Update	*February 2010*	**Part 1**	**Tree Canopy**	**10.1-1**
Update	*February 2010*	**Part 2**	**Landscape Design**	**10.2-1**
Update	*February 2010*	**Part 3**	**Parkway and Scenic Corridor Development Standards**	**10.3-1**
Update	*February 2010*	**Part 4**	**Implementation Standards**	**10.4-1**
	March 2006	**Part 5**	**Open Space Standards**	**10.5-1**
	March 2006	**Part 6**	**Streetscape Master Plan**	**10.6-1**
	March 2006	*Appendix 10A*	*Preferred Plant List*	*10A-1*
	March 2006	*Appendix 10B*	*Prohibited Plant List*	*10B-1*
Update	*July 2007*	*Appendix 10C*	*Parkway, Gene Snyder Freeway, Olmsted Parkway and Scenic Corridor Maps*	*10C-1*
Update	*October 2009*	*Appendix 10D*	*PDS Tree Preservation Policy*	*10D-1*

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Chapter 10 Part 1 Tree Canopy

The intent of this Part is to protect, conserve, preserve and replace trees in order to enhance community character, provide wildlife habitat, maintain air and water quality, decrease stormwater runoff, prevent soil erosion, provide noise buffers, and enhance property values. This Part is also intended to provide several alternative means to the Planning Commission to further the goals and objectives of the Comprehensive Plan by providing for flexible tree canopy requirements subject, however, to specified standards and findings. Tree canopy standards shall be met on site to the maximum extent feasible and tree preservation is the preferred means of accomplishing canopy objectives.

The following terms relating to Tree Canopy are included in the Definitions (Chapter 1 Part 2): Caliper, Dripline, Tree Canopy, Tree, Type A, Tree, Type B, Tree, Type C

10.1.1 Relationship to the Comprehensive Plan

The tree canopy regulations prescribed by this Part are intended to implement the following Cornerstone 2020 Comprehensive Plan Goals and Plan Elements.

Goals	Plan Elements
Livability Strategy Goals F2; F3; F4; G4	Guidelines 3, 10, 13

10.1.2 Applicability and Basis of Calculation

A. The requirements of this Part shall apply to all new residential subdivisions creating more than five (5) buildable lots and to all new multi-family and nonresidential development. New single-family residential construction shall provide tree(s) in accordance with the residential design standards found within chapter 5.

B. Expansion or reconstruction of an existing nonresidential building or development shall be subject to the requirements of this Part as follows:

1. Any development site on which there is an increase in building area or impervious surface area by more than fifty (50) percent or where a structure has been demolished and a new structure has been built in its place shall fully comply with the tree canopy requirements set forth in this Part.
2. Any development site on which there is an increase in building area or impervious surface area by more than twenty (20) percent and less than fifty (50) percent shall provide one-half (1/2) the tree canopy required by this Part.
3. Any development site on which there is an increase in building area or impervious surface area by twenty (20) percent or less shall not be required to provide the tree canopy required by this Part.

> ***Note:*** *This provision (10.1.2, B) allows residential subdivisions and multi lot commercial developments to group trees in clusters throughout the development rather than meeting the canopy requirements on a lot by lot basis.*

C. The requirements of this Part shall apply to the entire area shown on a development plan and the required canopy may be equally distributed throughout that area or be concentrated in certain parts or portions of that area.

10.1.3 Alternatives for Compliance

The tree canopy requirements of this Part may be satisfied at the applicant's discretion by any combination of the following means.

A. Preservation of existing trees or tree stands on the development site.

B. Planting new trees on the development site or as street trees on adjacent rights-of-way.

C. Planting new trees on an alternative site approved by the Planning Commission, at the applicant's expense.

The Planning Commission may approve an alternative site for the planting of an equivalent number/amount of trees that meets any one of the following criteria: (1) a site within a public park approved by the Metropolitan Parks Department; (2) a site on a public road right-of-way, not adjacent to the development site, approved by the Director of Works or by the appropriate state or federal official in the event that the site is on a state or federal road; (3) a privately developed site upon which affordable housing has been constructed or is to be constructed; and (4) a site of existing development where the Planning Commission finds that additional tree canopy would be in the public interest. In any such case, the Planning Commission may condition its approval of an alternative site upon the agreement of the applicant to plant a tree or trees of a type that is deemed appropriate for the site. It should be noted that using an alternative site to meet the tree canopy requirements is an option available to developers that must be approved by the Planning Commission. In no case shall the Planning Commission require the off-site planting of trees to meet the requirements of this Part.

10.1.4 Tree Canopy Standards

A. The tree canopy on a development site shall meet the applicable standards according to the site's form district, proposed land use and the amount of tree preservation, as set forth in Tables 10.1.1 and 10.1.2, below. (Percentages refer to the relation of tree canopy to gross site area in square feet.)

(10.1.2, C) allows residential subdivisions and multi-lot commercial developments to group trees in clusters throughout the development rather than meeting the canopy requirements on a lot-by-lot basis.

Table 10.1.1 Tree Canopy

Land Use	Form District			
	Downtown, Traditional Marketplace Corridor, Traditional Workplace	**Traditional Neighborhood**	**Regional Center, Town Center, Suburban Marketplace Corridor, Neighborhood, Suburban Workplace, Campus**	**Village**
Single-Family Residential	Class A	Class B	Class C*	Class D
Multi-Family and Office	Class A	Class B	Class C	Class D
Institutional	Class A	Class B	Class C	Class D
Commercial	Class A	Class A	Class C	Class C
Industrial	Class A	Class A	Class C	Class C

* Docket No. 9-26-03; see website for adoption status outside Louisville

Class Canopy Requirement per Table 10.1.1	Preserved Tree Canopy Coverage Area	New Tree Canopy Coverage Area	Total Tree Canopy Coverage Area Required
Class A	5%	0%	5%
	4%	2%	6%
	3%	4%	7%
	2%	6%	8%
	1%	8%	9%
	0%	10%	10%
Class B	10%	0%`	10%
	8%	3%	11%
	6%	6%	12%
	4%	9%	13%
	2%	12%	14%
	0%	15%	15%
Class C If site is 76%-100% covered in existing tree canopy	15%	0%	15%
	12%	6%	18%
	9%	12%	21%
	6%	18%	24%
	3%	24%	27%
	0%	30%	30%
Class C If site is 41%-75% covered in existing tree canopy	15%	0%	15%
	12%	5%	17%
	9%	10%	19%
	6%	15%	21%
	3%	20%	23%
	0%	25%	25%
Class C If site is 0%-40% covered in existing tree canopy	15%	0%	15%
	12%	4%	16%
	9%	8%	17%
	6%	12%	18%
	3%	16%	19%
	0%	20%	20%
Class D	20%	0%	20%
	15%	6%	21%
	10%	12%	22%
	5%	18%	23%
	0%	24%	24%

B. Developments shall be entitled to a reduction in the tree canopy requirement prescribed in Tables 10.1.1 and 10.1.2 as follows:

1. Any residential subdivision receiving at least 3.5 points for the provision of diversity housing in accordance with Chapter 4 Part 5 (Alternative Development Incentives) of the Land Development Code shall receive a 33% reduction.

2. Any development located in the Downtown, Traditional Marketplace Corridor, Traditional Workplace and Traditional Neighborhood Form Districts shall receive reductions as follows:

a. Tree Canopy Reduction for Nonresidential Development:

Development Floor Area Ratio (FAR)	Total Tree Canopy Reduction
FAR 0.29 or Less	No Reduction
FAR 0.30 to 0.49	33% Reduction
FAR 0.50 to 0.99	66% Reduction
FAR 1.0 and Greater	100% Reduction

NOTE: *All reductions shall be based on the total square feet of tree canopy needed on a site to meet the requirements of Tables 10.1.1 and 10.1.2.*Total Tree Canopy

b. Tree Canopy Reduction for Multi-Family Residential Development

Development Density (Dwelling Units per Acre)	Total Tree Canopy Reduction
12.00 Du/Acre or Less	No Reduction
12.01 to 16.00 Du/Acre	33% Reduction
16.01 to 22.00 Du/Acre	66% Reduction
22.01 Du/Acre and Greater	100% Reduction

NOTE: *These reductions in the tree canopy requirements have been created in an effort to support a more compact and efficient urban form and to support infill development opportunities*

c. Tree Canopy Reductions for Single Family Residential Developments:

Development Density (Dwelling Units per Acre)	Total Tree Canopy Reduction
4.4 Du/Acre or Less	No Reduction
4.41 to 5.5 Du/Acre	33% Reduction
5.51 Du/Acre and Greater	66% Reduction

NOTE*: Any trees or tree stands that are being preserved to meet the minimum requirements of this Part shall also be subject to the requirements of Chapter 10 Part 4 (Implementation) of the Land development Code*

C. Preservation of existing tree canopy in excess of the cover specified in Tables 10.1.1 and 10.1.2 and retention of trees in sensitive natural areas are encouraged. However, removal of existing tree canopy that covers a greater percentage of the site than stipulated in the minimum standards set forth above is permissible unless restricted by an approved development or subdivision plan or by other applicable provisions of this Land Development Code.

D. Any tree preserved or planted to meet the minimum requirements of this Part shall be maintained in healthy condition and shall be replaced if it becomes diseased or dies.

E. The Planning Director may require that any trees and/or tree stands preserved to meet the requirements of this Part be inspected and found to be healthy and free of disease by a certified arborist or registered landscape architect if, upon inspection of the site, he/she or his/her designee sees evidence that indicates that some or all of said trees may be unhealthy and may not be appropriate for preservation.

F. When trees are planted off-site or on private property to meet the requirements of this Part, the applicant shall provide the Planning Director with documentation that sufficient measures have been taken to ensure the preservation and, when necessary, the replacement of said trees. Examples of such measures would include, but not be limited to, including preservation and replacement provisions in a subdivision's deed of restrictions or within a development's binding elements or by placing all of the required trees within a

conservation easement or a Woodland Protection Area (WPA).

G. What trees are not protected?

All known invasives are not protected and will not be considered toward meeting the tree canopy requirements. However, tree canopy credit will be received (see Table 10.1.3 and 10.1.4 for credit square footage) for the removal of the invasive if it is replaced by a 1 ¾" caliper Type A or Type B tree.

NOTE: *Invasive Species means "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." (Executive Order 13112 signed by President William Clinton on February 3, 1999).*

10.1.5 Calculation

A. Any development site greater than two acres in size shall be permitted to determine the area of existing tree canopy coverage to be preserved by ground checking, aerial analysis, or any other method determined to be accurate by DPDS staff. If ground checking is utilized, then each individual tree (i.e. a tree not grouped with other trees or a part of a tree stand) intended to be retained and used to meet the tree canopy requirements herein shall be measured to determine its caliper and the credit given for that tree shall be in accordance with Table 10.1.3, below.

B. For any development site two acres or less in size the area of tree canopy coverage for any group of trees to be retained in order to meet the tree canopy requirements of this Part shall be determined by ground checking. Credit for existing trees intended to be retained may be calculated in either of two ways:

1. measurement of the trunk to determine its caliper and the credit given for that tree shall be in accordance with Table 10.1.3, below; or
2. the dripline may be plotted on the site plan and tree canopy credit given for the percentage of the site within the dripline.

C. New trees planted to meet the requirements of this Part shall be given credit in accordance with Table 10.1.3, below. Such trees must meet the standards of Chapter 10 Part 4 at the time of planting.

D. Street trees planted in accordance with Section 10.2.8 shall qualify for a 25% bonus in the amount of credit listed in Table 10.1.3. This credit shall apply to street trees that are mandated as well as those planted on a voluntary basis.

E. All approved WPAs shall qualify for a 10% bonus in the amount of credit listed in Table 10.1.3.

NOTE: *Street tree bonus: for example a development that provides three Type A trees two inches in caliper shall receive credit for 2 250 sq ft of tree canopy.*

F. In calculating the required number of trees, fractions less than .5 shall be dropped and greater than or equal to .5 shall be rounded up. Table 10.1.3 Deciduous Tree Canopy Credit

NOTE: *Table 10.1.3 gives credit for 50% of the mature canopy size when a 1 3/4" – 3" caliper tree is planted.*

NOTE: *"Caliper" The diameter of a tree trunk, measured 6 inches above the ground for newly installed trees and at 4 feet 6 inches above the ground (breast height) for existing trees.*

Table 10.1.3 Deciduous Tree Canopy Credit		
Caliper	**Tree Type****	**Amount of Credit (per tree)**
10 inches or greater	Type A	1,200 sq. ft. (100% mature canopy size)
	Type B	720 sq. ft. (100% mature canopy size)
	Type C	177 sq. ft. (100% mature canopy size)
Greater than or equal to 3 inches and less than 10 inches	Type A	960 sq. ft. (80% mature canopy size)
	Type B	576 sq. ft. (80% mature canopy size)
	Type C	142 sq. ft. (80% mature canopy size)
Greater than or equal to 1 3/4 inches and less than 3 inches	Type A	720 sq. ft. (60% mature canopy size)
	Type B	432 sq. ft. (60% mature canopy size)
	Type C	106 sq. ft. (60% mature canopy size)
Greater than or equal to 1 inch and less than 1 ¾ inches*	Type A	600 sq. ft. (50% mature canopy size)
	Type B	360 sq. ft. (50% mature canopy size)
	Type C	89 sq. ft. (50% mature canopy size)
* See Chapter 10, Part 4 for criteria to plant trees less than 1 ¾ inch caliper. ** Trees are categorized as A, B and C—Large, Medium and Small; refer to Appendix 10A for species that fall within each category.		

Table 10.1.4 Evergreen Tree Canopy Credit		
Height	**Tree Type***	**Amount of Credit (per tree)**
15 feet and greater	Type A	1,200 sq. ft. (100% mature canopy size)
	Type B	720 sq. ft. (100 % mature canopy size)
	Type C	177 sq. ft. (100% mature canopy size)
Greater than or equal to 9 feet and less than 15 feet	Type A	960 sq. ft. (80% mature canopy size)
	Type B	576 sq. ft. (80% mature canopy size)
	Type C	142 sq. ft. (80% mature canopy size)
Greater than or equal to 6 feet and less than 9 feet	Type A	720 sq. ft. (60% mature canopy size)
	Type B	432 sq. ft. (60% mature canopy size)
	Type C	106 sq. ft. (60% mature canopy size)
* Trees are categorized as A, B and C—Large, Medium and Small; refer to Appendix 10A for species that fall within each category.		

10.1.6 Tree Preservation Plan Requirement

A. All applicants for development proposals which seek credit for existing tree canopy to attain the minimum canopy coverage specified in this Part shall submit a Tree Canopy Preservation plan. All tree preservation, tree canopy protection and woodland protection areas shall be in accordance with the Tree Preservation Policies of Louisville Metro Planning and Design Services. The content of such a plan is dependent upon the means by which the existing tree canopy is to be calculated as follows:

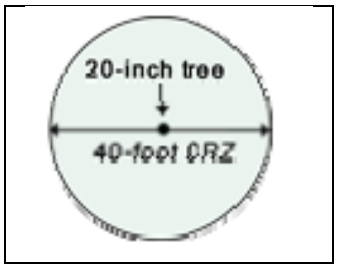
> ***NOTE:*** *Refer to 10.4.8 for requirements relating to tree protection during construction.*

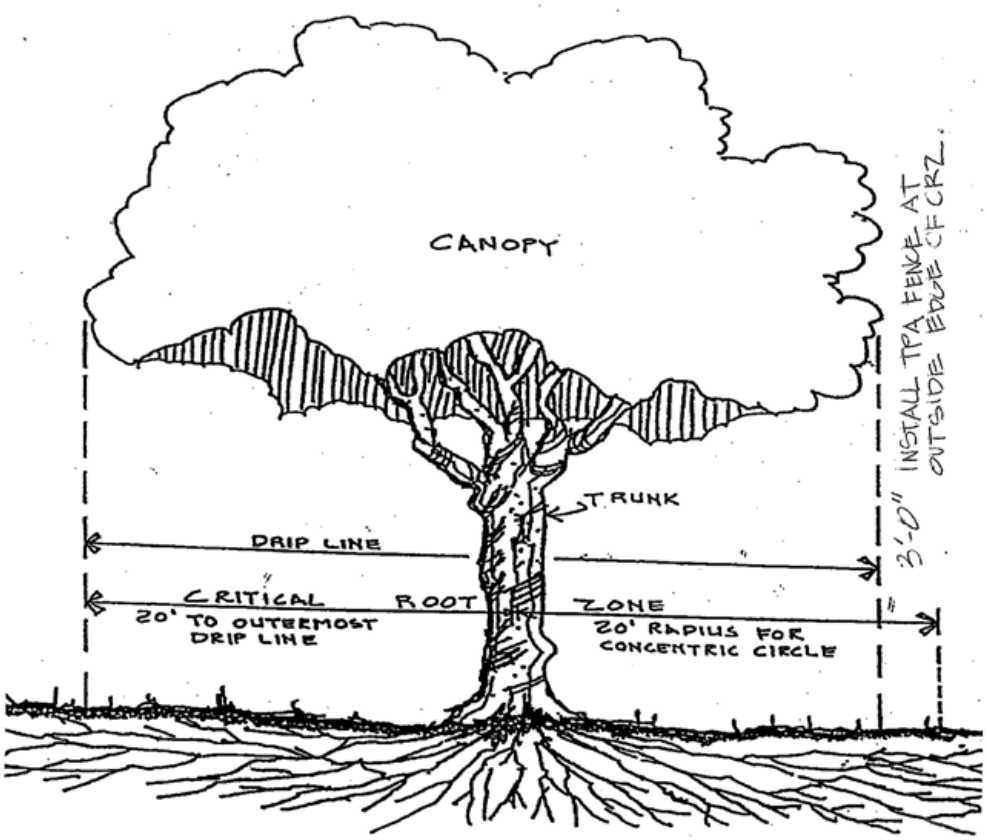
1. A tree inventory will be required for plans that show Tree Canopy Preservation Areas. The tree inventory shall be submitted as part of the tree preservation plan review process and shall be only for the trees shown in the TCPA. The tree inventory shall include but not be limited to the following information: Date of inventory, person(s) preparing the inventory, location of trunk and drip line, size, CRZ, health, and species of all existing trees on the property for all trees 4" diameter and greater. A completed tree inventory list shall accompany the plan documenting all existing trees located on the inventory.
2. Sites that are preserving more than one acre of continuous TCPA shall inventory a 50' X 50' sample area or 2,500 sf area. The applicant shall work with staff on choosing a sample area representative of the species distribution found in the TCPA. Dead, diseased, or dying trees may not be included as part of the inventory. For enforcement purposes the sample area will be used to determine tree replacement regardless of where the tree removal actually occurred.

> ***NOTE:***
> *Example of an area inventory:*
> *4- 9' ht Cedar @ 576 sf of credit each =2,304 sf*
> *3- 4" caliper Hackberry @ 960 sf of credit each =2,880 sf*
> *3- 24" caliper Maple @1,200 sf of credit each =3,600 sf*
> *5- 10" caliper Hackberry/Maple @ 1,200 sf of credit each =6,000 sf*
> *1- 8" caliper Oak @ 960 sf of credit each = 960 sf*
> *Total square footage =15,744 sf*
> *TCPA on plan is 2.68 acres or 116,957 sf*
> *116,957 sf – 2,500 sf (sample area) = 114,457 sf*
> *114,457 sf + 15,744 sf (total sample area credit) =130,201 sf*
> *Total preserved tree canopy =130,201 sf*
> *The tree canopy calculations could appear as follows: Gross site area: 1,085,008 sf*
> *Total tree canopy preserved: 130,201 sf (12% of total* site)
> *Total tree canopy required: 173,601 sf (16% of total site on a site that has 0-40% existing canopy coverage)*
> *Total required new canopy: 43,400 sf (4% of total site)*
> *Total canopy provided: 174,121 sf (16%)*
> *If preserved trees are removed from the TCPA, the total number of trees to be replaced would be 58 minimum 3" caliper trees.*

B. Standards for Tree Canopy Preservation Areas

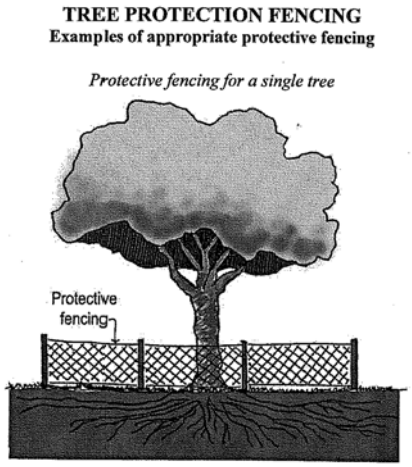
1. Tree Canopy Preservation Areas (TCPA) are those areas where tree preservation has been provided to meet the tree canopy requirements of this part.
2. The site shall be developed in accordance with the Tree Canopy Preservation Plan. The location of the TCPA boundary delineates the limit of disturbance associated with the TCPA. The limit of disturbance shall indicate the location of the tree protection fencing.
3. No clearing, grading, construction or other land disturbing activity shall take place within the TCPA beyond pruning to improve the general health of the tree or to remove dead or declining trees that may pose a public health and safety threat. As trees are lost through natural causes, new trees shall be planted in order to maintain minimum tree canopy as specified in this part.
4. Location of Structures and Parking
   a. no structure (exception: fences, walls, retaining walls) shall be closer than 15 feet to the Limit of Disturbance (Tree Protection Fence).
   b. No vehicle use area (VUA) shall be closer than 10 feet to the Limit of Disturbance (Tree Protection Fence).
   c. No retaining walls shall be closer than 10 feet to the Limit of Disturbance (Tree Protection Fence) except for retaining walls approved by PDS staff to be used in the preservation of existing trees.
5. During all construction activity (includes clearing, grading, building construction and VUA construction) a copy of the approved Tree Canopy Preservation Plan shall be on-site.
6. For sites larger than two acres, tree preservation plans shall be stamped by a KY licensed landscape architect or a certified arborist.
7. Establishment of the Critical Root Zone – The LDC requires that proposed developments demonstrate that trees are preserved to the maximum extent reasonable and feasible. Tree preservation is effectively defined as root system preservation; a Critical Root Zone Area (CRZ) will be assigned to each tree, based on trunk diameter size. In order to be considered as TCPA, a minimum of 50% of the CRZ is required to be left undisturbed around the tree. Trees are to be depicted on tree inventory and tree preservation plan with a CRZ circle centered on the tree base location (i.e. a twenty inch diameter tree is represented by a 40 foot diameter circle). The formula is: Tree in inches X 2, then convert to feet = CRZ diameter. The CRZ circles will be shown on the tree inventory and tree preservation plan so that review staff can discern the extent of disturbance proposed near existing trees.

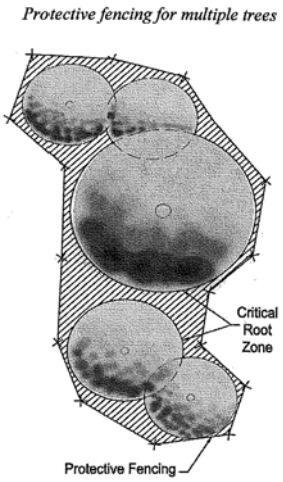




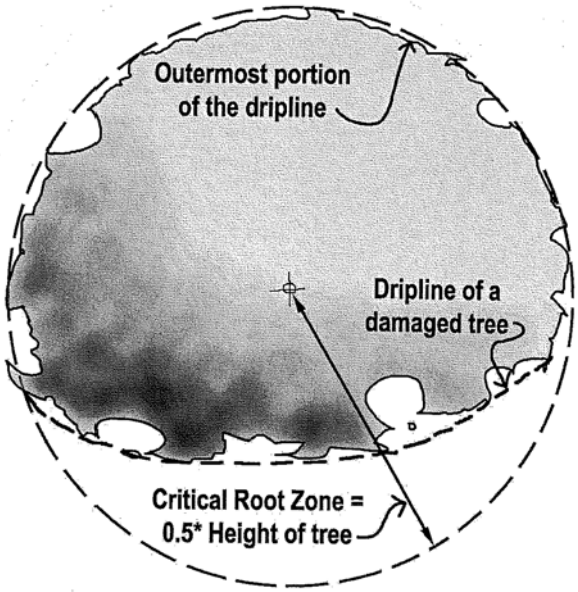
CRITICAL ROOT ZQNE AREA CCRZ\: The area of undisturbed natural soil around a tree defined by a horizontal circle drawn at grade with the center of the trunk of the tree and a radius equal to the distance from the trunk to the outermost portion of the drip line.

DRIP LINE: Whichever of the following encompasses the greatest area: (I) the irregular shape formed around a tree by a series of vertical lines that run through the outermost portion of the canopy of the tree and extend to the ground, or (2) a circular area with a radius of one-half(%) the height of the tree extending outward from the center point of the tree.





Critical Root Zone Area and Drip Line



Showing Critical Root Zone and Drip Line measurement for a damaged or deformed Tree

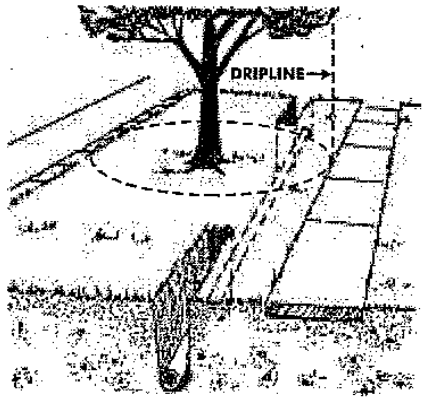
C. TCPA Exceptions – Sites which present unique development constraints will have opportunities to preserve existing trees as TCPA as determined by the Planning Director or designee. Such situations are described below.

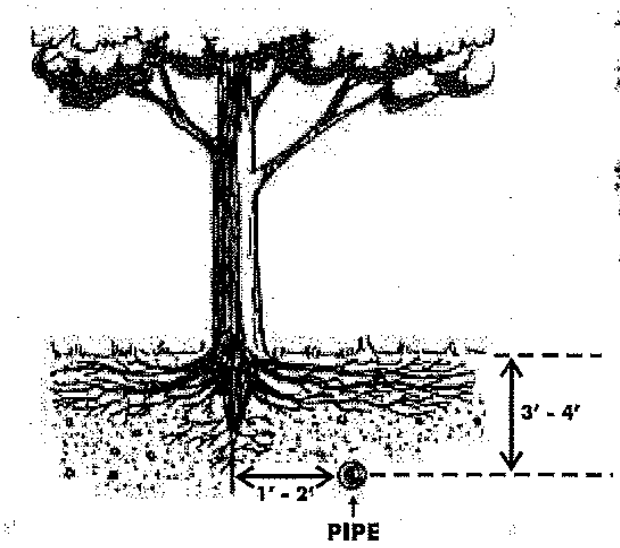
1. Utilities - A proposed development which requires underground utilities shall avoid the installation of said utilities within the drip line and critical root zone of existing trees whenever possible. In the event that this is unavoidable, all trenching shall be done by directional boring taking extreme caution to avoid damage to the root structure. (Note: LWC contractors are trained to use directional boring where applicable)
2. Trunk Protection (Limited Application) - Tree trunk protection shall be provided in accordance with detail. Tree trunk protection shall consist of any 2 x 4-inch or 2 x 6-inch planking or plastic strapping
3. Tree Wells for Raised Grades - When existing grades are raised by more than 6 inches, the tree root system shall be protected by the installation of tree wells in accordance with detail (to be provided). Building materials (brick, stone, timber, etc.) similar to those utilized on site shall be used for the separator wall of the well and PVC conforming to ASTM D-2729, SDR-35 shall be used for the aeration systems in fill areas.
4. Cutting and Filling Around Trees - When the depth of an excavation or embankment exceeds 6 inches within the drip line or CRZ of any tree with a diameter greater than 4 inches, a tree well shall be constructed to protect the tree as indicated on the tree preservation plan.
5. Paving Around Trees - Where paving within the drip line of any tree greater than a 4 inch diameter is necessary, a permeable pavement and aeration system must be installed as indicated on the tree preservation plan, except for street construction. Permeable segmented pavers in conjunction with PVC pipe aeration system or concrete on gravel base with cored holes shall be used to protect existing tree root zones.
6. Other techniques as described by applicant and approved by the Planning Director or designee.

D. Percent change in TCPA - A threshold of change from development plan to construction plan will be considered as there are many unknowns at development plan stage (unforeseen site constraints, rock, utilities etc.). Percentage of change must be in keeping with the original intent of the TCPA shown on the plan. Percent of change from development plan to construction plan shall be no more than 10% of the original TCPA shown on the approved development plan. A change greater than 10% will require Planning Commission or designee approval.

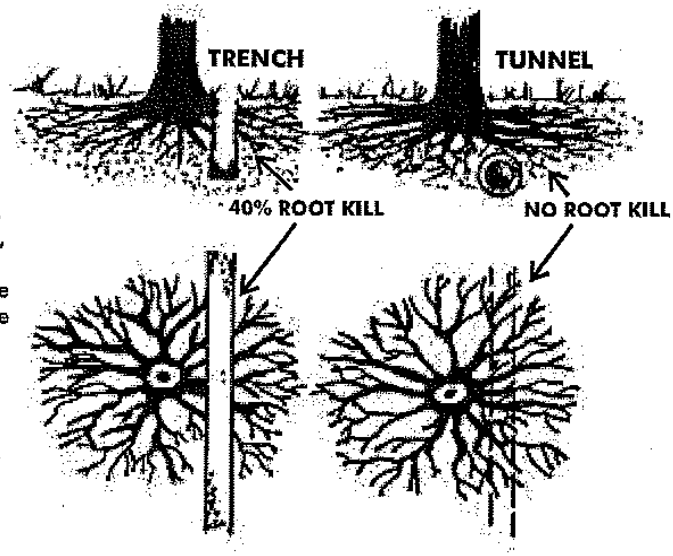
APPENDIX B. Tunneling (How to Save Existing Trees When Tunneling)

Use tunneling for underground utilities such as cable, electric, and natural gas instead of cutting an open trench. This method will help preserve existing trees or smaller tree save areas.

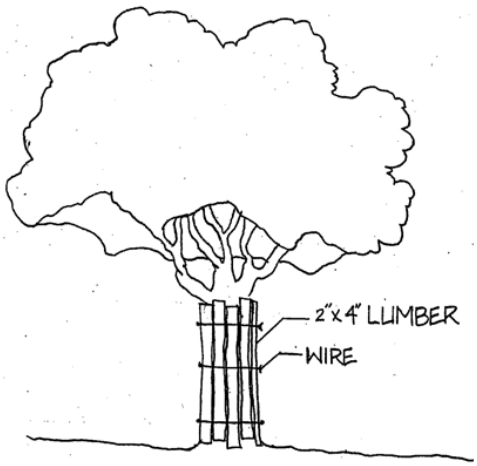




Why Tunneling Saves Trees
Trenching near a tree can kill as much as 40 to 50 percent of the tree's roots. This will almost certainly lead to stress, poor health, lack of firmness against wind, or outright death. A tunnel in the same place will do virtually no damage to the tree.

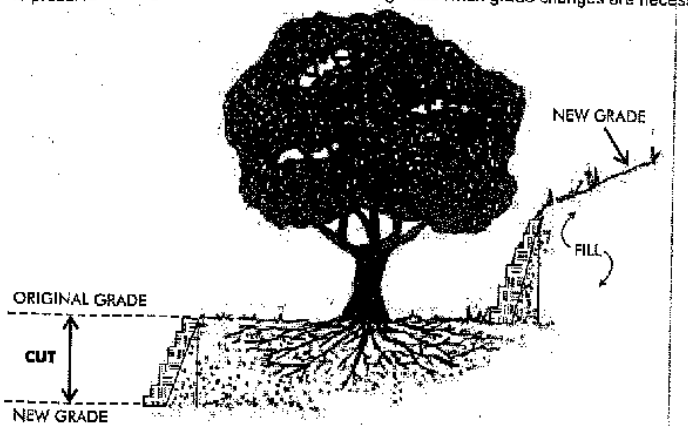


BARK PROTECTION

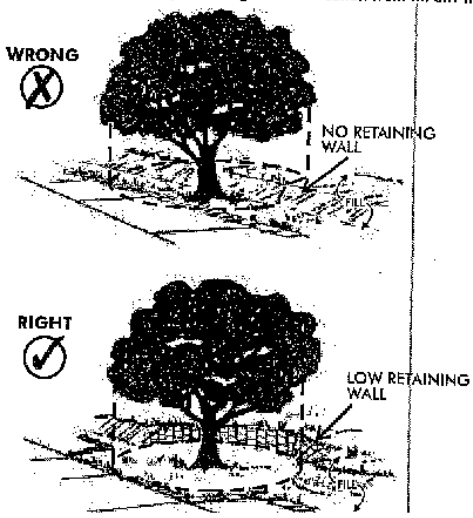


In situations where a protected tree remains in the immediate area of intended construction and the tree may be in danger of being damaged by construction equipment or other activity, the contractor or subcontractor shall protect the tree with 2"x4" lumber encircled with wire or other means that do not damage the tree. The intent is to protect the trunk of the tree against incidental contact by large construction equipment.

APPENDIX C. Grade Changes
How to preserve existing trees with the use of retaining walls when grade changes are necessar



Grade Change Examples - Methods of preventing root suffocation from fill dirt when changing grade



10.1.7 Landscape / Buffer Credit

Any existing trees on a site or street trees planted on an adjacent right-of-way that are used to meet the requirements of this Part shall be credited towards fulfillment of any landscaping, screening, or buffering provisions of this Chapter.

10.1.8 Waivers

A. The Planning Commission shall have the authority to grant waivers or modifications of the tree canopy requirements contained in this Part in accordance with Chapter 11 Part 8 of the Land Development Code.

B. The Planning Commission's designee may waive the requirement for a public hearing and take action on requests for reduction of five (5) or fewer trees or a reduction constituting less than ten (10) percent of the total tree canopy requirement, whichever is greater. Notice shall be sent in accordance with Chapter 11 Part 8 stating that a waiver request has been filed and that the Planning Commission's designee may waive the public hearing requirements and take action on the request.

C. Required Findings; In granting a waiver the Planning Commission's designee must find that:

1. The waiver is in compliance with the Comprehensive Plan.
2. The applicant made a good faith effort to provide as many trees as possible on the site, on the adjacent right of way, or on an alternative site as specified in 10.1.3; and
3. There are other mitigating circumstances affecting this site which do not generally apply to sites developed for the same use and in the same form district.

Chapter 10 Part 2 Landscape Design

A. A well designed landscape, when made an integral part of a development plan, provides aesthetic appeal and makes an important contribution to the health, safety, and general welfare of the community by:

1. Reducing noise pollution, air pollution, and visual pollution;
2. Lowering air temperatures and glare associated with heat islands, large impervious surfaces and reflected sunlight;
3. Improving the appearance of vehicular use areas (VUAs) and property abutting public rights-of way, and;
4. Preserving, protecting, and promoting the aesthetic appeal, character, and value of surrounding properties

B. Open space and Landscape Buffer Areas (LBA) are one of several options to provide needed relief from the effects of urbanization and make an important contribution to the health, safety, and general welfare of the community by:

1. Creating suitable transitions where varying forms of development adjoin;
2. Minimizing the negative impacts resulting from adjoining incompatible land uses;
3. Decreasing storm water run off volumes and velocities associated with impervious surfaces, and;
4. Filtering air borne and water borne pollutants.
5. Reducing the total volume or stormwater pollutants entering streams and stormwater runoff entering the sewer system thus lessening impact to streams and waterways and maintain pre-development hydrology per MSD standards.

10.2.1 Relationship to the Comprehensive Plan

The landscape design regulations proscribed by this Part are intended to implement the following Cornerstone 2020 Comprehensive Plan Goals and Plan Elements.

Goals	Plan Elements
Community Form Goals C4; D4; E4; F4; G4; H4; J4 Livability Strategy Goal F2	Guidelines 1, 2, 3, 13

10.2.2 Applicability

NEW DEVELOPMENT - No site development, building or structure shall hereafter be constructed nor vehicular use area (VUA) created unless landscaping is provided as required by the provisions of this part. Any building, structure or VUA that in its entirety is removed and reconstructed, or relocated to a new on-site location, shall be considered new development for purposes of this part. Any VUA that in its entirety is changed from gravel, stone or similar material to asphalt or concrete pavement shall be considered new development for purposes of this part.

A. Existing Development is subject to this part as defined below:

1. Any increase/expansion of an existing building/structure's square footage by 20% or more
2. Any expansion of an existing VUA square footage by 20% or more or a change of 20% or more of VUA surface from gravel, stone, or similar material to asphalt or concrete pavement (semi-pervious pavers exempted)

3. Any increase in the combined square footage of building/structure and VUA (as described in #2) of 20% or more of the combined square footage.

B. When such improvements are made, the following landscape provisions ll be required:

1. Expansion by greater than 20% and less than 50% - only the area of new improvements shall be subject to the requirements of this part.

2. Expansion by 50% or greater - the entire site shall be subject to the requirements of this part.

C. Small Sites (development which in its entirety occupies a site measuring no more than 10,000 square feet):

1. Expansion by greater than 20% and less than 50% - no landscaping required.

2. Expansion by greater than 50% - only the area of new improvements shall be subject to the requirements of this part..

CHANGE OF USE - Change in the use of property, from a use not required to provide landscaping and buffering to a use that is regulated by this part, shall necessitate the provision of landscaping and buffering as required by this part.

NON-CONFORMANCE – No changes shall be made to sites that do not conform to this Part of Chapter 10 that would increase the non- conformance with this part. Existing Landscape Buffer Areas, screening, and plant material on non-conforming sites that partially meet the requirements of this part shall be retained.

Planting and Buffering required in this Part can count towards requirements in other parts of this regulation. However, compliance with Chapter 10 Part 2 does not substitute for compliance with other applicable Parts of this regulation.

10.2.3 Landscape Buffer Area Requirements

Landscape Buffer Areas minimize the potential for nuisances created when zoning districts or land uses of varying intensities abut, and shall be required for all new construction subject to these regulations. Landscape Buffer Area requirements shall be applied along property or right-of-way lines and at the perimeter of Vehicular Use Areas. Landscape Buffer Areas shall also be applied adjacent to designated Parkways and Scenic Corridors.

Landscape Buffer Areas shall be provided on the site of the more intense use or zoning district except when the more intense use was present prior to the effective date of this regulation. When more than one Landscape Buffer Area requirement applies, the more restrictive standards shall be used.

10.2.4 Property Perimeter Landscape Buffer Areas

A. General Requirements: Property Perimeter Landscape Buffer Areas shall be applied along all property boundaries of sites affected by this ordinance except for those boundaries adjacent to streets. Zoning Districts and their associated land uses have been grouped into the following five intensity classes for the purpose of applying property perimeter Landscape Buffer Area requirements; refer to Table 10.2.1.

These requirements may be modified as long as the area within the property perimeter landscape buffer contains an MSD approved Green Management Practice (GMP). In such a case, refer to Chapter 13: Native Revegetation in the MSD Design Manual (a link to document found in Appendix 10A) for planting requirements. These modifications shall be approved by Planning Commission staff Landscape Architect.

Table 10.2.1 Intensity Classes and Zoning Districts		
INTENSITY CLASS	**ZONING DISTRICTS**	
1	R-R, R-E, R-1, R-2, R-3, R-4, R-5, PRD, R-5B, PVD, PD (single family residential use)	STEP 1 Determine intensity class for the proposed use and adjacent sites.
2	R-5A, R-6, R-7, U-N, TNZD, Institutional Uses, PD multi-family residential use)	
3	R-8A, OR, OR-1, OR-2, OR-3, OTF, C-R, W-1 residential use) , W-2 (residential use), PD (office use)	
4	C-N, C-1, C-2, M-1, C-M, PTD, W-1(commercial use), W-2 (commercial use), PD (commercial use), PEC commercial use)[1], PRO[1]	
5	M-2, M-3, EZ-1, PD (industrial use), PEC (industrial uses), W-1 (industrial use), W-2 (industrial use), utility substations, landfills, treatment plants or similar uses	
1-These Zoning Districts have additional landscape and buffering requirements		

CUP sites located in a residential zoning district shall provide buffering as per the requirements for uses permitted in the C-1 Zoning District, or alternative buffering and landscaping as approved by the Board of Zoning Adjustment.
Exceptions to the buffering requirements can be found in Section 10.2.5
All development subject to this Part, as defined in Section 10.2.2, shall provide Landscape Buffer Areas and plantings as defined in Tables 10.2.2, 10.2.3 and 10.2.4. Associated with each Landscape Buffer Area requirement is a planting density requirement. The planting density requirement indicates the minimum amount of landscape material to be provided within each Landscape Buffer Area to ensure an appropriate screen.

Step 2
Based on intensity class of proposed and adjacent uses, determine applicable entries in Tables 10.2.3 and 10.2.4

Table 10.2.2 LBA Size and Planting Requirements				
Intensity Class of Adjacent Site	Proposed Use			
	2	**3**	**4**	**5**
1	B.2**	B.3	C.4	D.4
2		A.2	C.4	D.4
3			B.4	C.4
4				A.1
**- Letter entries in this table reference Table 10.2.3; numbers refer to requirements of Table 10.2.4.				

Table 10.2.3 Buffer Yard Widths and Multipliers			
Landscape Buffer Area Type	**Width Options (in feet)**	**Planting Density Multiplier[2]**	
A	5[1]	2	STEP 3 Select Buffer Yard width option and associated planting multiplier.
	10	1.5	
	15	1	
B	10[1]	1.5	
	15	1.5	
	20	1	
C	15[1]	1.5	
	25	1.5	
	35	1	
D	25[1]	1.5	
	35	1.5	
	50	1	

1 This option is only available in the Traditional Neighborhood, Traditional Workplace and Traditional Marketplace Corridor Form Districts.

2. The Planting Density Multiplier allows for a reduction in the size of Landscape Buffer Areas with a provision of an increased number of trees to offset the reduction in buffer width. (A "2" multiplier requires twice the number of trees to be planted as required in Table 10.2.4.)

Table 10.2.4 Planting Density and Screening				
Planting Density Requirement Categories (per 100 linear feet)				Step 4 Identify required plantings and screening
1	**2**	**3**	**4**	
2 Large (Type A), Medium (Type B) or Small (Type C) tree + 3 foot screen	2 Large (Type A) or Medium (Type B) trees + 6 foot screen	3 Large (Type A) or Medium (Type B) (min. 50% Large (Type A)) trees + 6 foot screen	3 Large (Type A) or Medium (Type B) (min. 75% Large) (Type A)) trees + 8 foot screen	

EXAMPLE:

In the Neighborhood Form District, construction of a C-1 retail establishment (Intensity Class 4) is proposed adjacent to the R-4 district (Intensity Class 1). A "C.4" buffer is required. A 35 foot buffer strip, 8 foot screening fence and 3 large trees per 100 feet of perimeter are required. The developer has the option of decreasing the buffer to 25 feet, and increasing the number of trees to 4.5 per 100 feet of common boundary with the R-4 property. If the site were in the Traditional Neighborhood Form, the developer would have the option of a 15 foot buffer, with 4.5 trees per 100 feet.

NOTE: *Appendix 10A classifies tree species as type A B or C*

B. Explanatory Text and Exceptions: Property perimeter Landscape Buffer Areas may contain walks, trails, or other similar elements, provided that the required plant material (as defined in the part to follow) is not eliminated and the Landscape Buffer Area is at least 25 feet wide. Property perimeter Landscape Buffer Areas shall be free from all other development including buildings, parking, driveways or other structures except those attendant to public utility service within a dedicated easement. Outdoor storage or stockpiling of materials is not permitted within property perimeter Landscape Buffer Areas.

NOTE: *Retaining walls are not permitted within a required landscape buffer area*

For all development sites whenever possible , all utilities shall be located within a common trench (unless specifically approved by landscape architect).

Utility easements (e.g., drainage, sewer, gas/electric) are allowed to encroach into as much as 50% of the required width of property perimeter Landscape Buffer Areas provided the required screening can still be achieved and the design of such facilities is compatible with the purpose of the Landscape Buffer Area. If work is required within the easements causing removal or damage of landscape materials (including any required fences, walls or berms), the property owner shall be responsible for replacement of materials according to the approved landscape plan. Type 'C' trees may be planted under overhead utility lines at a minimum spacing of 1 tree per 30 feet of lineal boundary with approval of utility company to meet perimeter tree planting requirement.

The landscape material and buffer area required generally shall be provided by the property owner of the higher intensity activity. If the higher intensity use is already developed and the landscape material and buffer area, required in Chapter 10 has not been provided, the lower intensity use shall provide the required landscaping. If the requirements of this chapter have been fully complied with on an adjoining property, the property owner is not required to duplicate them along the common boundary.

Property perimeter Landscape Buffer Area requirements for schools, fire stations, and other similar community facilities structures shall be determined, as part of a Community Facility Review, and will be based on the form district, size (square feet), height, and location relative to adjacent land uses.

Private schools and churches are to be considered the same as Intensity Class 3 for the purposes of screening in accordance with this part.

Sites with a Conditional Use Permit that are located in a residential zoning district shall be considered the same as a C-1 Commercial use for the purposes of application of Chapter 10, sites located in non-residential districts will follow the landscaping requirements for the zoning district that they are in, unless the Board of Zoning Adjustment deems a different classification is appropriate.

Screens specified in Table 10.2.4 shall consist of shrubs, fences, berms or walls, individually or in combination, that meet the requirements outlined in Part 4, Implementation Standards. Evergreen tree plantings can be substituted for landscape material specified in Table 10.2.4, placement and species to be approved by Planning Commission staff to ensure an effective screen. The planting density multiplier (Table 10.2.3) does not apply to the minimum screen height established in Table 10.2.4.

In the PEC and PRO Zoning Districts (except for C-1 uses in the City of Jeffersontown): Unless a larger Landscape Buffer Area is required, a 15- ft wide Landscape Buffer Area shall be maintained at all side and rear property lines. The landscape strip shall be planted with a number of Large (Type A) or Medium (Type B) trees equal to 1 tree/75 Lineal feet of boundary. Trees do not have to be evenly spaced. Instead, tree placement should be based on site characteristics and compatibility with other landscaping.

Property perimeter Landscape Buffer Areas, unless specifically prohibited, may also count toward other

yard, or setback requirements found elsewhere in these regulations. Property perimeter Landscape Buffer Areas may count towards open space requirements in accordance with Chapter 10 Part 5.
Cellular towers are considered the same as utility substations for the purposes of screening in accordance with this part.

NOTE: *"Type A" in part 3 refers to landscape buffer area in Table 10.2.3*

Exceptions to Landscape Buffer Area requirements are as follows:

1. Property perimeter Landscape Buffer Areas are not required in the Downtown Form District.
2. Property perimeter Landscape Buffer Areas separating differing land uses within a Planned Development Zoning District shall not be required to meet the standards set forth in this Part but shall adhere to the Approved Master Plan for each development.
3. Landscape Buffer Area requirements are waived when a property boundary separates shared parking (as defined in Chapter 9) and may be reduced to Type A between parking when adjoining zoning districts are no more than 1 intensity category apart.
4. If property in intensity class 2 is developed as patio or town homes with a maximum of 6 units per building and no more than 2 stories, six foot high screening of adjacent single-family property is not required. (Landscaping for attached housing using the ADI regulations can be found in Chapter 4 Part 5.)

NOTE: *Paragraph 4 exemption applies only to screening; trees specified in Table 10.2.4 are required.*

5. When offsite buffering and plantings exist on adjoining property, they may be applied toward the sites landscape buffer planting requirements if the adjacent property owner agrees in writing to preserve the planting materials.
6. Perimeter property landscape buffers are not required between a multi-family residential zone and a single-family residential zone when the multi-family residential property is developed as a single-family residential use.

10.2.5 Property Perimeter Planting

Planting within property perimeter Landscape Buffer Areas will serve a number of functions including screening, naturalizing, softening edges, and unifying architectural elements. Planting density requirements, as outlined in Table 10.2.4, have been established to allow for flexible design solutions while reinforcing the site design standards of each form district.

In situations where a property perimeter Landscape Buffer Area slopes, the required plantings shall be located where the staff of the Planning Commission determines they will most effectively screen the more intensive uses.

Existing landscape material which is proposed to be used to fulfill landscape requirements shall be shown on the required plan, and any plant material in satisfactory condition may be used to satisfy these requirements in whole or in part when, as determined by the staff of the Planning Commission or the agency to whom it delegates authority such materials meet the requirements and achieves the objectives of this article. Existing healthy trees may be substituted for trees required for property or Vehicular Use Area perimeter landscaping, or for interior landscaping by using Table 10.4.1 Credit for Existing Trees being Preserved.

10.2.6 Other Uses And Structures Requiring Screening

Screening shall be provided around all service structures (e.g., propane tanks, dumpsters, heating/air conditioning units, electrical transformers, telecommunications boxes) that exceed 42 inches in height and 42 inches in width or are visible from adjoining property when located on roofs. Loading docks and outdoor storage or maintenance yards shall also be screened when adjacent to any right-of-way or residential use or zone.

No landscape material shall be planted closer than 5 feet from the sides of any electric transformer box and all landscape material shall be planted a minimum of 10 feet from the door of such boxes.

Screening shall consist of a continuous fence, wall, berm, evergreen planting, or combination thereof designed to blend in with the architecture (when roof mounted) or character of the area. (Evergreen plantings are not permitted for dumpster screening.) Planting beds, when provided for screening material, shall be at least 6 feet wide. The mature height of the screening material shall be one foot greater than the height of the enclosed service structure, but shall not be required to exceed eight feet in height.

See Section 4.4.9 for refuse disposal container location and screening requirements.

10.2.7 Expressway/Railroad Landscape Buffer Areas and Perimeter Plantings

Buffers have been established to protect and enhance visual quality and to reduce the impacts from high traffic/high speed roadways and railroads. Right- of-way buffer areas shall be provided for each zoning intensity class as indicated in Table 10.2.5.

Table 10.2.5 Right-of-Way Landscape Buffer Area Requirements					
(See Table 10.2.1 for Zoning Intensity Classes, Table 10.2.4 for Planting Density and Table 10.2.3 for Buffer Standards)					
	Zoning Intensity Classes				
Roadway Class	1	2	3	4	5
Expressway	D.4	D.4	C.3	B.3	B.3
Railroads	C.4	C.4	B.2	na	na

10.2.8 Street Trees

A. **Mandatory:** Street trees are required for residentially zoned property along collector and arterial level roadways, as specified in the applicable form district. Street trees shall be provided in the public right-of-way, with permission of the agency having jurisdiction over the right-of-way. If the Public Works Department or Kentucky Transportation Cabinet refuses to allow plantings in the right-of way, street trees shall be provided adjacent to the right-of-way, in a minimum 6 foot wide planting area. All street trees shall conform to the minimum requirements of the Streetscape Master Plan Manual. If a streetscape master plan has been approved for a specific street, all street trees shall be planted in accordance with the approved master plan. Street trees shall be regularly spaced and planted at a ratio of no less than 1 Large (Type A) tree per 50 lineal feet of right- of-way, or 1 Medium (Type B) tree per 40 lineal feet, or 1 Small (Type C) tree per 30 lineal feet. Small trees are permitted only where utility lines or other site constraints will not allow installation of Large or Medium trees. In the event that an MSD approved Green Management Practice (GMP) is being proposed within the right of way or along the edge of the property, the street tree{s} shall be chosen from Chapter 13: Native Revegetation from the MSD Design Manual (a link to document found in Appendix 10A).

NOTE: *See Appendix 10A for listing of Type A, B and C trees.*

B. **Voluntary:** Street trees may be provided adjacent to non-residentially zoned property, as well as residential sites abutting local streets or private access easements providing the principal means of access.

C. **Tree Canopy Bonus:** Street tree plantings shall qualify for a 25% bonus in calculating compliance with tree canopy requirements refer to 10.1.5.D.

10.2.9 Riparian Trees

A. Suburban Form Districts. A tree canopy bonus shall be given for tree plantings meeting the minimum requirements of chapter 10 of the LDC. These bonuses shall be given for plantings within the middle and outer areas of the waterway buffer required for solid perennial streams as outlined within Chapter 4, Part 8 of the LDC for buffers with little or no existing vegetation. The tree canopy bonuses are outlined below:

   1. Middle Buffer – 10%
   2. Outer Buffer – 5%

B. Traditional Form Districts. A tree canopy bonus of 10% may be obtained for additional tree plantings meeting the minimum requirements of chapter 10 of the LDC and approved by MSD to occur within the 25 foot buffer required adjacent to perennial streams. This bonus is applicable to new plantings within buffer areas with little or no existing vegetation. New tree plantings within 100 feet of the top of bank of the perennial stream and within an open space area may be approved at the discretion of the staff landscape architect for a 5% bonus for tree canopy calculations.

10.2.10 Vehicular Use Area Landscape Buffer Areas

Landscape Buffer Areas have been established to reduce the visual impact of Vehicular Use Areas including parking lots, loading docks and service areas. VUA Landscape Buffer Area requirements have been established for each form district based on intensity. These Landscape Buffer Areas shall be provided between any lot containing a VUA and a roadway; and between any lot containing a VUA and any lot zoned for residential use. A five foot LBA shall be provided (containing a 6 foot continuous screen and 1 type A tree per 50 feet of lineal distance) between any lot containing a VUA and a non-residentially zoned lot with a first floor residential use.

Table 10.2.6 VUA Landscape Buffer Area Requirements		
Area of VUA (sf)	**Form District**	**Form District**
	Downtown, Village, Traditional Neighborhood, Traditional Marketplace Corridor, Traditional Workplace	Regional Center, Town Center, Suburban Marketplace Corridor, Neighborhood, Suburban Workplace, Campus
up to 10,000	5-FT	5-FT
10,001-30,000	5-FT	10-FT
>30,000	10-FT	15-FT

Loading areas/docks are not required to be screened from adjacent industrial uses.

Landscape Buffer Areas shall be placed at the edge of pavement (or back of curb if present) when the elevation of the VUA is equal to or higher than the adjacent property. When the VUA is constructed at a lower elevation than the adjacent property, the buffer shall be placed at the common property line.

10.2.11 Vehicular Use Area Perimeter Planting

The equivalent of 1 Large (Type A) tree per 50 linear feet of boundary (or fraction thereof) shall be provided in all VUA perimeter Landscape Buffer Areas. Tree requirements may be deferred, if an equivalent number of street trees are present in the right-of-way, until such time that the street trees are removed to allow for roadway widening or other improvements. Additional landscape requirements shall vary relative to adjacent land uses and proximity to common property lines as follows:

Table 10.2.7 VUA Perimeter Screening Requirements			
	Distance From Property Line		
Land Use	**Less than or equal to 30 feet**	**Greater than 30 feet and less than 50 feet**	**Greater than or equal to 50 feet**
VUA (except loading area) adjacent to any residential use	6 foot continuous screen	3 foot continuous screen	3 foot screen for at least 50% of VUA
VUA is a loading area adjacent to any residential use	8 foot continuous screen	6 foot continuous screen	6 foot continuous screen if adjacent to residential
VUA adjacent to a Roadway	3 foot continuous screen	3 foot continuous screen	NA

The 3-foot or 6-foot screen requirement can be met using shrubs, evergreen trees, berms, or fencing individually or in combination. Continuous screens may be broken and staggered for visual interest provided the result is a visually continuous screen. The 3-foot screen requirement may be reduced to 18 inches when adjacent to financial institutions, nursing homes, or other uses where security is determined to be a factor. All screening material including plants, fencing, walls, and berms used to satisfy these requirements shall conform to the standards found in Chapter 10, Part 4, Implementation Standards. Landscape material in buffer areas shall be protected by the use of curbs, wheel stops, fencing, or planted at least 4 feet from the edge of pavement when sufficient buffer area exists.

> ***NOTE:*** *If VUA LBA area contains a GMP, then plant materials found in Chapter 13: Native Revegetation from the MSD Design Manual (a link to document found in Appendix 10A) are to be used and at least a 3 foot minimum continuous screen is required.*

10.2.12 Vehicular Use Area Interior Landscape Areas

Landscape areas shall be provided within all Vehicular Use Areas to break up large impervious areas and allow for a greater distribution of tree canopy coverage and to provide the opportunity: to capture parking lot stormwater runoff, thus increasing water quality: and retaining greater amounts of storm water on site through infiltration. Dimensional requirements have been established to insure that interior landscape areas serve the intended goals and provide enough ground area to support required plant material. Interior landscape areas shall not be required for enclosed VUAs that are secured from access by a fence, wall or similar barrier at least 3.5 feet in height and used for storage, loading docks or their associated maneuvering areas, or for loading, unloading, and storage areas in an industrial zone PD (industrial uses), C-M, M-1, M-2, M-3, PEC & EZ-1 or in loading dock & truck maneuvering areas in Commercial and Office zones.

ILA shall be provided that in total area equals or exceeds the applicable minimum percentage of the vehicular use area, as specified in the following table:

VUA Size	ILA Area
--under 6,000 sq. ft. or containing < 10 parking spaces	0%
--6,000 - 12,000 sq. ft. or up to 20 parking spaces	5%
--if in a Traditional or Downtown Form District	(2.5%)
--12,000 - 30,000 sq. ft. or up to 100 parking spaces	7.5%
-- if in a Traditional or Downtown Form District	(5%)
--over 30,000 sq. ft. or 100 parking spaces	7.5%

Any landscape area surrounded by or projecting into a Vehicular Use Area can be used to meet interior landscape area requirements provided they are no less than 133 sq.ft. in area and no less than 8 feet in either dimension. Smaller interior landscape areas are not prohibited, but will not count toward interior landscape area requirements.

The maximum distance between interior landscape areas shall apply as follows:

A. VUAs under 12,000 sq. ft. or less than 20 parking spaces - no maximum

B. VUAs of 12,000 sq. ft. or over or 20 or more parking spaces - 120 feet

The maximum distance shall be determined by measuring both:

A. radially from the closest perimeter landscaping area curb edge, and

B. lineally in each row of parking spaces from the closest curb edge of each ILA.

10.2.13 VUA Interior Landscape Area Planting Requirements

When interior landscape areas are required, one Medium or Large deciduous tree shall be provided for every 4,000 square feet of vehicular use area. The ground plane of all interior landscape areas shall be planted using either shrubs, ground cover, or turf. All plant material used to satisfy these requirements shall conform to the standards found in Chapter 10, Part 4, Implementation Standards.

Light poles, sidewalks, benches or other landscape design elements are permitted in the interior landscape

areas provided they do not occupy more than 25% of any one interior landscape area or reduce the width of any planted area to less than 4 feet. Provision of such facilities does not reduce the number of required trees.

NOTE: *the following requirement of Chapter 9 Part 1 may require additional interior landscape area:*

Developments that provide more than fifty (50) off-street parking spaces and exceed the minimum number of parking spaces required by this Part shall either:

A. Surface a portion of its total parking area proportional to the extent to which the minimum number of parking spaces is exceeded using concrete; or

B. Surface the parking spaces in excess of the minimum using semi-pervious paving systems, or locate those parking spaces in excess of the minimum within parking structures or elevator parking systems: or

C. Provide 25% more trees within the required Interior Landscape Area (ILA) than is otherwise required by Chapter 10 of the Land Development Code for the site's entire parking area. The trees provided shall be Type A trees that maximize the amount of shade that is provided within the parking area. Additionally, the ILA's shall be designed to maximize their ability to absorb the site's stormwater runoff in an effort to improve the water quality of the stormwater runoff and to provide an adequate water supply to ensure the long term health of the canopy trees.

The Planning Commission may modify this requirement if the applicant demonstrates that an alternative site design, surfacing material or facility type offers greater environmental benefits

10.2.14 Alternative Landscape Plans

It is not the intent of this article to discourage innovative, aesthetically pleasing landscaping design. Thus, the developer may, at his/her option, submit a landscape plan which conforms to the spirit and intent of this article while varying from its specific requirements. The plan presented must be deemed a substantial improvement over the minimum requirements of this article by the Planning Commission or the agency responsible for plan review.

10.2.15 Landscape Architect Seal Requirement

Landscape plans with vehicle use area (VUA) 30,000 square feet in area or larger shall be required to have a landscape architect seal on the landscape plan.

10.2.16 Form District Specific Landscape Requirements

The following form district specific landscape requirements apply regardless of the applicability of general chapter 10 requirements.

A. See Section 7.1.84 for new single family residential subdivisions within a Suburban Workplace Form District.

B. Per Chapter 5 Part 5 regardless of the applicability of Chapter 10 requirements the following shall apply. When a property is located in the Suburban Workplace Form District. Industrial uses, including structures, loading and truck parking areas, and outdoor storage located within 200 feet of and having a common lot line with residentially used or zoned parcels shall include a 50 foot landscape buffer area with a 6 foot berm and canopy trees as required by planting density 1. In cases where trees are to be preserved within the 50 foot landscape buffer, staff landscape architect may waive the need for the six foot berm and replace it with another acceptable continuous screening landscape element (e.g. fence, hedge, etc.). NOTE: Same addition will be added to Section 5.5.4 B.1.)

C. See Section 5.4.2.B.1.b for additional landscape buffer requirements in Suburban Form Districts.

NOTE: *When choosing plant materials, refer to the Louisville and Jefferson County Preferred Plant List (Appendix 10 A) for species that are either native to Jefferson County or that perform particularly well in the area, and to the Louisville and Jefferson County Prohibited Plant List (Appendix 10 B) for species that will not be accepted to meet the requirements of this code.*

NOTE: *The following terms relating to Landscape Design are included in the Definitions (Chapter 1 Part 2): Vehicle Use Area (VUA) , Landscape Buffer Area (LBA), Interior Landscape Area Buffer Area ILA), Tree, Type A, , Tree, Type B, , Tree, Type C,*

D. In the Town Center Form District perimeter masonry walls or a combination of masonry wall and landscaping between residential uses and more intense uses may be substituted for the required property perimeter buffer yard to promote a more compact pattern of development.

Chapter 10 Part 3 Parkway and Scenic Corridor Development Standards

The intent of this Part is to provide for the designation of Parkways, Olmsted Parkways, Scenic Corridors and the Gene Snyder Freeway and for the creation of development standards applicable to developments adjacent to those corridors in an effort to protect existing scenic and aesthetic qualities, to ensure a quality visual experience on developing corridors and to protect and improve the visual experience on established corridors.

10.3.1 Relationship to the Comprehensive Plan

The standards prescribed by this Part are intended to implement the following Cornerstone 2020 Comprehensive Plan Goals and Plan Elements.

Goals	Plan Elements
Mobility Strategy Goals C1; D1 Livability Strategy Goals F2; F4; H3; J4	Guidelines 3, 8, 13

10.3.2 Applicability

The requirements of this Part shall apply to all new development, the demolition and reconstruction of an existing building, and the expansion of an existing building or vehicle use area by more than fifty (50) percent that is adjacent to The Gene Snyder Freeway or any corridor designated as a *Parkway, Olmsted Parkway* or *Scenic Corridor*.

10.3.3 Designation

A. Parkways and Scenic Corridors are established through nomination and legislative approval. A roadway may be nominated as a Parkway or Scenic Corridor by resolution of the legislative body(ies) or by resolution of the Planning Commission. Resolution by Planning Commission alone requires the receipt of a petition signed by more than 50 percent of the property owners in favor of nominating the street as a scenic corridor or parkway. The Planning Commission shall conduct a public hearing and recommend candidates for designation to the legislative body(ies) with jurisdictional control which, if approved, are placed on the official Parkway, Olmsted Parkway, Scenic Corridor and Gene Snyder Freeway Maps included in Appendix 10C, which is incorporated herein by reference.

B. Olmsted Parkways are part of the Louisville and Jefferson County Parks system and are listed as a historic district on the National Register of Historic Places. They are the original parkways that were established by Fredrick Law Olmsted to provide linkages between the community's parks and open spaces and are depicted on the official Parkway, Olmsted Parkway, Scenic Corridor and Gene Snyder Freeway Maps included in Appendix 10C, which is incorporated herein by reference. Any addition and/ or modification to the existing Olmsted Parkway network shall require the same nomination and legislative approval process as described in (A) of this Section, above.

C. The Gene Snyder Freeway is an expressway that was developed along the eastern and southern outskirts of the county and is depicted on the official Parkway, Olmsted Parkway, Scenic Corridor and Gene Snyder Freeway Maps included in Appendix 10C, which is incorporated herein by reference. Any extension or modification to the Gene Snyder Freeway designation shall require the same nomination and legislative approval process as described in (A) of this Section, above.

10.3.4 Landscape Plan Requirement

Any development that requires any vegetation to be planted and maintained to meet the requirements of this Part shall have a landscape plan approved prior to receiving a building permit..

10.3.5 Parkway Development Standards

All new development and expansion of existing developments as prescribed in Section 10.3.2, above, shall meet the following requirements.

A. Parkway Setbacks, Buffering and Landscaping Requirements

1. Parkway setbacks, buffering and landscaping shall be required in accordance with Table 10.3.1, below.

Table 10.3.1

Type of Development	Required Setback	Required Buffer Area	Required Landscaping	
Single Family Residential	75 feet	50 feet	1 Type A tree for each 40 feet of road frontage.	Note: The Required Buffer Area is located within and is part of the Required Setback.
Multi-family Residential	75 feet	50 feet	1 Type A tree for each 40 feet of road frontage and a visually continuous berm as needed to screen the vehicle use area with an average height of at least 3 feet and shrub massings on or fronting the berm with at least 1/3 of the frontage length planted.	
Nonresidential	30 feet	30 feet	1 Type A tree for each 40 feet of road frontage and a visually continuous berm as needed to screen the vehicle use area with an average height of at least 3 feet and shrub massings on or fronting the berm with at least 1/3 of the frontage length planted.	

2. When the requirements of this Part specify the use of Type A trees in areas where existing overhead utility lines make the use of Type A trees impractical, Type B trees may be substituted at a rate of one tree for each thirty (30) linear feet of road frontage and Type C trees at a rate of one tree for each fifteen (15) feet of road frontage.

3. A fifteen (15) foot parkway buffer area and its corresponding required landscaping shall be required for the first one hundred (100) linear feet of any street intersecting a Parkway unless that street is a designated Olmsted Parkway, Scenic Corridor or the Gene Snyder Freeway, in which case the specific buffering and landscaping requirements for those corridors shall be applicable.

4. The average height of the required berm may be increased by up to three additional feet (up to six feet in total height) upon a finding by the Planning Director that a taller berm is necessary to effectively screen the vehicle use area due to the site's topography in relation to the roadway. The required berm may be replaced by a continuous fence, wall or hedge when the Planning Director finds that the proposed modification is in character with nearby developments or allows for tree preservation that would not be possible if a berm was provided.

5. All parkway setbacks and buffer areas shall be measured from the property line adjacent to the right-of-way of the Parkway.
6. Required plantings shall consist of a mix of deciduous and evergreen trees so as to provide for the corridor's visual interests on a year round basis. A minimum 10% of the required trees shall be evergreen.
7. No tree clearing, construction, or re-grading shall take place within one hundred (100) feet of the right-of-way prior to landscape plan approval, except that utility maintenance and landscape maintenance required for public health and activities ordinarily associated with surveying and similar preliminary site analysis shall be permitted.
8. Parkway buffer areas shall be set aside to accommodate the required landscape and buffering materials. No vehicle use areas, except for necessary driveway crossings, or buildings or structures, except for fences, walls and structures attendant to public utility services, shall be permitted within a required parkway buffer area. Freestanding signs shall be permitted within a required parkway buffer area. Retention or detention basins may occupy no more than 50% of the required width of any parkway buffer area.
9. Required parkway setbacks shall apply to buildings, excluding accessory structures less than one hundred (100) square feet in area. They shall not apply to vehicle use areas.
10. Parkway plantings must be installed within 6 months or next available planting season per PDS staff, from the issuance of the site disturbance/clearing and grading permit.

B. Signage

All signage shall be in accordance with Chapter 8 "Sign Regulations" and with all other applicable provisions of the Land Development Code.

10.3.6 Scenic Corridor Development Standards

All new development and expansion of existing developments as prescribed in Section 10.3.2, above, shall meet the following requirements.

A. Scenic Corridor Setbacks, Buffering and Landscaping Requirements

1. Scenic corridor setbacks, buffering and landscaping shall be required in accordance with Table 10.3.2, below, except that any scenic corridor located within a Special District that has scenic corridor development standards created specifically for that Special District shall adhere to the standards applicable to that Special District.

Table 10.3.2				
Type of Development		**Required Setback**	**Required Buffer Area**	**Required Landscaping**
Residential	Major Subdivisions and Multi-Family *(a developer shall have the option of choosing between the 50 or 200 foot buffer areas and their corresponding planting areas and landscaping.)*	50 feet	30 feet*	Any combination of preserved vegetation, newly installed trees and shrubs and berms that will create a continuous visual barrier to a height of 6 feet upon maturity. At least one Type A tree must be provided for every 40 feet of buffer length. *The 30 foot required buffer area may be reduced to 20 feet if a privacy fence, at least 6 feet in height, is provided at the rear of the buffer area (the side not adjacent to the right-of-way) and some combination of preserved vegetation and newly installed trees and shrubs is provided so that at least 75% of the surface area of the fence is screened upon maturity as seen from the scenic corridor. At least one Type A tree must be provided for every 40 feet of buffer length.
		200 feet	None	1 Type B or C tree for each 25 feet of building façade visible from the scenic corridor (to be located between the scenic corridor and the structure) and 1 Type A tree for each 50 feet of scenic corridor road frontage (street trees) to be located within 15 feet of the right-of-way
	Single Family Residences on Preexisting or Minor Platted Lots	50 feet	None	1 Type B or C tree for each 25 feet of building façade visible from the scenic corridor (to be located between the scenic corridor and the structure) and 1 Type A tree for each 50 feet of scenic corridor road frontage (street trees) to be located within 15 feet of the right-of-way
Non-residential		40 feet	25 feet	1 Type A tree for each 40 feet of scenic corridor road frontage and a visually continuous berm as needed to screen the vehicle use area with an average height of at least 3 feet and shrub massings on or fronting the berm with at least 1/3 of the frontage length planted.

2. When the requirements of this Part specify the use of Type A trees in areas where existing overhead utility lines make the use of Type A trees impractical, Type B trees may be substituted at a rate of one tree for each thirty (30) linear feet of road frontage and Type C trees at a rate of one tree for each fifteen (15) feet of road frontage.
3. All scenic corridor setbacks and buffer areas shall be measured from the property line adjacent to the right-of-way of the scenic corridor.
4. All scenic corridor buffer areas and landscaping requirements shall be applicable to the first

fifty (50) linear feet of any intersecting street unless that street is a designated Parkway, Olmsted Parkway or the Gene Snyder Freeway, in which case the specific buffering and landscaping requirements for those corridors shall be applicable.

5. All required landscaping shall be located within the required buffer area except where explicitly stated otherwise.
6. The berm required to screen the vehicle use area of non- residential developments may be replaced by a continuous fence, wall or hedge when the Planning Director finds that the proposed modification is in character with nearby developments or allows for tree preservation that would not be possible if a berm was provided.
7. Plantings shall consist of a mix of deciduous and evergreen trees so as to provide for the corridor's visual interests, whether it be screening or creating a filtered view from the roadway, on a year round basis.
8. No tree clearing, construction, or re-grading shall take place within forty (40) feet of the right-of-way prior to landscape plan approval, except that utility maintenance and landscape maintenance required for public health and activities ordinarily associated with surveying and similar preliminary site analysis shall be permitted.
9. Scenic corridor buffer areas shall be set aside to accommodate the required landscape and buffering materials. No vehicle use areas, except for necessary driveway crossings, or buildings or structures, except for fences permitted by this Section and structures attendant to public utility services, shall be permitted within a required scenic corridor buffer area. Freestanding signs shall be permitted within a required scenic corridor buffer area. . Retention or detention basins may occupy no more than 50% of the required width of any scenic corridor buffer area.
10. Required scenic corridor setbacks shall apply to buildings, excluding accessory structures less than one hundred (100) square feet in area. They shall not apply to vehicle use areas.
11. Scenic corridor plantings must be installed within 6 months or next available planting season per PDS staff, from the issuance of the site disturbance/clearing and grading permit.

B. Signage

All signage shall be in accordance with Chapter 8 "Sign Regulations" and with all other applicable provisions of the Land Development Code.

C. Fences

1. Chain-link fences shall not be permitted within the scenic corridor buffer area.
2. Privacy fences shall only be permitted within the scenic corridor buffer area as explicitly permitted in Table 10.3.2.
3. Three and four board wood fences, sometimes called "horse fences", wire fences traditionally used to secure livestock, and stone or masonry fences less than four feet in height shall be permitted within the scenic corridor buffer area.

D. Road Improvements

As development occurs adjacent to the community's scenic corridors, road improvements may be required to provide for the safety of those facilities. As these improvements occur, special consideration shall be given to preserving / maintaining the existing character of the corridor. The following aspects shall be considered when making such improvements.

1. Limiting land disturbance to only those areas necessary for road improvements to occur. This may require the use of construction fencing to protect existing trees located in the right-of-way and on private property.
2. Maintaining the existing streetscape of the corridor. This may require applying for an encroachment permit to establish vegetation in the right-of-way and locating pedestrian facilities so as to maximize tree preservation. Meandering sidewalks are specifically permitted and encouraged.

NOTE: *For the purposes of this Part "privacy fence" shall mean any fence made of wood or other material whose primary purpose is to block or substantially reduce or obstruct visibility. This definition includes stone and masonry walls, except as provided in C.3. of this Section.*

10.3.7 Gene Snyder Freeway Development Standards

All new development and expansion of existing developments as prescribed in Section 10.3.2, above, shall meet the following requirements.

A. Gene Snyder Freeway Setbacks, Buffering and Landscaping Requirements

1. Gene Snyder Freeway setbacks, buffering and landscaping shall be required in accordance with Table 10.3.3, below.

Table 10.3.3

Type of Development	Required Setback	Required Buffer Area	Required Landscaping
All Development	See Chapter 5 Part 1 (Form District Regulations) for residential Setback requirements.	50 feet	1 Type A or B tree for each 30 feet of road frontage and 1 large shrub for each 20 feet of road frontage

2. All Gene Snyder Freeway setbacks and buffer areas shall be measured from the property line adjacent to the right-of-way of the Freeway.
3. At least seventy-five (75) percent of the trees and shrubs being planted to meet the requirements of this Part shall be native to this area. DPDS staff shall provide applicants/developers with guidance as to which vegetative species are appropriate to be used to meet this requirement.
4. Plantings may be grouped together so as to be natural in style and are intended to partially screen the buildings from the Freeway in an effort to provide for the visual interest of the corridor.
5. At least twenty-five (25) percent of the trees required by this Part shall be evergreen trees so as to partially screen development from the Freeway on a year round basis.
6. No tree clearing, construction, or re-grading shall take place within fifty (50) feet of the right-of-way prior to landscape plan approval, except that utility maintenance and landscape maintenance required for public health and activities ordinarily associated with surveying and similar preliminary site analysis shall be permitted.

7. Preservation of existing vegetation is the preferred means of meeting the screening objective. When preservation occurs, the applicant shall provide as part of the tree preservation plan an existing tree survey that depicts the general location, species mix, and typical size of existing stands of trees that are proposed to be retained. Photographs showing the general quality of the buffer area's existing vegetation shall also be provided.
8. In those instances that because of a site's topography in relation to the freeway vegetation alone will not provide for effective screening between a development and the Freeway, the Planning Commission or its designee may require a berm or other screening measures in addition to the plantings required by this Section.
9. All required setbacks, buffer areas and vegetation applicable to the Gene Snyder Freeway shall also be applicable to all Gene Snyder Freeway access ramps.
10. Gene Snyder Freeway buffer areas shall be set aside to accommodate the required landscape and buffering materials. No vehicle use areas, buildings or structures, except for fences or walls permitted by this Section and structures attendant to public utility services, shall be permitted within a required Gene Snyder Freeway buffer area. . Retention or detention basins may occupy no more than 50% of the required width of the Freeway buffer area.
11. Gene Snyder plantings must be installed within 6 months or next available planting season per PDS staff, from the issuance of the site disturbance/clearing and grading permit.
12. In the event that the GMP is utilized within the Gene Snyder Freeway: Buffer, the trees may: be selected from Chapter 13: Native Revegetation from the MSD Design Manual (a link to document found in Appendix 10A).

B. Signage

All signage shall be in accordance with Chapter 8 "Sign Regulations" and with all other applicable provisions of the Land Development Code.

C. Fences

1. All privacy fences shall be setback at least thirty (30) feet from the right-of-way line of the Freeway and all of the required plantings shall be located between the Freeway and the fence.
2. Where conditions permit, any fences or walls constructed to mitigate noise levels on adjacent or nearby properties shall provide the required trees and shrubs between the Freeway right- of-way and the fence or wall.

10.3.8 Olmsted Parkway Development Standards (RESERVED)

10.3.9 Alternative Landscape Designs

It is not the intent of this Part to discourage innovative, aesthetically pleasing landscape buffer area designs. Thus, the developer may choose to submit a landscape plan depicting buffering materials/plantings that conform to the spirit and intent of this Part, while varying from the specific planting requirements. The alternative buffering materials/plantings may be permitted if the Planning Director finds that said deviations are a substantial improvement over the minimum requirements of this Part.

10.3.10 Modifications

The Planning Commission may modify or waive the buffering and planting requirements of this Part upon making the findings specified in Chapter 11 Part 8 of the Land Development Code.

Chapter 10 Part 4 Implementation Standards

10.4.1 Plant Species

Any proposed new plant material used to satisfy the requirements of this development code shall be of a species other than those listed in the current version of the Louisville and Jefferson County Prohibited Plant List adopted by the Planning Commission. To the greatest extent possible, new plant material should be selected from species included in the current version of the Louisville and Jefferson County Preferred Plant List adopted by the Planning Commission. This list consists of species that are either native to Jefferson County or that perform particularly well in the area, or both. For areas where bio-retention or constructed wetlands are proposed, plants must be chosen from Chapter 13: Native Revegetation from the MSD Design Manual (a link to document found in Appendix 10A) except as indicated in Part 3 of this Chapter.

Over-dependence on a single genus may result in extensive loss due to disease, insects or other pests. To ensure a diversity of species within Louisville and Jefferson County's forests the mix of required trees and shrubs for all development proposals shall conform to the following diversification formula: 50% maximum of any single species (e.g., Quercus rubrum); 25% maximum of any single species within bio retention, wetlands or other GMP planting areas provided the area is over 200 sq.ft. Exceptions to the diversification formula shall be allowed for:

A. Sites of less than two acres, if required plantings are chosen from the Preferred Plant List

B. Sites located within a Neighborhood Study or Corridor Study approved by the Planning Commission with street tree or landscape guidelines or sites containing a streetscape master plan approved by the Planning Commission;

C. A Planned Development or General Development Plan containing a planting plan approved prior to the effective date of this code

10.4.2 Plant Quality

All plant materials shall be living plants (artificial plants are prohibited.) Plant materials shall conform to the standards of the American Association of Nurserymen and shall have passed any inspections required under state regulations. Bare root plants, with the exception of vines and groundcovers and bio retention plants shall be prohibited.

10.4.3 Plant Sizes

All required plant material shall meet the following size criteria at time of installation:

Evergreen Trees	6 feet high
Shrubs (when required for 6-8 feet screening)	36 inches high
Shrubs (when required for 3 feet screening)	18 inches high
Grasses or Ground Cover	N/A

Shrubs within GMP planting area – 18 inches high. Size criteria for deciduous tree species shall be determined based on its Size Type as described in Chapter 1 Part 2 (Definitions) of the Land Development Code. Installation criteria for each Size Type is as follows:

Small Tree (under 25 feet in height at maturity)	6 feet high
Medium Tree (25 feet-50 feet in height at maturity)	1 ¾ inch caliper
Large Tree (over 50 feet in height at maturity)	1 ¾ inch caliper

Bio-retention area tree found in Ch. 13 of MSD Design Manual but not in Appendix 10A preferred plant list- 1 inch caliper. When planting Medium or Large Trees, Small Sites (as defined in 10.2.2(C) and Single Family Residential sites shall be required to install such trees at a minimum size of 1 inch caliper.

All minimum size requirements shall conform to the characteristics set forth in the American Standard for Nursery Stock, latest addition.

Any existing trees on a site or street trees planted on an adjacent right-of-way that are used to meet the Tree Canopy Regulations (Chapter 10 Part 1) may be credited towards fulfillment of any landscaping, screening, or buffering provisions of this Chapter. The following chart indicates the credit applied for each existing preserved tree. The credit for the existing tree can be used toward landscape buffer area planting requirements.

Table 10.4.1 Credit for Existing Trees being Preserved		
Diameter Size of Existing Tree	**Minimum Square Footage of Greenspace**	**New Tree Equivalent**
6” or less	150	1 medium tree (Type B)
>6” – 9”	150	2 medium tree (Type B)
>9”	250	Each additional 3” diameter increment above 9” counts as an additional medium tree (Type B)

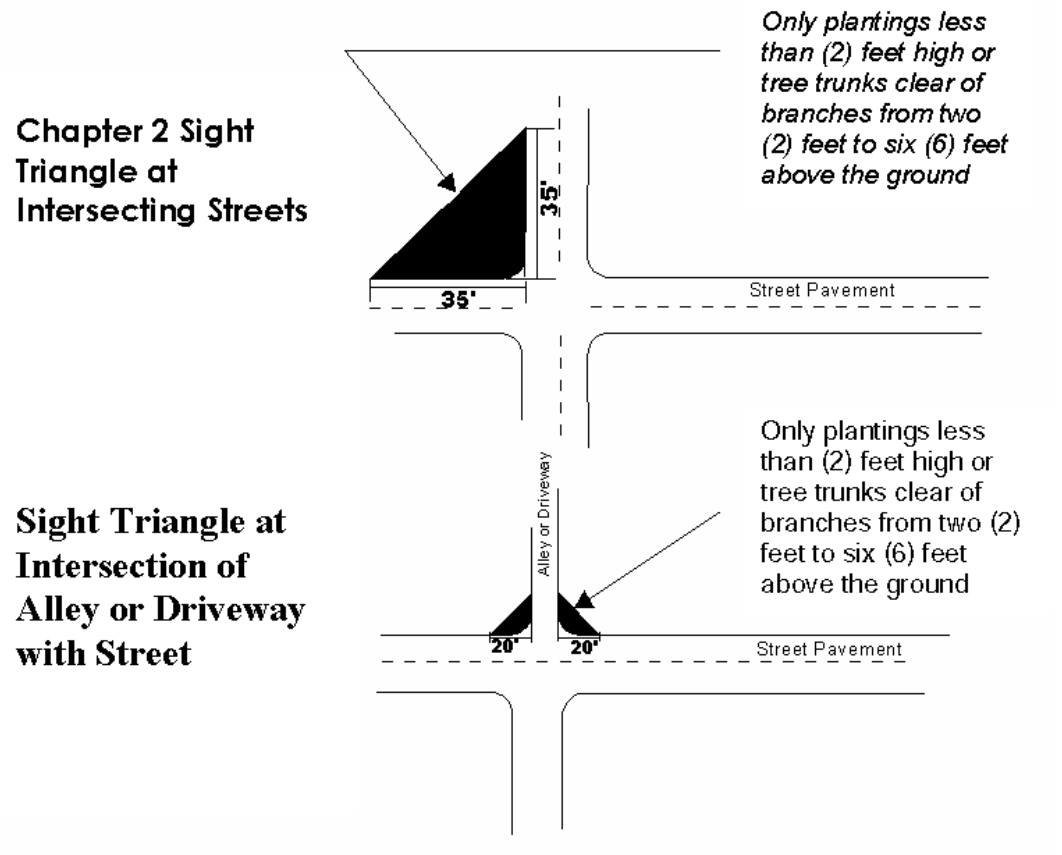
10.4.4 Spacing

No newly planted trees may be planted closer together than 10 feet for small trees, 25 feet for medium trees, and 30 feet for large trees. When planting new trees near existing mature trees, leave a minimum distance of half of the new tree’s mature spread between the new tree and the existing trees. Planning Commission staff can authorize a closer spacing of trees in special circumstances. When GMP planting areas are used within perimeter buffer area, the screening intent of this part should still be met.

Table 10.4.12	
TREE SPACING AGAINST BUILDINGS	
Tree Height	**Minimum Spacing from Building Edge**
Up to 25 feet (small tree)	10 feet
25 feet-50 feet (medium tree)	15 feet
50 feet+ (large tree)	15 feet
No tree shall be planted in a space less than 3 feet in width. Only small trees shall be planted in spaces less than 4 feet in width.	

Trees shall be located to provide shade over impervious surfaces to the maximum extent possible.

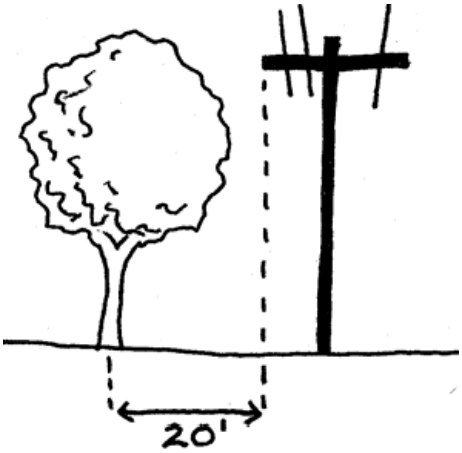
Figure 10.4.1



No tree shall be planted closer than 5 feet to any fireplug, utility pole, or similar utility structure. Large or medium trees shall not be located beneath overhead wires, and shall be planted at least 20 feet from any easement or right-of-way in which overhead wires are located. With approval from the appropriate utility company Type C trees planted 30 feet on center may be planted beneath overhead utility lines to meet perimeter tree planting requirement.

No landscape material shall be planted closer than 5 feet from the sides of any electric transformer box and all landscape material shall be planted a minimum of 10 feet from the door of such boxes.

Overhead
Wire Graphic



To assure that landscape materials do not constitute a driving hazard, a "sight triangle" will be observed at all street intersections including street intersections and intersections of alleys or driveways as illustrated below. The sight triangle shall be measured from edge of pavement to edge of pavement.

10.4.5 Planting Details

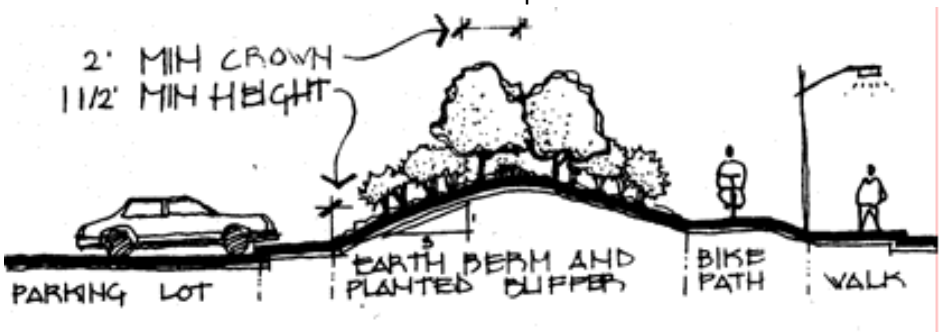
Any plant material introduced to meet the requirements of this Development Code shall be installed in accordance with sound planting guidelines adequate to sustain vigorous and healthy growth.

10.4.6 Berms

Any berm built to satisfy the requirements contained in this regulation shall be constructed as follows: a minimum height of 1 1/2 feet, and a minimum crown of 2 feet measured on a horizontal plane. Berms with side slopes greater than

3:1 shall be planted with ground cover that does not require mowing. Berms over 3 feet in height planted with woody plant material shall be permitted if the applicant demonstrates to satisfaction of Planning Commission staff that adequate measures will be taken to allow the proposed plants to thrive. Landscape plans shall indicate, by a detail drawing, or by specification in a note on the plan, the type and location of irrigation system to be used. Plans should be specific enough to show that adequate irrigation will be provided to all required plant materials.

Beam Graphic



10.4.7 Transplanting

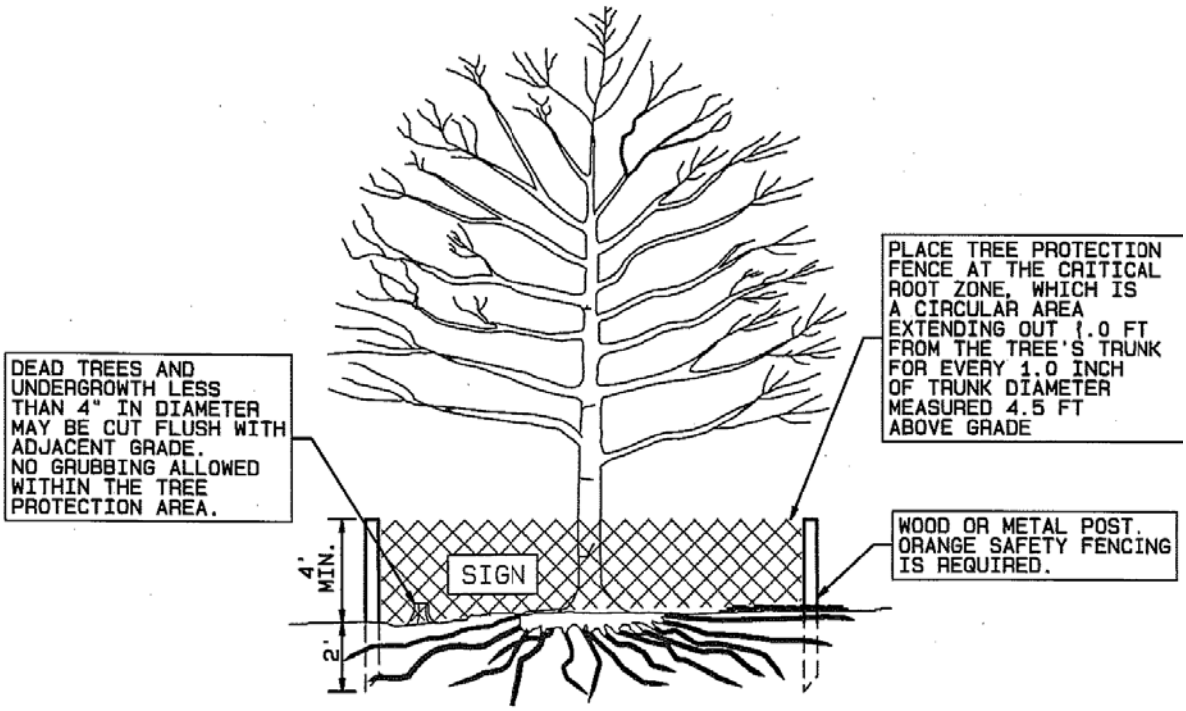
Any tree that is not nursery stock and is to be moved in order to meet requirements of this regulation shall be transplanted in accordance with sound planting guidelines adequate to sustain vigorous and healthy growth.

10.4.8 Protection During Construction

All tree preservation, tree canopy protection and woodland protection areas shall be identified, protected and preserved in accordance with Tree Preservation Policies of Louisville Metro Planning and Design Services.

Tree Protection Fencing – Protection fencing is designated as the materials used to protect the critical root zone of trees as illustrated below. Three basic types of protective fencing materials are allowed by the LDC. Type A and Type B are typical applications to be installed on sites two acres or less. Type C shall be installed on sites greater than two acres. Where type C is used signs shall be posted every 50 linear feet. The specific type of protective fencing shall be indicated on the tree preservation plan. Type C fencing shall be replaced by Type A or Type B fencing if it is deemed necessary by PDS staff upon site inspection and tree preservation plan review.

- Type A: Chain link fence (Typical Application – sites two acres or less). Type A protective fencing shall be installed in accordance with the approved construction detail and shall consist of a minimum five foot high chain link fencing with tubular steel support poles or "T" posts.
- Type B: Wood Fence (Typical Application – sites two acres or less). Type B protective fencing shall be installed in accordance with approved construction detail and shall consist of any vertical planking attached to 2x4 inch horizontal stringers which are supported by 2x4 inch intermediate vertical supports and a 4x4 inch at every fourth vertical support.
- Type C Other Materials (Typical Application – sites over two acres). Type C protective fencing shall be installed in accordance with approved construction detail. Signs shall be posted every 50 lineal feet. The material of the fencing may include high visibility plastic construction fencing or other approved equivalent restraining material. The fencing materials identified above shall be supported by steel pipe, tee posts, U posts or 2" x 4" timber posts that are a minimum of 5 ½ feet in height and spaced no more than eight feet (2.44 meters) on center.



NOTES:

1. SEE PLANS FOR LOCATION OF ALL TREE PROTECTION FENCES.
2. ALL TREE PROTECTION DEVICES MUST BE INSTALLED PRIOR TO LAND DISTURBANCE, INCLUDING THE CUTTING OF ANY TREES, AND MUST BE INSPECTED BY THE Landscape Architect OR HIS DESIGNEE.
3. NO GRADING, TRENCHING, FILLING OR STORING OF MATERIALS IS TO OCCUR IN THE TREE PROTECTION AREA.
4. TREE PROTECTION FENCE MAY NOT BE REMOVED WITHOUT THE APPROVAL OF THE Planning Commission OR HIS DESIGNEE.
5. THE TREE Preservation AREA SHOULD BE DESIGNATED WITH "TREE Protection AREA" SIGNS POSTED VISIBLY ON THE OUTSIDE OF THE FENCED-IN AREA. SIGNS MAY NOT BE POSTED ON THE TREES.

Tree Preservation/Protection Signage – All tree protection fences must be accompanied by "Stay Out" and "Tree Protection Area" signage. Size and text of sign will be standardized.

No clearing, grading or other land disturbing activities shall be allowed within the area enclosed by the tree

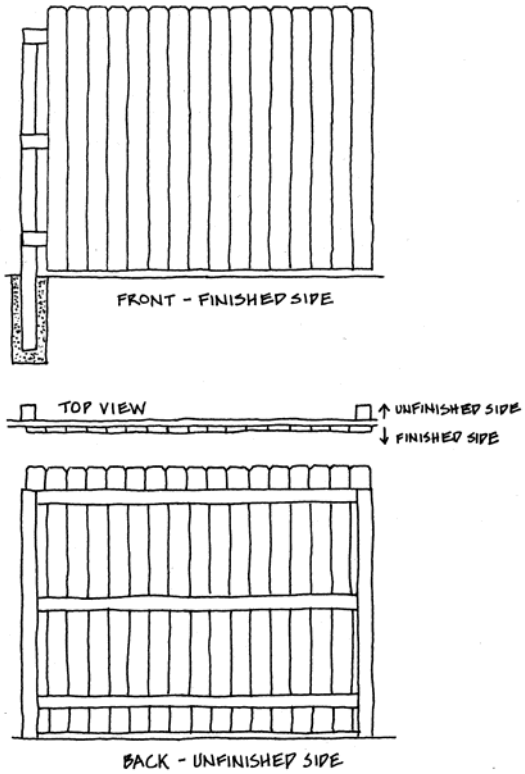
protection barrier. No equipment, materials, or vehicles shall be stored or placed within the area enclosed by the tree protection fence.

To prevent compaction of the soil or root system, no parking, material storage, or construction activities are permitted within the boundaries of the constructed barrier or vegetative buffers, beyond that allowed for preliminary site investigation work,

10.4.9 Walls and Fences

Walls and fences built to satisfy the requirements of the Land Development Code shall meet the following standards. Walls shall be constructed of natural stone, brick, or other weatherproof materials approved by the Commission Director or designee. Fences shall be constructed of wood or other weatherproof, durable materials intended for exterior use and approved by the Commission Director or designee. Walls or fences used to satisfy screening requirements shall be at least 80% opaque. Fences shall provide a finished side facing the lower intensity use. Chain link fencing may not, under any circumstances be used to meet any screening requirements of this regulation, nor shall slats installed as part of a chain link fence be allowed to satisfy screening requirements. However, chain link fencing may be installed for other purposes within the required buffer area if it is used in addition to plants, berms or other allowable screening material and is not otherwise restricted by the form district regulation or other applicable parts of this Code. Walls and fences allowed to meet the requirements of this regulation shall not be used to display or support any sign or other advertising device.

Finished side fence graphic



10.4.10 Lighting

Any lights used to illuminate landscaping must be shown on the landscape plan.

10.4.11 Land Clearing

Selective Clearing - Selective clearing of trees, shrubs and underbrush may be necessary or desirable in certain instances. Trees along the edge of a preservation area may be susceptible to off site impact and non-construction impacts (such as when a newly created woodland edge is formed increasing exposure to higher winds and temperatures). Selective clearing may be an appropriate management technique within Woodland Preservation Areas after development to encourage new growth or longevity. Selective clearing may also be necessary for individual trees that may be in danger of falling on structures, roadways or other vehicular use areas, or into open sections of yard where outdoor activities are likely to take place.

Selective clearing will be limited to areas identified to allow such clearing on an approved Development Plan, Tree Canopy Plan or Landscape Plan and may only take place after the development is complete.

10.4.12 Implementation

On sites two (2) acres or less in size, all new trees proposed to meet the requirements of Chapter 10, parts 1, 2, 3 and 6 shall be planted within six months of the completion of the development or next planting season per PDS staff. The following further clarifies "completion of the development":

A. Subdivisions

1. Perimeter Landscaping – Landscaping shall be installed prior to recording of the record plat of the particular subdivision section.
2. Street Trees – The time line of installation shall be established by condition of approval for the subdivision at time of preliminary plan approval.

B. All Development Plans

1. Installation of landscaping shall be established and a note placed on the approved landscape plan indicating installation time line.

10.4.13 Maintenance

A. For any tree located on public or private property as a requirement of an approved Landscape or Tree Preservation Plan, the following activities are prohibited:

1. Attachment of rope, wire, nails, advertising posters, or other contrivances.
2. Deposition, placement, or storage of stone, brick, sand, concrete, or other materials which may impede the free passage of water, air, fertilizer to the root system.

B. It will be the responsibility of the property owner to perpetually maintain all landscape areas and associated plant material required under these regulations. The property owner shall also be responsible for maintaining the verge and associated trees within the verge unless the agency having jurisdiction over that verge assumes that responsibility.

C. All unhealthy or dead plant material shall be replaced within one year, or by the next planting period, whichever comes first, while other defective plant material shall be replaced or repaired within three (3) months.

D. An authorized inspector shall have the right to enter onto any property to inspect the health and general condition of plant material that is:

1. Located within the ROW
2. Part of an approved development/landscape plan or
3. Reported as a public hazard

E. In addition to these maintenance requirements, area designated as bio-retention or other MSD approved GMP planting areas shall be per MSD requirements.

F. Replacement requirements and standards of plant material in areas defined as bio-retention or other MSD approved GMP plant areas shall be per MSD maintenance standards.

10.4.14 Protection of Public Property

No person shall plant or intentionally damage, transplant, or remove any tree within any street right-of-way or on any municipal-owned property without approval by the agency having jurisdiction for that right-of-way. Any person or property owner acting without prior approval can be subject to the cost associated with any remedial measures necessary to correct an improper action. (Rationale: Ensure landscaping is installed on-site, survives on-site and that it is replaced when needed on-site.)

10.4.15 Tree Service Contractors (Reserved)

10.4.16 Enforcement

A. If a site is found in violation of the tree preservation policies and Code requirements mitigation measures will be enforced by the appropriate code enforcement agency. (Additional penalties for violations shall be determined by the Planning Commission or its designee.)

B. Removal of trees shown to be preserved shall constitute a violation of binding elements and/or conditions of approval as applicable. Penalties and mitigation measures for removal of existing trees shown to be otherwise permanently preserved and removal of landscaping required by the LDC shall be determined by the Planning Commission or its designee.

C. The replacement requirement is inches per inch. 3” caliper minimum trees from the preferred tree list may be used to add up to the number of inches removed. For example, if a 9” caliper tree is removed, 9” must be replaced. This can be accomplished by using three (3) 3” caliper replacement trees. Trees that are larger than 3”caliper also may be used.

> ***NOTE:*** *Inventory of outer edge of TCPA: The first 10 feet will serve as the inventory of area of disturbance.*

D. The Tree Replacement Chart below will apply when Tree Canopy Preservation Areas have been removed, which were intended to remain. The tree inventory shall be used to determine the number and sizes of replacement trees required.

E. Replacement trees shall be planted within six (6) months or next planting season after action taken by Planning Commission or designee.

Table 10.4.3 Tree Replacement Chart		
Size of Removed Tree	**Number of Replacement Trees Required**	(3” minimum caliper for replacement deciduous trees and 12’ height minimum for evergreen trees)
4” - 6”	2	
>6”- 9”`	3	
> 9” – 12”	4	
>12” – 16”	5	
>16” – 20”	6	
>20” – 24”	7	
>24” – 28”	8	
>28” – 32”	9	
>32” – 36”	10	
>36”	The equivalent of 3” caliper trees or greater needed to equal the DBH of the removed tree	

Chapter 10 part 5 Open Space Standards

The intent of this Part is to provide for the appropriate location, use, design and composition of open space areas provided to meet a requirement or incentive of the Land Development Code. As such, the standards prescribed by this Part shall be applicable to any open space intended to satisfy an open space requirement of the Campus Form District, Village Form District and the Planned Residential Development District or as an incentive in accordance with Alternative Development Incentives.

NOTE: *The following terms relating to Open Space are included in the Definitions (Chapter 1 Part 2) Conservation Easement, Green, Greenway, Holder, Meadow, Open Space, Open Space, Common, Open Space, Private, Open Space, Public, Park, Pedestrian and Bicycle Corridor, Playground, Plaza, Sports Fields, Square*

10.5.1 Relationship to the Comprehensive Plan

The open space standards prescribed by this Part are intended to implement the following Cornerstone 2020 Comprehensive Plan Goals and Plan Elements.

Goals	Plan Elements
Mobility Strategy Goals C1; H2 Marketplace Strategy Goal D2 Livability Strategy Goals A1; B1; B2; B3; B4; E1; E2; E3; E4; F1; F2; F3; F4; G1; G2; G3; G4; H1; H2; H3; H4; H5; I2; J4	Guidelines 3, 4, 5, 10, 11, 12, 13

10.5.2 Types of Open Space

There can be a wide variety of purposes and applications of open space within a specific development site, neighborhood or community. As such, the following general types of open space have been identified with examples of each provided. These categories shall not be considered mutually exclusive as an open space can serve more than one purpose.

A. Open Space for Outdoor Recreation

The following are examples of open space consistent with this type.

1. Parks, greens, squares, plazas
2. Playgrounds, sports fields, outdoor pools and horse riding facilities
3. Pedestrian and bicycle corridors and facilities
4. Golf courses

B. Open Space for Natural Resource Protection / Public Health and Safety

The following are examples of open space consistent with this type.

1. Woodland conservation/protection areas
2. Areas managed for the protection of habitat, native vegetation, and/or threatened or endangered species (e.g. nature preserves)
3. Jurisdictional and non-jurisdictional wetlands (existing or constructed)
4. Designated greenways
5. Stormwater detention and retention basins

6. Regulatory floodplains and conveyance zones
7. Required stream buffers located outside the regulatory floodplain and conveyance zone
8. Lands with slopes over 20%
9. Areas with karst (sinkhole) geology
10. Lands with unstable soils
11. Bio-retention and other MSD approved Green Management Practice (GMP) planting areas.

C. Open Space for Aesthetic, Design Compatibility, Cultural and Educational Purposes

The following are examples of open space consistent with this type.

1. Visual resources such as providing substantial landscape buffer areas or providing a setback in excess of that required so as to maintain the integrity of a scenic corridor
2. Designated or recognized cultural, historic or archaeological sites
3. Landscaped roadway medians at least 30 feet in width that add to the community's improved visual appearance
4. Meadows

D. Open Space for the Managed Production of Resources

The following are examples of open space consistent with this type.

1. Agricultural lands and activities
2. Woodlands managed for forestry production
3. Community gardens

10.5.3 Amount of Open Space Credit

The amount of credit provided towards the fulfillment of an open space requirement or incentive for the various forms of open space depends upon its level of accessibility to the public and the development potential of the land itself. When calculating the amount of credit a particular open space area should be given, the following shall apply.

A. Credit equal to 125% of the open space area shall be given for any open space area that is permanently preserved as Public Open Space, except as prescribed in (D) of this Section.

B. Credit equal to 100% of the open space area shall be given for any open space area that is permanently preserved as Common Open Space, except as prescribed in (D) of this Section.

C. Credit equal to 75% of the open space area shall be given for any open space area that is permanently preserved as Private Open Space, except as prescribed in (D) of this Section and except that no credit shall be given for private open space areas where easements or development rights have been purchased or acquired through the use of public funds.

D. Requirements of this paragraph D. shall only apply to sites that are developed in accordance with Section 2.7.3 (Planned Residential Development District) or Chapter 4 Part 5 (Alternative Development Incentives). Open space that is located in an area in which development is prohibited or is significantly restricted due to environmental constraints or other conditions shall be given partial open space credit in an effort to ensure their permanent preservation. These areas and the open space credit they shall receive are prescribed below.

1. Conveyance zones (50% credit)
2. Jurisdictional wetlands (50% credit)

In order for any of the areas mentioned above to qualify as open space and receive the open space credit prescribed herein, they must meet the open space standards set forth in Section 10.5.4. When an open space credit is prescribed by (D) of this Section, the amount of credit provided shall be calculated by multiplying the open space area by the credit (%) provided in (D) and then by multiplying that total by the credit (%) provided for the various types of preservation (e.g. public, common or private).

NOTE: *Partial credit for open space as specified in 10.5.3.D is not applicable to any required open space (e.g., Campus, Village form districts.)*

10.5.4 Open Space Standards

Because of the variety in the types and functions of open space demonstrated in Section 10.5.2, specific requirements are needed that permit the location, design and use of open space to be consistent with its intended purpose. As such the following standards have been developed for specific open space types and uses. Any area designated as open space shall be categorized and labeled on the face of the applicable plan (e.g. preliminary subdivision, development plan, final site plan, or landscape plan) according to the type of open space and the standards for that type of open space shall be applicable.

A. Standards for All Types of Open Space

1. Any area covered by or contained within any of the following shall not be considered as open space unless specifically permitted: buildings, streets, public or private rights-of-way, parking areas, utility rights-of-way (except where all utilities are required to be underground).
2. Parking lots may not be used to meet an open space requirement or incentive unless they are designed as part of the open space and are intended primarily for users of the open space (e.g., parking for sports field, greenway or park users). Semi-pervious paving systems shall be required when any parking lot proposed to be used as open space contains more than 20 parking spaces.
3. All parklands or other open space intended for dedication to public use must be approved as to location and design by the public entity proposed to be responsible for managing the open space prior to plan approval by the Planning Commission or DPDS.
4. All open space areas other than those provided for developments in the Downtown Form District shall have a minimum dimension of 30 feet and contain at least 6,000 square feet of contiguous area. A minimum dimension of no less than 15 feet may be permitted for pedestrian facilities that connect other open space areas within a site. When a site's open space requirement is less than 6,000 square feet the minimum area may be reduced to equal that requirement.
5. When an area is preserved as private open space, prior to the recording of a plat or the issuance of a building permit, whichever occurs first, the developer and recipient entity shall submit a copy of the recorded conservation easement assuring the permanent protection, preservation and maintenance of the proposed open space. If such documents are not provided, the open space area shall not be considered for the purposes of meeting required open space nor shall it be used to calculate any potential open space credit provided by the Land Development Code.
6. When an area is preserved as common open space, prior to the recording of a plat or the issuance of a building permit, whichever occurs first, the developer and, where applicable, recipient entity shall submit a copy of the recorded documents assuring the permanent protection, preservation and maintenance of the proposed open space. If such documents are not provided, the open space area shall not be considered for the purposes of meeting required open space nor shall it be used to calculate any potential open space credit provided by the Land Development Code. (See Chapter 1 for specific maintenance requirements for common open space and common facilities.)
7. When an area is preserved as public open space, the Planning Director shall review the proposed open

space and determine, upon consultation with the Parks Director, if it is accessible by and a benefit to the general public. Prior to the recording of a plat or the issuance of a building permit, whichever occurs first, the developer shall permanently dedicate the open space to public use in a manner acceptable to the Planning Commission and the recipient entity.

B. Standards for Outdoor Recreation

1. All open space for outdoor recreation shall be preserved as either common or public open space.
2. All open space located within a site shall be integrated and connected with any part of an adjacent and designated park, open space or greenway.
3. Squares and greens shall not be located behind dwellings. The Planning Director may allow exceptions to this standard upon determining that topography, existing street layout, or other features make this restriction impractical.
4. All pedestrian and bicycle corridors used to meet an open space requirement or incentive may not be located in a public right-of- way, shall be at least 30 feet in width, and the paths and trails located within them must be designed to the standards contained or incorporated by reference in the KIPDA Regional Pedestrian and Bicycle Plan.

> ***NOTE:*** *Open space should be integrated and connected within the site to the greatest extent practical.*

C. Standards for Natural Resource Protection / Public Health and Safety Purposes

1. Greenways designated within and meeting the design standards of a legislatively adopted greenways plan or subsequent watershed master plan may be utilized to meet an open space requirement or incentive.
2. Jurisdictional and non-jurisdictional wetlands and their buffers may be used to satisfy an open space requirement or incentive if the hydrologic and vegetative character of the wetland is maintained in a pre-development condition. This shall not preclude increasing the volume of water or rate in which it passes through the wetland when the wetland is being used as a water quality filter and said modifications would not degrade the quality of the existing wetland. It shall also not preclude increasing the size of the wetland or enhancing its existing vegetation.
3. Detention and retention basins may be counted towards an open space requirement or incentive as follows.
   a. Retention basins designed to hold water at least five feet in depth on a continuous basis throughout the year may be used to meet an open space requirement or incentive if its banks are vegetated and landscaping is provided around the basin's perimeter in an effort to make it a visual amenity for the development and the basin is accessible by the provision of walking paths or other pedestrian facilities.
   b. Detention basins may be used to meet an open space requirement or incentive if some form of outdoor recreation is incorporated into its design (e.g., walking paths, tennis courts, basketball courts and similar facilities within the basin). The frequency and duration of standing water in these basins shall not be such that proposed outdoor recreation use is practically restricted on a regular basis. The applicant shall address provision of maintenance necessary to allow the use of these areas. Landscaping should be provided around the basin's perimeter in an effort to make it a visual amenity for the development and its banks should be vegetated. The basins should also be accessible by the provision of walking paths or other pedestrian facilities. When access is provided within a basin the maximum grade of the pedestrian facilities shall be 12.5%.

4. Areas with significant karst geology may be used to satisfy an open space requirement or incentive if sufficient area, inclusive of buffers, is preserved as open space in order to protect the geologic, hydrologic or vegetative character of the area.
5. Unstable soils as depicted by Core Graphic 5: "Environmental Constraints" may be utilized to meet an open space requirement or incentive.

D. Standards for Aesthetic, Design Compatibility, Cultural, Educational Purposes

1. Any roadway median that is intended to be used to satisfy an open space requirement or incentive shall be at least 30 feet in width and provide a landscape treatment including at least one large Type A tree per 50 linear feet of road frontage and some combination of shrubs and ground cover. Where pedestrian facilities/crossings are provided, they shall be designed and installed in accordance with current Public Works standards.
2. Cultural, historic or archaeological sites proposed to satisfy an open space requirement or incentive must be either locally designated as a Historic Landmarks Preservation District, must be located within the National Register Historic District, or be listed on or eligible for the National Register of Historic Places. The sites must be permanently preserved through easement or other form of dedication, and provisions agreed upon to secure the permanent maintenance and preservation of the sites. Open space credit provided in accordance with this provision shall not include any building or structure.
3. When a structure or group of structures are proposed adjacent to a designated scenic corridor, open space shall be credited for providing a structure setback from the scenic corridor at least 50% greater than that required. Upon providing the additional setback the entire setback, including that which is required, may be credited as open space as long as that area is permanently preserved as open space.
4. Landscape Buffer Areas (LBA's) required by this Land Development Code that exceed 40 feet in depth and that are permanently protected as open space may be used in their entirety to meet an open space requirement or qualify for an open space incentive.

NOTE: *If a 30' buffer area is required it must be supplemented by 10 additional feet in order to receive credit as open space.*

E. Standards for the Managed Production of Resources

1. A maximum of 75% of any open space requirement or incentive may be satisfied by lands that are permanently preserved for Managed Production of Resources.

10.5.5 Transfer of Open Space Provisions

Where a portion of this Land Development Code requires open space or allows an incentive for the provision of open space and specifically allows for the transfer of that open space, then the owner/developer may choose to transfer a portion of an open space requirement or incentive to an off-site location subject to final approval by the Planning Commission or its designee. Any transfer will be subject to the following conditions and limitations.

A. The following limitations shall apply to the amount of an open space requirement or incentive that may be transferred.

1. Residential Development Sites Greater than or Equal to Five Acres and Less than 50 Acres…….40%
2. Residential Development Sites Greater than or Equal to 50 Acres and Less than 150 Acres……..25%
3. Residential Development Sites Greater than or Equal to 150 Acres…….10%
4. Non-Residential Development Sites Greater than or Equal to 25 Acres……40%

B. The minimum increment of open space to be transferred shall be one acre.

C. The transfer of open space must be made to an off-site location that is within two miles of the site from which it is being transferred unless said open space is public open space, in which case the off-site location must be within either (1) two miles of the site from which it is being transferred or (2) the same Recreation Planning Service Area (as defined by the Parks and Open Space Master Plan). In any case the transfer of open space shall be subject to final approval by the Planning Commission or its designee.

D. The transfer of open space must be provided in the form of a conservation easement owned or managed by a qualified holder or by dedication to the Parks Department or other governmental entity.

E. A preliminary letter of interest on behalf of a qualified holder, the Parks Department, or other governmental entity must be completed and submitted concurrently with any application for plan review that would trigger the open space requirement or incentive. A legally created transfer agreement must be finalized and executed, and a copy provided to DPDS, within 90 days of any final approval of a plan submittal. The Planning Commission or its designee may grant up to two thirty-day extensions for the execution of said transfer agreement. Failure to execute the agreement or provide the copy may render the final approval of a subdivision plan or district development plan null and void.

Chapter 10 Part 6 Streetscape Master Plan

10.6.1 Intent and Applicability

This document presents the review process and d Streetscape Master Plan Design guidelines for streetscape master plans. A streetscape master plan designation provides for the implementation of streetscape design standards to enhance the visual quality and the livability of street corridors for pedestrians.

10.6.2 Relationship to the Comprehensive Plan

The streetscape master plan review process and design manual implement the following objectives and policies of the comprehensive plan: Objectives C2.5, D2.4, E2.4, F2.4, G2.4, and H2.5, and Policies 8.4 and 8.12.

10.6.3 Designation Process

Any legislative body with zoning authority or the Louisville Metro Planning Commission may designate and create a streetscape master plan subject to review and recommendation by the Planning Commission and final approval subject to legislative body action. The proposed Streetscape Master Plan design standards shall be created in accordance with the layout and general requirements as listed in the Streetscape Master Plan Manual (Appendix 10D). The Planning Commission review process shall include reviews by appropriate public agencies and utilities. A public hearing with notice to property owners adjacent to the proposed master plan corridor and to registered neighborhood groups shall take place. Notice shall be given at least 30 calendar days prior to the public hearing.

10.6.4 Landscape Plan Requirement

Any development within the area of an approved streetscape master plan shall have a landscape plan approved prior to requesting a building permit. The landscape plan shall conform to the standards of the streetscape master plan.

10.6.5 Streetscape Maintenance Requirement

Property owners shall be responsible for maintenance of streetscape elements as required by an approved streetscape master plan. Dead or diseased planting materials shall be replaced, and the requirements of Section 10.4.12 shall be met. Other streetscape elements shall be kept in good repair and clear of all obnoxious substances and rubbish.

Chapter 10 Appendix A Preferred and Prohibited Plant List

The following list is designed to provide developers, designers, homeowners and tree planters within Louisville Metro a selection of appropriate species for planting in a variety of conditions. The list was developed as a joint effort of the Louisville Metro Tree Advisory Commission and the following individuals and institutions:

Erin Thompson, Urban Forester, Louisville (KY) Metro
Paul Cappiello, Ph.D., Executive Director, Yew Dell Botanical Gardens
Michael Hayman, Community Tree Activist, Whitehall House and Gardens
John A. Swintosky, Landscape Architect, Louisville (KY) Metro Parks & Recreation

The list was developed to be broadly inclusive to encourage increased genetic diversity in Louisville's urban forest. To make tree selection easier on those who prefer a shorter list, the most commonly planted tree species are listed in enlarged and bold typeface. The letter designations in the Size column refer to size classes in the Louisville Metro Land Development Code:

A - 50'+
B - 25'-50'
C - up to 25'

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Pinaceae	Abies	cilicica		cilician fir	A	conical			
Pinaceae	**Abies**	**concolor**		**white fir**	**A**	**conical**	**silver/blue foliage**		
Pinaceae	Abies	firma		Momi fir	A	conical			
Pinaceae	Abies	fraseri		fraser fir	A	conical			
Pinaceae	Abies	homolepis		nikko fir	A	conical			
Pinaceae	Abies	koreana		Korean fir	A	conical			
Pinaceae	Abies	nordmanniana		Nordmann fir	A	conical	darkest green foliage		
Pinaceae	Abies	veitchii		Veitch fir	A	conical			
Aceraceae	Acer	buergerianum		trident maple	B	oval upright		X	
Aceraceae	Acer	campestre		hedge maple	B	broad rounded			
Aceraceae	Acer	carpinifolium		hornbeam maple	B	oval upright			
Aceraceae	Acer	circinatum		Oregon vine maple	C	oval upright			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Aceraceae	**Acer**	**xfreemanii**		**Freeman maple**	**A**	**oval upright**	**many quality hybrids available**	**X**	
		xfreemanii	Armstrong		A	broad columnar		X	X
		xfreemanii	Bowhall		A	columnar		X	X
Aceraceae	Acer	ginnala		Amur mample	C	broad rounded	*** potential invasive problem		
Aceraceae	Acer	glabrum		Rocky Mountain maple	A	oval upright			
Aceraceae	Acer	griseum		paperbark maple	C	oval upright	and A. griseum hybrids		
Aceraceae	Acer	henryi		Henry maple	B	oval upright			
Aceraceae	Acer	leucoderme		chalk-bark maple	A	oval upright		X	
Aceraceae	Acer	mandschuricum		Manchurian maple	B	oval upright			
Aceraceae	Acer	maximowiczianum		Nikko maple	B	oval upright			
Aceraceae	Acer	miyabei		Miyabe maple	A	oval upright		X	
Aceraceae	Acer	nigrum		black maple	A	oval upright		X	
Aceraceae	**Acer**	**palmatum**		**Japanese maple**	**C**	**broad rounded**			
Aceraceae	Acer	pensylvanicum		Moosewood	C	oval upright			
	Acer	**rubrum**			**A**	**oval upright**		**X**	
		rubrum	Columnaris		A	columnar		X	X
Aceraceae	Acer	saccharinum		silver maple	A	oval upright	for naturalizing only - weak wooded		
Aceraceae	**Acer**	**saccharum**		**sugar maple**	**A**	**oval upright**		**X**	
Aceraceae	Acer	tataricum		tatarian maple	C	upright arching			
Aceraceae	Acer	tegmentosum		Manchustriped maple	B	oval upright			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Aceraceae	Acer	triflorum		three-flower maple	B	oval upright			
Aceraceae	Acer	truncatum		purpleblow maple	B	round		X	
Hippocastanaceae	Aesculus	chinensis		Chinese buckeye	A	oval upright		X	
Hippocastanaceae	Aesculus	glabra		Ohio buckeye	B	oval upright		X	
Hippocastanaceae	Aesculus	flava		yellow buckeye	A	oval upright		X	
Hippocastanaceae	Aesculus	hippocastanum		horsechestnut	A	oval upright		X	
Hippocastanaceae	Aesculus	parviflora		bottlebrush buckeye	C	broad spreading			
Hippocastanaceae	Aesculus	turbinata		Japanese horsechestnut	B	oval upright		X	
Hippocastanaceae	Aesculus	xcarnea		red horsechestnut	B	oval upright		X	
Hippocastanaceae	Aesculus	pavia		red buckeye	C	oval upright			
Betulaceae	Alnus	glutinosa		European alder	B	oval upright		X	
Betulaceae	Alnus	cordata		Italian alder	B	oval upright		X	
Betulaceae	Alnus	incana		gray alder	B	oval upright			
Rosaceae	Amelanchier	arborea		downy serviceberry	C	oval upright		X	
Rosaceae	Amelanchier	laevis		Alleghaney serviceberry	C	oval upright		X	
Rosaceae	Amelanchier	canadensis		shadblow serviceberry	C	oval upright			
Rosaceae	**Amelanchier**	**xgrandiflora**		**apple serviceberry**	**C**	**oval upright**		**X**	
Betulaceae	Betula	lenta		sweet birch	A	oval upright	ssp. *uber* superior form in KY		

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Betulaceae	**Betula**	**nigra**		**river birch**	**A**	**upright arching**			
Betulaceae	Betula	populifolia		gray birch	B	oval upright			
Cupressaceae	Calocedrus	decurrrens		California incensecedar	B	columnar			
Betulaceae	**Carpinus**	**betulus**		**European hornbeam**	**B**	**broad rounded**	**including columnar forms**	**X**	
Betulaceae	Carpinus	caroliniana		American hornbeam	B	broad rounded		X	
Betulaceae	Carpinus	cordata		heartleaf hornbeam	B	broad rounded		X	
Betulaceae	Carpinus	japonica		Japanese hornbeam	B	broad rounded		X	
Juglandaceae	Carya	cordiformis		bitternut hickory	A	oval upright		X	
Juglandaceae	Carya	glabra		pignut hickory	A	oval upright			
Juglandaceae	Carya	illinoiensis		pecan	A	broad rounded			
Juglandaceae	Carya	ovata		shagbark hickory	A	oval upright			
Juglandaceae	Carya	tomentosa		mockernut hickory	A	round			
Fagaceae	Castanea	mollissima		Chinese chestnut	B	broad rounded			
Fagaceae	Castanea	dentata hybrids		hybrid chestnut	A	oval upright	American Chestnut Foundation and Dunstan hybrids		
Bignoniaceae	Catalpa	speciosa		northern catalpa	A	oval upright		X	
Bignoniaceae	Catalpa	bignonioides		southern catalpa	B	broad rounded		X	
Pinaceae	Cedrus	atlantica		Atlas cedar	A	conical			
Pinaceae	Cedrus	libani var. stenocoma		cedar of Lebanon	A	conical			
Ulmaceae	**Celtis**	**occidentalis**		**common hackberry**	**A**	**oval upright**		**X**	

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Ulmaceae	Celtis	laevigata		sugar hackberry	A	oval upright		X	
Cercidiphyllaceae	Cercidiphyllum	japonicum		katsuratree	B	round			
Fabaceae	Cercis	canadensis		Eastern redbud	C	round		X	
Cupressaceae	Chamaecyparis	obtusa		hinoki falsecypress	C	conical			
Cupressaceae	Chamaecyparis	pisifera		Japanese falsecypress	B	conical			
Cupressaceae	Chamaecyparis	thyoides		Atlantic whitecedar	A	columnar			
Cupressaceae	Chamaecyparis	nootkatensis		Alaska cedar	A	oval upright			
Oleaceae	Chionanthus	virginicus		fringetree	C	round			
Oleaceae	Chionanthus	retusus		Chinese fringetree	C	broad rounded			
Fabaceae	Cladrastis	kentukea		American yellowwood	B	broad rounded		X	
Cornaceae	Cornus	alternifolia		pagoda dogwood	C	round			
Cornaceae	**Cornus**	**florida**		**flowering dogwood**	**C**	**broad spreading**			
Cornaceae	**Cornus**	**kousa**		**kousa dogwood**	**C**	**broad rounded**			
Cornaceae	Cornus	mas		corneliancherry dogwood	C	broad rounded			
Cornaceae	Cornus	officinalis		Japanese cornel dogwood	C	oval upright			
Cornaceae	**Cornus**	**xrutgersensis**		**Rutgers hybrid dogwood**	**C**	**broad rounded**			
Cornaceae	**Cornus**	**x**		**hybrid dogwood**	**C**	**broad rounded**	**various hybrids such as Venus®**		

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Betulaceae	Corylus	colurna		Turkish filbert	A	conical		X	
Betulaceae	Corylus	fargesii		Farge's filbert	A	oval upright		X	
Anacardiaceae	Cotinus	coggygria		smokebush	C	oval upright			
Anacardiaceae	Cotinus	obovatus		American smoketree	C	oval upright			
Rosaceae	Crataegus	crusgalli		cockspur hawthorne	C	broad spreading			
Rosaceae	Crataegus	laevigata		English hawthorne	C	broad rounded			
Rosaceae	Crataegus	mollis		downy hawthorne	C	broad rounded		X	
Rosaceae	Crataegus	phaenopyrum		Washington hawthorne	C	oval upright		X	
Rosaceae	Crataegus	viridis		green hawthorne	C	broad rounded		X	
Taxodiaceae	Cryptomeria	japonica		Japanese cryptomeria	A	conical			
Taxodiaceae	Cunninghamia	lanceolata		Chinafir	A	conical			
Ebenaceae	Diospyros	virginiana		common persimon	B	oval upright			
Eucommiaceae	Eucommia	ulmoides		hardy rubber tree	B	oval upright		X	
Fagaceae	**Fagus**	**grandifolia**		**American beech**	**A**	**broad rounded**			
Fagaceae	**Fagus**	**sylvatica**		**European beech**	**A**	**oval upright**			
Theaceae	Franklinia	alatamaha		Franklin tree	C	broad rounded	limited cold tolerance		
Ginkgoaceae	**Ginkgo**	**biloba**		**maidenhair tree**	**A**	**round**	**specify males to avoid seed**	**X**	
Fabaceae	**Gleditsia**	**triacanthos**	**var. inermis**	**thornless common honeylocust**	**A**	**round**	**thronless forms only recommended**	**X**	

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Fabaceae	**Gymnocladus**	**dioicus**		**Kentucky coffeetree**	**A**	**oval upright**	**use male forms**	**X**	
Fabaceae	Gymnocladus	dioicus		female	A	oval upright			
Styracaceae	Halesia	tetraptera		Carolina silverbell	B	oval upright			
Styracaceae	Halesia	diptera		two-winged silverbell	B	oval upright			
Styracaceae	Halesia	monticola		mountain silverbell	B	oval upright			
Hamamelidaceae	Hamamelis	japonica		Japanese witchhazel	C	oval upright			
Hamamelidaceae	Hamamelis	mollis		Chinese witchhazel	C	oval upright			
Hamamelidaceae	Hamamelis	virginiana		common witchhazel	C	round			
Hamamelidaceae	**Hamamelis**	**xintermedia**		**hybrid witchhazel**	**C**	**oval upright**			
Rhamnaceae	Hovenia	dulcis		Japanese raisintree	B	oval upright			
Aquifoliaceae	Ilex	decidua		possumhaw	C	round			
Aquifoliaceae	Ilex	opaca		American holly	B	conical			
Aquifoliaceae	Ilex	xattenuata	Fosteri	Foster holly	C				
Juglandaceae	Juglans	cinerea		butternut	A	oval upright			
Juglandaceae	Juglans	nigra		black walnut	A	round			
Juglandaceae	Juglans	regia		English walnut	A	round			
Cupressaceae	Juniperus	chinensis		Chinese juniper	A	conical			
Cupressaceae	Juniperus	virginiana		eastern redcedar	B	oval upright			
Araliaceae	Kalopanax	septemlobus		castor aralia	A	oval upright		X	
Sapindaceae	Koelreuteria	paniculata		goldenraintree	B	round	potential invasiveness problem	X	
Lythraceae	Lagerstroemia	indica		common crepemyrtle	C	upright arching			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Lythraceae	Lagerstroemia	faurei		crepemyrtle	C	upright arching			
Pinaceae	Larix	decidua		European larch	A	conical			
Pinaceae	Larix	kaempferi		Japanese larach	A	conical			
Hamamelidaceae	**Liquidambar**	**styraciflua**		**sweetgum**	**A**	**oval upright**		**X**	
		styraciflua	Slender Silhouette		A	columnar		X	X
Magnoliaceae	**Liriodendron**	**tulipifera**		**tuliptree**	**A**	**oval upright**		**X**	
Fabaceae	Maackia	amurensis		Amur maackia	B	round		X	
Moraceae	Maclura	pomifera		thornless osage orange	B	round	thornless forms only for cultivated areas	X	
Magnoliaceae	Magnolia	acuminata		cucumber magnolia	A	oval upright		X	
Magnoliaceae	Magnolia	denudata		Yulan magnolia	B	pyramidal			
Magnoliaceae	**Magnolia**	**grandiflora**		**southern magnolia**	**A**	**oval upright**			
Magnoliaceae	Magnolia	hybrids		hybrid magnolia		various			
Magnoliaceae	Magnolia	kobus		kobus magnolia	C	oval upright			
Magnoliaceae	Magnolia	liliflora		lily magnolia	C	round			
Magnoliaceae	Magnolia	xloebneri		Loebner magnolia	C	oval upright			
Magnoliaceae	Magnolia	macrophylla		bigleaf magnolia	B	round			
Magnoliacea	**Magnolia**	**xsoulangeana**		**saucer magnolia**	**B**	**round**			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
e									
Magnoliaceae	Magnolia	sieboldii		oyama magnolia	C	oval upright			
Magnoliaceae	Magnolia	stellata		star magnolia	C	oval upright			
Magnoliaceae	Magnolia	tripetala		umbrella magnolia	B	round			
Magnoliaceae	**Magnolia**	**virginiana**		**sweetbay magnolia**	**B**	**oval upright**			
Rosaceae	**Malus**			**crabapple**	**C**		**look for most diseasea-resistant**	**X**	
				crabapple	C		fruitless/upright cultivars	X	X
Taxodiaceae	Metasequoia	glyptostroboides		dawn redwood	A	conical		X	
Nyssaceae	Nyssa	aquatica		water tupelo	A	oval upright			
Nyssaceae	**Nyssa**	**sylvatica**		**black tupelo**	**A**	**oval upright**		**X**	
Betulaceae	Ostrya	japonica		Japanese hophornbeam	B	broad spreading		X	
Betulaceae	**Ostrya**	**virginiana**		**American hophornbeam**	**B**	**round**		**X**	
Ericaceae	Oxydendrum	arboreum		sourwood	B	oval upright			
Hamamelidaceae	**Parrotia**	**persica**		**Persian parrotia**	**B**	**oval upright**		**X**	
		persica	Vanessa		B	broad columnar		X	X
Hamamelidaceae	Parrotia	subaequalis		Chinese parrotia	B	round			
Rutaceae	Phellodendron	amurense		Amur corktree	B	broad spreading			X

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Pinaceae	**Picea**	**abies**		**Norway spruce**	**A**	**conical**			
Pinaceae	Picea	glauca		white spruce	A	conical			
Pinaceae	**Picea**	**omorika**		**Serbian spruce**	**A**	**conical**			
Pinaceae	**Picea**	**orientalis**		**Oriental spruce**	**A**	**conical**			
Pinaceae	**Picea**	**pungens**		**Colorado spruce**	**A**	**conical**			
Pinaceae	Pinus	bungeana		lacebark pine	B	oval upright			
Pinaceae	Pinus	densiflora		Japanese red pine	A	broad rounded			
Pinaceae	Pinus	flexilis		limber pine	A	broad rounded			
Pinaceae	Pinus	koraiensis		Korean pine	A	conical			
Pinaceae	Pinus	nigra		Austiran pine	A	oval upright			
Pinaceae	Pinus	parviflora		Japanese white pine	A	broad spreading			
Pinaceae	Pinus	rigida		pitch pine	B	irregular			
Pinaceae	Pinus	strobiformis		Mexican white pine	A	conical			
Pinaceae	**Pinus**	**strobus**		**white pine**	**A**	**oval upright**			
Pinaceae	Pinus	sylverstris		Scotch pine	B	oval upright			
Pinaceae	Pinus	thunbergii		Japanese black pine	B	irregular			
Pinaceae	Pinus	virginiana		Virginia pine	A	oval upright			
Pinaceae	Pinus	wallichiana		Himalayan pine	A	broad rounded			
Pinaceae	Pinus	xacayahuite		hybrid pine	A	oval upright			
Anacardiaceae	Pistacia	chinensis		Chinese pistache	B	round		X	
Platanaceae	**Platanus**	**xacerifolia**		**London planetree**	**A**	**round**		**X**	
Platanaceae	Platanus	occidentalis		sycamore	A	round	for naturalizing, anthracnose susceptible	X	
Flacourtiaceae	Poliothyrsis	sinensis		poliothyrsis	B	oval upright			
Salicaceae	Populus	deltoides		eastern cottonwood	A	oval upright		X	

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Rosaceae	Prunus	cerasifera	Atropurpurea	purple leaf plum	C	oval upright		X	
Rosaceae	Prunus	padus		European birdcherry	B	round		X	
Rosaceae	**Prunus**	**sargentii**		**Sargent cherry**	**B**	**round**		**X**	
		sargentii	Columnaris		B	columnar		X	X
Rosaceae	**Prunus**	**serrulata**		**Japanese flowering cherry**	**C**	**broad rounded**		**X**	
		serrulata	Kwanzan		C	broad rounded		X	
Rosaceae	**Prunus**	**subhirtella**	**Pendula**	**Weeping Higan cherry**	**B**	**round**	**many cultivars available**		
Rosaceae	**Prunus**	**xyedoensis**		**Yoshino cherry**	**B**	**broad rounded**		**X**	
Rosaceae	Prunus			hybrid cherries	C	various	avoid most disease susceptible selections		
Pinaceae	Pseudolarix	amabilis		golden larch	B	conical			
Pinaceae	**Pseudotsuga**	**menziesii**		**douglasfir**	**A**	**conical**			
Fagaceae	Quercus	acutissima		sawtooth oak	A	broad rounded		X	
Fagaceae	**Quercus**	**alba**		**white oak**	**A**	**broad rounded**		**X**	
Fagaceae	**Quercus**	**bicolor**		**swamp white oak**	**A**	**oval upright**		**X**	
Fagaceae	**Quercus**	**coccinea**		**scarlet oak**	**A**	**oval upright**		**X**	
Fagaceae	Quercus	dentata		Daimyo oak	A	oval upright		X	
Fagaceae	Quercus	ellipsoidalis		northern pin oak	A	oval upright		X	
Fagaceae	Quercus	falcata		southern red oak	A	round		X	
Fagaceae	**Quercus**	**hybrids**					**many quality hybrids available**	**X**	
			Crimson Spire		A		Columnar	X	X

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
			Regal Prince		A		Columnar	X	X
			Bonnie & Mike		A		Columnar	X	X
Fagaceae	Quercus	imbricaria		shingle oak	A	pyramidal		X	
Fagaceae	Quercus	lyrata		overcup oak	A	oval upright		X	
Fagaceae	**Quercus**	**macrocarpa**		**bur oak**	**A**	**oval upright**		**X**	
Fagaceae	Quercus	marilandica		blackjack oak	C	oval upright		X	
Fagaceae	Quercus	muehlenbergii		chinkapin oak	A	oval upright		X	
Fagaceae	Quercus	nigra		water oak	A	oval upright		X	
Fagaceae	Quercus	nuttallii		Nuttall oak	A	oval upright		X	
Fagaceae	**Quercus**	**palustris**		**pin oak**	**A**	**oval upright**		**X**	
		palustris	Pringreen (Green Pillar™)		A	columnar		X	X
Fagaceae	Quercus	phellos		willow oak	A	oval upright		X	
Fagaceae	Quercus	prinus/montana		chestnut oak	A	oval upright		X	
Fagaceae	Quercus	robur		English oak	A	broad rounded		X	
		robur	**Fastigiata**		**A**	**columnar**		**X**	**X**
Fagaceae	**Quercus**	**rubra**		**red oak**	**A**	**round**		**X**	
Fagaceae	Quercus	shurmardii		Shumard oak	A	oval upright		X	
Fagaceae	Quercus	stellata		post oak	B	oval upright		X	
Rhamnaceae	Rhamnus	caroliniana		Carolina buckthorn	C	round			
Fabaceae	Robinia	pseudoacacia		black locust	A	oval upright			
Lauraceae	Sassafras	albidum		common sassafras	B	oval upright		X	
Pinaceae	Sciadopitys	verticillata		umbrella pine	B	conical			
Rosaceae	Sorbus	alnifolia		Korean moutnainash	B	oval upright			
Theaceae	Stewartia	koreana		Korean stewartia	C	oval upright			
Theaceae	Stewartia	malacodendron		silky stewartia	C	oval upright			
Theaceae	Stewartia	monadelpha		tall stewartia	C	pyramidal			
Theaceae	Stewartia	rostrata			C	oval upright			
Theaceae	Stewartia	ovata		mountain stewartia	C	oval upright			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Theaceae	Stewartia	pseudocamellia		Japanese stewartia	C	oval upright			
Fabaceae	Styphnolobium	japonicum		scholartree	B	round		X	
Styracaceae	Styrax	japonicus		Japanese snowbell	C	broad rounded			
Styracaceae	Styrax	obassia		fragrant snowbell	C	oval upright			
Oleaceae	Syringa	pekinensis		Pekin lilac	C	oval upright		X	
Oleaceae	**Syringa**	**reticulata**		**Japanese tree lilac**	**C**	**oval upright**		**X**	
Taxodiaceae	Taxodium	ascendens		pondcypress	A	conical		X	
Taxodiaceae	**Taxodium**	**distichum**		**common baldcypress**	**A**	**conical**		**X**	
Taxaceae	Taxus	baccata		English yew	C	round			
Taxaceae	Taxus	cuspidata		Japanese yew	C	variable			
Taxaceae	Taxus	xmedia		Anglojap yew	C	variable			
Cupressaceae	**Thuja**	**occidentalis**		**Eastern arborvitae**	**B**	**columnar**			
Cupressaceae	**Thuja**	**plicata**		**giant arborvitae**	**A**	**conical**			
Tiliaceae	Tilia	americana		basswood	A	oval upright		X	
Tiliaceae	Tilia	cordata		littleleaf linden	A	oval upright		X	
Tiliaceae	Tilia	petiolaris		pendant silver linden	A	oval upright		X	
Tiliaceae	Tilia	xeuchlora		Crimean linden	A	oval upright		X	
Tiliaceae	Tilia	xeuropa		European linden	A	oval upright		X	
Tiliaceae	**Tilia**	**tomentosa**		**silver linden**	**A**	**oval upright**		**X**	
Pinaceae	**Tsuga**	**canadensis**		**Canadian hemlock**	**A**	**conical**			
Pinaceae	Tsuga	chinensis		Chinese hemlock	A	conical			
Pinaceae	Tsuga	diversifolia		northern Japanese hemlock	A	conical			
Pinaceae	Tsuga	heterophyla		western hemlock	A	conical			
Pinaceae	Tsuga	mertensiana		mountain hemlock	A	conical			
Pinaceae	Tsuga	caroliniana		Carolina hemlock	A	conical			

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Ulmaceae	Ulmus	alata		winged elm	B	round		X	
Ulmaceae	Ulmus	americana		American elm	A	upright arching	only disease resistant selections such as 'Princeton'	X	
Ulmaceae	Ulmus	crassifolia		cedar elm	A	round		X	
Ulmaceae	Ulmus	propinqua			A	oval upright		X	
		propinqua	Emerald Sunshine		A			X	
Ulmaceae	**Ulmus**	**hybrids**		**hybrid elm**	**A**	**oval upright**	**disease-resistant hybrids**	**X**	
			Jefferson		A	upright arching		X	
			Patriot		A	upright arching		X	
			Triumph		A	upright arching		X	
Ulmaceae	**Zelkova**	**serrata**		**Japanese zelkova**	**A**	**oval upright**		**X**	
		serrata	Musashino		A	columnar		X	X
Ulmaceae	Zelkova	carpinifolia		elm zelkova	A	oval upright		X	
Ulmaceae	Zelkova	sinica		Chinese zelkova	A	oval upright		X	
Ulmaceae	Ziziphus	jujuba		Chinese date	B	oval upright			

SHRUBS

SCIENTIFIC NAME	COMMON NAME
Aesculus parviflora	Bottlebrush Buckeye
Amorpha fruticosa	Indigo Bush
Aralia spinosa	Devil's Walking Stick
Aronia arbutifolia	Red Chokeberry
Aronia melanocarpa	Black Chokeberry
Arundinaria gigantea	Cane
Callicarpa americana	Beautyberry
Calycanthus floridus	Sweet Shrub, Carolina Allspice
Ceanothus americanus	New Jersey Tea
Cephalanthus occidentalis	Buttonbush
Clethra acuminata	Cinnamon Clethra
Clethra alnifolia	Summersweet
Corylus americana	American Hazel
Dirca palustris	Leatherwood
Euonymus americanus	Strawberry Bush
Euonymus atropurpureus	Eastern Wahoo
Fothergilla gardenii	Dwarf Fothergilla
Hamamelis vernalis	Vernal Witchhazel
Hamamelis virginiana	Common Witchhazel
Hydrangea arborescens	Smooth Hydrangea
Hydrangea quercifolia	Oakleaf Hydrangea
Hypericum (species)	Saint John's Wort
Ilex decidua	Possumhaw
Ilex verticillata	Winterberry
Itea virginica	Virginia Sweetspire
Lindera benzoin	Spicebush
Myrica pensylvanica	Bayberry
Philadelphus (species)	Mockorange
Physocarpus opulifolius	Eastern Ninebark
Prunus americana	Wild Plum
Rhamnus caroliniana	Carolina Buckthorn
Rhus aromatica	Fragrant Sumac
Rhus copallina	Shining Sumac
Rhus glabra	Smooth Sumac
Rhus typhina	Staghorn Sumac
Rosa carolina	Carolina Rose
Rosa setigera	Prairie Rose
Salix discolor	Pussy Willow
Sambucus canadensis	Elderberry
Spiraea alba	Meadowsweet Spirea
Spiraea tomentosa	Steeplebush
Staphylea trifolia	Bladdernut
Symphoricarpos orbiculatus	
Vaccineum stamineum	Deerberry
Viburnum acerifolium	Mapleleaf Viburnum
Viburnum cassinoides	Witherod Viburnum

SCIENTIFIC NAME	COMMON NAME
Viburnum dentatum	Arrowwood Viburnum
Viburnum nudum	Smooth Witherod
Xanthorhiza simplicissima	Yellowroot

VINES

SCIENTIFIC NAME	COMMON NAME
Bignonia capreolata	Crossvine
Campsis radicans	Trumpet Vine
Celastrus scandens	Bittersweet
Clematis virginiana	Virgin's Bower
Lonicera sempervirens	Trumpet Honeysuckle
Pachysandra procumbens	Allegheny Pachysandra
Parthenocissus quinquefolia	Virginia Creeper
Smilax glauca	Cat Greenbrier
Smilax rotundifolia	Common Greenbrier
Wisteria macrostachya (frutescens)	Kentucky Wisteria

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Chapter 10 Appendix B Prohibited Plant List

Family	Genus	Specific Epithet	Cultivar	Common Name	Size Class	Plant Shape	Comments	Street & Parking Lot Trees	Narrow Space
Aceraceae	Acer	platanoides		Norway maple	A	round	invasive		
Simaroubaceae	Ailanthus	altissima		tree of heaven	A	oval upright	invasive		
Fabaceae	Albizia	julibrissin		mimosa	C	round	invasive		
Elaeagnaceae	Elaeagnus	angustifolia		Russian olive	C	oval upright	invasive		
Elaeagnaceae	Elaeagnus	umbellata		autumn olive	C	round	invasive		
Oleaceae	Fraxinus	species		ash	A		emerald ash borer susceptible		
Moraceae	Morus	alba		white mulberry	C	round	invasive		
Scrophulariaceae	Paulownia	tomentosa		royal paulonia	A	oval upright	invasive		
Rosaceae	Pyrus	calleryana		callery pear	C	oval upright	invasive; including 'Bradford' and other callery pear hybrids		
Rhamnaceae	Rhamnus	cathartica		common buckthorn	C	oval upright	invasive		
Rhamnaceae	Rhamnus	frangula		tall buckthorn	C	oval upright	invasive		
Euphorbiaceae	Triadica	sebifera		Chinese tallow tree	B	upright oval	invasive		
Ulmaceae	Ulmus	pumila		Chinese elm	B	upright oval	invasive		

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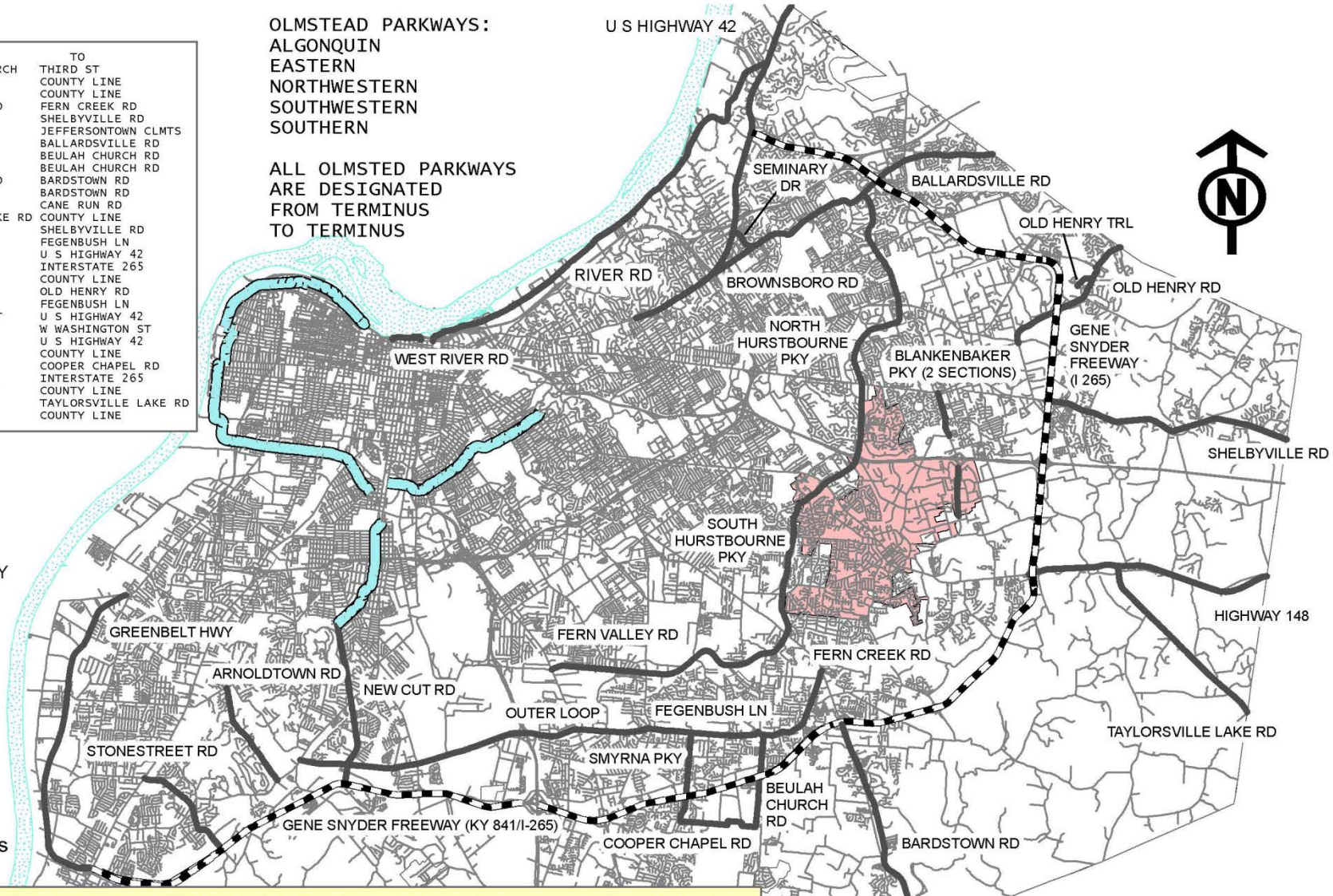
LDC

Olmsted Parkways
Parkways, and Gene Snyder Freeway

ROAD_NAME	FROM	TO
ARNOLDTOWN RD	ST. ANDREWS CHURCH	THIRD ST
BALLARDSVILLE RD	BROWNSBORO RD	COUNTY LINE
BARDSTOWN RD	INTERSTATE 265	COUNTY LINE
BEULAH CHURCH RD	COOPER CHAPEL RD	FERN CREEK RD
BLANKENBAKER PKY	WATTERSON TRL	SHELBYVILLE RD
BLANKENBAKER PKY	INTERSTATE 64	JEFFERSONTOWN CLMTS
BROWNSBORO RD	CHENOWETH LN	BALLARDSVILLE RD
COOPER CHAPEL RD	SMYRNA PKY	BEULAH CHURCH RD
FEGENBUSH LN	OUTER LOOP	BEULAH CHURCH RD
FERN CREEK RD	BEULAH CHURCH RD	BARDSTOWN RD
FERN VALLEY RD	PRESTON HWY	BARDSTOWN RD
GREENBELT HWY	DIXIE HWY	CANE RUN RD
HIGHWAY 148	TAYLORSVILLE LAKE RD	COUNTY LINE
N HURSTBOURNE PKY	BROWNSBORO RD	SHELBYVILLE RD
S HURSTBOURNE PKY	SHELBYVILLE RD	FEGENBUSH LN
INTERSTATE 265	DIXIE HWY	U S HIGHWAY 42
NEW CUT RD	THIRD ST ROAD	INTERSTATE 265
OLD HENRY RD	AVOCA RD	COUNTY LINE
OLD HENRY TRL	BUSH FARM RD	OLD HENRY RD
OUTER LOOP	INTERSTATE 65	FEGENBUSH LN
RIVER RD	E WITHERSPOON ST	U S HIGHWAY 42
W RIVER RD	BINGHAM WAY	W WASHINGTON ST
SEMINARY DR	BROWNSBORO RD	U S HIGHWAY 42
SHELBYVILLE RD	INTERSTATE 265	COUNTY LINE
SMYRNA PKY	OUTER LOOP	COOPER CHAPEL RD
STONESTREET RD	DIXIE HWY	INTERSTATE 265
TAYLORSVILLE LAKE RD	TAYLORSVILLE RD	COUNTY LINE
TAYLORSVILLE RD	INTERSTATE 265	TAYLORSVILLE LAKE RD
U S HIGHWAY 42	BROWNSBORO RD	COUNTY LINE

OLMSTEAD PARKWAYS:
ALGONQUIN
EASTERN
NORTHWESTERN
SOUTHWESTERN
SOUTHERN

ALL OLMSTED PARKWAYS ARE DESIGNATED FROM TERMINUS TO TERMINUS



Legend

- GENE SNYDER FREEWAY
- OLMSTED PARKWAYS
- PARKWAYS
- Ohio River
- Streets
- Louisville Metro
- Jeffersontown

5 Miles

1:200,000

Areas of Louisville Metro not shown do not have parkways at this time

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Road Name	From	To
MAIN ST	BLANKENBAKER PKY	SHELBYVILLE RD
OLD HENRY RD	N ENGLISH STATION	EVERGREEN RD
OLD SHELBYVILLE RD	LOCUST RD	SHELBYVILLE RD
SHELBYVILLE RD	MAIN ST	BECKLEY WOODS DR
TUCKER STATION RD	S MADISON AVE	ELLINGWORTH LN
URTON LN	SHELBYVILLE RD	N POPE LICK

REFERENCE: Middletown Ordinance 04-04 10.3.11

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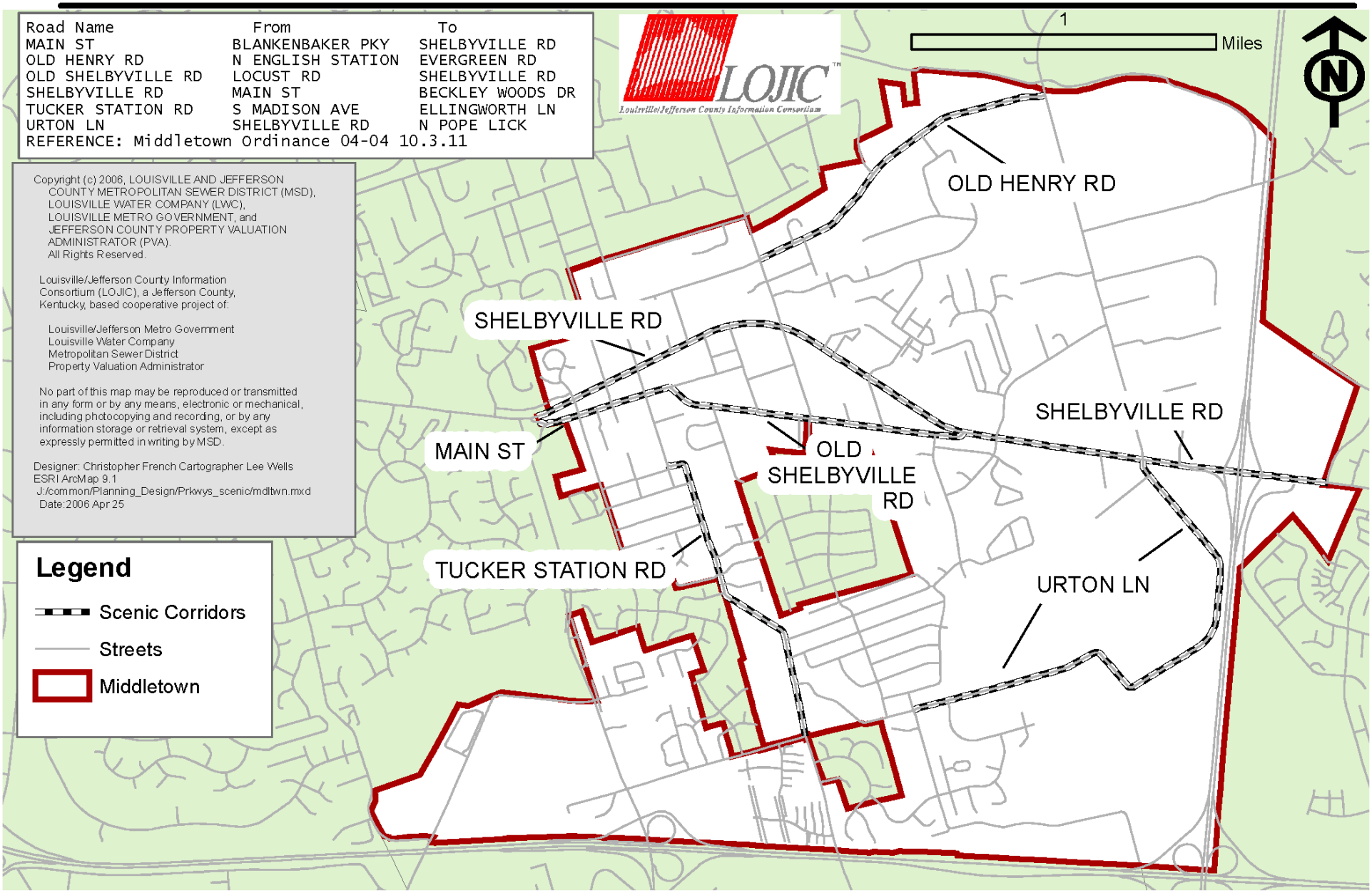
Date:2006 Apr 25



Appendix 10c
District 19 Scenic Corridors

Road Name	From	To
AIKEN RD	EAST OF FLOYDS FORK OVERLAY	CLARK STATION RD
EASTWOOD FISHERVILLE RD	SOUTH OF EASTWOOD CUT OFF	TERMINUS OF DISTRICT 19
FLAT ROCK RD	SOUTH OF AIKEN RD	SHELBYVILLE RD
JOHNSON RD	NORTH OF FLOYDS FORK OVERLAY	AIKEN RD
LONG RUN RD	SHELBYVILLE RD	COUNTY LINE
POPE DALE RD	FLAT ROCK RD	SHELBYVILLE RD
POPLER LN	S POPE LICK RD	S ENGLISH STATION RD
REHL RD	S POPE LICK RD	FLOYDS FORK OVERLAY
South English Station Road	SOUTH OF INTERSTATE 64	FLOYDS FORK OVERLAY
S POPE LICK RD	TERMINUS OF DISTRICT 19	REHL RD

S Pope Lick is only a Scenic Corridor on Dist 19 (North) side of road
REFERENCE: ORINANCE 197 SERIES 2004 LOUISVILLE METRO COUNCIL Docket 13-01-04

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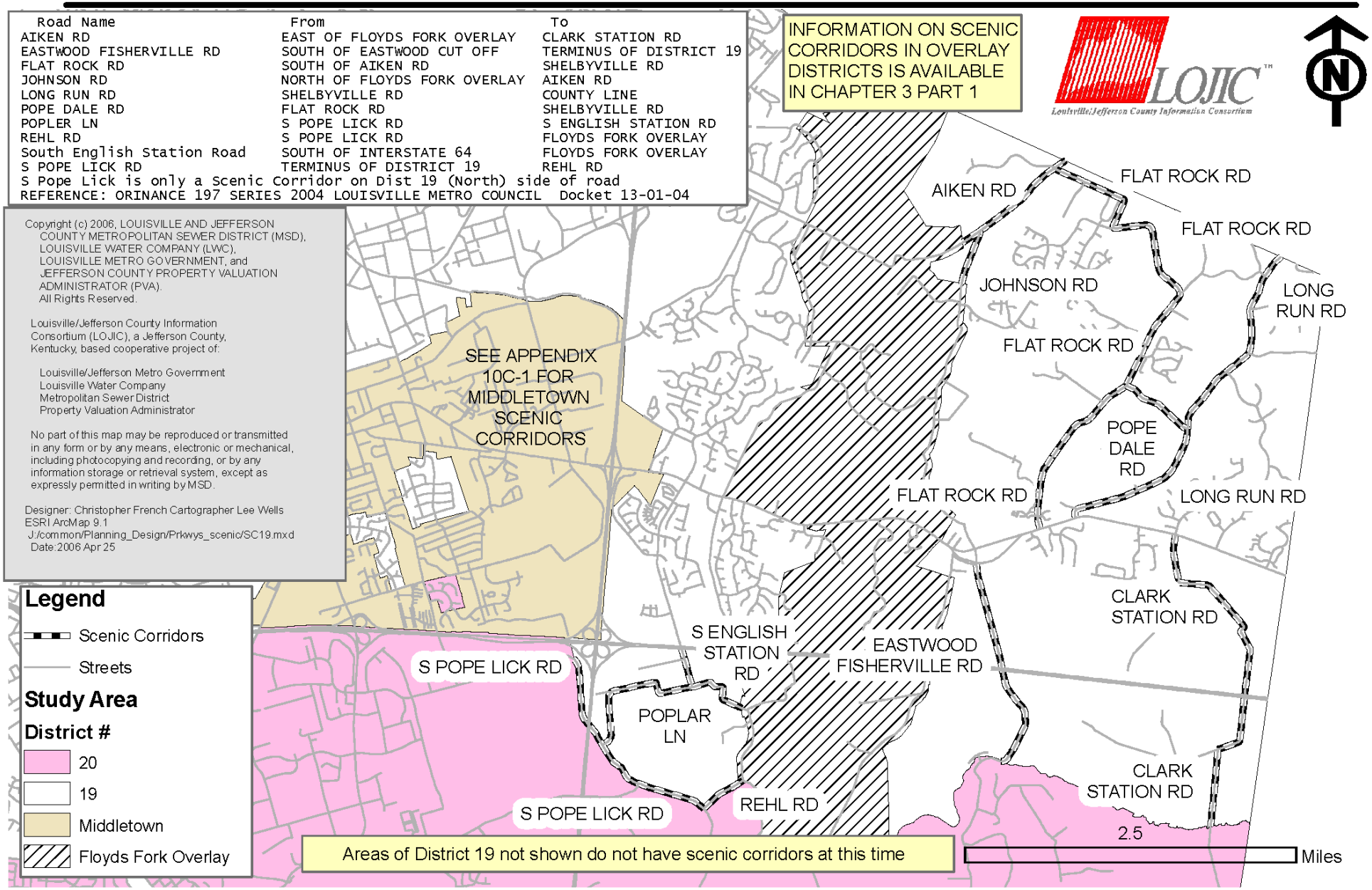
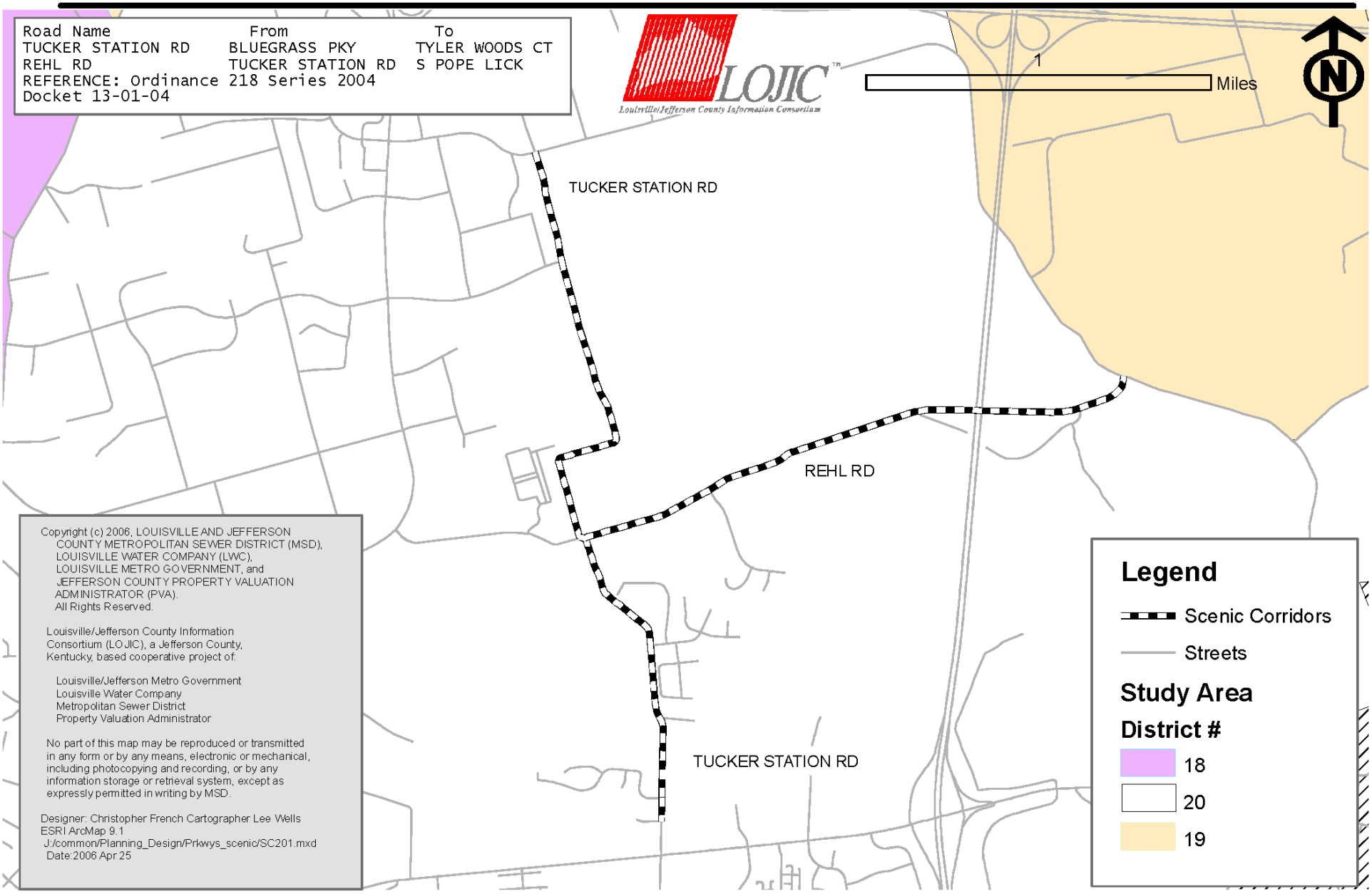
Date:2006 Apr 25




Road Name From To
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REHL RD TUCKER STATION RD S POPE LICK
REFERENCE: Ordinance 218 Series 2004
Docket 13-01-04
LOJIC
Louisville/Jefferson County Information Consortium
1
Miles
N
TUCKER STATION RD
REHL RD
TUCKER STATION RD
Legend
Scenic Corridors
Streets
Study Area
District #
18
20
19
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Designer: Christopher French Cartographer Lee Wells
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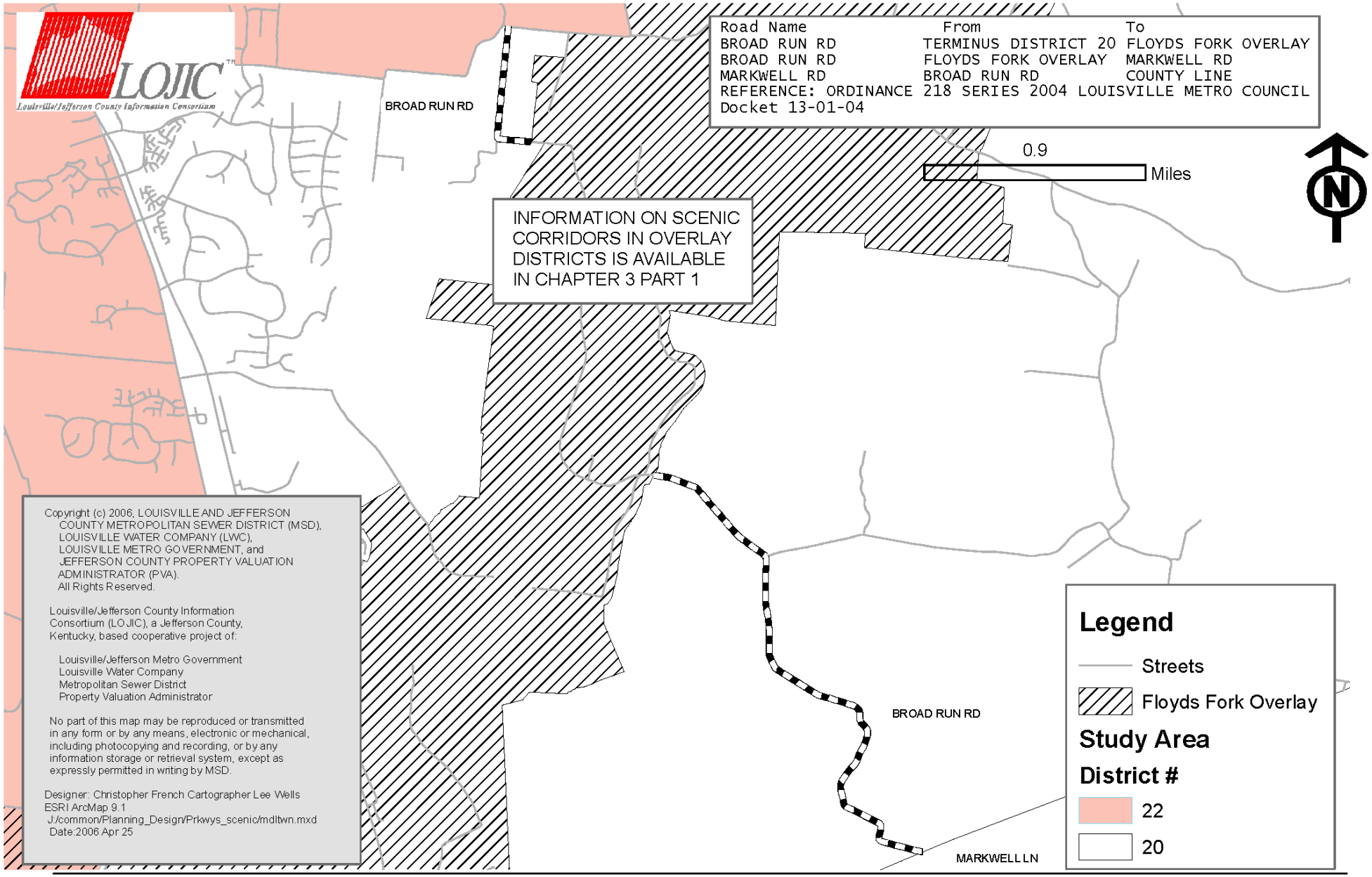

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Date:2006 Apr 25

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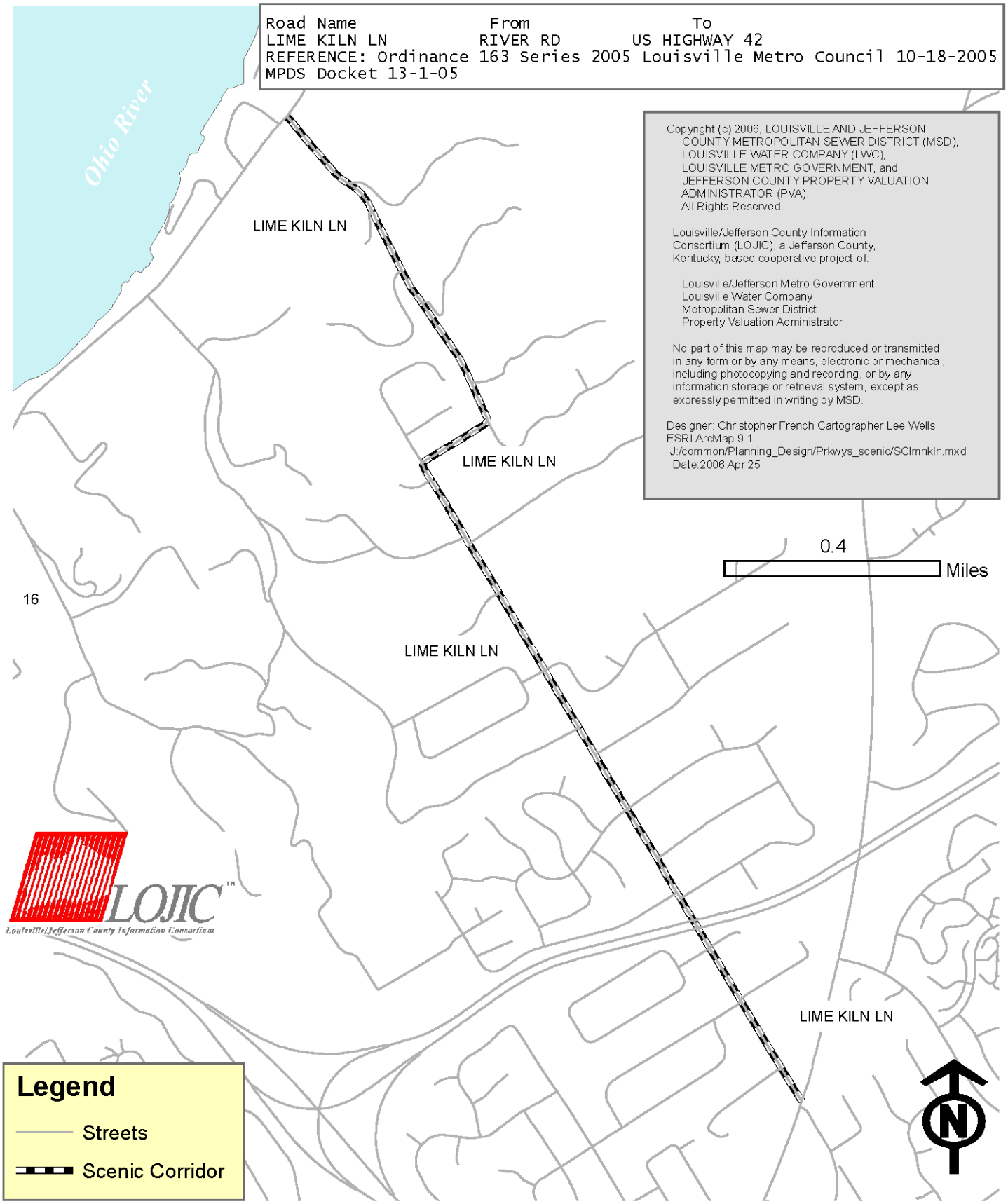
Road Name From To
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REFERENCE: Ordinance 163 Series 2005 Louisville Metro Council 10-18-2005
MPDS Docket 13-1-05
Ohio River
LIME KILN LN
LIME KILN LN
LIME KILN LN
LIME KILN LN
16
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Designer: Christopher French Cartographer Lee Wells
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Louisville/Jefferson County Information Consortium
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Streets
Scenic Corridor
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Chapter 10 Appendix D

TREE PRESERVATION POLICY AND PROCEDURES

Revised October 22, 2009

The following language has been prepared by staff to clarify both the intent and application of Planning & Design Services' tree preservation policy.

Intent

Tree preservation measures should address three objectives: permanent protection for existing trees/tree masses that have been designated to meet the Tree Canopy requirements of Chapter 10 Part 1; permanent protection for existing trees/tree masses that are required to preserved by binding element; and temporary protection during development of infrastructure to allow individual property owners the opportunity to incorporate existing trees into their building sites. To differentiate between these three intents, the following three designations are in effect and are described in this policy:

Tree Canopy Protection Area (TCPA)

Woodland Protection Area (WPA)

Tree Preservation Area (TPA)

For the purposes of this policy, "development plans" refers to preliminary subdivisions, general or detailed plans, conditional uses, and rezonings.

General Information

1. All tree and shrub preservation and protection measures shall be removed upon issuance of Certificate of Occupancy.
2. The timeframe for Installation of landscape materials shall be in accordance with the applicable provisions of chapter 10 of the LDC.

Site Disturbance Permit

1. Site disturbance permits will be issued by MSD after MSD receives approval from both Public Works and Planning & Design Services. PDS approval will be a copy of the approved tree preservation plan. Public Works approval will be a plan with the "Transportation" approval stamp.
2. Tree preservation fencing, tree canopy calculations, trees being preserved must be shown on the clearing and grading and site disturbance plan.
3. Prior to any site disturbance permit being issued and Prior to any clearing, grading or the issuance of a site disturbance permit, a site inspection shall be conducted by PDS staff to ensure proper placement of required tree protection fencing in accordance with the approved Tree Preservation Plan.

TREE CANOPY PROTECTION AREA (TCPA)

Description:

Tree Canopy Protection Areas (TCPAs) are individual trees and/or groupings of trees (trees may be existing or proposed) designated to meet the Tree Canopy requirements of Chapter 10 Part 1of the Land Development Code (LDC), and to be **permanently protected**. TCPAs shall be clearly designated on approved development plans by location.

No structures shall be closer than 15 feet to the Limit of Disturbance (Tree Protection Fence) protecting a TCPA. No vehicle use area (VUA) shall be closer than 10 feet to the Limit of Disturbance (Tree Protection Fence) protecting a TCPA.

As trees within TCPAs are lost through natural causes, new trees shall be planted in order to maintain minimum tree canopy as specified on the approved development plan.

Requirements:

All development plans showing TCPAs to seek credit for preservation of existing trees to meet tree canopy requirements shall submit and receive approval of a tree preservation plan in accordance with section 10.1.6 of the LDC prior to issuance of any site disturbance permit:

Information:

1. Proposed site plan showing buildings, edges of pavement, property/lot lines, easements, existing topography, and other significant site features (LOJIC topographic information is acceptable).
2. Preliminary drainage considerations (retention/detention, ditches/large swales, etc.).
3. Location of all existing trees/tree masses existing on the site (aerial photos or LOJIC maps are acceptable data sources), and delineation of those to be preserved in TCPAs.
4. Location of tree protection fencing for each tree/tree mass designated to be protected. Dimension lines shall be provided to establish the general location of tree protection fencing.
5. Tree Preservation/Protection Signage – All tree protection fences must be accompanied by "Stay Out" and "Tree Protection Area" signage. Size and text of sign will be standardized. See figure 10D.1 below for an example.

Figure 10D.1

TREE PROTECTION SIGN

CAUTION

TREE PRESERVATION

CONTRACTOR MUST INSTALL AND MAINTAIN CONSTRUCTION FENCING

Notes:

1. Tree Canopy Protection Areas (TCPAs) identified on this plan represent individual trees and/or portions of the site designated to meet the Tree Canopy requirements of Chapter 10 Part 1of the Land Development Code and are to be permanently protected. All clearing, grading and fill activity in these areas must be in keeping with restrictions established at the time of plan approval. As trees within TCPAs are lost through natural causes, new trees shall be planted in order to maintain minimum tree canopy as specified on the approved development or preliminary subdivision plan.
2. Dimension lines have been used on this plan to establish the general location of TCPAs and represent minimum distances. The final boundary for each TCPA shall be established in the field to include canopy area of all trees at or within the dimension line.
3. Tree protection fencing shall be erected adjacent to all TCPAs prior to Site Disturbance Approval to protect the existing tree stands and their root systems. The fencing shall be located at least three (3) feet from the outside edge of the tree canopy and shall remain in place until all construction is completed. 4. No parking, material storage or construction activities are permitted within the TCPAs.
5. During all construction activity (includes clearing, grading, building construction and VUA construction) a copy of the approved tree preservation plan shall be on site.

TREE PRESERVATION AREA (TPA)

Description:

Tree preservation areas (TPAs) represent those portions of the site to be left undisturbed during development of roadways, utilities and similar infrastructure. TPAs are not permanent preservation areas; clearing, grading and/or removal of trees in TPAs is allowed at the time of individual building or home construction.

Any modification of the tree preservation plan requested by the applicant may be approved by the designated DPDS staff if the changes are in keeping with the intent of the approved tree preservation plan.

Trees designated as TPAs only shall not be eligible to count towards Tree Canopy requirements for a development site.

Requirements:

All development plans showing TPAs shall submit and receive approval for a tree preservation plan in accordance with Chapter 10 Part 4 of the LDC prior to issuance of any site disturbance permit, and shall contain the following information and notes:

Information:

1. Proposed site plan showing buildings, edges of pavement, property/lot lines, easements, existing and proposed contours, and other significant site features (LOJIC topographic information is acceptable).
2. Preliminary drainage considerations (retention/detention, ditches/large swales, etc.).
3. Location of all existing trees/tree masses existing on the site (as shown by aerial photos or LOJIC maps are acceptable data sources).
4. Location of tree protection fencing for each tree/tree mass designated to be preserved. Dimension lines shall be provided to establish the general location of tree protection fencing.

Notes:

1. Tree preservation areas (TPAs) identified on this plan represent portions of the site the developer has designated to be left undisturbed during the development of roadways, utilities and similar infrastructure. These are not permanent preservation areas. Trees in these areas may be removed during construction of homes or buildings on this site.
2. Dimension lines have been used on this plan to establish the general location of TPAs and represent minimum distances. The final boundary for each TPA shall be established in the field to include canopy area of all trees at or within the dimension line.
3. Tree protection fencing shall be erected adjacent to all TPAs prior to Site Disturbance Approval (Clearing and Grading Permit) to protect the existing tree stands and their root systems. The fencing shall be located at least three (3) feet from the outside edge of the tree canopy and shall remain in place until all construction is completed. When trees must be removed in a TPA, the fence shall be relocated to protect all remaining trees within that TPA. When a tree mass contains both TCPAs/WPAs and TPAs fencing shall only be required at the outer most perimeter of that tree mass.
4. No parking, material storage or construction activities are permitted within the TPAs beyond that allowed for preliminary site investigation work.
5. Clearing necessary to provide access for survey work, rock soundings or other usual and customary site investigations shall be permitted prior to Site Disturbance Approval. Preliminary site investigations shall be carefully planned to minimize the amount of clearing required. Clearing should follow proposed roadway centerlines and should not result in a clear access way of more than twenty (20) feet in width. Cleared access ways beyond proposed roadways to assess individual lots shall not exceed twelve (12) feet in width or encroach into any proposed open space lots. No trees exceeding eight (8) inches in diameter measured at breast height (DBH) shall be removed without prior approval by DPDS.

If TPAs are not shown on the development plan, the following condition of approval/binding element shall be attached to the plan:

6. The applicant shall identify and submit for approval by designated Division of Planning and Design Services (DPDS) staff, a plan showing the location of Tree Preservation Areas on site (exclusive of areas dedicated as public right-of-way) prior to beginning any construction procedure (i.e., clearing, grading, demolition). All construction shall be conducted in accordance with the approved Tree Preservation Plan. A partial plan may be submitted to delineate clearing necessary for preliminary site investigations. All Tree Preservation Plans must be prepared in accordance with the standards set forth by DPDS.

WOODLAND PROTECTION AREA (WPA)

Description:

Woodland Protection Areas (WPAs) are treed portions of the site designated as part of the development approval process to be permanently protected either in a natural state or following selective removal of understory brush and/or trees as determined at the time of approval. WPAs shall be designated on approved development plans by location and described in associated notes, binding elements, or conditions of approval by general character (left natural, only trees below 2" caliper may be removed, etc.).

WPAs may also be used to count toward Tree Canopy requirements for a development.

No clearing, grading or other land disturbing activity shall take place in WPAs beyond pruning to improve the general health of the tree or to remove dead or declining trees that may pose a public health and safety threat. Additional activities within WPAs such as utility installation, fence construction, walks, or supplemental planting shall be determined at time of approval and/or described in notes, conditions or approval and/or binding elements on the plan.

No structure may be closer than 15 feet to the Limit of Disturbance (tree protection fence) protecting a WPA. No vehicle use area (VUA) may be closer than 10 feet to the Limit of Disturbance (tree protection fence) protecting a WPA.

WPAs will generally be protected by easement or other mechanism shown on the approved development plan or described in binding elements/conditions of approval for a development plan. Subdivision deeds of restriction are used as one tool to inform future property owners of clearing restrictions.

Woodland Protection Area- dead/dying trees are to remain unless public, health, safety and welfare are compromised.

Modification of Woodland Protection Areas shown on approved development plans may not be approved without notification of adjoining property owners and LD&T action.

Requirements:

All development plans showing WPAs shall submit and receive approval for a tree preservation plan in accordance with section 10.1.6 of the LDC prior to issuance of any site disturbance permit, and shall contain the following information and notes:

Information:

1. Proposed site plan showing buildings, edges of pavement, property/lot lines, easements, existing topography, and other significant site features (LOJIC topographic information is acceptable).
2. Preliminary drainage considerations (retention/detention, ditches/large swales, etc.).
3. Location of all existing tree/tree masses existing on the site (aerial photos or LOJIC maps are acceptable data sources), and delineation of those to be preserved in WPAs.

Location of tree protection fencing for each tree/tree mass designated to be protected. Dimension lines shall be provided to establish the general location of tree protection fencing.

4. The applicant shall provide deeds of restriction ensuring that WPAs will be permanently protected in a manner consistent with the binding elements/conditions of approval and/or the approved development plan. The form of such restrictions shall be approved by Planning Commission counsel.
5. Tree Preservation/Protection Signage – All tree protection fences must be accompanied by "Stay Out" and "Tree Protection Area" signage. Size and text of sign will be standardized. See figure 10D.1 for an example.

Notes:

1. Woodland Protection Areas (WPAs) identified on this plan represent portions of the site on which all existing vegetation shall be permanently preserved. All clearing, grading and fill activity in these areas must be in keeping with restrictions established at the time of plan approval. No further clearing, grading, construction or other land disturbing activity shall take place beyond pruning to improve the general health of the tree or to remove dead or declining trees that may pose a public health and safety threat.
2. Dimension lines have been used on this plan to establish the general location of WPAs and represent minimum distances. The final boundary for each WPA shall be established in the field to include canopy area of all trees at or within the dimension line.
3. Tree protection fencing shall be erected adjacent to all WPAs prior to Site Disturbance Approval (Clearing and Grading) to protect the existing tree stands and their root systems. The fencing shall be located at least three 93) feet from the outside edge of the tree canopy and shall remain in place until all construction is completed.
4. No parking, material storage or construction activities are permitted within the WPAs.
5. During all construction activity (includes clearing, grading, building construction and VUA construction) a copy of the approved tree preservation plan shall be on site.
6. The site shall be developed in accordance with the Woodland Protection Areas delineated on the site plan and related notes. Any modification of the Woodland Protection Areas requires notification of adjoining property owners and LD&T action.

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