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## SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL

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### Chapter 4


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### LATEST ONLINE MANUAL

 

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### Design Criteria

#### 4.14 Street Trees and Landscape Architectural Standards

Street trees are required by municipal code and standards set by SDOT designed to provide maximum public benefit and compatibility with other infrastructure in the street right-of-way. Street trees are to be protected during construction and otherwise routinely maintained for optimum health, longevity, and public safety. SDOT Urban Forestry advises applicants on tree selection, installation and protection measures to preserve the functional, environmental, social, and economic benefits of trees and to support the citywide urban forestry goal to increase canopy cover.

Like other street design elements, street trees are reviewed and approved by SDOT according to established guidelines and standards (see the SDOT Recommended Street Tree List for spacing recommendations and the [Standard Plans for Municipal Construction # 030](#) for clearances and installation details). However, because trees are living infrastructure, growing in size over time, each project is reviewed and inspected on a site specific basis to ensure the optimum outcome for the project, the neighborhood, and the city as a whole.

The street tree design criteria in this section are based on transportation safety requirements and on minimum requirements for street trees to achieve a mature canopy for effective reduction of both storm water runoff and reflected heat from paved street and sidewalk surfaces.

##### 4.14.1 Links to Standard Plans and Specifications

[Standard Specification 8-02 and 8-14](#)

[Standard Plan, #030](#)

[Standard Plans Section 100: Landscape Planting](#) (includes standard plans for trees, shrub and ground cover, irrigation, tree protection and grading)

[Standard Plan 424: Tree Pit Detail](#)

##### 4.14.2 Design Criteria

**Clearances from street trees—at grade:** Street trees require access to air and water, space for growth and must be managed for compatibility with the built environment. Refer to standard clearances from trees to other objects in the right-of-way per [Standard Plan #030](#)

With limited right-of-way, SDOT will evaluate site conditions and may permit one or both of the following:

- a variance from the standard clearances based on the [street classification](#) (arterial or non-arterial), curb lane use (parking or travel lane) and recorded or projected information about pedestrian volumes for the corridor; and
- installation of a small-scale tree with a mature size compatible with spatial constraints.

**Clearances from street trees—below grade :** The design of street improvements must consider existing underground utilities. The standard 5 feet clearance from underground utilities is a minimum standard that is not optimum for either trees or utility

lines. Where right-of-way width allows allocation of more than 5 feet, the investment to provide additional space up front often provides a long term benefit through reduced impact on trees due to utility line maintenance and repair.



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Alternatively, when right-of-way width is limited such that the 5 feet clearance from utility lines cannot be met, SDOT and SPU evaluate the site conditions and may permit:

- tree installation less than 5 feet clear of lines made of ductile iron or PVC; and
- tree installation less than 5 feet clear of concrete pipes installed with rubber gaskets (post-1960).

Historical data available during site evaluation may preclude a typical street tree installation in cases where a combination of pipe condition, pipe depth, and soil properties are determined to be incompatible with the installation of street trees,

**Planting strip clearances** : Maintain 5 feet 0 inches clearance between the back of the sidewalk and inside edge of the curb (5 feet 6 inches to the curb face) to allow a setback for street trees measuring 3 feet 6 inches from the centerline of the tree to the curb face and 2 feet 0 inches from the centerline of the tree and sidewalk edge.

**Planting strip width**: The minimum planting strip width is 5 feet 0 inches measured between the back of sidewalk and inside edge of the curb.

**Planting strip treatments** : Plants in planting strips vary greatly in their potential to provide optimum pedestrian and environmental benefits. Though SDOT allows the installation of grass the department encourages the installation of low (24-30 inches) shrubs, perennial or groundcover plantings that provide a superior degree of separation between the sidewalk and street at reduced maintenance costs. Under some conditions, a combination of the plantings and grass or plantings and pavers may be appropriate depending on the street classification and need to accommodate parking in the curb lane.

Refer to [Chapter 6.4 Natural Drainage Systems](#) for guidance on integrating stormwater conveyance and treatment into the planting plan.

**Planting strips—grading** : The final grade of soil surfaces in planting strips must accommodate runoff from sidewalk surfaces cross-sloped to drain toward the street. In cases where a mounded planting strip is proposed to provide a more effective separation between the sidewalk and street, a centerline height of 6" above the adjacent sidewalk grade is typical and gaps between mounded areas must be provided so that backup of runoff and ponding does not occur on the paved sidewalk.

**Planting strip paving** : Up to 40% of the area in planting strips may be paved if the following conditions are met:

- Paving is done in combination with street trees;
- Related landscape architectural features pose no public safety concern; and
- The combination of paving and trees provides an equal or better balance of functional and environmental benefits than a fully planted condition.
- Paved area is not used for parking.

Pervious pavement materials are encouraged to allow for the infiltration of runoff from the sidewalk before it enters the street to maximize the water quality entering the planting strip. Paving materials and installation details are subject to approval by SDOT.

**Tree pits**: are typically used as an alternative to planting strips in business districts where additional sidewalk width is important to accommodate pedestrian volumes.

When permitted as an alternative to planting strips, tree pits shall be constructed per Standard Plan 424, dimensioned to meet or exceed the minimum size required to meet standards. The minimum square footage for a tree pit is 24 s. f. of open area (typically 4 feet x 6 feet or 5 feet x 5 feet). Any proposal dimensioned below minimum standards shall be subject to site-specific review to ensure that:

- conditions justify the substandard size;

- the design meets public safety standards; and
- the design provides adequate conditions to support trees.

**Tree pits—grading** : Shall be graded to provide a soil surface 2 inches below the adjacent sidewalk and curb elevation and be top dressed with bark, wood chips, cinders, or crushed angular aggregate material that is routinely maintained to minimize the grade differential between the sidewalk and open pit area.

**Street Tree Permit:** Please refer to section [2.4.4a](#) of the Right-of-Way Manual.

**Tree grates** : Often proposed as an architectural design element and/or as a means to maximize the pedestrian accessible area in the right-of-way, tree grates may be permitted by SDOT. When permitted, tree grates shall be maintained routinely by the property owner to ensure a flush condition between the grate surface and surrounding pavement, to replace broken segments, and to expand the opening as appropriate to accommodate the growth of the tree.

**Tree and plant material—selection** See:  
SDOT [Recommended Street Tree List](#)

**Tree and plant materials--installation and maintenance responsibilities** : It is the responsibility of the property owner to ensure that the Installation and maintenance of grass, plantings and related improvements in planting strips meet public safety and industry standards. Street tree and landscaping improvements required by the Land Use Code must be maintained to meet public safety standards for the life of the project. This includes:

- watering to ensure establishment of plant material;
- mulching to minimize water use, discourage weeds and protect against erosion
- pruning low shrubs and groundcover to control overgrowth onto sidewalks
- pruning street trees(after first obtaining a street use permit) to ensure appropriate clearances over streets and sidewalks.

**Tree protection and maintenance** : A [permit](#) should be a direct link is required for Street Tree Removal or Pruning under Seattle City Ordinance #90047.

Proposals for removal or pruning of street trees proposed in conjunction with a building permit are subject to review and, when approved, subject to inspection by the SDOT Landscape Architect's Office.

Citizen requests for removal or pruning of street trees are subject to review and approval by the SDOT Arborist's Office. [Get a copy of the permit application](#). Should be a direct link.

Permit applications may be required to include public notification and/or mitigation for the lost value of the tree(s) proposed for removal. In cases where the applicant is not the owner of the property abutting the proposed work, applications must include signatures of adjacent property owners. The extent of notification is determined on a case by case basis to ensure public safety and awareness and/or approval of the project. Names and addresses of contacts may be submitted for approval or provided as a component of the permit review process by the SDOT Urban Forestry. All permitted work must be completed within 60 working days unless otherwise defined by the permit.

#### 4.14.3 Design Considerations

- Trees and related landscape architectural treatments that are strategically planned for maximum public benefit within the often limited space within the street right-of-way provide a "sense of place" critical to the vitality of neighborhoods and their business districts.
- The value of street trees to the urban environment is enhanced when they are combined with understory planting, specialized pavements, street furniture and public art.
- Planting strips serve a number of important functions including:
  - pedestrian safety--they provide a buffer between the sidewalk and roadway;
  - reduction of runoff by providing area for rainfall to infiltrate;

- water quality by infiltrating runoff from sidewalks before it enters the street; and
  - the growth and longevity of street trees.
- Tree health and maintenance: because the standard, whether it be a 5 feet wide planting strip or 5 feet x 5 feet tree pit is not optimum to meet the horticultural requirements of a typical street tree, allocating larger areas to accommodate trees is encouraged whenever right-of-way space allows. Allocation of space is a key factor in the management of trees for compatibility with adjacent paved surfaces and other improvements, with the investment of more space up front often providing a substantial payoff in terms of reduced need for replacement or repair of paved surfaces and related improvements.

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