ARTICLE 4

GENERAL REQUIREMENTS AND STANDARDS OF DESIGN

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A. GENERAL REQUIREMENTS

1. Conformance with Applicable Rules and Regulations.
   In addition to the requirements established herein, all subdivision plats and supporting documents shall comply with all applicable laws, ordinances, resolutions, rules, or regulations, including, but not limited to:

   a. All applicable provisions of Tennessee Law, regulations, or policy;

   b. Any Zoning Ordinance, any building or housing codes, and all other applicable laws or policies of the Planning Commission and the Town of Cornersville;

   c. The adopted general plan and major road or street plan;

   d. The rules of the county health department, Tennessee Department of Environment and Conservation, and the Tennessee Department of Health;

e. 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

f. The standards and regulations adopted by all other boards, commissions, and agencies including utility providers of the Planning Commission and the Town of Cornersville, where applicable.

2. Adequate Public Facilities.
No Preliminary Plat shall be approved unless the Planning Commission determines that public facilities will be adequate to support and service the area of the proposed subdivision. The subdivider/developer shall at the request of the Planning Commission, demonstrate the expected impact on and use of public facilities by possible uses of said subdivision. Public facilities and services to be examined for adequacy will include roads and streets and utilities (sewerage and water).

3. Domestic Water.
All habitable buildings and building lots shall be connected to a public water system capable of providing water for health and emergency purposes, including adequate fire protection for properties in the corporate limits of the Town of Cornersville.

4. Sanitary Sewer.
All habitable buildings and building lots, within the corporate limits of the Town of Cornersville, shall be served by Sanitary Sewer. No lot smaller than 15,000 square feet shall be served by a subsurface sewer disposal system.

5. Streets.
Proposed streets shall provide a safe, convenient, and functional system for vehicular, pedestrian, and bicycle circulation; shall be properly related to adopted plans of the Town; and shall be appropriate for the particular traffic characteristics of each proposed development.

6. Extensions Policies.
All public improvements and required easements shall be extended through the parcel on which new development is proposed. Streets, water lines, wastewater systems, drainage facilities, electric lines, and telecommunication lines shall be constructed through new developments to promote logical extension of public infrastructure. The Town of Cornersville and utility providers serving the Town may require the subdivider/developer of a subdivision to extend offsite improvements to reach the subdivision or oversized required public facilities to serve anticipated future development as a condition of plat approval.

7. Phasing of Subdivision Permitted.
   Any subdivision may be phased provided the phasing plan provides for the logical development of the parcel including the construction of public infrastructure to serve each phase and future phases of development. The subdivider/developer shall submit a phasing plan with the Preliminary Plat depicting the phases to be developed along with a corresponding phasing schedule.

8. 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 Plat in the Office of the County Register.

B. SUITABILITY OF LAND

1. Suitability of Land.
   Land, which the Town of Cornersville or its consultant engineer finds to be unsuitable for subdivision or development due to flooding as show on FEMA maps, improper drainage, steep slopes as shown on topographical maps, rock formations, sink holes and karst conditions, problem soils, other adverse earth formations or topography, utility easements, or other features which may 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 and protective methods to solve the problems created by the unsuitable land condition(s) are formulated by the subdivider/developer and approved by the Planning Commission, to solve the problems created by the unsuitable land conditions. Such land shall be set aside for uses as shall not involve any danger to public health, safety, and welfare.

2. Critical Lots.
   A lot shall be designated critical when the lot is created on a slope of 20 percent or greater, when it contains floodplain area or on the basis of any other lot feature that affects the feasibility of construction as provided in these regulations.

3. Critical Lot Plan Required.
   Prior to application for a building permit on a lot designed as critical, a plan describing the measures to be undertaken to protect natural features, minimize changes in grade and cleared area, and the control of adverse impacts on the critical lot during and following the period of site disturbance shall be submitted to the Town of Cornersville for approval.

C. LOT REQUIREMENTS

Minimum lot areas and frontages are specified in the Town of Cornersville Zoning Ordinance; however, a subdivision plan should not be predicated solely on producing a maximum density or lot yield. The lot layout plan should give balanced consideration to the natural topography

of the tract being subdivided, to the conservation and preservation of the natural environment, to the provision of adequate open space, to the enhancement of the character and beauty of the community, to the optimization of lot density, and to protection of life and property.

1. Adequate Building Site.
   Each lot shall contain a building site not subject to flooding or other hazards and such site shall be outside the limits of any easements, rights-of-way, building lines, side yards, rear yards and front yards as defined in this document or the Town of Cornersville Zoning Ordinance.

2. Lot Arrangement.
   Where practical, side lot lines shall be at right angles to straight street lines and radial to curved street lines. Each lot shall front on a public street or road (unless permitted by Planning Commission as a private street or road), which has a right-of-way width of not less than fifty (50) feet (except frontage road that may contain less right-of-way). Where lots abut an arterial street, a marginal access street, or have double frontage, acceptable arrangements shall be made to ingress and egress onto such streets from the individual lots. Dimensions of the corner lots shall be large enough to allow for erection of buildings, observing the minimum front yard setback requirements for both public way rights-of-way.

3. Minimum Size of Lots.
   The size, shape and orientation of lots or building sites shall be as the Planning Commission deems appropriate for the intended use and topography of the site, for adjoining land uses, and for the protection of life and property. The minimum area and dimensions of all lots shall be as specified in the Town of Cornersville Zoning Ordinance. The 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 and related traffic circulation, landscaping and screening, and stormwater management facilities required for the type of use and development contemplated.

4. Building Setback Lines at Electric Power Lines.
   The subdivider/developer shall meet the local power distributor, Tennessee Valley Authority (TVA) Standard Right-of-way Widths for transmission lines and National Electric Safety Code clearances. Utility poles shall be provided with a minimum twenty (20) feet utility easement unless otherwise required based upon standards adopted by the utility provider. Right-of-ways shall not be blocked in any manner that would impede ingress and egress. In the case of overhead electric power lines where easement widths are not definitely established, a minimum building setback line from the center of the electric power line shall be established as follows unless a greater setback is required by the utility provider:

Voltage of Distribution Line	Building Setback
7.2kV	15 feet
13kV	25 feet
46kV	37.5 feet
69kV	50 feet
161kV	75 feet

5. Access from Arterial and Collector Streets.
   When property is divided along an existing street, the Planning Commission may require that lots not derive access from an arterial or collector street. Where driveway access from arterial or collector streets is necessary, the Planning Commission may require that lots be served by combined driveways (usually one driveway entrance shared by two lots), or by a private access drive serving more than two lots (if necessary shared maintenance arrangements shall be incorporated into the subdivision deeds) in order to limit driveway entrances and potential traffic hazards.

6. Lot Drainage and Grading.
   Where possible, lots shall drain toward the street or toward both the street and the rear lot lines. In case of drainage to the rear lot line, lateral drainage along rear lot lines shall be required, necessitating careful attention to grading. Drainage shall be designed so as to avoid concentration of storm drainage water from each lot to adjacent lots. The natural flow route of drainage onto a downstream property owner shall not be altered to cross the property line at a different location. Sheet flow discharge shall not be altered to a concentrated discharge onto a downstream property owner. Where required by the topography, side yard drainage may be required, in which case it may be necessary to increase the minimum side yard requirements. Terracing of lots, particularly in residential subdivisions, shall be avoided unless essential for erosion control or to reduce the velocity of runoff.

7. Debris and Waste.
   No cut trees, timber, debris, junk, rubbish, or other waste materials of any kind shall be buried in any land or left or deposited on any lot or public way at the time of the issuance of a certificate of occupancy for the lot, and removal of such waste shall be required prior to issuance of any certificate of occupancy. Neither shall any such waste be 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.

8. Fencing.
   Each subdivider or developer shall be required to furnish and install all fences wherever the Town of Cornersville or their consultant engineer determines that a hazardous condition exists. Such fences shall be constructed according to standards established by the Town of Cornersville, 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.

9. Burning.
   No burning of debris or waste shall be allowed without prior authorization by permit within the corporate limits of the Town of Cornersville.

10. Blasting.
    No blasting shall be allowed within the corporate limits of the Town of Cornersville except as permitted by the State of Tennessee. All required permits shall be secured by the subdivider/applicant at his expense prior to blasting.

11. 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 owners so as to provide private ownership, access, and maintenance. 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 the installation of a culvert or other permittable structure approved by regulating authorities and 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 regulating authority having jurisdiction over such structure.

12. Large Tracts or Parcels.
    Where land is subdivided into larger parcels than ordinary building sites, such parcels shall be arranged to allow for future openings of streets and for logical re-subdivision. In no case shall this be construed to allow the creation of severed parcels.

13. Flag Lots.
    Flag lots shall not be permitted in any zoning district that permits residential uses. No building shall be erected on a lot which does not continuously abut at least one public street for at least fifty (50) feet. A lot with more than one-half (1/2) of its frontage on the bulb of a cul-de-sac must continuously front the street for at least thirty (30) feet.

D. BLOCKS AND CONNECTIVITY

1. Blocks.

a. Block Widths.
Blocks shall have sufficient width to provide two tiers of lots of appropriate depths. Exceptions to this prescribed block width shall be permitted in blocks adjacent to major streets, railroads, waterways, or for commercial double frontage lots along collector or arterial streets.

b. Block Lengths.
Block lengths in residential areas shall not exceed 1,000 feet nor be less than 200 feet or 4 lot widths, whichever is greater, except as the Planning Commission deems necessary to secure efficient use of land or desired features of the street pattern. Wherever practicable, blocks along arterial and collector streets shall not be less than 1,000 feet in length. The Planning Commission may require one (1) or more public cross walks of not less than 10 feet in width extending entirely across the block at locations deemed necessary for pedestrian safety.

c. Considerations for Block Length, Width and Shape.
The lengths, widths, and shapes of blocks shall be determined with due regard to: Zoning requirements as to lot sizes; Needs for convenient access, circulation, traffic control and traffic calming, and safety of vehicular and pedestrian traffic; and physical limitations and opportunities of topography.

d. Arrangement of Streets.

1) All streets shall be properly integrated with the existing and proposed system of streets and dedicated rights-of-way as established by the Towns' Major Thoroughfare Plan.

2) Local streets shall be laid out to conform as much as possible to the topography, to provide for the efficient dispersal of internal traffic while discouraging high volumes of through traffic, and to permit efficient drainage and accommodate utility systems.

3) The use of an interconnected street system shall be used to broadly disperse internal traffic and provide maximum alternatives for access to property for both public and private traffic movement.

4) The use of curvilinear streets shall be encouraged where conformance with existing topography shall minimize the volume of cut and fill.

5) Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions, then the extension is not desirable for the coordination of the layout of the subdivision with the layout, either in existence or proposed, of adjacent tracts. Where streets are extended to property lines, temporary turnarounds shall be installed, unless the street segment is less than 150 feet in length. In all cases, drainage and utility easements shall be extended to property boundaries.

6) In non-residential subdivisions, the streets and other access routes shall be planned in connection with the placement and grouping of buildings, location of freight facilities including loading areas, and parking and maneuvering areas to minimize conflict of movement between the various types of traffic, including pedestrians.

e. Easements through Blocks.
The Planning Commission may require the dedication of an easement through blocks to accommodate utilities, drainage facilities, or pedestrian traffic. To accomplish this purpose, the Planning Commission may require a perpetual unobstructed easement at least twenty (20) feet in width, if there is determined to be an essential nexus between the easement width and the potential impacts of the development.

E. PUBLIC WAYS

1. Roads and Streets.

a. Conformity to the Major Thoroughfare Plan.
The location and width of all streets and roads shall conform to the official Major Road Plan of the Town of Cornersville, Tennessee.

b. Relation to Adjoining Street System.
The proposed street system shall extend existing streets within proposed projects at the same or greater width, but in no case less than the required minimum width. Where rights-of-way and street widths change from larger to smaller, but still meet the minimum width, the existing section shall be continued to the next available logical street intersection where it can be transitioned into the appropriate standard.

c. Subdivision Connectivity.
Each subdivision shall provide at least two different ingress-egress routes for adequate traffic flow and for safety in the case of fire, flood, panic, and other emergencies. If the subdivision is unable to have two ingress-egress connections due to limited road frontage or topography, the Planning Commission may approve the subdivision within a single ingress-egress route.

d. Access Streets to Subdivision Boundaries.
Sufficient access to adjoining properties shall be provided in subdivisions to permit harmonious development of the area. However, the Planning Commission may encourage multiple connections to adjacent properties if it can be established that the access has a beneficial effect on both developments. Connections that add significant traffic volumes to existing streets shall be avoided unless it can be demonstrated that the existing street was designed to handle such additional traffic.

e. Sight Distance.
Sight distance along streets and at intersections shall be not less than the minimum horizontal and vertical distances as specified in the AASHTO Design Guide Manual, current edition, for the class of street under consideration.

f. Design Speeds.
For safety purposes, on low volume residential streets, the designer shall use design features that tend to reduce speed through traffic calming, including narrower widths, chicanes, shorter streets, curves, speed tables at intersections, and on-street parking.

g. Non-Curb Street Design Permitted.
A non-curbed street design cross section in accordance with Town of Cornersville design standards and specifications may be permitted along low volume roads.

h. Pavement Standard.
Public and private streets shall be designed and constructed in accordance with the standards set forth in these Subdivision Regulations and other standards and specifications adopted by reference.

i. Exposed Utility Casting.
Prior to final paving, a manhole, valve box frame and cover, or other utility casting that is exposed to traffic and requires adjustment to an elevation one (1) inch or more above the existing pavement shall have a temporary asphalt ramp constructed uniformly around the casting. A taper slope of not less than two (2) feet per one (1) inch shall be used. During the final paving operation, the temporary ramp shall be removed completely from the casting to allow for the permanent pavement installation against the casting.

j. Bridges.
Bridges must meet the latest version of the TDOT Standard Specifications for Road and Bridge Construction. All bridges, including bridges required as part of a driveway serving a single-family residential home, shall meet necessary construction standards to provide access for emergency vehicles. 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 a bridge 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.

k. Right-of-way and Pavement Widths, Utility-Construction-Drainage Easements. The minimum width of any right-of-way, measured from lot line to lot line. The width of pavement is measured from pavement edge to pavement edge thus excluding the curb and gutter section. The street right-of-way widths shall be consistent with the recommendations and design standards contained in the Marshall County Comprehensive Transportation Plan (MCCTP) adopted by reference by the Town of Cornersville. The widths set forth in the MCCTP are consistent with current best design and regulatory practices. There shall be a minimum ten (10) foot utility, construction, and drainage easement along and outside all front right-of-way lines if there is determined to be an essential nexus between the easement width and the potential impacts of the development. Additionally, there shall be a minimum ten (10) foot utility, construction, and drainage easement along all rear lot lines and exterior boundaries if there is determined to be an essential nexus between the easement width and the potential impacts of the development. A minimum five (5) foot utility, construction, and drainage easement shall be platted along all side lot line boundaries on the final plat to be recorded if there is determined to be an essential nexus between the easement width and the potential impacts of the development. Where possible the following formula shall be used:

$$W = P + S + G + U + X$$

Where:

W = Right-of-way width

P = Pavement width, including curb and gutter. Consistent with the recommendations and design standards contained in the MCCTP, the National Association of City Transportation Officials (NACTO) Urban Street Design Guide (2013) recommends "that lane width should be considered within the overall assemblage of the of the street. Travel lane widths of 10 feet generally provide adequate safety in urban settings while discouraging speeding. Cities may choose to use 11-foot lanes on designated truck and bus routes (one 11-foot lane per direction) or adjacent to lanes in the opposing direction." "Parking lane widths of 7-9 feet are generally recommended."

S = Sidewalk width, one or both sides, if required. All sidewalks shall be constructed in compliance with the requirements set forth in the 2010 ADA Standards for Accessible Design, as amended. The minimum width for new sidewalks shall be five (5) feet.

G = Grass strip, one or both sides, if required with the sidewalks due to the design speed of the roadway.

U = Utility easement, one or both sides, if required, shall be as required by adopted standards of the utility provider.

X = Width, one or both, sides required for shoulders, planting strips, snow storage, surface drainage, or widening, if required.

The applicant/developer may request approval for an alternate right-of-way width as provided in Tables 4.1 and 4.2 upon determination of sufficiency by the Planning Commission.

Table 4.1 Right-of-way and Pavement and Related Improvement Widths (Urban)							
Street Classification	**Right-of-Way [2]**	**Street Width (face of curb to face of curb)[1,2]**	**Median Width (face of curb to face of curb)**	**Curb & Gutter (Type)**	**Lane Width (one or more through lanes, each direction, center turn lane as required)**	**Sidewalks (as may be required)**	**Other Requirements**
Arterial Street (5-lane cross section with center turn lane.)	100-120 feet	64 feet	N/A	30 inches (Barrier)	11-12 feet	5-12 feet	See Article 4, Section E.2.
Arterial Street (2-traffic lane cross section, 2 parking lanes, no center turn lane.)	100-120 feet	40 feet	14-30 feet	30 inches (Barrier)	11-12 feet	5-12 feet	See Article 4, Section E.2.
Collector Street	60-80 feet	37-39 feet	14 feet	30 inches (Barrier)	10-12 feet	5-12 feet	See Article 4, Section E.3.
Local Street	50 feet	28-32 feet	N/A	30 inches (Roll-type)	10-12 feet	5 feet	See Article 4, Section E.4.
Frontage Road	40 feet	28-32 feet	N/A	30 inches (Roll type)	10-12 feet	5 feet	See Article 4, Section E.5.

[1]Street Width- Street widths shown are for streets with one lane either direction that allow on-street parallel parking on both sides.

[2]Where bicycle lanes are desired, add 5 feet per bicycle lane.

Table 4.2 Right-of-way and Pavement and Related Improvement Widths (Rural)							
Street Classification	**Right-of-Way[2]**	**Street Width (edge of pavement to edge of pavement) [1,2]**	**Median Width (edge of pavement to edge of pavement)**	**Maximum Slope of Drainage Ditch**	**Lane Width (one or more through lanes, each direction, center turn lane as required)**	**Sidewalks (as may be required)**	**Other Requirements**
Arterial Street	100-120 feet	37-39 feet	14-30 feet	3:1	11-12 feet	5-12 feet	See Article 4, Section E.2.
Collector Street	60-80 feet	37-39 feet	14 feet	3:1	10-12 feet	5-12 feet	See Article 4, Section E.3.
Local Street	50 feet	28-32 feet	N/A	3:1	10-12 feet	5 feet	See Article 4, Section E.4.
Frontage Road	40 feet	28-32 feet	N/A	3:1	10-12 feet	5 feet	See Article 4, Section E.5.

[1]Street Width- Street widths shown are for streets with one lane either direction that allow on-street parallel parking on both sides.
[2]Where bicycle lanes are desired, add 5 feet per bicycle lane.

2. Arterial Street.
   Such streets are used primarily for fast or heavy traffic and are located on the Major Road Plan. A turning lane and boulevard median may be required if deemed necessary for the protection of the motorist, especially at intersections with other arterial or collector streets. If a boulevard median is used, as shown in Figure 4.1, such design and construction must meet Best Management Practices (BMPs). The typical width of a median shall range in size from a minimum of 14 feet to 30 feet in accordance with NACTO and TDOT Road and Bridge standards , measured from face of curb to face of curb, with the overall designed speeds and improvements a guiding factor.

3. Collector Street.
   Such streets are used primarily to carry slow to moderate traffic speeds and volumes. These streets act primarily as the transition between local traffic and through traffic. These streets should be reflected on the Major Road Plan. A center turning lane may be required if deemed necessary at intersections of arterial and other collector streets. If a boulevard median is used within this type of street classification, then said median shall be a minimum of 14 feet in width in accordance with NACTO and TDOT Road and Bridge standards, measured from face of curb to face of curb, with the overall designed speeds and improvements a guiding factor. If used, such median design and construction must meet Best Management Practices (BMPs).

4. Local Street.

   Typically, such streets primarily carry slow to moderate traffic speeds and volumes and act as the transition between local traffic and through traffic. A center turning lane may be required if deemed necessary at intersections of arterial and collector streets.

5. Frontage Road.
   Typically, marginal access or frontage roads are used in commercial and/or multi-family developments to facilitate internal traffic movements within a commercial com- plex or reduce the overall number of curb cuts to higher status streets in multi-family projects. Such frontage roads shall conform to the radius requirements, at points of ingress and egress, on arterial streets, as specified in the Cornersville Zoning Ordinance.

   Note: In extreme cases where topography or other physical conditions make a street of the required minimum width impractical, the Planning Commission may modify the above referenced requirements.

6. Other street facilities and widths that may be utilized or required as provided for in NACTO shall be as follows:

Boulevard medians (face of curb to face of curb)	14-30 feet
Roundabouts (circle diameter ranges)	45-300 feet
On-street parking	8 feet
Bike lanes	4-6 feet

7. Additional Right-of-way Widths on Existing Streets.
   Subdivisions that adjoin existing streets shall dedicate additional right-of-way to meet the above minimum street width requirements.

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

   b. When the subdivision is located on only one side of the existing street, one-half (1/2) of the required width of the right-of-way, measured from the centerline of the existing right-of-way, shall be provided.

8. Restriction of Access.
   Where a subdivision abuts or contains an existing or proposed major street the Planning Commission may require frontage roads, or such other treatment as may be required to afford separation to through and local traffic.

a. Paved acceleration and deceleration lanes may be required along any arterial or collector streets or highway at the determination of the Planning Commission.

b. Frontage roads (roads which parallel the public streets giving access and which extend along the entire frontage of particular properties) shall be constructed in order to provide safe and efficient vehicular movement between specified access points. All frontage roads shall be dedicated as public streets or easements and shall be maintained by the public.

c. Frontage roads shall be constructed in conformance with standards of the Subdivision Regulations.

d. Items a through c of this subparagraph shall apply in their entirety to commercial property having road frontage greater than the distance between access points specified in the access ordinance. For commercial property of lesser road frontage the Planning Commission may waive or reduce requirements (i.e. require dedicated right-of-way or easement for frontage roads rather than constructed frontage roads).

9. Street Grades.
Grades on streets shall not exceed the following:

a.	Arterial Streets and Highways	6%
b.	Collector Streets	8%
c.	Local Streets	10%
d.	Dead-end and Loop Streets	12%
e.	Frontage Roads	10%

10. Horizontal Curves.
When a deflection angle of more than three degrees in the alignment of a street occurs, the following radii shall be used:

a.	Arterial Streets and Highways	600 feet
b.	Collector Streets	400 feet
c.	Local Streets	150 feet
d.	Dead-end and Loop Streets	100 feet
e.	Frontage Roads	150 feet

11. Vertical Curves.
Vertical curves shall conform to AASHTO stopping sight distance for the following design speeds:

	Design Speed
a. Arterial Streets and Highways	50mph
b. Collector Streets	40mph
c. Local Streets	30mph
d. Dead-end and Loop Streets	30mph
e. Frontage Roads	30mph

12. Intersections.
In accordance with NACTO and TDOT Road and Bridge standards, no more than two streets shall intersect in any one location unless approved by the Town Engineer. Further, street intersections shall be as nearly at right angles wherever possible. Where natural or manmade obstacles prevent a standard intersection, intersecting streets may have a centerline angle of not less than seventy-five (75) degrees, subject to the approval of the Town Engineer.

The centerline-to-centerline distance between offset T-type intersections shall be at least 200 feet along local streets and three hundred (300) feet when such T-type intersections occur along a collector street.

To permit the construction of a curb having a desirable radius, property line radii at all street intersections shall not be less than twenty-five (25) feet. Where the angle of the street intersection is less than ninety (90) degrees, the Planning Commission may require a greater radius.

All intersections of two or more streets shall have a grade that does not exceed four percent (4%) at the following distance from the intersection of street centerlines.

a. Arterial Streets and Highways	150 feet
b. Collector Streets	100 feet
c. Local Streets	60 feet
d. Dead-end and Loop Streets	50 feet
e. Frontage Roads	60 feet

13. Tangents.
Reverse curves in road right-of-way shall be connected by tangents of not less than the following:

a.	Arterial Streets and Highways	150 feet
b.	Collector Streets	100 feet
c.	Local Streets	60 feet
d.	Dead-end and Loop Streets	50 feet
e.	Frontage Roads	60 feet

14. Street Jogs.
Street jogs of less than two hundred (200) feet shall not be allowed, except where both intersecting streets are cul-de-sacs in which case the street jogs with centerline offsets of less than one hundred, twenty-five (125) feet shall not be allowed.

15. Dead End Streets.

a. Local streets or courts designed to have one end permanently closed shall be not more than one thousand (1,000) feet long unless necessitated by topography as recommended by the Institute of Traffic Engineers (ITE). According to ITE, typically cul-de-sac length is a function of the number of dwelling units it serves. As the number of units exclusively served by a single roadway increases, the potential hazard for temporary blockage also increases. These potential blockages are viewed as critical due to their effect on emergency access. They shall be provided at closed end with a turn-around having an outside roadway diameter of at least eighty (80) feet and a street right-of-way diameter of at least one hundred (100) feet. In such cases, the service provider for each utility shall indicate whether special connections, specific routing, additional easements, or other requirements need to be included to allow the approval of extensions to the maximum cul-de-sac length.

b. Where, in the opinion of the Planning Commission, it is desirable to provide for street access to adjoining property, proposed streets shall be extended to the boundary of such property. Such dead-end streets shall be provided with a temporary turn-around having a roadway diameter of at least eighty (80) feet, or hammerhead turn around. Such temporary turnarounds shall be constructed of a material allowing all weather use. Other acceptable alternatives to design and surface treatments on temporary turnarounds may be approved by the Town Engineer.

c. Where, in the opinion of the Planning Commission, it is desirable they may limit the use of cul-de-sacs in an effort to provide connectivity for the purpose of providing for the health, safety, and welfare of its citizenry.

d. Islands may be allowed within cul-de-sacs, provided that such cul-de-sac retain a turn-around having an outside roadway diameter of at least eighty (80) feet and a street right-of-way diameter of at least one hundred (100) feet, with the design to be approved by the Town Engineer. The design and construction of such islands must meet Best Management Practices (BMP's).

16. Private Streets.

a. Private streets as authorized by the Planning Commission shall be designed and constructed to conform with standards and specifications for each classification of a public street. The Town of Cornersville, Tennessee, shall not be responsible for the maintenance of any private street or access way. Further, the Town shall have sole discretion in which services and/or utilities it extends, if any, into any development with private streets.

b. Guardhouses and gate structures shall be approved by the Town Engineer and shall include a typical system, acceptable to the Fire Department, for immediate emergency access to the subdivision. At a minimum, gated subdivisions shall meet the following requirements:

1) All gates shall be located a minimum of thirty (30) feet from the public right-of-way and shall not open outward but shall open with the flow of traffic;

2) At least thirteen (13) feet six (6) inches vertical clearance shall be provided and maintained over the full width of all means of access; and

3) The clear opening provided through gates shall be two (2) feet wider than the traveled way.

c. The Fire Marshal and/or the Town Engineer may impose requirements for gated subdivisions as may be necessary to carry out the intent of these Subdivision Regulations. Under no circumstance shall the Town or emergency service providers be responsible for the repair of any damage to gates or structures associated with an emergency response within the subdivision.

17. Reserve Strips.

There shall be no reserve strips controlling access to streets except as permitted by the Planning Commission. 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 may be required by the Planning Commission to enable a more appropriate pattern of lots or public ways. A notation to this effect shall be entered on the final plat.

18. Drainage.

    a. All streets and roads must be so designed as to provide for the discharge of surface water from the right-of-way of all streets and roads by grading and drainage as shall be approved by the planning commission. Where water cannot be adequately discharged by surface drainage, the Planning Commission shall require the installation of a storm sewer. However, except for shallow grassed swales, surface drainage will only be allowed along rear lot lines. Street drainage may not be discharged down individual driveways or otherwise cause potential flooding to residential structures.

    b. A street shall not carry water for a distance greater than four hundred (400) feet from the beginning point of the runoff. Discharge from the street shall be handled by means of a catch basin—the number, size, type, and location to be determined by the Town Engineer. Pipes under the right-of-way, for purposes of discharging water into the pipe, must be no less than eighteen (18) inches in diameter and be carried the full width of the public right-of-way. Such pipe shall be made of concrete. Drainage shall not discharge into a sinkhole as a means of an outlet for runoff, unless the depression has a storage capacity for a five hundred (500) year flood without flooding any adjacent properties or creating overflow runoff that will adversely affect existing drainage courses.

19. Street Elevations.
    The Planning Commission may require, where necessary, profiles and elevations of streets for determination of proximity to flood plains. No street shall be approved for construction within a floodplain if it is proposed to be constructed more than one (1) foot below the elevation of the one hundred (100) year flood. Fill may be used for streets provided such fill does not increase upstream flood heights. Drainage openings shall be so designed as to not restrict the flow of floodwaters or increase upstream flood heights.

20. Driveways and Curb Cuts.
    Driveways shall be so located that vehicles entering or leaving an establishment or location will not interfere with the free movement of traffic or create a hazard on the public roadway. Where feasible, access driveways shall be located where there are no sharp curves or steep grades, and where sight distance is adequate for safe traffic operation. Driveways should not be located within an intersection, intersection radius, or interchanges of highways. No curb cut shall be closer than twenty (20) feet from the point of curvature of a corner radius. Access drives shall be located such that they will not interfere with the placement of signs, signals or other devices that affect traffic operation and regulations. The maximum width for a commercial entrance is twenty (20) feet for a one-way drive and forty (40) feet for a two-way drive.

    a. The number of driveways permitted serving a single property tract or business establishment shall not exceed two (2) driveways unless otherwise approved by the

Planning Commission. Frontages of one hundred (100) feet or less shall be limited to one (1) driveway, unless otherwise approved by the Planning Commission. The joint use of curb cuts is encouraged to facilitate traffic flow.

b. On a major or minor arterial or collector street including controlled access roads, where there are or may be several businesses, consideration should be given to the construction of a marginal access or frontage road, the frontage road then having well-spaced access points to the major road.

c. Driveway design, consistent with State regulation, shall not exceed forty (40) feet in width for two-way use and twenty (20) feet for one-way use.

d. The Town, County, and/or State of Tennessee specifically reserves, through the site plan review and approval process, the right of full review, comment and approval for curb cuts, and nothing herein shall be so construed to subordinate that authority.

e. All driveway aprons shall be approved by the Town of Cornersville and shall be in a manner which ensures positive drainage to the street. An expansion joint with filler shall be provided at each edge of the driveway apron where it abuts the curb and gutter. If roll type curbs and gutter are utilized, curb cuts may be waived by the Planning Commission.

f. The overall drainage of the road or network of roads will be coordinated with, and approved by, the Town Engineer. Sizes and lengths of cross drains and driveway culverts, where required, shall be determined to be consistent with the following minimum requirements: For driveway culverts and street inlets, a minimum diameter of fifteen (15) inches, and a minimum length of twenty (20) feet; for cross drains, a minimum diameter of eighteen (18) inches. The Town Engineer shall determine if sizes and lengths of cross drains and driveway culverts need to be larger than these minimum requirements.

g. Reinforced concrete pipe shall conform to the minimum standards for Class III reinforced pipe shall be used on all cross drains. Alternative pipe material may be considered on a case-by-case basis and must be approved by the Town Engineer. In no case shall CMP be allowed.

h. For all pipe cover and backfill requirements refer to TDOT Specifications. Roadside ditches shall be built to a grade that will provide positive drainage, and in no case shall the slope of the ditch be less than 1 percent (a fall of 1 foot in 100 feet) without specific approval of the Town Engineer. Headwalls including installation of prefabricated concrete headwalls will be constructed at both ends of the cross drain and driveway pipes in accordance with current TDOT standard drawings, refer to Standard Drawing No. 1 for list for adopted TDOT standard drawings.

i. All drainage ditches shall be stabilized to prevent erosion as required by these regulations. All storm sewer pipe connections shall be field inspected by a representative of the Town Engineer or qualified testing firm employed by the developer. This includes all areas associated with the storm drainage system and not limited to the dedicated rights of way.

j. Quality of Concrete. When concrete is used, all sidewalks, curbs, gutters, handicap ramps and driveway aprons shall be constructed of high-quality durable Portland cement concrete. Aprons must extend at least three (3) feet past the edge of culvert or ditch whichever is farther. The concrete shall be ready-mixed, air entrained, 4,000-lb. concrete. All concrete shall be Class A and shall be placed, cured, and tested in accordance with Town standards and specifications. If driveway is paved with asphalt, the driveway apron may be covered with asphalt instead of concrete.

21. Sidewalks.

a. All sidewalks shall be constructed in compliance with the requirements set forth in the 2010 ADA Standards for Accessible Design

b. Sidewalks shall be built on both sides of all new public and private streets, including new extensions of existing streets. Sidewalks shall be required along the proposed major subdivision's frontage on existing public streets. In such cases, a financial surety in a form acceptable to the Town will be required to install required sidewalk at a later date. The Planning Commission shall not require an owner of private property to dedicate real property to the public or pay money to a public entity in an amount that is determined on an individual and discretionary basis, unless there is an essential nexus between the dedication or payment and a legitimate local governmental interest the dedication or payment is roughly proportional both in nature and extent to the impact of the proposed use or development of the property.

c. Sidewalks shall be located no less than one (1) foot from the property line (in the right-of-way) to prevent interference or an encroachment by fencing, walks, hedges or other plantings or structures placed on the property line at a later date. In residential zones there shall be a three (3) foot grass strip between the curb and the edge of the sidewalk. Any deviation from this requirement must have approval by the Planning Commission. Sidewalks shall be five (5) feet wide and four (4) inches thick. In cases where sidewalks are located adjacent to curb, sidewalks shall be five (5) feet wide and four (4) inches thick. In commercial zones and on arterials, sidewalks shall be five (5) feet wide and four (4) inches thick. Thickened sidewalk sections shall be installed wherever sidewalks cross driveways.

d. All sidewalk construction shall be done at approximately the time the streets and curbing are installed unless otherwise authorized by the Planning Commission. The builder shall be responsible for replacement of any broken sidewalk before a certificate of occupancy is issued.

e. Encroachments including, but not limited to utility poles, fire hydrants, mailboxes, electric transformers; communication pedestals, sign standards, and street furnishings shall not be located within the concrete portion of the sidewalk area unless the sidewalk is widened proportionately around obstruction to maintain required width of sidewalk.

f. To facilitate pedestrian access from streets to existing or planned schools, parks, greenways, playgrounds, passive recreation areas, retail areas, or other nearby community facilities, the Planning Commission may require perpetual unobstructed easements or dedications of land measuring a minimum of ten (10) feet in width on a final subdivision plat. Easements shall be indicated on the final plat as a "public pedestrian access easement."

g. Deferment of Installation. At the request of the subdivider, the Planning Commission may allow deferment on the installation of sidewalks and handicap ramps when the individual builders assume responsibility for installation of sidewalks, curb cuts and driveway aprons, the subdivider may be relieved of responsibility for such installations. The responsibility assumed by individual builders shall become a condition of the issuance of a building permit and shall comply with the standards and specifications of the Town of Cornersville. The Town of Cornersville may require a financial surety in a form acceptable to the Town as surety to ensure the installation of required sidewalks, curb cuts, and driveway aprons. No certificate of occupancy shall be issued until the required improvements are completed and accepted by the Town.

22. Pathways and Trails.

All pathways and trails shall be constructed in compliance with the requirements set forth in the 2010 ADA Standards for Accessible Design, AASHTO guidelines, TDOT Road and Bridge Specifications, the National Asphalt Pavement Association's A Guideline for the Design and Construction of Hot Mix Asphalt Pavements for Trails and Paths and the Guide for the Design and Construction of Concrete Parking Lots (ACI-330R-01/ACI 2008.

a. Concrete Trails- The AASHTO Bike Guide identifies a minimum width of 10 ft for a paved, two-directional trail. Typical paved trail widths range from 10 to 14 ft, with the wider trails used in locations of high traffic volume. A width of 8 ft can be used when peak traffic is very low, pedestrian use is minimal, and maintenance vehicle traffic loading will not cause edge damage. For trails that are 8 to 12 ft wide, a centerline longitudinal joint is not required. For trails wider than 12 ft, a centerline longitudinal joint tied with deformed bars is recommended. The deformed bars minimize the potential for the slabs to separate. If a trail width over 14 ft is desired, consideration

should be given to a corridor with separated directional paths. Table 4.3 lists the recommended trail width based on trail use.

Table 4.3 Recommended Trail Widths	
Trail Width	
8 ft	• Neighborhood connector trails • Low bicycle traffic • Occasional pedestrian use • No regular maintenance vehicles
10 ft	• Two-way bicycle traffic • Maintenance vehicle use
12 to 14 ft	• Higher capacity trails • Maintenance vehicle use • Bicycle passing use, while allowing room for oncoming traffic • High user volume (>300 in peak hour) and high pedestrian use (≥ 30%)

Data source: Guide for the Development of Bicycle Facilities (AASHTO 2012)

The Town Engineer shall make the final approvals on concrete construction width and thickness.

b. Asphalt Trails - as with concrete trails, design guidelines for bicycle path width, sight distance and other safety and user-friendly features are outlined in the *AASHTO Guide for the Development of Bicycle Facilities*. Trail design should also meet the Americans With Disabilities Act, including maximum slope and cross pitch requirements. The hot mix asphalt design and pavement placement shall be in accordance with TDOT specifications and approved by the Town Engineer.

The Town Engineer shall make the final approvals on hot mix asphalt construction width and thickness. Thickness of the compacted hot mix asphalt shall range from three (3) inches to six and a half (6.5) inches depending on the intended use and the soils.

23. Traffic Impact Analysis.

a. A Traffic Impact Analysis (TIA) shall be required if the need for such is determined during the pre-application meeting review. The following circumstances may indicate the need for a traffic impact analysis:

1) Residential development with seventy-five (75) or more dwelling units or non-residential development with thirty thousand (30,000) square feet of space or more.

2) Mixed-use development that generates seventy-five (75) peak hour vehicle trips or seven hundred fifty (750) daily vehicle trips.

3) The project is located at or near an intersection that currently operates or is believed to operate at a Level of Service C or below.

4) The project is located near a location identified by the Town Engineer as a high crash/incident location or high concern location.

5) A traffic impact analysis is deemed necessary according to Town Engineer. The Town Engineer has the final authority to require a traffic impact analysis for any specific project.

b. The purpose of a TIA is to provide Town staff and the Planning Commission with sufficient information concerning transportation impacts of a project, including determining appropriate mitigation measures for the project. The TIA shall consider traffic capacity and service, traffic controls, intelligent transportation systems (ITS), multi-modal accommodations and safety issues in accordance with the following guidelines.

c. TIA Initiation. The applicant/developer shall be responsible for preparing and submitting the TIA. The Town of Cornersville reserves the right to use a Town-retained consultant to complete the TIA unless otherwise approved by the Town Engineer or his designee. If the TIA is not completed by a Town-retained consultant, a third-party consultant, as designated by the Town, shall review the developer submitted TIA on the Town's behalf. Regardless of who completes the work, the TIA shall be prepared by registered Engineer licensed to practice in Tennessee using the standard format specified by the Institute of Traffic Transportation Engineers (ITE) publication Traffic Access and Impact Studies Transportation Impact Analyses for Site Development, in accordance with this document and subsequent updates including multimodal aspects for site development impacts.

d. Initial Meeting (Scoping Meeting). Prior to the preparation of a TIA, the preparer shall review the following with the Town Engineer or their designee:

1) Project to be studied, phasing, trips generated, trip reductions, etc.

2) Study methodologies and assumptions;

3) The study area, including internal project traffic impacts (if required by Town);

4) The study horizon year;

5) The time periods to be analyzed;

6) Other approved developments or which a TIA has been completed or requested; and

7) Planned or on-going relevant roadway projects.

This is not an extensive list and other topics may be included at either the consultant or Town's request. At the end of the scoping meeting, a summary of the discussion (minutes) and assumptions for the study shall be provided by the preparer with a signed Memorandum of Understanding (MOU) sent to Town Staff for approval and signatures.

e. Study Area Boundaries. The extent of the study area for the TIS depends upon the location and size of the proposed development and the prevailing conditions of the surrounding area. Along with including existing failed intersections within the study boundary, the nearest project interchange(s) may also be included in the study boundary.

f. Study Data and Assumptions. Consult with the Town Engineer prior to completing traffic projections and traffic analysis to obtain approval for background assumptions, directional distributions, and internal and pass-by reductions.

g. Preliminary Draft. Submit a draft traffic impact analysis to the Town Engineer. The Town Engineer will review and comment on the draft report. A draft of the traffic impact analysis shall be submitted on or before the submittal date with the number of copies required as determined by the Town Engineer. The traffic impact analysis shall identify, analyze, and discuss mitigation measures. These mitigation measures shall be specific and feasible actions whose implementation will improve the adverse impacts of the proposed development.

h. Final Submission. The final traffic impact analysis shall be submitted, as required by the Town Engineer, and shall be signed and sealed by a registered Engineer in Tennessee prior to submittal of the Preliminary Plat as required by these Subdivision Regulations.

6. Access Management. Where a subdivision abuts or contains an existing or proposed major street, the Planning Commission may require marginal access streets, reverse frontage with screen planting contained in a non-access reservation along the rear property line, or such other treatment as may be necessary for adequate safety and protection of street and to afford separation of through and local traffic.

F. DRAINAGE, STORM SEWERS, AND FLOODPLAIN

1. General Requirements.

   a. Adequate drainage must have the hydraulic characteristics to accommodate the maximum expected flow of storm water for a given watershed, or portion thereof, for a specified duration and intensity of rainfall.

   b. Adequate drainage should be designed to (1) account for both offsite and onsite storm water, (2) honor natural drainage divides, (3) convey said storm water to a stream, channel, natural drainage way, or other existing facility, and (4) discharge said storm water into the natural drainage way by tying into the drainage way at natural elevations or by discharging the storm water into an existing facility of sufficient capacity to receive the same.

   c. Adequate drainage should be designed to (1) account for both offsite and onsite storm water, (2) honor natural drainage divides, (3) convey said storm water to a stream, channel, natural drainage way, or other existing facility, and (4) discharge said storm water into the natural drainage way by tying into the drainage way at natural elevations or by discharging the storm water into an existing facility of sufficient capacity to receive the same.

   d. Determination of the size and capacity of an adequate drainage system shall consider the future development in the watershed or affected portions thereof. The design must not adversely affect adjacent or neighboring properties.

   e. It is the responsibility of the developer or property owner to pick up or acceptably handle the runoff as it flows onto his property from the watershed above and conduct it through his property to an adequate outfall at his lower property line or beyond. The outfall must be sufficient to receive the runoff without deterioration of the downstream drainage way.

2. Stormwater Facilities.

a. Drainage facilities shall be located in the road right-of-way, where feasible, or in perpetual unobstructed easements.

b. Culvert or Bridges. Headwall style shall be as approved by the Planning Commission. Concrete headwalls shall be constructed at both ends of cross drains or driveway culverts and approved by the Town of Cornersville. Masonry veneer headwalls may be permitted upon approval by the Town of Cornersville or authority having jurisdiction. Bridges and box culverts shall be constructed to the same width as the roadway where such is to be placed plus additional width on either side of the roadway to accommodate sidewalks.

c. Accommodation of Upstream Drainage Areas. A culvert or other drainage facility shall in each case be large enough to accommodate potential run-off from its entire upstream drainage area, whether inside or outside the subdivision. The applicant's licensed engineer shall determine the necessary size of the facility. The applicant/developer shall be responsible for upsizing cross-drains under existing streets due to relocation of existing drainage channels or increased run-off resulting from the subdivision.

d. Effect on Downstream Drainage Areas. The effect of each subdivision on existing downstream drainage facilities outside the area of the subdivision shall be determined. Where it is anticipated that the additional run-off incident to the development of the subdivision will overload existing downstream drainage facilities provisions shall be made for improvement of such drainage facilities or inclusion of detention or retention facilities within the proposed development as may be required by the Town Engineer.

3. Dedication of Drainage Easements.
Where a subdivision is traversed by a drainageway, channel, or stream either natural or manmade, 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 shall be adequate for the purpose. Consideration shall also be given to incorporation of sewer easements parallel to or overlaying drainage easements as both generally follow the same course. if there is determined to be an essential nexus between the easement width and the potential impacts of the development,

Where topography or other conditions are such as to make impractical the inclusion of drainage facilities within a road right-of-way, perpetual unobstructed easements at least twenty (20) feet in width for such facilities shall be provided across property outside the road right-of-way but within satisfactory access from a road. Easements shall be indicated on the final plat as required by these Subdivision Regulations. Drainage easements shall be carried from roads to natural watercourses or to other drainage facilities. When a new drainage system is to be constructed which will transport water across adjacent private property located outside the subdivision, appropriate drainage easement(s) shall be secured and indicated on the final plat by notes referencing the easement recording. The applicant

shall dedicate, when required by the Planning Commission whether in fee or by drainage or conservation easement, the land on both sides of existing watercourses to a distance to be determined by the Town Engineer, but not less than ten (10) feet each side.

4. Minor Drainage System.

   a. The design of the minor storm drainage system shall be based on a storm frequency of 10 years. This criteria shall be applied to both closed conduit and open channel design. However, if the 10-year design flow for an open channel system is greater than 100 cfs (cubic feet per second), then the channel shall be capable of passing the 100-year design flow within the drainage easement.

      In residential subdivision development, where the average lot size is less than 20,000 square feet, the following general guidelines shall be observed in the design of the minor system:

      1) No quantity of design surface runoff across lots shall have erosive velocities.

      2) Quantities of surface runoff greater than 4 cfs that flow through lots shall be picked up and conveyed in a storm sewer system. This system may be open channel, closed conduit, or a combination of both.

      3) Lots should generally be graded in such a manner that surface runoff does not cross more than three lots before it is collected in a storm sewer system. This system may be open channel, closed conduit, or a combination of both.

5. Major Drainage System.

   a. Whenever possible, natural waterways serving the major system should remain undisturbed, whereupon the proposed development must be situated wisely in respect to it. However, due to the insufficient capacity of most natural drains, improvements to the channel may be necessary in order to properly utilize the adjacent property. Improvements to natural open channels, which are to primarily function as the major system, shall be designed to pass the 100-year design flow without damage to the channel (trunk line system) shall be capable of carrying a 100-year design flow. Where man-made channels are necessary, the channels should be located as far away from buildings or structures as possible and preferably in established green belts. Culvert design procedures are covered in detail in other publications.

   b. The onsite major storm drainage system for most developments is the natural backup system and, therefore, consists of the less obvious drainage ways. It is desirable that

this major system provide drainage relief such that no building will be flooded with a 100-year design flow, even if the minor system should experience total failure. The 100-year frequency storm shall be used to compute runoff from the design of the onsite major drainage system. This system shall be designed to provide relief for flow in excess of the 10-year design flow.

c. Guidelines for design of the onsite major drainage system are as follows:

1) Areas should be graded in such a manner and/or buildings located or constructed in such a manner that, if complete failure of the storm sewer system occurs, no building will be flooded by the design flow.

2) Key areas to watch are sump areas, relatively flat areas, and areas where buildings are located below streets and/or parking lots.

3) Use the 100-year frequency storm to compute runoff for the major drainage system.

4) For the first trial, use the same time of concentration values that were used in designing the minor drainage system and assume the minor system completely inoperable. If no building will be flooded, based on these assumptions, then the analysis can be considered complete.

5) If buildings will be flooded, based on the assumptions used in Item "(4)", then the designer should perform more precise hydrologic and hydraulic computations. The designer should design the minor system, overland relief swales, and/or surface storage in such a way that no building will be damaged by flooding.

In general, the designer should seek alternatives to increasing the size of the minor drainage system design as the design for the major drainage system. The major drainage system should be a separate design that deals with any flows that exceed the capacity of the minor drainage system. The major drainage system should be in the form of grading of the area and/or locating and constructing buildings in such a manner that overload relief swales and/or surface storage will accomplish the stormwater management objective.

Ordinarily, the design guidelines described in the previous paragraph are intended to result in a functional analysis rather than a numerical one. The project drainage plan should denote the major storm drainage system, including overland relief swales and areas that may be affected by surface storage for a 100-year design storm. Any calculations that may have been necessary in order to arrive at the major system should be submitted.

6. Policy on Detention of Storm Water.

a. Increased urbanization within the Town of Cornersville has resulted in radical change to the topography, ground cover, and minor drainage systems within each drainage basin. These changes may have adverse effects on the environment, primarily through the subsequent increase in storm water runoff. In the interest of minimizing these adverse effects, onsite detention of storm water is mandatory for all industrial, commercial, and multi-family developments subject to the review process. However, in some areas of the watersheds, detention will cause increased peak flows to occur on the major streams and tributaries. The Town of Cornersville reserves the right to prohibit detention of storm water where it is not in the best interest of the Town of Cornersville. Nevertheless, in all cases where detention facilities are required, the location and design must comply with any master drainage plans which may have been adopted.

b. The release rate from any detention facilities should approximate that of the developed site prior to the proposed development for the design storm, but adequate alternate drainage must be provided to accommodate major storm flows. Detention systems must be constructed during the first phase of major developments in order to eliminate damage to adjacent properties during construction. If any of the detention systems used during construction are intended to be permanent stormwater control measures, they must be protected during construction by such measures as well maintained forebays or other measures approved by the Town Engineer.

c. Care must be taken to ensure that any required detention facilities do not become nuisances or health hazards. The design engineer should strive to design detention facilities which require minimal maintenance. The maintenance responsibility must be clearly stated on the plans. Where dual purpose facilities are provided, flat grades encountered, or poor drainage soils found, provisions for adequate low flow drainage may be required.

d. All required detention facilities and other stormwater control measures located in any development, within the corporate limits of Cornersville shall be within storm drainage easements and shall be maintained by the Property Owner or Property Owners Association. The Town shall not have responsibility for maintenance of detention facilities and other stormwater control measures unless agreed upon by the Board of Mayor and Aldermen of the Town of Cornersville. A plat recorded maintenance agreement that runs in perpetuity with the ownership of the property must be executed before the development plan is approved (see Appendix C).

e. Although this policy is primarily concerned with maintaining post-development peak outflow at the level of the predevelopment condition, it may be applied under certain conditions for the purpose of rendering an existing inadequate outfall acceptable. When

used in that fashion, such a facility may also aid in meeting the requirement for adequate drainage.

7. Design Criteria.
The design criteria for detention facilities should include:

a. Release Rate.
Control structure release rates shall approximate predevelopment peak runoff rates for the 10-year storm, with emergency overflow capable of handling the 100-year discharge except where waived or altered by the Town of Cornersville. Design calculations are required to demonstrate that the 10-year design storm is controlled. If so, intermediate storm return periods can be assumed to be adequately controlled.

b. Detention Volume.
Detention volume shall be adequate to attenuate the post-development peak discharge rates to in order to approximate predevelopment peak discharge rates. It is recommended that the storage indication method be used for reservoir routing calculations. If siltation during construction causes loss of detention volume, design dimensions shall be restored before as-built certification is submitted. Detention volume shall be drained within seventy-two (72) hours.

c. Grading and Depth.
The construction of detention facilities usually requires excavation or placement of earthen embankments to obtain sufficient storage volume. Vegetated embankments should be less than ten (10) feet in height and should have side slopes no steeper than 3:1 (horizontal to vertical). Riprap-protected embankments (or other armored slopes) should be no steeper than 2:1. Geotechnical slope stability analysis is recommended for embankments greater than three (3) feet in height and is mandatory for embankment slopes steeper than those given above. Procedures for performing slope stability evaluations can be found in most soil engineering textbooks.

1) Areas above the normal high-water elevation of detention/retention facilities should be sloped at a minimum of five percent (5%) toward the facilities to allow drainage and to prevent standing water. Careful finish grading is required to avoid creation of upland surface depressions that may retain runoff.

2) The bottom area of detention/retention facilities should be graded toward the outlet to prevent standing water conditions. A minimum two percent (2%) bottom slope is recommended. A low flow or pilot channel constructed across the facility bottom

from the inlet to the outlet is recommended to convey low flows, trap sediments, and prevent standing water conditions.

3) The maximum depth of storm water detention facilities will normally be determined during the design and permitting process. In general, the facility should not create a permanent pool of water.

4) Other considerations when setting depths include flood elevation requirements, public safety, land availability, and value, present and future land use, water table fluctuations, soil characteristics, maintenance requirements, and required freeboard.

5) Aesthetically pleasing features are also important. A minimum freeboard of 1 foot above the 100-year design storm high water elevation should be provided for impoundment depths of less than twenty (20) feet. Impoundment depths greater than twenty (20) feet are subject to the requirements of the Safe Dams Act of 1973, T.C.A. §69-11-101 et seq..

d. Outlet Works.

Outlet works selected for detention facilities typically include a principal spillway and an emergency overflow and must be able to accomplish the necessary functions of the facility. Outlet works can take the form of drop inlets or any combination of pipes, weirs, and orifices. Slotted riser pipes are discouraged, but curb openings may be used for parking lot storage. The principal spillway is intended to convey the design storm without allowing flow to enter an emergency outlet.

Selecting a magnitude for sizing the emergency outlet should be consistent with the potential threat to downstream life and property if the basin embankment were to fail. The sizing of a particular outlet work should be based on results of hydrologic routing calculations and should be consistent with criteria in previous sections.

e. Outlet Protection.

The designer must consider and provide for methods to dissipate energy and eliminate scour on the downstream side of detention basin outlet. The designer must first determine the need for outlet protection, provide design calculations, and show, by detail on the drawings, the outlet protection used.

Examples of acceptable outlet protection devices are riprap aprons, riprap outlet basins, and baffled outlets.

f. Protective Treatment.

Protective treatment may be required to prevent entry to facilities that present a hazard to children and, to a lesser extent, all persons. Fences may be required for detention areas where one or more of the following conditions exist:

1) Rapid stage changes would make escape practically impossible for small children.

2) Water depths either exceed two and a half (2.5) feet for more than 24 hours or are permanently wet and have side slopes steeper than 4:1 (horizontal to vertical).

3) A low-flow water course or ditch passing through the detention area has a depth greater than five (5) feet or a flow velocity greater than five (5) feet per second.

4) Side slopes equal or exceed 1.5:1 (horizontal to vertical).

5) Guards or grates may be appropriate for other conditions, but in all circumstances, heavy debris must be transported through the detention area. In some cases, it may be advisable to fence the water course or ditch rather than the detention area.

8. Policy on Drainage Affecting Sink Holes.

Due to the many drainage problems commonly associated with sink holes, it will be necessary for the developer to provide the following information prior to approval of any alteration of the natural drainage by our office:

a. The developer shall show proposed drainage channels onsite and off-site, to a point of acceptable discharge. The developer shall submit all necessary hydraulic calculations needed to show that off-site flooding will not be increased. Detailed drainage plans and hydraulic calculations are to be prepared by a registered civil engineer.

b. Detailed contours are to be shown for all sink holes that are to receive storm water runoff from this site. These contours are to have a maximum interval of two (2) feet and are to be verified by field surveys.

c. The developer shall provide the Engineering Division with a geologic investigation of all sink holes receiving storm water runoff from this site. This investigation shall be prepared by a registered engineer experienced in geology and ground water hydrology. The report shall contain the following:

1) Location and nature of underground aquifers

2) Estimated safe discharge from sink hole to aquifers

3) Potential siltation problems

4) Foundation problems that may be expected around sink hole

5) Details of drainage structures to be built in sink holes

6) Any other factors relevant to the design of drainage from sink hole

d. Any areas within the sink holes that would be flooded by a 100-year flood are to be shown on the plans, and no development will be allowed in this area.

e. If the sinkhole is used for stormwater storage, the area shall be dedicated as open space within the development and fully enclosed with an eight (8) foot security fence with two (2) - six (6) foot double-wide lockable gates before any building permits are granted or lots sold. Maintenance responsibility shall be the property owner or property owners' association. Maintenance responsibility shall not be the Town's unless agreed upon by the Board of Mayor and Aldermen. Standards for the construction of any drainage ditch/swale shall be according to those established by the Town of Cornersville and must meet approval of the Town Engineer.

9. Flood Plains.

a. Requirements.

Flood plain reports shall be required by the Town Engineer for stream not included in the Federal Insurance Administration study when the stream has a drainage area of one square mile or more. The flood plain report shall consist of plan and profile and calculations of water surface elevations. The plan view shall show the flood plain water surface limits, flood plain easement lines, base line, cross section stations, and adjacent boundaries. The profile should show stream invert, cross section stations, and computed water surface elevations. The report should also show the drainage divides on the plan and the ultimate zoning categories used in the calculations.

b. Flows.

All flood plains should be calculated for a quantity of runoff based on the 100-year design storm.

Method and Guidelines to Calculations.

Water surface elevations may be determined by the standard step method (STM). The designer may be required to use different values of roughness coefficients for the center of the stream and the overflow banks of each cross section. The method is a trial-and-error procedure throughout most of the flood plain.

General guidelines to performing calculations are as follows:

1) Select flood plain cross sections. Those sections should be selected based on the field-run topography and any existing and/or proposed hydraulic control sections. Cross sections are needed at flood plain contractions, expansions, sharp changes in invert slope, and where abrupt changes in channel roughness occur. Special care should be taken to include the effects of all major constructions (such as culvert crossings under roads, etc.) in computations. Distance along the base line between sections should not exceed three hundred (300) feet. Location of cross sections is subject to approval of the Town Engineer; therefore, cross sections selected should be coordinated with the Town Engineer.

2) Cross sections should be as nearly perpendicular to flood plain flow as possible. Base line should be located as closely as possible to the center of the flood area.

3) The roughness coefficients (n) utilized for hydraulic calculations for the flood plain are to be approved by the Town Engineer.

4) If the flood plain study is being prepared for a particular site or property, then the flood plain shall extend a minimum of three hundred (300) feet upstream and downstream from the particular site or property.

c. Water Surface Calculations.

Water surface calculations should begin where the energy and hydraulic gradient are known or can readily be obtained. Calculations should generally be performed in an upstream direction since flood plains are usually sub-critical flow throughout the entire flood plain. Once the water surface is established at the cross section, the water surface in the next cross section is assumed, the total y (distance to the E.G.L.) is calculated, and the energy balance between the two cross sections is computed. If the energy balance does not meet the required accuracy of +/- 0.2 feet, then assume another water surface elevation and repeat calculations. When the energy balance meets the required accuracy, the water surface elevation is established, and calculations may proceed between the next two cross sections.

d. Flood Plain Easement.

All flood plains, or portions of flood plains, that pass through a project site shall have a flood plain easement. The easement shall be placed around the water surface limits as published by the flood plain calculations. This easement shall be ties to the site boundaries in such a way that the easement could be established at the site. The flood plain easements shall be placed on the record plat, the site construction drawings, and flood plains study. However, only the record plat needs to have the metes and bounds of the easements and the boundary tie information. No use shall be made of, nor shall

any improvements be made in, the flood plain easement without the written approval of the Town Engineer.

e. Flood Plain Filling.
All filling permitted in the flood plain shall be limited to the flood fringe areas where flooding results in ponding rather than high velocity flows and where flooding would occur less frequently than in the open floodway. Where areas of backwater are to be filled, alternate storage capacity must be provided by dredging out an equal amount of storage area as occupied by fill. All dredged areas shall be stabilized immediately to prevent excessive sedimentation. Areas to be filled must be cleared of standing trees, stumps, brush, downed timber and all objects, including structures on and above the ground surface. Topsoil shall be removed and stockpiled while all other spoil materials must be disposed of off-site. Fill material shall be placed in compacted layers, and the minimum distance from the perimeter of any proposed building to the top of the slope shall be either twenty-five (25) feet or twice the depth of fill at that point, whichever is greater. The fill material must not have slopes steeper than 2:1:0, and all slopes shall be stabilized in accordance with probable velocities.

f. Elevated Structures.
Elevating structures on stilts provides necessary flood protection without significantly affecting the storage capacity of the flood plain. This method of flood protection should only be used in low-risk flood areas and where velocities are not too high. The structure must be designed to withstand any hydraulic forces which may occur and should have sufficient strength to withstand impact of floating debris. Structures can be elevated on piles, columns, stilts, or walls. Solid walls should be oriented with their longest dimension parallel to the flow. Columns, etc. shall have a minimum spacing of 8 feet and should be free of appendages or bracings that could restrict the passage of floating debris. Foundation support for stilts needs to be capable of resisting applied loads by utilizing devices such as spread footings and concrete mats. The effect of submergence of soil and water loads on the ground needs to be recognized. Possible flood scouring around stilts has to be prevented.

g. Dikes and Flood Walls.
The design of dikes and flood walls for flood protection purposes should cover several different aspects. The loss of storage capacity, possible surcharge in flood heights, overtopping, or failure must be considered during design. Dikes are generally earth embankments that can extend around sections of a building. Fill material used in their construction should be dredged from the flood plain to aid in providing alternate storage. The fill material must be placed on cleared ground, compacted in layers, and protected from seepage. Buildings shall have a minimum setback from the base of the

dike of twenty (20) feet or twice the height of the embankment, whichever is greater. Flood walls are preferred for locations with limited space and can be constructed as cantilever I-type steel piles, cellular walls, buttress walls, or gravity walls. Flood walls must be well-founded and cutoffs installed to prevent seepage. Areas located behind a dike or flood wall should be drained by conduits installed with automatic flap gates to prevent backflow or manually operated valves that are closed during flooding or combination thereof.

h. Additional Requirements.
Depending on the proposed project, the following items may also be required prior to issuance of a permit:

1) Flood Study (Hydraulic modeling)
2) United States Army Corp of Engineers Section 404 Permit
3) U.S. Fish and Wildlife Service-Endangered Species Act
4) FEMA Conditional Letter of Map Change (CLOMR)

This section indicates information that may need to be submitted after construction improvements, but prior to a Certificate of Occupancy.

5) Post-Construction Elevation Certificate (must be certified by a licensed State of Tennessee Engineer)
6) Flood proofing certification (must be certified by a licensed State of Tennessee Engineer or Architect)

Other Items:

7) Certification of Fill Placement (must be certified by a licensed State of Tennessee Engineer)
8) FEMA Approved Letter of Map Change (LOMC)
9) Submission to County Watershed Model updates

G. EROSION AND SEDIMENT CONTROL

1. Prior to any construction, including clearing and grubbing, taking place, a Storm Water Pollution Protection Plan (SWPPP) must be completed with a copy received by the Town. Copies of any permits or approvals required by the State of Tennessee or the Corps of Engineers must also be provided to the Town. The subdivider/developer shall submit a plan and schedule for soil erosion and sedimentation control to the Town Engineer for approval. The subdivider/developer shall provide necessary erosion control such as seeding for gentle slopes, grass sod for steep slopes, with special grading and terracing in accordance with the plans approved by the Town Engineer.

2. All freshly excavated embankment areas not covered with satisfactory vegetation shall be fertilized, mulched, and seeded and/or shall have laid sod as required to prevent erosion. Provisions shall be made to accommodate increased runoff caused by changed soil and surface conditions during development. Runoff shall be intercepted and safely conveyed to storm drains or natural outlets where it will not erode or flood land. Sediment basins shall be installed and maintained throughout development to collect sediment from runoff waters.

3. If the Town Engineer determines that the necessary erosion control is not being provided by the subdivider/developer, the Town Engineer or designee authorized by Town of Cornersville shall officially notify the subdivider/developer of the problem. If the subdivider/developer has not initiated mitigation action to provide satisfactory erosion control within fifteen (15) days after the notice, the Town may make the necessary improvements to eliminate the erosion problem documenting all expenses incurred. Prior to release of the financial surety instrument, all expenses incurred by the Town to mitigate erosion control problem shall be paid in full by the subdivider/developer. No development shall have the financial surety instrument released where an established permanent vegetative coverage of a minimum of seventy percent (70%) of the project's disturbed area has not been established.

H. WATER FACILITIES

1. Installation of Water Facilities.
   Where a public water main is within reasonable access of the subdivision, the applicant shall install water facilities, including fire hydrants, subject to the construction and materials specifications of the Town of Cornersville, or applicable utility provider. Fire flow requirements shall be as specified by the State Fire Marshal. The applicant shall determine the availability of sufficient firefighting water prior to submittal of the final site plan. Plans shall be approved by the Tennessee Department of Environment and Conservation, the Town of Cornersville, the Lewisburg Water and Sewer Utility District, and/or the State Fire Marshal where applicable.

2. General Requirements.

   a. Necessary action shall be taken by the applicant/subdivider to extend a water supply system capable of providing domestic water use and fire protection. The applicant/subdivider shall determine the availability of sufficient fire protection flow and pressure prior to submittal of the development plan. The utility provider providing water shall submit a letter to the Planning Commission verifying that they can and will furnish adequate potable water service.

b. All water systems, whether public or private, located in a flood-prone area shall be flood-proofed 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 discharge from the water system into floodwater.

c. New water mains in subdivisions shall be located in the road right-of-way or in a ten (10) foot utility easement behind the sidewalk. Two (2) inch water conduits will be installed on all long water service lines prior to paving streets.

3. Fire Hydrants.
Fire hydrants shall be required in all subdivisions. Hydrants shall be located no more than five hundred (500) feet apart by road and be within five hundred (500) feet of all residential, commercial, or industrial building envelopes or structures, whichever is applicable. The location of fire hydrants shall be approved by the Town of Cornersville's Fire Marshal and Lewisburg Water and Sewer Utility District, who may require variations from these requirements, including closer spacing of hydrants where physical conditions or types of structures so warrant. Town of Cornersville's Fire Marshal or authority having jurisdiction may consider increased spacing of fire hydrants in a proposed subdivision if proposed structures are fire sprinkled as set forth by the Town of Cornersville's adopted Fire Code. In general, the fire hydrants will be located in the landscape area between the curb and sidewalk.

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.

4. Valves. Valves are to be placed at all intersections of water mains but at no time greater than 1,000 feet apart.

5. Compliance.
All water systems shall comply with the general instructions and detailed specifications for construction of water projects of the Tennessee Department of Environment and Conservation, the Town of Cornersville, or the Lewisburg Water and Sewer Utility District, which are herewith adopted by reference. All water systems constructed within Cornersville shall comply with all applicable regulations of the State of Tennessee.

I. SANITARY SEWERAGE FACILITIES

1. General Requirements.

a. The applicant shall design and install sanitary sewer facilities in accordance with the rules, regulations, detail specifications, and standards, where applicable, of the Tennessee Department of Environment and Conservation, the Marshall Health Department, the State Department of Health and Environment and the Lewisburg Water and Sewer Utility District or applicable utility district. Plans shall be approved by the above agencies where applicable.

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

c. All public sanitary sewer systems shall be constructed utilizing materials approved by the utility provider.

2. Mandatory Connection to Public Sewer System or Provision for Future Connection.
Residential lots having an area of fifteen thousand (15,000) square feet or more, exclusive of public ways, may be permitted without the provision of public sanitary sewers, if such is not reasonably accessible, provided that an alternate method of sewage disposal is approved by the Marshall Health Department. Commercial and industrial development sites along existing publicly maintained streets, with no provision of additional streets providing frontage or access of any site being developed may be permitted without the provision of public sanitary sewers, if not reasonably accessible, provided that the plan of subdivision indicates the proposed use of the sites being developed and that an alternate method of sewage disposal for such use is approved by the Marshall County Health Department.

3. Specifications.
All sanitary sewer systems shall comply with the general instructions and detailed specifications for construction of sanitary sewer projects of the Tennessee Department of Environment and Conservation, the Town of Cornersville, or the applicable utility district, which are herewith adopted by reference. All sanitary sewer systems constructed within Cornersville shall comply with all applicable regulations of the State of Tennessee.

4. Individual Disposal System Requirements.
If public sewer facilities are not available and individual disposal systems are proposed, lot areas shall be a minimum of fifteen thousand (15,000) square feet and the septic systems and other waste disposal methods must be permitted by the Tennessee State Department of Environment and Conservation (TDEC).

The individual disposal system, including the size of the septic tank and size of the tile fields or other secondary treatment device(s), also shall be approved by the Marshall County Health Department and shown on the final plat.

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, excess of use, or unsuitable soil characteristics. If prohibited, the subdivider shall note on the face of the final plat and any deed of conveyances that soil absorption fields are prohibited in designated areas.

J. ELECTRIC FACILITIES

1. Underground Utilities.
   All electrical, telephone, and communication service lines located within any subdivision approved under authority of these regulations shall be placed underground unless otherwise permitted by the Planning Commission.

2. Exceptions.
   The following exceptions shall apply to the application of this section.

   a. Utility equipment utilized for vehicular or pedestrian traffic control purposes.

   b. Utility equipment appurtenant to underground facilities, such as service-mounted, pedestal-mounted, or pad-mounted transformers, terminal boxes, meters and meter cabinets.

   c. Fire hydrants and other utility equipment including fire department connections utilized exclusively for fire-fighting purposes.

   d. Communication transmission structures.

   e. Equipment installed by an electric or natural gas utility which should not be installed underground for engineering or safety reasons.

   f. Electrical transmission lines and switch gear.

3. Street Lighting.

   a. Necessary action shall be taken by the applicant to have street lights installed in new subdivisions. The Planning Commission shall not approve any final plat of a subdivision that does not provide adequate street lighting.

   b. Street lighting shall be LED (light emitting diode) fixtures as specified by Duck River Electric Membership and the Town of Cornersville. Streetlights shall be installed between the curb and sidewalk, unless otherwise approved by Duck River Electric Membership.

   c. The subdivider/developer shall bear all costs for the design and installation of streetlights in new subdivision.

   d. Street lighting shall be installed at applicant expense for design and construction by Duck River Electric Cooperative or applicable electric provider unless otherwise authorized by the electric provider.

K. RESERVED

L. LOCATION OF UTILITIES AND UTILITY EASEMENTS

All easements shall be located by bearings and dimensions or by coordinates. Specific requirements for utility and drainage easements are as follows:

1. Utility Easement

   Easements shall be provided where necessary for sanitary sewer, water mains, drainage, gas mains, electric lines, telephone lines, cable television lines, and other necessary services. The easement shall permit the utility service provider the perpetual ability to enter at any time to construct, install, maintain, repair, rebuild, operate, and patrol its electric, gas, water, wastewater, and telecommunication line(s) and all necessary appurtenances, in, on, over, under, and across the easement together with the right to clear said easement and keep it clear of brush, trees, structures, and fire hazards, and to remove dangerous trees, if any, located beyond the limits of the easement.

   The location of existing easements of record and easements created by bearings and distances in conjunction with plat approval shall be indicated on the final subdivision plat.

All final plats shall include a utility easement along the street frontage based on the street functional classification as depicted in Table 4.4.

Table 4.4 Frontage Easement Requirement by Street Classification	
Street Classification	**Frontage Easement (feet)**
Local Street	10
Collector Street	15
Arterial Street	20

Construction drawings for subdivisions and final site plans shall show existing easements of record and easements being created, and shall also indicate the proposed location of electric, gas, telephone, and cable television easements in order to avoid conflicts with new utility extensions.

M. COMMON OPEN SPACE

1. Reservation of Open Space.
   The Planning Commission encourages providing open space within a subdivision as a way to provide passive recreation to those living in the subdivision or to preserve unique environmental features. These regulations do not set a percentage of common open space area required to be provided. Any common open spaces shall be maintained by a homeowners' association or other third-party entity and shall not become part of the Town's park system. Only the Board of Mayor and Alderman of the Town of Cornersville may agree to accept open space into the Town's park system prior to the final plat approval.

2. General Guidelines for Providing Open Space.
   The configuration of proposed Common Open Space land set aside for common use by all residents in residential subdivisions, if there is determined to be an essential nexus between the open space and the potential impacts of the development, shall:

   a. Be free of all structures except historic buildings, stonewalls, and structures related to the open space uses. The Planning Commission may grant approval of structures and improvements required for storm drainage, sewage treatment and water supply within the open space provided that such facilities would not be detrimental to the intended use of the open space. The Planning Commission may also grant permission to construct small, modest buildings for recreational uses, such as park shelters, etc. as permitted by the Zoning Ordinance.

   b. Generally, not include parcels smaller than two (2) acres, have a length-to-width ratio of less than four-to-one (4:1), or be less than one hundred (100) feet in width, whichever is more restrictive shall apply, except such lands specifically designed as neighborhood greens, playing fields or trail links.

c. Be directly accessible to the largest practicable number of lots within the subdivision. Non-adjoining lots shall be provided with safe and convenient pedestrian access to Common Open Space.

d. Be suitable for active recreational uses to the extent deemed necessary by the Planning Commission.

e. Be interconnected wherever possible to provide a continuous pedestrian network within the subdivision and the subdivision's common open space. Developers shall provide for pedestrian circulation within the common open space area. Consideration shall be given to providing public access if such trails are linked to other publicly-accessible pathway systems within the Town. Non-pedestrian access shall be provided for common open space to allow for land management and emergency purposes.

f. Be undivided by public or private streets, except where necessary for proper traffic circulation and to ensure compliance with other applicable sections of these regulations.

g. Be suitably landscaped either be retaining existing natural cover and wooded areas and/or landscaping with native trees, shrubbery, and groundcovers.

3. Open Space Ownership Options.
The following methods may be used, either individually or in combination, to establish ownership of common open space or common facilities. Common open space and common facilities shall not be transferred by any means not outlined in this section and then only when there is no change in the common open space or common facilities or in the open space ratio of the overall development. Ownership methods shall conform to one of the following options.

a. Condominium Association. Common facilities may be controlled through the use of condominium agreements. Such agreements shall be in accordance with relevant state law. All open land and common facilities shall be held as "common elements".

b. Homeowners' Association. An incorporated community association responsible for the maintenance and management of commonly owned properties or facilities. Any land dedicated to a sewerage disposal system or a conventional stormwater management device that requires disturbance to the land shall be owned by the homeowner's association and shall be considered lands held in common.

c. Individual/Entity Ownership. An individual, a group of individuals, a nonprofit organization or a public body may hold a fee simple title to the common open space

not owned by the homeowners' association subject to use of the land in conformance with the Open Space Management Plan or granting of a permanent conservation easement to a third party.

4. Responsibility for Open Space Maintenance.
Unless otherwise agreed to by the governing body, the cost and responsibility of maintaining common open space and related improvements and facilities shall be borne by the property owner, condominium association, homeowners' association, or conservation organization.

   a. Open Space Maintenance Plan.
   The subdivider/developer shall, at the time of Preliminary Plat submission, provide a Plan for Maintenance of designated common open space and related improvements and facilities in accordance with the following requirements.

      1) The Plan shall define ownership;

      2) The Plan shall establish necessary regular and periodic operation and maintenance responsibilities for the various kinds of open space (i.e., stormwater control measures, lawns, playing fields, passive areas, woodlands, etc.);

      3) The Plan shall estimate staffing needs (if any), contractor needs (if any), insurance requirements, and associated costs, and define the means for funding the maintenance of the common open space and related facilities and improvements and the operation of any common facilities on an ongoing basis. Such funding plan shall include the means for funding long-term capital improvements as well as regular operating and maintenance costs;

      4) At the Town's discretion, the subdivider/developer may be required to escrow sufficient funds for the maintenance and operation costs of common open space and related facilities and improvements for up to one (1) year; and

      5) Any changes to the maintenance plan shall be approved by the Planning Commission.

   b. Maintenance of Natural Features.
   Natural features located on open space shall be maintained in their improved or natural condition. The cost and responsibility of maintaining open spaces and any facilities and improvements located thereon shall be borne by the property owner(s) as described in these regulations. Permitted modifications include:

      1) Reforestation

2) Woodland management

3) Pasture or cropland management on existing pasture and cropland

4) Buffer area landscaping

5) Stream bank protection and stabilization

6) Wetlands management

7) Trails management

c. Failure to Maintain and Corrective Action
In the event that the organization established to maintain the common open space and common facilities or any successor organization thereto, fails to maintain all or any portion thereof in reasonable order and condition, the Town may assume responsibility for maintenance. The Town many enter the premises and take corrective action, including extended maintenance. The costs for such corrective action may be charged to the property owner(s), condominium association, homeowners' association, conservation organization, or individual property owners who make up a condominium or homeowners' association and may include administrative costs and penalties. The Town may pursue such remedies as permitted by state law to recover administrative costs and penalties.

5. Homeowners' Association.
When common open space is to be held and owned by a homeowners' association the following provisions shall be established and membership in the association shall be mandatory for all purchasers of lots and homes in the development and their successors.

a. By-Laws. The homeowners' association by-laws, guaranteeing continuing maintenance of the open space and other common facilities, and the declaration of covenants, conditions, and restrictions of the homeowners' association shall be submitted to the Planning Commission as part of the information required for Preliminary Plat.

b. Required Information. The homeowners' association by-laws or the declaration of covenants, conditions, and restrictions of the homeowners' association are required to be submitted to the Planning Commission and shall contain the following information:

1) The legal description of the common land including all working agricultural uses as appropriate.

2) A description of common facilities.

3) The restrictions placed upon the use and enjoyment of the lands or facilities.

4) Persons or entities authorized to enforce the restrictions.

5) A mechanism to assess and enforce the common expenses for the land or facilities including upkeep and maintenance expenses, real estate taxes, property management, and insurance premiums.

6) A mechanism for resolving disputes among owners or association members.

7) The conditions and timing of the transfer of ownership and control of land and facilities from the subdivider/developer to the association.

8) Any other matter the subdivider/developer deems appropriate.

N. PUBLIC USES

1. Plat to Provide for Public Uses and Service Areas.
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. Due consideration shall be given to the allocation of areas suitably located and of adequate size for playgrounds and parks for local neighborhood use, as well as public service areas.

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.

a. Public Open Spaces. Where a school, neighborhood park or recreation area, shown on an official map or in a plan made and adopted by the Planning Commission or Town of Cornersville, is to be located in whole or in part within the subdivision, the Planning Commission may require the dedication or reservation of such open space up to a total of 10 percent of the gross subdivision area for park, school, or recreational purposes, if there is determined to be an essential nexus between the open space and the potential impacts of the development.

b. Easements. The Planning Commission may require easements for utilities and drainage of sufficient widths and lengths to permit access for the purpose of construction and maintenance by appropriate parties along the lines of, or across, lots.

c. Restriction of Access. When a subdivision fronts on an arterial street, the Planning Commission may require lots to be provided with frontage on a frontage road.

2. Referral to the Governmental Agency Concerned.

a. The Planning Commission shall refer any plat proposing public facilities such as school sites, playgrounds, etc., to the public body concerned with acquisition or maintenance of such facilities for its consideration and report. The Planning Commission may propose alternate areas for such acquisition and shall allow the appropriate governmental agency thirty (30) days for reply.

b. Among the areas which the Planning Commission may propose for public acquisition, when the Planning 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 procedures outlined herein.

c. 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.

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 a 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 developer in any manner whatsoever, except upon written approval of the Planning Commission.

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 the 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) month period 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.

O. MAIL KIOSK
The United States Postal Service (USPS) provides homes and businesses with mail delivery service. The USPS is responsible for establishing the method of delivery for all new developments – both residential and non-residential. The method of delivery may include the

type of mailbox to be utilized and the location of the mailbox for each delivery address. Centralized delivery may be required by USPS for new subdivisions to improve efficiency of delivery service. Freestanding, pedestal-style outdoor centralized mailboxes. The subdivider/developer shall notify the USPS regarding the proposed subdivision so that the USPS can determine the appropriate method of delivery regarding the type of mailbox to be utilized and the location of the mailbox for each delivery address. In the event USPS requires the installation of a centralized mailbox, the subdivider/developer shall provide a minimum of one (1) dedicated parking space for postal delivery and pickup. The subdivider/developer are responsible for the purchase, installation, maintenance, repair, and replacement of mailbox equipment in accordance with USPS requirements.

P. PRESERVATION OF NATURAL FEATURES AND AMENITIES

1. Existing features which would add value to development and the Town as a whole, such as trees, watercourses and falls, drainageways, historic sites, cemeteries, stone fences and similar irreplaceable assets, shall be preserved to the greatest extent possible in the design of the subdivision, as required by the Planning Commission. All natural features as well as individual large trees twelve (12) inches in caliper or larger, stone fences, historic buildings and sites, and other unique site features shall be indicated on the preliminary plat, construction plans, and final plat prior to their approval and prior to the initiation of grading and construction. No change of grade of the land shall be affected nor shall any natural features be removed or relocated until a Preliminary Plat and Construction Plan has been approved by the Planning Commission.

2. Preservation of Trees and Revegetation. No trees of caliper twelve (12) inches or larger measured 5 feet above the surrounding ground surface shall be removed if at all possible, and special attention shall be given to preserving larger trees.

Q. SURVEY MONUMENTS

Survey monuments are an essential by-product of the land subdivision process. Such monuments facilitate the resurvey of lands contained within the subdivision and provide survey control points for future cadastral and cartographic surveys and mapping. In each subdivision the subdivider/developer shall provide, at his expense, all survey monuments and documentation specified herein.

1. Permanent Monuments.

   a. A permanent survey monument shall be set behind the curb on the North and East side of every street and at least one monument shall be provided near each street intersection and located to provide inter-visibility with one or more monuments located on each of the intersecting streets. At least one monument shall be located at a point in the exterior boundary of the subdivision or subdivision addition. There shall be a minimum of two (2) such permanent monuments within every subdivision.

b. Permanent survey monuments shall be constructed of dense Portland cement, concrete, four (4) inches square, three (3) feet long, with a flat top, the top of each monument shall have an indented cross to identify the precise location of the survey point, and the top shall be flush with the finished grade of the surrounding surface or, in asphalt paved areas, flush with the finished grade of the pavement base.

c. Where deemed necessary by the Town of Cornersville, to ensure recovery of a survey point, a subsurface mark set in concrete, poured at the base of the concrete monument and plumbed to the surface mark, shall be required.

2. Semi-Permanent Monuments.
   a. All lot corners in the subdivision not set with a permanent monument shall be marked with an iron rod not less than five-eighths inch (5/8") in diameter and twenty-four inches (24") long, set flush with the finished grade of the surrounding surface.

   b. Upon completion of subdivision development, these metal rods shall be protected by one (1) or more flagged guard stakes.

3. Unauthorized Survey Marks.
   Survey reference marks, benchmarks, witness marks, or auxiliary corners which are unsightly or damaging to street pavements shall not be permitted. Any such unauthorized marks and corners shall be removed or repaired by the subdivider/developer at his expense.

4. Survey Documentation.
   The subdivider/developer shall provide to the Town of Cornersville a detailed description of all new and recovered permanent survey monuments lying within or on the boundary of the subdivision. Each description shall include:

   a. A physical description of the monument.

   b. Instructions for locating the monument with respect to a fixed prominent landmark.

   c. Survey data in addition to that shown on the Final Plat which shall, when available, consist of adjusted plan coordinates and elevation, survey precision and accuracy, and datum to which coordinates and elevation refer.

R. NONRESIDENTIAL SUBDIVISIONS

1. General.
   If a proposed subdivision includes land which is zoned for a commercial or industrial purpose, the layout of the subdivision which 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 as set forth in the applicable 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 Major Road and Street Plan and Zoning Ordinance.

2. Standards.
In addition to the requirements of these 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 patter proposed is specifically adapted to the uses anticipated and considers other uses in the vicinity. The following principles and standards shall be observed:

   a. Proposed industrial parcels shall be suitable in areas and dimensions to the types of nonresidential development anticipated.

   b. Public way rights-of-way and pavements shall be adequate to accommodate the type and volume of traffic anticipated.

   c. Special requirements may be imposed by the governing body with respect to any public way, curb, gutter, and sidewalk design and construction specifications.

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

   e. 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 permanent landscape buffers, when necessary.

   f. Public ways carrying nonresidential traffic, especially trucks, normally shall not be extended to the boundaries of adjacent existing and potential residential areas.

S. NAME OF SUBDIVISION AND STREETS

1. Name of Subdivision and Streets.
For all subdivision and all public and private street names the proposed name of the subdivision or streets within the subdivision shall not duplicate or too closely approximate phonetically, the name of any other subdivision or street in Marshall County.

2. Street Names.
Proposed streets which are obviously in alignment with others already existing and names 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 Marshall County E-911 shall have the authority to approve or disapprove street names and if necessary, determine and may assign names to public rights-of-way on submitted plats.

3. Signage Requirements.
   All signage shall conform to the requirements of the Town of Cornersville. 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 mounting, height, size, and legibility as permanent signs but may be mounted on temporary structures. The installation of temporary street name signs, including the signs required for temporary dead-end streets and for greenway easement signs in accordance with these standards, shall be verified by written developer/contractor certification to the Town of Cornersville before authorization for building permits may be granted.

4. Street Name Signs.

   a. Installation Requirements. The developer shall purchase and install appropriate signs. Written confirmation of this placement shall be required from the Town of Cornersville prior to the recording of a final plat.

   b. Surety. The developer may post a financial surety in lieu of the improvements prior to the recording of the final plat. Street sign sureties shall be a part of the original surety covering streets, drainage, utilities, and other public improvements.

   c. Notes. All subdivision plats that require street name signs, temporary dead-end street signs as described in these regulations, and/or greenway easement signs as described in these regulations, shall require a note stating: "No building permit may be issued on any lot until street name signs, temporary dead-end street signs, or greenway easement signs are installed and verified by the Town of Cornersville on all streets on which the lot depends for access."

   d. Planned Developments. Within Planned Developments that require street name signs, but do not require the recording of a final plat, the signing requirements shall be specified in the conditions of approval for the Planned Development.

5. Regulatory and Warning Signs.

   a. Installation Requirements. The developer shall purchase and install appropriate signs. Written confirmation of this placement shall be required from the Town of Cornersville prior to the recording of a final plat. All signs shall be installed in accordance with the latest edition of the MUTCD.

b. Surety. The developer may post a financial surety in lieu of the improvements prior to the recording of the final plat. Street sign sureties shall be a part of the original surety covering streets, drainage, utilities, and other public improvements.

6. Street Names, Regulatory and Warning Signs for Private Streets.

a. Installation Requirements. The developer shall purchase and install appropriate signs. Written confirmation of this placement shall be required from the Town of Cornersville prior to the recording of a final plat. All signs shall be installed in accordance with the latest edition of the MUTCD.

b. Notes. All subdivision plats that require street name signs, temporary dead-end street signs as described in these regulations, and/or greenway easement signs as described in these regulations, shall require a note stating: "No building permit may be issued on any lot until street name signs, temporary dead-end street signs, or greenway easement signs are installed and verified by the Town of Cornersville on all streets on which the lot depends for access."

c. Planned Developments. Within Planned Developments that require street name signs, but do not require the recording of a final plat, the signing requirements shall be specified in the conditions of approval for the Planned Development.