

ARTICLE XII

RESOURCE CONSERVATION and OPEN SPACE DELINEATION STANDARDS

Section 1201. Application

The standards for resource conservation, as set forth in this Article, shall apply to all subdivision and land developments in Carroll Township and shall not be construed to limit an individual's right to practice forestry on his or her land. The standards for Open Space delineation shall apply to all subdivision and land developments within the Conservation Design Residential Overlay District.

Section 1202. Planning and Design Standards

a. General Standards to Minimize Adverse Impacts

All subdivisions and land developments shall avoid or minimize adverse impacts on Carroll Township's natural, cultural and historic resources, as defined below.

b. Groundwater Resources

This section is intended to ensure that Carroll Township's groundwater resources are protected for purposes of providing water supplies for its residents and businesses, and to protect the base flow of Carroll Township's surface waters.

- (1) The proposed subdivision and land development of any tract shall be designed to cause the least practicable disturbance to natural infiltration and percolation of precipitation to the groundwater table, through careful planning of vegetation and land disturbance activities, and the placement of streets, buildings and other impervious surfaces in locations other than those identified on the Existing Resources and Site Analysis Plan as having the greatest permeability where precipitation is most likely to infiltrate and recharge the groundwater.

c. Stream Valleys, Swales, Springs, and Other Lowland Areas

Stream channels and flood plains and other wetland areas are resources that warrant restrictive land use controls because of flooding hazards to human life and property, ground water recharge functions, importance to water quality and the health of aquatic communities, and wildlife habitats. These are generally poorly suited for on-site subsurface sewage disposal systems.

- (1) The site plan layout shall avoid the following:

- (a) Disturbance to streams and drainage swales.
- (b) Disturbance to year-round wetlands and areas with seasonally high water tables.
- (2) Stream valleys and other wetland areas shall be designated as Open Space lands.
 - (a) In certain instances, seasonal high water table soils may be excluded from the Open Space where it can be demonstrated that they are suitable for low-density residential uses and conventional on-site sewage systems.

d. **Woodlands**

Woodlands on any tract proposed for subdivision or land development shall be evaluated as per Section 502.k, to determine the extent to which such woodlands should be designated partly or entirely as Open Space or development lands.

- (1) In designing a subdivision and land development plan for any tract, the applicant shall be guided by the following standards:
 - (a) Proposed site improvements shall be located, designed and constructed to minimize the loss or degradation of woodland areas.
 - (b) Subdivisions shall be designed to preserve woodlands along roadways, property lines and lines occurring within a site such as streams, swales, stone fences and hedgerows. Such lines and the native vegetation associated with them shall be preserved as buffers between adjacent properties and between areas being subdivided within a property. Preservation shall include ground, shrub, understory and canopy vegetation.
 - (c) Disturbance or removal of woodlands occupying environmentally sensitive areas shall be undertaken only when approved by the Board of Supervisors and on a limited, selective basis to minimize the adverse impacts of such actions. This shall include but not necessarily be limited to, vegetation performing important soil stabilizing functions on wet soils, stream banks and sloping lands.
- (2) No clearing or earth disturbance (except for soil analysis for proposed sewage disposal systems) shall be permitted on a site before the approval of the preliminary subdivision and land development plan. The determination of sight distance clearances along roadways shall be made graphically and not by clearing on-site prior to final plan approval.

e. **Slopes**

Moderately sloping lands (15 to 25 percent) and steeply sloping lands (over 25 percent) are prone to severe erosion if disturbed. Areas of moderately and steeply sloping lands in excess of 100 square feet shall be regulated as follows:

- (1) No earth disturbance shall be allowed on natural slopes (as opposed to existing man made slopes) exceeding 25 percent, except grading for a portion of a driveway to a single family dwelling when it can be demonstrated that no other routing which avoids slopes exceeding 25 percent is feasible.
- (2) Earth disturbance on natural, moderately sloping lands, shall be minimized.
- (3) All proposed slopes of 25 percent or more shall be stabilized with a minimum of a double sided straw erosion control blanket or approved equal.
- (4) Finished slopes shall not exceed 33 percent slope. Roads and driveways shall follow the existing site contours to minimize the required cut and fill and earth disturbance.

f. **Significant Natural Areas and Features**

Natural areas containing rare or endangered plants and animals, as well as other features of natural significance exist throughout Carroll Township. The Statewide Natural Diversity Inventory has documented some of these, e.g., whereas for others, only their general locations are known. Subdivision applicants shall take all reasonable measures to protect significant natural areas and features either identified by Carroll Township's Map of Primary Conservation Areas or by the applicant's Existing Resources and Site Analysis Plan (as required in Section 501.c.2) by incorporating them into proposed Open Space areas or avoiding their disturbance in areas proposed for development.

g. **Trails**

- (1) When a subdivision or land development proposal is traversed by or abuts an existing trail customarily used by pedestrians and/or equestrians, the Board of Supervisors may require the applicant to make provisions for continued recreational use of the trail.
- (2) The applicant may alter the course of the trail within the tract for which development is proposed under the following conditions:

- (a) The points at which the trail enters and exits the tract remain unchanged.
 - (b) The proposed alteration exhibits quality trail design according to generally accepted principles of landscape architecture (e.g. Bureau of State Parks publication Non-Motorized Trails).
 - (c) The proposed alteration does not coincide with a paved road intended for use by motorized vehicles.
- (3) When trails are intended for public or private use, they shall be protected by a permanent conservation easement on the properties on which they are located. The width of the protected area in which the trail is located should be a minimum of ten (10') feet. The language of the conservation easement shall be to the satisfaction of the Board of Supervisors upon recommendation of the Municipal Solicitor.
 - (4) The land area permanently designated for trails for public use may be credited toward the Open Space land requirement described in Section 4.3 of the Carroll Township Zoning Ordinance.
 - (5) An applicant may propose and develop a new trail. If said trail is available for use by the general public and connects with an existing trail, the land area protected for said trail may be credited toward the open space requirement described in Section 4.3 of the Carroll Township Zoning Ordinance.
 - (6) Trail improvements shall demonstrate adherence to principles of quality trail design according to generally accepted principles of landscape architecture (e.g. Bureau of State Parks publication Non-Motorized Trails).
 - (7) Trails shall have a vertical clearance of no less than ten (10) feet.
 - (8) Width of the trail surface may vary depending upon type of use to be accommodated, but in no case shall be less than three (3) feet or greater than six (6) feet.
 - (9) No trail shall be designed with the intent to accommodate motorized vehicles.

Section 1203. Design Process For Conservation Subdivisions

a. Resource Inventory and Analysis

The tract's resources shall be delineated on an Existing Resources and Site Analysis Plan, as required in Section 501.c.

b. Four-Step Design Process

Following the resource inventory and analysis, all conservation subdivisions shall follow a four-step design process as described in Section 716.a. Applicants shall document the design process. Steps in the Design Process include:

- (1) Step 1: Delineation of Open Space Lands and Development Areas in accordance with Section 716.a.1.
- (2) Step 2: Location of House Sites in accordance with Section 716.a.2.
- (3) Alignment of Streets and Trails in accordance with Section 716.a.3.
- (4) Design of Lot Lines in accordance with Section 716.a.4.

Section 1204. Open Space Design Review Standards

a. Prioritized List of Resources to be Conserved

Open Space areas shall include the following resources, as identified through the Existing Resource and Site Analysis Plan described in Section 501.c.2.

- (1) Stream channels, floodplains, wet soils, swales, springs and other lowland areas, including adjacent buffer areas which may be required to insure their protection.
- (2) Significant natural areas of species listed as endangered, threatened, or of special concern, such as those listed in the Statewide Natural Diversity Inventory.
- (3) Moderate to steep slopes, particularly those adjoining water courses and ponds, where disturbance and resulting soil erosion and sedimentation could be detrimental to water quality.
- (4) Healthy woodlands, particularly those performing important ecological functions such as soil stabilization and protection of streams, wetlands and wildlife habitats.

- (5) Areas where precipitation is most likely to recharge local groundwater resources because of topographic and soil conditions affording high rates of infiltration and percolation.
- (6) Hedgerows, groups of trees and large individual trees of botanic significance.
- (7) Class I, II and III agricultural soils as defined by the USDA Natural Resource Conservation Service.
- (8) Historic structures and sites.
- (9) Existing trails connecting the tract to other locations in Carroll Township.

b. **Other Design Considerations**

The configuration of proposed Open Space lands set aside for common use in residential subdivisions shall comply with the following standards:

- (1) No structures shall be permitted with the exception of historic buildings, stonewalls, and structures related to Open Space uses. The Board of Supervisors may grant approval of structures and improvements required for storm drainage, sewage treatment and water supply within the Open Space provided that such facilities would not be detrimental to the greenway.
- (2) No Open Space area shall be smaller than three acres, have a length-to-width ratio of less than 4:1, or be less than 75 feet in width, except for such lands specifically designed as neighborhood greens, playing fields or trail links.
- (3) Open Space areas shall adjoin a minimum of fifty (50%) percent of lots within the subdivision. Non-adjoining lots shall be provided with sidewalk access to Open Space Land.
- (4) Open Space areas shall be suitable for active recreational uses to the extent deemed necessary by the Board of Supervisors, without interfering with adjacent dwelling units, parking, driveways, and roads.
- (5) The Open Space land shall be interconnected wherever possible to provide a continuous network of Open Space lands within and adjoining the subdivision.
- (6) Pedestrian pathways shall be provided from residences to the Open Space area, except in those cases where part of the Open Space is located within private houselots and under private ownership. Consideration shall be

given to providing for public access on such trails if they are linked to other publicly accessible pathway systems within Carroll Township. Provisions should be made for access to the Open Space lands, as required for land management and emergency purposes.

- (7) If public or private streets divide Open Space areas via a lot line or right-of-way line, each resulting open space parcel shall meet the dimensional standards of this Ordinance, in order to be counted toward Required Open Space.
- (8) Landscaping shall be utilized to protect Open Space resources by retaining existing natural cover and wooded areas.
- (9) Conservation easements shall be made subject to such agreement with Carroll Township and shall duly recorded in the office of the County Recorder of Deeds as required by the Board of Supervisors for the purpose of preserving the common open space for such uses.

c. **Ownership and Maintenance**

Applicants shall demonstrate compliance with Open Space ownership and maintenance standards in Section 8.27.5 of the Carroll Township Zoning Ordinance.

Section 1205. Dedication of Open Space Land for Public Use

The following standards shall apply to new subdivisions involving ten (10) or more dwelling units.

- a. Applicants shall be required to set aside five percent of their gross tract acreage as undivided recreational land designated for public usage. Such land shall be suitable for active and/or passive recreation, with at least half the land suitable for active sports, where such facilities are required by the Board of Supervisors.
- b. The applicant may propose one of the following alternative in lieu of dedication of recreation land for public usage:
 - (1) The applicant may offer an area of land limited to recreational usage by the residents of the proposed subdivision. If land is set aside in this manner for private recreational use, it shall also be permanently protected through a conservation easement enforceable by Carroll Township and/or a land trust, prohibiting future non recreational (or commercial recreational) uses.

- (2) The applicant may offer to pay a fee to Carroll Township in lieu of any recreational land set aside as per the requirements of Section 706.c.3. Situations in which it would be appropriate for Carroll Township to accept such offers include cases where the land would not provide a particular public benefit because of its small size or location. Exceptions to this rule, where public use of relatively small land areas would still be appropriate, include situations in which the land could be used to buffer or extend public parks or public school grounds, or could provide potential linkage in a future Township trail network.
- (3) The decision whether to accept a fee-in-lieu offer by the applicant shall lie with the Board as per Section 706.c.2.
- (4) In conservation subdivisions, the 5 percent set aside shall qualify as part of the required open space. If a fee is provided, in accordance with Section 1205.b(2) and (3) above, the acreage represented by the fee shall not qualify as meeting part of the open space requirement.

Section 1206. Resource Conservation Standards For Site Preparation and Cleanup

Conservation practices during site preparation and clean-up shall meet the following requirements and well as requirements of Section 1101 herein.

- a. Protection of Vegetation from Mechanical Injury. Where earthwork, grading, or construction activities will take place in or adjacent to woodlands, or specimen trees or other significant vegetation or site features, the Board of Supervisors may require that the limit of disturbance be delineated and vegetation protected through installation of temporary construction fencing or another secure demarcation to be located on the dripline of tree masses or mature trees standing alone. Such fencing shall be installed prior to commencing of and shall be maintained throughout the period of construction activity.
- b. Protection of Vegetation from Grading Change. Grade changes to occur at any location of the property shall not result in an alteration to soil or drainage conditions which would adversely affect existing vegetation to be retained following site disturbance, unless adequate provisions are made to protect such vegetation and its root systems.
- c. **Protection of Vegetation from Excavations**
 - (1) When digging trenches for utility lines or similar uses, disturbances to the root zones of all woody vegetation shall be minimized.

- (2) If trenches must be excavated in the root zone, all disturbed roots shall be cut as cleanly as possible. The trench shall be backfilled as quickly as possible.