

Tree Protection During Construction

Draft: 5 August 2009 by JAS

XX.010

Finding and Purpose

A. The City Council finds that the protection of trees and tree stands during public construction and private site development enhance the public's health, safety, and welfare. Therefore, such protection constitutes a vital environmental, historic, visual and economic benefits to the city's residents and visitors.

B. The purposes of this chapter are to:

1. Describe the necessary elements of tree protection plans to be required as part of both public and private site development; and
2. Establish specific requirements for protective fencing, utility and irrigation trenching, site grading and filling, and retaining walls for the protection of existing trees of significance and tree stands on construction sites; and
3. Incorporate tree protection plans as part of the development permitting process; and
4. Establish inspection and enforcement mechanisms for these provisions to insure protection of trees and tree stands during and subsequent to the construction process.
5. Establish the authority of the City's Planning Official to implement this chapter's provisions, and allow the Planning Official to delegate certain responsibilities to the City Forester.

XX.020

Definitions

"Significant trees" refers to trees of 24" DBH or more, on the "preferred and acceptable" tree lists in the appendix, or nominated for historical or cultural significance – see Section on Heritage Trees.

"Subdivision Plan" refers to the official document required by the City of Langley prior to subdividing a parcel.

"Tree Preservation Plan" refers to a document prepared as part of the development/building permit process, whose detailed contents is describe below.

"Tree stands" refers to groups of 3 or more clustered mature trees, of 12" DBH or more, whose canopies interlock and/or overlap.

"Site development" refers to subdivision development or any land clearing taking place in preparation for development.

XX.030

Preparing and submitting a Tree Preservation Plan

A Tree Preservation Plan is a required part of any *short or long plat* or building permit process which involves multiple residential units *or contains greater than 3500 sq. ft. of impervious surface*. For such sites, no cutting of significant trees or other major site development work shall be allowed until such a plan has been submitted, reviewed, and approved by the City's Planning Officer. The plan should include:

A. Mapping significant trees and calculating tree canopy coverages for the properties involved in the proposed development: The map should indicate location and diameters of significant trees, and show approximate drip lines around such trees or stands of trees. It should also show building footprints, roadway outlines and surfaces, and existing or proposed utility trenches. Finally, it should show planned removal of significant trees, calculate the impact of such removal on overall canopy cover, and list mitigation measures proposed (such as number and size of new tree plantings, correlation with run off management plans, etc.).

B. Protective Fencing Standards: An area within which disturbances shall be prohibited, corresponding to 1.5 times the average radius of the drip line of significant trees and/or the tree canopy of tree stands, shall be identified on the Tree Preservation Plan. The plan should commit the applicant to construct and

maintain through out the development process a temporary four-foot high chain link or substantial plastic net fence around any significant trees or tree stands otherwise likely to be impacted by the development.

C. Signage on fencing should cite relevant protection ordinances and penalties for violation. As part of the incentive to adequately protect existing significant trees, significant trees (24" DBH or more) *and tree stands* that are to be preserved on a site shall be given individual monetary price tags, with non-harmful posting around each such tree or stand, in so far as is practical. Pricing shall be based upon standards available from national arborist associations, such as the ISA Council of Tree and Landscape Appraisors (CTLA). For larger sites, this requirement only applies to trees along construction boundaries that require further protection as specified above.

D. Disturbances, surfaces, and site grading: No impervious surfaces, fill, excavation, or vehicle operations or storage of construction materials shall be permitted within the areas defined by protective fencing or around significant trees farther afield from the construction site. Permanent retaining walls at the dripline can be used to maintain grade level around individual or stands of significant trees.

E. Location of utility and irrigation trenching: Due to the long range mutual impact of tree roots and any trenching, the Tree Preservation plan must show all proposed trenching on site. Consolidation of utility trenching and standards of protection similar to those given in the section on Street Trees (see Section xx) should be spelled out in the Tree Preservation Plan.

F. Alternative protective methods may be used if determined by the City Planning Director to provide equal or greater tree protection. Whenever possible, such methods should be reviewed by a consulting certified arborist.

XX.040

Implementation of Tree Protection Plans

A. Inspection and financial liabilities for tree damage during construction: city inspection of building sites shall include confirmation that the Tree Preservation Plan is being followed. The developer will be held financially liable for damage to protected trees and tree stands, and be expected to cooperate fully in any mitigation measures deemed necessary to repair such damage.

B. Replacement requirements for significant trees and tree stands: At the discretion of the City's Planning Official, development plans that cause the removal of more than 25% of the tree cover of a site shall be required to include replacement tree plantings, chosen from an approved planting list. New trees shall measure 2 inch caliper if deciduous and 6 feet high if evergreen, at a replacement rate of 2 to 1 for excessive tree removals.

C. Long term follow up and performance bonds: Long term monitoring, maintenance and significant performance bonds shall be made part of any Tree Preservation Plan.

D. Penalties, Appeals, and Dispute Resolution: all regular processes of appeal and dispute resolution apply to Tree Preservation Plans. Similarly, appropriate financial penalties for non-compliance will be established and published in a schedule of penalties, taking into account the monetary value of trees harmed as determined by current standards of the International Society of Arboriculture.

It is the intent of this section to prevent and/or minimize damage to trees and stands of trees during construction projects, and to accomplish this by careful protective plans and agreements, utilizing concurrent inspection and enforcement.

XX.050

Recommended tree protection during private construction

In construction situations that fall below the development size limits specified in Section xx.030 for Tree Preservation Plans, proactive planning for tree protection is strongly recommended. The standards outlined above are of sufficient environmental and economic value to even individual home owners to encourage their adoption in smaller building situations. The City Planning Department and the designated City Forester will be available for consultation and advice on tree canopy preservation, significant tree designation, and appropriate replacement plantings for all such projects, time permitting.

Tree Canopy Standards

XX.060

Finding and Purpose

A. The City Council finds that the preservation of the existing tree canopy on both public and private lands serves both to significantly lower run off and enhance long-term ground water recharge, besides many other significant benefits. Therefore such preservation constitutes a vital environmental and economic benefit to the city's residents and taxpayers.

B. The purposes of this chapter are to:

1. Describe standards for tree canopy coverage, setting goals for both existing and new developments.
2. Establish detailed instructions for tree replacement in those situations where tree canopy is being lost due to construction activities.
3. Recommend methods for further measurement of the benefits of existing and/or expanded tree canopy coverage for the City of Langley.
4. Acknowledge that best practice forestry management may require carefully planned thinning of existing tree stock.
5. Coordinate with and supplement existing City and County Land Clearing ordinance provisions.

XX.070

Definitions

"Canopy cover" means the percentage of parcels within a development site that is covered by the foliage of trees on that site.

"Traditional Village Design (TVD)" –Typical of older Langley neighborhoods, both multi-unit and single family residential. See Subdivision ordinance for full discussion.

"Rural Village Design (RVD)" –Typical of newer Langley neighborhoods, with rural character emphasis and a mix of single and multi-family units, low impact commercial and larger open spaces. See Subdivision ordinance for full discussion.

"Conservation Design (CD)" – Typical of areas on outskirts of Langley, larger properties with clustered housing, low impact commercial (if any) and designated open space and conservation easements. See Subdivision ordinance for full discussion.

"Significant Trees" – Existing trees that measure 24 inches (DBH) or more, or trees that have been designated as historically or culturally significant by an individual property owner and/or the Town of Langley.

"Drip line" – The imaginary line corresponding to where the tree branches drip rainfall around the base of each tree or stand of trees.

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Standards for tree canopy coverage

1. Within Traditional Village Design (TVD) areas, existing tree canopy coverage will be preserved to the maximum extent compatible with other requirements. However, if significant trees are removed for construction or remodeling, then a tree replacement commitment will be required as explained in the replacement tree section below.

2. Within Rural Village Design (RVD) areas, tree canopy coverage of 30% will be the minimal long-term goal and landscaping plans will reflect this goal. A tree replacement commitment can be allowed to help meet this goal, at the discretion of the City Planning Director.
3. Within Conservation Design (CD) areas, tree canopy coverage of %50 will be the minimal long-term goal and development plans will reflect this goal.

Replacement of lost tree canopy coverage

1. Although the removal of significant trees is discouraged, building plans which do not meet the standards for tree canopy coverage specified above may be required to replace lost significant trees or tree stands as follows:
 - a. New trees measuring minimally 2.0 inch (DBH) and 6 feet high if evergreen, at a replacement rate of 2 times the number of removed trees. New tree plantings shall be spaced for mature growth size. [See also the Bainbridge Tree Ordinance for a model of detailed instructions.]
 - b. Failure to replace or transplant trees will be enforced as provided in this code, with fines based upon three times the value of the trees, as determined by the current standards of the International Society of Arboriculture CTLA.
 - c. Agreements for short-term and long-term maintenance shall be part of the replacement plan and implementation, enforceable by inspection and/or penalties as in other part of this ordinance.

Measuring and supporting tree canopy benefits

1. As a supporting measure, the City Planning Officer and the Director of Public Works will undertake a brief survey of small town tree ordinance tree canopy requirements and recommend a table of such requirements to be added to this ordinance, referencing relevant categories of land use in the Subdivision code.
 2. The City Council will review and adopt such a table after PAB review and public hearings, if deemed necessary.
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Cross References:

XX.070

Reference to: Utility Duty To Prevent Damage

It shall be the duty of any person owning or operating any utilities within any public street or right-of-way to maintain such utilities (including, but not limited to, water, sewer, electrical, gas, telephone, communication and cable television services) in a manner to prevent damage to street trees.

A. Utility Protection of Trees -- During the construction, repair, alteration, removal or relocation of any facility or utility, good and sufficient guards shall be placed to prevent injury, damage or defacement to any street tree in the vicinity of such operation. Streets or rights-of-way which are damaged by construction or other act shall be returned to their original condition by the person, persons or firm causing such damage, or shall bear the cost of such action, including legal and administrative costs.

B. Emergency -- When a street tree is interrupting service through its direct interference, a utility company providing gas, water, sewer, electricity, telephone, communication or cable television service may trim or remove branches of trees to the extent necessary to restore service and protect its facilities. Only if the condition of a street tree presents an imminent threat will it be acceptable to remove the tree(s) without

a permit, as allowed under LMC xx.040 B, in order to restore or prevent disruption of utility service.

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XX.080

Standards borrowed from Street tree protection

A. Protection During Work -- All street trees that may be adversely impacted by any excavation, demolition, construction or utility work must be sufficiently guarded and protected by those responsible for such work to minimize potential injury to street trees. Any work which requires a city permit and which may adversely impact street trees requires approval by the City Forester. In order to protect street trees, the City Forester may require protective measures consistent with national arborist organizations standards.

B. Damage or Injury Prohibited -- No person may destroy, injure, or deface any street tree by any means, including, but not limited to, the following methods:

1. Root impairment -- By impeding the free passage of water, air, or nutrients to the roots of any street tree by depositing concrete, asphalt, plastic sheeting or other material on the ground immediately surrounding it, or by physically wounding or displacing the roots of any street tree;

2. Toxic exposure -- By pouring any toxic material on any street tree or on the ground near any street tree;

3. Fire -- By causing or encouraging any fire near or around any street tree;

4. Severe crown reduction -- By severely reducing a street tree's crown by removing more than twenty-five percent of the tree's foliage, since removal and replacement is preferred to severe crown reduction, except when pruning under utility wires or when eliminating obstructions of the right-of-way, as required by this chapter;

5. Direct injury -- By carving, breaking, attaching any sign, poster, notice, or other object, on any street tree -- while allowing lighting of a decorative or seasonal nature, provided that such lighting is draped or wrapped around a street tree and maintained without causing permanent damage to the street tree -- or by fastening any rope, wire, cable, nail, screw, staple or other device to any street tree, except as used to support a young or broken tree, or as used to support heritage tree signage, where heritage trees are defined in LMC xx.; or

6. Improper equipment -- By using equipment that is not generally accepted by the tree care industry.