

ARTICLE XV DEVELOPMENT DESIGN REQUIREMENTS

15.1 STREETS AND RIGHTS-OF-WAY

All roads and bridges constructed in the Town of Braselton shall be designed in accordance with latest editions of the American Association of State Highway and Transportation Officials (AASHTO) design guides and specifications except as provided in these regulations. If design does not meet ASSHTO standards, a note shall be placed on every plat of the development stating that "failure to comply with ASSHTO standards may result in the Town's inability to qualify for LARP, state or federal funding for maintenance. The developer and all subsequent land owners shall be responsible for all maintenance and repair cost to the right-of-way."

15.1.1 CLASSIFICATION SYSTEM.

Five functional classifications are identified in the Town of Braselton Comprehensive Plan. The five classification categories shall be defined as follows:

- A. *Arterial street.* A street which is designated as such on the major thoroughfare plan and which is intended to provide, within an identified planning period, swift, safe and convenient traffic movement within and through the Town.
- B. *Collector street.* A street which is designated as such on the major thoroughfare plan and which is intended to collect traffic from local or other collector streets and safely carry such traffic to other streets or destinations along the collector street.
- C. *Local street.* A street that provides access to adjoining properties and circulation within a limited area. Local streets serving residential areas shall be designed to discourage use by through traffic.

15.1.2 MINIMUM RIGHT-OF-WAY WIDTHS AND DEDICATION REQUIREMENTS.

Should a proposed subdivision adjoin an existing street, the developer shall dedicate additional right-of-way to meet one-half the minimum right-of-way requirement for the applicable functional classification of the adjoining street.

- A. *Minimum right-of-way and pavement widths. Functional Classification Minimum R/W Minimum Pavement Width*

Arterial street 100' Determined by Engineer based on 10 -year ADT forecast.

Collector street 80' Determined by Engineer based on 10 -year ADT forecast.

Local street - Residential 50' r/w 22' pavement width and 26' from b/c to b/c**

Local street - Residential one-way 50' r/w 14' asphalt 18'b/c***

Alley - Residential 24' asphalt two-way 16' asphalt one-way ***

Rural residential without curb and gutter, permitted only in subdivisions consisting of 5-acre and larger lots. 60' r/w 24'

Other local 60' r/w 24'

*ADT - Average Daily Traffic as defined by Institute of Transportation Engineers.

**Back of concrete curb and gutter to back of concrete curb and gutter shall measure at least 26 feet.

*** Reduced r/w for private roads only. LARP funding may not be available where state standards are not met.

- B. *Minimum pavement widths for Arterial and Collector Streets shall be based on a 10 year average daily traffic forecast.*

Pavement Widths ADT

24 feet Less than 6,000

48 feet 6,000 to 20,000

72 feet greater than 20,000

- C. *Median width.* Minimum median width for a divided street shall be at least twenty-four 24 feet.

15.1.3 ROADWAY SECTIONAL COMPOSITION STANDARDS BY USE AND FUNCTIONAL CLASSIFICATION.

The applicable standard shall be based on functional classification and the predominant zoning through which a street passes. See latest edition of the Georgia Department of Transportation Standard Specifications for the Construction of Roads and Bridges for specifications of referenced asphaltic concrete types. For all street classifications, before asphalt pavement is placed a Bituminous Prime shall be applied to the base material in accordance with DOT specifications. Application rate shall be a minimum of 0.15 gallons per square yard.

A. Residential

a.

1 ½" Asphaltic concrete Type "F" (top course).

2" Asphaltic concrete Type "B" (binder).

6" Crusher run or graded aggregate base for main line pavement.

10" Crusher run or graded aggregate base for cul-de-sacs.

Subgrade stabilized with stone, unless material in place weighs at least 95 lbs./cu. ft.

or

b.

1 ½" Asphaltic concrete Type "F" (top course).

2" Asphaltic concrete Type "B" (binder).

6" Soil cement base for main line pavement – 10" Soil cement base for cul-de-sacs.

Soil cement shall be mixed in place - compacted to 98% maximum dry density per standard proctor test ASTM D698.

Subgrade stabilized with stone, unless material in place weighs at least 95 lbs./cu. ft.

or

c.

" Concrete pavement per specifications detailed in section 15.5.

4" Crusher run or graded aggregate base course compacted to 98% maximum dry density per standard proctor test ASTM D698.

B. Office, institutional, commercial and all collectors.

a.

1½" Asphaltic concrete Type "F" (top course).

2½" Asphaltic concrete Type "B" (binder).

8" Graded aggregate or crusher run base course for main line pavement.

10" Graded aggregate or crusher run base course for cul-de-sacs.

Base shall be compacted to 98% maximum dry density per standard proctor test ASTM D698.

Subgrade stabilized with stone, unless material in place weighs at least 95-lbs./cu. ft.

Or

b.

1½" Asphaltic concrete Type "F" (top course)

2½" Asphaltic concrete Type "B" (binder).

8" Soil cement base for main line pavement

10" Soil cement base for cul-de-sac.

Soil cement shall be mixed in place - compacted to 98% maximum dry density per standard proctor test ASTM D698.

Subgrade stabilized with stone, unless material in place weighs at least 95-lbs./cu. ft.

or

c.

7" Concrete pavement per specifications detailed in section 15.5.

4" Crusher run or graded aggregate base course compacted to 98% maximum dry density per standard proctor test ASTM D698.

C. *Industrial and all arterials.*

a.

1½" Asphaltic concrete Type "F" (top course).

2" Asphaltic concrete Type "B" (binder).

5" Asphaltic base.

8" Graded aggregate or crusher run base course compacted to 98% maximum dry density per standard proctor test ASTM D698.

Subgrade stabilized with stone, unless material in place weighs at least 95 lbs./cu.ft.

or

b.

1½" Asphaltic concrete Type "F" (top course).

2" Asphaltic concrete Type "B" (binder).

5" Asphaltic base.

8" Soil cement stabilized base course mixed in place compacted to 98% maximum dry density per standard proctor test ASTM D698.

Subgrade stabilized with stone, unless material in place weighs at least 95-lbs./cu. ft.

or

c.

8" Concrete pavement per specifications detailed in section 15.5

4" Crusher run or graded aggregate base course compacted to 98% maximum dry density per standard proctor test ASTM D698.

D. *Typical Road Cross Sections.*

For typical roadway cross sections with asphalt pavements

15.1.4 SUBGRADE, BASE AND PAVEMENT MATERIAL AND CONSTRUCTION SPECIFICATIONS.

- A. All tests and data described below shall be conducted or provided and paid for by the paving contractor or the developer. Test results shall be submitted to the Town Engineer for review and/or approval.
- B. Subgrade: Embankments shall be constructed in eight to twelve inch lifts. Individual lifts shall be compacted using sheep's foot rollers, vibratory compactors, pneumatic tire rollers or other equipment capable of obtaining the required 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 designed cross-section shall be +/- ¼ inch. Soil density tests shall be performed on roadway fills 4 feet in height and greater. The compaction tests will be performed to within twelve 12 inches of the final grade of the subgrade. For the fills requiring compaction tests they shall be compacted to ninety-five (95) percent of maximum dry density per the standard proctor test (ASTM D698, AASHTO T99). One set of compaction tests shall be performed on every other twelve 12 inch lift at one hundred-

foot intervals along the roadway fill section. An independent party selected by the developer's engineer and approved by the Town Engineering shall perform the tests. Where the subgrade compaction is determined to be less than the required degree, the developer shall remove, replace, and/or recompact the section in question, or use other means approved by the Town Engineer, until the density is determined to meet the required limit. Copies of all test results shall be submitted to the Town Engineer. The compaction of the top twelve 12 inches of the subgrade shall be inspected by proof rolling. The subgrade shall have sufficient stability to support any and all types of construction equipment used to construct the roadway without "pumping" (vertical and/or horizontal displacement of the subgrade). The "proof-roll" compaction inspection of the subgrade shall be by a vehicle with a minimum gross vehicle weight of 24,000 pounds, fully loaded with a minimum of 16 tons (52,000 pounds) of graded aggregate (54,000 pounds total weight minimum). The weight of the proof-roll inspection vehicle and the accompanying load shall be shown on a printed "load-out" ticket from a reputable quarry. The Town Engineer shall approve all subgrades. The contractor, at the contractor's expense, shall correct any areas not passing the proof roll inspection.

C. Concrete Pavement:

1. Concrete pavement compressive strength shall be four thousand (4,000) psi at twenty-eight (28) days. Concrete test cylinders will be taken from each batch poured for every seven hundred fifty (750) feet of street-paving construction. These shall be tested according to ASTM C51-69 and C59-72 to ascertain the twenty-eight day compressive strength.
2. A concrete slump test (ASTM C145-74) will be conducted at the same time that the cylinders are made. The concrete shall not be accepted which has a slump value greater than 2 ½ inches.
3. Core samples shall be made at intervals of not less than 500 feet and not more than 1,000 feet of paving. Core sample report must be approved by the Town Engineer prior to final plat approval.

D. Asphalt Pavement:

1. Placement of the base material and asphalt shall be inspected and approved by the Town Engineer as specified below. The paving contractor/developer is responsible for requesting such inspections, and placement of base and /or asphalt shall not be done until such inspections have been scheduled.
2. The compacted base course (graded aggregate or crusher run) shall have sufficient stability to support any and all types of construction equipment used to construct the roadway without "pumping" (vertical and/or horizontal displacement of the base due to any number of factors including too much water, not enough compactive effort, etc.), regardless of compaction. The "proof-roll" compaction inspection of the graded aggregate base shall be by a vehicle with a minimum gross vehicle weight of 24,000 pounds, fully loaded with a minimum of 16 tons (52,000 pounds) of graded aggregate (54,000 pounds total weight minimum). The weight of the proof-roll inspection vehicle and the accompanying load shall be shown on a printed "load-out" ticket from a reputable quarry. A representative of the Road Department or Public Works shall inspect all graded aggregate bases. The contractor, at the contractor's expense, shall correct any areas not passing the proof-roll inspection.
3. The graded aggregate base thickness, as required in the current Development regulations, shall not be deficient in any area by more than ½ total inches. Any deficient area shall be corrected by adding additional quantities of the same materials and rebuilt to the desired thickness. The contractor, at contractor's expense, and during the proof-roll compaction inspection process, shall do the

measurement. Three holes shall be dug every 1500 feet or one hole per each 500 feet, to confirm the required thickness. At least one hole shall be dug for any areas less than the above footage. The Town Engineer shall determine the hole(s) location and confirm the depth of graded aggregate base.

4. Core samples shall be taken of the asphalt at intervals of not less than 500 feet and not more than 500 feet. Samples shall be taken from the center of the travel lane and samples shall alternate between travel lanes. The thickness of the asphalt shall not be less than 1/4" from the plan dimensions. Core sample report must be approved by the Town Engineer prior to final plat approval.
- E. Subdrains: Lateral subdrains shall be constructed at a minimum interval of every 500 ft. for roadways with a continuous grade of 2% or less, and in all sag vertical curves and cul-de-sacs. The top of the subdrain shall be at the interface of the subgrade and the subbase. For all locations in the roadway, the subdrain shall extend from the centerline to the nearest drop inlet or ditch on each side of the road. For cul-de-sacs, the subdrain shall be designed to accommodate the location of the drop inlet and expected groundwater flow. The subdrain shall consist of a 6 inch perforated plastic pipe and be placed at the bottom of a two foot by two foot ditch backfilled with AASHTO No. 57 gradation material.

15.1.5 DESIGN SPEED AND GRADE.

Street Classification

	<i>Maximum Grade</i>	<i>Design Speed</i>	<i>Minimum Grade</i>
Arterial	8%	55	1%
Collector 1	10%	45	1%
Local Residential			
(less than 5 acres)	15%	25	1%
(5 acres or more)	15%	25	1%
Other local	15%	55	1%

Local streets may be designed for speeds less than those listed above. The Town Engineer and Planning Director shall approve the design of local streets if speeds are below those posted above. Such designs should incorporate traffic calming concepts and be approved by a professional engineer.

15.1.6 MINIMUM CUL-DE-SAC SPECIFICATIONS.

The distance between the curb and gutter (or edge of pavement) and the right-of-way within a cul-de-sac shall be at least as wide as such distance along a given roadway prior to entering a cul-de-sac.

- A. *Residential cul-de-sacs.* Sixty-foot right-of-way radius - minimum forty-foot pavement radius. Islands are allowed in cul-de-sacs provided that the designer or engineer submits evidence that there would be no problems or difficulty with access by or operation of public safety vehicles and school buses.
- B. *Commercial cul-de-sacs.* Sixty-foot right-of-way radius - minimum forty-foot pavement radius.
- C. *Industrial cul-de-sacs.* Industrial cul-de-sacs shall provide a sixty-foot radius without an island, and shall provide a minimum forty-foot pavement width or radius, as applicable.

15.1.7 RESIDENTIAL ACCESS.

Residential driveway cuts. On residential lots, 1 driveway cut shall be provided subject to the following conditions

- A. The property has the minimum amount of road frontage for the zoning district in which it is located; and
- B. The minimum requirements for sight distance have been met.
- C *Exceptions.*
 - 1. No more than 5 lots shall fully abut the turnaround portion of a cul-de-sac and each of those lots must have a minimum of 40 feet of street frontage.
 - 2. *Shared Driveways.* Upon determination by the Town Engineer that the sight distance requirements of this section cannot be met for individual driveways, a maximum of 2 lots may share a residential driveway. Shared driveways must meet all of the following conditions:
 - a. The width of the shared driveway shall be a minimum of 20 feet and constructed of an all weather surface approved by the Town Engineer.
 - b. A permanent cross-access easement agreement shall be recorded and the easement reflected on the plat of both properties.
 - c. The street address of each lot shall be clearly marked at the road frontage/curb cut and at the fork in the shared driveway.
 - d. Each lot must have a minimum of 100 feet of immediate road frontage.
 - e. The shared driveway must comply with the minimum requirements for sight distance.
 - 3. *Multiple frontage lot.* When a lot has multiple frontages, the driveway cut(s) shall be located on the street with the lowest functional classification.
 - 4. *Circular driveways.* Circular driveways may be permitted if sight distance requirements can be met for both entrances. Circular driveways may also connect multiple frontages provided sight distance requirements can be met for both entrances and both streets have the same functional classification.
 - 5. No residential lot may have a mailing address on a street where a driveway cut does not exist.

15.1.8 NEW STREET AND NONRESIDENTIAL ACCESS CUTS.

The language contained in this section refers to nonresidential curb cuts only. The language below applies equally to proposed new streets.

- A. *Nonresidential driveways.* Nonresidential driveway cuts shall be permitted under the following conditions:
 - 1. Required minimum distance between a nonresidential driveway and an existing street intersection or another nonresidential driveway.

<i>Type of Street</i>	Distance from intersection
<i>Local</i>	100
<i>Collector</i>	200
<i>Arterial</i>	250

- 2. Distances shall be measured along a right-of-way line from the point of intersection of the nearest right-of-way of an existing street to the nearest pavement edge of a proposed driveway. If a proposed driveway is on the opposite side of the street from a nonresidential driveway or an existing street intersection, the centerline of the proposed driveway shall be aligned with the existing driveway or street or shall be offset the distances shown above.
- B. Required minimum distance between a nonresidential driveway and a street or another nonresidential driveway (other than from existing intersections).

<i>Type of Street</i>	Distance from intersection
<i>Local</i>	300
<i>Collector</i>	400
<i>Arterial</i>	500

1. The minimum distance between nonresidential driveway cuts shall be measured along a right-of-way line from its point of intersection with the nearest right-of-way of any existing pavement edge to the nearest pavement edge of the proposed nonresidential driveway. If a proposed driveway is on the opposite side of an existing street intersection or nonresidential driveway, the centerline of the proposed driveway or street shall be aligned with the existing driveway or street or shall be offset the distances shown above.
2. *Interparcel access.* Interparcel access shall be required in order to facilitate movement between and among parcels adjoining arterial or collector streets to improve overall safety. When the natural grade along a common property line exceeds 15 percent throughout its length, such access shall be at the option of the property owners.
3. *Exceptions.* In case where it is determined that for technical or legal reasons these provisions for access cannot be met, the number and location of curb cuts shall be considered by DOT or by the Town Engineer and the Planning Director, as appropriate.
4. *Multiple-frontage lots.* When a residential lot has multiple frontages, the driveway(s) shall be located on the street with the lowest functional classification.

15.1.9 ACCELERATION AND DECELERATION LANES.

Minimum Deceleration Lane Design

Collector (Design speed - 45 mph) 120 feet long and 50 foot taper
Arterial (Design speed - 55 mph) 200 feet long and 50 foot taper

For any driveway or street located on a major thoroughfare, except driveways serving 1 to 5 single - family residences, a deceleration lane shall be provided. The minimum length for deceleration lanes at all new street locations shall be as shown above except that either the Town Engineer or the state department of transportation’s district traffic and safety engineer, as applicable, may specify longer or shorter deceleration lanes based on grade, distance from an intersection, design speed, etc. The Town Engineer shall make recommendations to the district traffic engineer on the need for and design of acceleration lanes on state routes. The Town Engineer shall determine the need for and design specifications for acceleration lanes along Town streets.

15.1.10 SIGHT DISTANCE AND ALIGNMENT.

All driveways shall be located and streets aligned so as to provide at least the horizontal and vertical sight distances as listed below. All sight distance shall be determined by the methods found in the latest edition of A Policy on Geometric Design of Highways and Streets (AASHTO).

- A. Horizontal sight distance refers to the ability to detect objects in the roadway while negotiating a horizontal curve. The distance is measured from a point at which the height of the driver’s eye is 5.50 feet above the roadway to a stationary object having a height of 6 inches above the roadway.
Arterial streets.....500 feet

- Collector streets..... 350 feet
- Local streets.....200 feet

B. Vertical sight distance refers to the ability to detect an object in the roadway while negotiating the crest of a hill. The distance is measured the same as for horizontal curves.

- 20 miles per hour design = 150 ft. sight distance
- 25 miles per hour design = 175 ft. sight distance
- 50 miles per hour design = 200 ft. sight distance
- 55 miles per hour design = 240 ft. sight distance
- 40 miles per hour design = 275 ft. sight distance
- 50 miles per hour design = 350 ft. sight distance

In approaches to intersections, there shall be a leveling of the street at a grade not exceeding 4 percent for a distance of not less than 50 feet from the nearest right-of-way of the intersecting street.

C. Minimum horizontal, radii of centerline curvature.

- Arterial streets - as specified by state DOT.
- Otherwise 1,260 feet
- Collector streets 575 feet
- Local streets 55 mph, 275 feet
-50 mph, 175 feet
-25 mph, 170 feet
- Dead end* and loop streets.....75 feet

D. Tangents. Between reverse curves there shall be not less than the following minimum tangents. Arterial streets - as specified by state DOT.

- Otherwise175 feet
- Collector streets 50 feet
- Local streets where there is no super elevation..... 25 feet

15.1.11 STREET RESURFACING.

- A. All work shall be in conformance with the Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges, latest edition.
- B. All weak areas shall be removed and repaired with proper full depth patches. All debris (soil, GAB, and asphalt) shall be removed and disposed of properly.
- C. The surface to be overlaid shall be thoroughly cleaned and all debris removed.
- D. A tack coat of asphalt (AC-10 or AC-20) shall be applied to the entire surface to be overlaid.
- E. The overlay thickness shall be 1 ½ inches of Type F or 9.5 mm SuperPave asphalt concrete. For lifts of 1 ½ inches or greater, Type E or 12.5 mm SuperPave asphalt concrete shall be used. The maximum lift thickness shall be 2 inches.
- F. Prior to placing the overlay, a leveling course of Type G sand-asphalt shall be used where necessary or as determined by the Engineering or Road Department.
- G. The Town will evaluate the existing pavement conditions and determine the overlay thickness using the methods in the Asphalt Institute’s manual, Asphalt Overlays for Highway and Street Rehabilitation. For all streets other than residential, actual traffic counts will be obtained and coring, or other acceptable methods of obtaining the actual existing pavement thickness, will be utilized. In no case shall an overlay thickness be less than one (1) inch.

15.1.12 STREET NAMES.

Street names shall not be similar, duplicate, nor sound similar to the names of existing streets in the Town. Hyphenating, dividing 1 word into 2 words, affixing "Drive" for "Road", etc., other manipulations of an existing street name shall not constitute an acceptable street name. Similar sounding names shall be unacceptable regardless of spelling.

- A. The county's established residential street numbering system shall be utilized for every residential, commercial or industrial subdivision in the county.
- B. Every building shall be assigned and display a property number. Property numbers shall be so located and of such a size as to be visible from the street. If a mailbox is located at the street, such mailbox shall have the property number affixed thereto with numerals measuring at least 3 inches in height.
- C. It shall be unlawful for any person to alter, deface or take down any property number placed in accordance with this provision except for repair or replacement of such number.
- D. The continuation of any road or the design and construction of a new road results in the creation of a four-way intersection, the new road or continued road must have the same name the entire duration of the road unless otherwise prohibited by law.

15.1.13 STREET AND TRAFFIC SIGNS.

Developers shall be responsible for placing street signs and traffic signs in accordance with these regulations. All required signs shall be in place prior to the occupancy of any structure.

- A. Major street name signs shall be installed above the intersecting local street name sign. A street name sign shall be installed for every street at an intersection. Standard street name signs shall have at least four-inch high letters for major thoroughfares and at least three-inch high letters for local streets.
- B. Traffic control devices to include signs, signals, street markings, etc., shall be installed by the developer. The type and location of traffic control devices shall be determined by the Town Engineer based upon the latest edition of the Manual on Uniform Traffic Control Devices. Stop signs shall be installed at every intersection.

15.1.14 GRASSING OF SHOULDERS.

The developer shall be responsible for providing adequate and effective ground cover on the shoulders of the roads as early in the construction process as possible. The requirements for the erosion and sediment control plan (see county erosion and sediment control ordinance) include information on vegetation types and planting dates. Temporary ground cover is permissible within the limits of the erosion and sediment control plan; however, in no case will rye grass be considered, nor accepted, as permanent ground cover.

15.1.15 UTILITY LOCATIONS.

In order to promote uniformity in installation and more effective and less damaging maintenance, a uniform system for locating utilities is hereby established. Applicable utilities and their locations shall be noted on subdivision construction plans. For new developments, all new and existing utilities must be located (or relocated) underground.

15.1.16 SIDEWALKS.

- A. Sidewalks installed in subdivisions may be installed on the Town right-of-way in accordance with the location and dimensions given below. The Town, through these requirements, does not intend to accept these sidewalks as Town property. The Town shall not be responsible for the maintenance and repair of sidewalks. Maintenance

and/or repair of sidewalks are the responsibility of adjacent property owners or the applicable homeowner's association.

- B. Sidewalks shall be no less than 4 feet wide; A right-of-way cross section detail shall be shown on development plans and final plats that illustrate all utility locations in relation to the street, sidewalks, and other right-of-way improvements. (amended 5-05)
- C. Sidewalks to be installed and/or located on rights-of-way belonging to the State of Georgia or under the control of the State must be installed and constructed according to the Georgia Department of Transportation design standards and regulations.

15.1.17 LANDSCAPE ISLANDS/TRAFFIC DIVIDERS.

In order to promote uniformity in the configuration and construction of landscape islands/traffic dividers ("islands/dividers") within the right-of-way at entrances to residential subdivisions, a uniform standard is hereby established.

- A. Where an island/divider is planned, the right-of-way shall be the normal right-of-way width plus the width of the island or special landscape feature at the connecting public road. The right-of-way shall remain the specified width for a distance of 150 feet at which point the right-of-way will taper to the normal right-of-way width.
- C. The island/divider shall be delineated with curb and gutter regardless of whether curb and gutter is required in the remainder of the development.
- D. The island/divider shall not be more than 100 feet long and shall not be more than 16 feet in width from the back of curb to back of curb with a 14 foot travel lane on each side of the island/divider.
- E. No trees or plants shall be placed in the island/divider that will block site view of oncoming traffic. Any object encroaching into the right of way or obstructing to the view of oncoming traffic shall be removed or trimmed. Paragraph (4) above means that any object placed in an island/divider that will block someone's view of cars shall be removed.

15.2 STORMWATER DRAINAGE PLAN

A. *Street Drainage.*

1. All new streets constructed within the Town except those constructed to serve subdivisions in which all lots are 5 acres or larger, shall have curbs and gutters. Rolled back curbs are acceptable, straight back are also allowed. Curb shall be 6 inches high and gutter shall be 2'-0" face of gutter to back of curb.
2. Curb inlets shall conform to the state department of transportation (GDOT) specifications. Spacing of inlets shall not exceed 500 feet on a continuous grade and shall be sized to intercept a minimum of 85 percent of the in the gutter section. Inlets shall be located to prevent stormwater from crossing an intersection. Inlets located in a sag shall be sized to prevent gutter spread from covering more than half of the road's travel surface during the 25-year storm event. If grates are proposed for inlet devices, the bars must be perpendicular to the road and shall pose no hazard to bicycle traffic. In any case, throat height shall not exceed 8 inches.
3. Only reinforced concrete may be used for storm drain structures under the roadway and in applications to create buildable lots. The pipe must be designed and installed to meet the requirements in the latest edition of the Concrete Pipe Design Manual. A third-party pipe installation inspection report will be required for all pipes being placed in the ground. The report must be submitted prior to the final inspection by the Town. The pipe installation report shall include at least the following:
 - a. Description of subgrade and bedding used in installation.

- b. Pipe material certifications.
 - c. Description of backfill methods used.
 - d. Certification from a Registered Professional Engineer that the pipe was installed in accordance to the Approved Construction Plans and any applicable Georgia DOT, AASHTO or American Concrete Pipe Association Standards. The Town Engineer can request additional information for the pipe installation report as a condition of issuing the Land Disturbance Permit. The Town Engineer shall also be notified before the pipe installation begins so the Town may also periodically inspect the installation process. All other pipe materials may be used in applications approved by the Georgia Department of Transportation.
4. Piping systems
- a. Cross drains, laterals and outfalls which are part of a street drainage system shall be sized for subcritical gravity flow. In the case of complex piping systems, the design engineer must provide calculations to show that no pipe is flowing under pressurized conditions and that the hydraulic grade line is below finished grade at points for the 25-year storm event. Calculations determining the headwater elevation (inlet or outlet controlled) for the 100-year storm shall be provided by the design engineer. The backwater area inundated by the 100-year storm shall be shown and designated on the final plat as a 100-year flood plain. It shall be based on as-built road conditions and shall be subject to the same conditions and limitations as any other flood plain.
 - b. Storm drains shall not exceed five hundred (500) feet of continuous length between an inlet, manhole or junction box access.
 - c. In residential subdivisions outfall piping from catch basins shall, at a minimum, extend from the street to a point 30 feet behind the front building setback line or to the 100-year floodplain, whichever is less.
 - d. As-built drawings of piping systems shall be submitted to the Town Engineer upon completion of construction and prior to final plat approval. Certification from a registered professional engineer, that the piping systems will function as designed must also be submitted prior to final plat approval.
 - e. All new bridges shall be constructed of concrete unless otherwise approved by the Town Engineer. They shall have a deck width equal to the approach roadway and be designed for a HS 20-44 design load. For bridges crossing streams with a regulatory floodway, the bridge shall span the floodway and have three feet of freeboard. For streams without a regulatory floodway, the bridge shall be designed to convey a 100- year storm with three feet of freeboard and create no more than a foot of backwater.
 - f. Culverts carrying streams or ditch flow under a street shall be sized so that headwater height does not exceed the curb height, or shoulder height where there are no curbs and gutters, during the 100-year storm. Calculations determining the headwater elevation (inlet or outlet controlled) for the 100-year storms shall be provided by the design engineer. The backwater area inundated by the 100-year storm shall be shown and designated on the final plat as a 100-year flood plain. It shall be based on as-built road conditions and shall be subject to the same conditions and limitations as any other flood plain.
 - g. All culverts and storm drain system outfalls shall have headwalls or tailwalls. Flared end, vertical wall or vertical wall with wing walls types are acceptable.
 - h. All outlets must be designed with energy dissipaters if outlet velocities are greater than 4.0 ft./sec., during the 25-year design storm.

5. Drainage ditches shall have a minimum bottom width of 2 feet and shall have 3:1 side slopes. Ditches must be designed for to handle the 100-year flow rate and lined with an appropriate erosion control matting capable of withstanding the 25-year flow velocity
6. Where streams or creeks exist within the development, provision shall be made to limit the adverse effects of any increase in flow due to development. Such provisions shall be a part of the erosion and sedimentation control plan and shall include a buffer in accordance with the standards provided in this chapter
7. Stormwater runoff control.
 - a. Acceptable methods for calculating runoff include the Universal Rational, Dekalb Rational, and the SCS method. The Bowstring method is not acceptable. The SCS method is the only method acceptable for detention pond analysis. The Rational method may only be used for culvert pipe sizing calculations, unless it can be proven scientifically that it is more accurate than the SCS method.
 - b. Runoff, flood routing and detention or retention basin sizing and outlet control device design calculations shall be presented in the form of a hydrological study and report. Two (2) copies shall be submitted with the site plan.
 - c. Stormwater retention. Stormwater retention refers to those methods of stormwater handling that allow no discharge downstream. Disposal by means of infiltration may be proposed for stormwater facilities. The basin design must meet the requirements of Federal Highway Administration technical standard FHWA-TS-80-218 (1980) Underground Disposal of Stormwater Runoff, Design Guidelines Manual.
 - e. Drainage easements shall be designated for channels, ditches, detention basins, infiltration areas, streams, creeks, etc. which are a part of the developments stormwater drainage plan. These easements shall normally be 20 feet in width, except where existing streams or creeks or constructed basins require greater width. Since these easements are part of an overall system for the development, neither the easement location nor the system element located in it may be modified without the approval of the Town Engineer.
 - d. If a project is developed in phases, the stormwater management system in an initial phase must be sized and constructed to handle the quantity and effects of stormwater that may flow into that system from subsequent phases.

15.3 EROSION AND SEDIMENTATION CONTROL

15.3.0 Purpose

To provide for the health, safety and welfare of the public and a healthy economic climate within the Town of Braselton and the region, it is essential that the quality of public water supplies be assured. The installation and use of measures to prevent, mitigate, and manage soil erosion sedimentation and storm water provides means in which to prevent harmful impacts to the natural environment. Pursuant to the Official Code of Georgia Annotated, Section 12-7-2, it is therefore declared the policy of the this Town and the intent of this chapter to strengthen and extend the present erosion and sediment control activities and programs of this Town and to provide for the establishment and implementation of a comprehensive soil erosion and sediment control program to conserve and protect the land, water, air, and other resources of this Town. This section may not be varied by the Town of Braselton except where the Official Code of Georgia Annotated, EPD, or EPA allows for variances or exceptions.

15.3.1 EXEMPTIONS

This ordinance shall apply to any land-disturbing activity undertaken by any person on any land except for the following

1. Surface mining, as the same is defined in O.C.G.A. 12-4-72, "The Georgia Surface Mining Act of 1968".
2. Granite quarrying and land clearing for such quarrying;
3. Such minor land-disturbing activities as home gardens and individual home landscaping, repairs, maintenance work, fences, and other related activities which result in minor soil erosion;
4. The construction of single-family residences, when such construction disturbs less than one (1) acre and is not a part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one (1) acre and not otherwise exempted under this paragraph; provided, however, that construction of any such residence shall conform to the minimum requirements as set forth in O.C.G.A. 12-7-6 and this paragraph. For single-family residence construction covered by the provisions of this paragraph, there shall be a buffer zone between the residence and any state waters classified as trout streams pursuant to Article 2 of Chapter 5 of the Georgia Water Quality Control Act. In any such buffer zone, no land-disturbing activity shall be constructed between the residence and the point where vegetation has been wrested by normal stream flow or wave action from the banks of the trout waters. For primary trout waters, the buffer zone shall be at least 50 horizontal feet, and no variance to a smaller buffer shall be granted. For secondary trout waters, the buffer zone shall be at least 50 horizontal feet, but the Director may grant variances to no less than 25 feet. Regardless of whether a trout stream is primary or secondary, for first order trout waters, which are streams into which no other streams flow except for springs, the buffer shall be at least 25 horizontal feet, and no variance to a smaller buffer shall be granted. The minimum requirements of subsection (b) of O.C.G.A. 12-7-6 and the buffer zones provided by this paragraph shall be enforced by the Local Issuing Authority;
5. Agricultural operations as defined in O.C.G.A. 1-3-3, "definitions", to include raising, harvesting or storing of products of the field or orchard; feeding, breeding or managing livestock or poultry; producing or storing feed for use in the production of livestock, including but not limited to cattle, calves, swine, hogs, goats, sheep, and rabbits or for use in the production of poultry, including but not limited to chickens, hens and turkeys; producing plants, trees, fowl, or animals; the production of aqua culture, horticultural, dairy, livestock, poultry, eggs and apiarian products; farm buildings and farm ponds;
6. Forestry land management practices, including harvesting; provided, however, that when such exempt forestry practices cause or result in land-disturbing or other activities otherwise prohibited in a buffer, as established in paragraphs (15) and (16) of Section IV C. of this ordinance, no other land-disturbing activities, except for normal forest management practices, shall be allowed on the entire property upon which the forestry practices were conducted for a period of three (3) years after completion of such forestry practices;
7. Any project carried out under the technical supervision of the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture;
8. Any project involving less than one (1) acre of disturbed area; provided, however, that this exemption shall not apply to any land-disturbing activity within a larger common plan of development or sale with a planned disturbance of equal to or greater than one (1) acre or within 200 feet of the bank of any state waters, and for purposes of this paragraph, "State Waters" excludes channels and drainage ways which have water in

them only during and immediately after rainfall events and intermittent streams which do not have water in them year-round; provided, however, that any person responsible for a project which involves less than one (1) acre, which involves land-disturbing activity, and which is within 200 feet of any such excluded channel or drainage way, must prevent sediment from moving beyond the boundaries of the property on which such project is located and provided, further, that nothing contained herein shall prevent the Local Issuing Authority from regulating any such project which is not specifically exempted by paragraphs 1, 2, 3, 4, 5, 6, 7, 9 or 10 of this section;

9. Construction or maintenance projects, or both, undertaken or financed in whole or in part, or both, by the Department of Transportation, the Georgia Highway Authority, or the State Road and Tollway Authority; or any road construction or maintenance project, or both, undertaken by any county or municipality; provided, however, that construction or maintenance projects of the Department of Transportation or the State Road and Tollway Authority which disturb one or more contiguous acres of land shall be subject to provisions of O.C.G.A. 12-7-7.1; except where the Department of Transportation, the Georgia Highway Authority, or the State Road and Tollway Authority is a secondary permittee for a project located within a larger common plan of development or sale under the state general permit, in which case a copy of a notice of intent under the state general permit shall be submitted to the Local Issuing Authority, the Local Issuing Authority shall enforce compliance with the minimum requirements set forth in O.C.G.A. 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders;
10. Any land-disturbing activities conducted by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in O.C.G.A. 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power; except where an electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in O.C.G.A. 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power is a secondary permittee for a project located within a larger common plan of development or sale under the state general permit, in which case the Local Issuing Authority shall enforce compliance with the minimum requirements set forth in O.C.G.A. 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders; and
11. Any public water system reservoir.

15.3.2 MINIMUM REQUIREMENTS FOR EROSION AND SEDIMENTATION CONTROL USING BEST MANAGEMENT PRACTICES

A. GENERAL PROVISIONS

Excessive soil erosion and resulting sedimentation can take place during land-disturbing activities if requirements of the ordinance and the NPDES General Permit are not met. Therefore, plans for those land-disturbing activities which are not exempted by this ordinance shall contain provisions for application of soil erosion, sedimentation and pollution control measures and practices. The provisions shall be incorporated into the erosion, sedimentation and pollution control plans. Soil erosion, sedimentation and pollution control measures and practices shall conform to the minimum requirements of

Section 15.3.2 B. & C. of this ordinance. The application of measures and practices shall apply to all features of the site, including street and utility installations, drainage facilities and other temporary and permanent improvements. Measures shall be installed to prevent or control erosion, sedimentation and pollution during all stages of any land-disturbing activity in accordance with requirements of this ordinance and the NPDES General Permit.

B. MINIMUM REQUIREMENTS/ BMPs

1. Best management practices as set forth in Section 15.3.2 B. & C. of this ordinance shall be required for all land-disturbing activities. Proper design, installation, and maintenance of best management practices shall constitute a complete defense to any action by the Director or to any other allegation of noncompliance with paragraph (2) of this subsection or any substantially similar terms contained in a permit for the discharge of storm water issued pursuant to subsection (f) of O.C.G.A. 12-5-30, the "Georgia Water Quality Control Act". As used in this subsection the terms "proper design" and "properly designed" mean designed in accordance with the hydraulic design specifications contained in the "Manual for Erosion and Sediment Control in Georgia" specified in O.C.G.A. 12-7-6 subsection (b).
 2. A discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation of any land-disturbing permit issued by a local Issuing Authority or of any state general permit issued by the Division pursuant to subsection (f) of O.C.G.A. 12-5-30, the "Georgia Water Quality Control Act", for each day on which such discharge results in the turbidity of receiving waters being increased by more than twenty-five (25) nephelometric turbidity units for waters supporting warm water fisheries or by more than ten (10) nephelometric turbidity units for waters classified as trout waters. The turbidity of the receiving waters shall be measured in accordance with guidelines to be issued by the Director. This paragraph shall not apply to any land disturbance associated with the construction of single family homes which are not part of a larger common plan of development or sale unless the planned disturbance for such construction is equal to or greater than five (5) acres.
 3. Failure to properly design, install, or maintain best management practices shall constitute a violation of any land-disturbing permit issued by a Local Issuing Authority or of any state general permit issued by the Division pursuant to subsection (f) of Code Section 12-5-30, the "Georgia Water Quality Control Act", for each day on which such failure occurs.
 4. The Director may require, in accordance with regulations adopted by the Board, reasonable and prudent monitoring of the turbidity level of receiving waters into which discharges from land disturbing activities occur.
 5. The LIA may set more stringent buffer requirements than stated in C.15. and 16., in light of O.C.G.A. § 12-7-6 (c).
- C. The rules and regulations, ordinances, or resolutions adopted pursuant to O.C.G.A. 12-7-1 et. seq. for the purpose of governing land-disturbing activities shall require, as a minimum, protections at least as stringent as the state general permit; and best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the *Manual for Erosion and Sediment Control in Georgia* published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, as well as the following:

1. Stripping of vegetation, regrading and other development activities shall be conducted in a manner so as to minimize erosion;
2. Cut-fill operations must be kept to a minimum;
3. Development plans must conform to topography and soil type so as to create the lowest practicable erosion potential;
4. Whenever feasible, natural vegetation shall be retained, protected and supplemented;
5. The disturbed area and the duration of exposure to erosive elements shall be kept to a practicable minimum;
6. Disturbed soil shall be stabilized as quickly as practicable;
7. Temporary vegetation or mulching shall be employed to protect exposed critical areas during development;
8. Permanent vegetation and structural erosion control practices shall be installed as soon as practicable;
9. To the extent necessary, sediment in run-off water must be trapped by the use of debris basins, sediment basins, silt traps, or similar measures until the disturbed area is stabilized. As used in this paragraph, a disturbed area is stabilized when it is brought to a condition of continuous compliance with the requirements of O.C.G.A. 12-7-1 et. seq.;
10. Adequate provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping of fills;
11. Cuts and fills may not endanger adjoining property;
12. Fills may not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners;
13. Grading equipment must cross flowing streams by means of bridges or culverts except when such methods are not feasible, provided, in any case, that such crossings are kept to a minimum;
14. Land-disturbing activity plans for erosion, sedimentation and pollution control shall include provisions for treatment or control of any source of sediments and adequate sedimentation control facilities to retain sediments on-site or preclude sedimentation of adjacent waters beyond the levels specified in Section IV B. 2. of this ordinance;
15. Except as provided in paragraph (16) of this subsection, **and Town of Braselton Development Code Section 15.5.2**, there is established a 25 foot buffer along the banks of all state waters (Town of Braselton buffer requirements in 15.5.2 are applicable which may go above and beyond the 25 foot buffer as stated in this section), as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except where the Director determines to allow a variance that is at least as protective of natural resources and the environment, where otherwise allowed by the Director pursuant to O.C.G.A. 12-2-8, where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications, and are implemented; or along any ephemeral stream. As used in this provision, the term 'ephemeral stream' means a stream: that under normal circumstances has water flowing only during and for a short duration after precipitation events; that has the channel located above the ground-water table year round; for which ground water is not a source of water; and for which runoff from precipitation is the primary source of water flow, Unless exempted as along an ephemeral stream, the buffers of at least 25 feet established pursuant to part 6 of Article 5, Chapter 5 of Title 12, the "Georgia Water Quality Control Act", shall remain in force unless a variance is granted by the Director as provided in this paragraph. The following requirements shall apply to any such buffer:
 - a. No land-disturbing activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed state of vegetation until all land-disturbing

- activities on the construction site are completed. Once the final stabilization of the site is achieved, a buffer may be thinned or trimmed of vegetation as long as a protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; provided, however, that any person constructing a single-family residence, when such residence is constructed by or under contract with the owner for his or her own occupancy, may thin or trim vegetation in a buffer at any time as long as protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; and
- b. The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented: (i) Stream crossings for water lines; or (ii) Stream crossings for sewer lines; and
16. There is established a 50 foot buffer as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as "trout streams" pursuant to Article 2 of Chapter 5 of Title 12, the "Georgia Water Quality Control Act", except where a roadway drainage structure must be constructed ; provided, however, that small springs and streams classified as trout streams which discharge an average annual flow of 25 gallons per minute or less shall have a 25 foot buffer or they may be piped, at the discretion of the landowner, pursuant to the terms of a rule providing for a general variance promulgated by the Board, so long as any such pipe stops short of the downstream landowner's property and the landowner complies with the buffer requirement for any adjacent trout streams. The Director may grant a variance from such buffer to allow land-disturbing activity, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented. The following requirements shall apply to such buffer:
- a. No land-disturbing activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed, state of vegetation until all land-disturbing activities on the construction site are completed. Once the final stabilization of the site is achieved, a buffer may be thinned or trimmed of vegetation as long as a protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed: provided, however, that any person constructing a single-family residence, when such residence is constructed by or under contract with the owner for his or her own occupancy, may thin or trim vegetation in a buffer at any time as long as protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; and
- b. The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented: (i) Stream crossings for water lines; or (ii) Stream crossings for sewer lines.
- D. Nothing contained in O.C.G.A. 12-7-1 et. seq. shall prevent any Local Issuing Authority from adopting rules and regulations, ordinances, or resolutions which contain stream buffer requirements that exceed the minimum requirements in Section IV B. & C. of this ordinance.

- E. The fact that land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this ordinance or the terms of the permit.

15.3.3 APPLICATION/PERMIT PROCESS

- A. The property owner, developer and designated planners and engineers shall design and review before submittal the general development plans. The Local Issuing Authority shall review the tract to be developed and the area surrounding it. They shall consult the zoning ordinance, storm water management ordinance, subdivision ordinance, flood damage prevention ordinance, this ordinance, and any other ordinances, rules, regulations or permits, which regulate the development of land within the jurisdictional boundaries of the Local Issuing Authority. However, the owner and/or operator are the only parties who may obtain a permit.

B. APPLICATION REQUIREMENTS

1. No person shall conduct any land-disturbing activity within the jurisdictional boundaries of the Town of Braselton without first obtaining a permit from the Planning Director to perform such activity and providing a copy of Notice of Intent submitted to EPD if applicable.
2. The application for a permit shall be submitted to the Planning Director and must include the applicant's erosion, sedimentation and pollution control plan with supporting data, as necessary. Said plans shall include, as a minimum, the data specified in Section V C. of this ordinance. Erosion, sedimentation and pollution control plans, together with supporting data, must demonstrate affirmatively that the land disturbing activity proposed will be carried out in such a manner that the provisions of Section IV B. & C. of this ordinance will be met. Applications for a permit will not be accepted unless accompanied by 4 copies of the applicant's erosion, sedimentation and pollution control plans. All applications shall contain a certification stating that the plan preparer or the designee thereof visited the site prior to creation of the plan in accordance with EPD Rule 391-3-7-.10.
3. In addition to the local permitting fees, fees will also be assessed pursuant to paragraph (5) subsection (a) of O.C.G.A. 12-5-23, provided that such fees shall not exceed \$80.00 per acre of land-disturbing activity, and these fees shall be calculated and paid by the primary permittee as defined in the state general permit for each acre of land-disturbing activity included in the planned development or each phase of development. All applicable fees shall be paid prior to issuance of the land disturbance permit. In a jurisdiction that is certified pursuant to subsection (a) of O.C.G.A. 12-7-8 half of such fees levied shall be submitted to the Division; except that any and all fees due from an entity which is required to give notice pursuant to paragraph (9) or (10) of O.C.G.A. 12-7-17 shall be submitted in full to the Division, regardless of the existence of a Local Issuing Authority in the jurisdiction.
4. Immediately upon receipt of an application and plan for a permit, the Local Issuing Authority shall refer the application and plan to the District for its review and approval or disapproval concerning the adequacy of the erosion, sedimentation and pollution control plan. The District shall approve or disapprove a plan within 35 days of receipt. Failure of the District to act within 35 days shall be considered an approval of the pending plan. The results of the District review shall be forwarded to the Local Issuing Authority. No permit will be issued unless the plan has been approved by the District, and any variances required by Section IV C. 15. & 16. has been obtained, all fees have been paid, and bonding, if required as per Section V B.6., have been obtained. Such review

will not be required if the Local Issuing Authority and the District have entered into an agreement which allows the Local Issuing Authority to conduct such review and approval of the plan without referring the application and plan to the District. The Local Issuing Authority with plan review authority shall approve or disapprove a revised Plan submittal within 35 days of receipt. Failure of the Local Issuing Authority with plan review authority to act within 35 days shall be considered an approval of the revised Plan submittal.

5. If a permit applicant has had two or more violations of previous permits, this ordinance section, or the Erosion and Sedimentation Act, as amended, within three years prior to the date of filing the application under consideration, the Local Issuing Authority may deny the permit application.
6. The Local Issuing Authority may require the permit applicant to post a bond in the form of government security, cash, irrevocable letter of credit, or any combination thereof up to, but not exceeding, \$3,000.00 per acre or fraction thereof of the proposed land disturbing activity, prior to issuing the permit. If the applicant does not comply with this section or with the conditions of the permit after issuance, the Local Issuing Authority may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance. These provisions shall not apply unless there is in effect an ordinance or statute specifically providing for hearing and judicial review of any determination or order of the Local Issuing Authority with respect to alleged permit violations.

C. PLAN REQUIREMENTS

1. Plans must be prepared to meet the minimum requirements as contained in Section IV B. & C. of this ordinance, or through the use of more stringent, alternate design criteria which conform to sound conservation and engineering practices. The *Manual for Erosion and Sediment Control in Georgia* is hereby incorporated by reference into this ordinance. The plan for the land-disturbing activity shall consider the interrelationship of the soil types, geological and hydrological characteristics, topography, watershed, vegetation, proposed permanent structures including roadways, constructed waterways, sediment control and storm water management facilities, local ordinances and State laws. Maps, drawings and supportive computations shall bear the signature and seal of the certified design professional. Persons involved in land development design, review, permitting, construction, monitoring, or inspections or any land disturbing activity shall meet the education and training certification requirements, dependent on his or her level of involvement with the process, as developed by the Commission and in consultation with the Division and the Stakeholder Advisory Board created pursuant to O.C.G.A. 12-7-20.
2. Data Required for Site Plan shall include all the information required from the appropriate Erosion, Sedimentation and Pollution Control Plan Review Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted.

D. PERMITS

1. Permits shall be issued or denied as soon as practicable but in any event not later than forty-five (45) days after receipt by the Local Issuing Authority of a completed application, providing variances and bonding are obtained, where necessary and all applicable fees have been paid prior to permit issuance. The permit shall include conditions under which the activity may be undertaken.
2. No permit shall be issued by the Local Issuing Authority unless the erosion, sedimentation and pollution control plan has been approved by the District and the

Local Issuing Authority has affirmatively determined that the plan is in compliance with this ordinance, any variances required by Section IV C. 15. & 16. are obtained, bonding requirements, if necessary, as per Section V B. 6. are met and all ordinances and rules and regulations in effect within the jurisdictional boundaries of the Local Issuing Authority are met. If the permit is denied, the reason for denial shall be furnished to the applicant.

3. Any land-disturbing activities by a local issuing authority shall be subject to the same requirements of this ordinance, and any other ordinances relating to land development, as are applied to private persons and the division shall enforce such requirements upon the local issuing authority.
4. If the tract is to be developed in phases, then a separate permit shall be required for each phase.
5. The permit may be suspended, revoked, or modified by the Local Issuing Authority, as to all or any portion of the land affected by the plan, upon finding that the holder or his successor in the title is not in compliance with the approved erosion and sedimentation control plan or that the holder or his successor in title is in violation of this ordinance. A holder of a permit shall notify any successor in title to him as to all or any portion of the land affected by the approved plan of the conditions contained in the permit.
6. The LIA may reject a permit application if the applicant has had two or more violations of previous permits or the Erosion and Sedimentation Act permit requirements within three years prior to the date of the application, in light of O.C.G.A. 12-7-7 (f) (1).

15.3.4 INSPECTION AND ENFORCEMENT

- A. A. The Town of Braselton will periodically inspect the sites of land-disturbing activities for which permits have been issued to determine if the activities are being conducted in accordance with the plan and if the measures required in the plan are effective in controlling erosion and sedimentation. Also, the Local Issuing Authority shall regulate primary, secondary and tertiary permittees as such terms are defined in the state general permit. Primary permittees shall be responsible for installation and maintenance of best management practices where the primary permittee is conducting land-disturbing activities. Secondary permittees shall be responsible for installation and maintenance of best management practices where the secondary permittee is conducting land-disturbing activities. Tertiary permittees shall be responsible for installation and maintenance where the tertiary permittee is conducting land-disturbing activities. If, through inspection, it is deemed that a person engaged in land-disturbing activities as defined herein has failed to comply with the approved plan, with permit conditions, or with the provisions of this ordinance, a written notice to comply shall be served upon that person. The notice shall set forth the measures necessary to achieve compliance and shall state the time within which such measures must be completed. If the person engaged in the land-disturbing activity fails to comply within the time specified, he shall be deemed in violation of this ordinance.
- B. The Local Issuing Authority must amend its ordinances to the extent appropriate within twelve (12) months of any amendments to the Erosion and Sedimentation Act of 1975.
- C. The Town of Braselton shall have the power to conduct such investigations as it may reasonably deem necessary to carry out duties as prescribed in this ordinance, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigation and inspecting the sites of land-disturbing activities.
- D. No person shall refuse entry or access to any authorized representative or agent of the Local Issuing Authority, the Commission, the District, or Division who requests entry for the purposes of inspection, and who presents appropriate credentials, nor shall any person

obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties.

- E. The District or the Commission or both shall semi-annually review the actions of counties and municipalities which have been certified as Local Issuing Authorities pursuant to O.C.G.A. 12-7-8 (a). The District or the Commission or both may provide technical assistance to any county or municipality for the purpose of improving the effectiveness of the county's or municipality's erosion, sedimentation and pollution control program. The District or the Commission shall notify the Division and request investigation by the Division if any deficient or ineffective local program is found.
- F. The Division may periodically review the actions of counties and municipalities which have been certified as Local Issuing Authorities pursuant to Code Section 12-7-8 (a). Such review may include, but shall not be limited to, review of the administration and enforcement of a governing authority's ordinance and review of conformance with an agreement, if any, between the district and the governing authority. If such review indicates that the governing authority of any county or municipality certified pursuant to O.C.G.A. 12-7-8 (a) has not administered or enforced its ordinances or has not conducted the program in accordance with any agreement entered into pursuant to O.C.G.A. 12-7-7 (e), the Division shall notify the governing authority of the county or municipality in writing. The governing authority of any county or municipality so notified shall have 90 days within which to take the necessary corrective action to retain certification as a Local Issuing Authority. If the county or municipality does not take necessary corrective action within 90 days after notification by the division, the division shall revoke the certification of the county or municipality as a Local Issuing Authority.

15.3.5 PENALTIES AND INCENTIVES

A. FAILURE TO OBTAIN A PERMIT FOR LAND-DISTURBING ACTIVITY

If any person commences any land-disturbing activity requiring a land-disturbing permit as prescribed in this ordinance without first obtaining said permit, the person shall be subject to revocation of his business license, work permit or other authorization for the conduct of a business and associated work activities within the jurisdictional boundaries of the Local Issuing Authority.

B. STOP-WORK ORDERS

1. For the first and second violations of the provisions of this ordinance, the Director or the Local Issuing Authority shall issue a written warning to the violator. The violator shall have five days to correct the violation. If the violation is not corrected within five days, the Director or the Local Issuing Authority shall issue a stop-work order requiring that land-disturbing activities be stopped until necessary corrective action or mitigation has occurred; provided, however, that, if the violation presents an imminent threat to public health or waters of the state or if the land-disturbing activities are conducted without obtaining the necessary permit, the Director or the Local Issuing Authority shall issue an immediate stop-work order in lieu of a warning;
2. For a third and each subsequent violation, the Director or the Local Issuing Authority shall issue an immediate stop-work order; and;
3. All stop-work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred.
4. When a violation in the form of taking action without a permit, failure to maintain a stream buffer, or significant amounts of sediment, as determined by the Local Issuing Authority or by the Director or his or her Designee, have been or are being discharged into state waters and where best management practices have not been properly

designed, installed, and maintained, a stop work order shall be issued by the Local Issuing Authority or by the Director or his or her Designee. All such stop work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred. Such stop work orders shall apply to all land-disturbing activity on the site with the exception of the installation and maintenance of temporary or permanent erosion and sediment controls.

C. BOND FORFEITURE

If, through inspection, it is determined that a person engaged in land-disturbing activities has failed to comply with the approved plan, a written notice to comply shall be served upon that person. The notice shall set forth the measures necessary to achieve compliance with the plan and shall state the time within which such measures must be completed. If the person engaged in the land-disturbing activity fails to comply within the time specified, he shall be deemed in violation of this ordinance and, in addition to other penalties, shall be deemed to have forfeited his performance bond, if required to post one under the provisions of Section V B. 6. The Local Issuing Authority may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance.

D. MONETARY PENALTIES

Any person who violates any provisions of this ordinance, or any permit condition or limitation established pursuant to this ordinance, or who negligently or intentionally fails or refuses to comply with any final or emergency order of the Director issued as provided in this ordinance shall be liable for a civil penalty not to exceed \$2,500.00 per day. For the purpose of enforcing the provisions of this ordinance, notwithstanding any provisions in any City charter to the contrary, municipal courts shall be authorized to impose penalty not to exceed \$2,500.00 for each violation. Notwithstanding any limitation of law as to penalties which can be assessed for violations of county ordinances, any magistrate court or any other court of competent jurisdiction trying cases brought as violations of this ordinance under county ordinances approved under this ordinance shall be authorized to impose penalties for such violations not to exceed \$2,500.00 for each violation. Each day during which violation or failure or refusal to comply continues shall be a separate violation.

15.3.6 EDUCATION AND CERTIFICATION

- A. Persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity shall meet the education and training certification requirements, dependent on their level of involvement with the process, as developed by the commission in consultation with the division and the stakeholder advisory board created pursuant to O.C.G.A. 12-7-20.
- B. For each site on which land-disturbing activity occurs, each entity or person acting as either a primary, secondary, or tertiary permittee, as defined in the state general permit, shall have as a minimum one person who is in responsible charge of erosion and sedimentation control activities on behalf of said entity or person and meets the applicable education or training certification requirements developed by the Commission present on site whenever land-disturbing activities are conducted on that site. A project site shall herein be defined as any land-disturbance site or multiple sites within a larger common plan of development or sale permitted by an owner or operator for compliance with the state general permit.
- C. Persons or entities involved in projects not requiring a state general permit but otherwise requiring certified personnel on site may contract with certified persons to meet the requirements of this ordinance.
- D. If a state general permittee who has operational control of land-disturbing activities for a site has met the certification requirements of paragraph (1) of subsection (b) of O.C.G.A.

12-7-19, then any person or entity involved in land-disturbing activity at that site and operating in a subcontractor capacity for such permittee shall meet those educational requirements specified in paragraph (4) of subsection (b) of O.C.G.A 12-7-19 and shall not be required to meet any educational requirements that exceed those specified in said paragraph.

15.3.7 ADMINISTRATIVE APPEAL - JUDICIAL REVIEW

A. ADMINISTRATIVE REMEDIES

The suspension, revocation, modification or grant with condition of a permit by the Local Issuing Authority upon finding that the holder is not in compliance with the approved erosion and sediment control plan; or that the holder is in violation of permit conditions; or that the holder is in violation of any ordinance; shall entitle the person submitting the plan or holding the permit to a hearing before the Zoning Board of Appeals within Not less than 30, nor more than 60 days after receipt by the Local Issuing Authority of written notice of appeal.

B. JUDICIAL REVIEW

Any person, aggrieved by a decision or order of the Local Issuing Authority, after exhausting his administrative remedies, shall have the right to appeal to the Superior Court of Jackson County.

E. VALIDITY

If any section, paragraph, clause, phrase, or provision of this Code shall be adjudged invalid or held unconstitutional, such decisions shall not effect the remaining portions of this Code.

F. LIABILITY

1. Neither the approval of a plan under the provisions of this ordinance, nor the compliance with provisions of this ordinance shall relieve any person from the responsibility for damage to any person or property otherwise imposed by law nor impose any liability upon the Local Issuing Authority or District for damage to any person or property.
2. The fact that a land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this ordinance or the terms of the permit.
3. No provision of this ordinance shall permit any persons to violate the Georgia Erosion and Sedimentation Act of 1975, the Georgia Water Quality Control Act or the rules and regulations promulgated and approved there under or pollute any Waters of the State as defined thereby.

15.4 NPDES APPLICABILITY

The National Pollutant Discharge Elimination System (NPDES) General Permits for Stormwater Discharges Associated with Construction Activity, latest version, requires those persons conducting a construction activity of greater than 1 acre (disturbed area) to prepare and implement an Erosion, Sedimentation and Pollution Control Plan (Plan) and a Comprehensive Monitoring Program (Program). The Plan will describe those best management practices (BMPs) which will be used at the site to control the discharge of sediment and other pollutants. BMPs will be designed to control soil erosion and sedimentation for all rainfall events up to and including a 2, 10, 25-year, 24-hour rainfall event. The Program will describe how the receiving water(s) will be monitored for turbidity. A monitoring summary report is to be sent to the Georgia Environmental Protection Division each

month and kept on site for inspection by enforcement officers of the state. Copies of the inspection and monitoring reports shall be delivered to the Town Engineer each month. The installation of these BMP devices may be subject to Section 404 of the CWA. Persons conducting construction activities are also responsible for meeting water quality and wetland-related requirements found in Sections 404 and 401 of the Clean Water Act (CWA).

A. Sedimentation and Erosion Control

1. Sedimentation and erosion practices will be required on all construction sites. These requirements are based on the Manual for Erosion and Sediment Control in Georgia, latest edition.

B. Inspections and Reports

1. Inspections and reports must be performed and maintained according to the Georgia Erosion and Sedimentation Act of 1975, as amended, NPDES regulations and House Bill 285 (Education/Certification 12-7-19). These inspections are in no way intended to take the place of regulatory inspections performed by the Town Enforcement Officer and other agencies.

15.5 STREAM BUFFER PROTECTION

15.5.0 Purpose

A. It is the purpose of these regulations to protect the public health, safety, environment and general welfare; to minimize public and private losses due to erosion, siltation and water pollution; and to maintain stream water quality by provisions designed to:

1. Create buffer zones along the streams of (local jurisdiction) for the protection of water resources; and,
2. Minimize land development within such buffers by establishing buffer zone requirements and by requiring authorization for any such activities.

15.5.1 Definitions Applicable to Section 15.5

“Buffer” means, with respect to a stream, a natural or enhanced vegetated area (established by Section 5.1.1 below), lying adjacent to the stream.

“Impervious Cover” means any manmade paved, hardened or structural surface regardless of material. Impervious cover includes but is not limited to rooftops, buildings, streets, roads, decks, swimming pools and any concrete or asphalt.

“Land Development” means any land change, including but not limited to clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, paving and any other installation of impervious cover.

“Land Development Activity” means those actions or activities which comprise, facilitate or result in land development.

“Land Disturbance” means any land or vegetation change, including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, that do not involve construction, paving or any other installation of impervious cover.

“Land Disturbance Activity” means those actions or activities which comprise, facilitate or result in land disturbance.

“Floodplain” means any land area susceptible to flooding, which would have at least a one percent probability of flooding occurrence in any calendar year based on the basin being fully developed as shown on the current land use plan; i.e., the regulatory flood.

“**Parcel**” means any plot, lot or acreage shown as a unit on the latest county tax assessment records.

“**Permit**” means the permit issued by the Town of Braselton required for undertaking any land development activity

“**Person**” means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of the State, any interstate body or any other legal entity.

“**Protection Area, or Stream Protection Area**” means, with respect to a stream, the combined areas of all required buffers and setbacks applicable to such stream.

“**Riparian**” means belonging or related to the bank of a river, stream, lake, pond or impoundment.

“**Setback**” means, with respect to a stream, the area established by Section 5.1.2 extending beyond any buffer applicable to the stream.

“**Stream**” means any stream, beginning at:

1. The location of a spring, seep, or groundwater outflow that sustains streamflow; or
2. A point in the stream channel with a drainage area of 25 acres or more; or
3. Where evidence indicates the presence of a stream in a drainage area of other than 25 acres, the **(local permitting authority)** may require field studies to verify the existence of a stream.

“**Stream Bank**” means the sloping land that contains the stream channel and the normal flows of the stream.

“**Stream Channel**” means the portion of a watercourse that contains the base flow of the stream.

“**Watershed**” means the land area that drains into a particular stream.

15.5.1 Applicability

A. Grandfathering Provisions

These regulations shall not apply to the following activities:

1. Work consisting of the repair or maintenance of any lawful use of land that is zoned and approved for such use on or before the effective date of these regulations.
2. Existing development and on-going land disturbance activities including but not limited to existing agriculture, silviculture, landscaping, gardening and lawn maintenance, except that new development or land disturbance activities on such properties shall be subject to all applicable buffer requirements.
3. Any land development activity that is under construction, fully approved for development, scheduled for permit approval or has been submitted for approval as of the effective date of this ordinance.
4. Land development activity that has not been submitted for approval, but that is part of a larger master development plan, such as for an office park or other

phased development that has been previously approved within two years of the effective date of this ordinance.

B. Exemptions

The following specific activities are exempt from this section. Exemption of these activities does not constitute an exemption for any other activity proposed on a property.

1. Activities for the purpose of building one of the following:
 - a stream crossing by a driveway, transportation route or utility line;
 - public water supply intake or public wastewater outfall structures;
 - intrusions necessary to provide access to a property;
 - public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the river, fishing platforms and overlooks;
 - unpaved foot trails and paths;
 - activities to restore and enhance stream bank stability, vegetation, water quality and/or aquatic habitat, so long as native vegetation and bioengineering techniques are used.
2. Public sewer line easements paralleling the creek, except that all easements (permanent and construction) and land disturbance should be at least 25 feet from the top of the bank. This includes such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures. This exemption shall not be construed as allowing the construction of roads, bike paths or other transportation routes in such easements, regardless of paving material, except for access for the uses specifically cited in Item 4.2.(1), above.
3. Land development activities within a right-of-way existing at the time this ordinance takes effect or approved under the terms of this ordinance.
4. Within an easement of any utility existing at the time this ordinance takes effect or approved under the terms of this ordinance, land disturbance activities and such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures.
5. Emergency work necessary to preserve life or property. However, when emergency work is performed under this section, the person performing it shall report such work to the (review and permitting authority) on the next business day after commencement of the work. Within 10 days thereafter, the person shall apply for a permit and perform such work within such time period as may be determined by the (review and permitting authority) to be reasonably necessary to correct any impairment such emergency work may have caused to the water conveyance capacity, stability or water quality of the protection area.
6. Forestry and silviculture activities on land that is zoned for forestry, silvicultural or agricultural uses and are not incidental to other land development activity. If such activity results in land disturbance in the buffer that would otherwise be prohibited, then no other land disturbing activity other than normal forest management practices will be allowed on the entire property for three years after the end of the activities that intruded on the buffer.

7. After the effective date these regulations are adopted, it shall apply to new subdividing and platting activities. Any land development activity within a buffer established hereunder or any impervious cover within a setback established hereunder is prohibited unless a variance is granted in accordance with the section below.
8. These requirements are in addition to, and do not replace or supersede, any other applicable buffer requirements established under state law and approval or exemption from these requirements do not constitute approval or exemption from buffer requirements established under state law or from other applicable local, state or federal regulations. This ordinance is not intended to interfere with, abrogate or annul any other ordinance, rule or regulation, statute or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

15.5.2 Buffer and Setback Requirements

A. All land development activity subject to this ordinance shall meet the following requirements:

1. An undisturbed natural vegetative buffer shall be maintained for 50 feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank.
2. An undisturbed natural vegetative buffer shall be maintained for 150 feet, measured horizontally, on both banks (as applicable) of the Mulberry River as measured from the top of the bank.
3. An additional setback shall be maintained for 25 feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthmoving shall be minimized within the setback.
4. No septic tanks or septic tank drain fields shall be permitted within the buffer or the setback.
5. The corridors of all perennial streams within a 7- mile radius upstream of a public water supply intake shall be protected as follows;
 - a. A buffer shall be maintained for distance of 100 feet on both sides of the stream as measured from the stream banks
 - b. No impervious surface shall be constructed within a 150-foot setback on both sides of the stream as measured from the stream banks.
 - c. Septic tanks and septic tank drain fields are prohibited in the 150-foot setback.

B. State waters must be field verified by the Local Issuing Authority (LIA). If in question, a request for a certified wetlands consultant may be requested by the Town at the developers expense prior to or during development.

15.5.3 Variance Procedures

Variances from the above buffer and setback requirements may be granted in accordance with the following provisions:

- A. Where a parcel was platted prior to the effective date of these regulations, and it's shape, topography or other existing physical conditions of a parcel prevents land development consistent with these regulations, and the Town of Braselton finds and determines that the requirements of these regulations prohibit the otherwise lawful use of the property by the owner, the Zoning Board of Appeals of the Town of Braselton may grant a variance from the buffer and setback requirements hereunder, provided such variance require mitigation measures to offset the effects of any proposed land development on the parcel.
- B. Except as provided above, the Zoning Board of Appeals of the Town of Braselton shall grant no variance from any provision of this ordinance without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of the Zoning Board of Appeals. The Town of Braselton shall give public notice of each such public hearing in a newspaper of general circulation within the local jurisdiction. The Town shall require that the applicant post a sign giving notice of the proposed variance and the public hearing. The sign shall be of a size and posted in such a location on the property as to be clearly visible from the primary adjacent road right-of-way.
- C. Variances will be considered only in the following cases:
1. When a property's shape, topography or other physical conditions prevents land development unless a buffer variance is granted.
 2. Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.
 3. Variances will not be considered when, following adoption of this ordinance, actions of any property owner of a given property have created conditions of a hardship on that property.
- D. At a minimum, a variance request shall include the following information:
1. A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey;
 2. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
 3. A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated;
 4. Documentation of unusual hardship should the buffer be maintained;
 5. At least one alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;
 6. A calculation of the total area and length of the proposed intrusion;
 7. A stormwater management site plan, if applicable; and,
 8. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.
- E. The following factors will be considered in determining whether to issue a variance:

1. The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
2. The locations of all streams on the property, including along property boundaries;
3. The location and extent of the proposed buffer or setback intrusion; and,
4. Whether alternative designs are possible which require less intrusion or no intrusion;
5. The long-term and construction water-quality impacts of the proposed variance;
6. Whether issuance of the variance is at least as protective of natural resources and the environment.

15.5.4 Additional Information Requirements for Development on Buffer Zone Properties

A. Any permit applications for property requiring buffers and setbacks hereunder must include the following:

5. A site plan showing:
 - a. The location of all streams on the property;
 - b. Limits of required stream buffers and setbacks on the property;
 - c. Buffer zone topography with contour lines at no greater than five (5)-foot contour intervals;
 - d. Delineation of forested and open areas in the buffer zone; and,
 - e. Detailed plans of all proposed land development in the buffer and of all proposed impervious cover within the setback;
2. A description of all proposed land development within the buffer and setback; and,
3. Any other documentation that the (review and permitting authority) may reasonably deem necessary for review of the application and to insure that the buffer zone ordinance is addressed in the approval process.

All buffer and setback areas must be recorded on the final plat of the property following plan approval.

15.5.5 Responsibility

Neither the issuance of a development permit nor compliance with the conditions thereof, nor with the provisions of this ordinance shall relieve any person from any responsibility otherwise imposed by law for damage to persons or property; nor shall the issuance of any permit hereunder serve to impose any liability upon the Town of Braselton its officers or employees, for injury or damage to persons or property.

15.5.6 Inspection, Violations, Enforcement, Penalties

A. The Town may cause inspections of the work in the buffer or setback to be made periodically during the course thereof and shall make a final inspection following completion of the work. The permittee shall assist the Town in making such inspections. The Town of Braselton shall have the authority to conduct such investigations as it may reasonably deem necessary to carry out its duties as prescribed in this ordinance, and for this purpose

to enter at reasonable time upon any property, public or private, for the purpose of investigating and inspecting the sites of any land development activities within the protection area.

No person shall refuse entry or access to any authorized representative or agent who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out official duties.

B. Any action or inaction which violates the provisions of this ordinance or the requirements of an approved site plan or permit may be subject to the enforcement actions outlined in this Section. Any such action or inaction which is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

C. If the Town determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved site plan or the provisions of this ordinance, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this ordinance without having first secured the appropriate permit, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site. The notice of violation shall contain:

1. The name and address of the owner or the applicant or the responsible person;
2. The address or other description of the site upon which the violation is occurring;
3. A statement specifying the nature of the violation;
4. A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the approved site plan or this ordinance and the date for the completion of such remedial action;
5. A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and,
6. A statement that the determination of violation may be appealed to the Town by filing a written notice of appeal within thirty days after the notice of violation (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient).

D. In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed. Before taking any of the following actions or imposing any of the following penalties, the Town shall first notify the applicant or other responsible person in writing of its intended action, and shall provide a reasonable opportunity, of not less than ten days (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) to cure such violation. In the event the applicant or other responsible person fails to cure such violation after such notice and cure period, the Town may take any one or more of the following actions or impose any one or more of the following penalties.

1. Stop Work Order - The Town may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take necessary remedial measures to cure such violation or violations.
2. Withhold Certificate of Occupancy - The Town may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.
3. Suspension, Revocation or Modification of Permit - The Town may suspend, revoke or modify the permit authorizing the land development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated (upon such conditions as the Town may deem necessary) to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.
4. Civil Penalties - In the event the applicant or other responsible person fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten days (or such greater period as the Town shall deem appropriate) (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) after the Town has taken one or more of the actions described above, the Town may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.
5. Criminal Penalties - For intentional and flagrant violations of this ordinance, the Town may issue a citation to the applicant or other responsible person, requiring such person to appear in (appropriate municipal, magistrate or recorder's) court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

15.5.7 Administrative Appeal and Judicial Review

A. Any person aggrieved by a decision or order of the Town of Braselton, may appeal in writing within 10 days after the issuance of such decision or order to the Planning and Development Director and shall be entitled to a hearing before the Zoning Board of Appeals within 60 days of receipt of the written appeal.

B. Any person aggrieved by a decision or order of the Town of Braselton, after exhausting all administrative remedies, shall have the right to appeal de novo to the Superior Court of Jackson County.

15.5.8 Severability

If any article, section, subsection, paragraph, clause, phrase or provision of this ordinance shall be adjudged invalid or held unconstitutional, such decision shall not affect or invalidate the remaining portions of this ordinance.

15.6 STORMWATER MANAGEMENT

- A. A Storm Water Management Report shall be submitted during the development review process for every project. Non-commercial development including the construction of single-family dwellings, barns, and associated residential and agricultural construction are exempt from this provision. A Professional Engineer currently registered in the State of Georgia must prepare the report.
- B. The Storm Water Management Report shall follow the principles set forth in the Georgia Stormwater Management Manual, Volume 1 and 2, latest edition. The report shall identify the locations and quantities of storm water runoff entering and exiting the site for both pre-developed and post-developed conditions. Analysis of the off-site properties may require anticipating future development in addition to addressing existing conditions. It shall contain drainage area delineation maps and other exhibits at a satisfactory scale and sufficient in quantity and scope to define the boundaries of the site relative to any applicable water courses, drainage divides, drainage structures and other pertinent features.
- C. The Storm Water Management Report shall estimate the storm water quality in terms of total suspended solids for both pre-developed and post-developed conditions.
- D. The analysis of downstream conditions in the report shall address each and every point or area along the project site's boundaries at which runoff will exit the property. The analysis shall focus on the portion of the drainage way "immediately" downstream from the project. In determining downstream effects from storm water discharge control structures and the development, hydrologic-hydraulic engineering studies, using the 2, 10, and 25-year design storm, shall extend to the next downstream structure or shall extend downstream to a point where the proposed development represents less than (10%) percent of the total watershed. If the discharge calculations indicate that adjacent properties, between the exit of the proposed development and the "10 percent downstream point" might be adversely impacted by the proposed development, then the engineer will provide a summary of his recommendations.
- E. The site plan that is submitted in conjunction with the Storm Water Management Report shall depict all streams, lakes, wetlands, and other bodies of water. Additionally, the plan shall depict relevant the boundaries of the one hundred-year flood plain. The floodplain boundary information must be obtained using Federal Emergency Management Agency (FEMA) guidelines. One hundred-year Base Flood Elevations (BFEs) for areas that are designated as Approximate Zone A on FEMA maps must be calculated using appropriate FEMA methodologies. Scaling off the FEMA maps to derive flood boundary information is unacceptable.
- F. The following criteria shall be evaluated by the Engineer preparing the Storm Water Management Report:
 - 1. Existing land uses downstream,
 - 2. Anticipated future land uses downstream,

5. Magnitude of increase in peak flows due to development,
4. Presence of existing storm water quality and/or quantity problems,
5. Capacity of existing and anticipated drainage systems,
6. Creation of concentrated flows where none had occurred previously,
7. Existing flows generated off-site which pass through the project site,
8. The nature of the receiving watercourse.
9. All designs, calculations, and rationale must follow the principles set forth in this Article.

15.6.1 Stormwater Management Facility Required

The following development activities will require the construction of a storm water management facility. Development activities include new developments, subdivision construction, additions to existing developments, and redeveloped sites. Non-commercial development including the construction of single family dwellings, barns, and associated residential and agricultural construction are exempt from this provision.

- A. Any development activity that results in the increase of peak rate of discharge by more than 1 cubic feet per second in the ten-year storm when compared to the site at the effective date of this ordinance.
- B. Any development activity for which the Storm Water Management Report indicates will result in adverse impacts to storm water quality and/or quantity.

15.6.2 Stormwater Management Facility Design Criteria

- A. All designs, calculations, and rationale must follow the principles set forth in the Georgia Stormwater Management Manual Volume 1 and 2, latest edition.
- B. Storm water runoff must be managed to control the velocity at the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the streams. Soil erosion and sedimentation control measures, structures and devices shall be so planned, designed and constructed as to provide for a range of design flows for flood control. These design flows should be demonstrated for the 2, 10, and 25 year storm events using the procedures as outlined in the United States Department of Agriculture Soil Conservation Service's "Technical Release 55 Urban Hydrology for Small Watersheds" or other acceptable calculation procedures. All BMPs must be designed for a 25-year storm. All storm water management facilities must have outlet devices able to effectively route the 100-year storm. All disturbed land must drain to an approved BMP, and storm water runoff must be managed for the entire drainage area above the detention system or BMP.
- C. During construction all land disturbing activities (to include all land uses) must comply with sedimentation and erosion control procedures/program as defined by General Permit (No. GAR100001, 2, 3), and this Article.
- D. Permitting process: Must demonstrate compliance with the storm water control plan to the Town prior to approval of any building or subdivision permit request.
- E. After construction: Runoff from the first 1.0 inches of rainfall must be captured and released evenly over a 24-hour period. Must maintain peak flows for the 2, 10, and 25-year storm at the property boundaries equal to or less than flow under undeveloped conditions and be able to route a 100-year storm through the facility.
- F. Storm water management facility fencing: Fences and warning signs will be required on all detention ponds, constructed wetlands, retention ponds or similar devices where the sides of the device adjacent to the water are steeper than 5:1 and the depth of the water in the pond is greater than three feet. Fences shall be five (5) feet high chain link or

other approved material with a 14 foot wide gate. The gate shall be locked with keys to be provided to the Town Enforcement Officer.

- G. Outlet structures and piping for residential and non-residential developments storm water management facilities must be constructed of concrete.

15.6.3 Storm Water Management Facility Easements

- A. For residential storm water management facility easements the developer shall execute a 20 feet drainage easement surrounding the entire perimeter of the facility. The easement boundary will be measured from the 100-year storm water ponding limits or 6" above the elevation of the overflow. Additionally, all associated piping, channels, ditches, streams or other areas that are designed for storm water to flow to and from the storm water management facility shall require a 20 foot easement measured ten feet in both directions from the appropriate centerline. A 20 feet easement will connect the facility to the nearest public road. The easement(s) will be to allow inspections and maintenance of the facility as necessary. No obstruction shall be built constructed or planted that would inhibit proper function of the facility and its associated drainage systems. No fences shall be allowed on the access easement unless a gate is placed at the location. (amended 6-04)
- B. For non-residential storm water management facility easements, the property owner shall execute a 20 feet drainage easement surrounding the entire perimeter of the facility to allow for inspection and observation of the facility as necessary. The easement boundary will be measured from the 100-year storm water ponding limits or 6" above the elevation of the overflow. The property owner shall additionally grant permission to the Town, its authorized agents and employees, to enter upon the property and to inspect the facilities when necessary. No obstruction shall be built, constructed or planted that would inhibit proper function of the facility and its associated drainage systems.

15.6.4 Bonding of Residential Storm Water Management Facilities

Residential storm water management facilities must be bonded as provided in this ordinance. Bonds will not be released until all provisions of this ordinance are met.

In lieu of bonding, a developer may provide the Town with a letter of credit from a bank in good standing.

15.6.5 Acceptance of Residential Systems

- A. Storm water management facilities that have been constructed in accordance with the approved plans will be inspected at the time of final platting, and a punch list will be provided at that time. Prior to final plat approval, the following items must be completed:
 1. All punch list items must be properly addressed.
 2. After construction and before approval of the final plat, the designer shall submit a certified field run topographic map of the detention area and a revised hydrology study using the as-built topographic map. The topographic map of the storm water management facility should include the state plane coordinates and mean sea level elevations of applicable outfalls, silt gauges, and survey markers. The as-built will be submitted in electronic form and hard copy form to the Town.
 3. The designer shall certify that the facility is working as it was designed and that the required detention storage and outflow rates are being provided.
 4. The storm water management facility will be bonded as provided in this ordinance.

5. All accumulations of silt need to be removed so that the grade of the bottom of the pond is at the design grade. The silt gauge should read zero upon completion.
- B. Subsequently, the facilities will be inspected prior to release of bonds. At that time, any deficiencies in the facility will be noted in a letter. The facility will be approved by the Town provided the following items are completed:
 1. All deficiencies noted on the final inspection letter must be properly addressed.
 2. All accumulations of silt need to be removed so that the grade of the bottom of the pond is at the design grade.
 5. The entire storm water management facility needs to be stabilized with permanent vegetation as shown on the approved plans.
- C. The Town shall not own or maintain any stormwater system located beyond the public right-of-way. (amended 6-04)

15.6.6 Acceptance of Non-residential Systems

A final inspection of non-residential storm water management systems will occur at the time the developer requests a certificate of occupancy inspection. At that time, any deficiencies in the facility will be noted as a punch-list item. The commercial development will not receive a certificate of occupancy until the following items are completed:

- A. After construction and before acceptance for occupation or otherwise, the designer shall submit a certified field run topographic map of the detention area and a revised hydrology study using the as-built topographic map. The topographic map of the storm water management facility should include the state plane coordinates and mean sea level elevations of applicable outfalls, and any survey markers. The as-built will be submitted in electronic form and hard copy form.
- B. The designer shall certify that the facility is working as it was designed and that the required detention storage and outflow rates are being provided.
- C. All accumulations of silt need to be removed so that the grade of the bottom of the pond is at the design grade.
- D. The entire storm water management facility needs to be stabilized with permanent vegetation as shown on the approved plans.
- E. The Town shall not own or maintain any stormwater system located beyond the public right-of-way. (amended 6-04)

15.6.7 Inspection, Maintenance, and Repair

- A. Inspection, maintenance, and repair of residential systems: Upon acceptance as provided above, the Town may periodically inspect residential storm water management facilities to determine that they are functioning properly. The maintenance and repair of the storm water management facility shall be the responsibility of the Homeowner's Association if in a privately owned and maintained development or the Town in a public development.
- B. Inspection, maintenance, and repair of non-residential systems: The Town may inspect non-residential storm water management facilities periodically to determine that they are functioning properly. Deficiencies will be noted to the Owner in writing. It shall be the responsibility of the Owner to repair deficiencies in a timely manner. Failure on the part of the Owner to repair deficient storm water detention pond structures will be a violation of this Ordinance and will be punishable according to this Ordinance. The Town may determine that the condition of the facility poses a threat to the public health, safety, and welfare and warrants immediate action. If the owner of such a facility does not make repairs in a time allowed by the Town Enforcement Officer, the Town may determine

that it is necessary to make an emergency repair as allowed in this Article. The cost of such repairs will be assessed to the property owner.

15.6.8 Prohibited Activities

No person shall engage in any land disturbing activity or otherwise alter the hydraulic or vegetative characteristics of a protected area without first having obtained a written permit from the Town unless otherwise exempted.

15.7 WETLANDS PROTECTION

A. Protected Wetlands; Defined.

1. "Wetlands" are freshwater areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar freshwater areas.
2. Protected wetlands are those wetlands identified and mapped in the Comprehensive Plan, based on criteria defined, identified and mapped by the Georgia Department of Natural Resources (DNR), or based on other credible data provided by a qualified Professional Engineer.

B. Protected Wetlands; Restrictions. Within any protected wetlands area, the following shall apply:

1. Alteration or degradation of a protected wetland requires prior approval by the U.S. Army Corps of Engineers under Section 404 of the federal Clean Water Act.
2. Hazardous or toxic waste receiving, treatment or disposal facilities are prohibited.
3. Sanitary landfills are prohibited.
4. Land uses that may be allowed if permitted by the zoning district and by the Section 404 permit include:
 - a. Timber production and harvesting.
 - b. Wildlife and fisheries management.
 - c. Camping, hiking, hunting and fishing recreation activities.
 - d. Public wastewater treatment and natural water quality treatment or purification facilities.
5. Other uses permitted under Section 404 of the federal Clean Water Act

15.8 GROUNDWATER RECHARGE PROTECTION

A. Protected Groundwater Recharge Areas; Defined.

1. Significant recharge areas. Significant recharge areas are defined by the Georgia Department of Natural Resources (DNR) using criteria developed by them, and have been mapped on DNR's Hydrologic Atlas 18 (1989 edition, or as may be amended by DNR from time to time).
2. Pollution susceptibility category. Categories of relative vulnerability of an aquifer to pollution (classified as "higher," "average" or "lower") are defined by the DNR using criteria developed by them, and have been mapped on DNR's Hydrologic Atlas 20 along with the most significant recharge areas.

B. Protected Groundwater Recharge Area Restrictions; General. Within any significant recharge area, as defined and delineated by the DNR, the following shall apply:

1. New hazardous waste treatment or disposal facilities are prohibited.
2. New sanitary landfills, if permitted, shall have synthetic liners and leachate collection systems.

3. Any new facility that involves the treatment, storage or disposal of hazardous waste, if permitted by DNR and the zoning district, shall perform such operations on an impermeable surface having a spill and leak collection system.
 4. Any new facility that handles hazardous materials of the types listed in Section 312 of the Resource Conservation and Recovery Act of 1976 (excluding underground storage tanks) and in amounts of 10,000 pounds or more on any one day, shall perform their operations on impermeable surfaces having spill and leak collection systems as prescribed by DNR.
 5. A new above-ground chemical or petroleum storage tank must have secondary containment of 110% of the volume of the tank or 110% of the volume of the largest tank in a cluster of tanks. This requirement does not apply to:
 - a. Any tank having a maximum capacity of less than 660 gallons; and,
 - b. Any tank used for agricultural purposes, provided it complies with all Federal requirements.
- C. Protected Groundwater Recharge Area Restrictions; By Classification.
1. Lower Pollution Susceptibility Areas. Within a significant recharge area classified as having "lower" susceptibility to pollution, the following applies:
 - a. New agricultural waste impoundment sites larger than 50 acre-feet must be lined. The liner must be constructed of compacted clay having a thickness of 1 foot and a vertical hydraulic conductivity of less than 5×10^{-7} cm/sec or other criteria established by the U.S. Natural Resource Conservation Service.
 - b. A new home served by a septic tank/drain field system must be approved by the County Health Department and must have a lot that is at least 110% of the minimum lot size required by Table MT-1 of the Department of Human Resource's *Manual for On-Site Sewage Management Systems*.
 - c. A new manufactured home park served by a septic tank/drain field system must be approved by the County Health Department and must have a lot or space that is at least 110% of the minimum lot or space size required by Table MT-2 of the Department of Human Resource's *Manual for On-Site Sewage Management Systems*.
 2. Average Pollution Susceptibility Areas. Within a significant recharge area classified as having "average" susceptibility to pollution, the following applies:
 - a. New agricultural waste impoundment sites larger than 15 acre-feet must be lined. The liner must be constructed of compacted clay having a thickness of 1 foot and a vertical hydraulic conductivity of less than 5×10^{-7} cm/sec or other criteria established by the U.S. Natural Resource Conservation Service.
 - b. A new home served by a septic tank/drain field system must be approved by the County Health Department and must have a lot that is at least 125% of the minimum lot size required by Table MT-1 of the *Deual for On-Site Sewage Management Systems*.
 - c. A new manufactured home park served by a septic tank/drain field system must be approved by the County Health Department and must have a lot or space that is at least 125% of the minimum lot or space size required by Table MT-2 of the Department of Human Resource's *Manual for On-Site Sewage Management Systems*.
 3. Higher Pollution Susceptibility Areas. Within a significant recharge area classified as having "higher" susceptibility to pollution, the following applies:
 - a. All new agricultural waste impoundment sites must be lined. The liner must be constructed of compacted clay having a thickness of 1 foot and a vertical

- hydraulic conductivity of less than 5×10^{-7} cm/sec or other criteria established by the U.S. Natural Resource Conservation Service.
- b. A new home served by a septic tank/drain field system must be approved by the County Health Department and must have a lot that is at least 150% of the minimum lot size required by Table MT-1 of the Department of Human Resource's *Manual for On-Site Sewage Management Systems*.
 - c. A new manufactured home park served by a septic tank/drain field system must be approved by the County Health Department and must have a lot or space that is at least 150% of the minimum lot or space size required by Table MT-2 of the Department of Human Resource's *Manual for On-Site Sewage Management Systems*.
 - d. Spray irrigation of wastewater or the land spreading of wastewater sludges must be approved by DNR.
 - e. Permanent storm water infiltration basins are prohibited.
 - f. New wastewater treatment basins (except for mining settling basins) must have an impermeable liner and be approved by DNR.

15.9 GEORGIA WELLHEAD PROTECTION PLAN

Braselton has adopted a Wellhead Protection Plan. For security purposes, this plan may not be viewed by the public as part of this Development Code. The Braselton Wellhead Protection Plan is on file at Town Hall and may be viewed by submitting a written request to the Town Manager. Permission to view this document by the Town will be based on the criteria of holding a specific property interest within the wellhead protection area. The Town Manager has sole discretion as to the particular sections of this document that may be viewed by the requesting party.

15.10 SURVEY MONUMENTS

The Town has installed permanent concrete/brass survey monuments in four (4) locations around the Town. These survey monuments shall be used by the engineer and/or land surveyor during the design and surveying of any new or existing development located in the water and sewer service area of the Town. All new survey control point/monuments shall be set to an elevation relative to these monuments. All surveys for new developments shall be based on the Town's existing control monuments. Information on the control monument locations can be obtained from the Town website or Town Hall.

Concrete monuments with aluminum or brass marking shall be placed at all corners of the exterior boundaries of the subdivision being developed and shall be set flush or up to 6 inches above finished grade. Existing permanent monuments, which in the professional opinion of a registered land surveyor, or engineer are of sufficiently durable construction may be maintained in lieu of a new concrete monument as described above. All other street or lot corners or angle points and points of a curve in each street shall be marked with an iron pipe or surveyor's marker at least 24 inches long and driven no less than 1 inch or up to 6 inches above the finished grade. All such monuments shall be properly set in the ground and shall be approved by a registered land surveyor prior to the time of final plat approval by the Planning Director.