

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 general plan and major road or street (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 nonlocal 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.

4-101.3 Monuments

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

1. Monuments shall be located on public way right-of-way lines, at public way intersections, and sections, and at the beginning and ending point of curves. All monuments shall be spaced so as to be within sight of each other.

2. The external boundaries of a subdivision shall be monumented in the field by monuments of stone or concrete not less than two feet-six inches (2'-6") in length; nor less than four (4) inches square or five (5) inches in diameter; and marked on top with a cross, brass plug, iron rod, or other durable material securely embedded. These monuments shall be placed not more than fourteen hundred (1,400) feet apart in any straight line and at all corners or 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 monuments shall be placed on the side line of the public way.
3. All internal boundaries and those corners and points not referred to in the preceding paragraph shall be monumented in the field by like monuments as described above. Such monuments shall be placed at each end of all curves, at a point where a river changed its radius, and at all angle points in any line. All lot corners not falling on any of the above described points shall be marked by iron rods, pipe, or pins at least eighteen (18) inches long and five-eighths (5/8) inch in diameter.
4. The lines of lots that extend to rivers or streams shall be monumented in the field by iron pins at least eighteen (18) inches long and five-eighths (5/8) inch in diameter or by round or square iron bars at least eighteen (18) 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.

All such flood protection measures shall be designed so as not to increase, either individually or collectively, flood flows, heights, duration, or damages so as not to infringe upon the regulatory floodway.

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.

4-101.6 Street Names

Proposed streets which are obviously in alignment with others already existing and named, shall bear the names of existing streets. In no case shall the name for proposed streets duplicate existing street names, irrespective of the use of the suffix street, avenue, boulevard, drive, place or court. The planning commission can assist the subdivider in avoiding duplication.

4-101.7 Signage

The developer shall furnish and install all roadway signs. These shall include signs for warning, the direction of traffic and the proper labeling of streets. Consultation with the County Road Supervision is required.

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 and state and county public health department regulations and in providing driveway access to buildings on such lots from an approved public way.

4-102.102 Solar Access

Where reasonably feasible lot arrangement shall be such that building sites will afford maximum utilization of energy conservation measures, such as providing for solar access.

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 twenty (20) 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 twenty (20) percent or over until a site plan meeting the following requirements has been approved by the planning commission. Said site plan submitted to and approved by the building commissioner 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 (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) Certification as to the stability of the structures and slope and compliance with sound construction methods for areas with steep slopes and landslide problems by a registered civil or geotechnical 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 certification 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 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) Development densities shall be limited to one (1) dwelling unit per two (2) acres of land,
- (iv) 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,
- (v) 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,
- (vi) 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,
- (vii) No construction which would cut the top of the slope shall be permitted. This shall apply as well to subdivision roads constructed in compliance with these regulations.

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 shall be twenty-five (25) 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 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:

<u>Voltage of Line</u>	<u>Building Setback</u>
7.2 KV	15 feet
13 KV	25 feet
46 KV	37 1/2 feet
69 KV	50 feet
161 KV	75 feet

4-102.4 Double Frontage Lots and Access to Lots

4-102.401 Double Frontage Lots

Double 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.

4-102.402 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.

4-102.5 Soil Preservation, Grading, Erosion Control, and Seeding

4-102.501 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 and the lot precovered with soil having an average depth of at least six (6) inches and containing no particles over two (2) inches in diameter over the entire area of the lot, except that portion covered by buildings or included in streets or where the grade has not been changed or natural vegetation seriously damaged.

Topsoil shall not be removed from residential lots or used as spoil, but shall be redistributed so as to provide at least six (6) inches of cover on the lots and at least four (4) inches of cover between any sidewalks and curbs, and be stabilized by seeding or planting.

4-102.502 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 designed so as to avoid concentration of storm drainage water from each lot to adjacent lots.

The planning commission reserves the right 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 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 will be intercepted and carried away to primary drainage conduits along swaled ditches or in underground pipes on property line easements. Regardless of the location of property lines, intercept will be allowed by the planning commission at the point of artesian surfacing. The intent of this paragraph is to prevent flooding by overland flow. The developer is obligated 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 serve at any time as a means of moving ground water into the subterranean serves will be protected by structure as approved by the planning commission. The allowed alternative to this is the construction of an alternative means of storm water relief as approved by the planning commission. In any event, location and elevation of future construction will be designated to allow for the worst possible conditions.

4-102.503 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 5-103, 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.

4-102.6 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 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.

4-102.7 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.

4-102.8 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.

No more than ten (10) percent 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 by which it has access, provisions shall be made for installation of a 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 Public Ways

4-103.1 General Requirements

4-103.101 Frontage on Improved Public Ways

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 or improvements are involved, such shall be approved and, where public, dedicated as provided in Articles I and III, of these regulations. Any such public way must be suitably improved to the standards required by this article or be bonded by a performance bond required under these regulations, with the roadway and right-of-way widths required by this article or the major street or road plan.

4-103.102 Grading and Improvement Plan

Public ways 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 public way 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 public ways subject to flood shall be no more than one (1) foot below the regulatory flood protection elevation. The planning commission may require profiles and elevations of public ways 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 public way 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 by the planning commission.

4-103.104 Private Streets

There shall be no private streets platted in any subdivision. See Section 1-112.109.

4-103.105 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. Specific design standards are contained in Subsection 4-103.2, of these regulations.

- b. The use of public ways running in a east-west direction and lots on a north-south axis is encouraged for energy conservation of developments.
- c. 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 street or road plan or the land development plan.
- d. 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.
- e. Minor public ways shall be laid out 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.
- f. 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.
- g. 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.
- h. In business 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 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 sixteen hundred (1,600) feet nor be less than two hundred (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 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 ten (10) feet wide, may be required by the planning commission through the approximate center of any block more than eight hundred (800) 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. 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.

The number of residential or 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 Public Ways

- a. Arrangement of Continuing Public Ways -- The arrangement of public ways shall provide for the continuation of major public ways between adjacent properties when such continuation is necessary for convenient movement of traffic, effective fire protection, efficient provision of utilities, and when such continuation is in accordance with the major street or road plan. If the adjacent property is undeveloped and the public way must be a dead-end public way temporarily, the right-of-way shall be extended to the property line. A temporary cul-de-sac, temporary T-, or L-shaped turnabout shall be provided on all temporary dead-end public ways as required in the following turnabout standards, with a notation on the subdivision plat that land outside the normal public way right-of-way shall revert to abutting property owners whenever the public way is continued.
- b. Dead-End Public Ways -- 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 fifty (50) 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.

4-103.2 Design Standards

4-103.201 Purpose

In order to provide public ways 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 public ways so as to compose a convenient and safe system and avoid undue hardships to adjoining properties, the public way design standards set forth in this section are hereby required. (Public way classification shall be as indicated on the land development plan or major street or road plan; otherwise, the public way 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 public ways shall conform to the standards in the tables entitled "General Design Standards for Public Ways", which follow hereafter.

4-103.203 Intersections

- a. Public ways shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two (2) new public ways at an angle of less than seventy-five (75) degrees shall not be permitted. An oblique public way should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet therefrom. Not more than two (2) public ways shall intersect at any one point unless specifically approved by the planning commission.
- b. Proposed new intersections along one side of an existing public way shall coincide, wherever practicable, with any existing intersections on the opposite side of such public way. Jogs within public ways having center line offsets of less than one hundred fifty (150) feet 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, their alignment shall be continuous. Intersections of arterial or collector public ways shall be at least eight hundred (800) feet apart.
- c. Minimum curb radius at the intersection of two (2) minor public ways shall be twenty-five (25) feet, and minimum curb radius at an intersection involving a collector public way shall be thirty (30) 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 public way 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 sight 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 public way.
- f. The cross-slope on all public ways, including intersections, shall be three (3) percent or less.

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 than three to one (3:1). Where solid rock is encountered slopes shall be one-half to one (1/2:1).

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 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 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 county government. The sharing of expenses for the construction of bridges not of primary benefit to the subdivider, as determined by the county government, shall be fixed by special agreement between the county government and the subdivider. The cost shall be charged to the subdivider pro rata as to the percentage of his development so served.

GENERAL DESIGN STANDARDS FOR PUBLIC WAYS

IMPROVEMENT	RESIDENTIAL PUBLIC WAY	NONRESIDENTIAL PUBLIC WAY (INDUSTRIAL, COMMERCIAL: OTHER)
-------------	---------------------------	---

Minimum Right-of-Way Width (in Feet)

5Minor	50	60
Collector	60	60 or (See *Below)
Arterial	*	*

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

	<u>Ditch Section</u>	<u>Curb & Gutter</u>	<u>Ditch Section</u>	<u>Curb & Gutter</u>
Minor	See Hickman County Road Specifications			
Collector	See Hickman County Road Specifications			
Arterial	See Hickman County Road Specifications			

Maximum Percentage Grade

Minor	See Hickman County Road Specifications
Collector	See Hickman County Road Specifications
Arterial	See Hickman County Road Specifications

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 2/5ths of an inch per foot.

Minimum Center Line Radius of Curve (in Feet)**

Minor	100	200
Collector	300	300
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.**

(Continued)
GENERAL DESIGN STANDARDS FOR PUBLIC WAYS

IMPROVEMENT	RESIDENTIAL PUBLIC WAY	NONRESIDENTIAL PUBLIC WAY (INDUSTRIAL, COMMERCIAL: OTHER)
<u>Minimum Length of Vertical Curves</u>		
Minor	100 feet, but not less than 20 feet for each algebraic difference in grade.	
Collector	100 feet, but not less than 20 feet for each algebraic difference in grade.	
Arterial	300 feet, but not less than 50 feet for each algebraic difference in grade.	
<u>Minimum Length of Tangents Between Reverse Curves (in Feet)</u>		
Minor	100	200
Collector	100	200
Arterial	300	400
<u>Minimum Sight Distance (in Feet)*</u>		
Minor	200	250
Collector	240	250
Arterial	300	400
Intersection	Across Corners 75 Feet Back	Across Corners 75 Feet Back
<u>Minimum Turnaround on Cul-de-sacs on Minor Public Ways (in Feet)</u>		
Right-of-way Diameter	100	See Hickman County Road Specifications
Pavement Diameter	80	See Hickman County Road Specifications
<u>Length of Cul-de-sac</u>		
Permanent	1,000 Feet	
Temporary	1,000 Feet	
<u>Minimum Radius (in Feet) of Return at Intersections</u>		
At Right-of-way	25	30
At Pavement	30	50

* The sight distance is measured from a point 4 1/2 feet above the center line of the roadway surface to a point 4 inches above the center line of the roadway surface.

4-103.3 Right-of-Way Width Dedication on Existing Public Ways

Where a subdivision adjoins an existing narrow public way or where the major street or road plan or any zoning setback provisions indicate plans for realignment or widening of a public way 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 public way 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 public way; or
2. when the subdivision is located on only one side of an existing public way, 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 Public Way Surfacing and Improvements

No public way 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. Types and methods of paving shall be according to the Hickman County Road Specifications. Adequate provisions shall be made for culverts or other drains, and bridges, as required.

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

4-104 Road Construction Specifications

The road construction specifications are the Hickman County Road Specifications. These specifications shall be the minimum standards for any subdivision within the jurisdictional area.

4-105 Drainage and Storm Sewers

4-105.1 General Requirements

The planning commission shall not approve any plat of a subdivision which does not make adequate provisions 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 public way 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 by the enforcing officer to assure compliance.
- 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 by any zoning ordinance.

4-105.204 Effect on Downstream Drainage Areas

The planning commission also shall study the effect of each subdivision on existing downstream drainage facilities outside the area of the subdivision. Where it is anticipated that the additional runoff incident to the development of the subdivision will overload an existing downstream drainage facility, the planning commission may withhold approval of the subdivision until provision has been made for adequate improvement of such drainage facilities in such sum as the planning commission shall determine. No subdivision shall be approved unless adequate drainage will be provided to an adequate drainage watercourse or facility.

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 more than twelve (12) inches below 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 planning commission 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 5-103, of these regulations.

4-105.206 Floodplain Areas

The planning commission may when it deems it 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; Section 4-104; and Subsection 4-105.2, of these regulations.

4-105.3 Dedication of Drainage Easements

4-105.301 General Requirements

Where a subdivision is traversed by a watercourse, drainageway, 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 drainageways 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 public way right-of-way, perpetual unobstructed easements at least ten (10) feet in width for such facilities shall be provided across property outside the public way lines and with satisfactory access to public ways. Easements shall be indicated on the preliminary and final plats. Drainage easements shall be carried from the public way 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, or by drainage or conservation easement, the land on both sides of an existing watercourse to a distance to be determined by the planning commission.
- d. Along watercourses, low-lying lands within any floodway, as determined by the planning commission pursuant to Section 2-103, 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 Ditching, Concrete Ditch Paving, and Culverts and Storm Drains

The design and construction details of drainage facilities shall be in accordance with the provisions of these regulations. The design and construction details of all such facilities shall be approved by the appropriate governmental representative.

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, 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; where water mains are not to be utilized for fire protection, the planning commission may approve smaller lines, as necessary, to meet potable water demand.
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.

4-106.2 Fire Hydrants

Fire hydrants shall be required in all subdivisions where public water is available; they shall be located no more than one thousand (1,000) feet apart and be within five hundred (500) feet of any residential, commercial, or industrial lot. However, the planning commission may require closer spacing where physical conditions or types of structures so warrant. To eliminate future public way cutting 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 public way shown on the subdivision plat, unless otherwise

approved by the planning commission. A dry hydrant system may be required where public water is not available and where water pressure is not adequate for fire hydrants.

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 which 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 sewer 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 county health department for approval.

The individual disposal system, including the size of the septic tank and size of the tile fields or other secondary treatment device, also shall be approved by the county health department.

The planning commission may prohibit installation of sewage disposal facilities requiring soil absorption systems where such systems will not function due to high groundwater, 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

Sanitary sewer systems shall be designed for the ultimate tributary population based upon appropriate plans and zoning regulations.

The minimum size of a public sewer line shall be eight (8) inches in diameter with individual lot service lines a minimum of four (4) inches.

Sanitary sewers shall be located within a public street right-of-way, unless topography dictates otherwise. Public utility easements shall be provided across private property for access to lines and manholes such easements to be of an adequate width for service purposes, but in no case less than twenty (20) feet.

4-108 Pedestrian Ways

4-108.1 Sidewalks and Bicycle Paths

Sidewalks and bicycle paths, when included in the subdivision plat, shall adhere to the minimum standards and shall be included within the dedicated nonpavement right-of-way of all public ways 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 public ways 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

	<u>Residential Public Way</u>	<u>Nonresidential Public Way (Industrial, Commercial; Other)</u>
Minor Public Way	4 feet wide	6 feet wide
Collector Public Way	5 feet wide	6 feet wide
Arterial Public Way	5 feet wide	6 feet wide

4-108.2 Pedestrian Accesses

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

4-109 Utility Easements

- A. Easements down rear lot lines or additionally across lots, if deemed necessary by the planning commission, shall be provided for utilities (private or public). Such easements shall be at least twenty (20) feet wide. 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 twenty (20) feet in width shall be provided along side lot lines with satisfactory access to public ways 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 public way, or other public use, as indicated on the land development plan and/or major street or road plan, or any portion 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 the Governmental Agency Concerned

The planning commission shall refer any plat presented in accordance with Subsection 4-110.1, to the governmental agency 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 these regulations, is any land within a floodway or floodway fringe determined according to the procedure outlined herein.

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 governmental agency. 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 area 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 change of grade of the land shall be affected nor shall any natural features be removed or relocated until a preliminary subdivision plat has been approved by the planning commission.

4-112 Nonresidential Subdivisions

4-112.1 General

If a proposed subdivision includes land which is zoned for a commercial or industrial purpose, 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 land development plan, major street or road plan, and any 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 public way, 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. public way 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 public way, 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. public ways carrying nonresidential traffic, especially trucks, normally shall not be extended to the boundaries of adjacent existing or potential residential areas.