	50	24	N/A	N/A	N/A	N/A
Notes:								
[a]DUPA. Dwelling units per acre.								
;sup\sup; Urban streets. All streets classified as urban are curbed streets. These street sections are to be utilized on all properties located within the City regardless of size of lots and on all lots smaller than one acre in size located within the unincorporated portion of the planning jurisdiction. Rural streets. Streets classified as rural may be utilized only to serve lots 40,000 square feet or larger in size								
[e]The Planning Commission may permit a right-of-way of 30 feet minimum width when the subdivision is within a planned unit development district or is developed as a variable lot residential development.								

Table 2. General Design Standards For Streets

	Residential Street	Nonresidential Street
Design speed (mph)		
Access lane	25	N/A
Access street	30	30
Residential collector	35	N/A
Community collector	40	40
Maximum percentage grade		
Access lane	12 percent	N/A
Access street	10 percent	7 percent
Residential collector	7 percent	N/A
Community collector	7 percent	7 percent
Minimum percentage grade		
All streets	1 percent	1 percent
Horizontal curvature>		
Vehicle curves are to be designed as per AASHTO standards for various design speeds and slopes		

~~Maximum superelevation (foot)~~	~~0.08~~	~~0.08~~
~~Minimum tangent between reverse curves~~		
~~Vehicle curves are to be designed as per AASHTO standards for various design speeds and slopes~~		
~~Minimum stopping sight distances (in feet)~~		
~~Access lane~~	~~150~~	~~N/A~~
~~Access street~~	~~200~~	~~250~~
~~Residential collector~~	~~250~~	~~N/A~~
~~Community collector~~	~~300~~	~~300~~
~~Minimum radius of return at intersections~~		
~~Applies where a deflection angle of 15 degrees or more in the alignment of pavement occurs.~~		
~~At right-of-way~~	~~25 ft.~~	~~30 ft.~~
~~At pavement~~	~~30 ft.~~	~~50 ft.~~
~~Minimum sight distance (in feet)~~		
~~The sight distance is measured from a point 4½ feet above the centerline of the roadway surface to a point 4 inches above the centerline of the roadway surface.~~		
~~Access lane~~	~~100~~	~~N/A~~
~~Access street~~	~~150~~	~~200~~
~~Residential collector~~	~~200~~	~~N/A~~
~~Community collector~~	~~250~~	~~250~~
~~Intersection~~	~~Across corners 75 ft. back~~	~~Across corners 75 ft. back~~
~~Maximum grade at intersections~~		
~~Access lane (w/in 50 ft.)~~	~~5 percent~~	~~N/A~~
~~Access street (w/in 50 ft.)~~	~~5 percent~~	~~3 percent~~
~~Residential collector~~	~~3 percent~~	~~N/A~~
~~Community collector (w/in 100 ft.)~~	~~3 percent~~	~~3 percent~~
~~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 two-fifths of an inch per foot.~~		
~~Note. Turnaround standard (no outlet streets) A 40-foot pavement radius for a cul-de-sac or a "Y" or "T" turnaround with 60-foot length, 20-foot width shall be provided at the terminus of all permanent dead-end access streets serving residential property. The turnaround, including sidewalk where required, shall be within the right-of-way. The maximum length of permanent cul-de-sac streets shall be 700 feet and shall serve no more than 14 dwelling units. Temporary cul-de-sac streets may be a maximum of 1,000 feet in length.~~		

b. *Increase in right-of-way width*. The City may increase the required right-of-way width for residential streets under the following conditions:

(i) If proposed lots are large enough for further subdivision that may change the street classification in the future to a higher order street, the City may require that the right-of-way width for the higher order street be provided.

(ii) In unusual circumstances, the provision of the elements listed in subpart [subsection] a(iii) of this section may require right-of-way width in excess of that established in table 1 (above).

4-104.402. *Stopping sight distance.* All streets shall maintain adequate stopping sight distance at all points along the road. No combination of vertical or horizontal curves may reduce stopping sight distance below the values provided in AASHTO's *A Policy of Streets and Highways.* Should the grade on the

major road exceed 3%, adjustments to the required sight distance may be required at the discretion of the Director of Engineering.

4-104.40~~23~~ *Intersections.*

a. Pavement shall intersect as nearly as possible to a 90-degree angle for a minimum of 50 feet from the intersection. A proposed intersection of two new public ways at an angle of less than 75 degrees shall not be permitted. Not more than two public ways shall intersect at any one point, unless specifically approved by the Planning Commission.

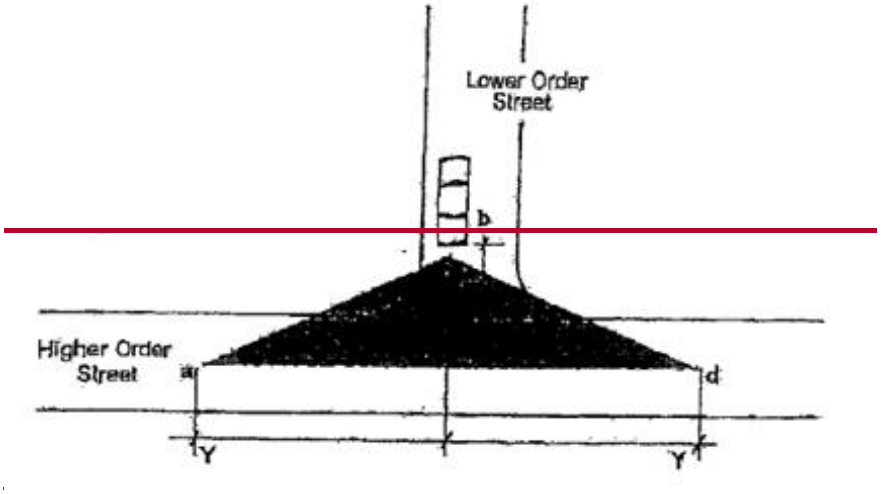
b. Centerline off-sets of less than 150 408feet between T-type intersections within public ways shall not be permitted, except where the intersected public ways have separated dual drives without median breaks at either intersection. Where public ways intersect arterial or collector routes, the alignment of such streets shall be continuous. Intersections of arterial or community collector streets shall be at least 800 feet apart.

c. Minimum curb or edge of pavement radius shall be determined according to the specifications for the street of higher classification in the street system hierarchy, as specified below: This minimum should not be confused as the right-of-way return radius but is the curb edge of pavement.

Minimum Radius of Returns At Street Intersections	
Street Classification	Minimum Return Radius*
Residential access lane	10 feet
Residential access street	10 feet
Residential collector	15 feet
Community collector	30 feet
Higher order street	As determined by the City Engineer
*This is the minimum. The actual spacing shall be determined by the City Engineer based upon the traffic characteristics of the higher order street.	

~~Legend for Vision Clearance Area Illustration~~		
~~Y~~	~~=~~	~~Corner sight distance, measured from point "c" and "c" to "d."~~
~~b~~	~~=~~	~~Eye level from a car stopped at the intersection on the minor road; for this regulation "b" is situated 3.75 feet above the higher order street.~~
~~a and d~~	~~=~~	~~A point 4.5 feet above the centerline of the higher order street.~~
~~c~~	~~=~~	~~Approximate center of intersection.~~
~~The entire area of the clear sight triangle described by points "a," "b," "c," shall be designed to provide an unobstructed view across it from point "b" to all points 4.5 feet above the roadway along the centerline from point "a" to point "d."~~		

~~**Vision Clearance Area**~~



~~Street of Lower Order Minimum Corner Sight Distance~~		
~~Minimum Corner Sight Distance "Y"~~		
~~Major Road Type~~	~~Design Speed~~	~~Y (in feet)~~
~~Higher order street~~	~~50 mph~~	~~500~~
~~Higher order street~~	~~40 mph~~	~~400~~
~~Community collector~~	~~40 mph~~	~~400~~
~~Residential collector~~	~~35 mph~~	~~350~~
~~Residential access street~~	~~30 mph~~	~~300~~
~~Residential access lane~~	~~25 mph~~	~~250~~

d. Whenever a proposed street intersects an existing or proposed street of higher order in the street hierarchy, the street of lower order shall be made a stop street. The street of lower order shall also be designed to provide a minimum corner sight distance as specified in table 1.

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-percent grade for a distance of 60 feet, measured from the nearest right-of-way line of the intersecting public way.

f. The cross-slope on all public ways, including intersections, shall be three percent or less.

g. All new streets and driveways shall provide adequate intersection sight distance, as defined by AASHTO's *A Policy on Streets and Highways*. Should the grade on the major road exceed 3%, adjustments to the required sight distance may be required at the discretion of the Director of Engineering. The required sight distance values are provided in Table 2.

Table 2. Minimum Intersection Sight Distance

Design Speed (mph)	Required Sight Distance (feet)					
	2-Lane		3-Lane		5-Lane/Divided	
	Left-Turn	Right-Turn	Left-Turn	Right-Turn	Left-Turn	Right-Turn
25	280	240	315	240	335	280

30	335	290	375	290	400	335
35	390	335	440	335	465	390
40	445	385	500	385	530	445
45	500	430	565	430	600	500
50	555	480	625	480	665	555
Left-Turn sight distance is measured looking right. Right-turn sight distance is measured looking left.						

Sight triangles are to be kept clear of landscaping, signs, parking, or other obstructions that may otherwise restrict the available sight distance.

h. Intersections, at the discretion of the Director of Engineering, shall be configured to dissuade speeding. Horizontal deflection speed reduction measures, such as roundabouts or median islands, shall be proposed instead of vertical deflection devices.

4-104.~~403~~404. *Acceleration and deceleration lanes.*

a. Deceleration or turning lanes may be required by the city along existing and proposed streets as determined by the traffic study using the warrants provided in TDOT's Highway Systems Access Manual, or where the City can justify the need.

b. Deceleration lanes shall be designed to the following standards:

i. The lane width shall be the same as the required width of the through lanes, based on roadway classification.

ii. The minimum total deceleration lengths shall match the table below.

Minimum Deceleration Lengths

Design Speed (mph)	Minimum Deceleration Length (ft)
30	160
40	275
50	425
60	605
Note: If grades exceed 3%, use the adjustment factors included in Table 3-2 in a *Policy on Geometric Design of Highways and Streets*.	

iii. Acceleration lanes are only required when indicated as needed by a traffic impact study. The design shall be as per the recommendation of the Director of Engineering.

4-104.~~404~~405. *Marginal access and one-way streets.*

a. *Classification and design of marginal access streets.* Marginal access streets may be utilized as an alternative to stripping off lots along existing or proposed collector or higher order streets. Marginal access streets shall be classified and designed to conform to the design standards and service restrictions of either residential access lanes or residential access streets as anticipated daily traffic may dictate.

i. *Intersection spacing.* The minimum distance between intersections of the marginal access street with residential collectors shall be 300 feet. Minimum distances with higher order streets shall be determined by the Director of Public Works based upon the traffic characteristics of the higher order street.

ii. *Distance between travelways*. A minimum distance of 30 feet shall be provided between the paved portion of the marginal access street and the paved portion of the higher order street. This area shall be used to provide a visual screen between the roadways by landscaping and/or use of a berm.

b. *Utilization and design of one-way streets.* One-way streets may be permitted as loop streets or marginal access streets where there is ned to separate the directions lanes to preserve natural features to avoid excessive grading for street construction on steep slopes. Pavement and curb transitions shall be designed and constructed in accordance with standards provided by the Director of Public Works.

4-104.~~405~~406. *Arrangement of dead-end streets.*

a. Temporary stub streets.

i. *Residential access lane and residential access street stub streets.* Residential access lanes and access street stub streets may be permitted only within subsections of phased development for which the proposed street extension in its entirety has been approved as part of a preliminary plat.

ii. *Collector stub streets.* Stub streets may be permitted or required by the City on collector streets provided that the future extension of the street id deemed desirable by the City and conforms to the adopted major throughfare plan.

iii. *Temporary turnarounds.* All stub streets shall be provided with a turnaround paved to an outside radius of 35 feet. No turnaround is required if the stub street provides access to four or less lots or housing units. In the later case, a sign indicating a dead-end street shall be posted.

b. Permanent dead-end public ways.

i. *General design standards.* Where a public way does not extend beyond the boundary of the subdivision and its continuation is not required by the planning commission for access to adjoining properties, its terminus shall be no closer than 150 feet from the boundary. However, the Planning Commission may require the reservation of an appropriate easement to accommodate drainage facilities, pedestrian traffic, or utilities.

ii. *Cul*-de-sac requirements. For more effective police and fire protection, permanent dead-end public ways shall be limited to 700 feet measured from the nearest intersection to the center of the cul-de-sac. No dead-end street shall provide access to more than 25 units.

iii. *Design of turnarounds.* Permanent dead-end streets shall terminate in a cul-de-sac matching the design standards included in these regulations. Alternative turnarounds may be considered with approval of the Planning Commission and Fire Marshal.

~~i. *General design standards.* Where a public way 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 150 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 public way in accordance with the design standards of these regulations. For greater convenience to traffic and more effective police and fire protection, permanent dead-end public ways shall, in general, be limited in length in accordance with the design standards of these regulations.~~

~~*ii. Design of turnarounds.* The type of turnaround required shall be determined by the Planning Commission based upon the recommendation of the Director of Public Works. In general the design standards presented in Table 2 [in subsection 4-104.4],~~

~~shall apply. The Planning Commission will consider alternative terminations when the street is located upon steep slopes and excessive cut or fill will be required to meet the design standards of the typical sections.~~

4-104.~~406~~407. *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 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 public way 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 usage.

c. Public ways parallel to a railroad, when intersecting a public way which crosses the railroad at grade, shall to the extent practicable, be at a distance of at least 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.

4-104.~~407~~408. *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 governing body. 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 governing body and the subdivider.

(Ord. of 2-20-1997, § 4-104)