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## SENATE BILL NO. 710

## AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by the House Committee on Counties, Cities, and Towns  
on February 29, 2008)

(Patrons Prior to Substitute—Senators Ticer and Peterson [SB 448])

A *BILL to amend the Code of Virginia by adding a section numbered 15.2-961.1, relating to the conservation of trees during land development process in localities.*

**Be it enacted by the General Assembly of Virginia:**

**1. That the Code of Virginia is amended by adding a section numbered 15.2-961.1 as follows:**

§ 15.2-961.1. *Conservation of trees during land development process in localities belonging to a nonattainment area for air quality standards.*

A. *For purposes of this section, "tree canopy" or "tree cover" includes all areas of canopy coverage by self-supporting and healthy woody plant material exceeding five feet in height, and the extent of planted tree canopy at 20-years maturity.*

B. *Any locality within Planning District 8 that meets the population density criteria of subsection A of § 15.2-961 and is classified as an eight-hour nonattainment area for ozone under the federal Clean Air Act and Amendments of 1990, in effect as of July 1, 2008, may adopt an ordinance providing for the conservation of trees during the land development process pursuant to the provisions of this section. In no event shall any local tree conservation ordinance adopted pursuant to this section also impose the tree replacement provisions of § 15.2-961.*

C. *The ordinance shall require that the site plan for any subdivision or development provide for the preservation or replacement of trees on the development site such that the minimum tree canopy or tree cover percentage 20 years after development is projected to be as follows:*

1. *Ten percent tree canopy for a site zoned business, commercial, or industrial;*
2. *Ten percent tree canopy for a residential site zoned 20 or more units per acre;*
3. *Fifteen percent tree canopy for a residential site zoned more than eight but less than 20 units per acre;*
4. *Twenty percent tree canopy for a residential site zoned more than four but not more than eight units per acre;*
5. *Twenty-five percent tree canopy for a residential site zoned more than two but not more than four units per acre; and*
6. *Thirty percent tree canopy for a residential site zoned two or fewer units per acre.*

*In meeting these percentages, (i) the ordinance shall first emphasize the preservation of existing tree canopy where that canopy meets local standards for health and structural condition, and where it is feasible to do so within the framework of design standards and densities allowed by the local zoning and other development ordinances; and (ii) second, where it is not feasible in whole or in part for any of the justifications listed in subsection E to preserve existing canopy in the required percentages listed above, the ordinance shall provide for the planting of new trees to meet the required percentages.*

D. *Except as provided in subsection E, the percentage of the site covered by tree canopy at the time of plan submission shall equate to the minimum portion of the requirements identified in subsection C that shall be provided through tree preservation. This portion of the canopy requirements shall be identified as the "tree preservation target" and shall be included in site plan calculations or narratives demonstrating how the overall requirements of subsection C have been met.*

E. *The ordinance shall provide deviations, in whole or in part, from the tree preservation target defined in subsection D under the following conditions:*

1. *Meeting the preservation target would prevent the development of uses and densities otherwise allowed by the locality's zoning or development ordinance.*
2. *The predevelopment condition of vegetation does not meet the locality's standards for health and structural condition.*
3. *Construction activities could be reasonably expected to impact existing trees to the extent that they would not likely survive in a healthy and structurally sound manner. This includes activities that would cause direct physical damage to the trees, including root systems, or cause environmental changes that could result in or predispose the trees to structural and health problems.*

*If, in the opinion of the developer, the project cannot meet the tree preservation target due to the conditions described in subdivision 1, 2 or 3, the developer may request a deviation from the preservation requirement in subsection D. In the request for deviation, the developer shall provide a letter to the locality that provides justification for the deviation, describes how the deviation is the minimum necessary to afford relief, and describes how the requirements of subsection C will be met through tree planting or a tree canopy bank or fund established by the locality. Proposed deviations*

60 shall be reviewed by the locality's urban forester, arborist, or equivalent in consultation with the  
61 locality's land development or licensed professional civil engineering review staff. The locality may  
62 propose an alternative site design based upon adopted land development practices and sound vegetation  
63 management practices that take into account the relationship between the cost of conservation and the  
64 benefits of the trees to be preserved as described in ANSI A300 (Part 5) - 2005 Management: Tree,  
65 Shrub, and Other Woody Plant Maintenance - Standard Practices, Management of Trees and Shrubs  
66 During Site Planning, Site Development, and Construction, Annex A, A-1.5, Cost Benefits Analysis (or  
67 the latest version of this standard). The developer shall consider the alternative and redesign the plan  
68 accordingly, or elect to satisfy the unmet portion of the preservation threshold through on-site tree  
69 planting or through the off-site planting mechanisms identified in subsection G, so long as the developer  
70 provides the locality with an explanation of why the alternative design recommendations were rejected.  
71 Letters of explanation from the developer shall be prepared and certified by a licensed professional  
72 engineer as defined in § 54.1-400. If arboricultural issues are part of explanation then the letter shall be  
73 signed by a Certified Arborist who has taken and passed the certification examination sponsored by the  
74 International Society of Arboriculture and who maintains a valid certification status or by a Registered  
75 Consulting Arborist as designated by the American Society of Consulting Arborists. If arboricultural  
76 issues are the sole subject of the letter of explanation then certification by a licensed professional  
77 engineer shall not be required.

78 F. The ordinance shall provide for deviations of the overall canopy requirements set forth in  
79 subsection C to allow for the preservation of wetlands, the development of farm land or other areas  
80 previously devoid of healthy and/or suitable tree canopy, or where the strict application of the  
81 requirements would result in unnecessary or unreasonable hardship to the developer.

82 G. The ordinance shall provide for the establishment of a tree canopy bank or fund whereby any  
83 portion of the tree canopy requirement that cannot be met on-site may be met through off-site tree  
84 preservation or tree planting efforts. Such provisions may be offered where it can be demonstrated that  
85 application of the requirements of subsection C would cause irresolvable conflicts with other local site  
86 development requirements, standards, or comprehensive planning goals, where sites or portions of sites  
87 lack sufficient space for future tree growth, where planting spaces will not provide adequate space for  
88 healthy root development, where trees will cause unavoidable conflicts with underground or overhead  
89 utilities, or where it can be demonstrated that trees are likely to cause damage to public infrastructure.  
90 The ordinance may utilize any of the following off-site canopy establishment mechanisms:

91 1. A tree canopy bank may be established in order for the locality to facilitate off-site tree  
92 preservation, tree planting, stream bank, and riparian restoration projects. Banking efforts shall provide  
93 tree canopy that is preserved in perpetuity through conservation easements, deed restrictions, or similar  
94 protective mechanisms acceptable to the locality. Projects used in off-site banking will meet the same  
95 ordinance standards established for on-site tree canopy; however, the locality may also require the  
96 submission of five-year management plans and funds to ensure the execution of maintenance and  
97 management obligations identified in those plans. Any such bank shall occur within the same  
98 nonattainment area in which the locality approving the tree banking is situated.

99 2. A tree canopy fund may be established to act as a fiscal mechanism to collect, manage, and  
100 disburse fees collected from developers that cannot provide full canopy requirements on-site. The  
101 locality may use this fund directly to plant trees on public property, or the locality may elect to disburse  
102 this fund to community-based organizations exempt from taxation under § 501 (c) (3) of the Internal  
103 Revenue Code with tree planting or community beautification missions for tree planting programs that  
104 benefit the community at large. For purposes of establishing consistent and predictable fees, the  
105 ordinance shall establish cost units that are based on average costs to establish 20-year canopy areas  
106 using two-inch caliper nursery stock trees. Any funds collected by localities for these purposes shall be  
107 spent within a five-year period established by the collection date, or the locality shall return such funds  
108 to the original contributor, or legal successor.

109 H. The following uses shall be exempt from the requirements of any ordinance promulgated under  
110 this section: bona fide silvicultural activity as defined by § 10.1-1181.1 and the areas of sites included  
111 in lakes, ponds, and the normal water elevation area of stormwater retention facilities. The ordinance  
112 shall modify the canopy requirements of dedicated school sites, playing fields, and other nonwooded  
113 active recreation areas by allowing these and other facilities and uses of a similar nature to provide 10  
114 percent tree canopy 20 years after development.

115 I. 1. In recognition of the added benefits of tree preservation, the ordinance shall provide for an  
116 additional tree canopy credit of up to one and one-quarter times the canopy area at the time of plan  
117 submission for individual trees or the coalesced canopy of forested areas preserved from the  
118 predevelopment tree canopy.

119 2. The following additional credits may be provided in the ordinance in connection with tree  
120 preservation:

121 a. The ordinance may provide canopy credits of up to one and one-half times the actual canopy area

for the preservation of forest communities that achieve environmental, ecological, and wildlife conservation objectives set by the locality. The ordinance may establish minimal area, dimensional and viability standards as prerequisites for the application of credits. Forest communities shall be identified using the nomenclature of either the federal National Vegetation Classification System (FGDC-STD-005, or latest version) or the Natural Communities of Virginia Classification of Ecological Community Groups, Second Approximation (Version 2.2, or latest version).

b. The ordinance may provide canopy credits of up to three times the actual canopy area of trees that are officially designated for preservation in conjunction with local tree conservation ordinances based on the authority granted by § 10.1-1127.1.

J. The following additional credits shall be provided in the ordinance in connection with tree planting:

1. The ordinance shall provide canopy credits of one and one-half the area normally projected for trees planted to absorb or intercept air pollutants, tree species that produce lower levels of reactive volatile organic compounds, or trees that act to reduce air pollution or greenhouse gas emissions by conserving the energy used to cool and heat buildings.

2. The ordinance shall provide canopy credits of one and one-quarter the area normally projected for trees planted for water quality-related reforestation or afforestation projects, and for trees planted in low-impact development and bioretention water quality facilities. The low-impact development practices and designs shall conform to local standards in order for these supplemental credits to apply.

3. The ordinance shall provide canopy credits of one and one-half the area normally projected for native tree species planted to provide food, nesting, habitat, and migration opportunities for wildlife. These canopy credits may also apply to cultivars of native species if the locality determines that such a cultivar is capable of providing the same type and extent of wildlife benefit as the species it is derived from.

4. The ordinance shall provide canopy credits of one and one-half the area normally projected for use of native tree species that are propagated from seed or tissue collected within the mid-Atlantic region.

5. The ordinance shall provide canopy credits of one and one-quarter the area normally projected for the use of cultivars or varieties that develop desirable growth and structural patterns, resist decay organisms and the development of cavities, show high levels of resistance to disease or insect infestations, or exhibit high survival rates in harsh urban environments.

K. Tree preservation areas and individual trees may not receive more than one application of additional canopy credits provided in subsection I. Individual trees planted to meet these requirements may not receive more than two categories of additional canopy credits provided in subsection J. Canopy credits will only be given to trees with trunks that are fully located on the development site, or in the case of tree banking projects only to trees with trunks located fully within easements or other areas protected by deed restrictions listed in subsection G.

L. All trees planted for tree cover credits shall meet the specifications of the American Association of Nurserymen and shall be planted in accordance with the publication entitled "Tree and Shrub Planting Guidelines," published by the Virginia Cooperative Extension.

M. In order to provide higher levels of biodiversity and to minimize the spread of pests and diseases, or to limit the use of species that cause negative impacts to native plant communities, cause damage to nearby structures, or possess inherent physiological traits that prone trees to structural failure, the ordinance may designate species that cannot be used to meet tree canopy requirements or designate species that will only receive partial 20-year tree canopy credits.

N. The locality may allow the use of tree seedlings for meeting tree canopy requirements in large open spaces, low-density residential settings, or in low-impact development reforestation/afforestation projects. In these cases, the ordinance shall allow the ground surface area of seedling planting areas to equate to a 20-year canopy credit area. Tree seedling plantings will be comprised of native species and will be planted in densities that equate to 400 seedlings per acre, or in densities specified by low-impact development designs approved by the locality. The locality may set standards for seedling mortality rates and replacement procedures if unacceptable rates of mortality occur. The locality may elect to allow native woody shrubs or native woody seed mix to substitute for tree species as long as these treatments do not exceed 33 percent of the overall seedling planting area. The number of a single species may not exceed 10 percent of the overall number of trees or shrubs planted to meet the provisions of this subsection.

O. The following process shall be used to demonstrate achievement of the required percentage of tree canopy listed in subsection C:

1. The site plan shall graphically delineate the edges of predevelopment tree canopy, the proposed limits of disturbance on grading or erosion and sedimentation control plans, and the location of tree protective fencing or other tree protective devices allowed in the Virginia Erosion and Sediment Control

183 *Handbook.*

184 2. *Site plans proposing modification to tree canopy requirements or claiming supplemental tree*  
185 *canopy credits will require a text narrative.*

186 3. *The site plan shall include the 20-year tree canopy calculations on a worksheet provided by the*  
187 *locality.*

188 4. *Site plans requiring tree planting shall provide a planting schedule that provides botanical and*  
189 *common names of trees, the number of trees being planted, the total of tree canopy area given to each*  
190 *species, variety or cultivars planted, total of tree canopy area that will be provided by all trees, planting*  
191 *sizes, and associated planting specifications. The site plan will also provide a landscape plan that*  
192 *delineates where the trees shall be planted.*

193 P. *The ordinance shall provide a list of commercially available tree species, varieties, and cultivars*  
194 *that are capable of thriving in the locality's climate and ranges of planting environments. The ordinance*  
195 *will also provide a 20-year tree canopy area credit for each tree. The amount of tree canopy area*  
196 *credited to individual tree species, varieties, and cultivars 20 years after they are planted shall be based*  
197 *on references published or endorsed by Virginia academic institutions such as the Virginia Polytechnic*  
198 *Institute and State University and accepted by urban foresters, arborists, and horticulturalists as being*  
199 *accurate for the growing conditions and climate of the locality.*

200 Q. *The ordinance shall establish standards of health and structural condition of existing trees and*  
201 *associated plant communities to be preserved. The ordinance may also identify standards for removal of*  
202 *trees or portions of trees that are dead, dying, or hazardous due to construction impacts. Such removal*  
203 *standards may allow for the retention of trunk snags where the locality determines that these may*  
204 *provide habitat or other wildlife benefits and do not represent a hazardous condition. In the event that*  
205 *existing tree canopy proposed to be preserved for tree canopy credits dies or must be removed because*  
206 *it represents a hazard, the locality may require the developer to remove the tree, or a portion of the*  
207 *tree and to replace the missing canopy area by the planting of nursery stock trees, or if a viable*  
208 *alternative, by tree seedlings. Existing trees that have been granted credits will be replaced with canopy*  
209 *area determined using the same supplemental credit multipliers as originally granted for that canopy*  
210 *area.*

211 R. *Penalties for violation of ordinances adopted pursuant to this section shall be the same as those*  
212 *applicable to violations of zoning ordinances of the locality.*

213 S. *In no event shall any local tree conservation ordinance adopted pursuant to this section exceed*  
214 *the requirements set forth herein; however, any local ordinance adopted pursuant to the provisions of*  
215 *§ 15.2-961 prior to July 1, 1990, may adopt the tree conservation provisions of this section based on*  
216 *10-year minimum tree canopy requirements.*

217 T. *Nothing in this section shall invalidate any local ordinance adopted pursuant to § 15.2-961.*