2011

DRAFT AMENDMENTS TO THE SUBDIVISION
REGULATIONS
OF
CHATTAHOOCHEE COUNTY, GEORGIA

EFFECTIVE
2011

by
River Valley Regional Commission
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SECTION 1

GENERAL PROVISIONS

(A) TITLE

These regulations shall hereafter be known, cited and referred to as the Subdivision Regulations of Chattahoochee County, Georgia.

(B) DECLARATION OF POLICY

It is declared to be the policy of the Board of Commissioners of Chattahoochee County to consider land subdivision plats as part of its program for the orderly, efficient and economical development of Chattahoochee County. This means, among other things, that land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health, or peril from fire, flood or other menace; that proper provision shall be made for drainage, water supply, sewerage and other needed improvements; that all proposed lots shall be so laid out and of such size as to be in harmony with the development pattern of the neighboring properties; that the proposed streets shall compose a convenient system conforming to the Official Map, shall be properly related to the proposals shown on the Comprehensive Plan, and shall be of such width, grade and location as to accommodate the prospective traffic, to facilitate fire protection and to provide access of fire fighting equipment to buildings.

(C) PURPOSES

These regulations are adopted for the following purposes:

(1) To protect and provide for the public health, safety and general welfare.

(2) To encourage the development of economically sound and stable land developments.

(3) To assure the provision of required streets, utilities, and other facilities and services to land developments.

(4) To assure the adequate provision of safe and convenient traffic access and circulation, both vehicular and pedestrian, in land developments.

(5) To assure, in general, the wise development of new areas in harmony with the Comprehensive Plan of the community.
(6) To assure coordination of improvement plans and programs within Chattahoochee County.

(7) To assure proper legal description, identification, monumentation and recordation of real estate boundaries.

(8) To assure equitable handling of all subdivision plats by providing uniform standards and procedures.

(9) To protect individuals from buying lands which are not suited for intended purposes because of lot size, access or flood hazards.

(D) AUTHORITY AND ADOPTION

(1) These subdivision rules and regulations are adopted as an ordinance by the Board of Commissioners of Chattahoochee County.

(2) The Planning Commission of Chattahoochee County shall be the official platting authority, and no plat of land subdivision shall be entitled to record in the Office of the Clerk of Superior Court of Chattahoochee County unless it shall have the approval of the approval of the Planning Commission inscribed thereon. The filing of a plat of a subdivision without the approval of the Planning Commission as required by this ordinance is declared to be a misdemeanor.

(E) JURISDICTION

(1) These subdivision regulations shall apply to all subdivisions of land, as described herein, located within Chattahoochee County, Georgia.

(2) No developer shall proceed with any construction work on a proposed subdivision, including grading, before obtaining preliminary plat approval from the Planning Commission as certified thereon, and approval of construction plans and profiles by the County Engineer.

(3) No land dedicated as a public street or other public purpose shall be opened, extended or accepted as a public street or for any other purpose, and no subdivision of land shall be made, nor shall any subdivision plat or part thereof be recorded before obtaining approval from the Planning Commission. All public streets shall be subject to the approval of the Chattahoochee County Board of Commissioners. Said approval shall be entered in writing on the final plat prior to filing such plat with the Clerk of Superior Court of Chattahoochee County, Georgia.
(4) No building permit or certificate of occupancy shall be issued for any parcel or plat of land which was created by subdivision after the effective date of, and not in conformity with, the provisions of these subdivision regulations, and no excavation of land or construction of any public or private improvements shall take place or be commenced except in conformity with the regulations.

(E) **FEES**

Fees related to matters pertaining to this ordinance are established by the Board of Commissioners and posted in the Building Department. Currently located in (Section 5 Administration (H))

Unified Government of Cusseta-Chattahoochee County has established the following schedule of fees, as authorized under Code of Georgia Section ____, to cover costs associated with the inspection and review of subdivision development. The total fee is dependent on the size and type of subdivision. The schedule below is a guide to the charges that will be incurred by the developer at a minimum. The developer is responsible for all charges, including inspection and testing, incurred by the county during the subdivision approval process. The fee schedule is as follows:

| Proposed Plat Review Fee | \_
|-------------------------|-------------------|
| Lot Fee                 | \_
| Road Fee                | \_

(G). **ENFORCEMENT AND VIOLATIONS**

SECTION G-1  AMENDMENTS
SECTION 2
DEFINITION OF TERMS

Unless otherwise expressly stated, the following terms shall, for the purpose of these regulations, have the meaning indicated. Words in the singular include the plural, and words in the plural include the singular. The word "person" includes a corporation, unincorporated association and a partnership as well as an individual. The word "building" shall be construed as if followed by the words "or part thereof." The word "street" includes road, highway, boulevard, and lane; and "watercourse" includes drain, ditch, and stream. The words "shall" or "will" are mandatory, the word "may" is permissible.

1. **Access.** Deeded portion of property or lot that provides travel way to a city, county, or state road. All access must have sixty (60) foot minimum width from the city, county, or state road to the building site. {Exclusions to this requirement can be found in section 5-6.}

2. **Applicant.** The owner of land proposed to be subdivided or a person designated in writing by the legal owner as his or her representative.

3. **Application Assembly.** The packet of materials that the developer is required to submit with his or her application for proposed plat approval.

4. **Block.** A piece or parcel of land entirely surrounded by public streets or by other man-made or natural boundaries such as railroad tracks or waterbodies.

5. **Board of Commissioners.** The legislative body of the Unified Government of Cusseta-Chattahoochee County, Georgia.

6. **Building.** Any structure built for the support, shelter, or enclosure of persons, animals, chattels, or movable property of any kind, and includes any structure.

7. **Building Setback Line.** A line establishing the minimum allowable distance between the nearest portion of any building, excluding steps, gutters, and similar fixtures, and the property line when measured perpendicular thereto.

8. **Comprehensive Plan.** Comprehensive Plan adopted 2007 by the Board of Commissioners of the Unified Government of Cusseta-Chattahoochee County.

9. **Construction Plans.** Plans detailing the design and requirements for the construction of public improvements. These plans shall detail such items as the location of all existing and proposed roads, plan and profiles of all roads, curve data, hydraulic data, etc. (See section 4-2 for complete list of items required.)
(10) **Corner Lot.** A lot which occupies the interior angle at the intersection of street lines.

(11) **County.** The County of the Unified Government of Cusseta-Chattahoochee County.

(12) **County Administrator.** The duly designated Administrator or Clerk of the Unified Government of Cusseta-Chattahoochee County.

(13) **County Commission.** The County Commission of the Unified Government of Cusseta-Chattahoochee County.

(14) **County Engineer.** An engineer, licensed and registered in Georgia, retained by Chattahoochee County to perform the duties of county engineer as therein specified.

(15) **County Specifications.** All construction specifications which are included in these regulations and any special specifications required by the County Engineer or other state or local entity based upon the particular development.

(16) **Cul-de-sac.** A street intersecting another street at one end and permanently terminated by a vehicular turn-around at the other. A minor street with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

(17) **Day.** A calendar day.

(18) **Dedication.** The transfer of property from private to public ownership.

(19) **Depth of Lot.** The mean horizontal distance between the front and rear lot lines.

(20) **Developer.** The owner of land proposed to be subdivided or any person, firm, corporation, syndicate or other entity designated _________ by the legal owner as his or her representative who subdivides or develops any land deemed to be a subdivision as herein defined.

(21) **Development.** The design work of lot layout, the construction of drainage structures, the construction of buildings or public use areas, the planning construction of public streets and public roads, and the placement of utilities, and may other applicable construction or improvement required or included in a certain subdivision project.

(22) **Double Frontage Lot.** A continuous (through) lot of the same depth as the width of a block containing two (2) tiers of lots and which is accessible from both of the streets upon which it fronts.

(23) **Driveway.** A minor private way used by vehicles and pedestrians for access to a single lot.
(24) **Dwelling Unit.** A building or portion thereof arranged or designed for occupancy by not more than one family for living purposes and having cooking, sleeping and sanitary facilities.

(25) **Easement.** A grant by the property owner for use, by the public, corporation, or a person, of a strip of land for specified reasons or as created by operation of law.

(26) **Engineering Plan.** A post construction record giving details of construction and locations of improvements as they were built or installed.

(27) **Final Plat.** A complete and exact subdivision plan which meets the requirements of these regulations prepared for official recordation as required herein in the office of the ____________.

(28) **Flood.** A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers or other waters.

(29) **Flood Plain Area.** The area or low land adjacent to the channel of a river, stream, watercourse, lake or other water body that is susceptible to periodic inundation. (The Unified Government of Cusseta-Chattahoochee County Flood Damage Prevention Ordinance restricts development in the 100-year flood plain, which refers to the land which would be inundated by a flood resulting from a storm that on the average, a one (1) percent chance of being equaled or exceeded in any given year.

(30) **Floodproofing.** Any combination of a structural or nonstructural additions, or changes, or adjustments which reduce or eliminate flood damage to real property, or improved real property, water supply and sanitary sewer facilities, electrical systems, and structures and their contents.

(31) **Floodway.** The stream channel and the portion of the adjacent floodplain which must be reversed solely for the passage of flood-waters in order to prevent an increase in upstream flood heights of more than one (1) foot above the predevelopment conditions. For the purpose of these regulations, floodways shall be defined and governed by the County’s Flood Damage Prevention Ordinance.

(32) **Group Development.** A subdivision of land consisting of two or more buildings, sites, or units which is not subdivided into customary lots, blocks or streets and thus is contained on one common parcel. This type of development shall not only be on a common parcel but shall also have a common owner who shall be responsible for all infrastructure and drainage within the development. A building footprint shall be the maximum boundary allowed to be transferred, sold or leased in this type of development.

(33) **Health Department.** Georgia State Department of Public Health or the Unified Government of Cusseta-Chattahoochee County Health Department.
(34) **Land Subject to Flooding.** For the purpose of these regulations, land subject to flooding shall be defined in the County’s Flood Damage Prevention Ordinance.

(35) **Licensed Engineer.** An engineer properly licensed and registered in the State of Georgia in good standing with the Georgia State Board of Licensure for Professional Engineers and Land Surveyors.

(36) **Licensed Inspector.** The person or persons appointed by the County Commission to enforce the county’s subdivision regulations pursuant to Code of Georgia ______________ utilizing the authority granted to a license inspector under Code of Georgia ________________.

(37) **Licensed Lot Surveyor.** A land surveyor properly licensed in the State of Georgia in good standing with the Georgia State Board of Licensure for Professional Engineers and Land Surveyors.

(38) **Lot.** A portion of a subdivision or any other parcel of land intended as a unit for transfer of ownership, whether immediate or future, or lease to, or separate use of, another, or for building development. The word "lot" includes, but is not limited to, the words "plot" or "parcel", “tract”.

(39) **Lot Area.** The area contained within the property lines of the individual parcels of land as shown on a subdivision plat, excluding space within any street right-of-way, but including the area of any easement.

(40) **Lot Remnant.** A portion of land below the minimum lot size as prescribed for the zoning district in which it is located.

(41) **Marginal Access.** A service road or other treatment used to provide adequate protection of properties in cases where an arterial runs through or near a subdivided area.

(42) **Monument.** A permanent object serving to indicate a limit or to mark a boundary.

(43) **Owner.** Any person, group of persons, firm or firms, corporation or corporations, or any other legal entity having legal title to or sufficient proprietary interest in the land sought to be subdivided under these regulations.

(44) **Owner’s Engineer.** The licensed engineer who is the agent of the owner or developer of land which is proposed to be subdivided or which is in the process of being subdivided.

(45) **Permit to Develop.** An instrument issued by the County Engineer following the approval of a proposed plat by the County Commission and which authorizes the developer to proceed with the development of the subdivision.

Preliminary Plat. A tentative subdivision plan indicating the proposed layout of subdivision as required herein.

Public Road. A street or road that has been constructed for public use, established by statutory proceedings, or dedicated for public use. A public road may or may not be a county road.

Resubdivision. A combination or recombination of previously recorded lots or tracts of contiguous land for the purpose of creating new lots. A change in a map of an approved or recorded subdivision plat if such change affects any street layout on such map or area reserved thereon for public use, or any lot line; or if it affects any map or plan legally recorded prior to the adoption of any regulations controlling subdivisions. Lot line changes may be addressed through the administrative subdivision process.

Reverse Frontage Lot. A lot extending between and having a frontage on an expressway or arterial and a minor or local street, and with vehicular access solely from the latter.

Single Tier Lot. A lot which backs upon a limited access highway, a railroad, a physical barrier, a major arterial, a nonresidential use, and to which access from the rear of the lot is usually prohibited.

Sketch Plan. A freehand drawing of a proposed subdivision.

State Road. Public road owned or maintained by the state of Georgia.

Street. A way for vehicular traffic whether designed as a street, highway, thoroughfare. Road, avenue, boulevard, lane, place, or however otherwise designated. Streets are classified as follows:

Street, Arterial. A road or street that accommodates a high volume of traffic. Access may be limited and signalization may be used to maximize traffic flow. Highest order or street classification. Received collector streets.

Street, Connector. A street supplementary to the major state and U.S. Highway Systems running throughout the country and primarily a means of interconnection between this system and smaller areas.

Street, cul-de-sac. A short street designed to have one end permanently closed. The closed end is terminated by a vehicular turnaround.

Street, Dead-end. A street having no outlet at one end.
(59) **Street, Highway, Road.** A road or street that forms a part of the existing or projected Federal Aid Highway System or the State or County Highway System.

(60) **Street, Local.** A street, the principal purpose of which is to provide vehicular access from properties abutting it to a collector street.

(61) **Street, Major Collector.** A street or highway of considerable continuity which is primarily a traffic artery for interconnection among large areas designed to carry heavy volumes of traffic.

(62) **Street, Minor Collector.** A street designed to carry medium volumes of vehicular traffic, provide access to the major street system, and collect the vehicular traffic from the intersecting streets.

(63) **Street, Parallel Access.** A (service) street which parallels and is immediately adjacent to a major street or highway, and which provides access to abutting property and provides control of access to the major street.

(64) **Street, Private.** A road or street that is not publicly owned and maintained and which is used for access by the occupants of a development, their guests, and the general public.

(65) **Street, Public.** See Public Road.

(66) **Street Centerline.** That line surveyed and monumented or accepted by Chattahoochee County as the centerline of the street; or in the event no centerline has been so determined, that line running midway between and generally parallel to the direction of the outside right-of-way lines of the street.

(67) **Subdivider.** Any person who (1) having an interest in land, causes it, directly or indirectly, to be divided into a subdivision or who (2), directly or indirectly, sells, leases, or develops, or offers to sell, lease, or develop, or advertises for sale, lease, or development, any interest, lot, parcel, site, unit, or plat in a subdivision, or who (3) is employed by or directly or indirectly controlled by, or under direct, or indirect common control with any of the foregoing.

(68) **Subdivision.** Division of a tract or parcel of land into two or more lots, tracts, parcels, or other divisions of land for the purpose, whether immediate or future, of sale or building development. The following shall not be considered subdivisions within the meaning of this ordinance:

(a) divisions of two or more lots where each lot has a minimum of five (5) acres and a minimum of 200 feet of frontage on an existing public street, if no new streets are created and the resultant lots meet the standards of the Unified Government of Cusseta-Chattahoochee County Zoning Ordinance;
(b) divisions of property for testamentary or intestate provisions if the resultant lots meet the standards of the Unified Government of Cusseta-Chattahoochee County Zoning Ordinance;

(c) divisions of property upon court order, including but not limited to judgments of foreclosure if the resultant lots meet the standards of the Unified Government of Cusseta-Chattahoochee County Zoning Ordinance;

(d) consolidation of existing lots by deed or other recorded instrument;

(e) divisions of property owned by multiple owners where the property is to be deeded individually to several owners and otherwise complies with the provisions of this ordinance and the Unified Government of Cusseta-Chattahoochee County Zoning Ordinance; and

(69) Subdivision – Exempt. Any division of land not classified as a subdivision.

(70) Subdivisions – Major. Any subdivision not classified as a minor subdivision.

(71) Subdivisions – Minor. The following shall be deemed minor subdivision:

(a) Any subdivisions or resubdivisions which will not involve the construction of any new public streets, publicly developed drainageways, or the extension of public utilities, and is not in conflict with the Unified Government of Cusseta-Chattahoochee County Comprehensive Plan, these regulations, the county Zoning Ordinance, or other applicable regulations as officially adopted.

(b) Where a building exists on each proposed lot, tract, parcel, site or plot of land in the subdivision, provided that the owner certifies on the plat that all such existing buildings were constructed prior to the adoption of these Regulations and that such plat is submitted to the Planning Commission for a full staff review which shall be noted on theplat.

(c) Where the combination or recombination of portions of previously platted lots where the total number of lots, tracts, parcels, sites, or plots of land is not increased and the resultant lots, tracts, parcels, sites, or plots of land are equal to the standards of this Ordinance, the Zoning Ordinance, or applicable regulations or ordinances as officially adopted by the county.

(72) Surety. Any bond, certificate of deposit, irrevocable letter of credit, cashier check, or other acceptable guarantee as approved by the Unified Government of Cusseta-Chattahoochee County Commission or their authorized agent.

(73) Surface Drainage Plan. A drawing showing all present and proposed grades and facilities for storm water drainage.
(74) **Variance.** Permission to depart from the literal requirements of these subdivision regulations by virtue of unique hardship due to special circumstances regarding property to be developed. A waiver of the strictest letter of the regulations upon substantial compliance without sacrificing the spirit and purpose of the regulations.

(75) **Watercourse.** Any depression serving to give direction to a flow of water, having a bed and defined banks. The definition shall also include other generally or specifically designated areas where flooding may occur. The flow of water need not be on a continuous basis, but may be intermittent resulting from the surface runoff of precipitation.

(76) **Width of Lot.** The mean horizontal distance between the two side lot lines.
SECTION 3

PROCEDURES FOR SECURING APPROVAL OF SUBDIVISIONS

(A) INTRODUCTION

Whenever any subdivision of land is proposed to be made, or before any contract for the sale of, or any offer to sell any lots in such subdivision or any part thereof is made, or before any permit for the erection of a structure in such proposed subdivision shall be granted, the developer or his duly authorized agent, shall apply for approval of such proposed subdivision in accordance with the following procedures.

(B) NONRESIDENTAL SUBDIVISIONS

1. General. If a proposed subdivision includes land that is zoned for commercial or industrial purposes, the layout of the subdivision with respect to the land shall make provision as the Planning Commission may require. A nonresidential subdivision shall also be subject to all the requirements of site plan approval set forth in the Zoning Ordinance. Site plan approval and nonresidential subdivision plat 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 required by the Planning Commission, and shall conform to the proposed land use and standards established in the Master Plan, Official Map, and Zoning Ordinance.

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

   a. Proposed industrial parcels shall be suitable in area and dimensions to the types of industrial development anticipated.
   b. Street rights-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated to be generated thereupon.
   c. Special requirements may be imposed by the local government with respect to street, curb, gutter, and sidewalk design and construction.
   d. Special requirements may be imposed by the local government with respect to the installation of public utilities, including water, sewer, and storm water drainage.
(C) OPTIONAL PRE-APPLICATION PROCEDURE

(1) At his option, a developer may prepare a sketch plan of the proposed subdivision for review by the Planning Commission and County Engineer, if deemed necessary by the Planning Commission. The sketch plan should include the tentative layout of streets, the total acreage of the proposed development and the approximate number of acres to be devoted to each use if more than one use is being considered, the approximate number and size of lots, any unusual topographical features, such as watercourses, ground water recharge area wetlands; and any and all areas located within the flood hazard areas as defined in the Flood Plain Ordinance of Chattahoochee County, Georgia.

(2) The sketch plan and all discussions regarding it will be considered as being confidential between the developer and the Planning Commission and County Engineer.

(3) Favorable consideration by the Planning Commission under no circumstances shall be construed as preliminary or tentative plat approval.

(D) SUBMISSION OF PRELIMINARY PLAT

(1) Application

a. Prior to filing of an application for the approval of a final plat which includes the dedication and acceptance of a new public street or other public improvement the developer shall file an application for consideration of a preliminary plat of the proposed subdivision. A preliminary plat is not required, but is permitted, for subdivisions that do not include the dedication and acceptance of a new public street or other public improvement, in this case, developers may proceed directly to final plat procedures.

b. The subdivider or his agent shall submit at least six (6) black or blue line prints drawn at a scale no smaller than one hundred (100) feet to one (1) inch of the proposed subdivision to the Planning Commission for its review. The Planning Commission may send one copy to the County Engineer for informational and review purposes.

c. Preliminary Plats shall be submitted to the County a minimum thirty (30) days prior to the next regularly scheduled Planning Commission meeting.

(2) Information to be Submitted

Preliminary plats shall, at a minimum, show the following:

a. Proposed subdivision name or identifying title.
b. Name of the owner of the land to be subdivided or his authorized agent, if any, **name of adjacent property owners or subdivisions** and of the developer, if other than the owner of the land.

c. Date, north point, scale and identification of land district and land lots.

d. Existing streets, utilities, easements, watercourses, and structures on the tract.

e. Lot and/or block numbers in consecutive order.

f. Total number of lots and acreage in proposed development.

g. Contours drawn at five (5) foot intervals or as may otherwise be approved by the Planning Commission.

h. Any and all land located within a flood hazard area as defined in the Flood Plain Ordinance of Chattahoochee County, Georgia, **ground recharge area and wetlands**, as defined by the Georgia Department of Natural Resources.

i. A sketch of the prospective future street system of the un-submitted part when the preliminary plat submitted covers only a part of the developer's entire holdings.

k. Developer letter stating that the proposed plat is being submitted for review. This letter shall state the developer’s intent as to the final ownership of any new roads included on the proposed plat, if applicable. (The developer is reminded to refer to Appendix ___ for the County’s Road Acceptance Policy.

(3) **Planning Commission Review of Preliminary Plats**

Before acting on the preliminary plat, the Planning Commission may request a report from any person or agency directly concerned with the proposed development such as the District Highway Engineer, the County Engineer, West Central Georgia Regional Health Department, the county Water Superintendent, the Superintendent of Schools, and public utility companies. Such reports shall certify compliance with or note deviations from the requirements of these regulations and include comments on other factors affecting the public interest. The Planning Commission is responsible for securing said reports.

(4) **Preliminary Plat Approval**

a. The Planning Commission shall take action to approve, with or without modifications, disapprove or table until the next regularly scheduled Planning Commission meeting a preliminary plat at the regularly scheduled meeting of the Planning Commission at which the preliminary plat has been properly placed upon the agenda. A preliminary plat shall be tabled by the Planning
Commission only if the Planning Commission finds that more information is needed prior to Planning Commission action. A preliminary plat may be tabled only one time unless substantial new information is presented at the subsequent meeting.

b. If the Planning Commission disapproves or approves conditionally the preliminary plat, the reasons for such action shall be stated in writing and reference shall be made to the specific sections of the regulations with which the preliminary plat does not comply. Notification shall be prepared by the Planning Commission staff and forwarded to the applicant.

(E) SUBMISSION OF CONSTRUCTION PLANS

(1) After obtaining approval of the preliminary plat, the developer or his agent shall submit six (6) black or blue line prints (or a number as specified by the County Engineer) of construction plans as outlined below to the County Engineer for his review. Sanitary sewer systems are under the jurisdiction of the West Central Georgia Regional Health District and plans shall be submitted to that department as required by law or as is otherwise necessary to obtain final plat approval as required herein.

(2) Detailed construction plans shall be prepared by an engineer registered and licensed in the State of Georgia and shall be prepared in accordance with the design specification set forth in these regulations.

(3) Construction plans shall, at a minimum, consist of the following:

a. A field measured topographic map drawn at two (2) foot intervals showing existing and proposed contours.

b. Layout plans and centerline profiles for each proposed public street or private street extension.

c. Layout and profiles of storm drain pipes and structures along with information on any adjacent property such as, but not limited to, topography and structures which might affect the design of the aforementioned utilities.

d. Design specifications for any bridges or culverts which might be incorporated into the proposed subdivision.

e. Design specifications for sanitary sewer systems as required by the West Central Georgia Regional Health District.

f. Results and locations of percolation test for on-lot sewage systems.
g. Complete curve data for all horizontal and vertical curves. To include delta angle, radius, tangent and P.C. and P.T. stations for horizontal curves, and length of curve, tangent grades, PVC and PVT stations for vertical curves.

h. The design speed used in computing curve data for subdivisions is 30 MPH.

i. The design speed for collector streets is 45 MPH.

j. The design speed for major arterial streets is 55 MPH.

k. Hydrology and hydraulic report of pre-construction and post-construction development for the entire site is required.

l. Soil erosion and sediment control plan for the disturbed area (portions) of the site. All plans must meet State standards for land disturbing activity permits.

m. Clearing and disturbance-grubbing limits.

n. Standard details for construction (structures, drainage, roadway, etc.).

(4) PERMIT TO DEVELOP

Following the approval of the Proposed Plat by the Planning Commission, the County Engineer shall issue a Permit to Develop for the Proposed Plat. The Permit to Develop allows the developer to proceed with construction of the development in compliance with these regulations. Additionally, the developer may offer lots in the proposed subdivision for sale, transfer; or lease; provided, however, that no sale, transfer, or lease may be completed or recorded until after the final plat has been recorded in the office of the Probate Judge pursuant to the requirements of Code of Georgia ______.

(5) CONSTRUCTION OF PROPOSED SUBDIVISION

Once the permit to develop has been issued, the developer may proceed with construction of the proposed subdivision in accordance with these regulations.

The developer shall have one (1) year from the date of issuance of the permit to develop to begin substantial work on the proposed development. If work does not begin within the one (1) year time frame, the proposed plat must be resubmitted to the County Engineer and Planning Commission for approval as if the plat had never been submitted.

If any changes in the development plans of the approved proposed plat are required for any reason, the developer shall submit the proposed changes to the County Engineer prior to construction or implementation of the proposed changes.
Approval of the County Engineer shall be required before any changes are constructed. Any changes or deviations from the approved proposed plans prior to the County Engineer’s approval shall be in violation of these regulations and shall be subject to removal or correction at the expense of the developer.

Changes to the proposed subdivision construction plans that do not change the overall layout of the subdivision may be reviewed and approved by the County Engineer without the requirement of the proposed plat having to be resubmitted for approval by the Planning Commission. Any changes that do change the overall layout (i.e. addition of lots and/or addition of roads) of the subdivision shall require the proposed plat to be resubmitted for approval by the Planning Commission.

(F) SUBMISSION OF FINAL PLAT

(1) Application

a. No street shall be accepted and maintained by Chattahoochee County, Georgia nor shall any permit be issued by any department in Chattahoochee County for the construction of any building or other improvement requiring a permit unless and until a final plat prepared by a licensed and registered land surveyor or of the State of Georgia, has been approved by the Planning Commission.

b. The developer or his agent shall acquire the signatures of the land surveyor or engineer, licensed and registered in the State of Georgia, the owner, or his duly authorized agent, of the tract to be subdivided, and as required herein, the Public Health Inspector before submitting the final plat to the Planning Commission for its review. Chattahoochee County staff shall obtain the signature of the County Engineer. Six (6) black or blue line prints of the final plat (or a number as specified by the Planning Commission) shall be submitted.

c. The final plat shall conform substantially to the preliminary plat and shall constitute only that portion of the approved preliminary plat which the developer proposes to record and develop at that time.

d. The final plat shall be drawn at a scale no smaller than one hundred (100) feet to one (1) inch and shall be drawn on a sheet not less than eight and one half (8 ½) inches by eleven (11) inches and not larger than eighteen (18) inches by twenty-four (24) inches in width, with a margin on one end of two (2) inches for binding
purposes and one-half (1/2) inch margin on the other three (3) sides. If the final plat is drawn in two (2) or more sections, it shall be accompanied by a key map showing the location of the sections and their relationship to one another.

e. All plats shall conform to the Georgia Plat Act, as amended.

f. Final Plats shall be submitted to the County a minimum of thirty (30) days prior to the next regularly scheduled Planning Commission meeting.

(2) Information to be Submitted

a. The final plat shall show the following information:

1. Name of the owner of the tract to be subdivided.

2. Name of the subdivision.

3. North point, scale, date and legal land lots and land districts.

4. The names of all adjacent subdivisions and record owners of unsubdivided property adjoining the proposed subdivision.

5. Block and lot numbers in consecutive order. Lots and blocks shall be numbered and continue, without duplication, throughout the subdivision.

6. Total number of lots, the acreage each lot, acreage of the section being platted and the total number of acres.

7. Lot lines and dimensions with accurate bearings.

8. Location and material of all permanent monuments and lot markers.

9. All areas to which title is reserved by owner.

10. The location of all watercourses, streams, creeks, or wetlands and groundwater recharge areas adjoining or within the proposed subdivision.

11. Easements for utilities and limitations on such easements.
12. Names and accurate locations of all existing and proposed streets within or immediately adjoining the proposed subdivision.

13. Accurate dimensions and bearings of all street lines.

14. Accurate distances and directions to the nearest street corner or official monument. Reference corners shall be accurately described on the plat.

15. Complete data for all horizontal curves included in the plat, including radius, delta angle, and tangent.

16. Flood: Hazard Ordinance

17. Location of Existing Streets, R.O.W. and public utilities and drainage structures.

18. Name, signature, seal of registered surveyor.

b. All dimensions shall be measured to the nearest one hundredth (1/100) of a foot and angles to the nearest minute.

(3) Final Plat Approval

a. Before acting on the final plat, the Planning Commission may request reports from any person or agency directly affected by the proposed development. At a minimum, the Planning Commission shall obtain from the County Engineer a signed statement that the proposed street names (except in the case of extension of existing streets) do not duplicate the names of streets now in existence. Such reports shall certify compliance with or note deviations from the approved preliminary plat and requirements of these regulations. The Planning Commission shall be responsible for securing said reports.

b. A final plat shall be submitted to the County Engineer for approval of the proposed subdivision after:

(1) All infrastructure construction or required improvements are complete for a subdivision;

(2) An acceptable surety is provided to the county as detailed in Article VII to cover the expense of the required infrastructure/improvements. The amount of the surety shall be as detailed herein for roads seeking county acceptance.
At the point that the final plat is submitted for approval, the developer shall remit and submit each of the following:

(1) All testing and inspection charges required under Section ________ of these regulations as authorized in Code of Georgia ______________.

(2) A final as-built set of plans or certification from the owner’s engineer that there were no changes to the approved construction plans;

(3) One (1) copy of the Final Plat as approved by the County Engineer prepared on a suitable permanent reproducible mylar; to include all necessary signatures except the County Engineer, County Commission Chairman, and Probate Judge;

(4) A letter from the Health Department detailing field review for the general lot layout has been completed;

(5) A digital copy of the plat in an acceptable format as deemed by the Unified Government of Cusseta-Chattahoochee County Revenue Commissioner.

Final plat approval does not include the acceptance of roads. If the developer desires to have the roads accepted into the county road system by the county commission, he or she shall comply with the procedures for road acceptance set out in Appendix ____. Subdivisions seeking county acceptance for infrastructure shall be required at this point to submit an acceptable performance bond or surety in the amount of 150% of the cost of any improvements not in place at the time of final plat application and an acceptable surety in the amount of 5% of the total construction costs to serve as a maintenance bond. Estimates for bond calculation shall be submitted and approved by the County Engineer prior to bond submittal.

Once the final plat has been signed and recorded pursuant to these regulations and Code of Georgia ______, the developer may proceed with the actual sale, transfer, or lease of any lots, sites, etc. No building development shall take place until the final plat has been recorded in the office of the Judge of Probate pursuant to these regulations and Code of Georgia ____________.

b. Should the Planning Commission fail to act on the final plat within sixty (60) days after its submission, such plat shall be deemed to
have been approved. The applicant, however, may waive the provision of this clause and consent to the extension of said period.

c. If the Planning Commission disapproves the final plat, the reasons for such action shall be stated in writing and reference shall be made to the specific section of these regulations with which the plat does not comply. Notification shall be prepared by the Planning Commission and forwarded to the developer or his agent.

d. The following certifications shall be shown on the final plat:

1. Pursuant to the Subdivision Regulations of Chattahoochee County, Georgia, all requirements of approval having been fulfilled, this final plat was given final approval by the Planning Commission on ____________, 20__. This plat is approved for recording in the office of the Clerk of the Superior Court of Chattahoochee County, Georgia.

_________________________
Chairman, Chattahoochee County Planning Commission

_________________________
Secretary, Chattahoochee County Planning Commission

2. Streets and storm drainage design, construction plans, and easements meet the requirements of the Board of Commissioners of Chattahoochee County, Georgia, and are approved by the County Engineer of Chattahoochee County, Georgia on ________________, 20__. 

By: _________________________
County Engineer

3. Certification, with seal, by a Land Surveyor or Engineer, licensed and registered in the State of Georgia to the effect that the survey and plat are correct and in accordance with the Subdivision Regulations and Plat Law.

"In my opinion, this is a correct representation of the land platted and has been prepared to conformity with the minimum standards and requirements of the law." On ________________, 20__. 

By: _________________________
Georgia Registration Number: ________________

4. Owner's Certification
"The owner of the land shown on this plat and whose name is subscribed hereto, in person or through a duly authorized agent, certifies that this plat was made from an actual survey."

Agent: ______________________  Owner: ______________________

Date: ______________________  Date: ______________________

5. Certificate of approval by the West Central Georgia District (when on-site water supply or sewage disposal systems are to be utilized).

"Requirements for use of on-lot sewage disposal and/or water systems have been fulfilled. Each lot and system is subject to approval prior to development/construction."

By: ______________________  Date: ______________________
West Central Georgia Health District Inspector

(4) Acceptance of Improvements and Requirements for Performance Bond or Certified Check

a. Before the plat is signed by the Chairman of the Planning Commission, all applicants shall be required to complete all improvements as required by these regulations.

b. If the developer does not wish to construct and install required public improvements as described herein prior to submitting the subdivision plat to the Planning Commission for final approval, a performance bond shall be required. Such bond shall be equal to the estimated cost of construction of the incomplete improvements. A certified check may be placed in escrow with Chattahoochee County in lieu of performance bonds. When construction has been completed and approved in accordance with the requirements herein, the Board of Commissioners shall release ninety-five (95) percent of the funds in escrow with a letter of approval to the developer. The remaining five (5) percent shall remain in escrow for a period of two (2) years to cover compliance against failure.

c. The performance bond shall comply with all statutory requirements and shall be satisfactory to the County Attorney as to form, sufficiency, and manner of execution as set forth in these regulations. The period within which the required improvements
must be completed shall be incorporated in the bond and shall not in any event exceed three (3) years from date of final plat approval.

(5) **Filing of Final Plat by Clerk of Superior Court**

a. The final plat shall be properly signed and executed as required by these regulations before it is recorded by the Clerk of the Superior Court of Chattahoochee County, Georgia.

b. Certificate of Approval for Recording on the Final Plat is as stated in Section 3(E)(2)(d)(1) of these Regulations.

c. When the approved plat has been recorded, three (3) copies of the plat with the restrictive covenants, if any, shall be furnished by the developer to the Planning Commission staff for distribution to the appropriate departments of the County.

(6) **Replat or Resubdivision of Existing Subdivisions of Record**

The replatting or resubdivision of land shall follow the procedures, rules and regulations required by this ordinance.
SECTION 4

GENERAL REQUIREMENTS AND MINIMUM STANDARDS
OF DESIGN AND CONSTRUCTION

(A) GENERAL REQUIREMENTS

In addition to the requirements specified in the Appendix “Roadway and Subdivision Specifications, Chattahoochee County, Georgia” subdivisions must all meet the following requirements:

(1) Conformity to Map and Plans

Subdivisions shall be in conformity with the existing and/or amended plans of the Planning Commission and Board of Commissioners and the Georgia Department of Transportation.

(2) Subdivision Names

Subdivision names shall not duplicate or be confused with existing names. All subdivision name changes are subject to approval by the Planning Commission.

(3) Conformity to Mapped Streets Ordinance and Transportation Plan. The location and width of all proposed streets shall be in conformity with the Roadway and Subdivision Specifications for Chattahoochee County.

(B) STREET LAYOUT

(1) Access to Adjacent Properties

a. Where, in the opinion of the County, it is desirable to provide for street access to an adjoining property, proposed roadways shall be extended by dedication to the boundary of such property and joined with the existing roadways where such exists, or with other proposed roadways. Where no roadway exists or where the adjoining property is in alignment with a proposed roadway, a temporary turn around shall be provided at the boundary of said property.

b. In the event adjacent properties are separated by a watercourse or stream and where the adjoining property line runs to a centerline of the stream or watercourse, the County Engineer shall require that street access to adjoining property be provided. The first developer shall construct said streets to the edge of the stream or watercourse and shall provide sufficient
bond or escrow account to adequately cover one-half the estimated cost of the proposed public crossing facility. Such bond or escrow account shall be held by Chattahoochee County for a period not to exceed two (2) years. If after such period, work has not commenced on the second subdivision, such funds shall be returned to the first developer. The second developer shall be responsible for completing the crossing (with the bond or escrow funds if work is initiated within the two year period).

(2) Discouragement of Through Traffic

Subdivisions shall be laid out so as to discourage through traffic on local streets. However, the provision for the extension and continuation of arterial and collector streets into and from adjoining areas is required. Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission shall require marginal access streets, single tier lots, or such other treatment as will provide protection for abutting properties, reduction in the number of intersections with the arterial street, and separation of local and through traffic.

(3) Private Streets

There shall be no private streets or access easements platted in any subdivision, except as provided in Section 5(C).

Section 4.3.1 – Required Improvements; Private Streets.

A. **Applicability.** Private streets, reserve strips, or access easements are prohibited except in multi-family and nonresidential developments, or as otherwise approved by the County Commission on a case-by-case basis.

B. **Compliance.** Private streets shall comply with all requirements and standards that apply to public streets for the type of development that they serve. Streets serving apartment and condominium developments and associated storm drainage shall be constructed to the residential public street standards of this Ordinance. Driveways and parking lot aisles shall not be considered as “streets”.

C. **Owner’s Release.** At the time of purchasing property that is served by a private street that is constructed using standards that are the same as those required for public streets, upon any sale or resale of a property, the purchaser shall acknowledge by execution of a release that the street is private and not maintained by the City, and that maintenance of the street is the responsibility of the owner or other private association or entity identified in the release. The release is to be prepared using a form acceptable to the Attorney to the Columbus Consolidated Government and shall be recorded with the Clerk of the Superior Court.

D. **Other Standards.** A private street subdivision shall meet all other requirements and standards that apply to public subdivisions, such as storm water runoff and detention requirements, the provision of utilities, and traffic and street name signs.

1. **Identification of Private Streets.** Private streets shall be denoted as such on the street name signs for each such street.
(A) **Names of Proposed Streets.** Proposed streets, which are extensions of, or in alignment with, existing or other proposed streets shall have the same name.

(B) **Duplication of Street Names.** Street names shall not duplicate or be phonetically similar to existing street names.

(C) **Signs.** Street name signs shall be blue in color and labeled as private along with the street name, in accordance with City requirements.

2. **Gates.** Any gate placed across a private street that limits access to a subdivision or development shall provide for unimpeded access by emergency vehicles, governmental vehicles on official business, and delivery services including the U.S. Postal Service. Accessibility to such gated communities shall comply with all standards and requirements of the City for access activation, and shall be of breakaway construction.

(5) **Street Names**

a. Proposed streets which are extensions of, or in alignment with, existing or other proposed streets shall bear the same name. In no case shall the name of the proposed street duplicate or be phonetically similar to existing street names, irrespective of the suffix (street, boulevard, drive, place, court, etc.).

b. All street names shall be subject to the approval of the Chattahoochee County Board of Commissioner.

(C) **STREET DESIGN STANDARDS**

See Roadway and Subdivision Specifications of Chattahoochee County, Georgia.

(D) **BLOCKS**

Block lengths and widths shall be as follows:

a. Blocks shall not be greater than 1,800 feet nor less than 400 feet in length, except in unusual circumstances.

b. Blocks shall be wide enough to provide two tiers of lots of minimum depth except where abutting upon major streets, limited access highways, or railroads or where other situations make this requirement impractical.

(E) **LOTS**

(1) **Lot Sizes**
Residential lots shall meet the area requirements necessary for adequate sewer treatment and water availability and for compliance with the Chattahoochee County Zoning Ordinance, the intent of the Chattahoochee County Comprehensive Plan, and the rules and regulations of the West Central Georgia Health District. Depending on the results of soil percolation tests, topography, or other limiting conditions, the size of lots required may change. The developer or his agent shall consult with the West Central Georgia Health District before establishing a lot size and designing a subdivision for any area within Chattahoochee County. Commercial and industrial lots shall be adequate to provide service areas and off-street parking suitable to use as intended and to meet zoning requirements. Residential corner lots shall have adequate width to meet building setback requirements from both abutting streets.

(2) **Lots Abutting Public Streets**

Each lot shall abut a dedicated public street by at least 50 feet. Each lot shall meet the minimum driveway sight distance requirements of the Geometric Design Standards of the Georgia Department of Transportation.

(3) **Lot Width**

Lot width shall not be less than minimum road frontage required by zoning district and shall not narrow between the right-of-way and building line.

(4) **Double and Reverse Frontage Lots**

Double frontage and reverse frontage lots should be avoided except where essential to provide separation of residential development from traffic arteries or to overcome specific disadvantages of topography and orientation.

(5) **Building Lines**

All building lines shall meet the setback requirements established in the Chattahoochee County Zoning Ordinance.

(F) **BUFFER STRIPS**

In addition to meeting the minimum lot requirements specified in the Zoning Ordinance, all lots adjacent to railroads, limited access highways, major arterials, commercial and industrial development, and airport facilities shall be provided with a minimum twenty (20) foot wide buffer strip on the side adjacent to the aforementioned items unless otherwise approved by the Planning Commission. Within the buffer strip, the building of structures is prohibited. Unless it can be demonstrated beyond a reasonable doubt that
existing trees and shrubs are detrimental to the health, safety, and welfare of the potential resident, the removal of trees and shrubs in this area is prohibited.

See Roadway and Subdivision Specifications for other requirements.
SECTION 5
SPECIFIC CONSTRUCTION SPECIFICATIONS

Sec. 1. STREET DESIGN, STANDARDS, EASEMENTS, DRAINAGE, ETC.

(A) General requirements.

(1) Continuation of adjoining street system. The proposed street layout shall be coordinated with the street system of the surrounding area, with the topography, with such natural features as streams and tree growth, with public convenience and safety, and with the proposed use of the land to be served by such streets.

(2) Access to adjacent properties. Where, in the opinion of the county, it is desirable to provide for access to an adjoining property, proposed roadways shall be extended by dedication to the boundary of such property and joined with the existing roadways, where such exists or with other proposed roadways. Where no roadway exists or where the adjoining property is in alignment with a proposed roadway, a temporary turnaround shall be provided at the boundary of said property.

(B) Street design standards.

The design standards which shall be as follows:

(1) Right-of-way widths. Minimum right-of-way widths shall be as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>120 feet</td>
</tr>
<tr>
<td>Collector</td>
<td>80 feet</td>
</tr>
<tr>
<td>Subdivision</td>
<td>60 feet</td>
</tr>
</tbody>
</table>

(2) Pavement widths. Pavement widths plus curb and gutter widths (when applicable) shall be not less than the following:

a. Arterial:

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/curb and gutter</td>
<td>53 feet (back to back of curb)</td>
</tr>
<tr>
<td>w/out curb and gutter</td>
<td>24 feet (w/12 ft. shoulder)</td>
</tr>
</tbody>
</table>

b. Collector:

<table>
<thead>
<tr>
<th>Type</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/curb and gutter</td>
<td>45 feet (back to back of curb)</td>
</tr>
<tr>
<td>w/out curb and gutter</td>
<td>24 feet (w/10 ft. shoulder)</td>
</tr>
</tbody>
</table>

c. Subdivision streets:
d. Base thickness: Six inches minimum residential, all others by design

e. Pavement thickness: Two inches minimum residential, all others by design

(3) Grades.

a. Roadway grades shall not be more than 12 percent nor less than 0.5 percent, unless approved by the county.

b. Grades approaching intersections may not exceed eight percent for a distance of not less than 100 feet from the centerline of said intersection unless otherwise approved by the county.

(4) Horizontal curves. Where a centerline deflection angle of more than five degrees occurs, a circular curve shall be introduced, having a centerline radius of not less than the following:

<table>
<thead>
<tr>
<th>Roadway Type</th>
<th>Radius (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial roadways</td>
<td>500</td>
</tr>
<tr>
<td>Collector roadways</td>
<td>350</td>
</tr>
<tr>
<td>Subdivision roads</td>
<td>150</td>
</tr>
</tbody>
</table>

(5) Vertical curves. All vertical curves shall have such length as necessary to provide safe stopping sight distance. The stopping sight distance shall be specified as a line of sight measured along the centerline from a point 3.75 feet above the surface of the pavement to a fixed object six inches in height. The following distances are examples of various speeds. For speeds not shown, calculate the stopping sight distance using formulas recommended by the Institute for Traffic Engineers (ITE).

<table>
<thead>
<tr>
<th>Design Speed</th>
<th>Stopping Sight Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mph</td>
<td>150 feet</td>
</tr>
<tr>
<td>30 mph</td>
<td>200 feet</td>
</tr>
<tr>
<td>40 mph</td>
<td>275 feet</td>
</tr>
<tr>
<td>50 mph</td>
<td>350 feet</td>
</tr>
</tbody>
</table>

(6) Tangents. There shall be a tangent of at least 100 feet between reverse curves, unless otherwise approved by the county.
Intersections. Roadway shall intersections shall be laid out as follows:

a. Roadways shall intersect as nearly as possible at right angles, and no streets intersect at less than 60 degrees.

b. Intersections with arterial roadways shall be at least 800 feet apart measured from centerline to centerline.

c. Street jogs shall not be less than 125 feet measured from centerline to centerline.

d. Proper sight lines shall be provided and maintained at all intersections. Measured along the centerline, 3.75 feet above grade, there shall be a clear sight distance triangle of 300 feet on major arterials, 200 feet on collector roadways, and 100 feet on subdivision roadways, measured from a point of the centerlines intersection.

Temporary turn-around. A temporary turn-around, 40 feet in radius, shall be where the logical extension of a subdivision roadway is terminated.

Easements.

Utility and other easements shall be provided as follows:

1. When the county deems it necessary, utility easements shall be provided. All easements shall be a minimum of ten feet in width. All easements accepted by the county for utility construction shall be cleared, grubbed and graded by the subdivision developer.

Prior to installation of waterlines, a developer will be required to provide the county with a layout plan and specifications for construction utilizing and accepted waterline easement plan. During construction, it will be necessary for the county to make periodic inspections and to observe the pressure testing when water is placed in the lines. Following all approved inspections, specifications regarding materials and tests, the county will accept the water mains for maintenance and will operate in accordance with the rights granted in the respective water line easements.

The developer will provide to the county’s attorney an acceptable title opinion to easement property.

2. Where a subdivision is traversed by a natural or manmade watercourse, drainage way, channel, or stream, or a storm water easement or drainage right-of-way
conforming substantially to the lines of such watercourses, drainage way, channel, or stream shall be provided as determined by the county.

(D) **Storm Drainage.**

(1) Storm drainage shall be designed for 25 year return frequency storms. Detention ponds shall be designed for the 100 year return frequency.

(2) Every subdivision shall be served by storm drainage facilities, including drains, sewers, catch basins, culverts and other facilities as required by standards and specifications of the county.

(3) Drainage facilities shall be located in the road right-of-way where feasible, or in perpetual unobstructed easement of appropriate width.

(4) Use of catch basins at road intersections are specified and shall be arranged in such a manner that will not permit water to cross intersection. Unless otherwise specified by the county, cross drainage of roadways or intersections via valley gutter is prohibited.

(E) **Water supply.**

(1) When, in the written opinion of the Georgia Department of Natural Resources through the local health department and the county water works, public water supply is within a reasonable distance, the subdivider shall install or have installed a system of water mains and connect to such supply. The installation shall be prior to the paving of the street. The public water supply shall be installed by the county public works department, but at the developer’s cost.

(2) Where a public water supply is not available, each lot in a subdivision shall be furnished with a water supply acceptable to and approved by the Georgia Department of Natural Resources through the local health department.

(F) **Inspection during construction.**

The contractor shall provide all testing designated by the county. All construction performed under the auspices of these regulations shall be subject to inspection by the county. The contractor shall be responsible for notifying the county in writing prior to commencement of any such work. If the contractor fails to make this notification, he shall then be responsible for the expense of any operation or laboratory testing by the county to ascertain compliance with specifications.
Acceptance of improvements.
The county shall have the authority to reject any material or work does not meet the requirements of specification adopted by the county.

Guarantee of work.
The developer shall guarantee all work performed by him or his agent against failure for a period of two years after completion of work. To insure compliance with the above, a maintenance bond in an amount determined by the county shall be posted.

Specification note.
These specifications refer to “contractor and developer”. In these specification, they are interchangeable and/or one in the same. The engineer or inspector is any agent or individuals so designated by the chairman of the county commission.

Additional requirement.
The subdivision developer shall be required to secure necessary permits for connecting new subdivision construction to existing federal, state, and county highways. The developer will construct all approaches, acceleration/deceleration lanes, drainage, and pavement in accordance with approval plans and permits. The developer will be required to provide the county with a letter of approval of the connection to existing highway. Also, the developer is required to meet all specification and requirements of the U.S. Soil and Water Conservation Service and the Georgia Department of Natural Resources.

Construction specifications.

After the effective date of these regulations, the county will not accept any dedicated improvements until the improvements have been completed by the subdivider of the subdivision in conformance with construction plans approved by the county in accordance with these regulations.

SPECIFIC CONSTRUCTION SPECIFICATIONS

Specific construction specifications are described in the following Section 1 through Section 31:

Sec. 1 – Temporary silt fence.
Sec. 2 – Clearing and grubbing right of way.
Sec. 3 – Roadway excavation.
Sec. 4 – Borrow excavation.
Sec. 5 – Excavation and backfill for minor structures.
Sec. 6 – Subgrade construction.
Sec. 7 – Graded aggregate base.
Sec. 8–10 – Omitted.
Sec. 11 – Bituminous prime.
Sec. 12 – Bituminous tack coat.
Sec. 13 – Miscellaneous concrete.
Sec. 14 – Concrete structures.
Sec. 15 – Storm drain pipe-arch culverts and side drain pipe.
Sec. 16 – Rip rap.
Sec. 17 – Jacking or boring pit.
Sec. 18 – Coarse aggregate.
Sec. 19 – Omitted.
Sec. 20 – Backfill materials.
Sec. 21 – Omitted.
Sec. 22 – Hot mix asphaltic concrete mixtures.
Sec. 23 – Cement.
Sec. 24 – Admixtures.
Sec. 25 – Concrete pipe.
Sec. 26 – Steel pipe.
Sec. 27 – Omitted.
Sec. 28 – Pipe appurtenances.
Sec. 29 – Precast concrete catch basin, drop inlet, and manhole units.
Sec. 30 – Grassing.

Sec. 1 - Temporary silt fence.

1.01 Description. The work covered by this section consists of furnishing, installing, maintaining, and removing a water permeable filter type of fence suspended particles from the drainage.

1.02 Materials.

A. Posts. Posts shall be a minimum of five feet long and either wood or steel posts may be used. Wood posts shall be at least three inches in diameter, or nom, two X four and straight enough to provide a fence without noticeable misalignment. Steel posts shall have a minimum weight of 1.3 pounds per foot, and have projections for fastening wire to the fence.

B. Woven wire fence. Wire fence fabric shall be at least 32 inches high, and shall have at least six horizontal wires. Vertical wires shall be spaced 12 inches apart. The top and bottom wires shall be at least ten gage. All other wires shall be at least 12 ½ gage.

C. [Filter fabric.] Filter fabric shall be composed of strong rot-proof synthetic fibers formed into a fabric of either the woven or nonwoven type. Either type of fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation. The fabric shall contain stabilizer and/or inhibitors to make the filaments resistant to deterioration resulting from exposure to sunlight of heat. The fabric shall be a pervious sheet of synthetic fibers oriented into a stable network so that the fibers retain their relative position with respect to each other.

The fabric shall meet the following physical requirements:
Physical Requirements

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Test Method</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>ASTM D1682 Grab Test using 1” square jaws and a travel rate of 12”/minute</td>
<td>100 lbs. min</td>
</tr>
<tr>
<td>Grab Elongation</td>
<td>ASTM D1682 Grab Test using 1” square jaws and a travel rate of 12”/minute</td>
<td>30% + - 10%</td>
</tr>
<tr>
<td>EOS (Equivalent Opening Size)</td>
<td>Corps of Engineers Guide Specification CW 022115, November, 1977</td>
<td>100 Sieve min, 40 Sieve max</td>
</tr>
<tr>
<td>Ultraviolet Stability</td>
<td>ASTM D1682 Grab Test using 1” square jaws and a travel rate of 12”/minute. Test to be made after 180 days direct exposure to sunlight on a horizontal plane.</td>
<td>80 lbs. min</td>
</tr>
<tr>
<td>Bursting Strength</td>
<td>ASTM D751 Diaphragm Bursting Tester</td>
<td>175 psi min</td>
</tr>
</tbody>
</table>

The contractor shall furnish certified test reports with each shipment of material attesting that the fabric meets the requirements of this specification.

D. *Wire staples for wooden posts.* Wire staples shall be a No. 9 gage and shall be at least 1½ inches long.

1.03 **Installation.** The contractor shall install temporary silt fence as shown on the plans or as directed by the engineer.

1.04 **Maintenance and removal.** The contractor shall maintain the silt fence until the project is accepted or until the fence is removed, and shall remove and dispose of silt accumulations at the silt fence when so directed by the engineer. Filter fabric shall be removed and replaced whenever it has deteriorated to such extent that it reduces the effectiveness of the silt fence.

Sec. 2 - Clearing and grubbing right of way.

2.01 **Description.** This work shall consist of clearing, grubbing, removing and disposing of all vegetation and debris within the limits of construction and easement areas adjacent to the right of way as shown on the plans, or as directed by the engineer, except such objects as are designated to remain or are to be removed in accordance with other sections of these specifications.

2.02 **Construction.**

A. **General.** The contractor will establish right of way lines and construction lines and designate all trees, shrubs, plants and other things to remain. The contractor shall preserve all things designated to remain.
B. **Clearing.** Clearing consists of the removal from the right of way lines and proper disposal of all exposed objectionable matter such as trees, brush, stumps, logs, grass weeds, roots, decayed vegetable matter, poles, stubs, rubbish, refuse dumps, sawdust piles, loose boulders of one cubic yard or less existing outside of construction limits, and other debris resting on or protruding through the ground surface, or appearing on the right of way at any time before final acceptance of the work.

C. **Grubbing.**

1. **Definition.** Grubbing consists of the removal from the right of way and proper disposal of objectionable matter defined above under clearing, which is embedded in the underlying soil.

2. When items are removed as clearing and grubbing, they shall be removed to the following depths:

   (a) Under pavements. Remove to a depth of at least three feet below finished subgrade.

   (b) Beneath other structures. Remove to a depth of at least three feet below the foundations of any proposed structure including installations such as guardrail posts, utility poles, and the like.

   (c) Elsewhere in the right of way. Remove to at least three feet below the finished surface of slopes and shoulders, and one foot below natural ground outside construction lines. Abandoned structures remaining in place which may impound water, such as concrete floors, basements, catch basins, and the like, shall be thoroughly cracked or otherwise broken where they are present within ten feet of finished grade. Floor and the like shall be broken to the extent that no section exceeding ten square feet remains intact.

3. Areas adjacent to selected trees and shrubs shall be grubbed whenever grubbing can be done without damage to the living roots of the selected trees or shrubs.

4. **Combustible material.** All combustible material except sawdust piles may be burned on the right of way except where prohibited by local air pollution control regulation. Burning on the right of way shall be done so as to prevent fire from spreading to adjacent areas and to prevent damage to living trees and shrubs which are to remain in place, either on or off the
right of way. Care shall also be taken to prevent damage to all public and private installations either within or adjacent to the right of way and to the traveling public.

All burning of right of way material shall be permitted by the proper agencies of the Georgia Department of Natural Resources and/or the Georgia Forestry Commission.

Sec. 3 - Roadway excavation.

3.01 General. Roadway excavation shall consist of the exaction, hauling and satisfactory placement of disposal of all material. This work shall also include all ditch excavation with the exception of channel excavation.

All suitable materials excavated from ditches shall be utilized in the construction of roadway embankments except where otherwise directed by the engineer.

Material excavated from the ditches which is unsuitable for roadway construction shall not be deposited or allowed to remain within three feet of the edge of the ditch. Such material shall not be left in unsightly piles, but shall be spread in uniform layers neatly leveled and shaped. Adequate openings shall be provided in spoil banks to allow surface drainage of adjacent land. When shown on the plans or required by the engineer, surface ditches of adequate dimensions shall be cut at the tops of cut slopes, extending to each end of the cuts in order to carry the water from the side hill. Side ditches or gutters emptying from cuts to embankments shall be turned outward so as to avoid erosion of the embankments.

When excavation operations encounter artifacts of historical or archaeological significance, such operations shall be temporarily discontinued and not resumed until directed by the engineer.

All material to be excavation, regardless of its nature or composition, shall be defined as unclassified excavation, unless otherwise specified on the plans. All suitable material removed in the excavation shall be used as far as practicable in formation embankments, subgrades and shoulders and at such other places as may be on the plans or directed by the engineer. The engineer will designate materials which are unsuitable.

3.02 Erosion and siltation control. The contractor shall take whatever measures necessary throughout the life of the project to control erosion and to minimize silting of rivers, streams and impoundments. Construction of drainage facilities as well as performance of all other contract work which will contribute to the control of erosion and siltation shall be carried out in conjunction with earthwork operations.

3.03 Rock excavation. Rock, wherever encountered, shall be removed and disposed of as shown on plans or as directed by the engineer. In a cut, when rock is encountered, any flattening of the slope already begun shall be transitioned to leave the cut with a pleasing appearance.
3.04  **Unsuitable material excavation.** When the engineer determines that the existing material is undesirable in its location or condition, the engineer may require the contractor to remove the undesirable material and backfill with approved material, properly compacted. In cut areas where the material in place is not suitable for subgrades or shoulders, it shall be undercut to the depth established by the engineer and the undercut area backfilled with suitable material. In roadway cuts any stripping excavation of unsuitable material shall be done and the material disposed of as directed by the engineer.

**Sec. 4 - Borrow excavation.**

4.01  *Description.* The work covered by this section consists of the excavation of material from borrow areas or pits. Outside the project right of way; and hauling and utilization of such material as required on the plans or directed by the engineer.

4.02  *Materials.* Borrow excavation shall be material approved by the engineer as meeting the requirements for the particular use intended. Embankment materials shall meet the requirements as specified in Section 20, Backfill Materials.

4.03  *Construction.* Borrow pits furnished by the contractor shall be approved by the engineer.

**Sec. 5 - Excavation and backfill for minor structures.**

5.01  *Description.* This work shall consist of the excavation and backfill, or disposal of all materials required for the installation of bridge culvert, pipe, arch culvert, headwall and retaining wall structures in accordance with the specifications and the details shown on the plans or established by the engineer.

5.02  *Materials.* All materials shall meet the following requirements of the following specifications:

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Backfill Material-Type I</td>
<td>Section 20.02</td>
</tr>
<tr>
<td>Foundation Backfill Material-Type II</td>
<td>Section 20.02</td>
</tr>
<tr>
<td>Imperfect Trench Backfill Material-Type III</td>
<td>Section 20.03</td>
</tr>
</tbody>
</table>

5.03  *Locations and elevations.* The locations and elevations of structures shown on the plans are approximate. Final locations and elevations will be determined by the engineer.

5.04  *Excavation.* The engineer will determine the minimum requirements for length and depth of excavation for each structure. Necessary sheeting and bracing shall be installed by the contractor without additional compensation. Except for concrete or masonry structures, wherein the entire structure rests on solid rock, al excavation through rock or boulder formations shall be extended to at least one foot below the bottom of the structure and then backfilled with Type I or Type II material to the proper subgrade elevation.
When pipe lines are on the steep gradients, excavation and the placement of pipe on a new embankment may be done in increments as the embankment construction progresses.

Where existing paved areas are to be retained, all cutting of surfaces at structure trenches shall be done in such a manner as to prevent damage to the adjacent pavement.

Material excavated from the pipe trenches shall be considered unclassified excavation.

5.05 **Backfill.** Backfill materials meeting these specifications shall be obtained from sources approved by the engineer.

A. Foundation backfill materials, Type I & II. These materials will be used as shown on the plans or as directed by the engineer. In general, Type I material will be used in reasonably dry structure trenches, and Type II material will be used as a finishing course for Type II material. All areas of excavation beyond specified limits shall be backfilled with the same type of material required for the adjacent area. Type I and Type II backfill material shall be placed in layers of not more than six inches loose.

Each layer shall be compacted as follows:

Type I backfill material: Compact to 95 percent of the theoretical dry density determined by GHD: 7.

Type II backfill material: Compact to a satisfactory uniform density as directed by the engineer.

B. Imperfect trench backfill material, Type III. This material will be placed as loose uncompacted backfill over pipe structures, as shown on the plans where imperfect trench backfill is specified.

C. In rock larger than four inches in any diameter shall be placed within two feet of any drainage structure.

D. Backfill behind retaining walls, unless otherwise specified, shall be pervious material and meet the requirements of Case I or Case II as follows:

Case I: Case I refers to backfills for retaining walls required for the support of roadbeds and parking areas, in which case the backfill shall conform to requirements of Section 20 except that no rock more than four inches in any diameter shall be placed within two feet of the retaining wall or finished surface.
Case II: Backfills for retaining walls required for the support of roadbeds or parking areas shall conform to requirements of Case I above, except that the backfill shall be compacted to the density of the adjacent soil.

5.06  *Pavement replaced.* Where adjacent pavements are to be retained, pavement removed at structure trenches shall be replaced in kind or when approved, with equal or better material. After backfilling, the contractor shall maintain a smooth riding surface until the repaving is completed.

**Sec. 6 - Subgrade construction.**

6.01  *Description.* This work shall consist of placing, mixing, compacting and shaping the top six inches or to the plan indicated thickness, of the roadbed in both excavation and embankment areas. This work also includes subgrade stabilization, select material subgrades and shoulder stabilization.

6.02  *Materials.*

   A.  *Subgrade materials.* Unless otherwise noted, the top six inches (or specified depth) of the subgrade shall conform to Class I or Class II materials as defined in Section 20.

6.03  *Construction.*

   A.  *Subgrade construction.* The entire surface of the in-place subgrade shall be plowed, harrowed and mixed to a depth of at least six inches. After the material has been thoroughly mixed, the subgrade shall be brought to plan line, graded and compacted to 100 percent of the maximum laboratory dry density unless the subgrade is to be stabilized, in which case the density requirement will not apply at this stage; or unless a subsequent contract provides for base construction. In the latter case, mixing will be eliminated and the in-place subgrade compacted to 95 percent of the laboratory maximum dry density.

Prior to placing any subsequent layers of base and paving materials, the subgrade shall have sufficient stability to support construction equipment without excessive movement regardless of compaction. Areas of subgrade that are unstable shall be reworked to a moisture content that will provide stability and compaction.

The surface of the completed subgrade shall be bladed to a smooth and uniform texture. The centerline profile shall conform to the established elevations with an acceptable tolerance of ± ½ inch. The acceptable tolerance under a template conforming to the designated cross-section shall be ± ¼ inch.
The maximum dry density and the test methods shall be in accordance with section 6.03 A.

Sec. 7. - Graded aggregate base.

7.01 Description. This work shall consist of constructing a base, sub base or shoulder course composed of mineral aggregates as a prepared subgrade or sub base in accordance with these specifications and in reasonably close conformity with the lines, grades, thicknesses and typical cross-sections shown on the plans or established by the engineer.

7.02 Materials. The materials to be used and the specifications for them are listed below:

Graded aggregate: The graded aggregate base, sub base or shoulder course material shall be of uniform quality throughout.

The graded aggregate may be produced from an approved source or deposit which will yield a satisfactory mixture conforming to all requirements of these specifications after it has been crushed or processed as part of the mining operations, or the material may be furnished in two sizes of such gradation that when combined in the central mix plan the resultant mixture shall conform to the required specifications. In addition, the material passing the No. 10 sieve shall be relatively free of detrimental substances such as soil overburden, decomposed rock and/or swelling silts.

Graded aggregate base, sub base, or shoulder material shall conform to the following:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passing 2” sieve</td>
<td>100</td>
</tr>
<tr>
<td>Passing 1 ½” sieve</td>
<td>97-100</td>
</tr>
<tr>
<td>Passing ¾” sieve</td>
<td>60-90</td>
</tr>
<tr>
<td>Passing No. 10 sieve</td>
<td>25-45</td>
</tr>
<tr>
<td>Passing No. 60 sieve</td>
<td>5-30</td>
</tr>
<tr>
<td>Passing No. 200 sieve</td>
<td>0-15</td>
</tr>
</tbody>
</table>

Method tests shall be in accordance with the following:

<table>
<thead>
<tr>
<th>Gradation</th>
<th>AASHTO: T-27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand Equivalent</td>
<td>GHD: 63</td>
</tr>
</tbody>
</table>
7.03  Construction

A.  **Placing materials.** The materials shall be spread uniformly with a mixture spreader to the proper depth to obtain the specified thickness. Graded aggregate materials containing frost or frozen particles shall not be placed.

B.  **Thickness of course.** The maximum thickness to be laid in one course shall be six inches compacted. If the design thickness of the base, sub base or shoulder course is more than six inches, it shall be constructed in two or more courses of approximately equal thickness. With sufficient and suitable equipment, the engineer may allow base material to be placed in lifts up to eight inches.

C.  **Compaction.** The moisture content of the mixture of materials at the time of compaction shall be uniformly distributed and shall be adequate to allow compaction to the specified density. After the material placed has been shaped to line, grade and cross-section, it shall be rolled until the course has been uniformly compacted to at least 98 percent of the maximum dry density.

The compacted base shall have sufficient stability to support construction equipment without pumping regardless of compaction. If the base material becomes unstable as a result of too much moisture, the base material and the underlying subgrade, if necessary, shall be dried and reworked to a moisture content that will provide stability and compaction.

D.  **Tests.** AASHTO: T180 Method D.

Sec. 8-10. [Omitted.]

Sec. 11. - Bituminous prime.

11.01  **Description.** The work shall consist of preparing and treating an existing surface with bituminous material, and blotter material, if required, in accordance with these specifications and in reasonably close conformity with the lines shown on the plans or established by the engineer.

Bases and other areas to be primed shall be as follows:

1. All cement or lime stabilized bases or sub bases, regardless of pavement thickness.
2. All bases, sub bases or other area, with the exception of asphaltic concrete or sand asphalt bases or sub bases, on which bituminous surface treatment is to be placed.
3. All bases, sub bases or other areas on which less than five inches, total thickness, of hot mix asphaltic concrete is to be placed, with the exception of asphaltic concrete bases.
11.02 Materials. Unless otherwise specified, the types of bituminous shall be selected by the contractor. The engineer will determine the grade of materials to be used. The specifications for the bituminous materials are:

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Latest Revision GA D.O.T, Spec. or as Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut back Asphalt, RC-30, RC-70 RC-250, or MC-250, MC30 or MC70</td>
<td>821.01</td>
</tr>
<tr>
<td>Emulsified Asphalt, EAP-a</td>
<td>822.01</td>
</tr>
<tr>
<td>Tars, RT-2, RT-3</td>
<td>8270.1</td>
</tr>
<tr>
<td>Cut back Asphalt Emulsion, CBAE-2</td>
<td>823.01</td>
</tr>
<tr>
<td>Blotter Materials (Sand)</td>
<td>412.04 F.3</td>
</tr>
</tbody>
</table>

11.03 Equipment. The contractor shall provide sufficient equipment in good repair. The following units shall be minimum requirements.

- Pressure distributor
- Power Broom and blower
- Aggregate spreader (if required)

11.04 Construction

A. Weather limitations. Bituminous prime shall not be applied on a wet surface or when the temperature of the air is below 40 degrees F in the shade. Prime shall not be applied when rain threatens nor when weather conditions would prevent proper construction of prime coat.

B. Conditions of surface. The surface to which the prime is to be applied shall be finished to the line, grades and cross-section specified. The surface shall be uniformly compact and bonded. All irregularities occurring in the surface shall be corrected in accordance with the specifications for the particular construction being primed.

1. Cleaning. All loose material, dust, caked clay and all other material likely to prevent bonding of the prime with the surface shall be swept and blown from the road to the full width of the prime and two feet more on each side, with power sweepers and blowers and, where necessary, by hand.

2. Moisture. The surface shall be only slightly damp. If it is too wet, it shall be allowed to dry. If it is too dry, the engineer may require that it be sprinkled lightly, just before it is primed.

3. Temperature and surface texture. The surface texture and condition of the surface govern the choice of the grades of bituminous material to be used.
The following table shows the grades and temperature of application of bituminous materials as they are applied to various surface textures.

**TEXTURE OF BASE FOR VARIOUS TYPES AND GRADES OF PRIME AND TEMPERATURES OF APPLICATION**

<table>
<thead>
<tr>
<th>Texture of Base</th>
<th>Tight Materials and Grade</th>
<th>Average Materials and Grade</th>
<th>Open Materials and Grade</th>
<th>Tight Materials and Grade</th>
<th>Open Materials and Grade</th>
<th>ALL</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tight</td>
<td>MC-30 RC-30</td>
<td>RC-70 or MC-70</td>
<td>RC-250 or MC-250</td>
<td>RT-2</td>
<td>RT-3</td>
<td>CBAE</td>
<td>EAP-1</td>
</tr>
</tbody>
</table>

Temperature of Application

<table>
<thead>
<tr>
<th>Degrees F</th>
<th>80 to 100</th>
<th>105 to 180</th>
<th>145 to 220</th>
<th>80 to 120</th>
<th>90 to 140</th>
<th>120 to 160</th>
<th>80 to 150</th>
</tr>
</thead>
</table>

D. *Amount and extent of prime.* The exact amount of bituminous material to be used will be determined by the engineer within the minimum and maximum rates of 0.15 to 0.30 gallons per square yard.

When the amount to be used has been determined, the contractor shall apply it uniformly and accurately. The amount applied to any one-half mile shall be within five percent of that specified. The prime shall be applied to the full width of the proposed wearing surface which is to be superimposed plus six inches on each side.

E. *Heating and applying bituminous prime.*

1. *Temperature.* The exact temperature for applying bituminous prime will be determined by the engineer, within the limits shown.

2. *Methods.* The heating and applying bituminous materials shall be done as specified.

F. *Protection, curing and maintenance.*

1. *Closing to traffic.* The primed surface shall be closed to all traffic and left undisturbed for so long as necessary for the prime to thoroughly cure and until it does not pick up under traffic.
2. **Rolling.** If the surface becomes soft after it is primed, the surface shall be rolled longitudinally with a pneumatic-tired roller at not more than six miles per hour until the whole surface is firmly set.

3. **Blotting.** If necessary to prevent the prime from being picked up, clean, dry, sharp sand shall be spread by hand or mechanically over the surface. Sand shall only be applied to places that are tacky, and the amount shall be the least needed to prevent picking up. No extra payment for this work or material will be made.

4. **Opening to traffic.** After rolling and sanding (if it is required) have been done, the primed surface may be opened to ordinary traffic, subject to conditions stated in paragraph 1 above.

5. **Maintenance.** The contractor shall maintain the prime coat and the surface of the course primed until it is covered by other construction. All excess bituminous material shall be removed.

**Sec. 12. - Bituminous tack coat.**

12.01 **Description.** This work shall consist of furnishing and applying a bituminous tack coat on a prepared road surface. It also includes cleaning the road surface.

12.02 **Materials.** All material shall meet the requirements of the following specifications:

<table>
<thead>
<tr>
<th>Material</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Cement, viscosity Grade AC-10, AC-20</td>
<td>820.1</td>
</tr>
<tr>
<td>Cationic Emulsified Asphalt CRS-2 or CRS-3</td>
<td>824.01</td>
</tr>
</tbody>
</table>

12.03 **Equipment.** The contractor shall provide sufficient equipment in good repair, including at least the following units:

- Power broom and blower
- Pressure distributor

12.04 **Construction.**

A. **Seasonal and weather limitation.** Tack coat shall not be applied when the existing surface is wet or frozen. Emulsified asphalt shall not be placed when the air temperature is less than 40 degrees F.

B. **Application.** The entire areas to be paved shall be coated with the tack coat. The engineer may require the application of all tack coats by use of distributor spray bars in lieu of hand hoses, except in small areas inaccessible to spray bars.
C. **Temperature.** The temperature of the bituminous material at the time of application are specified below. The application temperature for asphalt cement should be near the upper limit of the temperature range specified.

**BITUMINOUS MATERIALS TEMPERATURE OF APPLICATION**

(DEGREES F)

<table>
<thead>
<tr>
<th>Material</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Cement</td>
<td>325 to 375</td>
</tr>
<tr>
<td>CRS-2h</td>
<td>140 to 180</td>
</tr>
<tr>
<td>CRS-3</td>
<td>140 to 180</td>
</tr>
</tbody>
</table>

D. **Cleaning.** Just prior to the application of the tack coat, the entire area shall be cleaned until it is free from all loose dirt, clay and other objectionable materials.

E. **Amount.** The rate of application of bituminous tack coat will be determined by the engineer.

F. **Limitations and area coated.** No more tack coat shall be applied to the prepared road surface than can be covered with the new pavement course during normal working hours of the same working day in which the tack coat is applied.

G. **Maintenance and protection.** After the tack coat material is applied, it shall be allowed to break until it is tacky enough to receive the surface course. Traffic shall not be allowed on the tack.

**Sec. 13. - Miscellaneous concrete.**

13.01 **Description.** This work shall consist of placing Portland cement concrete as slope paving on end rolls, cut slopes, paved ditches, spillways, and ditch slopes; in median pavement; as sidewalks; in concrete curbs, gutters, curb and valley gutters; non-reinforced headwalls; velocity dissipaters, concrete slope drains of the specified; concrete spillways and at other locations where designated on the plans or directed. It includes all subgrade preparation including fine grading and backfilling; the forming, furnishing, placing and finishing of concrete; constructing weep holes and furnishing and placing the coarse aggregate therefore; as well as furnishing and placing performed joint fillers as indicated on the plans.

13.02 **Construction.**

A. **Extent and thickness of pavement.** Areas to be paved together with their dimensions shall be as indicated on the plans.

Thicknesses shall not be subject to a minimum tolerance of one-half inch. Overlay pours will not be permitted.
B. **Preparation of subgrade.** The subgrade for miscellaneous concrete shall be finished to line and grade as indicated on the plans and compacted to the same degree as the portion of the roadway on which it is placed. For contracts involving both roadway and bridge contractors, the grading for the slope paving shall be completed by the roadway contractor. Final grading, compacting, dressing, placing and maintaining until structures are completed shall be the responsibility of the bridge contractor. Responsibility for each portion of the work shall be as noted on the plans.

Where paving is to be placed on front slopes of ditches and shoulders, any special materials required shall be placed during the appropriate roadway construction.

Excavation for toe walls, edge walls, weep hole drain pockets, placing of coarse aggregate in weep hole drain pockets, and all grading, finishing and compacting of the subgrade surface shall be accomplished prior to placing concrete. Mechanical tamps may be required to secure satisfactory compaction.

Excavation for velocity dissipaters, spillways, and slope drains shall not be carried below the foundation elevation or wider than necessary to provide working space or to remove soft unsuitable material and backfill with selected material. Where spillways are to be fitted to concrete pavement, the specified dowel bars shall be set into pavement when it is laid. Metal parting strips may be used to hold the ends of dowels bent into the grooves.

C. **Forms.** Forms may be of nominal dimension wood or metal and shall be approved by the engineer. All forms shall be straight and oiled prior to each use.

Divider plates and templates shall be of metal.

Items which lend themselves to the slip form method of placement may be so constructed. The engineer, however, reserves the right to require the use of fixed forms in the event the slip form methods fails to produce a product which conforms to the requirements for quality, shape, grade, or alignment.

D. **Weep holes.** Weep hole drain pockets filled with coarse aggregate together with weep hole drain pipe or formed opening shall be provided in accordance with plan details.

E. **Concrete.**

1. **Mixing.** The mixing of Class “B” concrete shall be as specified.

   a. Small capacity job-site batchers and one bag misers may be used.
b. Concrete ingredients may be proportioned volumetrically, provided the equipment calibration and operation of the equipment are approved by the engineer.

2. **Placing and finishing.** Concrete shall not be placed on a muddy or frozen surface. It shall be deposited within forms or against other pavements on a compacted and wetted subgrade to the depth required to produce the specified thickness. It shall be struck off to a plane surface and finished.

   a. **Concrete slope paving.** Shall be given a final finish with a stiff broom. With the engineer’s approval, concrete may be mechanically conveyed to the forms.

   b. **Concrete sidewalks.** Shall be given a Type V finish, except for the final finish, when so indicated on the plans, shall be made by stiff-bristle brooming. The surface shall be tested with a ten foot straightedge laid parallel to the centerline. Any irregularities in excess of 14 inches in ten feet shall be eliminated while the concrete is still plastic.

   c. **Concrete paved ditches.** The surface of the bottom and sides of paved ditches shall be uniform in appearance and true to grade and cross-section. On straight-grade tangents there shall be no deviation of more than one inch in ten feet, zero inches when tested with a ten-foot straightedge. The one inch in ten feet, zero inches tolerance will not be permissible if it reduces the thickness of the ditch paving, ponds water, or alters the direction flow.

   Finish for ditch paving shall be accomplished by floating with wood floats sufficiently to bring mortar to the surface in the amount necessary to cover the coarse aggregate.

   Reinforcing, if required, shall conform to plan details.

   d. **Concrete curbs, gutters, and medians.** Shall be finished in accordance with “c” above. Face forms shall be removed as soon as possible and the exposed surfaces finished with a wood float. Straight edging, done along the edge of the gutter and top of the curb and median shall conform to those requirements for the adjacent pavement, but with no irregularities to exceed one-fourth inch in ten feet.
Machine methods of placing may be used providing the end result is satisfactory.

4. **Joints.**
   a. *Slope paving.* Placing may be done in either horizontal or vertical courses, but not a mixture of both. Horizontal courses shall be approximately level and not less than three nor more than six feet in width measured along the slope. Trapezoidal courses at the top and bottom will be permitted to accommodate sloping berm and ditch line conditions. At construction joints between courses, the paving shall be edged with a tool having one-fourth inch radius. Vertical contraction or construction joints spaced along the horizontal course at right angles to the horizontal construction joints shall be provided at approximately 40 foot intervals, in line and not staggered. No other vertical lines will be required in horizontal courses. When vertical contraction joints are used, they shall be cut with a single tool one-third the depth of paving during the finishing operation and shall be edged the same as construction joints.

   Vertical courses shall be approximately equal, and course widths shall not be less than three nor more than five feet measured across the plane of the slope. The width would preferable be four feet. No horizontal lines will be required in vertical courses.

   Slope paving shall be separated from masonry of structures, sidewalks, curbs and rigid type roadway pavement by preformed joint filler having a thickness of one-half inch.

   b. *Concrete paved ditches.*

   1. Contraction joints shall be spaced at 30 foot intervals.

   2. Expansion joints shall be placed only where the paved ditch joins the roadway pavement or some other structure.

   3. Joint sealers will not be required for either expansion or contraction joints.

   c. *Concrete sidewalk.* Transverse contraction joints shall be formed with a tool designed to form a groove one-third the depth of the sidewalk at intervals as indicated on standard plans. Where sidewalks abut curb and gutter, alternate joints shall coincide. All
edges shall be rounded with a one-fourth inch edger. Expansion joints shall be of the materials, dimensions, and at locations specified on the plans.

d. **Concrete curbs, gutters and medians.**

1. **Contraction joints.** Adjacent to concrete paving, the spacing of joints in curb and gutters and medians shall be arranged to coincide with the joint spacing in paving. Joints may be formed by metal divider plates or sawed. The depth of the joint shall be not less than one-fifth nor more than one-fourth in depth of the concrete. With the exception of sawed joints, all joints shall be finished with a one-fourth inch edging tool. For curbs, gutters and medians adjacent to pavement other than concrete, contraction joints shall be as follows:

   a. For header curb and combination curb and gutter: Install a contraction joint at a maximum spacing of 20 feet.

   b. For gutter and median: Install a contraction joint at a maximum spacing of 20 feet.

2. **Expansion joints.** Expansion joints shall be formed in accordance with plan details or as directed. They shall coincide with the expansion joints in the adjoining pavement or gutter. All joint filters shall be cut to the same cross-section as the construction. Any material protruding after the concrete is finished shall be trimmed flush. When these items are not adjacent to concrete construction, expansion joints shall be provided at a minimum interval of 500 feet.

3. **Curing.** Any method of curing specified. Membrane curing compound, if used, shall be Type 2. Honeycombed areas shall be packed as soon as forms are removed.

F. **Backfilling.** The areas shall be satisfactorily backfilled as soon as possible so the work will not be damaged.

G. **Clean-up.** When all concrete work has been completed, the surfaces shall be cleaned and brought to a uniform appearance. The work shall be protected from staining or other damage until final acceptance.
Sec. 14. - Concrete structures.

14.01 Description. This work shall consist of the manufacture and utilization of Portland cement concrete in the construction of structures.

14.02 Materials. All material shall meet the requirements of the following specifications:

Coarse aggregate Section 18.01

Fine Aggregate size No. 10…Section 19.02

Dampproofing or waterproofing material (bituminous)

**Portland cement…Section 23.01

**Portland Pozzolan cement…Section 23.03

Admixtures:

- Air entraining admixtures…Section 24.01
- Retarding admixtures…Section 24.02
- Water reducing admixtures…Section 24.02
- Fly ash…Section 24.03

*Coarse aggregate may be either Class A or B of the designated size except when limestone or dolomite is used in bridge structures. When limestone or dolomite is used in bridge length structures, Class A coarse aggregate is required.

**Type I or Type II Portland cement or Type IP Portland Pozzolan cement shall be used unless otherwise specified. Air entraining cement shall not be used.

Bridge sections containing duct enclosures for stressing tendons shall be constructed with concrete No. 7 stone as maximum size.

14.03 Classes and uses of concrete.

A. General. Classes and specific requirements for each class of concrete are tabulated in the concrete mix table. The specific class of concrete to be used in a particular component of a structure will be shown on the plans or called for in the specifications. Various classes of concrete for specified uses shall be as follows:

- Class AAA-Pre-stressed concrete
- Class AA1-Precast concrete as called for on plans
Note No. 1: This class may be used as high-early strength concrete if approved by the engineer. The engineer may approve the use of Type III cement in concrete used for this purpose. The engineer may also specify the rate of compressive strength development when this concrete is used to expedite the contract. The contractor shall not be granted additional compensation for the use of this class of concrete when it is used at his request or used to expedite the contract.

Class AA-Bridge superstructure concrete or precast concrete as called for on plans.

Class A-General Purposes

Note No. 2: Class A concrete deposited in water, hereinafter referred to as seal concrete, shall be non-air entrained with ten percent additional cement and sufficient additional water to provide a six to eight inch slump.

Class B-Massive section or lightly reinforced sections or miscellaneous non-structural concrete.

Class CS (Portland cement concrete sub base)

Note No. 3: Class CS (Portland cement concrete base): This class to be used as a sub base where required by the plans. Concrete sub base may be composed of a mixture of Portland cement and graded aggregate or Portland cement, aggregate, and sand.

B. Admixtures. Additives are required when specified herein or as directed by the engineer.

1. Air-entraining admixtures. Air entraining additives are required for all bridge structure concrete except seal concrete and non-exposed footings. The agent may be used in other concrete to improve workability when job or materials conditions dictate. When used as an option to improve workability or when required, the amount of entrained air shall not exceed the upper limit of entrained air content requirement.

2. Retarding admixtures. Concrete retarding additives shall be used in bridge concrete when the average temperature is above 65 degrees F. (average of expected high and the predicted low). Normally, the additives will not be required for bridge curbs, handrails, crosswalks, or other appurtenances constructed separately from the decks. The use of retarders may be waived by the Engineer in substructure concrete and can be placed within one hour after batching.
3. **Water reducing admixtures.** Water reducing agents may be used in Class AA concrete for bridge decks when conditions do not require the use of retarder. The agent may be used in other concrete when job or materials conditions dictate a reduction in water requirements or when minimal retardation of set is desired. Type “F” water reducing admixtures may be allowed by the Engineer where requested by the contractor.

Ridge sections containing duct enclosures for stressing tendons may be constructed with concrete utilizing Type F (AASHTO:M-194) water reducer as approved by the engineer.

4. **Fly ash.** Fly ash may be used as an additive in all concrete to promote workability and plasticity. Fly ash may be used as a partial replacement for Portland cement in all concrete, except class “CS”, provided for the following limits are met:

   a. The quantity of cement replaced shall be no more than eight percent by weight.
   
   b. Cement shall be replaced by fly ash at the rate of 1.5 to 2.0 lbs. of fly ash to 1.0 lbs. of cement.
   
   c. The fly ash mix shall conform to the provisions of Table C-1.
   
   d. Type IP cement shall not be used in mixes containing fly ash.

14.04 Quality of concrete.

A. **General.** The contractor shall be responsible for concrete mix designs, batching, mixing, delivering, and placing concrete in accordance with the specifications. Concrete mixes shall meet requirements of the concrete mix table. Properties of concrete will be determined by the applicable method in the Sampling, Testing and Inspection Manual.

B. **Concrete mix designs.** Concrete mix designs shall be submitted to the engineer for approval. Mix proportions that contain materials from approved sources and produce concrete that meets these specifications will be approved. Concrete mix design proportions may be approved by a method listed in Table C-1.

**Sec. 15. - Storm drain pipe, pipe-arch culverts and side drain pipe.**

15.01 **Description.** This work shall consist of furnishing and installing storm drain pipe; pipe-arch culverts; tapered pipe inlets; flared end section: bituminous coated, smooth lined, asbestos bonded, corrugated metal pipe; and side drain pipe. The type of pipe to be used, together with acceptable alternates when applicable, shall be as designated on the plans.
15.02 **Materials.** Materials shall meet the requirements of the following:

- Backfill materials
- Reinforced concrete pipe
- Non reinforced concrete pipe
- Corrugated steel pipe
- Bituminous coated corrugated steel pipe
- Cast iron pipe, fittings and joints
- Bituminous coated, galvanized steel culverts

15.03 **Construction.**

A. General requirements. Structures shall be installed in accordance with specifications and in reasonably close conformance with the details shown on the plans or as directed. Structure excavation and foundation preparation shall be as set forth in Section 5. Before pipe and pipe-arches are installed the foundation material shall be shaped as shown on plans.

The contractor shall provide necessary temporary drainage.

Before any traffic over a culvert is allowed, the contractor shall provide an adequate depth and width of compacted backfill to protect the structure from damage or displacement. Any damage or traffic or erosion shall be repaired or corrected at the contractor’s expense. Any debris or silt that constricts the flow through a pipe shall be removed by the contractor as often as necessary to maintain drainage throughout the life of the contract. All pipes and pipe-arch culverts shall be cleaned before the work is accepted.

B. **Installation.**

1. **Concrete pipe.** Flat bottom and circular sections shall be laid in a prepared trench with the socket ends pointing upstream. Sections may be joined by mortar joints, bituminous plastic cement joints, rubber-type gasket joints, O-ring gasket joints, or preformed plastic gasket joints. In mortar and bituminous plastic joints the annular space shall be filled with the joint material, and inside of each joint wiped smooth. Mortar joints shall be made in the same manner except that the annular space shall be thoroughly wetted before filling with joint material, after the initial set, the mortar on the outside shall be protected from the air and sun with thoroughly wet...
earth or burlap cover. Rubber-type, O-ring, and performed plastic gasket joints shall be installed in accordance with the manufacturer’s recommendations.

2. _Cast iron pipe_. Pipe sections shall be laid in a prepared trench with bells pointing upstream. The annular space in each joint mortar or bituminous plastic cement as specified of concrete pipe, and each joint wiped smooth. Rubber gasket joints shall be installed in accordance with the manufacturer’s recommendations.

3. _Corrugated aluminum or steel pipe and pipe arches_. Pipe sections shall be laid in a prepared trench with outside laps of circumferential joints pointing upstream and with longitudinal joints at the sides. Helical coupling bands, fastened by two or more bolts, shall join the sections. The space between adjoining sections shall be not more than the width of one corrugation.

   All damaged spots in galvanized coating that expose the base metal shall be repaired before the structure is backfilled. All damaged spots in bituminous coating that expose the base metal shall be recoated with asphalt before the structure is backfilled.

   Joints for smooth lines asbestos bonded, corrugated steel pipe shall be formed with an “O-ring” type mechanical seal assembly when so detailed on the plans. Seal assembly should be burnished by the same manufacturer that supplies the pipe.

4. _Specials (wyes, tees, and bends)_. The location and manner of installation of all wyes, tees and bends shall be shown on the plans as directed.

5. _Tapered pipe inlets_. Tapered pipe inlet end sections will be installed where shown on the plans or as directed.

6. _Elongation_. Elongation of metal pipe shall be as shown on the plans. The contractor shall order the elongation of the vertical axis of the pipe to be done in the shop.

   Metal pipe shall be shipped with wire-tie in the pipe ends. Wire ties shall be removes as soon as possible after the fill is completed.

7. _[Flared end sections.]_ Flared end sections may be specified for use either on the inlet or outlet or both ends of storm drain pipe according to plan details.
Sec. 16. - Rip rap.

16.01 Description. This work shall consist of placing protective coverings of sand-cement bag rip rap, stone rip rap, and where called on fill slopes, cut slopes, end rolls, shoulders, ditches, stream banks, channel banks, and at other locations required by the plans or the engineer.

16.02 Materials. All materials shall meet the requirements of the following specifications:

Portland cement … Section 23.01

Rip rap (stone)

Bags for sand-cement bag rip rap: The bags shall be of cotton, burlap, or fiber reinforced paper capable of containing the sand-cement mixture without leakage during handling and placing. Bags previously used for sugar or any other material which will adversely affect the sand-cement mixture shall not be used. Capacity shall be not less than 0.75 cubic foot minimum nor more than two cubic feet maximum.

16.03 Construction. This work shall be constructed in accordance with the following requirements:

A. Preparation of foundations. The ground surface upon which the rip rap is to be placed shall be brought in reasonably close conformity to the correct lines and grades before placement commences. Where filling of depressions is required, the new material shall be compacted with hand or mechanical tampers. Excess material shall be disposed of by spreading it neatly with the right-of-way, as an incidental part of the work. Unless otherwise shown or provided below, rip rap shall begin in a toe ditch constructed in original ground around the toe of the fill or the cut slope. The toe ditch shall be two feet deep in original ground and the side next to the fill or cut shall have the same slope. After the rip rap is placed, the toe ditch shall be backfilled and the excess dirt spread neatly within the right-of-way, as an incidental part of the work. Where rip rap is to commence in water or below normal water level the tow ditch will be omitted and an apron of rip rap shall be substituted. The width and thickness of this apron shall be as shown or as determined by the engineer.

B. Placement of stone rip rap. Rip rap shall be placed to the limits shown on the plans or as directed by the engineer. Rip rap shall be classified and placed as follows:

1. Stone plain rip rap. Stone plain rip rap shall be dumped and handled into place to form a compact layer to the design thickness. The thickness tolerance for the course shall be plus 12 inches with no under-tolerance. If
the plans do not show a thickness, stone rip rap shall be placed to a thickness of not less than 12 inches and not more than 24 inches.

2. **Stone dumped rip rap.** Stone dumped rip rap shall be dumped into place to form a uniform surface and to the thickness specified in the plans. The thickness tolerance for the course shall be minus six inches and plus 12 inches. If the plans or proposal do not specify a thickness, the course shall be placed to thickness of not less than 24 inches.

C. **Sand-cement bag rip rap.**

1. **Proportioning materials.** Sand and Portland cement shall be mixed at the maximum ratio of 5:1 by weight, and shall obtain a minimum compressive strength of 500 psi in seven days. For sand-cement bag rip rap, the amount of water used shall be just enough to make up the optimum moisture content of the aggregate and cement, as determined by AASHTO: T-134.

2. **Placement.** The bags shall be uniformly filled to the maximum capacity which will permit satisfactory tying. The bagged rip rap shall be placed by hand with the tied ends facing the same direction, with close, broken joints. When directed by the engineer or required by the plans, header courses shall be placed. After placing, the bags shall be rammed or packed against one another to produce the required thickness and from a consolidated mass. The top of each bag shall not vary more than three inches above or below the required plane.

**Sec: 17. - Jacking or boring pit.**

Corrugated metal pipe…Section 15
Concrete pipe…Section 15
Steel pipe…AWWA
Cast iron pipe…AWWA
Ductile iron pipe (plain ends)…AWWA

17.03 **Construction.**

A. **Jacking.**

1. When required, suitable pits or trenches shall be excavated for the jacking operation and for placing the end joints of pipe. Where necessary, they shall be securely sheeted and braced to prevent caving.
2. Where pipe is required to be installed under railroads, highways, streets or other facilities by jacking or boring methods, construction shall be done in a manner that will not interfere with the operation of the facility, and shall not weaken the roadbed or structure.

3. Jacks for forcing the pipe through the roadbed shall have a jacking head constructed in such a manner as to apply uniform pressure around the ring of the pipe. The pipe to be jacked shall be set on guides, braced together, to properly support the section of the pipe and direct it to the proper line and grade. In general, roadbed material shall be excavated just ahead of the pipe, the excavated material removed through the pipe, and the pipe then forced through the roadbed into the excavated space.

4. The contractor shall furnish for the engineer’s approval, a plan showing his proposed method of handling, including the design for the jacking head, jacking support or back stop, arrangement and position of jacks, pipe guides, etc., complete as assembled. If the contractor elects to weld steel pipe or ductile pipe as a casing and carrier, he shall furnish to the stated materials and research engineer in writing an acceptable welding procedure. This will consist of joint details, preheat temperature and electrodes to be used. The use of welded steel pipe as a sanitary sewer carrier will not be permitted.

5. The diameter of the excavation shall conform to the outside diameter and circumference of the pipe as closely as practicable. Any voids which develop during the installation operation and which are determined by the engineer to be detrimental to the work shall be pressure grouted with an approved mix.

6. The distance that the excavation extends beyond the end of the pipe will depend upon the character of the excavated material, but shall not exceed two feet in any case. This distance shall be decreased on instructions from the engineer if the character of the material being excavated makes it desirable.

7. The pipe shall be jacked from the low or downstream end. Variation in the final position of the pipe from the line and grade established by the engineer will be permitted only to the extent of two percent in lateral alignment, and one percent in vertical grade, providing that the final grade of flow line shall be in the direction indicated on the plans.
8. If the contractor desires, he may use a cutting edge around the head end and extending a short distance beyond the pipe end, with inside angles or lugs to keep the cutting edge from slipping back into the pipe.

9. When jacking of pipe is begun, the operation shall be carried on without interruption, insofar as practicable, to prevent the pipe from becoming firmly set in the embankment.

10. Any pipe damaged in jacking operations shall be removed and replaced by the Contractor at his expense.

11. The pits or trenches excavated to facilitate jacking operations shall be backfilled immediately after the jacking has been completed.

B. **Boring.** The boring shall proceed from a pit provided for the boring equipment and workmen. Excavation for pits and installation of shoring shall be outlined as above. The location of the pit shall meet the approval of the engineer. The holes are to be bored mechanically. The boring may be done using a pilot approximately two inches in diameter which shall be bored the entire length of the installation and shall be checked for line and grade on the opposite end of the bore from the work pit. This pilot hole shall serve as the centerline of the larger diameter hole to be bored. Excavated material will be placed near the top of the working pit and disposed of as required. The use of water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cuttings. Jetting will not be permitted.

1. Allowable variation from line and grade shall be as specified under jacking. The diameter of the excavation shall conform to the outside diameter of the pipe as closely as practicable. Any voids which develop during installation operation and are determined by the engineer to be detrimental to the work, shall be pressure grouted with an approved mix.

**Sec. 18. - Coarse aggregate.**

18.01 **Coarse aggregate.**

A. Detrimental substance. The amount of detrimental substances in coarse aggregate shall not exceed the limits listed under the following items:


   a. Mica schist-5% Mica Schist is qualitatively considered to be those materials defined in ASTM: C 294 as phyllite or
schist. To assist in the quantitative analysis of these materials, AASHTO: 7189. Soft fragments may be used.

b. Materials passing the No. 200 sieve – 1.5%.

c. Flat or elongated pieces (length greater than five times average thickness) – 10%.

d. Sulphur content computed as sulfide sulphur for bridge type structures – 0.01%. When the sulphur content exceeds the above maximum in the aggregate, the aggregate shall not be used unless it passes weathering test equivalent to six months or more exposure and a petrographic analysis.

e. Deleterious reaction. Aggregate capable of producing a deleterious reaction when combined with Portland cement shall not be used in Portland cement concrete.

f. Other local detrimental substances – 2.0%.

2. **Asphaltic concrete**

a. Flat or Elongated Particles (length greater than five times average thickness) – 10%.

b. Glassy particles (slag) – 30%.

c. Other Local Detrimental Substances – 2%.

d. Fractured faces (gravel) – Crushed gravel shall consist of siliceous particles of which a minimum of 85%, by count, of the material retained on the #4 sieve shall have one or more fractured faces, fractured for the approximate average diameter or thickness of the particle.

3. **Surface treatment**

a. Material finer than #200 sieve – 1%.

b. Flat or elongated particles (length greater than five times average thickness) -10%.

c. Glassy particles (slag) – 30%.

d. Fractured faces (gravel) – Crushed gravel shall consist of siliceous particles of which
a minimum of 85%, by count, of the material retained on the #4 sieve shall have one or more fractured faces, fractured for the approximate average diameter or thickness of the particle.

B. Classes. Coarse aggregate is classified in accordance with the following physical properties which will govern its use:

Percent Wear

<table>
<thead>
<tr>
<th>AASHTO T-96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I Aggregate</td>
</tr>
<tr>
<td>0-40</td>
</tr>
<tr>
<td>Group II</td>
</tr>
</tbody>
</table>

C. Types.

1. Crushed stone. Crushed stone shall consist of sound, durable particles of rock of the class and gradation specified.

2. Gravel. Gravel shall consist of sound, durable rock, free from injurious amounts of coatings of any kind, and shall be of the class and gradation specified.

3. Crushed slag. Crushed slag shall consist of sound, durable particles of air-cooled blast-furnace slag, reasonably uniform in density and quality and shall be of the class and gradation specified. In addition to air-cooled blast furnace slag, other slags having demonstrated a satisfactory service record may be used. Dry slag shall weigh not less than 70 pounds per cubic foot compacted and shall not contain more than 30 percent by weight of glassy particles. Slag will not be permitted as an aggregate for Portland cement concrete.

4. Synthetic aggregate. Synthetic aggregate consist of expanded clay or shale or other manufactured product which is sound, durable, and of the class and gradation specified.

D. Groups

1. Group I. This aggregate shall be limestone, marble or dolomite, or combination thereof. When used in Portland cement concrete of any type or class, it shall meet the abrasion requirement for Class A stone.
2. **Group II.** This aggregate shall be slag, gravel, granite, gneiss, quartzite, synthetic aggregate, or combination thereof.

E. **Grading.** Coarse aggregate shall be well graded between the limits specified and the size or sizes designated shall conform to the limits shown in Table S-1.

F. **Tests.** Methods of tests shall be in accordance with the following:

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft Fragments</td>
<td>AASHTO T-189</td>
</tr>
<tr>
<td>Coal and Lignite</td>
<td>AASHTO T-113</td>
</tr>
<tr>
<td>Material passing No. 2 sieve</td>
<td>AASHTO T-11</td>
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<tr>
<td>Sulphur Content</td>
<td>AASHTO T-E 30, Evolution Method</td>
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<tr>
<td>Weathering Test</td>
<td>ASTM- E 42</td>
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<tr>
<td>Petrographic Analysis</td>
<td>ASTM C 295</td>
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<tr>
<td>Soundness (magnesium sulfate)</td>
<td>AASHTO T-104</td>
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<tr>
<td>Percent Wear</td>
<td>AASHTO T-96</td>
</tr>
<tr>
<td>Aggregate Gradation</td>
<td>AASHTO T-27</td>
</tr>
<tr>
<td>Reactivity</td>
<td>AASHTO C-227, C-289, and C-586</td>
</tr>
</tbody>
</table>

Sec. 19. – [Omitted]

**Sec. 20. – Backfill materials.**

20.01 **Foundation backfill, Type I.** Type I backfill material shall be composed of natural or artificial mixtures of materials consisting of hard, durable particles of sand or stone, together with silt, clay and/or humus material. Maximum dry density shall be not less than 100#/cubic foot.

20.02 **Foundation backfill, Type II.** Type II backfill material shall be crushed stone, well-graded from coarse to fine, other aggregate, or an approved sand-gravel mixture. No overburden or decomposed and/or disintegrated rock will be allowed. All aggregate shall be manufactured from Class A or B coarse aggregate.

A. **Gradation.** The material shall meet the following gradation requirements:

<table>
<thead>
<tr>
<th>Size</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passing 1 ½” Sieve</td>
<td>100</td>
</tr>
<tr>
<td>Passing 1” Sieve</td>
<td>80-100</td>
</tr>
<tr>
<td>Passing No. 8 Sieve</td>
<td>0-5</td>
</tr>
<tr>
<td>Sieve Analysis</td>
<td>AASHTO: T27</td>
</tr>
</tbody>
</table>

20.03 Imperfect trench backfill, Type III. Type III backfill material shall be a natural soil having a density of not more than 95 pounds per cubic foot when tested in accordance with
GHD:7, or shall be an artificial mixture of soil and organic material, such as hay, leaves or straw. The mixture, including percentages of each material, shall be as approved by the laboratory.

Sec. 21. – [Omitted.]

Sec. 22. – Hot mix asphaltic concrete mixtures.

22.01 All hot mix asphaltic concrete mixtures shall be composed, mixed, transported, applied, and compacted in place in accordance with Georgia Department of Transportation specifications for Type “E” mix for use in residential areas. Acceleration and Deceleration lanes adjacent to collector and arterial streets shall be constructed using Type “E” and Type “B” asphalt plant mix. Thickness of each layer of asphalt shall be as designed by the engineer or as directed by the county engineer.

23.01 Portland cement. Portland cement shall meet the requirements of AASHTO: M85 and, in addition, cement which is to be used in Portland cement concrete shall meet the low alkali and the false set requirements of that specification. Cement which has been damaged, or which is partially set, lumpy, or caked shall not be used.

A. Types. Type I or Type II Portland cement shall be used for all Portland cement concrete, except high early strength concrete. If high early strength is used Type I or Type III Portland cement will be permitted.

B. Blends. Different brands of cement, different types of cement, or the same grade of cement, but from different mills, shall not be mixed or placed in the same storage bin.

23.02 Portland blast – furnace slag cement. Portland blast – furnace slag cement for use in cement stabilization shall be the requirements of AASHTO: M 240, Type IS.

23.03 Portland-Pozzolan cement. Portland-Pozzolan cement shall meet the requirements of AASHTO: M240, Type IP, with the following modifications:

A. The fly ash content shall be limited to a maximum of 25 percent by weight.

B. The Pozzolan shall be limited to fly ash meeting the requirement of fly ash.

Sec. 24. – Admixtures.

24.01 Air entraining admixtures. Materials for air enhancement in Portland cement concrete mixtures shall meet the requirements of AASHTO:M 154. Compression and flexure tests shall be made at 7 and 28 days.

24.02 Chemical admixtures for concrete. Chemical admixtures for concrete shall meet the requirements for Type A, B, C, D, and F ASTM: C494, unless otherwise specified. The length
change requirements are waived. The admixtures shall contain no more than 0.8% chloride calculated as calcium chloride and the air content shall not exceed 4.0% when prepared in a standard batch without addition or air entraining agent.

24.03 Fly ash. Fly ash is the finely divided residue that results from the combustion of ground or powered coal and is transported from the boiler by flue gases. For these specifications, it is divided into two types, Type A and Type B, the type to be designated for specific usage.

Type A: This type of fly ash is used as an admixture in Portland cement concrete to promote workability and plasticity. The material shall meet the requirements of ASTM: C 618.

Type B: This type of fly ash is used as a partial replacement for Portland cement in Portland cement concrete. The material shall meet the following requirements:

A. Chemical.

| Silica on dioxide (SiO₂) + Aluminum oxide (Al₂O₃) + Iron oxide (Fe₂O₃) Minimum, percent | 70.00 |
| Silica on dioxide (SiO₂) Minimum, percent | 40.00 |
| Aluminum oxide (Al₂O₃) | 15.00 |
| Magnesium oxide (MgO) Maximum, percent | 3.00 |
| Sulphur trioxide (SO₃) Maximum, percent | 3.00 |
| Loss on ignition, Maximum, percent | 6.00 |
| Moisture content, Maximum, percent | 3.00 |
| Available alkalies as Na₂O, Maximum, percent | 1.50 |

B. Physical.

| Percent retained on No. 325 sieve, 45μ Maximum, percent | 20.00 |
| Pozzolanic activity index strength of lime pozzolan at 7 days, Minimum, psi | 800.00 |
| Change of drying shrinkage of mortar bars at 28 days, Maximum, percent | +0.03 |
| Soundness | |
| Auto clave expansion of mortar bars, Maximum, percent | 0.50 |

C. Tests. Laboratory tests for acceptance and project control will be selected by the engineer. Methods of tests shall be in accordance with the following:

| Sampling and testing fly ash | ASTM: C311 |

Sec. 25. – Concrete pipe.

25.01 Reinforced concrete pipe. Reinforced pipe shall meet the requirements of AASHTO: M170 with the following modifications and additions:
A. Coarse aggregate shall conform to the requirements of coarse aggregate, except that the requirements for gradation shall not apply.

B. Fine aggregate shall be clean white concrete sand.

C. Fly ash used as an admixture shall meet the requirements of fly ash, Type A.

D. Before manufacture, the manufacturer may request approval of modified designs which differ from those given in the specifications.

E. The manufacturer of concrete pipe shall file with the engineer a certificate stating that all concrete pipe manufactured in his plant for the use on the project contains at least the minimum requirements of reinforcement steel specified herein. The certificate shall be sworn to for the manufacturer by a person having legal authority to bind the company. The manufacturer shall submit with the certificate a guarantee providing that all concrete pipe will be placed, without cost to the purchaser, if the reinforcement steel does not meet these specifications; and the guarantee shall be worded so as to remain in effect as long as the manufacturer continues to furnish concrete pipe for the use on the project.

25.02 Non-reinforced concrete pipe. Non-reinforced concrete pipe intended to be used for the conveyance of sewage, industrial waste and storm water shall conform to the requirements of AASHTO: M86 with the following modifications and additions:

A. Same as above.

B. Same as above.

C. Same as above.

### Non-Reinforced Pipe

<table>
<thead>
<tr>
<th>Internal Diameter In.</th>
<th>Minimum Thickness of Wall, in. (1)</th>
<th>Minimum Strength lb/linear ft. Three-Edge Bearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1</td>
<td>1800</td>
</tr>
<tr>
<td>15</td>
<td>1 ¼</td>
<td>2000</td>
</tr>
<tr>
<td>18</td>
<td>1 ½</td>
<td>2200</td>
</tr>
<tr>
<td>21</td>
<td>1 ¾</td>
<td>2400</td>
</tr>
<tr>
<td>24</td>
<td>2</td>
<td>2600</td>
</tr>
</tbody>
</table>

NOTE 1: Where tongue-and-groove pipe is furnished, it shall have a minimum wall thickness of 1 ¾ inch except that the above minimum thickness applies if the groove end is modified to give a groove thickness equal to three-fourths of the thickness of the wall of pipe. This measurement shall be taken one-quarter inch from the outer end of the groove.
F. The ends of non-reinforced pipe shall be so formed that when the pipe are laid together and joined they make a conduit with a smooth and regular interior surface.

25.03 Concrete underdrain pipe. Unless otherwise restricted on the plans, concrete underdrain pipe may be extra strength porous concrete conforming to the requirements of AASHTO: M 176, or standard perforated non-reinforced concrete underdrain pipe conforming to the requirements of AASHTO: M 86, Table 1, both with the requirements of AASHTO: M 86, Table 1, Class 1.

Sec. 26. - Steel pipe.

26.01 Corrugated steel culvert pipe and pipe arches. Corrugated steel culvert pipe and pipe arches shall conform to the requirements of Type I or Type II culvert pipe AASHTO: M 36 for the specified dimensions and thicknesses with the following exception:

Special sections, such as elbows and flared end sections for these conduits shall be of the same plate thickness as the conduit to which they are joined, and shall conform to the applicable requirements of AASHTO: M 36.

26.02 Bituminous coated corrugated steel culvert pipe. Bituminous coated corrugated steel pipe shall conform to the requirements of AASHTO: M 190 for the specified sectional dimensions, plate thickness and type of bituminous coating. Coupling bands shall be fully coated with bituminous material.

Special sections, such as elbows and flared end sections, for these conduits shall be of the same plate thickness as the conduit to which they are joined and shall conform to the applicable requirements of AASHTO: M 190. Coating and invert paving shall be of the type specified.

26.03 Steel structural plate for pipe, pipe arches, and arches. Corrugated steel plate pipe, pipe arches and arches shall consist of structural plates and galvanized corrugated steel of the size, shape, and thickness shown on the plans. They shall conform to the requirements of AASHTO: M 167 and AASHTO: M 36, and the following additional requirements when applicable.

A. Bituminous coating. If bituminous coating is specified, the coating shall meet all requirements above for the type specified. After the structure has been erected, but before any backfill has been placed, the contractor shall replace any coating which may have been removed or damaged during erection on inside or outside, with bituminous material.

B. Forming and punching plates. After corrugating, each plate shall be curved to the proper radius, and the bolt holes shall be punched in accordance with dimensions shown on the plans. Bolt holes shall be in staggered rows two inches apart, and one hole shall be punched in the valley, and one in the crest of the corrugations for each longitudinal edge of each plate. The centers of the holes shall be not
closer to the edge of the plate than two times the diameter of the holes. Bolt holes for circumferential seams shall be spaced not more than 12 inches center to center. The plates shall be of such thickness and curvature that when bolted together, the circles or arches formed will be in accordance with the plans and specifications for the structure.

C. **Bolts.** Galvanized bolts, nuts and washers used in the fabrication of the structure shall be furnished by the manufacturer. They shall be at least 11/16 inch in diameter one to 1 ¾ inches long, depending on the thickness and number of plates. The length of the bolts shall be measured from under side of the bolt head. The underside of the bolt head shall be so shaped that full bearing of the bolt head is obtained. The face of the nut shall be rounded to the same curvature as the corrugations unless a shaped washer providing full bearing for the nut is used.

**Sec. 27.** – [Omitted.]

**Sec. 28.** – Pipe appurtenances.

28.01 **Flanges for cast iron pipe and fittings.** These flanges shall conform to ANSI: B 16.1 Class 125.

28.02 **Sewer joint sealing compound.** This hot pour sealing compound shall conform to the Federal Specifications SS-S 169.

28.03 **Resilient clay pipe joints.** These jointing connections shall conform to the requirements of ASTM: C 425.

28.04 **Rubber type gasket joints.**

A. **Concrete pipe jointing.** Rubber type gaskets and joints shall conform to the requirements of AASHTO: M 198, Type A, except that for pipe to be used in culvert construction, exfiltration tests will not be required.

B. **Cast iron pipe (all types).** Rubber type gasket joints for cast iron and ductile cast iron pipe shall conform to the requirements of AWWA: C 111.

1. **Plain end pipe.** Plain end cast iron pipe may be joined with steel bolted couplings.

   Certification: The pipe, gasket or joint, manufacturer shall furnish to the engineer a certification showing physical properties of the rubber gasket and results of hydrostatic tests of the gasket and pipe to be used in the work.

C. **Steel sewer and water pipe.**
1. Bell and spigot joints for steel water pipe and sewer pipe shall conform to AWWA: C 202. The rubber gasket material shall conform to AWWA: C 301.

2. Plain end steel pipe may be joined with steel bolted couplings.

28.05 Steel bolted couplings. Steel bolted couplings for joining plain end pipe (all types).

A. Couplings. Couplings shall be of the wedge-gasketed, flared sleeve type. Each coupling shall consist of one steel middle ring, two steel followers, two wedge-shaped rubber-compound gaskets and steel bolts. Couplings shall be of the proper dimensions and type applicable to the size and kind of pipe to be joined, including reducers, where required.

Sec. 29. – Precast concrete catch basin, drop inlet, and manhole units.

29.01 Description. This specification covers the manufacture of precast reinforced concrete catch basins, drop inlets and manhole units. The finished units shall conform to the dimensions shown on the plans.

29.02 Materials. The materials to be used shall conform to the following:

All precast concrete structures shall meet ASTM C76 (latest edition).

29.03 Manufacture.

A. Testing and inspection. Acceptability of the units shall be determined by the results of crushing tests on concrete cylinders and by inspection during manufacture to determine their conformance with the design and workmanship prescribed in these specifications and on the plans.

The units shall be considered ready for acceptance regardless of age when they conform to the strength requirements, as indicated by the specified tests.

The manufacturer shall furnish such facilities and assistance as is required to carry on the sampling and testing in an expeditious and satisfactory manner.

B. Reinforcement. Reinforcement shall be as shown on the plans, with the following permissible variations in position:

Except at pipe connections, variations in the position of the reinforcement shall exceed one-fourth inch from the position shown in the design. The cover on the reinforcement shall not be less than that shown on the plans.
C. **Casting.** The concrete in each unit shall be placed without interruption, and shall be consolidated by the use of an approved vibrator, supplemented by such hand-tamping as may be necessary to force the concrete into the corners of the forms and prevent the formation of stone pockets or cleavage planes.

1. Holes or pipes. Each hole shall be approximately four inches larger than the outside diameter of the pipe for which it is provided.

D. **Curing.** The units shall be cured by one or more of the methods given herein for a sufficient length of time so that the concrete will develop the specified compressive strength.

1. The units may be placed in a curing chamber, free from outside drafts and cured in a moist atmosphere not exceeding 160 degrees F. maintained by the injection of steam for such time and such temperature as may be needed to obtain proper curing. The curing chamber shall be so constructed and the units so placed as to allow full circulation of steam around each entire unit.

2. The units may be cured by being kept wet for not less than 72 hours under normal summer temperature conditions. In colder weather the water curing period shall be extended, as directed by the engineer, to provide equivalent curing. The units shall be protected from freezing from the time the concrete is placed and until curing is completed.

E. **Removal of forms.** The forms shall remain in place until they can be removed without damage to the unit.

F. **Workmanship.** The units shall be true to shape and their surfaces shall be smooth, dense and uniform in appearance. Minor surface cavities or irregularities which do not impair the service value of the unit and which can be corrected without marring its appearance shall be pointed with approved mortar as soon as the forms are removed. Such minor defects shall not constitute cause for rejection.

G. **Compressive strength.** Compression tests for satisfying the minimum strength requirements shall be made on cylinders. A minimum of three cylinders will be made from each day’s pour and cured in the same manner as the precast units.

H. **Rejection.** Units shall be subject to rejection because of failure to meet any of the requirements specified above; and in addition, any or all of the following defects shall be sufficient cause for rejection:
1. Defects that indicate imperfect mixing and molding.
2. Defects indicating honeycombed or open texture.
3. Exposure of the reinforcement when such exposure would indicate that the reinforcement is misplaced.

I. **Marking.** Each unit shall bear the name or trademark of the manufacturer and the date it was cast, stenciled or otherwise placed thereon in such a manner as to be clearly legible at time of delivery.

J. **Testing.** Method of test shall be in accordance with the following:

<table>
<thead>
<tr>
<th>Compressive Strength</th>
<th>AASHTO: T22 and T24</th>
</tr>
</thead>
</table>

Sec. 30. – Grassing.
30.01 Grassing. The grassing specification to be used in these Chattahoochee County specifications shall be the “Manual for Erosion and Sediment Control in Georgia.” The specific sections appertaining (but not limited to) Disturbed Area Stabilization Ds 1, and Ds 3, indicated in Chapter 6, pages 6-161 through 6-182.
SECTION 6
ADMINISTRATION

These rules and regulations shall be administered by the Planning Commission of Chattahoochee County, Georgia. The Commission may from time to time issue instructions and operating procedures to be followed in the administration of these regulations to the end that the public may be informed and the approval of the plats may be expedited.

(A) EXCEPTIONS

(1) Construction Design Standards

Where the County Engineer finds that due to particular circumstances, existing standards and specifications of the County are inappropriate, he may waive such requirements subject to specifying in writing other similar requirements that are not detrimental to the public health, safety or welfare or injurious to other property owners.

(2) Substandard Lot Subdivisions

In areas developed prior to the enactment of the Zoning Ordinance of Chattahoochee County, Georgia, dwelling units were constructed on what would now be substandard lots when subdivided. In situations where a resubdivision of land is required in order to sell existing dwelling units, such lots are hereby exempted from the lot size requirements of this ordinance.

(B) VARIANCES

(1) Where the Board of Commissioners finds that extraordinary hardships or practical difficulties may result from strict compliance with these regulations and/or the purpose of these regulations may be served to a greater extent by an alternative proposal, it may approve variances to these subdivision regulations so that substantial justice may be done and the public interest secured, provided that such variance shall not have the effect of nullifying the intent and purpose of these regulations; and further provided the Planning Commission shall not recommend a variance unless it shall make findings based upon the evidence presented to it in each specific case that:

a. The granting of the variance will not be detrimental to the public safety, health or welfare or injurious to other property;
b. The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are not applicable generally to other property;

c. Because of the particular physical surroundings, shape or topographical conditions of the specific property involved, a particular hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations are carried out;

d. The variances will not in any manner vary the provisions of the Zoning Ordinance, Comprehensive Plan or Official Map.

(2) In approving variances, the Board of Commissioners may require such conditions as it will, in its judgment, secure substantially the objectives of the standards or requirements of these regulations.

(C) WAIVER

The Planning Commission shall have the authority to waive any one or more of the minimum requirements for roads when in those circumstances, the creation of a road is for the purpose of property division among family members. This includes the possibility of allowing a private access easement. This section is intended to provide the Planning Commission with flexibility in the requirements for roads where property is distributed among family members and not with the intention to provide an exception of the minimum requirements established for roads to facilitate commercial subdivision development.

(D) AMENDMENTS

These regulations may be amended from time to time by the County Commission Chairman and members of the Board of Commissioners, but no amendment shall become effective unless it shall have been proposed by or shall have been submitted to the Planning Commission for review and recommendations. The Planning Commission shall have forty-five (45) days within which to submit its report. If the Planning Commission fails to submit a report within the forty-five (45) day period, it shall be deemed to have approved the amendment.

Before enacting an amendment to this Resolution, the Planning Commission, acting for the County, shall hold a public hearing thereon, at least fifteen (15) days notice of the time and place of which shall be published in a newspaper deemed as the official organ for legal notices for Chattahoochee County, Georgia.
(E) **APPEALS**

In the event a developer desires to appeal any final decision made by the Planning Commission under these Subdivision regulations, said developer shall first present his appeal to the Board of Commissioners of Chattahoochee County who shall hold a hearing on the decision of the Planning Commission. Any further appeals shall be as provided by law after the aforesaid procedure has been followed.

(F) **SEPARABILITY**

Should any section or provision of this Resolution be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of the Resolution as a whole or part thereof which is not specifically declared to be invalid or unconstitutional.

(G) **CONFLICT WITH OTHER REGULATIONS**

Whenever the provisions of this Resolution and those of some other ordinance, resolution, or statute apply to the same subject matter, that ordinance or resolution requiring the highest or stricter standard shall govern.

(H) **FEES**

Fees related to matters pertaining to this ordinance are established by the Board of Commissioners and posted in the Building Department.
SECTION 7

Effective Date

This Ordinance, which revises and supercedes previous versions of the Subdivision Regulations of Chattahoochee County, shall take effect and be in force on the _____ day of ____________, 2011.

Introduced and read at a regular meeting of the Board of Commissioners of Chattahoochee County on the _____ day of ____________, 2011; read a second time at a regular meeting of said Commission held on the _____ day of ____________, 2011; and adopted at said meeting by the affirmative vote of members of the Commission.

Commissioner Hudgins voting: ______
Commissioner Coleman voting: ______
Commissioner Robinson voting: ______

Board of Commissioners of Chattahoochee County, Georgia

By: __________________________________________

________________________, Chairman

Attest:

__________________________________________

Clerk of Board of Commissioners

(affix seal)