

Article Twelve (12) – Landscape and Buffer Requirements:  
**Proposed new regulations becoming Section 50-112 of the UDO**

<p>SECTION 50-112</p> <p><i>New language</i></p>	<p><b>Landscaping and Buffer Regulations – In General</b></p> <p>Standards put forward in this Article provide for the protection of trees and prescribe standards for landscaping and buffering through the preservation of existing vegetation, installation, and maintenance of new vegetation and other landscape features.</p>
<p>SECTION 50-112 (a)</p> <p><i>Section 12.1 of the current zoning ordinance</i></p> <p><i>Existing language is being deleted and replaced with the text in red.</i></p>	<p><b>Intent:</b></p> <p><u>The intent of the County’s landscape and buffer regulations is to encourage the preservation of open space and existing vegetation by promoting an appropriate balance between the built environment and natural environmental resources as well as engage in tree protection. These landscaping and buffer requirements are established to:</u></p> <ol style="list-style-type: none"> <li>1. <u>Promote the public health, safety and welfare by</u> <ol style="list-style-type: none"> <li>a. <u>Providing important physical, aesthetic, recreation and economic assets to existing and future residents of Orange County; and</u></li> <li>b. <u>Reducing the impacts of adjacent incompatible land uses through visual screening.</u></li> </ol> </li> <li>2. <u>Protect significant on-site natural features by preserving existing vegetation and requiring additional plantings where necessary to meet the minimum requirements set forth in this Article as well as preventing damage from erosion, siltation and flooding, also protecting wildlife habitats.</u></li> <li>3. <u>Protect water quality by:</u> <ol style="list-style-type: none"> <li>a. <u>Promoting water conservation/efficiency through preserving natural areas, encouraging good soil management, and encouraging the use of native, non-invasive, drought tolerant plant materials, and</u></li> <li>b. <u>Minimizing the use of potable water sources for surface irrigation purposes,</u></li> <li>c. <u>Encouraging retention of plant debris on site, and</u></li> <li>d. <u>Enhancing on-site water infiltration.</u></li> </ol> </li> <li>4. <u>Preserve or restore site sustainability through the provision of ecosystem services through:</u> <ol style="list-style-type: none"> <li>a. <u>Allowing the ecological benefits that live plant materials can provide, including but not limited to reduced soil erosion and sedimentation, increased soil retention, reduced stormwater runoff, storing and providing water within watersheds and aquifers, carbon sequestration, improved air quality, and improved wildlife habitats;</u></li> <li>b. <u>Absorbing pollutants, filtering impurities, breaking down waste materials, cycling nutrients, filtering storm runoff waters, reducing flood damage vulnerability, and adding oxygen to the atmosphere;</u></li> <li>c. <u>Regulating local temperature, precipitation, and humidity through</u></li> </ol> </li> </ol>

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shading, evapo-transpiration, windbreaks, and absorption/reflection of solar radiation;

- d. Providing pollinator species for reproduction of crops and other plants;
- e. Providing refuge and reproduction habitat to plants and animals;
- f. Reducing noise pollution, air pollution, visual pollution, air temperature extremes, soil erosion, and glare,

5. Landscape and restore areas to achieve the highest and best use for conservation by:

- a. Improving the appearance of vehicular use areas and property abutting public rights-of-way;
- b. Requiring screening between non-compatible land uses; and
- c. Protecting, preserving and promoting the visual appeal, character and value of the surrounding neighborhood and properties;

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SECTION 50-112 (b)

*This is a new regulation that incorporates existing regulations found in Section 12.2 of the current zoning ordinance.*

**Applicability**

1. In every land development, provision shall be made for the protection, preservation, proper installation, maintenance and management, and use of trees and woodlands located within the jurisdiction of Orange County. The landscaping and buffering standards of this section shall apply to all proposed land development for which a building permit, for an activity disturbing more than 10,000 square feet of land surface, site plan, or preliminary plat approval is required with the exception of single-family detached dwellings and duplexes.
2. 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 and Inspections Department personnel and is not to include any known invasive plant materials listing-
3. No new site development, building, structure or vehicular use area shall hereafter be erected, constructed or used unless minimum landscaping and screening is provided, as required by the provisions of this Article.
4. No building, structure, or vehicular use area shall be expanded unless the minimum landscaping and tree protection required by this Article is provided for the property to the extent of its alteration or expansion.
5. Trees destroyed by wildfire, disease, or wind, and the subsequent removal or pruning of such trees does not constitute a violation of this regulation.

SECTION 50-112 (c)

*Section 12.2.1 of the current zoning ordinance*

**Protection of Existing Vegetation**

On any land for which application for site plan or 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.

<p>SECTION 50-112 (d)</p> <p><i>Section 12.2.2 of the current zoning ordinance.</i></p> <p><i>We are proposing the elimination of 'primary' and 'secondary' protection areas. Staff thinks that a protection area ought to be just that and not be further marginalized as the current Ordinance does.</i></p>	<p><b><u>Designation of Tree Protection Areas</u></b></p> <p>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, <del>as measured four and one half (4.5) feet above ground level</del> <b>dbh</b>, shall not be cut, damaged or destroyed within a secondary tree protection area. <del>as defined as follows:</del></p> <p>(a) <del>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. If no side and/or rear setbacks are required, the Primary Tree Protection Area shall be ten (10) feet in width.</del></p> <p>(b) <del>Secondary Tree Protection Area. Any portion of a lot not included within the Primary Tree Protection Area.</del></p>
<p>SECTION 50-112 (e)</p> <p><i>Section 12.2.3 of the current zoning ordinance</i></p>	<p><b><u>Exceptions</u></b></p> <p>Upon site plan <b>or subdivision</b> approval trees may be removed only from designated vehicular <b>street rights-of-way</b>, surface areas and utility and/or storm water drainage easements.</p> <p>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:</p> <p>(a) Necessity to remove trees in order to survey existing and/or proposed property lines and easements;</p> <p>(b) Necessity to remove diseased trees or trees weakened by age, storm, fire, or other injury;</p> <p>(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</p> <p>(d) Necessity to observe good forestry practices, i.e., the number of healthy trees that a given parcel of land will support.</p> <p>All applicable exceptions to tree protection must be listed on the required landscape plan <b>for the critical to modify the tree protection, buffer, and landscape standards.</b></p>

<p>SECTION 50-112 (f)</p> <p><i>Section 12.2.4 of the current zoning ordinance. Staff has re-worked the provisions of this Article. The regulations have not changes but the wording and flow of the section have been modified.</i></p> <p><i>Staff changes are in red.</i></p>	<p><b><u>Protective Measures</u></b></p> <p>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 <b>or erosion control fencing</b>, shall be installed prior to any grading, construction traffic or activity taking place <b>in the critical root zone of</b> <del>near</del> trees to be retained. <b>Logging mats shall be used in areas where critical root zones may be disturbed during construction. Signs shall be posted identifying the tree protection areas and shall state the area is not to be disturbed.</b> Such protective devices shall effectively protect the <b>critical root zones</b> <del>roots</del>, trunks, and tops of trees to be retained and shall be maintained until all work has been completed.</p> <p>Construction traffic, storage of vehicles and materials, <b>soil compaction, filing</b>, and grading shall not take place within the drip line of trees to be <b>preserved</b>. 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 <b>preserved</b> trees shall be allowed.</p> <p>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:</p> <ol style="list-style-type: none"> <li>(1) Avoid cut and fill around the entire circumference of the trunk of the tree;</li> <li>(2) Root prune a tree several months prior to any cuts within the <b>critical root zone</b>;</li> <li>(3) Prune tree limbs in an amount, which reflects the area of the roots to be severed, but in no case allow pruning to exceed twenty-five (25) percent of the tree crown. Fertilize, <b>if necessary</b> and water the undisturbed root area of the tree;</li> <li>(4) <b>Trees that are marked for preservation and for which utilities must pass through their critical root zones shall not have surface-dug trenches and shall not disturb more than ten (10) percent of the root zone of any tree.</b></li> <li>(5) <b>Utilities shall be bored through critical root zone areas. Shared utility easements or trenches are encouraged.</b></li> </ol>
<p>SECTION 50-112 (g)</p> <p><i>Section 12.3 of the current zoning ordinance. Staff has re-worked the provisions of this</i></p>	<p><b><u>Plan Review and Approval</u></b></p> <p>Whenever land development <b>or subdivision</b> approval is required, the property owner or developer shall submit a <b>Landscape and Tree Preservation</b> Plan for review and approval by the Planning Director. The Director shall follow the requirements of this Article in approving or disapproving any Plan required herein. The plan shall be approved prior to clearing, grading, or construction.</p>

*Article. The regulations have not changes but the wording and flow of the section have been modified.*

*Staff changes are in red.*

1. The contents of the Plan shall include the following:
  - a. The dimensions and acreage of each lot or plot or portion thereof to be built upon or otherwise used;
  - b. The layout of the entire project, its relationship to surrounding properties, including the proposed uses of all buildings, utilities, **septic tank, drain field and replacement field, well location,** overhead and underground where known, storm drainage and refuse storage facilities;
  - c. The location and dimensions of present and proposed streets and highways, the layout of all off-street parking and loading areas, including the location of entry and exit points, the internal vehicular circulation pattern and the location and dimension of required parking and loading spaces;
  - d. Natural features such as streams, water bodies, rock outcroppings, etc.;
  - e. The location, species, and size of all existing plant materials to be retained;
  - f. Proposed plantings to meet Ordinance requirements labeled according to species (common name), spacing, and size;
  - g. The location of walls, berms, fences and railings and an indication of their height and construction materials; ~~and~~
  - h. **Title; north; scale; names of owner, developer, and person responsible for plan preparation; and the date that the plan was drawn or subsequently revised.**
  - i. **Location of existing trees with a dbh greater than four (4) inches and designate trees to be protected during all construction activities and the method of protection.**
  - j. **Primary tree protection and critical root zone areas of all trees not disturbed, and**
  - k. **If appropriate, storage areas for construction vehicles and materials, including stockpiled soil and gravel.**
  - l. **The plan shall contain at least three (3) of the following items:**
    - i. **A prohibition on the use of potable water for landscape irrigation,**
    - ii. **Design and installation of a rainwater harvesting and storage system, which collects water from all roofed, impervious,**

	<p>and pervious surfaces and is used to irrigate lawn and landscaped areas,</p> <ul style="list-style-type: none"> <li>iii. Alternative irrigation systems, used separately or in combination; low-volume, non-spray, or zoned irrigation, weather-based controls with moisture sensors, or computer-based weather records <b>or</b> have drought tolerant, native or regionally appropriate turf areas that do not represent more than forty (40) percent of the non-impervious lot area,</li> <li>iv. A plan to recycle all on-site tree trimmings from prunings or trees destroyed during construction.</li> <li>v. A plan sealed by a registered landscape architect.</li> <li>vi. An integrated pest management plan.</li> </ul> <ul style="list-style-type: none"> <li>m. If exterior landscape lighting is proposed, a detailed lighting plan is required.</li> <li>n. The plan shall describe how areas disturbed during construction are to be restored. Such efforts should be phased to coincide with the establishment of final grades to minimize erosion.</li> </ul> <p>2. The plan shall be posted on the job site and reviewed with all contractors. A sign shall be posted on the property stating that, "This site is subject to a Landscape and Tree Preservation Plan. Please call the Orange County Planning Department at 245 2575 if you have any questions or concerns." A copy of the Landscape and Tree Preservation Plan shall be posted at all times on the construction site. The builder and all members of the builder's team and all subcontractors shall know and understand the Plan. The on-site supervisor shall provide a record of such basic training regarding the Plan.</p> <p>3. No building or erosion control permit shall be issued until the required landscaping plan has been submitted and approved. No certificate of occupancy shall be issued until the Zoning Officer completes the landscaping and buffering, unless a performance bond, letter of credit, or escrow agreement as a guarantee of improvements has been posted.</p> <p>4. When a site plan <u>or subdivision</u> involves approval by the Board of County Commissioners or Board of Adjustment, neither a building permit nor a certificate of occupancy shall be issued until such approval has been granted. In the event that there are conflicting requirements within this Article, the more restrictive shall apply. If any of the requirements contained in this Article are applicable to a Special Use, the requirements must be included in the site plan.</p> <p>5. 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 one hundred ten (110) percent of the estimate.</p>
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<p>SECTION 50-112 (h)</p> <p><i>Section 12.4 of the current zoning ordinance</i></p>	<p><b><u>Landscaping Standards</u></b></p> <p>Where construction is proposed either on unforested land or trees have been approved for removal under one or more of the exceptions listed in <a href="#">50-112 (e)</a> <del>12.2.3</del>, new trees shall be planted in accordance with the provisions of this Section.</p>
<p>SECTION 50-112 (i)</p> <p><i>Section 12.4.1 of the current zoning ordinance</i></p>	<p><b><u>Required Landscaping</u></b></p> <p>1. Along Street Frontage</p> <p>(a) As a requirement of site plan <a href="#">or subdivision</a> approval, the applicant shall plant trees along the frontage of the lot(s) to be developed. 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 <del>large</del> <a href="#">canopy</a> trees and twenty-five (25) feet for <del>small</del> <a href="#">understory</a> trees. Each lot must have one (1) <del>large</del> <a href="#">canopy</a> 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 <del>large</del> <a href="#">canopy</a> tree) is determined by dividing the remaining frontage by the value(s) assigned to tree types selected for planting by the developer.</p> <p>For example, where a Land Use Buffer is not required, the number of trees required on a lot having a frontage of 130 feet would be calculated as follows:</p> <p style="text-align: right;">TOTAL LOT FRONTAGE: 130 feet</p> <p style="text-align: right;"><u>LESS: VALUE OF REQUIRED <del>LARGE</del> <a href="#">CANOPY</a> TREE 40 feet</u></p> <p style="text-align: right;">EQUALS: REMAINING LOT FRONTAGE 90 feet</p> <p><u>OPTION #1: ALL <del>SMALL</del> <a href="#">UNDERSTORY</a> TREES</u>  90 feet divided by 25 feet (value for small tree) = 3.6 or 4 trees.  Total # of required trees = 4 <del>small</del> <a href="#">understory</a> trees  + 1 <del>large</del> <a href="#">canopy</a> tree</p> <p><u>OPTION #2: ALL <del>LARGE</del> <a href="#">CANOPY</a> TREES</u>  90 feet divided by 40 feet (value for <del>large</del> <a href="#">canopy</a> tree) = 2.3 or 2 trees.  Total # of required trees = 3 <del>large</del> <a href="#">canopy</a> trees</p> <p><u>OPTION #3: COMBINATION/<del>LARGE</del> <a href="#">CANOPY</a> &amp; <del>SMALL</del> <a href="#">UNDERSTORY</a> TREES</u>  90 feet-40 feet (1 <del>lg.</del> <a href="#">canopy</a> tree)=50 feet</p>

50 feet divided by 25 feet = 2 ~~small~~ understory trees  
 Total # of required trees = 2 ~~large~~ canopy trees  
 2 ~~small~~ understory trees

- (b) 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. Where possible, the number of trees determined from the equations above are encouraged to be planted in a more natural pattern.
- (c) 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 herein. Other suitable alternates may be used if approved by the Planning and Inspections Department.
- (d) At least seventy-five (75) percent of the total required landscape materials shall be drought-tolerant, non-invasive species, native to the Carolina Piedmont Region.
- (e) When planting standards call for more than ten (10) trees on a site, a mix of different species shall be required as follows:

Total Trees Planted on Site	Minimum Number of Species Required	Maximum Percentage of Any One Species
Ten or Fewer Trees	2	50%
11 to 20 Trees	4	40%
21 to 40 Trees	5	35%
41 to 80 Trees	6	30%
81 and Over Trees	8	20%
Total Shrubs Planted on Site	Minimum Number of Species Required	Maximum Percentage of Any One Species
Ten or Fewer Shrubs	4	40%
11 to 20 Shrubs	5	35%
21 to 40 Shrubs	7	30%
41 to 80 Shrubs	8	25%
81 and Over Shrubs	10	20%

(2) Lot Perimeter

- (a) Where a Land Use Buffer is not required, a landscape area ten (10) feet in width exclusive of drainage and/or utility easements shall be provided along the interior of side and rear lot lines of each lot being developed. If the existing trees are not sufficient, the applicant shall provide a minimum of one (1) tree per one thousand (1,000) square feet of land contained within the ten-(10) foot landscape area.
- (b) Trees to be planted within recreation and open space areas, and side and rear yard landscape areas shall be installed to reflect the

	<p>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 <del>Tables 12.1, 12.2, and 12.3</del>. Other suitable alternates may be used if approved by the Planning and Inspections Department.</p> <p>(c) When buffers, as required by <del>Article 12.6</del> <b>Section 50-112 (n)</b>, or approved utility and drainage easements overlap or cross the ten-(10) foot landscape areas or recreation and open space areas, those overlap areas shall be exempted from computing the number of required trees to be installed in the side and rear landscape areas.</p> <p><i>(STAFF COMMENT: These provisions were moved to the new parking regulations, specifically Section 50-111 (m) of the proposed UDO)</i></p> <p>(b) ▼</p>
<p>SECTION 50-112 (j)</p> <p><i>Section 12.4.2 of the current zoning ordinance</i></p>	<p><i>(STAFF COMMENT: These provisions were moved to the new parking regulations, specifically Section 50-111 (m) of the proposed UDO)</i></p>
<p>SECTION 50-112 (j)</p> <p><i>Section 12.4.3 of the current zoning ordinance</i></p>	<p><b><u>Additional Requirements</u></b></p> <p>a. Plantings as required by this ordinance shall not be located in drainage, access or utility easements, under overhead power lines or in sight triangles as described <b>herein</b>.</p> <p>b. All developments shall provide secure, safe, and sanitary facilities for the storage and pickup of refuse. Such facilities shall be convenient to collection and shall be appropriate to the type and size of the development being served. A solid wall, fence, tight evergreen hedge, or a combination of the above shall screen all dumpsters/refuse storage facilities. Such screening shall be of sufficient height and design to effectively screen the facility from the view of adjacent properties and roads.</p> <p>c. 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.</p> <p>d. All portions of the landscaping area not planted with shrubs and trees or covered by a wall or other barrier shall be planted in grass and/or ground cover, or covered by a natural mulch of a minimum depth of three (3) inches.</p> <p>e. <b>Landscaping around the base of a building foundation is required to blend the building architecture into the site and to accent building entrances.</b></p>

**Deleted:** (c) . Where parking/vehicular surface, outdoor storage, or an undesirable view is adjacent to the road right-of-way and side and rear lot lines, to screen undesirable views, additional plantings shall be required for screening.¶

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

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(2) . In addition to the trees required by Article 12.4.1a and 12.4.1b, 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 glare and visual distractions to passing motorists and to adjacent properties.¶

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

¶

(4) . The provisions of this subsection shall not be applicable in the following situations:¶

¶

(a) . Where any off-street parking, loading or other vehicular use area will be entirely screened visually, from any point of view, by an intervening building or structure from abutting property or when differences in topographic elevation eliminate visual impact to adjacent roads or properties.¶

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<#>Where planting and/or fencing is required for screening between certain non-compatible land uses.¶

**Deleted: Interior Coverage Requirements**¶

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Not less than five (5) percent of the interior of any parking, loading or other vehicular use area shall be landscaped. The location of such landscaping is at the option of the owner or developer, provided, however, no more than ten (10) parking spaces shall be permitted in a continuous row without being interrupted by a landscaped median strip or island and be it further provided that every fourth row of parking shall be separated by a median strip for landscaping and pedestrian purposes of not less than eight (8) feet in width. Such median strips shall be planted with at least one (1) tree per median strip except that one (1) tree for every sixty (60) feet or fraction thereof shall be planted in median strips that exceed sixty (60) feet.¶

¶

Planting required by Sections 12.4.1 and 12.6 shall not be considered as part of the interior landscaping requirement.¶

	<p>Plant materials shall be no closer than two (2) feet from the foundation and no pine straw or dry vegetative materials shall be used as mulch for foundation plantings.</p> <p>f. All premises shall have a minimum of one hundred (100) canopy trees per acre with a dbh of at least two and a half (2.5) inches. This standard shall include required plantings or the preservation of existing trees for open space, parking islands, if appropriate, street landscaping, or foundation plantings. For the purposes of this standard two (2) Understory trees can substitute for one (10 canopy tree and five (5) shrubs can substitute for one (100 understory tree).</p> <p>g. Site disturbances shall be limited to:</p> <ol style="list-style-type: none"> <li>1) Forty (40) feet beyond the building perimeter,</li> <li>2) The (10) feet beyond sidewalks, patios, porches, decks, surface parking, and driveways,</li> <li>3) Fifteen (15) feet beyond public or private roadways and utility trenches, and</li> <li>4) Twenty-five feet beyond any other required site improvements.</li> </ol>
<p>SECTION 50-112 (k)</p> <p><i>Section 12.5 of the current zoning ordinance</i></p>	<p><b><u>Land Use Buffer Requirements</u></b></p> <p><del>Land Use Buffers shall be required to separate a proposed land use 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.</del></p> <p>Except as otherwise specifically provided in this Ordinance, the type of Land Use Buffer required between a proposed development and adjacent streets, land uses or zoning designations shall be specified herein.</p> <p>The table contained within Section 50-112 (n), in conjunction with the explanations in Section 50-112 (o) concerning the types of buffers, establishes levels of screening that satisfy the intent of this Article. This table is intended to show the minimum level of screening acceptable. However, owners and developers may substitute equal or better materials for review and approval.</p>
<p>SECTION 50-112 (l)</p> <p><i>Section 12.5.1 of the current zoning ordinance</i></p>	<p><b><u>Location and Utilization of Land Use Buffers</u></b></p> <p>Required Land Use Buffers shall be located along the interior or street lot lines nearest the adjacent streets, land uses and/or zoning designations. Buffers shall not be located on any portion of an existing or proposed street right-of-way, drainage or utility easement.</p> <p>No building or structure of any type shall be erected, constructed or installed in a required Land Use Buffer.</p>

<p>SECTION 50-112 (m)</p> <p><i>Section 12.5.2 of the current zoning ordinance</i></p>	<p><b><u>Designation of Land Use Buffers</u></b></p> <p>A required Land Use Buffer shall be designated site plan <b>or subdivision plat</b> and shall have the following restriction lettered on the face of the site plan <b>and both the preliminary and final subdivision plat:</b></p> <p style="text-align: center;">"Land Use Buffer: The use and maintenance of this buffer and the building of structures thereon is restricted pursuant to Section <b>50-112</b> of the <b>Orange County Unified Development Ordinance.</b>"</p> <p>In addition, the Land Use Buffer shall be labeled according to type and dimension.</p>
<p>SECTION 50-112 (n)</p> <p><i>Section 12.6 of the current zoning ordinance</i></p> <p><i>New language is in red</i></p>	<p><b><u>Standards For Required Land Use Buffers</u></b></p> <p>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 herein.</p> <p><b>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.</b></p> <p><b>If different land use types are proposed within a development project, the type of Land Use Buffer required between such uses shall be determined by the same procedures.</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Suggested planting patterns to achieve the buffer standards are provided in the Appendix. New plant materials installed to satisfy the buffer requirements shall be installed and maintained in accordance with the provisions of this Section.</p> <p><i>(STAFF COMMENT: We will include an appendix within the UDO outlining</i></p>

*suggested tree patterns. There are several existing diagrams within the Ordinance that are sorely out of date and need to be modified)*

SECTION 50-112 (o)

*Section 12.6.1 of the current zoning ordinance*

**Standards for Required Buffers**

<u>Buffer Type</u>	<u>Required Buffer Width</u>	<u>Buffer Description</u>
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 to at least thirty (30) feet.
Type C	40 feet	A buffer composed of fifty to seventy (50-75) percent 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 predominantly (at least seventy-five (75) percent evergreen vegetation that is opaque to a height of at least thirty (30) feet.
Type F	100 feet	Same as Type E.

SECTION 50-112 (p)

*Section 12.6.2 of the current zoning ordinance*

**Schedule of Required Land Use Buffers**

The type of Land Use Buffer required between a proposed development 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) on the lot(s) for which site plan 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) on the

lot(s), then identify the adjacent existing zoning district(s) and/or land uses. At the intersection of the two (2) columns is a letter, which indicates the type of Land Use Buffer required.

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 development.

In addition to the Land Use Buffers specified in the following schedule, buffers shall also be required on developments 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. The Planning Director based on individual site evaluations shall determine the type of buffer required in those cases.

The following is a list of other specific land uses not included in the Schedule of Required Land Use Buffers. The type buffer listed with each is the minimum buffer which may be required. Other types of buffers from Section 50-112 (n) may be required when land uses adjacent to the proposed development are considered.

<u>Land Use</u>	<u>Buffer Type</u>
P13 Military Installations	B
P15 Parking as a Principal Use (Structure)	C
S4,S5 Assembly Facility	A
S8 Clubs or Lodges	A
S9 Drive In Theatres	A
S27 Nightclubs, Bars, Pubs	B
S48 Sawmills	D

**SECTION 50-112 (q)**

*Section 12.7 of the current zoning ordinance*

**Requirements for Special Use Permits**

The following Special Uses shall provide land use buffers as required below or as required in Section 50-112 (p). Buffers required shall apply to all property lines including road right-of-way lines.

<b>Land Use Code</b>	<b>Land Use</b>	<b>Section</b>	<b>Buffer Type</b>
P9	Extraction of Earth Products	8.8.1	F
P11, P12	Landfills	8.8.2	F
P16	Public Utility Stations and Substations, Water Treatment, Sewage Treatment, Switching Stations, Telephone Exchanges	8.8.3	B
P1	General Aviation Airports, STOL and Heliport	8.8.38	F
	Adult uses		B
S19	Junkyards	8.8.10	F
S20	Kennels or Riding Stables/Academies	8.8.11	B

	P8	Community Center	8.8.13	A
	P6	Commercial Cemeteries	8.8.15	A
	H1, H6	Day Nurseries, Day Care Facilities and Private Kindergartens	8.8.16	B
	P19	Radio and Television Transmitting and Receiving Towers, and Elevated Water Storage Tanks	8.8.17	D
	H10	Residential Hotel, Dormitory, Fraternity, Sorority, and Religious Quarters		A
	S34, S36	Recreational Facilities	8.8.21	A
	S52	Waste Management Facility, Hazardous and Toxic Use	8.8.22	F
		Planned Developments – the buffer shall be the class required for the type of use proposed within the Planned Development	8.8.23	
	H14c	Country Inns	8.8.28	A

Existing or Proposed Principle Uses		Adjacent Existing or Proposed Uses or Zoning Dis														
		Residential development where required minimum lot size per dwelling is:							Commercial and Industrial Zoning				Streets and Highways			
		40,000 sq. ft. or greater	20,000 to 39,999 sq. ft. (R-2)	15,000 to 19,000 sq. ft. (R-3)	10,000 to 14,999 sq. ft. (R-4)	7,500 to 9,999 sq. ft. (R-5)	5,000 to 7,499 sq. ft. (R-8)	Less than 5,000 sq.ft. (R-13)	Office, Institutional, NC-1, LC-2	CC-3, GC-4, EC-5	El, Industrial 1, 2, & 3, EDD, & Planned Industrial	Active Agriculture or Horse Stables	Public Interest Districts	Interstate Highway	Arterial Street	Collector Street
Planned residential development where required minimum lot size per dwelling is:	40,000 sq. ft and greater	-	A	A	C	D	E	F	E	F	F	F	F	F	E	A
	20,000 to 39,999 sq. ft.	A	-	A	B	C	D	E	D	F	F	F	F	F	E	B
	15,000 to 19,000 sq. ft. (R-3)	B	A	-	A	B	C	D	D	E	E	E	F	F	E	B
	10,000 to 14,999 sq. ft. (R-4)	C	B	A	-	A	B	C	C	D	D	D	F	F	D	B
	7,500 to 9,999 sq. ft. (R-5)	D	C	B	A	-	A	B	C	D	D	D	F	F	D	B
	5,000 to 7,499 sq. ft. (R-8)	E	D	C	B	A	-	A	B	C	C	C	F	F	B	A
	Less than 5,000 sq. ft. (R-13)	D	D	D	C	B	A	-	B	C	C	C	F	F	A	A
Street & Highway	Interstate Highway	F	F	F	F	F	F	F	F	F	F	F	F	-	-	-
	Arterial Street	E	E	E	D	C	B	A	-	-	-	-	F	-	-	-
	Collector Street	A	B	B	B	B	A	A	-	-	-	-	F	-	-	-
Railroads and Utilities	Bus, Railroad, or Motor Freight Terminals	D	D	D	D	D	E	F	C	B	-	-	F	-	-	-
	Over head electrical power, gas, or liquid fuel transmission lines	D	D	D	D	D	D	D	B	A	-	-	F	-	-	-
Resource Production	Quarry/mining operations, landfills, junk yards	D	D	D	D	D	D	D	D	F	-	-	F	F	F	F
	Agricultural use involving livestock or products thereof	F	F	F	F	F	F	F	F	F	-	-	F	-	-	-
Community	Office / service	E	D	C	B	B	A	A	-	-	-	-	F	F	-	-

	Retail Trade	F	F	E	D	D	C	C	-	-	-	-	F	F	-	-				
	Storage / warehousing / distribution /wholesale sales	E	E	D	C	C	B	B	-	-	-	-	F	F	-	-				
	Manufacturing / processing	F	F	F	E	E	D	D	-	-	-	-	F	F	-	-				

SECTION 50-112 (r)

Section 12.8 of the current zoning ordinance

STAFF would like to solicit comments on deleting this provision.

**Waiver of Land Use Buffer Requirements**

There may be cases where the topography of a site, or the size of a parcel, or the presence of existing structures, gardens or active farmland in the buffer area would make the strict adherence to this ordinance serve no useful purpose. In those cases, the Planning Director is empowered to waive the requirements for screening 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.

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.

*Staff Comment: Staff has strong reservations about keeping this provision. In our opinion it should be deleted. The Board of Adjustment is the only authority that has the right to alter the requirements of the Ordinance. If we are to keep it then we need specific criteria on how a waiver can and cannot be issued.*

SECTION 50-112 (s)

Section 12.9 of the current zoning ordinance

**Installation and Maintenance**

Existing landscape material in a healthy condition may be used to satisfy these requirements in whole or in part when such material achieves the intent of this Article. Sound and accepted horticultural practices shall be used to protect the root zones of all retained existing plant material during construction and also during underground utility installation. All new landscaping shall be of good quality and installed in a sound, workmanship-like manner and according to the following planting procedures:

1. 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 root ball.**
2. Plants shall be planted in their permanent location immediately upon delivery to the site. It is not necessary to remove the burlap, but the strings from around the stem of the plant must be removed and the burlap should be folded from the top 1/3 of the ball after the plant is in the hole. The soil around the plant should be tamped to remove air pockets. Mulching with a good **double shredded hardwood** mulch

three to four (3-4) inches deep to help retain moisture is mandatory.

3. Trees which have heavy tops or which are over six (6) feet in height shall be staked to prevent winds from loosening the roots.
4. All plants shall be soaked thoroughly with water at planting time and once a week (unless soaking rains occur) thereafter during the first growing season. **Fertilization is not recommended.**
5. 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).

*(Staff Comment: Number six was moved to Section 50-111 (m) of the proposed UDO)*

6. The type of landscape material to be used in meeting the requirements of this Article is at the option of the owner or developer but shall be appropriate for this climate and for the specific location of the plant on the site. Around parking/vehicular use areas, avoid tall shrubs and low branching trees that will restrict visibility.
7. At installation, trees shall be not less than six (6) feet tall; with a caliper of three fourths (3/4) to one and one-fourth (1 1/4) inches. Shrubs should not be less than fourteen (14) inches high. Horticulturally and aesthetically appropriate earth berms may also be used to contribute to overall required heights. Construction procedures shall be utilized which preserve and replace existing topsoil.
8. This section provides a listing of acceptable plant materials, which are adapted to the local climate and soil conditions. Use of native plant materials is encouraged. No synthetic plant materials may be used to satisfy the landscaping requirements.
9. The owner or tenant of the property shall be responsible for the continued proper maintenance of all landscaping materials, and shall keep them in a proper, neat and orderly appearance, free from refuse and debris, at all times. All landscaped areas should be provided with a readily available water supply. The owner or developer shall replace all unhealthy or dead plant material within one (1) year of the issuance of the Certificate of Occupancy or by the next planting season, whichever comes first. Orange County shall insure continued maintenance of all landscaping material using the enforcement authority of Article 23 of the Zoning Ordinance of Orange County.
10. **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.**
11. **A bond equal to one hundred ten (110) percent of the cost of required landscape installation shall be required for all planting within primary tree protection areas and any common ownership areas. All required landscape inspections shall be completed within eighteen (18) months after final building occupancy is granted.**

**Deleted:** <#>Parked vehicles may overhang a landscaped area no more than two and one-half (2 1/2) feet, provided curbing or other wheel stops are installed to insure no greater overhang or penetration of the landscaped area. Landscaping, walls, fences, and other material shall be so located as to prevent its damage and/or destruction by overhanging vehicles.¶

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