

**Rules
of
Georgia Department of Natural Resources
Environmental Protection Division**

**Chapter 391-3-16
Rules for Environmental Planning Criteria**

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INTRODUCTION

The Georgia Planning Act of 1989 encourages each local government in the state to develop a comprehensive plan to guide its activities over a 20-year planning horizon. In order to provide local governments with guidelines to use in preparing their comprehensive plans, the Act called for the Georgia Departments of Community Affairs and Natural Resources to develop a set of minimum requirements to be met in each local plan. These minimum requirements are known as the “Minimum Planning Standards”.

The *environmental planning criteria* that follow are the part of the Minimum Planning Standards that deals specifically with the protection of water supply watersheds, groundwater recharge areas, wetlands, river corridors, and mountains. These criteria were developed by the Department of Natural Resources (DNR) as mandated in Part V of the Georgia Planning Act and in the Mountains and River Corridors Protection Act.

391-3-16.01 Criteria For Water Supply Watersheds

(1) Background.

- (a) These criteria establish pursuant to O.C.G.A. 12-2-8 a basis to be used by local governments to allow development of a water supply watershed without contaminating the water source to a point where it cannot be treated to meet drinking water standards. The criteria accomplish this by establishing buffer zones around streams and by specifying allowable impervious surface densities within watersheds. The criteria also include protection of water supply reservoirs by buffer zones and management practices to be established by reservoir owners and approved by the Department of Natural Resources.
- (b) Large drainage basins are less vulnerable to contamination by land use development than small basins. Therefore, more stringent watershed protection criteria are established for water supply watersheds less than 100 square miles in size. Since existing water supply sources as well as future sources must be protected, the criteria apply to both existing and future water supply watersheds. Watersheds are not identical; consequently alternate criteria may be adopted by local governments to protect water supply watersheds.
- (c) The purpose of these criteria is to establish the protection of drinking water watersheds. This protection is necessary for the enhancement of public health, safety and welfare as well as to assure that surface sources of drinking water are of high quality in order to be treated to meet all State and Federal drinking water standards.

(2) Definitions.

- (a) Buffer means a natural or enhanced vegetated area with no or limited minor land disturbances, such as trails and picnic areas. Specific buffer uses may be defined by local government consistent with these criteria.
- (b) Corridor means all land within the buffer area and other setback areas specified in Paragraphs (6) and (7) of these criteria.
- (c) Impervious Surface means a man-made structure or surface which prevents the infiltration of storm water into the ground below the structure or surface. Examples are buildings, roads, driveways, parking lots, decks swimming pools, or patios.
- (d) Perennial Stream means a stream which flows throughout the whole year as indicated on a USGS Quad map.
- (e) Reservoir Boundary means the edge of a water supply reservoir defined by its normal pool level.

- (f) Utility means public or private water or sewer piping systems, water or sewer pumping stations, electric power lines, fuel pipelines, telephone lines, roads, driveways, bridges, river/lake access facilities, storm water systems and railroads or other utilities identified by a local government.
 - (g) Water Supply Reservoir means a governmentally owned impoundment of water for the primary purpose of providing water to one or more governmentally owned public drinking water systems. This excludes the multipurpose reservoirs owned by the U.S. Army Corps of Engineers.
 - (h) Water Supply Watershed means the area of land upstream of a governmentally owned public drinking water intake.
 - (i) Water Supply Watershed Protections Plan is a land use plan prepared and adopted by local governments for the protection of the quality of drinking water obtained from the watershed.
- (3) Coverage. These criteria shall apply to all governments located within water supply watersheds. Exceptions to coverage may be allowed for watersheds providing secondary or emergency sources of water only. These criteria do not apply to watersheds not used for public drinking water supply. Standards established in the Metropolitan Rivers Protection Act and the Erosion and Sedimentation Act are not superseded by these criteria.
- (4) Local Government Adoption. Local governments shall identify existing and future water supply watersheds and shall adopt water supply watershed protection plans as part of their planning process. These criteria shall be used as the basis for local water supply watershed protection plans. Local governments may refine and enhance the criteria in their water supply watershed protection plans. All existing or proposed withdrawals for public water supply must be approved by the Department of Natural Resources.
- (5) Exemptions.
- (a) Local governments may exempt land uses existing prior to promulgation of water supply watershed protection plans from the provisions of water supply watershed protection plans.
 - (b) Local governments may exempt mining activities permitted by the Department of Natural Resources under the Surface Mining Act from the provisions of water supply watershed protection plans.
 - (c) Local governments may exempt utilities from the stream corridor buffer and setback area provisions of water supply watershed protection plans in accordance with the following conditions if the utilities to be located in the buffer or setback areas cannot feasibly be located outside these areas:

1. The utilities shall be located as far from the stream bank as reasonably possible.
 2. The installation and maintenance of the utilities shall be such to protect the integrity of the buffer and setback areas as best as reasonably possible.
 3. The utilities shall not impair the quality of the drinking water stream.
- (d) Local governments may exempt specific forestry and agricultural activities from the stream corridor buffer and setback area provisions of water supply watershed protection plans in accordance with the following conditions:
1. The activity shall be consistent with best management practices established by the Georgia Forestry Commission or the Georgia Department of Agriculture.
 2. The activity shall not impair the quality of the drinking water stream.
- (6) Minimum Criteria for Large Water Supply Watersheds.
- (a) A large water supply watershed has 100 square miles or more of land within the drainage basin upstream of a governmentally owned public drinking water supply intake.
- (b) The stream corridors of a large water supply watershed tributary to the water supply intake shall have no specified minimum criteria for protection, except the stream corridors of the perennial tributaries of a water supply reservoir in a large water supply watershed are protected as described in (c) below.
- (c) The corridors of all perennial streams in a large water supply watershed tributary to a water supply reservoir within a seven (7) mile radius of the reservoir boundary are protected by the following criteria:
1. A buffer shall be maintained for a distance of 100 feet on both sides of the stream as measured from the stream banks.
 2. No impervious surface shall be constructed within a 150 foot setback area on both sides of the stream as measured from the stream banks.
 3. Septic tanks and septic tank drainfields are prohibited in the setback area of 2. above.
- (d) The remainder of a large water supply watershed tributary to the water supply intake shall have no specified minimum criteria for protection, except that new facilities, located within seven (7) miles of a water supply intake or water supply reservoir, which handle hazardous materials of the types and amounts determined by the Department of Natural

Resources, shall perform their operations on impermeable surfaces having spill and leak collection systems as prescribed by the Department of Natural Resources.

(e) The water supply reservoirs in large water supply watersheds will be managed as described in (8).

(7) Minimum Criteria for Small Water Supply Watersheds.

(a) A small water supply watershed has less than 100 square miles of land within the drainage basin upstream of a governmentally owned public drinking water supply intake.

(b) Stream Corridor Criteria for Small Water Supply Watersheds

1. The perennial stream corridors of a small water supply watershed within a seven (7) mile radius upstream of a governmentally owned public drinking water supply intake or water supply reservoir are protected by the following criteria:

- (i) A buffer shall be maintained for a distance of 100 feet on both sides of the stream as measured from the stream banks.
- (ii) No impervious surface shall be constructed within a 150 foot setback on both sides of the stream as measured from the stream banks.
- (iii) Septic tanks and septic tank drainfields are prohibited in the setback area of (ii) above.

2. The perennial stream corridors within a small water supply watershed and outside a seven (7) mile radius upstream of a governmentally owned public drinking water supply intake or water supply reservoir are protected by the following criteria:

- (i) A buffer shall be maintained for a distance of 50 feet on both sides of the stream as measured from the stream banks.
- (ii) No impervious surface shall be constructed within a 75 foot setback area on both sides of the stream as measured from the stream banks.
- (iii) Septic tanks and septic tanks drainfields are prohibited in the setback areas of (ii) above.

(c) The following criteria apply to all locations in a small water supply watershed.

- 1. New sanitary landfills are allowed only if they have synthetic liners and leachate collection systems.

2. New hazardous waste treatment or disposal facilities are prohibited.
3. The impervious surface area, including all public and private structures, utilities, or facilities, of the entire water supply watershed shall be limited to twenty-five (25) per cent, or existing use, whichever is greater.
4. New facilities which handle hazardous materials of the types and amounts determined by the Department of Natural Resources, shall perform their operations on impermeable surfaces having spill and leak collection systems as prescribed by the Department of Natural Resources.

(d) The water supply reservoirs in small water supply watersheds are to be managed as described in (8).

(8) Water Supply reservoirs Management Plans.

- (a) The owner of a water supply reservoir shall develop a reservoir management plan for approval of the Department of Natural Resources. If the Department owns the reservoir, the plan shall be prepared in cooperation with the local governments using the reservoir.
- (b) A reservoir management plan shall address the recreational use of the reservoir and the maintenance of a buffer around the reservoir.
 1. Prohibitions or restrictions on all or some of the following recreational uses shall be addressed in the reservoir management plan to protect the water quality of the reservoir for drinking purposes while optimizing its recreational benefits.
 - (i) Swimming
 - (ii) Fishing
 - (iii) Boating
 - (iv) Docks
 - (v) Public Access
 2. A buffer shall be maintained for a distance of 150 feet from the reservoir boundary. The allowable buffer vegetation and disturbance shall be specified in the reservoir management plan.
 3. Reservoir owners, upon consideration of ground slopes and soil types, may adopt buffers of differing sizes than in 2. above upon approval of the Department of Natural Resources.

(9) Additional Criteria.

- (a) Within water supply watersheds, local governments may adopt additional criteria to protect drinking water sources.
- (10) Alternate Minimum Criteria for Water Supply Watersheds.
 - (a) Criteria different than those in (6) and (7) may be presented to the Department of Natural Resources by all the local governments within a water supply watershed. The Department of Natural Resources may approve such criteria if the Department of Natural Resources deems them to provide an equivalent level of protection to the criteria of (6) and (7), and if they provide at least as much stream corridor buffer and set back area in the watershed as the criteria of (6) and (7).
 - (b) Land uses, such as the construction of lakes and ponds, which can be shown to enhance the protection of water quality may be included in the alternate criteria.

391-3-16-.02 Criteria For Protection of Groundwater Recharge Areas

- (1) Background. Variable levels of recharge area protection can be based upon the State's hydrogeology (e.g., areas such as the Dougherty Plain where a major aquifer crops out would receive a relatively high degree of protection whereas other areas, such as the shale hills of northwest Georgia, would receive a lower degree of protection). Recharge area protection within the significant recharge areas would be further refined, based upon the local susceptibility or vulnerability to human induced pollution (e.g., high, medium, or low). The significant recharge areas have already been identified and mapped (about 22-23% of the State). Pollution susceptibility mapping is ongoing. Existing statutes are adequate for protecting the remaining recharge areas (about 77-78% of the State).
- (2) Definitions:
 - (a) "Aquifer" means any stratum or zone of rock beneath the surface of the earth capable of containing or producing water from a well. (Note: this is the same definition as in the Groundwater Use Act).
 - (b) "DRASTIC" means the standardized system for evaluating groundwater pollution potential using the hydrogeologic settings described in U.S. Environmental Protection Agency document EPA-600/2-87-035. (Note: the DRASTIC methodology is the most widely used technique for evaluation pollution susceptibility).
 - (c) "Pollution Susceptibility" means the relative vulnerability of an aquifer to being polluted from spills, discharges, leaks, impoundments, applications of chemicals, injections and other human activities in the recharge area.
 - (d) "Pollution Susceptibility Maps" means maps of relative vulnerability to pollution prepared by the Department of Natural Resources, using the DRASTIC methodology. Pollution susceptibility maps categorize the land areas of the State into areas having high, medium and low ground-water pollution potential.
 - (e) "Recharge Area" means any portion of the earth's surface, where water infiltrates into the ground to replenish an aquifer.
 - (f) "Significant Recharge Areas" means those areas mapped by the Department of Natural Resources in Hydrologic Atlas 18 (1989 edition). Mapping of recharge areas is based on outcrop area, lithology, soil type and thickness, slope, density or lithologic contacts, geologic structure, the presence of karst, and potentiometric surfaces. Significant recharge areas are as follows in the various geologic provinces of Georgia:
 1. In the Valley and Ridge and in the Cumberland Plateau, significant recharge areas are outcrop areas of carbonate rock where low slope (less than 8%

slope) conditions prevail. Such areas commonly are characterized by karst topography (caves and sinkholes).

2. In the Piedmont and in the Blue Ridge, rocks have little primary porosity, with most groundwater being stored in the overlying soils. The significant recharge areas are those with thicker soils. Field mapping indicates that thick soils in the Piedmont and Blue Ridge are characterized by a density of two or more geologic contacts per four square miles (source: 1976 1:500,000 Geologic Map of Georgia) and slopes lower than 8%.
3. In the Coastal Plain, the significant recharge areas are the surface outcroppings of the large and extensively used drinking water aquifers (e.g., the Floridian, the Clayton, etc.) and soils having high permeability according to the 1976 1:750,000 Soils Association Map of Georgia.

(3) The following criteria pursuant to O.C.G.A. 12-2-8 shall apply in significant recharge areas:

- (a) The Department of Natural Resources shall not issue any permits for new sanitary landfills not having synthetic liners and leachate collection systems.
- (b) The Department of Natural Resources shall not issue any new permits for the land disposal of hazardous wastes.
- (c) The Department of Natural Resources shall require all new facilities permitted or to be permitted to treat, store, or dispose of hazardous waste to perform such operations on an impermeable pad having a spill and leak collection system.
- (d) New above-ground chemical or petroleum storage tanks, having a minimum volume of 660 gallons, shall have secondary containment for 110% of the volume of such tanks or 110% of the volume of the largest tank in a cluster of tanks. (Note: These figures are consistent with US EPA rules for oil pollution prevention, 40 CFR 112.1). Such tanks used for agricultural purposes are exempt, provided they comply with all Federal requirements.
- (e) New agricultural waste impoundment sites shall be lined if they are within:
 1. a high pollution susceptibility area;
 2. a medium pollution susceptibility area and exceed 15 acre-feet;
 3. a low pollution susceptibility area and exceed 50 acre-feet.

As a minimum, the liner shall be constructed of compacted clay having a thickness of one-foot and a vertical hydraulic conductivity of less than 5×10^{-7} cm/sec or other criteria established by the U.S. Soil Conservation Service. (The average size of existing agricultural waste impoundments in Georgia is about 15 acre-feet; sheeps-foot rollers or pans with heavy rubber tires, which are normal equipment for most

Georgia earth moving contractors, should be able to compact clay to the recommended vertical hydraulic conductivity.)

- (f) New homes served by septic tank/drain field systems shall be on lots having the following minimum size limitations as identified on Table MT-1 of the Department of Human Resources' Manual for On-Site Sewage Management Systems (hereinafter "DHR Table MT-1"):
 - 1. 150% of the subdivision minimum lot size of DHR Table MT-1 if they are within a high pollution susceptibility area; and
 - 2. 125% of the subdivision minimum lot size of DHR Table MT-1 if they are within a medium pollution susceptibility area.
 - 3. 110% of the subdivision minimum lot size of DHR Table MT-1 if they are within a low pollution susceptibility area.
- (g) New mobile home parks served by septic tank/drain field systems shall have lots or spaces having the following size limitation as identified on Table MT-2 of the Department of Human Resources' Manual for On-Site Sewage Management Systems (hereinafter "DHR Table MT-2")
 - 1. 150% of the subdivision minimum lot or space size of DHR Table MT-2 if they are within a high pollution susceptibility area;
 - 2. 125% of the subdivision minimum lot or space size of DHR Table MT-2 if they are within a medium pollution susceptibility area; and
 - 3. 110% of the subdivision minimum lot or space size of DHR Table MT-2 if they are within a low pollution susceptibility area.
- (h) If a local government requires a larger lot size than that required by (f) above for homes or by (g) above for mobile homes, the larger lot size shall be used.
- (i) Local governments at their option may exempt from the requirements of (f) or (g) any lot of record on the date of their adoption of those lot size standards.
- (j) No construction may proceed on a building or mobile home to be served by a septic tank unless the county health department first approves the proposed septic tank installation as meeting the requirements of the DHR Manual and (f), (g), (h), and (i) above.
- (k) Each Regional Development Center is responsible for considering, in its regional plan, the cumulative environmental effects of a significant number of septic tank systems being used in close proximity to each other. In so considering the Regional

Development Center shall not approve any local plans which would result in adverse environmental effects on another area. A Regional Development Center may consult with the Department of Human Resources and Department of Natural Resources for technical assistance as to appropriate densities of lots served by septic tanks in significant recharge areas.

- (l) New facilities which handle hazardous materials, of types and in amounts determined by Department of Natural Resources, shall perform their operations on impermeable surfaces having spill and leak collection systems, as prescribed by Department of Natural Resources.
 - (m) The Department of Natural Resources shall require conservative design in any new permits for the spray irrigation of wastewaters or the land spreading of wastewater sludges in areas having high pollution susceptibility. This shall be accomplished by comparing the Department's CRITERIA FOR SLOW RATE LAND TREATMENT (February, 1986 or latest edition) with amendments and other technical publications to site specific information submitted by a registered professional engineer for each project.
 - (n) Permanent storm water infiltration basins shall not be constructed in areas having high pollution susceptibility.
 - (o) Exclusive of mining settling basins, new wastewater treatment basins shall have an impermeable liner in areas having high pollution susceptibility.
- (4) Local governments having jurisdictional authority over all significant recharge areas shall adopt, implement, and enforce ordinances for recharge area protection at least as stringent as the standards developed by the Department of Natural Resources.

391-3-16-.03 Criteria for Wetlands Protection

- (1) Local governments and regional development centers should acknowledge the importance of wetlands for the public good in the land-use planning process as mandated by O.C.G.A. 12-2-8. The Department of Natural Resources shall establish a freshwater wetlands database and minimum criteria for local government consideration of wetlands protection in the land-use planning process. DNR's database shall include field checked mapping of wetlands. The criteria are designed to assist in the identification and protection of wetlands, and do not constitute a state or local permit program.
- (2) The wetlands permit program under Section 404 of the Clean Water Act provides a federal permit process that may allow activities in wetlands after a public interest review. Most activities in wetlands will require a Section 404 permit from the Corps of Engineers. If wetlands are altered or degraded, mitigation to offset losses will be required as a condition of a Section 404 Permit. Under current federal policy, alterations or degradations of wetlands should be avoided unless it can be demonstrated that there will be no long-term adverse impacts or net loss of wetlands. Section 401 of the Clean Water Act requires certification by the State for any permit issued under Section 404. Other state and federal laws are also applicable to wetlands and wetlands protection.
- (3) The following are definitions and criteria for developing local and regional land-use plans with respect to wetlands:
 - (a) Definition of Freshwater Wetlands. "Wetlands" mean those 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 areas. (33 CFR 32.93) The ecological parameters for designating wetlands include hydric soils, hydrophytic vegetation, and hydrological conditions that involve a temporary or permanent source of water to cause soil saturation. Freshwater wetlands do not include any areas defined as "coastal marshlands" by the State Coastal Marshlands Protection Act.
 - (b) At a minimum, the following categories of freshwater wetlands and aquatic habitats will be defined, identified and mapped by the State:
 1. Open water - areas of open water, primarily reservoirs, ponds, lakes, rivers, and estuaries.
 2. Non-forested emergent wetlands - freshwater marshes dominated by a variety of grasses, sedges, rushes, and broadleaved aquatics associated with streams, ponded areas, and tidally-influenced non-saline waters.
 3. Scrub/shrub wetlands - non-forested areas dominated by woody shrubs, seedlings, and saplings averaging less than 20 ft. in height; these wetlands

may intergrade with forested wetlands, non-forested emergent wetlands, and open water.

4. Forested wetlands - natural or planted forested areas having a dominant tree crown closure of hardwoods, pines, gums, cypress, or any combination of these types. These areas are usually in stream or river floodplains, isolated depressions, and drainways, and contain standing or flowing water for a portion of the year.

Subcategories:

- (i) Hardwood floodplain forests
- (ii) Coniferous floodplain forests
- (iii) Mixed floodplain forests
- (iv) Non-alluvial forested wetlands

5. Altered wetlands - areas with hydric soils that have been denuded of natural vegetation and put to other uses, such as pasture, row crops, etc., but that otherwise retain certain wetlands functions and values.

- (c) Wetlands will be appropriately identified and mapped in the land-use plans developed by local and regional governments. A “minimum” area will be established for identification and mapping of wetlands in land-use plans. The “minimum-area” established will be contingent upon the methodology used in developing the State’s wetlands database and on other available information, but under no conditions will an identified wetland “minimum area” exceed 5 acres. Land-use plans should address at least the following considerations with regard to wetlands classes identified in the database:

1. Whether impacts to an area would adversely affect the public health, safety, welfare, or the property of others.
2. Whether the area is unique or significant in the conservation of flora and fauna including threatened, rare or endangered species.
3. Whether alteration or impacts to wetlands will adversely affect the function, including the flow or quality of water, cause erosion or shoaling, or impact navigation.
4. Whether impacts or modification by a project would adversely affect fishing or recreational use of wetlands.
5. Whether an alteration or impact would be temporary in nature.
6. Whether the project contains significant state historical and archaeological

resources, defined as “Properties On or Eligible for the National Register of Historic Places”.

7. Whether alteration of wetlands would have measurable adverse impacts on adjacent sensitive natural areas.
 8. Where wetlands have been created for mitigation purposes under Section 404 of the Clean Water Act, such wetlands shall be considered for protection.
- (d) Uses of wetlands without long term impairment of function should be included in land use plans. Acceptable uses may include:
1. Timber production and harvesting
 2. Wildlife and fisheries management
 3. Wastewater treatment
 4. Recreation
 5. Natural water quality treatment or purification
 6. Other uses permitted under Section 404 of the Clean Water Act.
- (e) Unacceptable uses may include:
1. Receiving areas for toxic or hazardous waste or other contaminants
 2. Hazardous or sanitary waste landfills
 3. Other uses unapproved by local governments

391-3-16-.04 CRITERIA FOR RIVER CORRIDOR PROTECTION (12-9-91)

(1) Background

The following section on background is strictly for the purpose of introduction of the criteria. The section explains the importance of the river corridors, the relevant section of the Official Code of Georgia, and the method prescribed by the law for protection of river corridors.

- (a) River corridors are the strips of land that flank major rivers in Georgia. These corridors are of vital importance to Georgia in that they help preserve those qualities that make a river suitable as a habitat for wildlife, a site for recreation, and a source for clean drinking water. River corridors also allow the free movement of wildlife from area to area within the state, help control erosion and river sedimentation, and help absorb flood waters.
- (b) The Comprehensive Georgia Planning Act of 1989 provides for the development of coordinated and comprehensive planning by municipal and county governments. Such comprehensive plans shall consider the natural resources, environments, and vital areas within the jurisdiction of the local government. Maintenance of the status as a "Qualified Local Government" is contingent upon the development of such comprehensive plans (O.C.G.A. 50-8-1 et seq.).
- (c) Section 12-2-8 (as amended) of Article 1, Chapter 2, Title 12 of the Official Code of Georgia Annotated (O.C.G.A.) authorizes the Department of Natural Resources (DNR) to develop minimum planning standards and procedures for the protection of river corridors in the state, and requires local governments to use these minimum standards in developing and implementing local comprehensive plans.
- (d) The method mandated in O.C.G.A. 12-2-8 for the protection of river corridors is the establishment of natural vegetative buffer area bordering each protected river. Local governments will develop River Corridor Protection Plans (as part of the comprehensive plans authorized under O.C.G.A. 36-70-3) that will maintain the integrity of this buffer area.

(2) Definitions

- (a) "Hazardous waste" means any solid waste which has been defined as a hazardous waste in regulations, promulgated by the administrator of the United States Environmental Protection Agency pursuant to the federal act, which are in force and effect on February 1, 1988, codified as 40 C.F.R. Section 261.3. (Note: This is the same definition as used in the Georgia Hazardous Waste Management Act.)
- (b) "Land-disturbing activity" means any grading, scraping, excavating, or filling of land; clearing of vegetation; and any construction, rebuilding, or alteration of a structure. Land-disturbing activity shall not include activities such as ordinary maintenance and landscaping operations, individual home gardens, yard and grounds upkeep, repairs, additions or minor modifications to a single family dwelling, and the cutting of firewood for personal use.

- (c) "Land uses existing prior to the promulgation of a River Corridor Protection Plan" means any land use or land-disturbing activity, including all human endeavors directly associated with such use or activity, which, prior to the promulgation of the River Corridor Protection Plan falls within one of the following categories:
1. is completed;
 2. is under construction;
 3. is fully approved by the governing authority;
 4. all materials have been submitted for approval by the governing authority; or
 5. is zoned for such use and expenditures in excess of \$2,500.00 have been made in preparation for construction in accordance with such zoning.
- (d) "Local government" means the governing authority of a political subdivision.
- (e) "Natural vegetative buffer" or "buffer area" means a river corridor containing the flora native to that area. The natural floras for specific areas are described in Georgia Geologic Survey Bulletin 114, "The Natural Environments of Georgia." Habitats for endangered and threatened species may require human management of the river corridor in order to maintain those species.
- (f) "Perennial river" means a river or section of a river that flows continuously throughout the year.
- (g) "Plan" or "comprehensive plan" means any plan by a county or municipality covering such county or municipality or any plan by a regional development center covering the center's region proposed or prepared pursuant to the minimum planning standards and procedures for preparation of comprehensive plans and for implementation of comprehensive plans, established by the Department of Community Affairs in accordance with O.C.G.A 50-8-1 through 50-8-12. (Note: this is the same definition as used in O.C.G.A. 50-8-2)
- (h) "Port facility" means any facility for the docking, loading and unloading of ships.
- (i) "Protected river" means any perennial river or watercourse with an average annual flow of at least 400 cubic feet per second as determined by appropriate U.S.Geological Survey documents.
- However, those segments of rivers covered by the Metropolitan River Protection Act or the Coastal Marshland Protection Act are specifically excluded from the definition of a protected river. In coastal areas, the seaward limit of any protected river shall be the inland limit of the jurisdiction of the Coastal Marshlands Protection Act.
- (j) "Public utility" or "utilities" means a service or services provided by a public utility company or a private entity which provides such service or services, and all equipment and structures necessary to provide such services.
- (k) "Quadrangle map" means the most recently published U.S. Geological Survey 7.5

minute topographic map prepared at a scale of 1:24,000.

- (l) "River bank" means the rising ground, bordering a river, which serves to confine the water to the natural channel during the normal course of flow.
- (m) "River corridor" means all land, inclusive of islands, not regulated under the Metropolitan River Protection Act (O.C.G.A. 12-5-440 through 12-5-457), or the Coastal Marshland Protection Act (O.C.G.A. 12-5-280 through 12-5-293), in areas of a protected river and being within 100 feet horizontally on both sides of the river as measured from the river banks.

The 100 foot buffer shall be measured horizontally from the uppermost part of the river bank, usually marked by a break in slope. Although not within the measured 100 foot wide buffer, the area between the top of the bank and the edge of the river shall be treated by local governments in the same manner as the river corridor and shall be included within the River Corridor Protection Plan.

Because stream channels move due to natural processes such as meandering, river bank erosion, and jumping of channels, the river corridor may shift with time. For the purposes of these standards, the river corridor shall be considered to be fixed at its position at the beginning of each review period for local comprehensive plans. Any shift in the location of the protected river after the start of the review period will require a revision of the boundaries of the river corridor at the time of the next review by the Department of Community Affairs.

- (n) "River Corridor Protection Plan" means that part of the local comprehensive plan which deals with the river corridor protection requirements specified herein.
- (o) "Sensitive natural areas" means any area, as identified now or hereafter by the Department of Natural Resources, which contains one or more of the following:
 - 1. habitat, including nesting sites, occupied by rare or endangered species;
 - 2. rare or exemplary natural communities;
 - 3. significant landforms, hydroforms, or geological features; or
 - 4. other areas so designated by the Department of Natural Resources;

and which is sensitive or vulnerable to physical or biological alteration.

- (p) "Single-family dwelling" means a dwelling structure that is designed for the use of one family.

(3) Applicability

- (a) These minimum planning standards and procedures shall apply to each local government which contains within its boundaries a river corridor.
- (b) These minimum planning standards and procedures shall apply to all state owned or administered land that contains a protected river within its boundaries. All state agencies shall comply with these minimum standards. Failure by a state agency to comply with such standards shall be considered an indicia of a governmental action which may significantly adversely affect the quality of the environment under the Environmental Policy Act (O.C.G.A. 12-16-1 et seq.)

- (c) Standards and requirements established in the Metropolitan Rivers Protection Act and the Erosion and Sedimentation Act are not superseded by River Corridor standards.
 - (d) Affected local governments shall incorporate a River Corridor Protection Plan within their comprehensive plans on or before the date established by the Department of Community Affairs (DCA). For local governments which have already submitted comprehensive plans to DCA, DCA shall establish a schedule for the review of a River Corridor Protection Plan.
- (4) Protection Criteria
- (a) The River Corridor Protection Plans shall provide for the maintenance of a natural vegetative buffer except as otherwise provided herein.
 - (b) The River Corridor Protection Plans shall not prohibit the building of single-family dwellings, including the usual appurtenances, within the buffer area, subject to the following conditions:
 - 1. The dwelling shall be in compliance with all local zoning regulations.
 - 2. The dwelling shall be located on a tract of land containing at least two acres. For the purposes of these standards, the size of the tract of land shall not include any area that lies within the protected river (that is, for tracts of land that include portions of a protected river, the area between the river banks can not be counted towards the two acre minimum size).
 - 3. There shall be only one such dwelling on each two-acre or larger tract of land.
 - 4. A septic tank or tanks serving such a dwelling may be located within the buffer area.
 - 5. Septic tank drainfields shall not be located within the buffer area.
 - (c) Within a river corridor, industrial and commercial land uses existing prior to the promulgation of a River Corridor Protection Plan are exempt from these criteria provided that:
 - 1. Industrial and commercial uses of river corridors shall not impair the drinking quality of the river water; and
 - 2. Industrial and commercial activity within the river corridor shall meet all state and federal environmental rules and regulations.
 - (d) Except as expressly provided for under section (4)(b) of these criteria (dealing with single-family dwellings within the river corridor), septic tanks and septic tank drainfields are prohibited within river corridors.
 - (e) River Corridor Protection Plans shall provide for the construction of road crossings and utility crossings of river corridors, provided that construction of such road and utility crossings shall meet all requirements of the Erosion and Sedimentation Control Act of 1975, and of any applicable local ordinances on soil erosion and sedimentation control.
 - (f) River Corridor Protection Plans, developed by local governments, shall provide the following acceptable uses of river corridors, provided that such uses do not impair

the long-term functions of the protected river or the river corridor:

1. Timber production and harvesting, subject to the following conditions:
 - (i) Forestry activity shall be consistent with best management practices established by the Georgia Forestry Commission; and
 - (ii) Forestry activity shall not impair the drinking quality of the river water as defined by the federal Clean Water Act, as amended.
 2. Wildlife and fisheries management activities consistent with the purposes of O.C.G.A. 12-2-8.
 3. Waste-water treatment.
 4. Recreational usage consistent either with the maintenance of a natural vegetative buffer or with river-dependent recreation. For example, a boat ramp would be consistent with this criterion but a hard-surface tennis court would not. Parking lots are not consistent with this criterion. Paths and walkways within the river corridor are consistent with this criterion.
 5. Natural water quality treatment or purification.
 6. Agricultural production and management, subject to the following conditions:
 - a. Agricultural activity shall be consistent with best management practices established by the Georgia Soil and Water Conservation Commission;
 - b. Agricultural activity shall not impair the drinking quality of the river water as defined by the federal Clean Water Act, as amended; and
 - c. Agricultural activity shall be consistent with all state and federal laws, and all regulations promulgated by the Georgia Department of Agriculture.
 7. Other uses permitted by the Department of Natural Resources or under Section 404 of the Clean Water Act.
- (g) Handling areas for the receiving and storage of hazardous waste are prohibited within river corridors. Port facilities are exempt from this criterion provided that:
1. Port facilities shall meet all federal and state laws and regulations for the handling and transport of hazardous waste.
 2. Port facilities handling hazardous waste shall perform their operations on impermeable surfaces having spill and leak protection systems as prescribed by the Department of Natural Resources. (Note: this is the same criterion as set in the Department of Natural Resources Criteria for Water-Supply Watersheds for facilities which handle hazardous materials.)
- (h) Hazardous waste or solid waste landfills are prohibited within river corridors.
- (i) Other uses unapproved by local governments shall not be acceptable within river corridors.
- (j) Local governments may exempt the following from the River Corridor Protection Plans:
1. Land uses existing prior to the promulgation of a River Corridor Protection Plan.
 2. Mining activities, if permitted by the Department of Natural Resources

- pursuant to the Georgia Surface Mining Act of 1968, as amended.
3. Utilities, (except as discussed above in Section (4)(e)) if such utilities cannot feasibly be located outside the buffer area (feasibility shall be decided conservatively by the local government), provided that:
 - (i) The utilities shall be located as far from the river bank as reasonably possible;
 - (ii) Installation and maintenance of the utilities shall be such as to protect the integrity of the buffer area as well as is reasonably possible; and
 - (iii) Utilities shall not impair the drinking quality of the river water.
 4. Specific forestry and agricultural activities except as discussed above in Sections (4)(f)1 and (4)(f)6.
- (k) The natural vegetative buffer shall be restored as quickly as possible following any land-disturbing activity within the river corridor.
- (l) Except as noted above, all construction within the buffer area shall be prohibited.
- (5) Local Governments Responsibilities
- (a) Local governments shall identify any protected river within their jurisdiction. The Department of Natural Resources will provide maps and technical guidance regarding protected rivers if and as available.
 - (b) Local governments, which contain protected rivers within their jurisdiction, shall adopt River Corridor Protection Plans.
- (6) River Corridor Protection Plans
- (a) River corridors shall be appropriately mapped and identified in the River Corridor Protection Plans.
 - (b) River Corridor Protection Plans shall address, at a minimum, the following considerations with regard to river corridors:
 1. The plans shall consider the effect of activities in the river corridor on public health, safety, welfare, and the private property rights.
 2. The plans shall consider any characteristics of the river corridor that make it unique or significant in the conservation and movement of flora and fauna including threatened, rare, and endangered species. The plans shall establish the local government's policies regarding such flora and fauna rather than identifying specific sites containing such species.
 3. The plans shall consider the effect of any activities within the river corridor on the function of the protected river and river corridor including the flow and quality of the river water, erosion and shoaling of the river bed or margins, and to the navigability of the river.
 4. The plans shall consider the effect of activities in the river corridor on fishing or recreational use of river corridors.
 5. The plans shall consider whether the effects of activities in the river corridor are temporary or permanent in nature and, if temporary, the length of time of the impact.

6. The plans shall consider the preservation of significant state historical and archaeological resources (defined as properties on or eligible for the National Register of Historic Places) within the river corridor.
7. The plans shall consider the effect of activities within river corridors on immediately adjacent sensitive natural areas. The plans shall establish the local government's policies regarding such adjacent sensitive natural areas rather than identifying specific sites.

(1) Background

The following section on background is strictly for the purpose of introduction of the criteria. The section explains the significance of land-disturbing activities on Georgia mountains, the relevant section of the Official Code of Georgia, and the method prescribed by the law for protection of mountain areas.

- (a) The mountains of Georgia are characterized by steep slopes, thin soils, and, because of the natural stresses placed on such environments, they require special protection. Land-disturbing activity on the high-elevation, steep-slope mountains of Georgia potentially threatens the public health, safety, welfare, and economic progress of the state. Such land-disturbing activity:
 - 1. may endanger the quality of surface water by increasing erosion and stream sedimentation;
 - 2. has the potential to induce landslides;
 - 3. has the potential to adversely affect ground water due to the difficulty in providing proper sewage disposal in areas of steep slope and high elevation;
 - 4. may damage the habitat for some species of wildlife (both plants and animals); and
 - 5. may detract from the mountains' scenic and natural beauty which is vital to the recreation and tourism industry of North Georgia.
- (b) The Comprehensive Georgia Planning Act of 1989 provides for the development of coordinated and comprehensive planning by municipal and county governments. Such comprehensive plans shall consider the natural resources, environments, and vital areas within the jurisdiction of the local government. Maintenance of the status as a "Qualified Local Government" is contingent upon the development of such comprehensive plans (O.C.G.A. 50-8-1 et seq.).
- (c) Section 12-2-8 (as amended) of Article 1, Chapter 2, Title 12 of the Official Code of Georgia Annotated (O.C.G.A.) authorizes the Department of Natural Resources (DNR) to develop minimum planning standards and procedures for the protection of mountains in the state, and requires local governments to use these minimum planning standards in developing and implementing local comprehensive plans.
- (d) The method mandated in O.C.G.A. 12-2-8 for the protection of mountain areas is the development of local plans (as part of the comprehensive plans authorized under O.C.G.A. 36-70-3) that control the extent of land-disturbing activity on affected mountains.

(2) Definitions

- (a) "Hazardous waste" means any solid waste which has been defined as a hazardous waste in regulations, promulgated by the administrator of the United States Environmental Protection Agency pursuant to the federal act, which are in force and effect on February 1, 1988, codified as 40 C.F.R. Section 261.3. (Note: This is the

same definition as used in the Georgia Hazardous Waste Management Act.)

- (b) "Land-disturbing activity" means any grading, scraping, excavating, or filling of land; clearing of vegetation; and any construction, rebuilding, or alteration of a structure. Land-disturbing activity shall not include activities such as ordinary maintenance and landscaping operations, individual home gardens, yard and grounds upkeep, repairs, additions or minor modifications to a single-family dwelling, and the cutting of firewood for personal use.
- (c) "Local governing authority" or "local government" means the governing authority of a political subdivision.
- (d) "Mountain Protection Plan" means that part of the local comprehensive plan which deals with the mountain protection requirements specified herein.
- (e) "Multi-family dwelling" means a structure that contains multiple dwelling units.
- (f) "Person" means any individual, partnership, corporation, trust, entity, or authority and shall include the State of Georgia, its political subdivisions, and all of its departments, boards, bureaus, commissions, or other agencies.
- (g) "Plan" or "comprehensive plan" means any plan by a county or municipality covering such county or municipality or any plan by a regional development center covering the center's region proposed or prepared pursuant to the minimum standards and procedures for preparation of comprehensive plans and for implementation of comprehensive plans, established by the Department of Community Affairs in accordance with O.C.G.A 50-8-1 through 50-8-12. (Note: this is the same definition as used in O.C.G.A. 50-8-2)
- (h) "Plat map" means a large scale map that shows the location of tracts of land within a jurisdiction, and the tax status of such tracts.
- (i) "Protected mountain" means all land area 2,200 feet or more above mean sea level, that has a percentage slope of 25 percent or greater for at least 500 feet horizontally, and shall include the crests, summits, and ridge tops which lie at elevations higher than any such area.
- (j) "Quadrangle map" means the most recently published U.S. Geological Survey 7.5 minute topographic map prepared at a scale of 1:24,000.
- (k) "Reforestation plan" means a plan, prepared by a registered forester, for replacing of harvested timber by replanting (as described in the Recommended Best Management Practices for Forestry in Georgia, published by the Georgia Forestry Commission) or by natural regenerative processes (such as coppicing, seed trees, etc.)

- (l) "Sensitive natural areas" means any area, as identified now or hereafter by the Department of Natural Resources, which contains one or more of the following:
 - 1. habitat, including nesting sites, occupied by rare or endangered species;
 - 2. rare or exemplary natural communities;
 - 3. significant landforms, hydroforms, or geological features; or
 - 4. other areas so designated by the Department of Natural Resources;and which is sensitive or vulnerable to physical or biological alteration.
 - (m) "Single-family dwelling" means a dwelling structure that is designed for the use of one family.
- (3) Applicability
- (a) These minimum planning standards and procedures shall apply to each local government which contains a protected mountain within its boundaries.
 - (b) These minimum planning standards and procedures shall apply to all state owned or administered land that contains a protected mountain within its boundaries. All state agencies shall comply with these minimum standards. Failure by a state agency to comply with such standards shall be considered an indicia of a governmental action which may significantly adversely affect the quality of the environment under the Environmental Policy Act (O.C.G.A. 12-16-1 et seq.)
 - (c) Standards and requirements established in the Erosion and Sedimentation Act are not superseded by Mountain Protection standards.
 - (d) Affected local governments shall incorporate a Mountain Protection Plan within their comprehensive plans on or before the date established by the Department of Community Affairs (DCA). For local governments which have already submitted comprehensive plans to DCA, DCA shall establish a schedule for the review of a Mountain Protection Plan.
- (4) Protection Criteria
- (a) Proposed land-disturbing activity shall meet all applicable requirements of the "Erosion and Sedimentation Act of 1975 as amended", and of any applicable local ordinances on soil erosion and sedimentation control.
 - (b) Where one or more septic tanks are to be used for individual sewage disposal, the proposed land-disturbing activity shall meet all applicable requirements imposed by the local governing authority.
 - (c) Where one or more wells are to be used for individual water supply, the proposed land-disturbing activity shall meet all applicable requirements of the "Water Well Standards Act of 1985; the requirements of the rules and regulations of the Department of Human Resources regarding individual or nonpublic wells; and any more stringent requirements imposed by the local governing authority.

- (d) If sewage treatment is to be provided by any means other than one or more individual septic tanks, the sewage treatment shall meet all applicable requirements of the "Georgia Water Quality Control Act".
- (e) If a public water supply system is to be provided, the water supply system shall meet all applicable requirements of the "Georgia Safe Drinking Water Act of 1977".
- (f) Single-family dwellings shall not be constructed at a density of more than one per acre, however, no such acre shall be less than 100 feet wide at the building site. This density restriction shall not apply to:
1. Any lot of less than one acre if such a lot was, as of July 1, 1991, owned and described as a discrete parcel of real property according to the instrument of title of the person or persons owning the lot on July 1, 1991; or such a lot was, as of July 1, 1991, shown as a discrete parcel of real property on a plat of survey properly recorded in the real property records of the clerk of superior court by the person or persons owning the lot on July 1, 1991.
 2. Any land, or part of any land, which was contained in or subject to any master plan, planned unit development, special approved development plan, or any other development plan if such plan was filed with and approved by the local governing authority prior to July 1, 1991, pursuant to a duly enacted planning and zoning ordinance; provided further, that any such planning and zoning ordinance must have provided for rules and procedures and governed lot sizes, density, types of buildings, and other limitations usually associated with the implementation of local zoning ordinances.
- (g) Multi-family dwellings, in the absence of a public water supply and sewerage system, shall not be constructed at a density of more than four dwelling units per acre. If there is a public water supply and sewage system available to this property, then the density may be increased to no more than six dwelling units per acre. No such acre shall be less than 100 feet wide at the building site.
- (h) Structures shall not extend more than 40 feet, as measured from the highest point at which the foundation of such structure intersects the ground, above the uppermost point of the crest, summit, or ridge top of the protected mountain on which the structure is constructed. This height restriction shall not apply to water, radio, or television towers; to any equipment for the transmission of electricity; to minor vertical projections of a parent building, including chimneys, flagpoles, flues, spires, steeples, belfries, cupolas, antennas, poles, wires; or to windmills.
- (i) Any application for a building permit to construct a commercial structure shall contain a detailed landscaping plan. Such landscaping plan:
1. shall identify all trees which are to be removed that exceed eight inches in diameter as measured at a point on the tree four and one-half feet above the surface of the ground; and
 2. shall contain a plan for replacement of any such trees that are removed.

Such application shall also include a topographical survey of the project site and an assessment of the effect that the project will have on the environment of the protected mountain after the project has been completed and is in operation. Nothing in this paragraph shall be construed to require commercial structures to comply with the density provision of sections F and G cited above.

In counties which do not require building permits, persons wishing to construct a commercial structure on a protected mountain shall obtain permission from the local government for such construction. The request for permission shall include the same information (listed above) that would be required if local building permit regulations were in place.

- (j) No person engaging in land-disturbing activity shall remove more than 50 percent of the existing trees which exceed eight inches in diameter as measured at a point on such a tree four and one-half feet above the surface of the ground unless such person has filed with the application a plan of reforestation developed by a registered forester.
- (k) Handling areas for the receiving and storage of hazardous waste are prohibited from protected mountains.
- (l) Hazardous waste or solid waste disposal facilities are prohibited from protected mountains. Disposal facilities permitted by the Environmental Protection Division prior to the promulgation of a Mountain Protection Plan shall be exempt from this criterion.
- (m) Other uses unapproved by local governments shall not be acceptable on protected mountains.
- (n) Agriculture and forestry may be permitted on protected mountains provided that:
 - 1. Such agriculture and forestry must be consistent with the best management practices established by the Georgia Forestry Commission or the Georgia Soil and Water Conservation Commission;
 - 2. Agricultural and forestry activity shall be consistent with all state and federal laws, and all regulations promulgated by the Georgia Department of Agriculture.
- (o) All roads on protected mountains shall be designed and constructed to minimize the potential for landslides, erosion, and run-off.
- (p) Local governments may allow mining activity on protected mountains, if such activity is permitted by the Department of Natural Resources.
- (5) Local Governments Responsibilities
 - (a) Local governments shall identify and map any protected mountain within their jurisdiction. The Department of Natural Resources will provide maps and

technical guidance regarding protected mountains if and as available.

- (b) Local governments, which contain a protected mountain within their jurisdiction, shall adopt Mountain Protection Plans.
- (6) Mountain Protection Plans
 - (a) Protected mountains shall be appropriately mapped and identified in the Mountain Protection Plans.
 - (b) Mountain Protection Plans shall address, at a minimum, the following considerations with regard to protected mountains:
 - 1. The plans shall consider the effect of activities within protected mountain areas on public health, safety, welfare, and private property rights.
 - 2. The plans shall consider any characteristics of a protected mountain that make it unique or significant in the conservation of flora and fauna including threatened, rare, and endangered species. The plans shall establish the local government's policies regarding such flora and fauna rather than identifying specific sites containing such species.
 - 3. The plans shall consider the effect of activities within protected mountain areas on ground-water or surface-water quality.
 - 4. The plans shall consider the effect of activities within protected mountain areas on the visual esthetics of the protected mountain.
 - 5. The plans shall consider whether the effects of activities within a protected mountain area are temporary or permanent in nature and, if temporary, the length of time of the impact.
 - 6. The plans shall consider the preservation of significant state historical and archaeological resources (defined as properties on or eligible for the National Register of Historic Places) within protected mountain areas.
 - 7. The plans shall consider the effect of activities within protected mountain areas on immediately adjacent sensitive natural areas. The plans shall establish the local government's policies regarding such adjacent sensitive natural areas rather than identifying specific sites.
- (7) Procedures
 - (a) Determination of Elevation.
 - 1. All land that lies above 2,200 feet elevation as shown on a U.S. Geological Survey quadrangle map shall meet the elevation criterion for classification as a protected mountain.
 - (i) The 2,200 foot contour line on the quadrangle map shall serve as the line of delineation.
 - (b) Determination of Slope.
 - 1. All land that has a slope of 25 percent or greater for at least 500 feet horizontally as shown on a U.S. Geologic Survey quadrangle map or contained in a U.S. Geologic Survey computer data file (Digital Elevation Model) shall meet the slope criterion for classification as a protected

mountain.

2. Actual calculation of slope shall be done in one of three ways:
 - (i) Slope may be determined by measuring the proximity of contour lines on a quadrangle map.
 - (ii) Slope may be determined by using appropriate computer algorithms working on U.S. Geological Survey Digital Elevation Models.
 - (iii) Slope may be determined by a registered surveyor using standard surveying practices.
3. On an otherwise protected mountain, areas that are at an elevation of 2,200 feet or more and have a slope of less than 25 percent, exclusive of valley floors, shall be included within the protected mountain area.
4. The crests, summits, and ridge tops of mountains whose flanks meet the criteria for a protected mountain shall also be included within the protected area, even though the slopes of such crests, summits and ridge tops have slope of less than 25 percent.

(c) Preparation of Maps.

1. As part of their Mountain Protection Plans, local governments shall include maps showing all protected mountains within their jurisdiction. These maps shall consist of either:
 - (i) Quadrangle maps (at 1:24,000 scale) on which the protected mountains have been delineated.
 - (ii) Plat maps on which the protected mountains have been delineated.