

City of San Diego, Land Development Code Revisions §142.0406 Vehicular Use Area Planting Area and Point Requirements

Instructions to review group: Review and mark deletions, additions and edits on the current code. Consider the Fresno and Sunnyvale standards for parking lot shading, identifying sections to add or substitute for sections of the current code. Number and write reasons for the changes (on separate paper).

Names of reviewers: _____

Background* Briefly summarize the relevant existing regulations or review process.

Required planting area and “plant points” are calculated, for different vehicular use areas. Tree distribution is required to be 1 tree within 30 feet of each parking space. At least half of the required plant points are required to be trees.

Local arborists, urban foresters, and landscape architects met on March 8, 2019 to review current land development codes relating to trees. They formed teams to review current codes, gathered information from other cities and relevant research, and recommended revisions to the code. The proposed changes were reviewed by ___ on February 5, 2020, and their recommendations are the basis for these proposals.

Issue* Briefly summarize the issue or problem that has triggered the need for the proposed amendment. Please include any real-world project examples.

Parking lots are notoriously hot sunny places, especially if property owners minimize the trees by over-pruning and keeping them under 15’ height (so that certified tree care workers are not required). Yet parking lots are experienced daily by most San Diegans and many visitors, with shaded spaces prized for parking cars.

Objective* Provide a statement of what you want to achieve with the proposed amendment.

Increase canopy cover, shade, and urban green spaces by requiring 50% tree cover within 15 years of establishment and then this cover maintained.

Solution* Briefly summarize how you propose to address the issue and achieve the objective with your proposed amendments.

If designed and maintained to be quality urban green spaces, parking lots provide shade, reduce noise and air pollution, improve the appearance of commercial areas, and improve the experience of shoppers. With the Climate Action Plan requiring that the City increase tree canopy, the relevant objective for tree cover in parking lots would be percent shade, not number of trees.

File Attachments* Strike-out/underline of code amendment. Drag and drop files here or browse files

List of code sections affected by your proposal* Please search the entire Land Development Code to identify all sections that relate to your proposal.

§142.0406 Vehicular Use Area Planting Area and Point Requirements

- (a) When new *vehicular use areas* are subject to this section in accordance with Table 142-04A, the planting area, the plants necessary to achieve the number of plant points, and the trees required in Table 142-04D shall be provided. The required planting area is determined by multiplying the square footage of the *vehicular use area* located within the *street yard* and outside the *street yard* by the percentage shown in Table 142-04D. The required plant points are determined by multiplying the square footage of the *vehicular use area* located within the *street yard* and outside the *street yard* by the points shown in the Table 142-04D. The required area, points, and trees shall be located within the *vehicular use area* unless listed otherwise in the table.

**Table 142-04D
Vehicle Use Area Requirements**

Size of Proposed <i>Vehicular Use Area</i>	Planting Area Required ^{(1), (2), (4)}		Plant Points Required ^{(1), (2)}		Tree Distribution Requirement ⁽¹⁾
	<i>Street yard</i>	Outside the <i>street yard</i>	<i>Street yard</i>	Outside the <i>street yard</i>	
Less than 6,000 square feet	40 Square Feet per Tree	40 Square Feet per Tree	0.05 points	0.05 points	1 tree within 30 feet of each parking space ⁽³⁾
6,000 square feet or greater	5% of vehicular use area located in the street yard	3% of vehicular use area located outside the street yard	0.05 points	0.03 points	1 tree within 30 feet of each parking space ⁽³⁾

Footnotes to Table 142-04D

- ¹ See Section 142.0407(a)
- ² See Section 142.0407(b)
- ³ See Section 142.0407(c)
- ⁴ See Section 142.0407(d)

- (b) All planting areas and plants in or adjacent to a *vehicular use area* shall be protected from vehicular damage by providing a raised curb or wheel stop of at least 6 inches in height. Where the end of parking spaces abut a planting area that is less than 5 feet in width, 6-inch-high wheel stops or curbs shall be placed within the parking spaces, 2 feet from the edge of the planting area.
- (c) A *vehicular use area* located within the *street yard* shall be separated from the curb in the *public right-of-way* by a required planting area totaling at least 8 feet in width, measured perpendicularly to the *public right-of-way*. This planting area shall meet the following requirements:
- (1) The planting area shall extend along, and directly abut, the entire length of the *vehicular use area* except at vehicle or pedestrian access points.
 - (2) The planting area shall be planted to screen the *vehicular use area* with densely foliated, evergreen species that achieve a minimum height of 30 inches within 2 years of installation over at least 80 percent of the length of the required planting area. The *screening* may also be achieved through the use of berms, solid fencing, walls, plant material, or any combination of these that provides an equivalent *screen*.
 - (3) The width of this planting area may be reduced to 3 feet if a solid wall of at least 3 feet in height is provided for the entire length of the *vehicular use area*—for sites under 5 acres. Sites that are between 5 and 10 acres are required to provide the planting area buffer that is 8 feet. For sites over 10 acres, a planting area buffer must be 12 feet in width with a potential reduction to 8 feet with a 3 feet high wall. The remaining planting area shall be located between the wall and curb within the *public right-of-way* and planted with the equivalent of 1 shrub for every 10 feet of wall length. These shrubs shall achieve at least 18 inches in height of maturity.
 - (4) A point score in excess of that required for a *vehicular use area* may be used to reduce the planting area required for that *vehicular use area* at a rate of one square foot of area reduction for each excess point provided. The maximum planting area reduction allowed by this section is 25 percent of the total *vehicular use area* required.

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)

(Amended 6-15-2007 by O-19624 N.S.; effective 7-15-2007.)

§142.0407 Additional Vehicular Use Area Requirements

- (a) At least one-half of the required plant points are to be achieved with trees. If planting area and plants are provided within the boundaries of the *vehicular use area* to meet other requirements of this division including revegetation, *street yard*, and *remaining yard* requirements, they may be used to satisfy the planting area and planting points required by Table 142-04D.
- (b) For a *vehicular use area* that is less than 6,000 square feet in size, the required plant points may be provided within 5 feet of the edge of the *vehicular use area*. For a *vehicular use area* 6,000 square feet or greater in size, the required planting area, points, and trees shall be located in the *vehicular use area* except for areas designated for commercial vehicle parking spaces, loading areas, and loading area accessways that are used for the distribution of materials and goods. They may be located within 5 feet of the edge of the *vehicular use area* designated for these purposes.
- (c) The minimum tree size used in a *vehicular use area* shall be 24-inch box, or if palm trees are used they shall be 8-foot brown trunk height. If palm trees are used to meet the *vehicular use area* tree requirements, a palm tree shall be within 15 feet of each parking space.
- (d) Landscaped areas may be counted toward the required planting area if they comply with the following:
 - (1) The planting area is bounded on two or more sides by parking spaces or parking accessways, or is within 10 feet of the side of any parking space, and
 - (2) The planting area is greater than 30 square feet in size and has no dimension less than 3 feet.
 - (3) The planting area complies with Section 142.0560(h)(5) for off-street parking spaces overhanging a raised curb or wheel stop.
- (e) Solar mounted shade structures located above parking spaces within *vehicular use areas* shall cover a minimum of 50 percent of the exposed parking space.

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)

(Amended 3-22-2018 by O-20917 N.S.; effective 4-21-2018.)

(Amended 8-9-2019 by O-21114 N.S.; effective 9-8-2019.)

§142.0408 Temporary Vehicular Use Area Requirements

When new temporary *vehicular use areas* are subject to this section in accordance with Table 142-04A, the planting requirements of this section shall apply.

- (a) *Vehicular use areas* that have a specified time limit for discontinuance that is less than 5 years after the date of Building Permit issuance are considered temporary vehicle use areas.
- (b) Temporary *vehicular use areas* shall provide a 3-foot-wide planting area between the *public right-of-way* and the *vehicular use area*. This area shall be planted with evergreen shrubs that achieve a minimum height of 30 inches within 2 years of installation over at least 50 percent of the required planting area. The remaining area shall be covered with mulch. Vehicle access into this planting area shall be prevented by a 6-inch-high curb or wheel stops placed within the parking spaces, 2 feet from the edge of the planting area. The planting area may be paved at designated vehicle access points.
- (c) *Vehicular use areas* that do not have a specified time limit for discontinuance or that are proposed to exist more than 5 years after the date of Building Permit issuance, are subject to the requirements for a permanent *vehicular use area* contained in Sections 142.0406 and 142.0407.

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)



THE CITY OF SAN DIEGO

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Landscape Calculations Worksheet

Vehicular Use Areas (VUA)

Provide the following information on the Landscape Plans. The Landscape Calculations determine the planting area and points required by the Landscape Regulations, Chapter 14, Article 2, Division 4 of the Land Development Code.

One tree (minimum 24-inch box size) is required within 30 ft. of each parking space. (If palm trees are used, one palm (minimum 8 ft. brown trunk height) is required within 15 ft. of each parking space.)

VEHICULAR USE AREA (<6,000 sf) [142.0406 - 142.0407]

Planting Area Required: provide 40 sq. ft. per tree (with no dimension less than 5')

Plant Points Required	Plant Points Provided	Excess Points Provided
Total VUA: _____ sq. ft. x 0.05 = _____ points	_____ points	_____ points

Points achieved through trees (at least half): _____ points

VEHICULAR USE AREA (≥6,000 sf) [142.0406 - 142.0407]

Required Planting Area		Planting Area Provided	Excess Area Provided
VUA inside Street Yard:	_____ sq. ft. x 0.05 = _____ sq. ft.	_____ sq. ft.	_____ sq. ft.
VUA outside Street Yard:	_____ sq. ft. x 0.03 = _____ sq. ft.	_____ sq. ft.	_____ sq. ft.

Required Plant Points		Plant Points Provided	Points Provided with Trees (at least half)
VUA inside Street Yard:	_____ sq. ft. x 0.05 = _____ points	_____ points	_____ points
VUA outside Street Yard:	_____ sq. ft. x 0.03 = _____ points	_____ points	_____ points

TEMPORARY VEHICULAR USE AREA [142.0408]

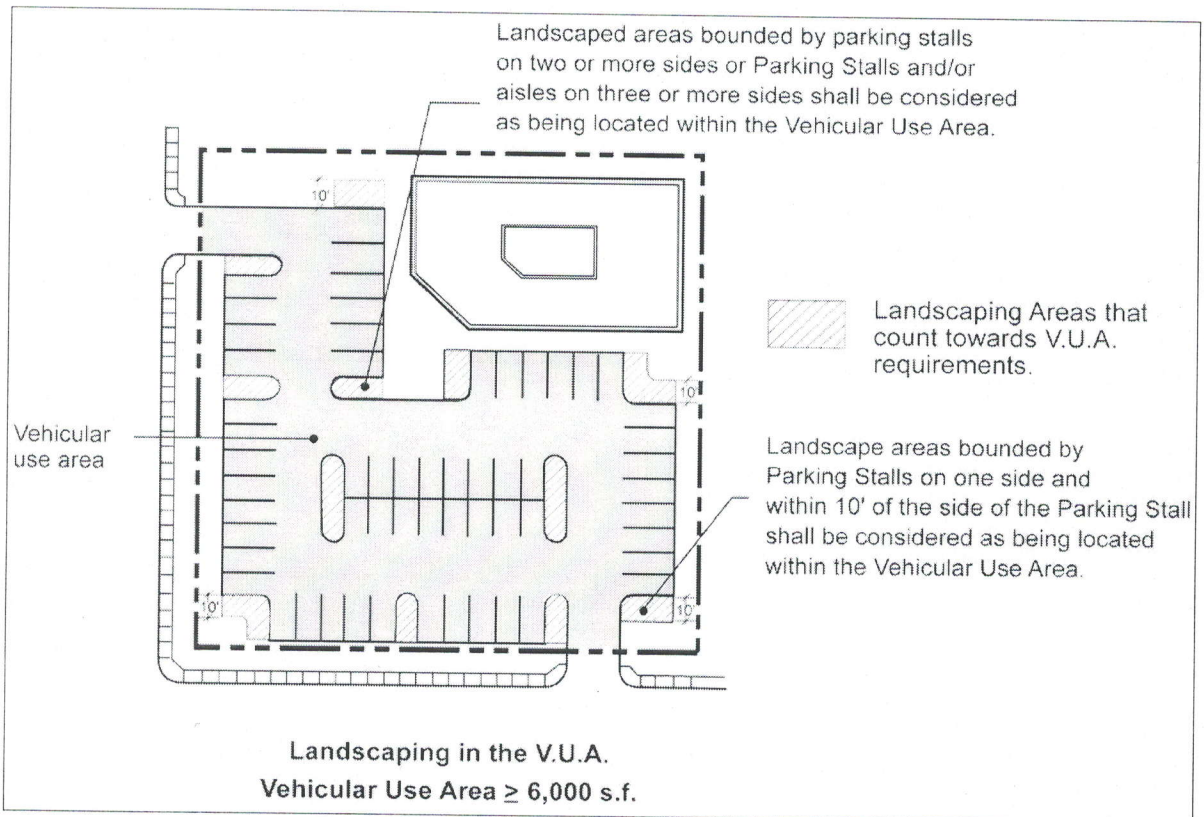
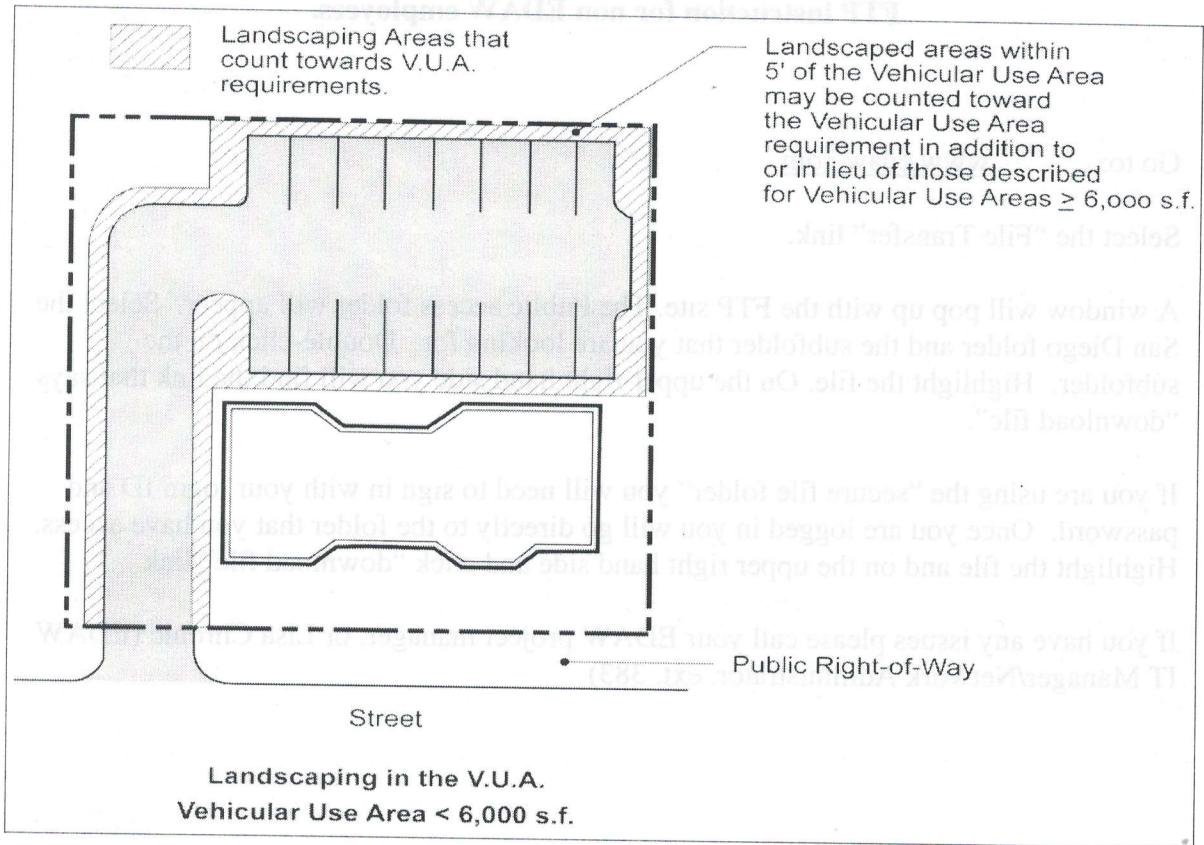
Required Planting Area	Planting Area Provided
Length of Public Right-of-Way adjacent to VUA: _____ ft. x 3 ft. = _____ sq. ft.	_____ sq. ft.

- Provide planting area between Public Right-of-Way and VUA.
- Plant with evergreen shrubs.
- Shrubs must achieve a minimum height of 30" within 2 years of installation over at least 50% of the required planting area.

ADDITIONAL YARD PLANTING AREA AND POINT REQUIREMENTS

If any of the requirements of Landscape Regulations, Section 142.0405 (a) 1, 2, or 3 apply to your project, provide a written summary explaining how requirements are being met.

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 Upon request, this information is available in alternative formats for persons with disabilities.





PERFORMANCE STANDARDS FOR
PARKING LOT SHADING

Updated February 13, 2006

POLICY

Fifty percent of paved parking lots surface shall be shaded by tree canopies within fifteen years of planting (adopted by City Council policy resolution on July 12, 1988).

GENERAL

1. A "paved parking lot" shall include parking stalls, driveways, and maneuvering areas.
2. Trees planted to satisfy the requirements of these guidelines are landscaping as defined by Municipal Code and are subject to established landscaping requirements.

SITE PLAN REQUIRED

3. A landscape plan which details the degree of compliance with the Parking Lot Shade Tree Ordinance is required. The plan shall show:
 - a. All landscaped areas.
 - b. Tree canopies drawn to scale representing the estimated canopy at a fifteen year growth period.
 - c. The total area in square feet of the paved parking lot, driveways, and maneuver areas; and the area shaded by tree canopies. A schedule listing total parking area, shaded area, and the percentage of parking area shaded should be included.
 - d. A schedule of the specific names of proposed trees and their sizes.
4. Such plan shall be approved by the Planning and Development Department prior to issuance of building permits. However, the plan is encouraged to be submitted at the time of site plan review.

METHODOLOGY

5. To simplify the process of determining compliance, the true angle of deflection of natural sunlight shall not be considered. Shaded areas shall be assumed to be only those portions of a paved parking lot directly beneath the shading canopy or drip line.
6. Shading shall be provided by tree canopies except that any portion of a paved parking lot directly beneath and shaded by a man made structure (overhangs and covered parking, for instance) shall be deleted from the requirements of these performance standards and shall be subtracted from the area of the parking lot to be shaded.
7. Credit shall be given only for surface area shaded. Multiple canopies shading the same surface area will not be counted as multiple credit.
8. Landscape planters beneath the canopy may be considered as shaded parking areas for the purpose of determining compliance.
9. Where more than five trees are to be planted, mix tree species.
10. Trees planted along the perimeter of a lot may be counted as providing shade for the full area of their canopy.

11. If the degree of overlap between trees is less than 15 percent, all trees may be counted as shading 100 percent of their canopy. If the degree of overlap is 15 percent or greater, then it will be necessary to perform individual calculation to determine the area of shading.
12. A ten percent minor deviation of the shading standard may be approved by the Director in accordance with established procedures in the Municipal Code if it is found that the normal standards would impose an undue hardship.

ALLOWABLE SPECIES/CANOPY (Provided by Parks Department)

MINIMUM TREE REQUIREMENT

Provide one medium size tree for every two required parking spaces. (This requirement may be modified by the Director if the standards for shading and perimeter planting have been met.)

Disperse trees over the parking lot area to provide 50 percent shading of the parking area surface within 15 years (This requirement may be reduced to 40 percent for existing development if it is demonstrated that the constraints of an existing site would make it impossible to meet the normal standard). Trees shall also be planted in the required landscaped areas along the periphery of the development in order to shade and enhance adjacent property and public rights-of-ways.

Trees shall be maintained in good health. However, trees may not be trimmed or pruned to reduce the natural height or overall crown of the tree, except as necessary for health of the tree and public safety; or as may otherwise be approved by the Planning and Development Department.

MINIMUM PLANTER SIZE (between tiers of parking)

Continuous Planter

	<u>New Development</u>	<u>Existing Development</u>
Standard Parking Stall	<u>8 feet</u>	<u>6 feet</u>
Compact Parking Stall	<u>6 feet</u>	<u>4 feet</u>

Along Periphery 10 feet except as may be approved pursuant to Municipal Code.

MINIMUM SIGHT TRIANGLE

10 feet in traffic areas

30 – 35 feet at street intersections

100 feet at major street intersections

Trees within the triangle shall be trimmed up to eight-feet minimum above the surface of the parking lot.

Other landscaping (ground cover and shrubs) shall not exceed two and one-half feet above the parking lot surface.



PARKING LOT SHADE REQUIREMENTS

The Sunnyvale Municipal Code states: *Trees shall be planted and maintained throughout the lot to ensure that at least fifty percent of the parking area will be shaded within fifteen years after the establishment of the lot. Shading shall be calculated by using the diameter of the tree crown at fifteen years. All surfacing on which a vehicle can drive is subject to shade calculation, including all parking stalls; all drives within the property, regardless of length, and including drive-through lanes; and all maneuvering area, regardless of depth.*

The following surfaced areas are exempt from shade requirements:

- Truck loading area in front of overhead doors
- Truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking
- Surfaced areas not to be used for vehicle parking
- Driving or maneuvering, provided they are made inaccessible to vehicles by a barrier such as bollards or fencing
- Automobile dealerships, display/sales/service/vehicle storage areas (required parking for auto dealerships is still subject to shading)

GENERAL REQUIREMENTS

All parking lot designs must include a *Parking Lot Shading Plan*. The *Parking Lot Shading Plan* must be submitted along with the required landscape plans for review and approval prior to issuance of a building permit. The *Parking Lot Shading Plan* includes two parts: (1) **Parking Lot Shading Site Plan** (landscaping plan at 15 years), and (2) **Shaded Calculation Table**.

A tree's site location in a parking lot will affect where the tree will cast shade on the pavement. Trees will be given a full, three-quarters, one half, or one quarter credit for shading of the parking lot. Portions of tree canopies that overhang planting areas, sidewalks, building roof tops and other non-paved parking area can not be counted towards the shade calculation.

Trees planted close together that form overlapping or merged canopies can not be counted twice. The *Parking Lot Shading Plan* will show all tree canopies diameters at fifteen years after establishment of the parking lot. Pre-existing trees which are preserved on site that will cast a shadow on the parking lot paved surface need to be included in the shade credit calculation. Shade calculations will be estimated on the expected tree diameter at 15 years. Mature diameters will only be allowed in the calculation if the trees will reach the full mature size in fifteen years.

PARKING LOT SHADING PLAN

A *Parking Lot Shading Plan* shall be submitted with the required landscape plans for all parking lots. The *Parking Lot Shading Plan* is typically derived by using the landscape planting plans as the base. The plan shall clearly show all surfaced areas included in the calculation. For purposes of calculation, the vertically projected tree canopy diameters will be used for these calculations. Trees shall be drawn to scale representing the canopy size at 15 years as listed in the **Master Parking Lot Tree List**. The percentage of shade for each tree shall be clearly indicated. See Example 1, *Parking lot Shading Plan*.

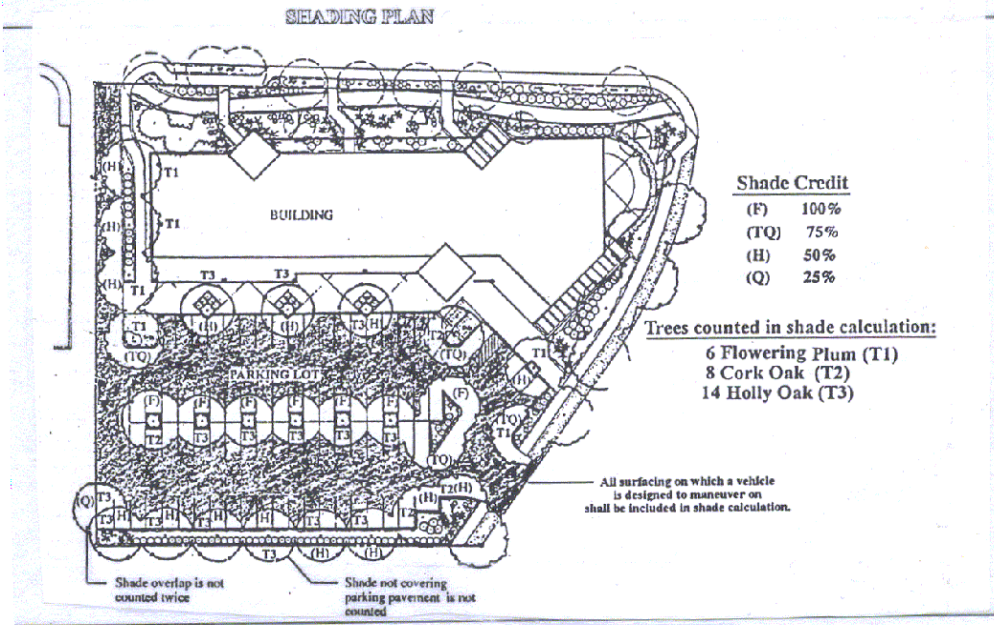
Water Wise Plant Lists

Review Chapter 19.46.120 of the Sunnyvale Municipal Code and consult with a Planner regarding water wise planting requirements. Lists of water conserving plant material as well as additional resources are available at the One-Stop Counter at City Hall.

Pesticide Reduction

Plants that do not require pesticides will help reduce the introduction of pesticides into the environment. Refer to the Landscape Maintenance Techniques for Pest Reduction handout. Visit www.scvurppp.org for a list of pest resistant plants.

Example 1:



Example 1: Parking Lot Shading Plan

SHADED CALCULATION TABLE:

The shading plans will also include a table identifying the quantity and type of trees used and the percentage of shade credited to each. All trees shall be from the **Master Parking Lot Tree List** and calculated with the corresponding canopy size. See Example 2; Shaded Calculation Table. The table corresponds to Example 1; Parking Lot Shading Plan on previous page.

SYM	BOTANICAL NAME/ COMMON NAME	FULL S.F.	3/4	HALF S.F.	1/ 4	TOTAL S.F.
T1	<i>Prunus eerasifera</i> Flowering Plum	1@ 491 s.f.	2@ 368 s.f.	3@ 246 s.f.		1,965 s.f.
T2	<i>Quercus suber</i> Cork Oak		2@ 722 s.f.	6@ 481 s.f.		4,330 s.f.
T3	<i>Plantanus acerfolia</i> "yarwood" London Plane Tree		1@ 722 s.f.	12@ 481 s.f.	1@ 240 s.f.	6,734 s.f.

Total Tree Shade	13,029 s.f.
Total Paved Area	24,430 s.f.
Percent Shaded	51.2%

Example 2: Shaded Calculation Table

PAVED AREA CALCULATION
 All surfacing on which a vehicle is designed to maneuver shall be clearly indicated on the shading plan and the total area calculation noted in the shade calculation table. Surfacing includes all parking stalls, loading areas, drives within the property line, and areas for maneuvering.

SHADED AREA CALCULATION:
 Shaded parking lot area is determined by using the appropriate percentage of the crown as indicated on the approved **Master Parking Lot Tree List**. Only trees from this list may be used as parking lot shade trees unless otherwise approved by the city's arborist. It is recommended that the genera of the trees be varied throughout the parking lot. If a site has two or more unconnected parking areas, shade is calculated separately for each area. If they are connected by a joining drive, they are calculated as one lot.