

HARRIS COUNTY REVISES ITS INFRASTRUCTURE REGULATIONS

Harris County Commissioners' Court has adopted revisions to the Infrastructure Regulations on September 27, 2005. The revised regulations become effective Nov. 15, 2005.

The Infrastructure regulations now include landscaping requirements and sidewalk requirements, as well as technical and administrative revisions related to land development. This is the first time Harris County has adopted landscaping requirements for residential development, such as new subdivisions, and commercial development for unincorporated areas of Harris County.

Harris County representatives worked with various engineering, construction, and architectural companies to develop the changes that have been adopted in the new regulations.

For more information and to download the revised Harris County Infrastructure Regulations or other Harris County regulations, log on to www.eng.hctx.net/permits or call the Harris County Permit Office at (713) 956-3000.

COUNTY OF HARRIS PUBLIC INFRASTRUCTURE DEPARTMENT

LANDSCAPE DESIGN AND COMPLIANCE REVIEW SHEET

(Please attach to permit site plan)

Commercial Establishments and Public Buildings

(Staff may create an artificial lot)

1. TREE AND SHRUB PLANTING REQUIREMENTS

A. STREET TREES : Sec. 13.09

STREET NAME	Lineal Feet	Tree Planting Requirement	Total Trees Planted *
	/ 30		
	/ 30		
	/ 30		
	/ 30		
TOTAL STREET TREES			

B. PARKING LOT TREES : Sec. 13.09

Each parking space must be within 120' of a tree.

Total Number of Proposed Parking Spaces	# of Spaces	Tree Planting Requirement	Total Trees Planted *
	/ 10		

C. SHRUBS: Sec. 13.09

75% of the shrubs must be planted along the perimeter of the parking lot.

(Shrubs are required for new and/or the expanded portion of parking lots)

Shrub Requirements		
Street Tree Planting Requirement	Requirement	Total Shrub Requirement **
	X 10	

D. LANDSCAPE BUFFER: Sec. 13.09 Wood, concrete masonry opaque screening fence. (Min. 6') Evergreen screening.

A 6' high wood, concrete masonry opaque screening fence, or 6' tall evergreen planting strip along the total length of property line adjacent to existing single family residential, or limit of expansion adjacent to existing single family residential. (Site plan must show land use on all sides of the property, evergreen shall be 6' tall within 3 years of planting.)

PLEASE ATTACH TO PERMIT SITE PLAN

2. TREE PROTECTION REQUIREMENTS

Sec. 13.11 Preservation of existing trees.

Street Name/Location	Inches Protected	Inches Required

Preservation of existing trees and associated understory.

* Trees shall be a minimum of 1.5 caliper inches in size and from the approved list found in Appendix "A" of Chapter 33 of the City of Houston Code of Ordinances.

** The shrubs shall be a minimum of 18 inches in height and shall be selected from the City of Houston's approved shrub list found in Appendix "D" of Chapter 33 of the City of Houston Code of Ordinances.

(a) The following procedure is required when credit for the preservation of existing trees and associated understory is being requested to be applied toward the total planting requirement pursuant to section 13.11 of the regulations or the protected tree replacement requirement. When such credit is being requested, the applicant should also provide to the building official with the building plans and a tree and associated understory preservation plan and shall include:

- (1) Delineation of proposed limit of clearance and establishment of tree protection zones which shall extend to outside the dripline of the tree and associated understory to be protected, if any;
- (2) Proposed soil stabilization practices, i.e., silt fence, hay bales;
- (3) The species of each tree to be preserved and for which credit is being requested;
- (4) The proposed finished grade and elevation of land within six feet of or within the dripline of any tree to be preserved, whichever is greater, shall not be raised or lowered more than three inches unless compensated for by welling or retaining methods;
- (5) Existing and proposed location of all trees and plant materials to be relocated at the drawing scale;
- (6) A landscaping tabulation, and itemized credit requests for existing trees to be preserved;
- (7) Tree and associated understory preservation details; and
- (8) Specification of ground plane treatment as either turf or sod. If a combination of both is utilized, the limit of each shall be indicated.

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HARRIS COUNTY

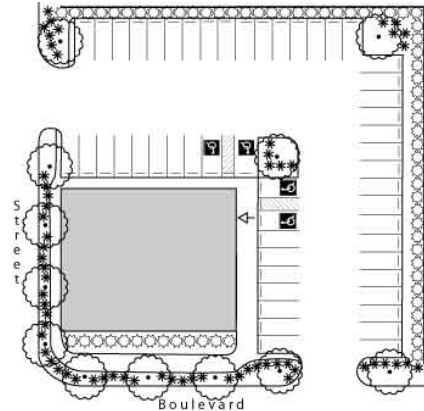
PUBLIC INFRASTRUCTURE DEPARTMENT ARCHITECTURE & ENGINEERING DIVISION

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Landscape Regulations for Development **Tree & Shrub Regulations** County of Harris Planning & Development Department

The Harris County Regulations for Approval and Acceptance of Infrastructure provides standards for planting trees and shrubs and installing landscaping buffers. The Regulations further protects Harris County greenery by offering incentives to property owners who preserve and care for existing trees on private properties.

Based on a property's size, the Regulation establishes minimum planting requirements for street trees, parking lot trees, and shrubs. These minimum requirements ensure that the County will have aesthetically pleasing developments and enhanced greenspace, making it a better place to live.



The Regulations' planting requirements apply to all new commercial and public buildings. The Regulations also apply to all new single family construction.

Landscape design and compliance review sheets are available at the County Permit Office, 10000 Northwest Fwy, Suite 102, Houston, Texas 77092 and online at www.eng.hctx.net.

Who Must Plant

Those who are building:

- All new commercial and public buildings
- New single family residential buildings

Landscape Plans

A landscape plan is a drawing that identifies the locations of existing and proposed utility lines, roadways, sidewalks, street lights, trees, shrubs, groundcovers, natural features, landscape buffers, other landscape elements, and planting or construction details.

Make certain that the plant species and planting size of all trees and shrubs are noted on the plan. All preserved trees on the plan must be identified. Applicants must submit a landscape plan for review when applying for plan approval.

Planting Requirements for Commercial & Public Building Developments

Applicants must incorporate a landscape plan and landscape design and compliance review sheet. Both items must be included with an application for a plan approval.

- **Street trees** – must be planted adjacent to public rights-of-way; one tree for every 30 feet of road frontage. The formula for calculating the required number of street trees will be applied separately to each block face when a property fronts on more than one street and there are minimum spacing requirements. Street trees must be planted at least 20 feet apart without extreme variation in the spacing excluding site conditions and driveways. An existing street tree may count toward the requirement of a required tree.
- **Parking lot trees** – each parking space must be within 120 feet of a parking lot or street tree. One tree for every 10 spaces is required.
- **Shrubs** – at least 75% must be planted along the perimeter of parking lots with the remainder planted along or within the perimeter; 10 shrubs for each required street tree.
- **Landscape buffers** – screening fence, with a minimum height of six feet, located along the property line between two adjacent properties; must be constructed with building materials or planted with evergreen trees or shrubs that will be 6 feet tall within 3 years.

Protected Trees

The Regulations protect certain trees from removal. Trees located within public rights-of-way are protected.

Removing Protected Trees

Individuals who want to remove a protected tree must complete the following steps:

Specimen Trees Twelve (12) Inch Caliper and Larger:

- The engineer will provide a tree removal and replacement plan with the construction plans. Auger or tunnel construction methods under selected specimen trees must be used to the extent practicable.
- Replacement trees should generally have a minimum diameter of three (3) inch caliper as established by the American Association of Nurserymen. Trees twelve (12) inches and larger should be replaced with smaller trees being no less than three (3) inch caliper and totaling the equivalent caliper diameter of the removed tree.
- Replacement of trees should generally be the same type as the removed tree, unless directed otherwise by the County Engineer or appropriate Precinct designee during the plan review.
- Specimen trees located in the right-of-way and adjacent to the contractor's work area are to be fenced with four (4)-foot high orange safety fencing. The limits of

the fencing will be coordinated with a landscape professional and the appropriate Precinct designee and approved during plan review.

Specimen Trees Smaller than Twelve (12) Inches:

- Specimen trees smaller than twelve (12) inches will be transplanted within the County's right-of-way as directed by the County Engineer or the appropriate Precinct designee during the plan review.

Landscape Professional:

- The engineer will utilize a Landscape Professional when necessary for the preparation of the tree removal and replacement plan. A Landscape Professional is considered to be an Urban Forester, licensed Landscape Architect, Certified Arborist or similar qualified professional.

Exceptions to the Regulations

Applicants may request a variance in accordance with Section 14 of these regulations. The County Engineer may grant a variance when compliance with the regulations would result in damage to existing utilities or create unsafe conditions for the public.

Planting Requirements for Single Family New Construction

- Lots less than 5,000 square feet will require one tree – new or preserved. A preserved tree may be on the building site or in the abutting street right-of-way. A new tree should be planted in the front yard unless the building official authorizes it to be planted elsewhere on the building site.
- Lots 5,000 square feet or greater will require two trees – new and/or preserved of which one should be in the front yard.
- Trees must be of a species listed on the street tree or parking lot tree list.
- A final building inspection may not be approved until the required trees are planted or preserved.

Tree Protection

Construction projects can be strenuous and cause irrevocable damage to existing trees. The following information describes methods that help mitigate impact and save trees:

Before Construction: Design for Tree Survival

1. Pick the trees to save and design the structure to accommodate them. Look for healthy trees of desirable species. Pay special attention to shade potential for the house and nearby cement/asphalt areas.
2. Determine the Critical Root Zone (CRZ) for each tree, which is roughly a circle with a radius equal to the average dripline (see *Figure 1*). Realize that most tree roots are in the top two feet of the soil, and that feeding roots are in the top few inches (see *Figure 2*). Roots require non-compacted soil for both air and moisture.
3. Protect at least 75 percent of the CRZ. Fence the area to prevent traffic or storage of materials (see *Figure 3*). If fencing is not possible, cover the CRZ with 6-8 inches of wood-chip mulch and 3/4-inch plywood or road boards to prevent soil compaction (see *Figure 4*).
4. Route underground utilities to avoid the CRZ. If digging is unavoidable, bore under the roots or hand dig to avoid severing them.
5. Design paving away from the CRZ. If this is not possible, use a porous material for driveways, such as crushed granite, paverstone, etc.
6. Save trees that are very close to buildings by using pier-and-beam construction techniques that allow air and moisture to reach the root zone.



Figure 1:
Critical Root Zone (CRZ)

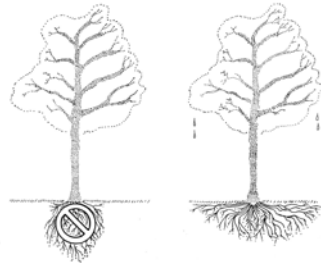


Figure 2:
Root Growth

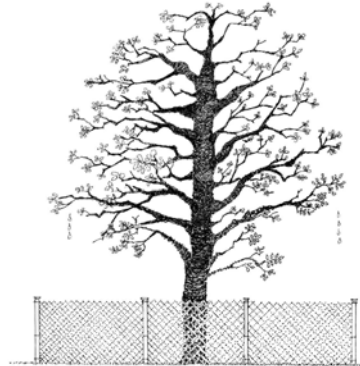


Figure 3:
Fence the Area

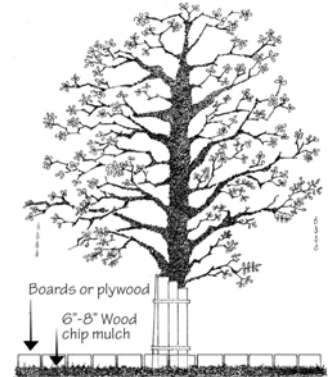


Figure 4:
Cover with mulch

During Construction: Save the Roots, Save the Trees

1. Set up tree protection guidelines and monitor compliance — from initial grading of the lot to final landscaping and irrigation.
2. Maintain CRZ fencing. Mark access routes, storage areas and refuse sites.
3. Keep backhoes and other root destroying equipment away from roots, especially in the CRZ.
4. Avoid soil compaction. Park on the street- not under shade trees!
5. Use boring or tunneling methods when utilities are in the CRZ, since most roots are close to the surface, or hand dig trenches to avoid cutting roots.
6. Do not allow disposal of paints, oils, unused mortar or other potentially toxic materials any place on the site.
7. If pruning is required, use National Arborist Association specifications.
8. Do not expect pruning or fertilizing to compensate fully for destroyed roots.
9. Keep the CRZ well watered during construction to avoid extra stress on trees. Saturate the top 4-6 inches of soil.

After Construction: Remediate and Monitor

1. Remove contaminated soil, and aerate compacted soil. Make sure to maintain the same grade as before construction — more than two additional inches of soil or sod can ultimately kill an otherwise healthy tree.
2. Monitor trees for up to five years, checking for insects or disease that can strike a weakened tree.
3. Water trees during dry periods to help them recover from construction stress. Fertilize annually with a slow release non-burning complete fertilizer.

Check with an Expert

There are so many species of trees and site possibilities that we can only offer general guidelines in this brochure. You'll get the best advice about preserving trees from a qualified urban forester.