

SECTION IV.

REQUIRED MINIMUM DESIGN STANDARDS

IV-A.

The avoidance of congestion and overcrowding and the creation of conditions essential to public health, safety and the general welfare may be best accomplished through the application of design standards providing for the distribution of population and traffic, safe and coordinated street systems, approved water supply and sewage disposal systems, usable lots and conformance to plans for Orange County as recommended by the Planning Board and adopted by the Board of Commissioners.

IV-B.

The following general requirements and principles of land subdivision shall be observed:

***IV-B-1.**

MINIMUM LOT SIZE

*Amended

1/5/87

4/4/88

11/5/90

1/4/94

- (1) All lots shall contain the minimum lot area required by the Orange County Zoning Ordinance.
- (2) Any lot which provides an easement for individual septic disposal for use by a different lot shall contain the minimum area required for that lot plus an additional 20,000 square feet to accommodate the septic easement.

***IV-B-2.**

LAND SUITABILITY

*Amended

1/17/79

9/4/90

1/6/92

In reviewing subdivision proposals, the Planning Board shall consider the overall design of the proposal in light of the suitability of the land for development to insure that the platting and development of the subdivision will not create a danger to the health, safety, and welfare of Orange County residents.

Land suitability shall be determined by an investigation of conditions including but not limited to flood prone areas, soil drainage, drainage patterns, slope, historic sites, and unique natural areas. The investigations shall be carried out by the Planning Board, the Planning Department, or other agencies or individuals having the appropriate technical expertise, including those listed in Section III-D-2-b.

***IV-B-2-a.**
*Amended
9/4/90

Flood-Prone Areas

Flood prone areas shall be indicated by studies, reports, or maps by agencies including the U.S. Army Corps of Engineers, the Soil Conservation Service, the Department of Housing and Urban Development, and the U.S. Geological Survey.

***IV-B-2-b.**
*Amended
9/4/90

Suitability for Septic Disposal

Soils shall be evaluated for suitability or provisional suitability for septic tanks according to guidelines established in the Laws and Rules for Ground Absorption Sewage Disposal Systems, incorporated herein by reference. Each lot that does not contain a suitable building site shall be designated on the plat as being of restricted development potential and by instrument recorded in the Orange County registry as specifically prescribed by Section V-D-5-a of this ordinance.

***IV-B-2-c.**
*Amended
9/4/90
1/6/92

Drainage

Soil suitability, including slope and drainage, shall also be evaluated according to soil characteristics indicated by the Orange County Soil Survey and topography indicated by the U.S. Geological Topographic Maps.

Each lot shall contain a suitable building area safe from inundation and erosion. Sanitary sewer systems, septic tank drainfields, water systems, wells, and adjacent properties shall also be protected from inundation by surface water. Roads, driveways and utilities shall be protected from damage caused by improper stormwater management.

Mechanical devices, drainage easements, natural buffers, large lots, and/or other technical means may be used to achieve these objectives. Natural drainageways are a preferred means of stormwater run-off removal. The characteristics (including capacity) of natural drainageways shall be protected.

Runoff levels from the 25-year storm after the site is developed shall not be greater than the rate of runoff on the same site in its natural state.

***IV-B-2-d.**

Resource Protection

*Amended

9/4/90

The proposal shall be evaluated by the Planning Board for potential impairment of habitat of rare and endangered species or unique natural areas. A strategy shall be developed to protect resources listed by the North Carolina Heritage Program, or identified in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina".

The strategy shall provide protection of identified natural and man-made resources from impacts which could result from development of the subdivision, and shall include one or more of the following:

- a) dedication of conservation easements,
- b) restrictive covenants prohibiting clearing or disturbance of the resource areas,
- c) dedication of resource areas to Orange County,
- d) clustering of lots to minimize land disturbance and preserve the special features of the property,
- e) other restrictions or development options which provide an adequate level of protection.

The Planning Staff shall review available documentation of the particular site and determine if the proposed strategy adequately protects the identified resources.

Maps, studies, and reports which are relevant to this section will be maintained by the Planning Department.

IV-B-3. STREETS

***IV-B-3-a.**

*Amended
4/4/88
11/19/01

The provision of street rights-of-way shall conform to and meet the requirements of such adopted Comprehensive Plan for Orange County as may be recommended by the Planning Board and adopted by the Orange County Board of County Commissioners, from its date of adoption, including, where appropriate, reservation for or dedication of street rights-of-way for future transportation facilities proposed in the Comprehensive Plan. A subdivider shall not be required to provide or dedicate right-of-way for a proposed street to which access would be prohibited by any governmental agency.

IV-B-3-a-1.

Amended
2/3/04

Subdivision of land abutting a roadway for which the Orange County Board of County Commissioners has approved recommendations from a plan or corridor study is subject to provisions of the approved corridor plan or study. The subdivider, in such cases, shall provide any improvements or other means to ensure construction recommended in such plan or corridor study, such as facilities for bicycles, sidewalks, and public transportation. The subdivider, in cases where the recommendations address access management, shall use design elements recommended in the plan or corridor study to reduce conflict points.

In addition, policies prescribed in Phase V of the *Access Management Awareness Project and Report*, or other adopted studies of strategies, shall be considered during subdivision and site plan review to assess access management and other corridor design considerations.

***IV-B-3-b.**

*Amended
10/16/90
(eff. 12/3/90)
11/19/01

All subdivisions shall have a coordinated street system with public or private streets that access a public, municipal street or a public, State maintained street.

A coordinated street system shall consider the following:

- (a) Public street rights-of-way shall abut adjacent properties as necessary to provide connectivity to the countywide transportation network; and
- (b) Lot access to streets serving the subdivision shall be limited in the case of streets that provide a link between two or more roads designated in the Comprehensive Plan as arterials or collectors.

All subdivisions shall have at least one street, which intersects with or joins a public, municipal street, or a public, State maintained street.

IV-B-3-c. Public dedicated streets must meet the minimum construction standards as adopted by the N.C. Department of Transportation for acceptance of streets as additions to the State Highway System, but shall be no less than the following:

IV-B-3-c-1. Widths - Right-of-way widths, measured from lot line to lot line, shall be as wide as existing streets extended, but in no case shall said widths be less than the following:

*Amended
10/4/82

<u>*Street Type</u>	<u>Minimum Required ROW Width</u> (in feet)
Arterial Street	100
Collector Streets	70
Minor Streets	50
Marginal Access Streets	45
Cul-de-sacs	45

***IV-B-3-c-2.**

*Amended
11/19/85

Partial Widths - A partial width right-of-way may be allowed in a subdivision where:

- (a) In the judgement of the Planning Board and with the approval of the Board of County Commissioners, it is found that the nature and location of the subdivision, including such considerations as topography, the surrounding area, the present and future road plans, and access by public safety vehicles, are such that a partial width right-of-way is justified; and,
- (b) The access serving the subdivision is classified as a Class B road according to the Orange County Private Road Standards; and,
- (c) The right-of-way width provided is adequate to allow for the construction of a travelway, ditches, shoulders and turn-around required for the class of road serving the subdivision; and,
- (d) The right-of-way width provided would allow access by the largest emergency services vehicles serving the district in which the subdivision is located; and,
- (e) If one or more of the following conditions are met:
 - (1) When the partial width right-of-way adjoins undeveloped property and is not less than 25 feet in width, and when said adjoining undeveloped property is subdivided and the remainder of the full required right-of-way can be dedicated.

- (2) When access to the subdivision is across property owned by other than the applicant and the property owner is unwilling to grant, sell or otherwise convey the full required right-of-way width to the applicant.
- (3) When pre-existing conditions preclude the provision of full right-of-way due to the pattern of adjacent development, historical common access and/or site-specific physical constraints.

IV-B-3-c-3. Grades - Proposed streets shall conform to grade standards adopted by the Department of Transportation for public roads, or by Orange County for private roads.

IV-B-3-c-4. Intersections - Streets shall be laid out so as to intersect as nearly as possible at right angles and no street shall intersect any other street at an angle less than sixty (60) degrees.

***IV-B-3-c-5.** Deleted

*Amended
7/5/83

***IV-B-3-c-6.** Curves - Horizontal and vertical curves shall be designed by the subdivider according to the standards of the N.C. Department of Transportation and in the interest of public safety and general welfare. Factors to be considered, among others, shall be the type and importance of the street, sight distance, anticipated traffic volume and design speed.

IV-B-3-c-7. Culs-de-sac - Culs-de-sac shall not be used to avoid connection with an existing street or to avoid the extension of an important street.

***IV-B-3-c-8.**

*Amended
4/4/88

Access Restrictions - Where a subdivision adjoins a heavily traveled street classified as arterial or collector in the Orange County Comprehensive Plan, in the interest of highway safety, the subdivider shall be required to provide a common driveway, a marginal access street parallel to the arterial or collector, or reverse frontage on a smaller street when the only access to the subdivision will be from an arterial or collector street. Where access is available to any internal subdivision street, whether by reverse frontage or other lot arrangement, private driveways shall not have access to the arterial or collector. It is the intent of this section to minimize the number of points of egress and regress to main roads within Orange County.

IV-B-3-c-9. Reverse Frontage - Reverse frontage may be required along arterial streets where deemed necessary for adequate protection of residential properties.

***IV-B-3-c-10.**

*Amended
7/5/83
10/5/94

Lot Boundaries - The parcel boundary for lots adjacent to proposed public road rights-of-way shall extend to the edge of the right-of-way.

IV-B-3-c-11. Street Names - Names of streets which duplicate or be confused with the names of existing streets within Orange County, including all municipalities, shall not be approved. Extensions of existing and named streets shall bear the name of such existing streets. House numbering shall comply with standards recommended by the Planning Board and adopted by the Board of County Commissioners.

***IV-B-3-c-12.**

*Amended
10/3/88

Street Name Signs - Approved street name signs shall be erected by the subdivider at the intersection of streets. Street name signs shall meet the following standards:

- A) Size - Signs shall be either 6"x24", 6"x30", or 6"x36" depending on the length of the legend they display.
- B) Height - Signs shall be mounted at a height of 8'6" measured from the bottom of the blade to the road's surface.
- C) Posts - 10'6" aluminum posts, OD 2.375" with .109 wall shall be standard.
- D) Mounting - Signs shall be placed in the ground at a depth of 2 to 3 feet.
- E) Number of Blades - 2 blades, naming both the subdivision street and public road shall be affixed per sign post.
- F) Blades - 0.63 gauge aluminum flat blades shall be used.
- G) Reflectorization - Signs shall be reflectorized.
- H) Color - Signs shall have a white message and border on a green background.
- I) Sign Faces - Sign faces shall be parallel to the streets they name.
- J) Lettering - Lettering shall be at least 4 inches high unless the name is very long, in which case slightly smaller lettering shall be acceptable. Upper case lettering shall be standard.
- K) Amount of Legend - Three lines, including street name, block and state road numbers shall be maximum.

- L) Lateral Clearance - Signs shall have maximum practical clearance from the road's edge. Suggested lateral clearance is 6'.

***IV-B-3-d-1.**

*Amended

2/1/88

4/4/88

10/16/90 (eff. 12/3/90)

5/3/93

8/8/94

10/10/00

9/18/01

Roads - Public roads are generally required in all subdivisions and will be required where it is found that:

1. The subdivision roads would be accepted by the State for maintenance if:
 - a. They are built in a manner which satisfies the minimum State design and construction criteria for subdivision roads; and
 - b. They would satisfy other requirements for addition to the State maintenance system, including, but not limited to, the general density standard of at least two occupied residences for each one-tenth of a mile of subdivision road.

If, upon review of a subdivision plat, it is determined that the general density standard is met, but a design standard is not, a re-design will be required where possible. For example, if the number of lots proposed along a subdivision road would clearly satisfy the density standard, but the road design was such that the centerline radius did not meet the minimum standard of 230 feet for level land, a new road design would be required. Another example is a situation where a landscaped island or entrance median prevents acceptance of the road for maintenance.

The above criteria and standards are identified in a publication, Subdivision Roads-Minimum Construction Standards, prepared by and available from the N.C. Department of Transportation; or

2. The subdivision roads extend existing roads which are public; or
3. The subdivision roads are part of a development which is located in an area designated as Urban or Transition on the Orange County Comprehensive Plan; or
4. A proposed road is designated as an arterial or collector on an approved Thoroughfare Plan for a municipality or in the Orange County Comprehensive Plan; or

5. The subdivision roads are part of a non-residential development consisting of office, retail, industrial, and similar businesses, each located on a separate lot. This provision shall only apply to that portion of a subdivision being developed for non-residential purposes.

A private road shall be deemed justified for a minor residential subdivision resulting in no more than three lots provided:

1. No new lots have been created from the parent tract, through subdivision or other manner exempted from subdivision regulations, since the more recent:
 - a. date of adoption of this provision; or
 - b. ten years from the date of recordation of the parent tract if the lot being subdivided was created using the three-lot private road justification provision.The parent tract, for the purpose of this provision, is the lot or tract of land that is being subdivided.
2. All resulting lots meet *Orange County Zoning Ordinance* minimum lot area per dwelling unit and maximum density requirements for the zoning district, including any overlay district, in which the subdivision is located.

Such subdivision of three or fewer would be encouraged to provide a private access easement for one adjacent lot to access the private road in order to reduce the number of access points on a public road.

For all other subdivisions the Planning Board and the Board of County Commissioners (in the case of major subdivisions) and Planning staff (in the case of minor subdivisions) shall consider the following design features when determining whether to permit private roads. There is no right to a private road in any subdivision containing more than three lots. At a minimum, a private road may be justified if the subdivision meets standards of 1.a and at least two other design features listed below.

1. The location and design of the subdivision is such that it clearly preserves the rural character of the County through:
 - a. The provision of lot sizes and building setback lines significantly greater than required by the underlying zoning district, including any overlay district requirements, according to the following standards:
 - 1) The following, with respect to lot sizes, shall be deemed as significantly greater than required by the underlying zoning district for conventional subdivisions.
 - (a) All lots in the subdivision must be at least 80,000 square feet if the minimum lot size of the zoning district is 40,000 square feet or less.

- (b) All lots must be at least 120,000 square feet (2.75 acres) if the minimum lot size or area per dwelling unit of the zoning district is 80,000 square feet.
- (c) All lots must be at least 130,680 square feet (three acres) if the minimum lot size or area per dwelling unit of the zoning district is 87,120 square feet (two acres).
- (d) All lots must be at least five acres for all other cases.

IF	Zoning district area per dwelling unit:	≤40,000 sq. ft.	= 80,000 sq. ft. (1.84 ac.)	= 87,120 sq. ft. (2 ac.)	All other cases
T H E N	Minimum area per dwelling unit for Private road:	80,000 sq. ft.	120,000 sq. ft. (2.75 ac.)	130,680 sq. ft. (3 ac.)	5 acres
	Building setbacks for Private road:	Twice those required by Orange County Zoning Ordinance			

- 2) The following, with respect to lot sizes, shall be deemed as significantly greater than required by the underlying zoning district for cluster subdivisions or subdivisions developed using flexible development provisions in Section IV-B-10 that are not eligible for a density bonus. The following do not apply to subdivisions developed using provisions of Section IV-B-10 Section G.
- (a) In zoning districts having a minimum lot size of 40,000 square feet:
 - All lots must be at least 80,000 square feet in subdivisions providing 40% or less open space;
 - All lots must be at least 70,000 square feet in subdivisions providing 41% - 49% open space;
 - All lots must be at least 60,000 square feet in subdivisions providing 50% or greater open space.
 - (b) In zoning districts having a minimum lot size or area per dwelling unit of 80,000 square feet or two acres (87,120 square feet):
 - All lots must be at least 130,680 square feet (3 acres) in subdivisions providing 40% or less open space;
 - All lots must be at least 90,000 square feet (2.07 acres) in subdivisions providing 41% - 49% open space;
 - All lots must be at least 60,000 square feet (1.38 acres) in subdivisions providing 50% or greater open space;

IF	Zoning district area per dwelling unit:		≤ 40,000 sq. ft.	= 80,000 sq. ft. (1.84 ac.)	= 87,120 sq. ft. (2 ac.)
AND	% open space	T H E N	Minimum Lot Size for Private Road		
	33% - 40%		80,000 sq. ft.	130,680 sq. ft. (3 ac.)	130,680 sq. ft. (3 ac.)
	41% - 49%		70,000 sq. ft.	90,000 sq. ft. (2.07 ac.)	90,000 sq. ft. (2.07 ac.)
	≥ 50%		60,000 sq. ft.	60,000 sq. ft. (1.38 ac.)	60,000 sq. ft. (1.38 ac.)
Building setbacks for Private road		Twice those required by Orange County Zoning Ordinance			

- 3) Building setbacks in all districts must be at least twice those required by Orange County Zoning Ordinance.
 - b. The retention and/or provision of landscaping and use of clustering of dwelling units to screen the view of the subdivision from public roads, maintain a wooded or forested character, maintain scenic views, or preserve wildlife, botanical, historic, archaeological and/or recreation sites; and/or
 - c. The preservation of site features which directly enhance the special or unique cultural, historical, archaeological or biological characteristics of the immediate area as referenced in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or, for historic sites, if the site is deemed eligible by the State Historic Preservation Office for inclusion in the National Register of Historic Places.
2. The number, location and/or size of lots to be located in the subdivision are such that, even if constructed to State standards, the streets would not be accepted by the State for maintenance due to density or other State requirements.
3. At least fifty percent (50%) of the site is to be dedicated and preserved through restrictive covenants and contains recreation and/or open space areas of significant botanical, wildlife, historic and/or archaeological sites as referenced in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County."

4. In subdivisions to be located in a Protected Watershed as designated in the Orange County Comprehensive Plan, stream buffers are increased by twenty-five percent (25%) above those required by Article 6.23 of the Orange County Zoning Ordinance and the impervious surface allowed is decreased by fifteen percent (15%) to allow greater infiltration of storm water runoff to prevent the pollution of water supply reservoirs.
5. The site contains topographic and environmental features, such as streams, steep slopes, or watersheds, that would be adversely affected by the use of roads constructed to State standards because of factors such as significant amounts of earthwork (cut and fill) that would contribute to increased run-off of stormwater and siltation.
6. The site is already developed to 100% of the capacity which could be achieved after approval of the subdivision and some or all of the non-conforming aspects of existing development on the site will be made more conforming as a result of the proposed subdivision, and all conforming aspects of the development will remain conforming.
7. There is only one subdivision road proposed. Its length does not exceed 350 feet , it serves no more than five (5) lots, its grade does not exceed 9%, and the land being subdivided is not connected to or part of another subdivision required to be served by public roads.

The Declaration of Development Restrictions, prepared by the Planning Staff and recorded concurrently with the Final Plat, shall include a statement that further subdivision of any of the lots may require that the road be upgraded to a higher private road classification, or to public standards, and that the cost of the upgrade will be the responsibility of the subdivider.

Where a parcel being subdivided was created by a previous subdivision approved after July 5, 1983, then the previous subdivision as well as the proposed subdivision will be considered in determining whether a private road is still justified.

It shall be the responsibility of the applicant for subdivision approval to supply a written statement justifying the reasons for private roads in the proposed subdivision. Compliance with one or more of the above standards does not insure approval of either a public or private road within a proposed subdivision.

***IV-B-3-d-2.**

*Amended

2/1/88

8/6/90

10/16/90 (eff. 12/3/90)

A private road shall be required to meet standards set by Orange County as described in Appendix A of the Subdivision Regulations. Satisfactory proof that the standards are met will be required by the County Manager or his appointed agents. If a subdivision is to contain private roads, the subdivider shall have an instrument recorded contemporaneously with the final plat substantially in the form of the County's Standard Road Maintenance Agreement entitled, "DECLARATION OF RESTRICTIONS AND PROVISIONS FOR PRIVATE ROAD MAINTENANCE", guarantee (a) a right of access to any private road in the subdivision by all lots served by the road and by law enforcement and emergency vehicles, (b) right of access for the proposed private road to a State or municipally maintained road by way of direct access or other private roads, (c) perpetual maintenance of any private road serving the subdivision at the standards set for approval, and (d) provide record notice of the probability that future development dependent on the private roads for access will require upgrading of the roads to a higher private road standard or public dedication and upgrading of the road to North Carolina Department of Transportation standards. See Section V-D-6-b(2) for additional requirements.

IV-B-3-d-3.

*Amended

10/5/94

The land within a private road easement shall be included within the lot boundaries of the lot or lots which border the easement. The road maintenance agreement shall include a provision that if the road is dedicated for public use at a later date, then the lot boundaries will be revised to extend only to the edge of the right-of-way, as required by Section IV-B-3-c-10 of this Ordinance.

***IV-B-3-e.**

*Amended

2/1/88

Traffic Impact Study - A traffic impact study shall be required of subdivisions as defined in Section IV-B-3-e-3. The study will enable Orange County to assess the impact of a proposed subdivision on the highway system when that system is at or near capacity or a safety problem exists. Its purpose is to insure that proposed developments do not adversely affect the highway network and to identify any traffic problems associated with access from the site to the existing transportation network. The purpose of the study is also to identify solutions to potential problems and to present improvements to be incorporated into the proposed development.

***IV-B-3-e-1.**

*Amended
2/1/88
8/21/90

Conduct - A traffic impact study shall be prepared by a qualified professional traffic engineer and/or certified transportation planner with previous traffic study experience. The procedures and standards for the traffic impact study are set forth in Section IV-B-3-e-3 of this Ordinance.

Prior to the preparation of the traffic impact study, a scoping meeting shall be held, including the planning staff, the applicant, and the preparer of the study. The discussion at this meeting should set the study parameters, including the study area, planned and committed roadway improvements (by NCDOT or others), road links and intersections to be analyzed, preliminary traffic distribution, other planned developments to be considered, traffic growth rate, available data, periods for which analysis is to be performed, and other staff concerns. The qualifications of the preparer may be discussed at or prior to this meeting.

***IV-B-3-e-2.**

*Amended
2/1/88
8/21/90

Applicability - Except as described below, a traffic impact study shall be required for all subdivisions containing 80 or more dwelling units or where the estimated traffic generated by the subdivision exceeds 800 trips/day.

A subdivision containing 80 or more dwelling units or which generates traffic in excess of 800 trips/day may be exempted for the requirement to prepare and submit a traffic impact study if, as part of sketch plan review for the subdivision, a traffic impact study has previously been prepared for this particular project or development and there is to be no change in land use or density that would increase travel and no change in access to the external street system or material is submitted to demonstrate that traffic created by the subdivision when added to existing traffic will not result in a need for transportation improvements. Planning Department Staff will review material submitted in support of an exemption and will determine from that material whether or not to grant the exemption. If an exemption is granted, documentation of the exemption will be submitted as part of the staff recommendation on the preliminary plan. Orange County may require any subdivision approval application to be accompanied by a traffic impact study when a road capacity or safety issue exists. If one is required, the County will notify the applicant of the reason for the requirement.

***IV-B-3-e-3.**

*Amended

2/1/88

8/21/90

General Requirements and Standards - The traffic impact study shall contain the following information:

- A) General Site Description - The site description shall include the size, location, proposed land uses, number of units and gross square footage by land use, existing land use and zoning, construction staging and completion date of the proposed land development to the extent known or able to be described at the time the application is prepared. If the development is residential, types of dwelling units and number of bedrooms shall also be included. A brief description of other major existing and proposed land developments within the study area shall be provided. The general site description shall also include probable socio-economic characteristics of potential site users to the extent that they may affect the transportation needs of the site (i.e., number of senior citizens).
- B) Transportation Facilities Description - The description shall contain a full documentation of the proposed internal and existing external transportation system. This description shall include proposed internal vehicular, bicycle and pedestrian circulation, all proposed ingress and egress roadway system within the study area. Major locations, traffic channelizations, and any traffic signals or other intersection control devices at all intersections within the site.

The report shall describe the entire external roadway system within the study area. Major intersections in the study area and all intersections or driveways adjacent to or within 400 feet of the site shall be identified and sketched. All existing and proposed public transportation services and facilities within one mile of the site shall also be documented. Future highway improvements, including proposed construction and traffic signalization, shall be noted. This information shall be obtained from North Carolina's Transportation Improvement Program. Any proposed roadway improvements due to proposed surrounding developments shall also be noted.

- C) Existing Traffic Conditions - Existing traffic conditions shall be documented for all roadways and intersections in the study area. This shall include documentation of traffic accident counts as recorded by the N.C. Department of Transportation District Engineers Office, municipal or county law enforcement, and the N.C. Highway Patrol. Existing traffic volumes for average daily traffic, peak highway hour(s) traffic and peak development generated hour(s) traffic, if appropriate, shall be recorded. Manual traffic counts at major intersections in the study area shall be conducted, encompassing the peak highway and development generated hour(s), if appropriate, and documentation shall be included in the report. Existing average daily or peak-hour traffic counts made within

one year of the study date may be used subject to Planning Department approval. A volume/capacity analysis based upon existing volumes shall be performed during the peak highway hour(s) and the peak development generated hour(s), if appropriate, for all roadways and major intersections expected to be impacted by development traffic. Levels of service shall be determined for each signalized intersection or roadway segment analyzed above.

This analysis will determine the adequacy of the existing roadway system to serve the current traffic demand. Roadways and/or intersections experiencing levels of service E or F shall be noted as congestion locations.

- D) Transportation Impact of the Development - Estimation of vehicular trips to result from the proposed development shall be completed for the average weekday, the average daily peak hours of highway travel in the study area, and, if appropriate, peak hour of traffic generation by the development. Vehicular trip generation rates to be used for this calculation shall be obtained from an accepted source such as "Trip Generation" (Institute of Transportation Engineers, Fourth Edition, 1987 as amended). These development generated traffic movements as estimated, and the reference source(s) and methodology followed shall be documented. These generated volumes shall be distributed to the study area and assigned to the existing roadways and intersections throughout the study area. Documentation of all assumptions used in the distribution and assignment phase shall be provided. All average daily traffic link volumes within the study area shall be shown graphically. Peak hour turning movement volumes shall be shown for signalized and other major intersections, including all access points to the development. Pedestrian and bicycle volumes at school crossings and as otherwise applicable shall be reported. Any characteristics of the site that will cause trip generation to vary significantly from average rates available in published sources shall be documented, including such factors as diversion of passer-by traffic, internal capture, staggered work hours, or use of transit.
- E) Analysis of Transportation Impact - The total traffic demand that will result from construction of the proposed development shall be calculated. This demand shall consist of the combination of the existing traffic generated by the proposed development, and traffic due to other developments and other growth in traffic that would be expected to use the roadway at the time the proposed development is completed. If staging of the proposed development is anticipated, calculations for each stage of completion shall be made. This analysis shall be performed for average weekday traffic, the peak highway hour(s) and if appropriate, peak development generated hour(s) for all roadways and major intersections in the study area. Volume/capacity calculations shall be completed for all major intersections. It is usually at these locations that capacity is most restricted.

All access points and pedestrian crossings shall be examined for adequate sight distance and for the necessity of installing traffic signals. The traffic signal evaluation shall compare the projected traffic and pedestrian volumes to the warrants for traffic signal installation.

- F) Conclusions and Recommended Improvements - Levels of service for all roadways and signalized intersections serving 10 percent or more of peak-hour project traffic shall be reported. All roadways and/or signalized intersections showing a level of service below D in urban or developed areas or below C in rural areas shall be considered deficient, and specific recommendations for the elimination of these problems shall be listed. This listing of recommended improvements shall include, but not be limited to the following elements: internal circulation design, site access location and design, external roadway and intersection design and improvements, traffic signal installation and operation including signal timing, and transit service improvements. All physical roadway improvements shall be shown in sketches.

***IV-B-3-e-4.**

*Amended

2/1/88

8/21/90

Submission and Implementation - The traffic impact study will be submitted to the Orange County Planning Department within the applicable time frame indicated below. The Planning Department will review the study as part of the development review process. Recommendations will be incorporated into the approval process as indicated below.

- A) Time of Submission - The sketch plan should be sufficiently detailed to allow the Planning Department to assess the need for a traffic impact study. The traffic impact study shall be submitted to the Planning Department with and as part of, the preliminary plan application for subdivision approval.
- B) Implementation - The Planning Department and such other agencies or officials as may appear appropriate in the circumstances of the case shall review the impact study to analyze its adequacy in solving any traffic problems that will occur due to the subdivision. The Planning Department and Planning Board may recommend and the Orange County Board of Commissioners may decide that certain improvements on or adjacent to the site are mandatory for plan approval and may attach these conditions to the approval. If the Board of Commissioners concludes that additional improvements are necessary, the applicant shall have the opportunity to resubmit alternative improvement designs for approval.

IV-B-4.

ALLEYS

IV-B-4-a.

Alleys shall be required to serve lots used for commercial and industrial purposes except that this requirement may be waived where other definite and assured provision is made for service access. Alleys shall not be provided in residential subdivisions unless necessitated by unusual circumstances.

IV-B-4-b.

The width of an alley shall be adequate for the purpose which it serves.

IV-B-4-c.

Dead-end alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate turn-around facilities at the dead-end as may be recommended by the Planning Board and approved by the Board of County Commissioners.

IV-B-5.

LOT LAYOUT

***IV-B-5-a.**
*Amended
7/5/88
1/4/94

The shape and orientation of lots shall be appropriate to the location of the subdivision and the development intended. Interior lot lines extending from a street should be approximately perpendicular or radial to the street right-of-way line. Lot lines shall be located to permit efficient installation and maintenance of utility lines on utility easements, to maximize buildable area, and, where applicable, to provide a suitable area for septic systems. Commercial and industrial lots shall be of sufficient size to include off-street service facilities, and off-street parking of all vehicles used by all patrons and employees.

***IV-B-5-b.**
*Amended
1/4/84

Each lot shall abut a publicly dedicated street except in subdivision approved with private roads. In the latter situation, each lot must abut a private road or a state maintained road which is shown on the approved plat and constructed pursuant to the standards set by Orange County. Upon recommendation of the Planning Board and approval of the County Commissioners, the construction of the access road may be postponed until building or market development is undertaken.

In this case the lots shall be designated on the plat: "This lot may not be sold, nor a building permit issued, until the access road has been built as specified for this subdivision." Except where reverse frontage is desirable, double frontage lots should be avoided.

***IV-B-5-c.**
*Amended
1/4/94.

All requirements shall conform to each and all of the requirements of the Orange County Zoning Ordinance for the zoning district and any overlay district in which they are located.

***IV-B-5-d.**

Flag Lots

*Amended

7/5/88

8/6/90

9/4/90

a) Intent

Orange County discourages and restricts forming flag lots (as defined in Section II - Definitions). A flag lot shall be permitted if necessary to allow a property owner reasonable use and benefit from his land or to alleviate situations which would otherwise cause extreme hardship for him.

b) Lot Standards

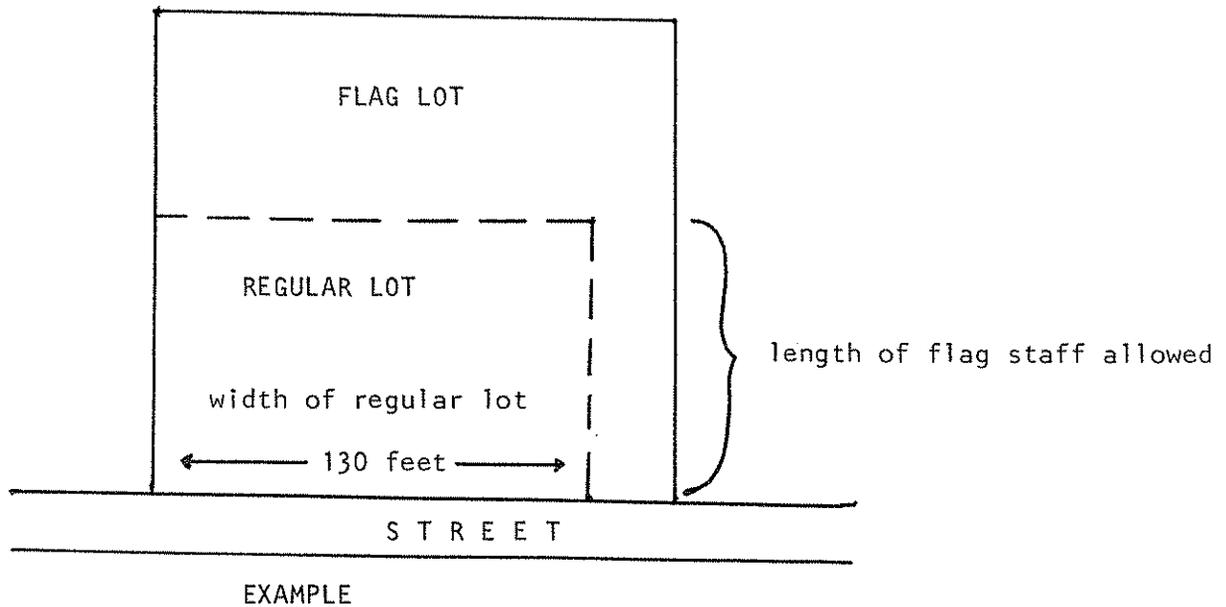
Flag lots are allowed only:

- (A) where necessary to eliminate access onto arterials (See Figure 1);
- (B) to reasonably utilize irregularly shaped land (See Figure 2);
- (C) to reasonably utilize land with difficult topography (See Figure 3);
- (D) to reasonably utilize land with limited sites suitable for septic tank nitrification fields (See Figure 4);
- (E) where it is unlikely that a road created in lieu of a flag lot would ever be extended, or otherwise needed to provide access to adjoining parcels (See Figure 5); or
- (F) to provide for the protection of significant natural or cultural resources.

No flag lot will be allowed if it increases the number of access points onto an arterial or collector street.

The length of a flag lot between the street onto which it has access and the point where a lot dimension parallels the street shall be based on the size of the proposed regular lot. The following table indicates the allowed length of the flag portion of the lot based on the required minimum width of the regular lot (see example).

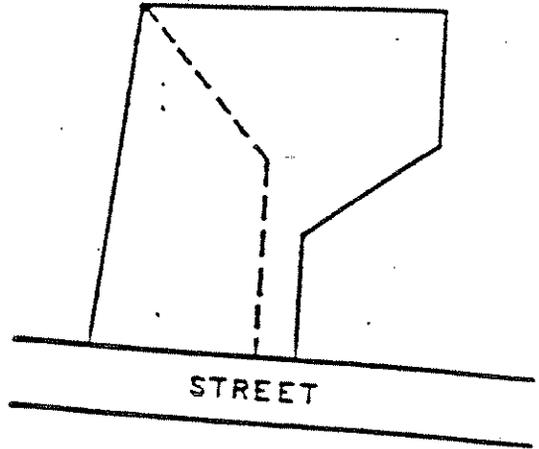
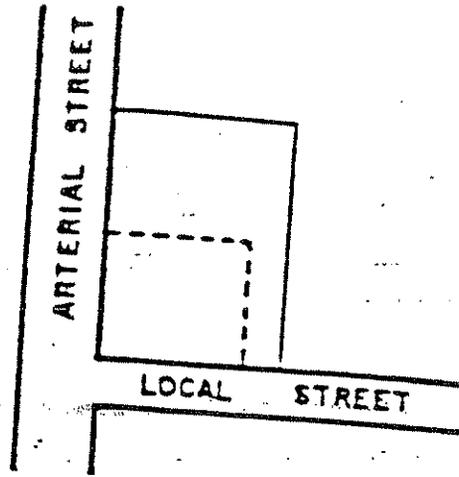
Size of Regular Lot	Required Minimum Width of Regular Lot	Length of Flag Staff Allowed
40,000 sq.ft. to 1 acre	130 feet	308 to 336 feet
1+ acres to 2 acres	130 feet	337 to 671 feet
2+ acres	130 feet	672 to 700 feet maximum length allowed



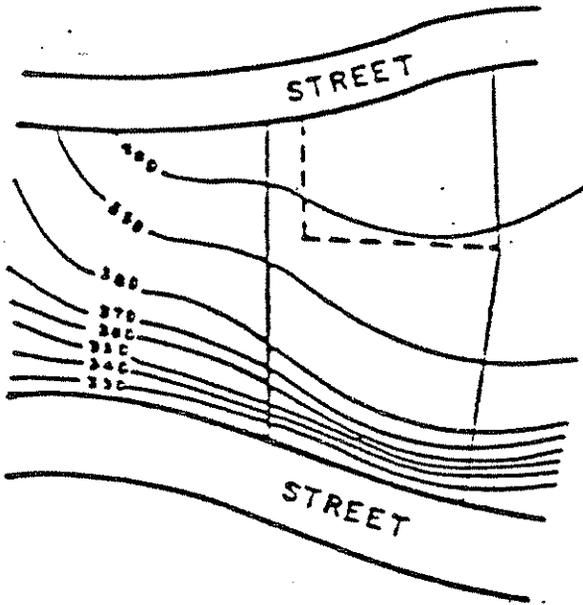
The maximum length allowed on any flag lot is 700 feet. The lot width and street frontage of a flag lot may be reduced to 35 feet. The Planning Director may approve further reductions to a minimum of 20 feet where topographical conditions permit the construction of an adequate driveway within that width. The Planning Director may also require greater widths where necessary to insure adequate access.

Amended
7-5-88
8-6-90

(FIGURE 1)

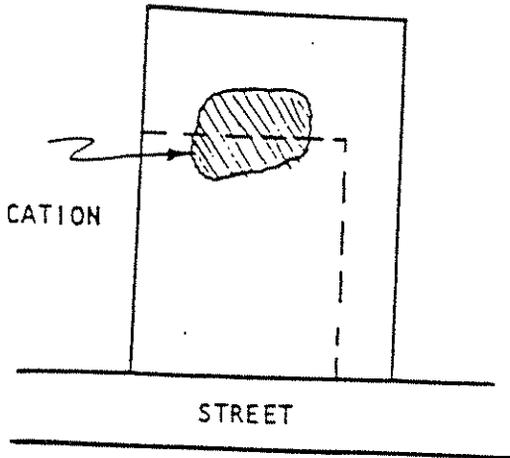


(FIGURE 2)

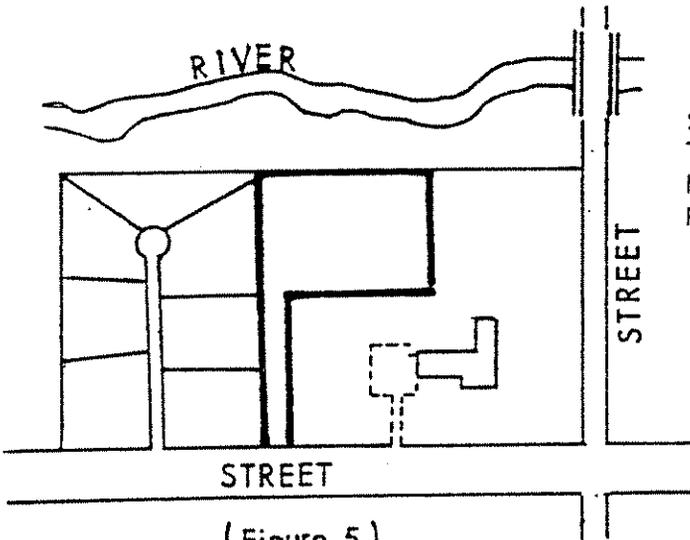


(FIGURE 3)

SEPTIC TANK
NITRIFICATION
FIELD



(FIGURE 4)



STREET

(Figure 5)

*IV-B-5-e.

*Amended

10/3/88

10/18/94

10/1/96

All lots created after the effective date of this provision shall be composed of contiguous land area, and that area shall not be divided by street right-of-way or other lots. A private road easement may divide a new lot only if all of the following criteria are met:

1. the land underlying the easement in the same ownership as the remainder of the lot; and
2. the proposed easement contains an existing road or driveway which is to be used for access to new lots; OR the proposed easement if located along a property line will have an irregular shape; and
3. the minimum lot area requirement can be met on one side of the road easement but not both sides.

Those lots with land area divided by a public road right-of-way prior to the effective date of this provision shall not be further subdivided in a manner which creates any additional lots with divided area.

***IV-B-6.**

RESERVATION OF SPACE FOR UTILITIES

*Amended Effective (January 17, 1979)

IV-B-6-a.

Where several utilities are available or can be anticipated to serve a subdivision according to utility extension plans, utility easements, setbacks or other ways may be required for service in that subdivision. ~~Except where utilities may be located in~~ approved alleys, easements, setbacks, or other ways not less than six (6) feet in width may be required on each side of rear and side lot lines. Utility easements, setbacks, or other ways may be required along said lot lines or across lots for the extension of existing or planned utilities such as poles, wires, conduits, storm or sani-sewers and water or gas lines.

Amended
11/21/89

Subdivisions, located within Transition areas designated on the Land Use Element of the Comprehensive Plan and the Joint Planning Area Land Use Plan, which are to be served by individual wells and septic tanks, may be required to dedicate water and sewer easements if the provision of such easements is necessary to provide for future extension of utilities within the Transition Area in an orderly and efficient manner.

IV-B-6-b.

It is not the intent of this section that the terms of any easement or way required above be dictated by Orange County. Any such terms and conditions may be negotiated between the subdivider/landowner and the utility company. Provided, however, that where utilities are required for subdivision approval, the Planning Board shall require an instrument executed by the subdivider/landowner and the utility company setting forth the said terms and conditions at the time the preliminary plan is reviewed by the Planning Board.

IV-B-7. SITES FOR PUBLIC USE

IV-B-7-a. School Sites

*IV-B-7-a-1. Applicability

*Amended
8-4-86
4-4-88

In every subdivision, school sites may be reserved in accordance with the adopted Comprehensive Plan for Orange County. For authorization to reserve school sites to be effective, the Board of Commissioners, prior to the adoption of the Comprehensive Plan or any amendment thereto, shall have jointly determined with the Board of Education having jurisdiction over the area, the specific location, size and suitability of each school site to be reserved. All sites so designated shall appear in the adopted Comprehensive Plan.

*IV-B-7-a-2. Method of Reservation

*Amended
8-4-86

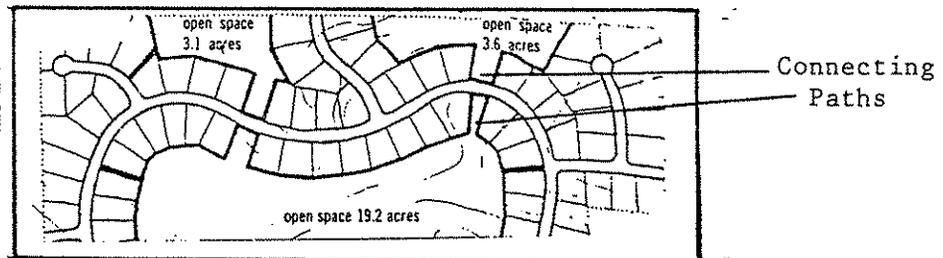
Whenever a subdivision which includes part of all of a school site to be reserved is submitted for approval, the Planning Board and the Board of Commissioners shall immediately notify the Board of Education having jurisdiction over the area. The Board of Education shall promptly decide whether it wishes the site to be reserved and shall notify the Planning Board and Board of Commissioners of its decision. If the Board of Education does not wish the site to be reserved, no site may be reserved. If the Board of Education does wish the site to be reserved, the subdivision may not be approved without the reservation and without the school site being designated on the subdivision plat as such.

The Board of Education must acquire the school site either by purchase or by exercise of the power of eminent domain within eighteen (18) months after the date the site is reserved. If the Board of Education has not purchased the site or begun proceedings to condemn the site within the eighteen (18) months, the subdivider may treat the land as freed of the reservation.

conditions is present. Where proposed park sites are shown on the adopted Comprehensive Plan, and a subdivision contains a portion of the park site, then the developer may be required to locate the recreation area in accordance with the park site as shown thereon.

- (b) Unity. Land dedicated for recreation purposes shall be a single parcel except where it is determined that two (2) or more parcels are suited to the needs of a particular subdivision. The Planning Board may recommend, and the Board of Commissioners may require, the dedication of a connecting path in addition to the land required in Section IV-B-7-b-2 of this Ordinance. Where a connecting path is necessary, a path of up to fifty (50) feet in width may be required, but in no case shall the path be less than thirty (30) feet in width.
- (c) Accessibility. Land dedicated for recreational purposes shall have at least fifty (50) feet of frontage on at least one (1) street within the subdivision.

Where a recreation area is not accessible due to lot arrangement, the Planning Board may recommend, and the Board of Commissioners may require, the dedication of connecting paths which link the recreation area with other streets within the subdivision (see figure below). Connecting paths so required shall be in addition to the land required in Section IV-B-7-b-2 of this Ordinance. Connecting paths of up to fifty (50) feet in width may be required but in no case shall the paths be less than thirty (30) feet in width.



IV-B-7-b-4. Site Improvements

Private recreation facilities, either required or provided at the option of the applicant, shall meet the standards for site improvements contained herein. When choosing improvements for a recreational area, the anticipated characteristics and needs of the residents shall be considered in conjunction with the size of the development, any physical constraints posed by the site, and the availability of other improvements within the same general area as the subdivision. As an example, the existence of a multi-purpose court in an adjacent, existing subdivision and the availability of the facility for use by residents of the proposed subdivision may indicate to the applicant that another facility, such as a tennis court, would be more appropriate. Recreation facilities which are suitable for various age groups include, but are not limited to those shown on the following pages. Trash receptacles shall be provided for all recreational areas regardless of the number and type of other improvements located thereon.

RECREATION FACILITY DEVELOPMENT STANDARDS

AGE GROUP	FACILITY	RECOMMENDED SPACE REQUIREMENTS	RECOMMENDED SIZE AND DIMENSIONS	RECOMMEND ORIENTATION
Families	Tot Lot 1. Enclosed play area with play apparatus and sand box. 2. Open, turfed area for active play. 3. Shaded area for quiet activity.	2,000-4,000 sq. ft.	Enclosed play area of 21 sq. ft. per family. Turfed area and shaded area of at least 40 sq. ft. each.	None specified.
Families Adults	Basketball Court	4,400-8,000 sq. ft.	46'x74' to 50'x94' Court dimensions with 5' unobstructed space on all sides.	Long axis north-south.
Families	Badminton Court	1,500-2,600 sq. ft.	Singles- 17'x44' Doubles- 20'x44' with 5' unobstructed space on all sides.	Long axis north-south.
Families Adults Senior Citizens	Tennis Courts	6,200-8,400 sq. ft.	36'x78' with 12' clearance on both sides; 21' at both ends.	Long axis north-south.
Families Adults	Volleyball Court	2,800-4,000 sq. ft.	30'x60' with 10' clearance on all sides.	Long axis north-south.
Families Adults	Softball Field	1.5-2.0 acres	Baselines-65' Pitching distance 40'-46' Field radius from plate- 275' between foul lines.	Locate home plate so pitcher throwing across sun and batter not facing it. Line from home plate through pitchers mound runs east-north-east.

Families	Soccer Field	1.7-2.1 acres	195' to 225' x 300' to 360' with 10' minimum clearance on all sides.	Fall season-long axis northwest to southeast; for longer periods, north to south.
Families Adults	Handball Court (3-Wall)	1,000 sq. ft.	20'x40' - Minimum of 10' to rear. Minimum 20' overhead clearance.	Long axis north south. Front wall at north end.
Families Adults Senior Citizens	Swimming Pool	0.5-2.0 acres	Minimum of 27 sq. ft. of water surface per swimmer. Ratio of 2:1 deck vs. water.	None-although care must be taken in siting of lifeguard stands in relation to afternoon sun.
Families Adults Senior Citizens	Pedestrian Paths	None	Well defined head room with maximum 10' width. Maximum average grade 5%, not to exceed 15%. Path width 6'-8'.	None
Senior Citizens	Shuffleboard	570 sq. ft.	10'x52' with 2.5' clearance at both ends. 2' clearance on both sides.	Long axis north-south.
Senior Citizens	Horseshoes	240 sq. ft.	6' square pitchers box. Steel stakes 1" diameter, 14" above ground, spaced 40' apart.	Long axis north-south.
Senior Citizens	Croquet Court	1,800 sq. ft.	25'x55' playing area with 2.5' clearance on all sides.	Long axis north-south.

Families Adults Senior Citizens	Park bench, picnic tables and grills and trash receptacles	One (1) picnic table per 50 residents 50 sq.ft. of land per table.	Minimum table dimensions - 36"Wx72"Lx 30"H. Tables, benches and other similar facilities securely anchored to ground.	None other than provision of shading for picnic tables and benches.
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Families Adults Senior Citizens	Picnic shelter structure	One (1) open shelter per 60 residents.	Minimum shelter dimensions - 20'x30' with minimum of ten (10) picnic tables and accompanying benches located therein and securely anchored to ground. Fire- place shall be installed at one end.	None.
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In addition to land provided or dedicated for active recreation purposes, sufficient area shall be provided to make available a minimum of five (5) off-street parking spaces for the first two (2) acres of each recreation site and one (1) space for each additional acre thereafter.

Where any of the following facilities are also provided, off-streets parking as required shall be provided in addition to the general standard above.

Swimming pool	One (1) space for each five (5) patrons
Soccer and ball fields	Eight (8) spaces per acre
Tennis/handball courts	Two (2) spaces per court
Picnic Shelter area	One (1) space for each ten (10) patrons
Basketball courts	Five (5) spaces per court

Amended
5-16-89

Each off-street, parking space shall be a minimum of nine (9) feet in width and eighteen (18) feet in length. A minimum back-up aisle of twenty-four (24) feet in width shall be provided for access to and from each space. Bay parking is prohibited, and entrance to and exit from each parking area shall be by forward motion of the vehicle. One (1) of the parking spaces provided must be barrier-free and identified for use by individuals with physical disabilities. Handicapped spaces shall be at least twelve (12) feet in width and shall be designed as follows:

- (a) So that handicapped individuals are not compelled to wheel or walk behind parked cars;
- (b) So that handicapped individuals can get into and out of an automobile onto a level surface, suitable for wheeling and walking; and
- (c) In conjunction with sidewalk cut-aways and/or ramps, not exceeding five percent (5%) slope.

IV-B-7-b-5. Method of Provision or Dedication

Land dedicated for public recreation area as required by this Ordinance shall be designated on both the preliminary and final plat(s) of the subdivision and must be dedicated to an appropriate unit of local government. Determination of the appropriate unit of local government shall be made by the Board of Commissioners, upon recommendation from the Recreation and Parks Advisory Council and the Planning Board. Acceptance of the dedication may be one in trust if deemed appropriate by the Board of Commissioners.

Land provided for private recreation purposes must be conveyed to the trustees provided in an indenture establishing an association of homeowners. The recreation area must be conveyed to the trustees subject to covenants and easements to be approved by the Planning Board and Board of Commissioners and which provide for the continued maintenance and control of the recreation area in a manner which assures its continuing use for its intended purpose. Where the recreation area is conveyed to a homeowners association, the subdivider shall file a declaration of covenants and restrictions in accordance with the provisions of Section V of this ordinance.

IV-B-7-b-6. Payments in Lieu of Dedication

Amended
4-4-88

Any subdivider required to dedicate recreation area pursuant to this Ordinance may, with the approval of the Board of Commissioners, make a payment in lieu of dedication or make a combination of land dedicated and payment. Before approving a payment in lieu of dedication, the Board of Commissioners shall find that no recreation and/or open space sites have been designated on the adopted Comprehensive Plan for the property in question.

Amended
4-1-96

The payment in lieu of dedication shall be equal to \$422 per lot for a subdivision to be located in the service area of a community park as shown on the map in Appendix E. The payment in lieu of dedication shall be equal to \$455 per lot for a subdivision to be located in the service area of a district park as shown on the map in Appendix E.

Where a combination of land dedication and payments in lieu are approved, the subdivider shall be given a credit equivalent to \$10,000 per acre of land dedicated for recreation purposes. The credit amount shall be determined by multiplying the number of acres to be dedicated by \$10,000 per acre. If the total payment in

lieu as determined above is larger than the credit amount, the subdivider shall pay the difference between the two amounts. If the credit amount is larger than the total payment in lieu as determined above, no additional payment in lieu is required. However, the subdivider may not transfer the excess credit from one subdivision to another.

Amended
5-16-89
10-22-91

Upon approval by the Board of Commissioners, payment in lieu of dedication shall be made at the time of final subdivision plan approval or within one (1) year of approval of the preliminary subdivision plan, whichever occurs first. All monies received by Orange County pursuant to these requirements shall be used only for the acquisition and development of recreation, park and open space sites to serve the residents of the development and the residents of the immediate neighborhood within which the development is located. The Board of Commissioners shall also have the authority to sell land dedicated pursuant to these provisions with the proceeds of any such sale used solely for the acquisition of other recreation, park or open space sites within the immediate neighborhood within which the development is located.

(See Section II for definition of immediate neighborhoods. See also Appendix E for map showing location of neighborhoods.)

***IV-B-8**

*Amended
8/4/86

LANDSCAPE AND BUFFER REQUIREMENTS

***IV-B-8-a**

*Amended
10/3/88
9/16/03

APPLICABILITY

In every subdivision regulated by this ordinance, provision shall be made for the protection, preservation, proper maintenance and use of trees and woodlands located within the subdivision regulation jurisdiction of Orange County.

INTENT

Landscaping and screening requirements are established to promote the public health, safety and welfare by:

- (1) Preventing damage from erosion, siltation and flooding, also protecting wildlife habitats;
- (2) Absorbing pollutants, filtering impurities and adding oxygen to the atmosphere;
- (3) Modifying the climate through reduction of temperatures and absorption/reflection of solar radiation;
- (4) Diminishing the impacts of adjacent incompatible land uses through visual screening and the reduction of noise and glare;
- (5) Providing important physical, aesthetic, recreation and economic assets to existing and future residents of Orange County; and
- (6) No open burning of trees, limbs, stumps and construction debris associated with the development of the Subdivision.

The intent of this ordinance shall be achieved through the preservation of existing vegetation and the addition of plantings where necessary to meet the minimum requirements set forth in this Article. Existing vegetation may be used to meet the requirements of this Section, provided, however, use of such vegetation will be determined by site inspection by Planning Department personnel.

***IV-B-8-b**

*Amended
10/3/88
10/2/95
9/16/03

LANDSCAPE PLAN REVIEW AND APPROVAL

Concurrent with the submission of a final plat for minor subdivision approval, or a preliminary plat in the case of a major subdivision, the applicant shall submit a landscape plan which will include but not be limited to the following:

- 1) The dimensions and acreage of the parcel being subdivided.
- 2) The layout of the entire project being submitted for approval including the relationship of the proposed project to adjacent properties and roads.

3) Locations of stands of existing trees described according to average size and dominant tree types [Example: Mature hardwoods]. Significant specimen trees should also be indicated on the landscape plan.

4) Designation of Tree Protection Areas as illustrated in Section IV-B-8-c-1 accompanied by a note which states:

"Existing trees will be preserved to meet the landscape requirements of Section IV-B-8-d-1 of the Orange County Subdivision Regulations."

List the exceptions to tree protection areas that will be necessary for the development of the proposed subdivision (Refer to Section IV-B-8-c-2).

5) The location of berms, walls, and fences with an indication of their height and construction materials.

6) Land Use Buffers as required by this ordinance labeled according to type and dimension.

7) If existing trees and shrubs are not sufficient to meet the requirements of Section IV-B-8, indicate all proposed plantings necessary to fulfill the landscape and buffer requirements labeled according to species (common name), spacing and size at installation. List at least two alternative species for each proposed planting shown.

8) Name of the person responsible for plan preparation and the date that the plan was drawn or subsequently revised.

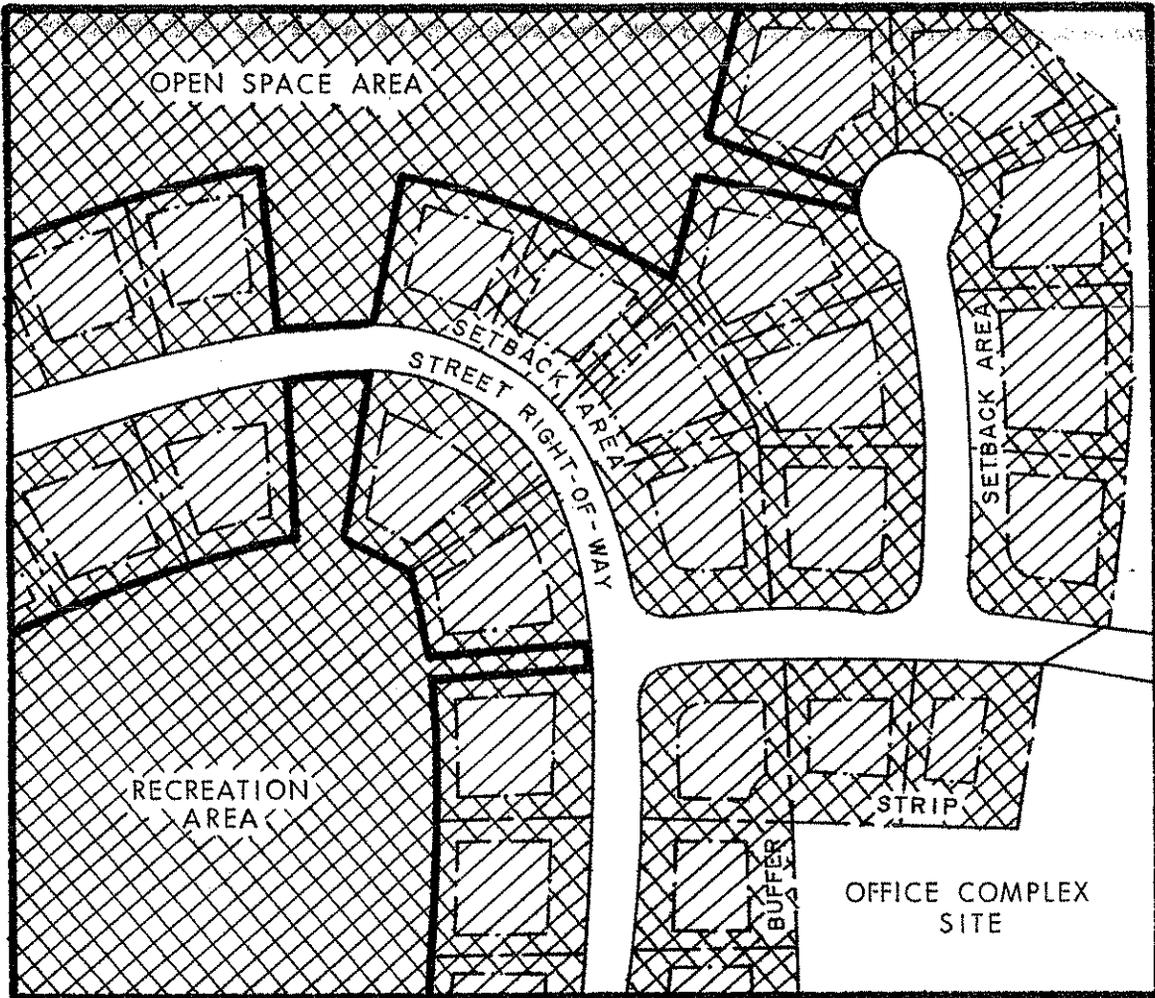
9) Method of disposal of trees, limbs, stumps and construction debris associated with the development of the subdivision, which shall be by some method other than open burning.

No subdivision shall be approved and no building permit shall be issued until the required landscape plan has been submitted and approved. No certificate of occupancy shall be issued until the landscaping according to the approved plan has been installed, inspected and approved by the Orange County Planning and Inspections Department, unless a performance bond or other acceptable guarantee of improvements such as an escrow agreement or letter of credit has been posted.

Every subdivision approval shall contain as a condition of approval a prohibition of the open burning of trees, limbs, stumps and construction debris associated with the development of the subdivision.

The financial guarantee shall be accompanied by an estimate of the cost to purchase and install the required landscaping. The cost estimate must be prepared by a nursery operator, landscape contractor, landscape architect, or other individual qualified to calculate the cost to complete the required improvements based on the approved landscape plan, who has no direct or indirect ownership interest in the project for which landscaping is required. The amount of the bond, letter of credit, or escrow agreement shall be 110 percent of the estimate.

DESIGNATION OF TREE PRESERVATION AREAS

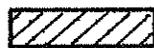


Legend:



PRIMARY TREE PROTECTION AREA

(Open space/recreation areas; required buffer strips; and front, rear and side yard setback areas)



SECONDARY TREE PROTECTION AREA

***IV-B-8-c**

PROTECTION OF EXISTING VEGETATION

*Amended
10/3/88

On any land for which application for subdivision approval has been made after the effective date of this ordinance, no person, firm or corporation shall remove or cause to be removed any trees or other vegetation except in accordance with approved plans.

***IV-B-8-c-1**

DESIGNATION OF TREE PROTECTION AREAS

*Amended
10/3/88
1/4/94

Existing trees, regardless of size, shall not be cut or otherwise damaged or destroyed within a primary tree protection area, and existing trees having a diameter of one (1) foot or greater, as measured four and one-half (4.5) feet above ground level, shall not be cut, damaged or destroyed within a secondary tree protection area defined as follows:

- (a) Primary Tree Protection Area. That portion of a lot which is to be used for required recreation/open space area; front, side and rear yard setback areas; and Land Use Buffers as required by this Ordinance and the Orange County Zoning Ordinance.
- (b) Secondary Tree Protection Area. Any portion of a lot not included within the Primary Tree Protection Area.

***IV-B-8-c-2**

EXCEPTIONS

*Amended
10-3-88

Upon approval of a final plat for a minor subdivision, or a preliminary plat for a major subdivision, trees may be removed only from designated street rights-of-way and utility and/or storm water drainage easements.

In cases where retention of existing trees would create unusual hardship or development problems in building sites, recreation/open space, setback and/or buffer areas, the Planning Director shall determine when such hardships exist and may designate areas that may be exempt from tree protection and may approve replacement of trees removed from such areas. The Planning Director may approve the planting of new trees if one or more of the following exists:

- (a) Necessity to remove trees in order to survey existing and/or proposed property lines and easements;
- (b) Necessity to remove diseased trees or trees weakened by age, storm, fire, or other injury;
- (c) Necessity to remove trees in order to construct proposed improvements, as a result of the need for access of construction equipment around proposed buildings, the need for construction access to the lot, and the need to alter the existing grade of the site or to install utilities and/or drainage structures; and

- (d) Necessity to observe good forestry practices, i.e., the number of healthy trees that a given parcel of land will support.

All applicable exceptions to tree protection must be listed on the required landscape plan.

***IV-B-8-c-3**

PROTECTIVE MEASURES

***Amended**

10-3-88

During construction activities, adequate protective measures shall be provided to minimize damage to existing trees and other vegetation. Protective devices such as a wooden or rope fence with strips of surveyor's flagging attached shall be installed prior to any grading, construction traffic or activity taking place near trees to be retained. Such protective devices shall effectively protect the roots, trunks, and tops of trees to be retained and shall be maintained until all work has been completed.

Construction traffic, storage of vehicles and materials, and grading shall not take place within the drip line of trees to be retained. Construction access to a site should occur where an existing or proposed entrance/exit is located. A stabilized open area should be designated for storage of materials (including stockpiling of soil and gravel) and for parking construction vehicles and equipment. Except for sidewalks and curb and gutter, no paving with concrete, asphalt or other impervious material within the drip line of trees to be retained shall be allowed.

Where grading within a tree drip line cannot be avoided, the following measures shall be used to maintain the life of the trees affected by grading:

- (a) Limit cut and fill to one-fourth (1/4) to one-half (1/2) of the area within the drip line of the tree;
- (b) Avoid cut and fill around the entire circumference of the trunk of the tree;
- (c) Root prune a tree several months prior to any cuts within the drip line;
- (d) Prune tree limbs in an amount which reflects the area of the roots to be severed, but in no case allow pruning to exceed thirty percent (30%) of the tree crown. Fertilize and water the undisturbed root area of the tree;
- (e) Where grading has left roots exposed, cut roots clean and seal promptly with tree paint; and
- (f) Avoid filling within the drip line of a tree without some mechanism being installed such as a tree well or perforated pipe

to allow water and air to reach the roots.

***IV-B-8-d**

LANDSCAPING STANDARDS

*Amended
3/24/87
10/3/88

Where a subdivision is proposed either on unforested land or trees have been approved for removal under one or more of the exceptions listed in Section IV-B-8-c-2 above, new trees shall be planted in accordance with the provisions of this Section.

***IV-B-8-d-1**

REQUIRED LANDSCAPING

*Amended
3/24/87
10/3/88
1/4/94

a. Along Street Frontage

- (1) As a requirement of subdivision approval, the subdivider shall plant trees along the frontage of both sides of all existing and proposed streets in the subdivision. In calculating the number of trees required per lot frontage, tree types have been assigned a value in linear feet based on the average mature canopy spread. The values are forty (40) feet for large trees and twenty-five (25) feet for small trees. Each lot, including approved recreation/open space areas, must have one (1) large tree per street frontage (value of 40 feet). The number of trees to be planted on the remaining frontage (total frontage less value for one large tree) is determined by dividing the remaining frontage by the value(s) assigned to tree types selected for planting by the subdivider.

For example, where a Land Use Buffer is not required (refer to Section IV-B-8-e), the number of trees required on a lot having a frontage of 130 feet would be calculated as follows:

TOTAL LOT FRONTAGE	130 feet
<u>LESS: VALUE OF REQUIRED LARGE TREE</u>	<u>40 feet</u>
EQUALS: REMAINING LOT FRONTAGE	90 feet

OPTION #1: ALL SMALL TREES

90 feet divided by 25 feet (value for small tree) = 3.6 or 4 trees.

Total number of required trees = 4 small trees + 1 large tree

OPTION #2: ALL LARGE TREES

90 feet divided by 40 feet (value for large tree) = 2.3 or 2 trees.

Total number of required trees = 3 large trees

OPTION #3: COMBINATION/LARGE & SMALL TREES

90 feet - 40 feet (1 large tree) = 50 feet

50 feet divided by 25 feet = 2 small trees

Total number of required trees = 2 large trees, 2 small trees

Upon installation, trees shall be spaced at least fifteen (15) feet apart, but preferably no greater than the spread of the canopy normally achieved by the tree species upon maturity.

Street trees shall be planted within the required front yard setback. Selection and location of trees shall consider existing and future site conditions including, but not limited to, overhead and/or underground utility lines, vehicular access drives, the location and extent of existing vegetation, and soil suitability. Selection of tree types shall be made from the list of acceptable plant materials provided in Appendix C. Other suitable alternates may be used if approved by the Planning Department.

(2) Additional plantings shall be required where parking/vehicular surface or outdoor storage is adjacent to the road right-of-way or to screen undesirable views.

(a) A landscape area at least ten (10) feet in width shall be provided between the parking/vehicular surface or outdoor storage and the right-of-way line except where permitted driveway openings are to be provided.

(b) In addition to the trees required along the lot frontage (Refer to Section IV-B-8-d-1a), a hedge or other durable landscape material (fence or berm) of at least three (3) feet in height shall be installed to provide a continuous opaque landscape barrier for the purpose of reducing glare and visual distractions to passing motorists.

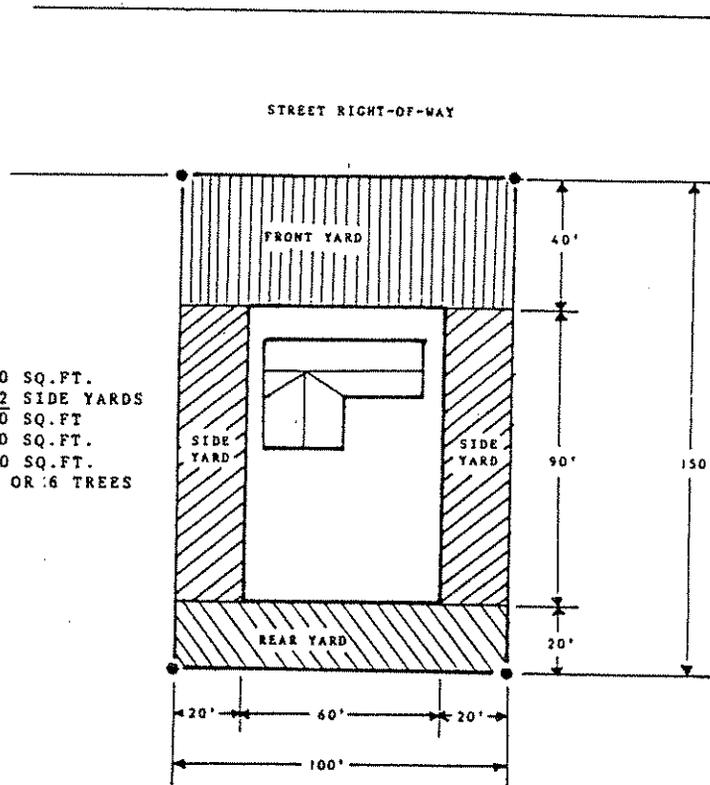
(c) To screen outdoor storage areas or undesirable views, a five foot hedge may be required. A fence, wall, or earth berm may be used in combination with plantings to achieve screening.

b. Lot Perimeter

(1) Where a Land Use Buffer (Refer to Section IV-B-8-e) is not required, a landscape area twenty (20) feet in width shall be provided along the interior of side and rear property lines of each lot being created, including approved recreation/open space areas. If the existing trees are not sufficient, the subdivider shall provide a minimum of one (1) tree per one thousand (1000) square feet of land contained within the 20 foot landscape area (see diagram below).

Trees to be planted within recreation and open space areas shall be installed to reflect the natural growth patterns of materials selected. Tree species shall be spaced in a manner which permits full spread of the canopy upon maturity and shall be selected from the list of acceptable plant materials in Appendix C. Other suitable alternates may be used if approved by the Planning Department.

SIDE YARD AREA = 20' x 90' = 1800 SQ.FT.
 x 2 SIDE YARDS
 3600 SQ.FT.
 REAR YARD AREA = 20' x 100' = 2000 SQ.FT.
 TOTAL-SIDE/REAR YARDS = 5600 SQ.FT.
 DIVIDED BY: 1 TREE/1000 SQ.FT. = 5.6 OR 6 TREES



When buffers, as required by Section IV-B-8-e, or approved utility and drainage easements overlap or cross setback or recreation and open space areas, those areas shall be exempted from computing the number of required trees to be installed.

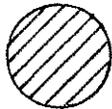
- (2) Additional plantings shall be required where parking/vehicular surface or outdoor storage is adjacent to side and/or rear property lines or to screen undesirable views.
 - (a) A landscape area at least ten (10) feet in width shall be provided between the parking/vehicular surface or outdoor storage and side and/or rear lot lines.
 - (b) In addition to the trees required by Section IV-B-8-d-1b, a hedge or other durable landscape material (fence or berm) of at least three (3) feet in height shall be installed to provide a continuous opaque landscape barrier for the purpose of reducing visual impact to adjacent properties.
 - (c) To screen outdoor storage areas or undesirable views, a five foot hedge may be required. A fence, wall, or earth berm may be used in combination with plantings to achieve screening.
- c. Plantings as required by this ordinance shall not be located in drainage, access or utility easements or under overhead power lines.
- d. All dumpsters/refuse storage facilities shall be screened by a solid wall, fence, tight evergreen hedge, or a combination of the above. Such screening shall be of sufficient height and design to effectively screen the facility from the view of adjacent properties and roads.
- e. Fences, walls, and earth berms may be used in combination with trees and shrubs to fulfill required landscaping; provided, however, that these manmade features are designed and located in such a way that will not conflict with other site features and functions and will be in harmony with the surrounding landscape.

REQUIRED LANDSCAPING

REFER TO SECTION IV-B-8-c-1

Right-of-way line/Property line 

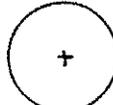
Building setback line 



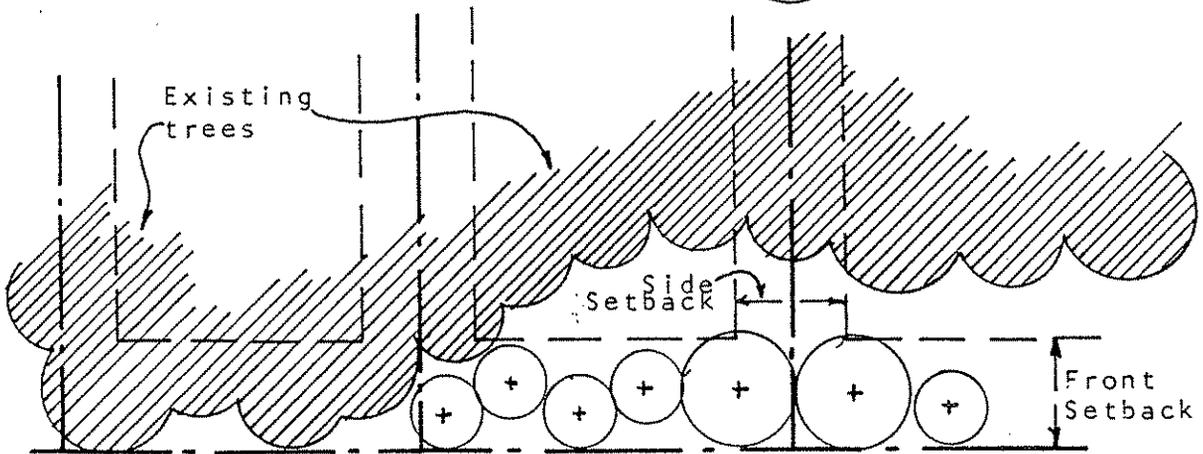
Existing tree



Proposed small tree (25' value)



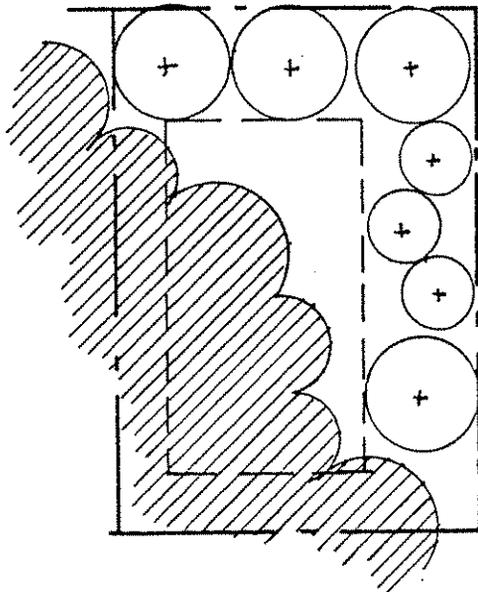
Proposed large tree (40' value)



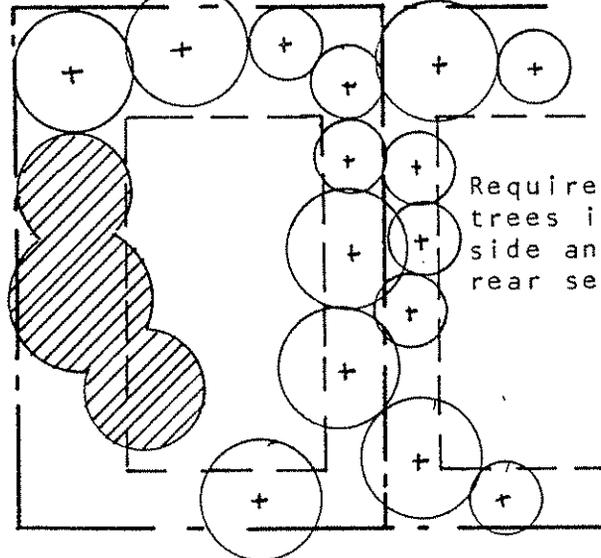
OPTION #1

STREET RIGHT-OF-WAY

OPTION #2



OPTION #3



Required trees in side and rear setback

***IV-B-8-e**

LAND USE BUFFER REQUIREMENTS

***Amended
10-3-88**

Land Use Buffers shall be required to separate a proposed subdivision from adjacent major streets and different land uses or zoning designations in order to protect, preserve and promote the visual appeal, character and value of the proposed land use and/or surrounding property; to provide for the separation of spaces, creating a sense of privacy; to promote the public health, safety and welfare by ~~minimizing potential nuisances such as the transmission of noise, odor, dust, litter, glare of lights, and other unpleasant visual distractions.~~

Except as otherwise specifically provided in this Ordinance, the type of Land Use Buffer required between a proposed subdivision and adjacent streets, land uses or zoning designations shall be specified in Section IV-B-8-e-3 of this Ordinance.

***IV-B-8-e-1**

LOCATION AND UTILIZATION OF LAND USE BUFFERS

***Amended
10-3-88**

Required Land Use Buffers shall be located along the interior or street lot lines nearest the adjacent streets, land uses and/or zoning destinations. Buffers shall not be located on any portion of an existing or proposed street right-of-way or utility easement.

No building or structure of any type shall be erected, constructed or installed in a required Land Use Buffer.

***IV-B-8-e-2**

DESIGNATION OF LAND USE BUFFERS

***Amended
10-3-88**

A required Land Use Buffer shall be designated as part of platted lots and shall have the following restriction lettered on the face of both the preliminary and final plats for subdivisions:

"Land Use Buffer: The use and maintenance of this buffer and the building of structures thereon is restricted pursuant to Section IV-B-8-e of the Orange County Subdivision Regulations."

In addition, the Land Use Buffer shall be labeled according to type and dimension.

***IV-B-8-e-3**

SCHEDULE OF REQUIRED LAND USE BUFFERS

*Amended
10-3-88
4-17-90
9-4-90

The type of Land Use Buffer required between a proposed subdivision and adjacent streets, land uses and/or zoning designations shall be specified in the following table. The type of buffer required is determined by the existing and/or proposed principle use(s) in the subdivision for which approval is requested. To determine which type of buffer is required adjacent to an existing and/or proposed land use, identify the existing and/or proposed principle use(s) in the subdivision, then identify the adjacent existing zoning district(s) and/or land uses. In the unzoned townships, undeveloped land shall be considered AR. At the intersection of the two columns is a letter which indicates the type of Land Use Buffer required.

If different land use types are proposed within the subdivision, the type of Land Use Buffer required between such uses shall be determined by the same procedures. For the purposes of this Article, "adjacent" land uses shall also include uses and lands across a street, other than an interstate highway, from the proposed subdivision.

In addition to the Land Use Buffers specified in the following schedule, buffers shall also be required on subdivisions proposed adjacent to areas of cultural, historic, or natural significance as listed in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina". The type of buffer required in those cases shall be determined by the Planning Director based on individual site evaluations.

IV-B-8-e-3 SCHEDULE OF REQUIRED LAND USE BUFFERS

		ADJACENT EXISTING/PROPOSED LAND ZONING/USE(S)																		
		Residential development where minimum lot size per dwelling unit is:						Commercial and Industrial Zoning Designations						Public Interest Districts						
EXISTING/PROPOSED PRINCIPLE USE(S) WITHIN SUBDIVISION	Residential Development where minimum lot size per dwelling unit is:	40,000 sq. ft. or greater	20,000 - 39,999 sq. ft.	15,000 - 19,999 sq. ft.	10,000 - 14,999 sq. ft.	7,500 - 9,999 sq. ft.	5,000 - 7,499 sq. ft.	Less than 5,000 sq. ft.	Office Institutional, Neighborhood Commercial and Local Commercial	Community Commercial, General Commercial and Existing Commercial	Existing Industrial, Industrial 1, 2 and 3, and Planned Industrial	Agricultural Services	Interstate Highway	Arterial Street	Collector Street	Street and Highways	Railroads and Utilities	Overhead electrical power transmission line	Quarry/mining operation, Land Fills	Agricultural uses
		AR, RB, R-1	R-2	R-3	R-4	R-5	R-8	R-13												
	40,000 sq. ft. or greater	NA	A	A	C	D	E	F	E	F	F	F	F	E	A	D	D	D	F	F
	20,000 - 39,999 sq. ft.	A	NA	A	B	C	D	E	D	F	F	F	F	E	B	D	D	D	F	F
	15,000 - 19,999 sq. ft.	B	A	NA	A	B	C	D	D	E	E	E	F	E	B	D	D	D	F	F
	10,000 - 14,999 sq. ft.	C	B	A	NA	A	B	C	C	D	D	D	F	D	B	D	D	D	F	F
	7,500 - 9,999 sq. ft.	D	C	B	A	NA	A	B	C	D	D	D	F	C	B	D	D	D	F	F
	5,000 - 7,499 sq. ft.	E	D	C	B	A	NA	A	C	C	C	C	F	B	A	E	D	D	F	F
	Less than 5,000 sq. ft.	D	D	D	C	B	A	NA	C	C	C	C	F	A	A	F	D	D	F	F
Streets and Highways	Interstate Highway	F	F	F	F	F	F	F	F	F	F	F	F	NA	NA	NA	NA	NA	F	NA
	Arterial Street	E	E	E	D	C	B	A	NA	NA	NA	NA	F	NA	NA	NA	NA	NA	F	NA
	Collector Street	A	B	B	B	B	A	A	NA	NA	NA	NA	F	NA	NA	NA	NA	NA	F	NA
Railroads and Utilities	Railroad	D	D	D	D	D	E	F	C	B	NA	NA	F	NA	NA	NA	NA	NA	F	NA
	Overhead electrical power transmission line	D	D	D	D	D	D	D	B	A	NA	NA	F	NA	NA	NA	NA	NA	NA	NA
Resource	Quarry/mining operation	F	F	F	F	F	F	F	F	F	NA	NA	F	F	F	F	NA	NA	NA	F
	Agricultural use involving livestock or products thereof	F	F	F	F	F	F	F	F	F	NA	NA	F	NA	NA	NA	NA	NA	NA	NA
Commercial and Industrial	Office/service	E	D	C	B	B	A	A	NA	NA	NA	NA	F	NA	NA	C	B	E	E	E
	Retail trade	F	F	E	D	D	C	C	NA	NA	NA	NA	F	NA	NA	B	A	E	E	E
	Warehousing/distribution	E	E	D	C	C	B	B	NA	NA	NA	NA	F	NA	NA	NA	NA	NA	NA	NA
	Manufacturing/processing	F	F	F	E	E	D	D	NA	NA	NA	NA	F	NA	NA	NA	NA	NA	NA	NA

***IV-B-8-e-4**

STANDARDS FOR REQUIRED LAND USE BUFFERS

***Amended
10-3-88**

The types of Land Use Buffers described in the following table are to be used as the basis for the Schedule of Required Land Use Buffers set forth in Section IV-B-8-e-3.

An opaque screen is intended to obstruct visual contact between uses and to create a strong impression of spatial separation. A semi-opaque ~~screen is intended to partially block visual contact between uses while~~ maintaining a sense of spatial separation.

In areas of dense mature forest, existing vegetation may be used to fulfill the buffer requirements. Where there is no existing vegetation in the buffer area, or if the existing vegetation does not provide a sufficient buffer, additional planting shall be required.

Compliance of planted vegetative buffers will be judged on the basis of the average height and density of foliage of the subject species upon maturity. Compliance of existing vegetative buffers will be judged on the basis of field observation. Upon maturity, the semi-opaque or portion of the intermittent visual obstructions should not contain any completely unobstructed openings more than ten (10) feet in width. Suggested planting patterns to achieve the buffer standards are provided in the Appendix. New plant materials installed to satisfy the buffer requirements of Article IV-B-8-e shall be installed and maintained in accordance with the provisions of Article IV-B-8-f.

*IV-B-8-e-4

STANDARDS FOR REQUIRED BUFFERS

BUFFER TYPE	REQUIRED BUFFER WIDTH	BUFFER DESCRIPTION
Type A	30 feet	A buffer composed of deciduous and/or evergreen vegetation, forming semi-opaque intermittent visual obstructions from the ground to a height of at least thirty (30) feet.
Type B	30 feet	A buffer composed of deciduous and/or evergreen vegetation that is opaque from the ground to a height of at least five (5) feet, with semi-opaque intermittent visual obstructions from the opaque portion to a height of at least thirty (30) feet.
Type C	40 feet	A buffer composed of 50-75% evergreen vegetation distributed so as to create a semi-opaque screen to a height of at least thirty (30) feet.
Type D	50 feet	Same as Type C.
Type E	75 feet	A buffer composed of predominately (at least 75%) evergreen vegetation that is opaque to a height of at least thirty (30) feet.
Type F	100 feet	Same as Type E.

*IV-B-8-f

RECOMMENDED STANDARDS FOR INSTALLATION AND MAINTENANCE

*Amended
3-24-87
10-3-88

Existing landscape material in a healthy condition may be used to satisfy the requirements of this Article. Sound and accepted horticultural practices should be used to protect the root zones of all retained existing plant material during construction and also during underground utility installation. All new landscaping should be of good quality and installed in a sound, workmanship-like manner and according to the following planting procedures (See appendix for details):

- (a) All new plant material should meet or exceed the standards set forth in the American Standard for Nursery Stock by the American Association of Nurserymen (AAN).

- (b) Planting holes should be dug at least one-third (1/3) larger than the root ball. If the soil is poor, holes should be dug two (2) or three (3) times larger than the ball and backfilled with rich top soil.
- (c) Plants should be planted in their permanent location immediately upon delivery to the site. Plants should be installed so that the top of the root ball is even with the existing grade. String around the stem of the plant should be removed and the burlap around the root ball folded from the top after the plant is in the hole. Soil around the plant should be tamped to remove air pockets, and a good three to four inches of mulch applied to help retain moisture.
- (d) All trees should be staked to prevent winds from loosening the roots.
- (e) Landscaping should be maintained in a good condition, at least equal to the original installation. All dead or unhealthy plant material should immediately be replaced to maintain the quality of the buffer or screen.

Where new landscape materials are to be installed, the type of landscape material used in meeting the requirements of this Article should be compatible with plant materials existing both on the property to be subdivided and on adjoining properties. Use of native plant materials is encouraged. No synthetic plants should be used to satisfy the requirements.

At installation, trees should not be less than six (6) to eight (8) feet in height with a caliper of three-fourths (3/4) to one and one-fourth (1-1/4) inches. Shrubs should not be less than eighteen (18) inches in height after installation. Installation and construction practices should be utilized which preserve and replace existing topsoil.

The owner of the property will be responsible for the continued proper maintenance of all landscaping materials and should keep them in a proper, neat and orderly appearance, free from refuse and debris, in accordance with the provisions of Article V of this Ordinance.

***IV-B-8-g**

WAIVER OF LANDSCAPING AND BUFFER REQUIREMENTS

***Amended
10-3-88
4-17-90**

In some cases, the strict adherence to this section of the ordinance would serve no useful purpose, such as when:

- 1) the topography of a site and/or the size of a proposed lot is sufficient to serve the purpose of a buffer;
- 2) existing structures, utilities, gardens or active farmland are located ~~in the buffer or setback areas; or~~
- 3) an existing residence or structure with established lawn areas and/or plant beds is contained within a proposed subdivision lot.

When a proposed lot includes one or more of the conditions listed above, the Planning Director is empowered to waive the requirements for screening or additional landscaping provided that the request is submitted in writing stating the reason for such request, and the spirit and intent of this ordinance is adhered to.

Although the buffer planting requirements may be waived in certain cases, the dimensional aspect of the Land Use Buffer remains in effect. The width and location of a required Land Use Buffer shall be indicated on the approved final plat and cannot be reduced or altered without approval from the Planning Director in the case of minor subdivisions, or the Board of County Commissioners in the case of major subdivisions.

In all such cases the applicant for waiver must submit a written application to the Planning Director setting forth the facts relied upon to support the application. The Planning Director, or his designee, shall file in his office and deliver to the applicant a written decision on the application which decision shall contain a statement of the facts relied upon by the Planning Director to either deny or approve the application for waiver.

IV-B-9. Cluster Developments

IV-B-9-a. Intent

Cluster development allows for greater design flexibility and originality, permit the reasonable use of land with difficult physical conditions (topography, floodplain, unique natural areas, etc.) respect the physical qualities of the land, reduce the overall development and public costs and, preserve open space to serve recreational, scenic and public service purposes. Cluster developments permit the modification and variation of lot and yard requirements provided that the sum of reductions in lot area becomes common open and for recreation space for the benefit of all residents of the cluster development or for dedication to public use.

Cluster development may be required where protection of environmental resources identified in "An Inventory of Site of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina" cannot be accomplished through the development of a standard subdivision. Otherwise, cluster developments are an option for the developer. However, all cluster developments, whether required or opted for by the developer, shall be done in compliance with the provisions and standards related to or referring to cluster developments contained in this Section.

IV-B-9-b. Application Criteria

Cluster developments may be approved in the Rural Buffer zoning district upon the following findings:

- a) The tract is a minimum of 400,000 square feet.
- b) Approved water supply and wastewater treatment systems are available and each lot is served by separate water supply and sewerage connections.
- c) The total number of lots proposed for the tract, excluding parcels of reserved recreation/open space is not greater than the number determined by dividing the gross land area, excluding public and private road rights-of-way, by the minimum lot size required for the Rural Buffer zoning district and University Lake Watershed (where applicable).
- d) The recreation/open space reserved within the tract conforms Section IV-B-7-b.
- e) The minimum amount of land reserved as recreation/open space shall be the sum of all reductions in minimum lot area as a result of the cluster form of development and/or the minimum recreation/open space required in Section IV-B-7-b, whichever is greater.

- f) Cluster open space shall not include areas devoted to public or private vehicular streets.
- g) Cluster developments in the UNIV-PW and UNIV-CA Watershed Protection Overlay Districts shall comply with the development standards as set forth in Article 6.23.9 of the Orange County Zoning Ordinance.

IV-B-9-c. Reductions in Lot and Setback Requirements

For lots created as part of a cluster development, minimum lot area, lot width and setback requirements as specified in Article 4.1.2 of the Orange County Zoning Ordinance may be reduced as set forth below.

- a. Minimum lot area requirements may be reduced to no less than one acre.
- b. Minimum lot width requirements may be reduced to no less than 104 feet.
- c. Minimum front setback requirements may be reduced to thirty (30) feet except where the front lot line forms an exterior boundary of the cluster development.
- d. Minimum rear and side setback requirements may be reduced to ten (10) feet except where the rear and side lot line forms an exterior boundary of the cluster development.

IV-B-9-d. Ownership of and Conveyance of Cluster Recreation/Open Space

- A. Cluster recreation/open space shall be dedicated public unless the Board of Commissioners finds that the size, location, type of development or cost of development or maintenance of such space or the availability of public open/recreation space would make public use undesirable or unnecessary.
- b. The applicant may request that the cluster recreation/open space be designated for private use.
- c. If cluster open/recreation space is not dedicated for public use, it shall be subject to approved legal arrangements sufficient to assure its maintenance and preservation for the intended purpose as provided in Section V - Specifications for Plat Drawings.
- d. Open space designed to protect environmental resources identified in "An Inventory of Sites of Cultural, Historic, Recreational, Biological, and Geological Significance in the Unincorporated Portions of Orange County" or "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina" shall be adequately protected through dedication of conservation easements, dedication to Orange County, restrictive covenants, or other means found appropriate for the long-term preservation of the particular site or resource.

IV-B-9-e. Approval of Major Subdivision Preliminary Plan or Minor Subdivision Final Plat (For Cluster Subdivisions)

An approved major subdivision preliminary plan or minor subdivision Final Plat shall provide for a total environment better than that which could be achieved under standard regulations and must meet the following criteria;

- (a) Individual lots, buildings and streets shall be designed and situated to minimize alteration of the natural site features to be preserved.
- (b) The usability of cluster open/recreation space shall be determined by the size, shape, topographic and location requirements specified in Section IV-B-7-b.
- (c) Cluster open space shall include irreplaceable natural features such as, but not limited to, streams, significant stands of trees, individual trees of significant size and/or species, uncommon plant communities, wildlife habitats and rock outcroppings.
- (d) Cluster recreation space shall be easily accessible to pedestrians, including the handicapped.
- (e) The suitability of cluster open space intended for scenic value shall be determined by its visibility from adjoining properties and streets and shall seek to lessen the area devoted to motor vehicle access.
- (f) Diversity and originality in lot layout shall be encouraged to achieve the best possible relationship between the land and the development.
- (g) Up to one-fourth of the land with slopes greater than fifteen percent (15%) may be removed or altered only when such slopes are small and isolated and do not otherwise adversely affect the design of the development.
- (h) At least twenty percent (20%) of the gross land area is designated as common open space. No more than fifty percent (50% of the required common open space shall be used exclusively for sewage treatment systems, utilities, or other uses which prohibit access by the residents of the cluster subdivision. This restriction does not apply to areas of historic or natural significance which may be protected by access restrictions.

IV-B-9-f. Application Requirements (For Cluster Subdivisions)

In addition to the information specified in Section V-C for Major Subdivision Preliminary Plans or Section V-D for Minor Subdivision Final Plats, applications must be accompanied by;

- a. Application shall be identified as a Cluster Development Subdivision.

- b. A precise description of the extent to which the proposed modifications depart from the standard requirements of the applicable zoning district and the reasons for such departures.
- c. The location, type and area of the common open space and the adequacy of the amount and function of the open space in terms of densities and dwelling types proposed.
- d. Written site analysis accompanies by an illustrative site map, which identifies the following:
 - 1. slopes 7½ - 15%
 - 2. slopes 15% and greater
 - 3. vegetation
 - 4. significant stands of trees
 - 5. significant examples of a particular species of tree occurring in a native stand and specimen trees (those which have departed in some respect from the standard characteristics of the species and developed a character of shape, size or branch structure that gives them a special interest
 - 6. drainage and waterways
 - 7. floodplains
 - 8. significant rock outcroppings
 - 9. significant scenic vistas
 - 10. soils with limitation for on-site wastewater systems and building development
- e. The manner in which the plan makes adequate provision for water and wastewater treatment.
- f. The relationship of the plan to the physical environment, the neighborhood in which it is proposed to be established and the intent of the provisions providing for the establishment of a cluster subdivision.

Section IV-B-10. FLEXIBLE DEVELOPMENT

Section A PURPOSE

The purpose of Flexible Development is to preserve agricultural and forestry lands, natural and cultural features, and rural community character that might be lost through conventional development approaches. To accomplish this goal, greater flexibility and creativity in the design of such developments is encouraged and allowed. Specific objectives are as follows:

- To preserve areas of the county with productive soils for continued agricultural and forestry use by preserving blocks of land large enough to allow for efficient operations.
- To encourage the preservation and improvement of habitat for various forms of wildlife and to create new woodlands through natural succession and reforestation where appropriate.
- To minimize site disturbance and erosion through retention of existing vegetation and avoiding development on steep slopes.
- To preserve open land, including those areas containing unique and sensitive features such as natural areas and wildlife habitats, steep slopes, streams, wetlands, and floodplains.
- To preserve scenic views and elements of the county's rural character, and to minimize perceived density by minimizing views of new development from existing roads.
- To preserve and maintain historic and archaeological sites and structures that serve as significant visible reminders of the county's social and architectural history.
- To provide for the active and passive recreational needs of county residents, including implementation of the Master Recreation & Parks Plan.
- To provide greater efficiency in the siting of services and infrastructure by reducing road length, utility runs, and the amount of paving for development.
- To create compact neighborhoods accessible to open space amenities and with a strong identity.

Section B APPLICABILITY

Amended 6/2/97 2/24/03

All Flexible Development subdivision plats shall comply with the requirements and standards specified herein and in all respects with other applicable codes and ordinances to the extent that they are not in conflict with these provisions, provided, however, that Flexible Developments located within the Stoney Creek Basin Overlay District shall comply with provisions of Article 6.30 of the Orange County Zoning Ordinance and the Village Option for a Flexible Development cannot be located in the Rural Buffer (RB) zoning district. Applicants seeking approval of a Minor Subdivision Final Plat by the Planning Department are encouraged to work with the Planning Department staff in identifying and preserving open space areas as part of such developments.

Section C OPEN SPACE STANDARDS

Amended
10/1/03

C.1 Minimum Required Open Space

Where a developer elects to seek approval of a Flexible Development as specified herein, at least thirty-three percent (33%) of the total land area in the Flexible Development must be set aside as protected open space. Such open space shall meet these standards unless the developer chooses to seek approval of a conventional subdivision as specified herein.

C.2 Planning For Open Space

Open space design in subdivision projects shall be planned as part of a comprehensive project design. The long-term success of open space is improved when a layout is chosen with a perspective of future usefulness, efficiency, and compatibility with both existing development and other types of open spaces. Open space is an important amenity for subdivision residents and an essential part of the County's character and environmental quality. Open space planning must indicate a thoughtful understanding of that importance, and shall be evaluated based on its merits.

A Flexible Development subdivision plan shall always provide open space which prominently meets at least one of the three following goals in open space design:

- The Maintenance of Wildlife Corridors and/or Habitat;
- The Preservation of Rural Character
- The Creation or Protection of Space for Outdoor Recreation

and, when relevant, address the following additional goals in open space design:

- The Protection of Other Natural Resources
- The Improvement or Maintenance of Visual Amenities
- The Creation or Protection of Managed Resource Production
- The Improvement or Maintenance of Public Health and Safety
- The Creation or Protection of Public Purpose and/or Utility Infrastructure.

The primary means by which goals in open space design are addressed are composition, accessibility, size and shape. The primary way to achieve these open space design goals is by the application of standards to these fundamental land characteristics defined below.

- Composition – The natural and constructed features of land indicate what types of open-space goals it can support. For each of the listed open space goals, certain characteristics are required or preferred. Compositional requirements and preferences are stated throughout this section.
- Accessibility – All Flexible Development plans shall, unless the open space is to preserve conservation values that require minimal disturbance, provide open space access to the public at large and/or subdivision residents, in accordance with Section C.4.
- Size and Shape – The usefulness of open space can be lessened when it is fragmented or shaped in long narrow segments. The most functional open space is large enough to maximize the benefits to ecological, environmental, cultural, recreational and/or visual uses. Size and shape requirements are listed in Section F.1.

An open space plan may use other land characteristics as well, if a direct link to the goals of Section C.2 is shown.

C.3 Types of Open Space

The types of open space conserved through Flexible Development shall be consistent with the following standards:

- a. Open space shall be comprised of two types of land: "*Primary Conservation Areas*" and "*Secondary Conservation Areas*".
- b. *Primary Conservation Areas* -- These areas have sensitive environmental features and/or significant cultural resource areas, which may make them legally or practically unbuildable. These areas are the first open spaces to be chosen towards meeting the minimum 33% requirement. Secondary Conservation Areas may not be counted towards the 33% requirement unless all potential Primary Conservation Areas, other than expansion areas as defined below, have been set aside.
 - *Wetlands*, including, but not limited to, streams, creeks, ponds, reservoirs, stormwater management facilities for watershed protection purposes, and adjoining land areas identified as part of:
 - ◊ The National Wetlands Inventory Maps for the county, prepared by the U.S. Fish and Wildlife Service;
 - ◊ The "Orange County, N.C. Soil Survey," prepared by the U.S.D.A. Soil Conservation Service;
 - ◊ The "Inventory of Natural Areas and Wildlife Habitats," as prepared by the Triangle Land Conservancy;

- ◇ LANDSAT satellite data collected and analyzed under the Albemarle-Pamlico Estuarine Study;
- ◇ A required environmental assessment or environmental impact statement; and/or
- ◇ A site analysis conducted by a registered engineer, land surveyor, landscape architect, architect or land planner using data from the U.S. Army Corps of Engineers.
- *Floodplains* (100-year) and alluvial soils identified as part of:
 - ◇ The "Flood Insurance Study: Orange County, N.C.," prepared by the Federal Emergency Management Agency (FEMA); and
 - ◇ The "Orange County, N.C. Soil Survey," prepared by the U.S.D.A. Soil Conservation Service.
- *Steep Slopes*, defined as those greater than 25 percent, identified as part of:
 - ◇ The "Orange County, N.C. Soil Survey," prepared by the U.S.D.A. Soil Conservation Service; and/or
 - ◇ A site analysis conducted by a registered engineer, land surveyor, landscape architect, architect or land planner and calculated using topographic maps from an actual survey or from the U.S. Geological Survey.
- *Natural Areas, and Wildlife Habitats* as identified as part of:
 - ◇ The "Inventory of Natural Areas and Wildlife Habitats," as prepared by the Triangle Land Conservancy;
 - ◇ A required environmental assessment or environmental impact statement; and/or
 - ◇ An independent site study conducted by a trained botanist and/or biologist.
- *Historic and Archaeological Sites* listed on the National Register of Historic Places or included on the state's national register study list, designated as a local historic landmark, designated as a local historic district, and/or identified as having a high potential for archaeological remains as part of:
 - ◇ The "Chapel Hill Township Architectural Survey: Final Report";
 - ◇ The "Orange County Multiple Property Documentation Form: Historic Resources of Orange County";
 - ◇ "An Archaeological Survey of Portions of Orange County, N.C.";
 - ◇ A required environmental assessment or environmental impact statement; and/or
 - ◇ An independent site study conducted by a trained architectural historian or archaeologist.

Where a historic or archaeological site is to be set aside as a separate lot, and preserved and/or restored as part of a flexible development, the entire area within the lot may be credited toward meeting the minimum open space requirement.

- Wildlife Corridors as identified by Section 2.2 of the most recent Land Use Element of the Orange County Comprehensive Plan.
- Expansion of any of these areas
 - A single, connected area of open space that meets one or more of the provided definitions of Primary Conservation Area may be expanded by up to 20% of its area to provide an additional buffer. Although the expanded area might not meet any other definitions of Primary Conservation Area, it may be considered as such, except that:
 - a) Expansion areas may not be, in turn, expanded under this provision,
 - b) Expansion areas may not be selected as Primary Conservation Area unless all site areas meeting any other Primary Conservation Area definition have already been selected as open space, and
 - c) Expansion areas must be in the same natural state as the Primary Conservation Area that is being expanded.

c. *Secondary Conservation Areas*— If there is not enough Primary Conservation Area acreage on site to meet the mandatory 33% open space requirement and if there are no off-site Primary Conservation areas proposed, then Secondary Conservation Areas shall be used to complete the 33% requirement. Secondary Conservation Areas have fewer restrictions, with regard to location, and allow more flexibility to improve overall open space design and purpose. These areas, unless specified otherwise, receive full credit toward meeting the minimum open space requirement of Flexible Developments.

Access - Open space may be chosen as a Secondary Conservation Area because of its benefit in providing open space access to residential lots in accordance with regulations listed in Section C.4. These areas shall also include desired compositional, size and shape attributes, as listed in this section.

Composition - Sites chosen for Secondary Conservation Areas must have one or more of the following characteristics or uses:

- *Woodlands*, including forestland for the planting and production of trees and timber, where management practices such as selective timber harvesting and wildlife enhancement are employed. Such woodlands may consist of hardwood, pine, and/or mixed pine-hardwood forests identified as part of:
 - ◊ LANDSAT satellite data collected and analyzed under the Albemarle-Pamlico Estuarine Study;

- ◇ A site analysis conducted by a registered engineer, land surveyor, landscape architect, architect or land planner using aerial photographs and/or satellite imagery;
 - ◇ A required environmental assessment or environmental impact statement; and/or
 - ◇ An independent site study conducted by a trained botanist and/or forester.
- *Farmland*, especially prime agricultural land as identified by the U.S.D.A. Soil Conservation Service in "Important Farmlands: Orange County, N.C." and which is in active use for the production of crops and/or the raising of livestock. Farmland also includes space on individual lots used for gardens, ponds, horse paddocks and barns, and similar uses.
 - *Slopes of 15% to 25% that* require special site planning due to their erosion potential, limitations for septic tank nitrification fields, and terrain or elevation changes. Such areas may be suitable for building, but higher site preparation and construction costs are to be expected.
 - *Other Historic and/or Archaeological Sites* identified from the same sources as for primary conservation area sites.
 - *Public and/or Private Recreation Areas and Facilities*, including:
 - ◇ "Active recreation areas" such as public recreation areas, including district and community parks as identified in the master recreation and parks plan; and private recreation facilities, including golf courses, playing fields, playgrounds, swimming pools and courts for tennis, basketball, volleyball and similar sports. Because they represent uses in which natural lands are cleared, graded and managed for intensive activities, only half (50 percent) of the land in this category may be credited toward meeting the minimum open space requirement.
 - ◇ "Low-impact recreation areas" such as pedestrian, bicycle and equestrian trails, picnic areas, community commons or greens, and similar kinds of areas, whether public or private. Land in this category receives full credit toward meeting the minimum open space requirement.
 - *Scenic Views*, especially of natural and cultural features from designated scenic road corridors, including views from the road as well as views outward from potential home sites. Landscape buffers that screen the view of development and preserve the character of rural public roads are also included in this category.

- *Pedestrian Open Space Area (POSA)* –a traversable corridor at least 50 feet wide, undeveloped except for pedestrian recreation amenities, and in common ownership. POSA's are not required to have constructed walking paths, but they must be reasonably passable on foot. The final composition of a POSA's shall be evaluated of the intent of the overall access plan in the subdivision. If the POSA's connect active or low impact recreation areas, or if the POSA's are identified as a recreation amenity, then a constructed path can be required as a part of the approval process. Landscaping to ensure compatibility with the natural and scenic goals of open space shall also be evaluated.

POSA's may not be used in order to connect significant habitat and wildlife open-space sections. Wildlife corridors are for this purpose.

All POSA's shall be connected to other types of open space. In a Flexible Development subdivision, all existing access ways shall, if practicable, be connected into a single system. Flexible Subdivisions shall also have at least one POSA and, when practicable, connect to at least one outside edge of the subdivided property, in order to preserve the ability to connect the POSA with future, adjacent projects. POSA's may be used to satisfy up to 5% of the 33% open space requirement for flexible development (for example, in a subdivision containing 100 acres of total land area, up to 1.65 acres of the total POSA in the subdivision would count towards meeting the 33% (33-acre) open space requirement).

- *Roadside Buffers*, areas buffering public roads, when they are at least 75 feet in width, measured in one direction from the nearest edge of the right-of-way. Roadside buffers must be composed of undisturbed natural vegetation or where enhanced vegetation is installed as a condition of the approval.
- *Greenbelt Linkages*, areas that can be used as part of a connected greenbelt path, within an approved County Greenbelt program.

Size and Shape - Secondary Conservation Areas, to the extent possible, shall be part of substantially sized and/or contiguously linked open space sections and meet guidelines as stated in Section F.1.

C.4 Access to Open Space

- General public accessibility to and within open space shall be evaluated on a case-by-case analysis of the goals and the intended use(s) of the open space in that particular development.

Primary Conservation Areas, due to their considerable recreation, scenic and cultural public values, shall be made available for the use of the public at large through access by public road. However, it will not be feasible for public use to be provided in all cases (e.g. fragile cultural sites, protected and/or private habitat areas, hazardous slopes and wetlands, etc.).

Secondary Conservation Areas shall be available to, at least, subdivision residents, particularly when it includes active and low impact recreation areas. In some cases, this level of public entry may not be appropriate (e.g. working timber or agricultural resource areas).

- If less than half of designated open space is Primary Conservation Area, the subdivision plan shall provide direct access to Primary or Secondary Conservation Area to at least 75% of project lots. The remaining lots shall be within approximately 300 feet of an accessible point of Primary or Secondary Conservation Area.

If the majority of open space is Primary Conservation Area, the subdivision plan shall provide direct access to Primary or Secondary Conservation Area to at least 50% of project lots. The remaining lots shall be within approximately 600 feet of an accessible point of Primary or Secondary Conservation Area.

C-5 Ownership of Open Space

Open space within a flexible development may be owned and/or administered by any of the following methods, either individually or in combination. All open space shall be permanently restricted from further subdivision.

- Fee simple dedication to the county, another unit of local government, the state or a private nonprofit land conservancy. The county may reject any proposed dedication at its discretion prior to or during the application process.

- Dedication of conservation easements to the county, another unit of local government, the state or a private nonprofit land conservancy. Such easements may apply to a single property owned by a homeowner's association and/or to all or portions of individual lots owned by one or more property owners. The county may reject any proposed dedication at its discretion prior to or during the application process.
- Ownership by a homeowner's association where specific development restrictions and maintenance requirements are included as part of its bylaws and as irrevocable articles of restrictive covenants.
- Ownership by individual property owners, of estate lots only, where specific development restrictions and maintenance requirements are included as part of restrictive covenants and/or permanent conservation easements applicable to such lots.

Where conservation easements have been dedicated and accepted prior to application for approval of a flexible development proposal, the land subject to the easement may be counted toward satisfying the 33 percent open space requirement, provided that it is a portion of and in the same ownership as the land to be subdivided.

C-6 Maintenance of Open Space

Natural features shall be maintained in their natural condition, but may be modified to improve their appearance, function or overall condition, as recommended by experts in the particular area being modified. Permitted modifications may include the following:

- Reforestation;
- Woodland management;
- Pasture or cropland management;
- Buffer area landscaping;
- Stream bank protection; and/or
- Wetlands management

Unless accepted for dedication or otherwise agreed to by the county, another unit of local government, the state or a private nonprofit land conservancy, the cost and responsibility of maintaining open space and any facilities located thereon shall be borne by the property owner and/or homeowner's association.

Section D DEVELOPMENT STANDARDS

Amended
10/13/99
10/19/99

Flexible Development subdivision plats shall be prepared in accordance with one or more of the following development options.

D.1 Estate Lot Option

For lots created as part of an estate lot development, the following standards apply:

- Each estate lot shall have a lot size of at least four (4) acres.
- For each estate lot, a building envelope (buildable area) shall be defined of sufficient size to accommodate a single-family detached dwelling and customary accessory uses, including, but not limited to, storage buildings and garages, patios and decks, lawns, and driveways, septic systems including repair areas and well sites. *(Amended 10/13/99)*
- The building envelope of an estate lot may not exceed fifty percent (50%) of the total lot area and shall not include designated Primary and/or Secondary Conservation Areas.
- Only the area outside of the building envelope of an estate lot may be counted toward meeting the minimum open space requirement. To the highest degree possible, the open space area shall be contiguous to open space designated on the adjacent lot(s) and shall not include required front yard and side yard setbacks unless the front or side yard contains significant primary or secondary conservation areas. *(Amended 10/13/99)*
- A septic system repair area and/or well can be located within the secondary conservation area provided the land designated for the septic system and/or well is not more than one quarter of the secondary conservation area of the lot. No septic system, repair area and/or well can be located in the primary conservation area of a lot. *(Amended 10/19/99)*
- Each building envelope on an estate lot shall adhere to the following spacing standards:

Building Envelope Spacing Standards for Estate Lots	
Minimum spacing between building envelopes on adjacent lots	100 feet
Minimum spacing between building envelope and subdivision boundary or off-site public street right-of-way	150 feet
Minimum spacing between building envelope and on-site public or private street right-of-way	50 feet
Minimum spacing between building envelope and any other lot line	30 feet
Minimum spacing between building envelope and wetland or water bodies (lakes, ponds, streams, etc.)	100 feet

(Amended 10/13/99)

- Provided the arrangement, design, and shape of estate lots is such that lots provide satisfactory and desirable sites for building; contribute to the preservation of designated Primary and/or Secondary Conservation Areas; provide convenient access for emergency service vehicles; and satisfy all building envelope spacing standards, the minimum required lot frontage may be reduced to not less than 20 feet for flag lots, and lots fronting on cul-de-sacs and "T" turnarounds. *(Amended 10/13/99)*
- Estate lots shall be restricted against further subdivision through deed restrictions and/or permanent conservation easements. Primary and Secondary Conservation Areas located outside building envelopes shall be restricted against further development through conservation easements and/or deed restrictions.
- Estate lot subdivision road(s) shall be designed to provide internal access to all lots in the subdivision. Private driveways shall access existing state maintained roads only via subdivision roads providing internal access to lots in the subdivision. *(10/13/99 Amendment)*
- A 150 foot Type F buffer meeting the requirements of Article IV-B-8-e shall be provided along the frontage of all existing state maintained roads adjacent to the subdivision boundaries. In areas of dense mature forest, existing vegetation may be used to fulfill the buffer requirements. If additional planting is required, new plant materials that satisfy the buffer requirements of Article IV-B-8-e shall be installed and maintained in accordance with provisions of Article IV-B-8-f. *(10/13/99 Amendment)*

D.2 Conservation-Cluster Option

Amended
10/13/99
10/19/99

A conservation-cluster subdivision is one in which building lots are grouped together through a transfer of allowable density within the subdivided tract provided the transfer of density within the subdivision does not increase the average density in any overlay zoning district. In a conservation-cluster subdivision designed with density transfer, lots smaller than the minimum lot size permitted in the zoning district are allowed provided such lots and subdivisions are developed in accordance with the following standards:

- Land saved through lot size reductions shall consist of designated Primary and/or Secondary Conservation Areas.
- The total amount of land set aside as Primary and Secondary Conservation Areas shall equal the sum of all reductions in minimum lot area and shall comprise at least thirty-three percent (33%) of the total land area in the subdivision.

- Both Primary and Secondary Conservation Areas shall be placed in undivided preserves which adjoin housing areas that have been designed more compactly to create larger conservation units that may be enjoyed by all residents of the subdivision and, if possible, enjoyed visually by the general public. Such undivided open space shall be accessible to the largest number of lots within the development. To achieve this, the majority of houselots should abut undivided open space to provide residents with direct views and access. Safe and convenient pedestrian access to the open space from all adjoining houselots shall be provided, except in the case of farmland or other resource areas vulnerable to human disturbance. The design must meet Section F Evaluation Criteria which sets forth conservation area design characteristics.
- Where undivided open space is designated as separate non-contiguous parcels, no parcel shall consist of less than three (3) acres in area, nor have a length-to-width ratio in excess of 4:1, except such areas that are specifically designed for neighborhood commons or greens; playfields; buffers adjacent to wetlands, watercourses, and rural roads; wildlife corridors; or trail links.
- Each lot must contain a buildable area of sufficient size to accommodate a single-family detached dwelling and customary accessory uses, including, but not limited to, storage buildings and garages, patios and decks, lawns, driveways, septic systems including repair areas and well sites. A septic system and/or well site may be located in a secondary conservation open space area provided it does not occupy more than one quarter of the secondary conservation area. No septic system, repair area and/or well can be located in the primary conservation area. *(Amended 10/19/99)*
- Provided the arrangement, design, and shape of cluster lots is such that lots provide satisfactory and desirable sites for building, and contribute to the preservation of designated Primary and/or Secondary Conservation Areas, minimum lot area, lot width, and setback requirements as specified in Article 4.1.2 of the Orange County Zoning Ordinance may be reduced as set forth below.
 - ◇ Minimum lot area requirements may be reduced by sixty-five percent (65%) of the minimum lot size permitted by the zoning district including any overlay district requirements; however, minimum lot area may not be smaller than 40,000 square feet within a watershed protection overlay district where lots are served by individual septic systems.
 - ◇ Minimum lot width requirements may be reduced to 100 feet in the AR and R1 Districts. Minimum lot width requirements may be reduced by 30% in all other zoning districts.
 - ◇ Minimum front, rear, and side setback requirements may be reduced by twenty-five percent (25%) but shall be no less than ten (10) feet.

- ◇ Minimum lot frontage requirements may be reduced to twenty (20) feet for lots fronting on cul-de-sacs and “T” turnarounds.
- ◇ Minimum spacing between building envelopes and the subdivision boundary or off-site public street right-of-way shall be 100 feet and may be counted as open space.
- Conservation-cluster subdivision road(s) shall be designed to provide internal access to all lots in the subdivision. Private driveways shall access existing state maintained roads only via subdivision roads providing internal access to lots in the subdivision.
- Cluster lots shall be restricted against further subdivision through deed restrictions and/or permanent conservation easements. Primary and Secondary Conservation Areas shall be dedicated to Orange County, another unit of local government, the State of North Carolina, a private non-profit land conservancy or a homeowners association.

D.3 Village Option

Villages represent a modified form of cluster development intended to serve as physical, social, and economic focal points in rural portions of the county. Consequently, villages are appropriate locations for civic uses, such as schools and churches, as well as a variety of economic functions, including stores and workshops, and residential building types designed to accommodate a range of socio-economic groups.

The location, size, and composition of each village will be a function of the development potential of the land associated with the settlement, including, but not limited to:

- The zoning of the site, including the maximum allowable number of dwelling units;
- The method of water supply and sewage disposal, including the number of approved disposal sites;
- The presence of Primary and Secondary Conservation Areas, including contiguous areas located on adjoining properties;
- The presence of existing and/or proposed transit routes and corridors, and areas of future urban growth; e.g., Transition Areas; and
- The presence of protected watersheds, including defined critical areas.

To this end, villages must meet the following general standards:

- The **village proper** is the village, comprised of residential units with associated commercial, office, and service functions.
 - ◇ The village proper may not exceed 100 acres in size and shall be built in a compact manner so as to permit pedestrian accessibility to its center within a five minute walk.
 - ◇ The village proper is to be distinguished from the village conservancy by a well-defined "edge" of closely spaced buildings in contrast with the open space of the conservancy.
 - ◇ A village proper may not be located closer than one-half mile from the edge of another village proper, and every effort shall be made to keep the separate settlements visually distinct.
 - ◇ The village proper is to be built in a generally rectilinear pattern of interconnecting streets, defined by buildings, street furniture, and landscaping, as places to be shared equally by pedestrians and automobiles.
 - ◇ A hierarchy of parks and squares is to be provided and distributed strategically throughout the village and culminate in a central civic space called the **Village Green**.
 - ◇ Village lots shall be restricted from further subdivision through deed restrictions and/or permanent conservation easements.
 - ◇ Village lots served by a ground absorption sewage collection system be no smaller than required by the N.C. Department of Environment, Health, and Natural Resources (see N.C. Administrative Code, Chapter 15A, Rules Governing Public Water Systems administered by the Public Water Supply Section of the Division of Environmental Health).
 - ◇ The village proper may be composed of four uses: **Storefront Uses, Townhouse Uses, single-family detached Residential Uses, and Workshop Uses**. These uses and the standards applicable to each are described on the following pages.
- The **village conservancy** is a continuous open space area surrounding the village proper, representing the land from which dwellings have been transferred to the village proper. In lieu of a continuous open space area, a village conservancy may consist of open space and estate lots, provided all estate lots meet the standards of Section D.1.
 - ◇ Open space within the village conservancy shall consist of designated Primary and/or Secondary Conservation Areas.
 - ◇ The amount of land set aside as open space in the village conservancy shall comprise at least thirty-three percent (33%) of the total land area in the subdivision and shall be no less than 100 feet in width at any place, except for short connecting links.

- ◇ Primary and Secondary Conservation Areas within the village conservancy shall be restricted from further development through dedication to Orange County, another unit of local government, the State of North Carolina, a private non-profit land conservancy or a homeowners association, including the recording of conservation easements.

The specific standards applicable to the village proper and its component parts are described on the following pages.

Village Development Standards

GENERAL PROVISIONS	
Land Use	<ul style="list-style-type: none"> • Land within a village shall be available for uses as provided herein. Mixed uses of buildings is encouraged in central areas of the Village Proper, and single-story, single-use buildings is discouraged.
Land Allocation	<ul style="list-style-type: none"> • Similar land use categories shall generally front across streets, and dissimilar categories may abut at rear property lines. • Corner lots which front on streets of dissimilar use categories shall be designated the category with the greater intensity of use.
Lots & Buildings	<ul style="list-style-type: none"> • Lot design and building placement within each area of the village proper should be varied to create a distinct character, and permit a range of activities and intensities of use. • All buildings, except outbuildings, shall have their main entrance opening to a street or square. • Stoops, open colonnades, and open porches may encroach into the front yard setbacks. • Buildings placed less than five (5) feet from a side property line shall windowless on those sides (does not apply to front and back); provided, however, small ventilation windows and clerestory windows are permitted.
Streets & Alleys	<ul style="list-style-type: none"> • All lots and tracts within the village proper shall have access to pedestrian and vehicular routes. • Every village proper shall have two access points to paved roadways designated as collector and/or arterial streets. • There shall be a continuous network of alleys to the rear of the lots in the Village Proper. Alleys shall be 16 feet in paved width if two-way; 12 feet in paved width if one-way. • Every village proper shall provide a pedestrian network which includes parks, squares, sidewalks along streets, alleyways through blocks. The network shall link all parts of the village proper, making walking easier than driving. Wherever practicable, streets shall be aligned in such a way that they provide terminal vistas of parks, greens, commons, squares, and large buildings of a public, semi-public or civic nature. • No block face shall have a length greater than 500 feet without an alley providing through access. • Streetlamps, between eight (8) and 15 feet in height, and equipped with incandescent or metal halide lights, shall be installed on both sides of streets at all street intersections and at mid-block where block lengths exceed 400 feet.
Parking	<ul style="list-style-type: none"> • On-street parking directly fronting a lot shall count toward fulfilling the parking requirement. • The number of required off-street parking spaces may be reduced by demonstrating the availability of shared parking. • Parking lots shall be located at the rear or at the side of buildings. Such lots shall be screened from the sidewalk by a masonry wall or wood fence, no less than 75% opaque, built along the property line at least three (3) feet in height. • Street trees shall be installed within four (4) feet of the property line abutting a street at no more than 40 foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet. • Adjacent parking lots shall have internal vehicular connections.

Village Development Standards

PUBLIC & CIVIC USE PROVISIONS	
Land Use	<p>Land designated as part of Public and Civic Uses may include the following:</p> <ul style="list-style-type: none"> • Parks and squares; and • Community buildings and facilities, including meeting halls, libraries, post offices, schools, day care centers, churches, civic clubs, police and/or fire substations, recycling centers, maintenance facilities, and similar uses. <p>Large scale recreational uses shall be located outside the village proper within the village conservancy.</p>
Land Allocation	<p>At least ten percent (10%) of the land area in the village proper shall be set aside for Public and Civic Areas.</p> <ul style="list-style-type: none"> • Each village proper shall contain a central civic space or "village green" of at least one (1) acre in size. The village green shall be surrounded on at least three (3) sides by Storefront and/or Townhouse Areas which may include closely spaced, detached row houses, and storefront buildings or "shops". • Each village proper shall contain a "meeting hall" located adjacent to the village green, designed and sized to accommodate a village meeting, constructed in the early stages of village development, and owned and operated by the residents of the village; e.g., the homeowners association. • The requirement of providing a "meeting hall" may be satisfied through assurances that a community center, school or church may be used for and is of sufficient size to accommodate a village meeting. • At least five percent (5%) of the land area in the village proper shall be arranged in a series of parks and squares designed to serve as focal points for residential neighborhoods, and linked together by a system of pedestrian sidewalks and avenues. Wherever possible, they shall be positioned to form "terminal vistas" at the ends of streets or along bends in the street alignment. • At least two percent (2%) of the land area in the village proper shall be designated for other permitted public and civic uses such as schools, day care centers, churches, and similar uses. <p>Land included in the village green, parks, and squares, may be counted toward satisfying the thirty-three percent (33%) open space requirement.</p>
Lots & Buildings	<p>Buildings located in Public and Civic Areas shall be subject to the same setback and height standards of uses on adjacent lots. For example, a meeting hall located adjacent to a Townhouse Area shall meet the same setback and building height standards as required for buildings in a Townhouse Area.</p>
Streets & Alleys	<ul style="list-style-type: none"> • Streets fronting on Public and Civic Area lots shall conform to the same standards as land uses across from or adjoining the lots. For example, the streets fronting a meeting hall located adjacent to a Townhouse Area shall meet the same standards as required in a Townhouse Area. • Street trees shall be installed within four (4) feet of the property line abutting a street at no more than 40 foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet.
Parking	<ul style="list-style-type: none"> • The number of parking and loading spaces shall be provided in accordance with Article 10 of the Zoning Ordinance. • No fewer than 75 percent of the parking spaces shall be located to the rear of the building being served. The remaining spaces shall be accommodated in curbside parallel spaces and/or in side parking lots screened from the street.

Village Development Standards

STOREFRONT USE PROVISIONS	
Land Use	<p>Land designated for Storefront Uses may be used for the following purposes:</p> <ul style="list-style-type: none"> • Personal service shops, including, but not limited to, barber and beauty shops, tailors, shoe repair, dry cleaners, and similar uses. • Specialized retail stores, including, but not limited to, the sale of gifts, novelties, flowers, books, antiques, jewelry, apparel, toys and crafts, stationery, and similar uses. Corner groceries, general stores, hardware stores, and drug stores are also permitted. • Restaurants, excluding fast food and/or drive-in establishments. • Business and professional offices, including, but not limited to, real estate and insurance offices, travel agencies, medical and dental offices, opticians, banks and financial institutions (excluding drive-in windows), lawyers, engineers, and similar uses. • Studios for art, dance, music, and photography. • Accessory residential apartments built over stores and offices. Where provided, at least 25 percent of the floor area shall be designated for residential use.
Land Allocation	<ul style="list-style-type: none"> • Not more than five percent (5%) of the land area in the Village Proper shall be designated for Storefront Area use. • Storefront Area lots shall have a lot frontage of 16 feet. • A maximum of five (5) lots may be combined for the purpose of constructing a single building. • Setback requirements on combined lots shall be the same as for single lots.
Lots & Buildings	<ul style="list-style-type: none"> • Buildings shall have their front facade; e.g., building wall facing the street, built to within five (5) feet of the front property line along at least 70 percent of the lot frontage. • The unbuilt portion of the lot frontage shall have a masonry wall or wood fence, no less than 75% opaque, built within five (5) feet of the property line, and at least three (3) feet in height. • Buildings shall have no setback from at least one (1) side property line except on corner lots where the side yard setback adjacent to the street shall be five (5) feet. • Building coverage may not exceed 70 percent of the lot area. • Buildings may not exceed three (3) stories in height.
Streets & Alleys	<ul style="list-style-type: none"> • Lots shall front on a street with a maximum right-of-way width of 70 feet, consisting of at least two 12-foot travel lanes, 8-foot parallel parking on both sides, and 12-foot sidewalks on both sides. • Lots shall have their rear lot lines coinciding with the right-of-way of a 24-foot alley, containing a vehicular pavement width of at least 12 feet if one-way or 16 feet if two-way. • Street trees shall be planted on both sides of the street at no more than 40-foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet. • Provision shall be made for service delivery, utility poles (if any), and trash collection at the rear lot line.
Parking	<ul style="list-style-type: none"> • The number of parking and loading spaces shall be provided in accordance with Article 10 of the Zoning Ordinance. • Not less than 75 percent of the parking spaces shall be located to the rear of the building. The remaining spaces shall be accommodated in curbside parallel spaces and in side parking lots screened from the street.

Village Development Standards

TOWNHOUSE USE PROVISIONS	
Land Use	<p>Land designated for Townhouse Uses may be used for the following purposes:</p> <ul style="list-style-type: none"> • Attached dwellings including townhouses and apartments. • Day care centers. • Bed and breakfast establishments. • Retirement centers. • Home occupations of a professional and/or office nature when located on the second floor of a permitted outbuilding. • An accessory residential apartment when located on the second floor of a permitted outbuilding.
Land Allocation	<ul style="list-style-type: none"> • Not more than five percent (5%) of the land area in the Village Proper shall be designated for Townhouse Area use. • Townhouse Area lots shall have a lot frontage of 50 feet. • A maximum of 12 lots may be combined for the purpose of constructing a single building containing apartments. • Setback requirements on combined lots shall be the same as for single lots.
Lots & Buildings	<ul style="list-style-type: none"> • When attached, townhouses shall generally not comprise more than 15 percent of the street frontage in a residential district. • Buildings shall be set back either five (5) feet or 15 feet from the front property line. • The lot frontage shall have a masonry wall, wood fence or hedge, no less than 50% opaque, built within five (5) feet of the property line, and at least three (3) feet in height. • Buildings shall have no required setback from side property lines except on corner lots where the side yard setback adjacent to the street shall be five (5) feet. • Building coverage may not exceed 70 percent of the lot area. • Buildings may not exceed three (3) stories in height. • One (1) outbuilding is permitted on each lot, provided its ground floor area does not exceed 450 square feet, it does not to exceed two (2) stories in height, and it is located within 30 feet of the rear property line and at least four (4) feet from one side property line.
Streets & Alleys	<ul style="list-style-type: none"> • Lots shall front on a street with a maximum right-of-way width of 60 feet, consisting of at least two 12-foot travel lanes, 8-foot parallel parking on both sides, and 6-foot sidewalks on both sides. • Lots shall have their rear lot lines coinciding with the right-of-way of a 24-foot alley, containing a pavement width of at least 12 feet if one-way or 16 feet if two-way. • Provision shall be made for service delivery, utility poles (if any), and trash collection at the rear lot line. • Street trees shall be planted on both sides of the street at no more than 40-foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet.
Parking	<ul style="list-style-type: none"> • The number of parking and loading spaces shall be provided in accordance with Article 10 of the Zoning Ordinance. • All off-street parking spaces shall be located to the rear of the building, with access through an alley only. On-street parking shall be provided in parallel spaces.

Village Development Standards

RESIDENTIAL USE PROVISIONS	
Land Use	<p>Land designated for Residential Uses may be used for the following purposes:</p> <ul style="list-style-type: none"> • Detached single-family dwellings. • Home occupations of a professional and/or office nature when located on the second floor of a permitted outbuilding. • An accessory residential apartment when located in a permitted outbuilding.
Land Allocation	<ul style="list-style-type: none"> • At least 40 percent of the land area in the Village Proper shall be designated for House Area use. • Densities within Residential Use areas should decrease as distance from the Village Center increases. • House Area lots shall have an average lot frontage of 75 feet. • A maximum of two (2) lots may be combined for the purpose of constructing a single building. • Setback requirements on combined lots shall be the same as for single lots.
Lots & Buildings	<ul style="list-style-type: none"> • Buildings shall be set back between 15 feet and 25 feet from the front property line. • On at least 30 percent of all Residential Use area lots, the lot frontage shall have a masonry wall, wood fence or hedge, no less than 50% opaque, built within five (5) feet of the property line, and at least three (3) feet in height. • Buildings shall be set back from the side property lines equivalent (in total) to no less than 20 percent of the lot width. The entire setback may be allocated to one side. • Buildings shall be set back no less than 30 feet from the rear property line. • Building coverage may not exceed 50 percent of the lot area. • Buildings may not exceed two (2) stories in height. • One (1) outbuilding is permitted on each lot, provided its ground floor area does not exceed 450 square feet, it does not to exceed two (2) stories in height, and it is located at least four (4) feet from one side property line. There is no setback requirement for outbuildings from the rear property line.
Streets & Alleys	<ul style="list-style-type: none"> • Lots shall front on a street with a maximum right-of-way width of 60 feet, consisting of at least two 12-foot travel lanes, 8-foot parallel parking on one side, and a 5-foot sidewalk on one side. • Lots shall have their rear lot lines coinciding with the right-of-way of a 24-foot alley, containing a vehicular pavement width of at least 12 feet if one-way; 16 feet if two-way. • Provision shall be made for service delivery, utility poles (if any) and trash collection at the rear lot line. • Street trees shall be planted on both sides of the street at no more than 40-foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet.
Parking	<ul style="list-style-type: none"> • The number of parking and loading spaces shall be provided in accordance with Article 10 of the Zoning Ordinance. • All off-street parking spaces shall be located to the side or rear of the building. When access is through the lot frontage, garages and carports shall be located a minimum of 10 feet behind the front building wall line. Front-facing garage doors shall be painted to match the color of the main house.

Village Development Standards

WORKSHOP USE PROVISIONS	
Land Use	<p>Land designated for Workshop Uses may be used for the following purposes:</p> <ul style="list-style-type: none"> • Farm service support establishments. • Building and landscaping contractors. • Establishments involved in the repair, assembly, and/or manufacture of products which require only hand or table mounted electrical tools. • Automotive service uses, including the servicing and repair of automobiles, and sale of automobile parts, but excluding body repair shop and automobile storage. • Warehousing and distribution establishments, provided all storage is conducted entirely within a building.
Land Allocation	<ul style="list-style-type: none"> • Not more than two percent (2%) of the land area in the Village Proper shall be designated for Workshop Area use. • Workshop Area lots shall be grouped together, located at the edge of the Village Proper, and be no closer than 500 feet to the Village Green. • Workshop Area lots shall have a maximum lot frontage of 150 feet. • A maximum of two (2) lots may be combined for the purpose of constructing a single building. • Setback requirements on combined lots shall be the same as for single lots.
Lots & Buildings	<ul style="list-style-type: none"> • Buildings shall not be required to provide setbacks from front or side property lines. • Workshop Area lots shall be separated from other types of use categories at the side or rear property lines (except an entry onto an alley) by a continuous masonry or wood wall of not less than 10 feet in height or by a landscaped buffer of 100 feet in width. • Building coverage may not exceed 70 percent of the lot area. • Buildings may not exceed two (2) stories in height.
Streets & Alleys	<ul style="list-style-type: none"> • Lots shall front on a street with a maximum right-of-way width of 60 feet, consisting of at least two 12-foot travel lanes, 8-foot parallel parking on one side, and 5-foot sidewalks on both sides. • Lots shall have their rear lot lines coinciding with the right-of-way of a 24-foot alley, containing a vehicular pavement width of at least 12 feet if one-way; 16 feet if two-way. • Provision shall be made for service delivery, utility poles (if any) and trash collection at the rear lot line. • Street trees shall be planted on both sides of the street at no more than 40-foot intervals. They shall be deciduous and of varieties that obtain a mature height of at least 50 feet.
Parking	<ul style="list-style-type: none"> • The number of parking and loading spaces shall be provided in accordance with Article 10 of the Zoning Ordinance. • All off-street parking spaces shall be located to the side or rear of the building. • On-street parking spaces shall be curbside, and parallel to the curb.

D.4 Street Standards

Amended
11/19/01

All streets in Flexible Developments shall conform to the standards contained in Section IV-B-3 of this Ordinance, provided, however, private roads will be permitted as follows:

- The number of lots served by a private road shall be limited as specified by the Orange County Private Road Standards in Appendix A. of this ordinance.
- Where a Flexible Development has 12 lots or less, the street system may consist of different classes of private roads provided a logical hierarchy of private roads is planned, with those of lower classification connecting to those of higher classification;
- Where a Flexible Development has more than 12 lots, the street system may consist of public streets and private roads provided:
 - ◇ The street system in the development forms a logical hierarchy of thoroughfares with streets of lower classification connecting to streets of higher classification;
 - ◇ The development contains no more than 50 lots;
 - ◇ All entrance roads serving the development are public streets;
 - ◇ All streets which stub-out at property lines to provide for the extension of or connection to future street systems are public streets; and
 - ◇ Private roads are not proposed as part of a Village (Section D.4) except in the Village Conservancy portion of the development.
- Private, dead-end roads may be terminated in a cul-de-sac or "T" turnaround. Where a "T" turnaround is used as the terminus for a private road, the dimensions (e.g., turning radius) of the "T" shall be sufficient to allow emergency service and trash collection vehicles adequate room to turn around.
- Existing street rights-of-way may not count toward the minimum thirty-three percent (33%) open space requirement. However, new street rights-of-way may be counted but only to the extent that they are required to pass through or by open space uses as defined herein to link one buildable portion of a site with another; and they are located and/or constructed so as to have no adverse impacts on Primary and Secondary Conservation Areas.

D.5 Water Supply and Sewage Disposal Facilities

Water supply and sewage disposal facilities to serve Flexible Developments may be provided through the use of:

- Individual wells and septic tanks provided either on each lot or in off-lot locations protected through recorded easements; or
- A community water and/or sewage disposal system designed, constructed, and maintained in conformity with all applicable state, federal, and local rules, regulations, and policies; or
- Connection to a water and/or sewage disposal system operated by a municipality, association, or water or sewer authority. System extensions are permitted only in accordance with applicable water and sewer, and land use policies and shall be sized only to serve the Flexible Development for which the system is extended; or
- A combination of the above alternatives.

Section E DESIGN GUIDELINES

E.1 Determining Density or Lot Yield

Amended
2/24/03

Overall density shall be based upon the minimum lot size requirements of the zoning district in which the Flexible Development is to be located and on the basis of a Conventional Subdivision or "Yield" Plan conforming to the regulations governing lot dimensions, land suitable for development, and street design. Although such plans shall be conceptual in nature and are not intended to involve significant engineering or surveying costs, they must be realistic. Potential building lots and streets must not be shown in areas that would not ordinarily be permitted in a Conventional Plan. For example, such plans would include, at minimum, basic topography, wetland locations, 100-year floodplains, and slopes exceeding 25 percent in defining areas unsuited for development.

If the residential lots are proposed to be served by septic systems, the "Yield" plan shall show soil suitability for individual septic tanks by a preliminary soil suitability analysis performed in the field on at least 50% of the proposed lots with all of the proposed lots located on a map showing the location of soil types suited for septic systems based on the Orange County, N.C. Soil Survey. The soil suitability analysis and map shall be prepared by a Soil Scientist in consultation with the Soil Scientist of the Environmental Health Division of the Orange County Health Department.

The number of lots achieved through the preparation of a Conventional Subdivision or "Yield" Plan is the number of lots which must be used in preparing the Flexible Development Plan. The number of lots may not be increased through the proposed use of an alternative or community sewage disposal system. Increases are permitted, however, at the Preliminary Plan stage where a more detailed soils analysis clearly demonstrates that a greater number of lots is achievable than shown on an approved Concept Plan.

E.2 Design Process

Flexible Development subdivisions shall be designed around both the Primary and Secondary Conservation Areas, which together constitute the total required open space. The design process should therefore commence with the delineation of all potential open space, after which potential house sites are located. Following that, access road alignments are identified, with lot lines being drawn in as the final step. This "four-step" design process is further described below.

- **Open Space Designation:** During the first step, all potential Conservation Areas, both Primary and Secondary, shall be identified using a Site Analysis Map. Primary Conservation Areas shall consist of those features described in Section B.2.b. above. Secondary Conservation Areas shall comprise at least half of the remaining land and shall include the most sensitive and noteworthy natural, scenic, and cultural resources as described in Section B.2.c. above. Guidance as to which parts of the remaining land to classify Secondary Conservation Areas shall be based upon on-site visits; and the Evaluation Criteria contained in Section F below.
- **House Site Location:** During the second step, potential house sites are tentatively located. The proposed location of houses within each lot represents a significant decision with potential impacts on the ability of the development to meet the Evaluation Criteria contained in Section F below. Generally, house sites should be located no closer than 100 feet from Primary Conservation Areas. Such sites may be situated 50 feet from Secondary Conservation Areas to permit the enjoyment of scenic views without negatively impacting Primary Conservation Areas.
- **Street and Lot Layout:** The third step consists of aligning proposed streets to provide vehicular access to each house in the most reasonable and economical manner. When lots and access streets are laid out, they shall be located in such a way that avoids or at least minimizes impacts on both Primary and Secondary Conservation Areas. To the greatest extent practical, wetland crossings and streets traversing slopes over 15 percent shall be strongly discouraged unless such streets link one buildable portion of a site with another and no other means of access is available.
- **Drawing in the Lot Lines:** The fourth step consists of drawing in lot lines around potential house sites. Each lot must contain a buildable area of sufficient size to accommodate a single-family detached dwelling and customary accessory uses, including, but not limited to, storage buildings and garages, patios and decks, lawns, and driveways. Individual wells and septic systems, where these are to be provided, may be located within the undivided conservation lands if sufficient space is not available on the lots.

Section F EVALUATION CRITERIA

Amended

10/1/03

All open space planning shall show consideration of the specific physical characteristics of the land parcel being developed, meet open space design goals and adhere to the three fundamental land characteristics of open space as set forth in Section C.2. At any given site, the types of resources may vary widely in character (e.g., a natural area compared to a historic site) and each type of resource may have areas of greater or lesser significance (e.g. a notable example of local vernacular building traditions compared to a much altered older home). Priorities for conserving such resources should therefore be based upon a thorough site analysis and an understanding of what is more special, unique, noteworthy, environmentally sensitive and/or historic as compared with other similar features of different types of resources.

In evaluating the layout of lots and open space, the following criteria will be considered as indicating design appropriate to the site's features and meeting the intent of the Flexible Development standards. Whereas diversity and originality in lot layout are encouraged, it is recognized that not all objectives may be achieved on a given site. Each applicant must therefore achieve the best possible relationship between development and preservation objectives.

F.1 General Criteria

The following criteria apply to all Flexible Development projects:

- The shape and placement of open space shall be reasonably contiguous, coherently configured, shall abut existing or potential open space on adjacent properties, and shall be supportive of stated open space goals. Open space should not be overly fragmented. Long narrow segments are discouraged except in the case of POSA's, stream or wildlife corridors, greenbelt paths, view preservation areas (aka vista or visual amenity preservation area — an area left open to allow for the public viewing of one or more natural or constructed features of high visual quality), or landscape buffers adjoining street rights-of-way and/or neighborhood boundaries.

Open space shall be connected, when applicable and reasonable, to other open space in the same project and/or to existing or potential off-site open space or pedestrian paths in land parcels adjacent to the Flexible Development area.

- The pedestrian circulation system shall be designed to ensure that pedestrians can walk safely and easily on the site, between properties and activities or special features within the neighborhood open space system. Roadside footpaths and off road trails shall connect with each other and link with existing or potential open space on adjoining parcels.
- Protect and preserve all wetlands, floodplains and steep slopes from clearing, grading, filling or construction except as may be approved by the Board of County Commissioners.
- All landscape plantings used within open space and other common areas (i.e. neighborhood greens), cul-de-sac islands, and along sides of new streets shall be only native specie shade trees and flowering shrubs with high wildlife conservation value.

F.2 Forest Land/Natural Areas Conservation

Where the goal of the Flexible Development project is to conserve forest land and/or natural areas and wildlife habitats, the following criteria apply:

- Dwellings should be located in unwooded parts of the site away from mature forests, natural areas, and/or wildlife corridors.
- When any woodland is developed, care shall be taken to locate buildings, streets, yards, and septic disposal fields to avoid mature forests, natural areas, and/or wildlife corridors.
- To the greatest extent practicable, development should be designed around existing hedgerows and treelines between fields or meadows. The impact on larger woodlands (greater than five acres), especially those containing mature trees, natural areas, and/or wildlife corridors, should be minimized.

F.3 Farmland Conservation

Where the goal of the Flexible Development project is to conserve farmland, the following criteria apply:

- Locate building lots in forested areas away from existing pastures, cropland, feedlots, and similar uses.
- If development must be located on open fields or pastures because of greater constraints on other parts of the site, dwellings should be sited in locations at the far edge of a field, as seen from a public road.
- Identify the most productive portions of existing fields, pastures, and cropland, and locate building lots on less productive land.
- Provide buffers of at least 75 feet in width between building lots and cropland and pastures to reduce the potential for conflict between residents and farming activities.

F.4 Conservation of Scenic Views

Where the goal of the Flexible Development project is to conserve scenic views, the following criteria apply:

- Leave scenic views and vistas unblocked or uninterrupted, particularly as seen from public roadways. Consider "no-build, no-plant" buffers along public roadways where views or vistas are prominent or locally significant. In wooded areas where enclosure is a feature to be maintained, consider a "no-build, no-cut" buffer created through the preservation of existing vegetation.
- Where development is located in unwooded areas clearly visible from existing public roads, it should be buffered from direct view by a vegetative buffer or an earth berm constructed to reflect the topography of the surrounding area.
- Protect rural roadside character and scenic views by providing larger lots (e.g., two acres or more) adjacent to existing public roads.
- Protect rural roadside character and vehicular carrying capacity by avoiding development fronting on existing public roads; e.g., limiting access to all lots from interior rather than exterior roads.
- Unless buildings can be effectively screened or buffered with trees, avoid siting new construction on or close to prominent hilltops or ridges where rooflines are seen above the horizon.

F.5 Historic and Archaeological Features

Where the goal of the Flexible Development project is to conserve historic and archaeological sites and structures, the following criteria apply:

- Design around and preserve sites of historic, archaeological or cultural value so as to safeguard the character of the feature(s), including fences and walls, farm outbuildings, burial grounds, abandoned roads, and earthworks.
- New streets, driveways, fences, and utilities must be sited so as not to intrude unnecessarily on rural, historic landscapes. Wherever possible, streets and driveways are to follow existing hedgerows, fence lines, and historic farm drives.
- New developments must include plantings which incorporate native species and historic landscape materials so as to harmonize with the character of the area.
- Building designs and styles used in new construction should be compatible with the architectural style of historic buildings located on or adjacent to the site, especially in terms of scale, height, roof shape, and exterior materials.

F.6 Recreation Provision

Where the goal of the Flexible Development project is to provide recreation and parks facilities for neighborhood residents and/or the general public, the guidelines contained in Section IV-B-7-B shall apply.

Section G DENSITY BONUSES

The maximum number of building lots or dwelling units in a Flexible Development shall not exceed the number that could otherwise be developed by the application of the minimum lot size requirement and/or density standard of the zoning district or districts in which the parcel is located. However, increases in the number of building lots or dwelling units are permitted through one or more of the following options:

G.1 To Encourage Additional Open Space

A density increase is permitted where more than thirty-three percent (33%) of the total land area in the Flexible Development is set aside as protected open space. The amount of the density increase shall be based on the following standard:

For each additional acre of protected open space provided in the Flexible Development, one (1) additional building lot or dwelling unit is permitted.

In lieu of providing additional open space in the Flexible Development, the applicant may purchase in fee simple or less than fee (e.g., development rights) land separate from the Flexible Development which is comprised of Primary and/or Secondary Conservation Areas as defined in Section B.2. The amount of the density increase shall be based on the following standards:

For each five (5) acres of Primary Conservation Area preserved off-site, one (1) additional building lot or dwelling unit is permitted.

For each two (2) acres of Secondary Conservation Area preserved off-site in areas which require a two-acre minimum lot size, one (1) additional building lot or dwelling unit is permitted.

For each one (1) acre of Secondary Conservation Area preserved off-site in areas which require a one-acre minimum lot size, one (1) additional building lot or dwelling unit is permitted.

Land purchased in fee may be dedicated to Orange County. For land purchased in less than fee, a conservation easement shall be recorded which restricts the development potential of the land. The conservation easement shall be dedicated to Orange County.

G.2 To Encourage Affordable Housing

A density increase is permitted pursuant to Article 6.28 of the Orange County Zoning Ordinance where the Flexible Development provides on-site or off-site housing opportunities for low or moderate-income families.

G.3 Location of Open Space Bonus Units

Density increases as permitted above to encourage additional open space are limited to Flexible Developments proposed in the following locations:

- Within Transition Areas as designated in the Land Use Element of the Comprehensive Plan. Within such areas, the maximum permitted density is two and one-half (2.5) dwelling units per acre unless the applicant obtains approval of a zoning district classification which permits a higher density.
- Outside of Transition Areas but within an area designated for service by a utility provider as part of an adopted long-range water and/or sewer extension plan. Within such areas, the maximum permitted density is one and one-third (1.3) dwelling units per acre.
- Outside of Transition Areas but within three-fourths (3/4) of a mile of an interstate corridor or a major thoroughfare designated as a high occupancy vehicle (HOV)/busway route as part of an adopted regional transit plan. Within such areas, the maximum permitted density is two and one-half (2.5) dwelling units per acre.
- Outside of Transition Areas but within one-half (1/2) mile of a transit station designated as part of an adopted regional transit plan. Within such areas, the maximum permitted density is five (5) dwelling units per acre.

Within these locations, public water and sewer service may be extended, provided the applicant can demonstrate that such service is necessary to serve the density increases achieved through the use of the bonus option(s) described above.

Section H ANNUAL REPORT

A report shall be made to the Board of County Commissioners each year showing the number of major subdivisions submitted for Concept Plan approval under these standards, including, but not limited to, a description of the conventional and Flexible Development plans submitted, and the subdivision plan chosen for submission for Preliminary Plan approval. The report shall also include an evaluation of these standards, including their effectiveness in achieving the stated purpose of preserving agricultural and forestry lands, natural and cultural features, and rural community character.

The Board of County Commissioners shall review the report to determine if these standards are achieving the stated purpose, and, if it determines that adjustments and/or changes are required, then it shall direct the County Manager and staff to prepare a report which outlines recommended changes for its consideration.

***IV-B-11**

*Amended

1/8/90

WETLANDS

If a developer, corporation, private landowner or other person proposes to perform construction/filling activities in or near a lake, stream, creek, tributary or any unnamed body of water and its adjacent wetlands, Federal permit authorization may be required by the U.S. Army Corps of Engineers prior to commencement of earth-disturbing activities. Filling activities include, but are not limited to, construction of road crossings, sewer or utility line installations, grading, placement of spoil from ditching or other excavations, or placement of fill for commercial or residential development.

A wetlands determination and specific permit requirements may be obtained from the Raleigh Field Office of the U.S. Army Corps of Engineers.

IV-B-12. SCHOOL ADEQUATE PUBLIC FACILITIES

Amended
6/26/03

IV-B-12-a. Purpose

The purpose of this Section is to ensure that, to the maximum extent practical, approval of new residential development will become effective only when it can reasonably be expected that adequate public school facilities will be available to accommodate such new development.

IV-B-12-b. Applicability

The provisions of this Section shall apply to the following areas: The entirety of the County lying outside of the municipalities therein, outside of the extraterritorial planning jurisdiction, if any, of the municipalities therein and also outside of the Joint Planning Area Transition Area, if any, of the municipalities therein.

The Chapel Hill-Carrboro School District and the Orange County School District are each declared an overlay district in order to implement Schools Adequate Public Facilities as prescribed in this Article. Within the Chapel Hill-Carrboro School District Overlay District and within the Orange County School District Overlay District, the provisions of this Article apply.

IV-B-12-c. Administration

IV-B-12-c1. Certificate of Adequacy of Public School Facilities

(a) Subject to the remaining provisions of this Section, no approval of a major subdivision preliminary plat or a minor subdivision final plat for a residential development shall become effective unless and until a Certificate of Adequacy of Public School Facilities (CAPS) for the project has been issued by the School District.

(b) A CAPS shall not be required for a general use or special use rezoning or for a master land use plan. However, even if a rezoning or master plan is approved, a CAPS will nevertheless be required before any of the permits or approvals identified in subsection (a) of this section shall become effective, and the rezoning of the property or approval of a master plan provides no indication as to whether the CAPS will be issued. The application for rezoning or master plan approval shall contain a statement to this effect.

(c) A CAPS must be obtained from the School District. The School District will issue or deny a CAPS in accordance with the provisions of the Schools Adequate Public Facilities Memorandum of Understanding, as to the Chapel Hill-Carrboro School District, between Carrboro, Chapel Hill, Orange County, and the Chapel Hill-Carrboro City Board of Education and as to the Orange County School District, between Hillsborough, Orange County and the Orange County Board of Education. These Memoranda of Understanding are hereafter referred to as "the MOUs" or "the MOU" as the context requires.

(d) A CAPS attaches to the land in the same way that development permission attaches to the land. A CAPS may be transferred along with other interests in the property with respect to which such CAPS is issued, but may not be severed or transferred separately.

IV-B-12-c2. Service Levels

(a) This Section describes the service levels regarded as adequate by the parties to the MOUs with respect to public school facilities.

(b) As provided in the MOUs, adequate service levels for public schools shall be deemed to exist with respect to a proposed new residential development if, given the number of school age children projected to reside in that development, and considering all the factors listed in the MOU, projected school membership for the elementary schools, the middle schools, and the high schools within the School District will not exceed the following percentages of the building capacities of each of the following three school levels:

elementary school level	<u>105%</u>
middle school level	<u>107%</u>
high school level	<u>110%</u>

For the period of time beginning the effective date of this Section and terminating on the day on which the third high school within the Chapel Hill-Carrboro School District is first attended by high school students, the determination by the Chapel Hill-Carrboro School District that adequate service levels for public schools exist shall be made without regard to whether or not projected capacity of the High School level exceeds 110% of Building Capacity. On and after the day on which the third high school within the Chapel Hill-Carrboro School District is first attended by high school students, determination by the Chapel Hill-Carrboro School District that adequate service levels for public schools exist shall be made only if projected capacity of each school level does not exceed the following:

Elementary School	105% of Building Capacity
Middle School	107% of Building Capacity
High School	110% of Building Capacity

For the period of time beginning the effective date of this Section and terminating on the day on which the third middle school within the Orange County School District is first attended by middle school students, the determination by the Orange County School District that adequate service levels for public schools exist shall be made without regard to whether or not projected capacity of the Middle School level exceeds 107% of Building Capacity. On and after the day on which the third middle school within the Orange County School District is first attended by middle school students, determination by the Orange County School District that adequate service levels for public schools exist shall be made only if projected capacity of each school level does not exceed the following:

Elementary School	105% of Building Capacity
Middle School	107% of Building Capacity
High School	110% of Building Capacity

For purposes of this Section, the terms "building capacity" and "school membership" shall have the same meaning attributed in the MOUs.

IV-B-12.c3. Expiration of Certificates of Adequacy of Public School Facilities

A CAPS issued in connection with approval of a subdivision preliminary plat or a minor subdivision final plat shall expire automatically upon the expiration of such permit approval.

IV-B-12-c4. Exemption From Certification Requirement for Development with Negligible Student Generation Rates

In recognition of the fact that some new development will have a negligible impact on school capacity, a CAPS shall not be required under the following circumstances:

- (1) For residential developments restricted by law and/or covenant for a period of at least thirty years to housing for the elderly and/or adult care living and/or adult special needs;
- (2) For residential developments restricted for a period of at least thirty years to dormitory housing for university students.

If the use of a development restricted as provided above changes, then before a permit authorizing such change of use becomes effective, a CAPS must be issued just as if the development were being constructed initially.

IV-B-12-c5. Applicability to Previously Approved Projects and Projects Pending Approval

(a) Except as otherwise provided herein, the provisions of this ordinance shall only apply to applications for approval of major subdivision preliminary plats or minor subdivision final plats that are submitted for approval after the effective date of this Section.

(b) The provisions of this Section shall not apply to amendments to major subdivision preliminary plats or minor subdivision final plats issued prior to the effective date of this Section so long as the approvals have not expired and the proposed amendments do not increase the number of dwelling units authorized within the development by more than five percent or five dwelling units, whichever is less.

(c) The Board of County Commissioners shall issue a special exception to the CAPS requirement to an applicant whose application for approval of a major subdivision preliminary plat covers property within a planned unit development or master plan project that was approved prior to the effective date of this Section, if the Board of County Commissioners finds, after an evidentiary hearing, that the applicant has (1) applied to the School District for a CAPS and the application has been denied, (2) in good faith made substantial expenditures or incurred substantial binding obligations in reasonable reliance on the previously obtained planned unit development or master plan approval, and (3) would be unreasonably prejudiced if development in accordance with the previously approved development or plan is delayed due to the provisions of this Section. In deciding whether these findings can be made, the Board of County Commissioners shall consider the following, among other relevant factors:

- (1) Whether the developer has installed streets, utilities, or other facilities or expended substantial sums in the planning and preparation for installation of such facilities which were designed to serve or to be paid for in part by the development of portions of the planned unit development or master planned project that have not yet been approved for construction;
- (2) Whether the developer has installed streets, utilities, or other facilities or expended substantial sums in the planning and preparation for installation of such facilities that directly benefit other properties outside the development in question or the general public;
- (3) Whether the developer has donated land to the School District for the construction of school facilities or otherwise dedicated land or made improvements deemed to benefit the School District and its public school system;
- (4) Whether the developer has had development approval for a substantial amount of time and has in good faith worked to timely implement the plan in reasonable reliance on the previously obtained approval;
- (5) The duration of the delay that will occur until public school facilities are improved or exist to such an extent that a CAPS can be issued for the project, and the effect of such delay on the development and the developer.

(d) The decision of the Board of County Commissioners involving a special exception application under subsection (c) is subject to review by the Orange County Superior Court by proceedings in the nature of certiorari. Any petition for review by the Superior Court shall be filed with the Clerk of Superior Court within 30 days after a written copy of the decision of the Board of County Commissioners is delivered to the applicant and every other party who has filed a written request for such copy with the Clerk to the Board of County Commissioners at the time of its hearing on the application for a special exception. The written copy of the decision of the Board of County Commissioners may be delivered either by personal service or by certified mail, return receipt requested.

(e) The Chair of the Board of County Commissioners or any member temporarily acting as Chair may, in his or her official capacity, administer oaths to witnesses in any hearing before the Board of County Commissioners concerning a special exception or an appeal of School District denial of a CAPS.

IV-B-12-c6. Appeal of School District Denial of a CAPS

The applicant for a CAPS which is denied by the School District may, within 30 days of the date of the denial, appeal the denial to the Board of County Commissioners. Any such appeal shall be heard by the Board of County Commissioners at an evidentiary hearing before it. At this hearing the School District will present its reasons for the denial of the CAPS and the evidence it relied on in denying the CAPS. The applicant appealing the denial may present its reasons why the CAPS application should have, in its view, been approved and the evidentiary basis it contends supports approval. The Board of County Commissioners may (1) affirm the decision of the School District, (2) remand to the School District for further proceedings in the event evidence is presented at the hearing before the Board of County Commissioners not brought before the School District, or (3) issue a CAPS. The Board of County Commissioners will only issue a CAPS if it finds that the CAPS should have been issued by the School District as prescribed in the MOU. A decision of the Board of County Commissioners affirming the School District may be appealed by the applicant for a CAPS by proceedings in the nature of certiorari and as prescribed for an appeal under Subsections IV-B-12-c5(d) and IV-B-12-c5(e) of this section.

IV-B-12-c7. Information Required From Applicants

The applicant for a CAPS shall submit to the School District all information reasonably deemed necessary by the School District to determine whether a CAPS should be issued under the provisions of the MOU. An applicant for a CAPS special exception or an applicant appealing a CAPS denial by the School District shall submit to the Board of County Commissioners all information reasonably deemed necessary by the Board of County Commissioners to determine whether a special exception should be granted as provided in Subsection IV-B-12-c5 or for the hearing of an appeal of a School District denial of a CAPS as provided in Subsection IV-B-12-c6. A copy of a request for a CAPS special exception or of an appeal of a School District denial of a CAPS shall be served on the superintendent of the School District. Service may be made by personal delivery or certified mail, return receipt requested.

***IV-C.**

*Amended
10/2/89

Interim Development Standards

For the purpose of restricting further development in an area where land use plans are being prepared for the preservation of natural resources, such as water supplies, and/or development standards are being considered with which to implement such plans, interim development standards may be established which permit development to proceed which is in accord with the contemplated plans and/or standards. Except as provided herein, the establishment of interim development standards shall be governed by the procedures contained in Section VII-D of this Ordinance.

***IV-C-1.**

*Amended
10/2/89

Form and Content - Interim Development Standards

Interim development standards enacted pursuant to this section shall be temporary measures established in accordance with the following criteria:

- a. The standards shall be in effect only for the period of time necessary to achieve the purposes of the contemplated plan and/or its implementing mechanisms;
- b. The standards shall limit development to the type that would be permitted under the existing standards contained in this Ordinance and/or to that which is in accord with the contemplated plan or its implementing mechanisms;
- c. The standards may be in effect only in the area affected by the contemplated plan and/or in which its implementing mechanisms will apply; and
- d. The standards may limit the nature and type of development applications and projects which are approved throughout the duration of the standards.

***IV-C-2.**

*Amended
10/2/89
2/5/90
4/2/90
9/3/91

Interim Development Standards Approved

The following interim development standards have been enacted and shall remain in full force and effect until the termination date specified herein. Thereafter, the standards are void and of no effect.

- a. University Lake Watershed
 1. Area Affected - These standards shall apply to the University Lake watershed.
 2. Nature and Duration of Standards - The following interim development standards shall apply:

- a) Community alternative treatment and disposal systems as well as public water and sewer service will not be permitted in the University Lake watershed except
 - (1) to address a public health emergency as determined by the Orange County Health Department or
 - (2) when a valid written service agreement for public water and/or sewer existed prior to April 3, 1989, and is one in which a municipality (including Orange County) or a water/sewer authority is a party and is the water/sewer provider.
- b) By April 30, 1991, studies will be conducted to determine the advisability of making public water and sewer services available within the watershed. In addition, a pilot program for monitoring and inspecting alternative treatment and disposal systems as operated by the Orange County Health Department will be evaluated to determine the advisability of permitting such systems in the watershed.
- c) Following receipt and review of the above mentioned studies, a decision will be made regarding the use of alternative treatment and disposal systems and the availability of public water and sewer services in the watershed.